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Editors' Introduction

Over the last few years, the Pakistani economy has faced a variety of challenges which has led economic managers to focus more on immediate problems at the expense of long term structural issues. The purpose of the Lahore School's Tenth Annual Conference on the Management of the Pakistan Economy was to help policy makers take a step back and look at some of the critical issues that Pakistan needs to face if it is to achieve growth in the medium to long term. Thus the central theme of the conference was 'Pakistan in the Global Economy – Opportunities and Challenges' and a range of key structural issues was discussed by a variety of experts. What made the conference unique was that many of these issues have not been discussed and debated thoroughly before in the Pakistani context. Some of the highlights of the conference were Asma Khalid's (from the State Bank of Pakistan) extremely insightful analysis of the parallel foreign exchange market in Pakistan (which has not been analyzed in depth before) as well as the call by many of the presenters for a well-formulated industrial policy in Pakistan. Similarly, the conference also focused on some key export sectors (such as garments) as well as strategies for improving Pakistan's export competitiveness and diversifying exports. Finally, some of the participants noted that in a rush to access new markets, Pakistan must tread carefully when agreeing to trade agreements with potentially large trading partners. As Pakistani policy makers sit and decide on economic strategies, it is absolutely critical that they pay very close attention to these issues.

The conference was divided into seven sessions, each with a distinct theme:

The first session of the conference looked at the foreign exchange market. Asma Khalid of the State Bank of Pakistan presented a comprehensive analysis of the parallel foreign exchange (FX) market in Pakistan. The paper focused on the importance of workers' remittances to the country and explained how the bulk of this inflow is transacted through the hundi/hawala network of informal moneychangers. The paper went on to place this network within the context of the larger FX market and showed how it interfaces with the interbank market. Finally the paper discussed how many hundi\hawala agents have evolved into formal exchange companies spelled out the importance and resilience of

the parallel FX market emphasizing the need to push toward full amalgamation of this market with the formal FX market, and the key role of workers' remittances in Pakistan's macro-economy. This was followed by a paper by Rizvi, Naqvi, and Mirza who analyzed the exchange rate policies and exchange rate behavior of the Pakistani Rupee from 1961 to 2013, pointing out the divergence between stated exchange rate policy and behavior of the monetary authorities in practice. The authors find evidence of significant intervention up until 2007, which was followed by a period of 'benign neglect' since market forces led to a dramatic depreciation of the exchange rate and deterioration of economic conditions. Based on this history, the authors suggested that Pakistan return to a peg, or more realistically, a more managed float. Finally Rahim examined the issues that arise out of the depreciation of the Pakistani Rupee which include heightened expectations of future depreciation, capital flight, falls in the U.S. dollar-deflated wage, higher inflation, higher cost of foreign debt and interest rates, increases in the replacement cost of capital (complicating amortization), and lowering of the real value of savings. He emphasized the role of the exchange rate depreciations on the prices of tradable and nontradable goods and concluded that depreciations, by keeping down real wages, keep economies like Pakistan competitive in existing industries, but do not stimulate innovation.

The second session looked at the issue of Pakistan's competitiveness. The session began with a paper by Haque which examined the reasons for the poor growth of Pakistan's exports despite the extensive liberalization of the economy and its relative openness. Haque begins with the finding that the concentration of exports to is an incomplete explanation for poor export growth and after looking at the export performance of Pakistan's main export competitors suggests that Pakistan should increase productivity in the existing export sectors. He goes on to provide evidence that investment has been low and productivity growth has been slow over the last decade and suggests that government directed industrial policy is required to jump start the process of increasing competitiveness. Finally he emphasizes that the most pressing issues to be resolved is the energy crisis but also recommends upgrading and innovation. The second paper by Amjad looks at the major causes of Pakistan's stop-go growth cycles and comes to the conclusion that, to varying degrees, the foreign exchange constraint

provides a major explanation for these cycles of irregular economic growth in the country, particularly since the 1990s. The third paper by McCartney provided a detailed history of textiles sector development and growth, focusing on its failures to graduate from low-value raw cotton and intermediate textile products. The paper begins by describing outside mitigating factors such as competition from China accompanying the end of the Multi-Fiber Agreement, the economic liberalization agenda pushed by the international lending organizations, and the high-volume, short lead-time requirements of retailers who direct the global value chains. McCartney goes on to explain how energy shortages and the poor state of education constitute serious binding constraints to productivity and suggests a realistic reform agenda in which the government subsidizes the costs and risks involved in acquiring new technologies. Finally, he suggests that Pakistan should take lessons from Bangladesh (a country with many of the same governance issues) where successful policies included back-to-back letters of credit and the delegation of certain customs certificates for raw materials and technology to the garment manufacturer associations. The fourth paper by Afraz, Hussain, and Khan look at the constraints facing small enterprises and the barriers to growth in two industries, electrical fans and sporting goods. The case study on the fan sector highlights the negative impact of low quality and lack of standardization on the abilities of smaller firms to export while large firms lack a large professional class which leads to a heavy reliance on family management. Other issues like the lack of research and development, seasonality of production, poorly educated workers, inadequate access to finance, reliance on second-hand machinery, inability to develop brand names, energy shortages, and lack of institutional support (through the government or industry associations) have a detrimental impact on both the fan sector and the sporting goods sector, as do factors such as access to formal long-term finance, low R&D, lack of branding, low investment in training workers, and vulnerability to exchange rate movements.

The third session focused on Pakistan's export performance and the characteristics of Pakistani exports. Chaudhry and Andaman presented a paper which identified some common patterns in the export-led development of the successful East Asian countries, including movement up the value chain and expansion in the extensive margin of trade (the number of different products exported) and described how

these countries gradually moved up the quality ladder in existing product categories before entering new ones. They also discussed how Pakistan has remained stuck in the take-off phases of low-value added production and give the results of a cross country empirical analysis that show that domestic credit and imports (particularly capital imports) were the statistically significant determinants of high value-added exports. The authors also show that cross country evidence says that moving up in the stages of export growth was statistically related to tertiary education, higher domestic credit and lower interest rates, higher remittances and imports, and a depreciated exchange rate. The paper concludes with a warning about how high imports of consumer goods and FTAs in the absence of a coherent industrial policy could trap Pakistan in a cycle of low value-added textile exports by shutting Pakistani firms out new potential sectors before they even start to develop. The second paper by Chaudhry and Haseeb uses Pakistani firm level data to examine the differences between exporting and non-exporting firms in Pakistan. They find Pakistani exporters exhibit significantly higher total factor productivity (TFP) and are larger in terms of employment than nonexporters and (with a few exceptions) exporters had higher labor productivity and offered higher compensation to workers than non-exporters, but used more capital per worker and more imported inputs. They also find that the government's recent emphasis on developing the readymade garments sector is well placed since more than half the apparel producers in Punjab were exporting—and nearly all of their output (93 percent) while the capital-labor ratio and use of imported inputs in this sector was modest. They also find that exporters were relatively large employers with 400 workers on average and offered significantly higher compensation than nonexporting firms.

The fourth session looked at ways to build up Pakistan's technological capabilities, with an emphasis on these capabilities in the export sector. The first paper by Ehsan and Khanum gave an overview of the variety of requirements for two of Pakistan's most important export categories, textiles and rice. In textiles, the authors discuss regulatory, product-specific, customer-specific, social, and environmental requirements and in the area of rice, quality and safety issues were identified as critical issues. The paper also looked at the existing quality assurance infrastructure in each of the sectors and concludes with policy recommendations for moving these sectors forward. The second paper

by Hamdani provided a road map for how Pakistan can emulate the process of technological "catch-up" undertaken by the East Asian tigers. The paper compared the growth trajectories of East Asia with Pakistan, focusing on differences in capital formation, progress in upgrading technological capabilities, and government policy toward industry, using the textiles/garments and steel industries as illustrative examples. Despite an initial bias toward capital intensive production, the author finds that Pakistan has fallen behind and he proposes that Pakistan raise its investment in productive capital, through domestic re-investment and greater FDI flows.

The fifth session looked at ways of diversifying Pakistan's exports. The first paper by Hamid, Nabi and Zafar looks at the textiles and garments (T&G) sector which accounts for 48% of total exports, 30% of value added in large scale manufacturing and 40% of industrial employment. The authors also discuss how the sector is expected to continue to do well because (i) Pakistan has been granted 'GSP Plus' status by the European Union opening a large market for Pakistan's T&G exports; (ii) China, because of rising labor costs and increasing technological sophistication of manufactured exports, is likely to reduce its share (about 40 percent in 2012) in the world garments market and (iii) as incomes rise in the fast growing large economies of China and India, their demand for textiles and garments will rise. The authors argue that for the sector to realize its potential, policies that shape the incentive structure faced by the industry need to be re-aligned. The second paper by Ahmed and Hamid examines historical trends in the diversification of exports in Pakistan. In particular the paper looks at the growth in exports in 'traditional' vs. 'nontraditional' industries and studies the degree of structural change in the export sector since 1972. The authors also explore the determinants of structural change in exports by looking at variables such as GDP growth, export growth, the real exchange rate, the growth rate of world trade, trade liberalization, and the degree of product concentration in the country's export base. The third paper by Memon, Rehman, and Rabbi uses a revealed comparative advantage (RCA) approach to look at trends in Pakistan's comparative advantage relative to the rest of the world over the period 2003 to 2012, and identifies industries of rising and falling advantage. The paper also looks at the comparative advantage and trade volumes between Pakistan, India, and China, and finds evidence of trade diversion; in some cases less efficient trade with China has pre-empted

greater gains that could have been achieved through trade with India. The author also identifies industries that would be vulnerable in the event that Pakistan grants most-favored nation (MFN) status to India, including footwear, cutlery, plastics, paper, and pharmaceuticals. The fourth paper by Gul presented an overview of the current state of economic cooperation between Pakistan and Turkey. The paper goes on to discuss the major product categories of Pakistan's trade with Turkey and constructs three indices: a Trade Complementarity Index (TCI), Intra-Industry Trade Index (IIT), and Export Similarity Index (ESI) to further examine the possibilities of a preferential trade agreement between the two countries. The author suggests that Pakistan could enjoy significant gains from greater access to Turkey's markets due to its market size and access to the EU. The paper also finds that while they both export textile products to similar markets, Turkey operates at the higher end of the market while Pakistan's exports are concentrated in low-value added products which means that cooperation and joint ventures with Turkey could allow Pakistani firms to move up the value chain.

The sixth session looked at the role of imports in the context of Pakistan. The first paper by Tirmazee and Naveed provides an in-depth analysis of Pakistan's import demand function and the authors find that the inclusion of the terms of trade and foreign exchange availability in addition to the traditionally included real income and relative price variables greatly reduce the unexplained variability in imports embodied in the error term. The authors go on to find that, all four variables are significant and of the predicted signs in their long-run estimations, whereas in the short run only terms of trade and foreign exchange reserves significantly affect import demand. The second paper by Iqbal, Ghani, and Musleh ud Din provides an overview of Pakistan's trade with regional partners in SAARC and estimates an import demand function for Pakistan. The paper shows import demand to be price inelastic; further, in the long-run, the price elasticities tend toward zero. On the other hand the authors find that the income elasticity of imports increases, going from inelastic to unit elastic between the short and the long run. In the end the authors conclude that long run income rather than prices is the primary determinant of import demand.

The final session looked at Pakistan in the context of the world trading order. The first paper by Kaukab provides a history of the growth

of regional trade agreements or RTAs. The author shows that historically the hubs of RTA activities were Europe (including the EU and Russia) and the United States while most countries in Central Asia, the Middle East, and Sub-Saharan Africa were involved in relatively few. The author also looks at how recently agreements are being signed between regions: Europe with Latin America, Latin America with Asia, Europe with Asia, among others and also finds that the EU is replacing nonreciprocal agreements with reciprocal ones in Africa. The author also discusses how Preferential Trade Agreements (PTAs) are a form of nonreciprocal trade agreement (where the "provider" gives market access without reciprocity from the "recipient") and how recently the United States and Europe again lead as providers while, surprisingly, a number emerging economies act as "recipients" in agreements with some countries, but as "providers" in others. The author also explains how mega-regional agreements could make Pakistan worse off due to the inclusion of countries like Vietnam producing competing products. The author concludes by recommending that Pakistan sign agreements with the more dynamic countries in Asia and Latin America. The second paper by Saeed analyzes how trade facilitation has contributed significantly to reducing costs and time in cross-border trade, and how World Trade Organization (WTO) members have adopted the new Trade Facilitation Agreement (TFA) at the last ministerial conference in Bali. The author goes on to note that WTO members are now gearing up to implement the commitments ensuing from the TFA in accordance with the special and differential treatment stipulated for developing countries. The paper then assesses the impact of the TFA on Pakistan's national trade policy and shows how the process of policy formulation in Pakistan should be adjusted so that the agreement can be promptly and correctly implemented on a sustainable basis. The final paper by Ahmad looks at how Pakistan's export strategy was forward looking until the 1960s, but that it has recently stagnated. In particular the author notes that Pakistan has failed to take advantage of its strategic location, especially since its ports should be serving as a transport hub for both China and energy-rich Central Asia with the rest of the world. The paper also presents some interesting possibilities for the development of Gwadar port as a transit point for Chinese exports that would rival Dubai and concludes that Pakistan needs to reduce tariffs further to become more integrated into global supply chains.

It should be noted that in the context of Pakistan, it is rare to find a source that analyzes such a vast range of issues which makes this special edition of the Lahore Journal of Economics a truly exceptional resource for policy makers, academics, students and analysts. The editors of the Lahore Journal of Economics hope, as do all the contributors, that policy makers in Pakistan pay close attention to many of the issues and lessons raised in these articles since these papers and proceedings are aimed at helping them develop long term policies that encourage economic growth and development in Pakistan.

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Pakistan's Parallel Foreign Exchange Market

Asma Khalid*

Abstract

This paper seeks to describe and analyze the parallel foreign exchange (FX) market in Pakistan. The very nature of this market implies that there is little formal documentation or data to describe it, and so any assessment will be, by definition, subjective. However, parties that transact in the parallel market are familiar with parts of it, on which basis this paper aims to give a comprehensive picture of the structure and evolution of this market in Pakistan. We start with a brief historical perspective, which flags the importance of workers' remittances to the country and explains how the bulk of this inflow is transacted through the hundi/hawala network (informal moneychangers). We then place this network within the context of the larger FX market and show how it interfaces with the interbank market. We also discuss how many hundi/hawala agents have evolved into formal exchange companies and list the various sources and uses of FX transacted in the kerb market. The conclusion spells out the importance and resilience of the parallel FX market, the need to push toward full amalgamation with the formal FX market, and the key role of workers' remittances in Pakistan's macro-economy.

Keywords: Pakistan, foreign exchange, informal economy, hundi/hawala, macro-economy.

JEL classification: E44, F31.

1. The Evolution of Pakistan's Foreign Exchange Earnings

Pakistan's foreign exchange (FX) earnings are heavily skewed toward export receipts and home remittances. Around 80 percent of its FX inflows come from these two sources: while exports currently stand at US$ 25 billion, remittances have touched US$ 15 billion for the first time in the fiscal year (FY) 2014. Putting this in perspective, remittances financed nearly 38 percent of Pakistan's imports in FY2014.

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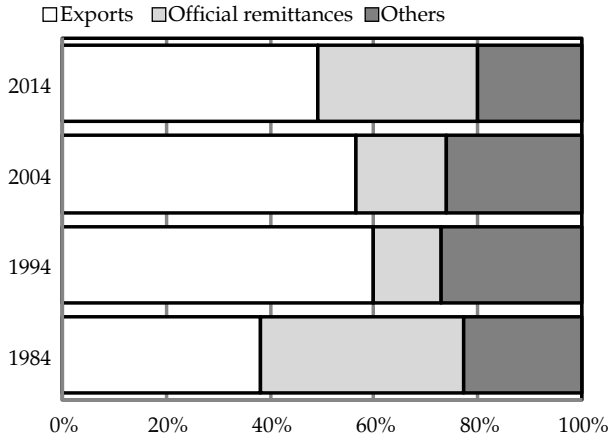
* Publication Manager, Economic Policy Review Department, the State Bank of Pakistan. The views expressed in this paper are those of the author(s) and do not reflect the views of the State Bank of Pakistan. Given the nature of this study, it was based largely on discussions with foreign exchange analysts, commercial bankers, exchange companies, and other private players in the foreign exchange market. Although the State Bank of Pakistan has not endorsed this study, the author received valuable guidance from Dr Mushtaq Khan, chief economic advisor on policy development at the bank.

This distribution has seen significant changes in the last two decades: in 1983 and 1984, remittance inflows equaled export receipts (Figure 1). This was the time that the oil boom in the Gulf countries had attracted a large number of Pakistani workers to the region, resulting in a sharp increase in home remittances. The share of home remittances in Pakistan's FX earnings reached around 40 percent during this time.

Figure 1: Composition of Pakistan's FX earnings

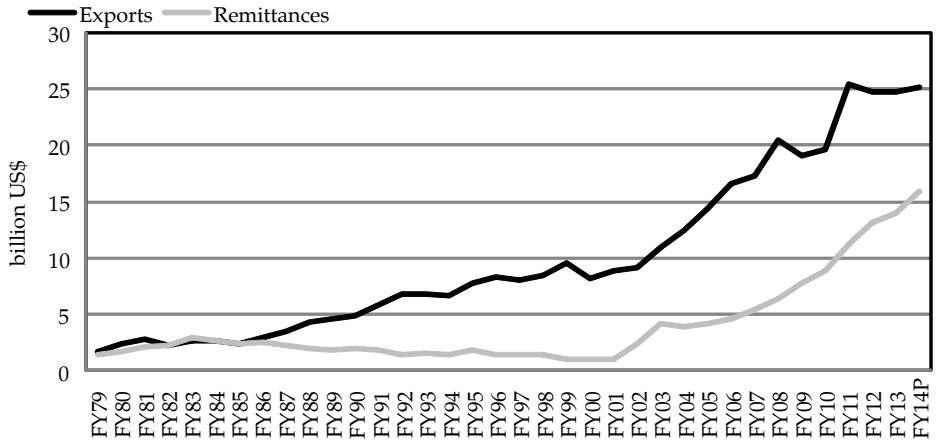


Source: State Bank of Pakistan

In the 1990s, however, the parallel FX market (or *hundi/hawala* network) based in the Gulf countries began to divert remittances away from official channels by offering cheaper and more convenient services to the largely blue-collar Pakistani workforce. The conversion rates offered by hawala brokers (*hawaladars*) in Pakistan were more attractive than those offered by banks—the so-called kerb premium. Overseas Pakistanis began using informal channels to send money to their families, as a result of which official remittances declined gradually throughout the 1990s. By end-FY2001, the share of remittances (official) fell to only 10 percent of Pakistan's total FX earnings (Figure 2).

A portion of the fall in home remittances during this period was compensated for by the mobilization of foreign currency accounts (FCAs) by commercial banks. Specifically, the Pakistan government liberalized the FX regime in 1991 and allowed residents to open and maintain FCAs with commercial banks operating in Pakistan. Since workers' remittances flowed largely through the informal market, it was easy for residents to purchase hard currency from moneychangers and deposit it in their FCAs.

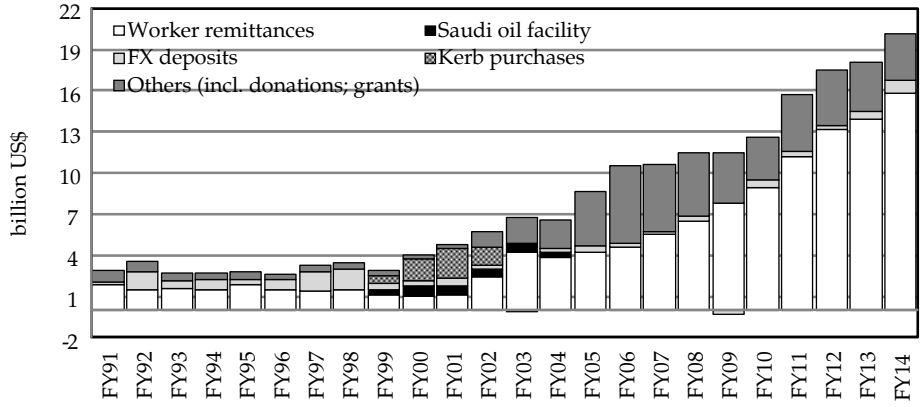
Figure 2: Pakistan's major FX earnings



Source: State Bank of Pakistan

In 1998, however, the government had little choice but to freeze FCAs following Pakistan's nuclear tests and subsequent international sanctions. Fresh inflows via FCAs suffered and, as a stop-gap measure, the State Bank of Pakistan (SBP) started to purchase dollars directly from the kerb market. In addition, Pakistan received a Saudi oil facility, which was meant to ease the FX situation by deferring the country's oil import bill (Figure 3).

Figure 3: Composition of current transfers



Source: State Bank of Pakistan

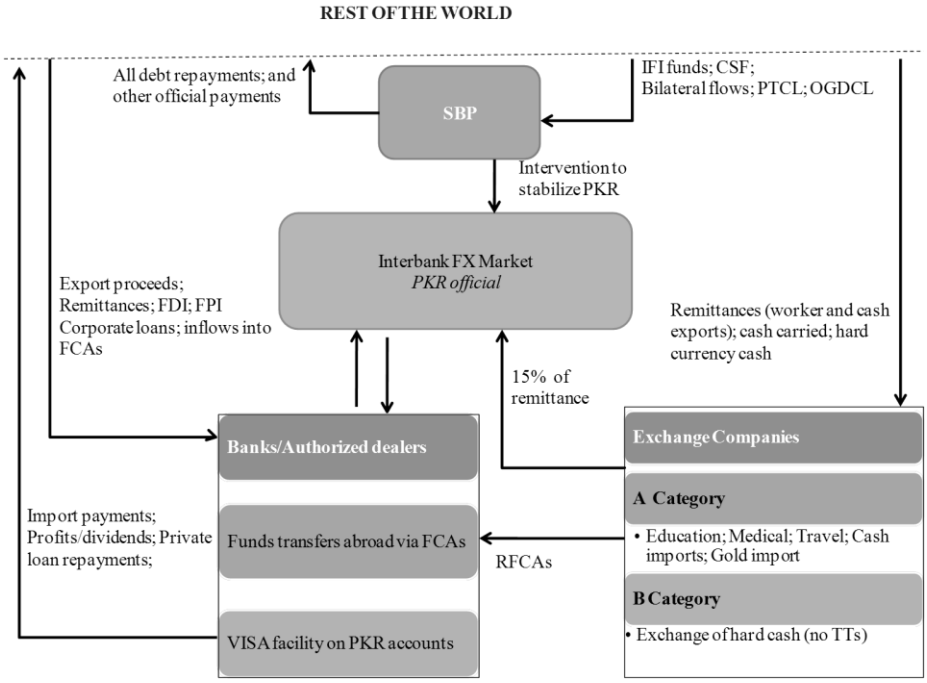
The situation was reversed suddenly after 9/11, following the US-led crackdown on the global hundi/hawala network. Since moneychangers could not execute hawala transactions openly, a large number of Pakistanis

began using official banking channels to send money home. The evidence for this can be seen in the robust growth of official remittances even during the turbulent period after the global financial crisis of 2007/08.[1] Competing against the hundi/hawala network may not have been easy, but the SBP has taken several initiatives to divert a growing share of remittances to formal banking channels.

2. The Current Structure of Pakistan's FX Market

Pakistan's FX market can broadly be categorized into three layers, as shown in Figure 4 and described in this section:

Figure 4: Structure of Pakistan's FX market



2.1. Interbank Market

All approved FX transactions that take place within the banking system are conducted via the interbank market. Major inflows include export proceeds, official home remittances, foreign private investment, funds transferred from abroad through FCAs, and FX purchases from exchange companies. Major outflows include import payments, profit

[1] Between 2004 and 2014, official remittances grew by 15 percent (compound annual growth rate).

repatriation by foreign firms, disinvestments, and funds transferred abroad through FCAs. The demand for and supply of FX in the interbank market determines the interbank or official exchange rate. It is important to point out here that government-related transactions do not affect the interbank market because they are conducted directly using SBP reserves. Therefore, loans from international financial institutions (such as the International Monetary Fund or the World Bank), bilateral flows (e.g., from Saudi Arabia and China), coalition support funds, and privatization proceeds (such as from the Pakistan Telecommunication Company Ltd and the Oil and Gas Development Company Ltd) affect only SBP reserves and do not enter the interbank market. Similarly, the interbank market remains immune to official FX outflows such as debt repayments.

That said, the level of SBP reserves and official transactions therein do have an impact on the interbank exchange rate through the sentiments of market participants (mainly exporters and importers). Specifically, the level of SBP reserves is perhaps the most important indicator of the country's resilience to external shocks. Furthermore, FX reserves determine the extent to which the SBP can intervene in the interbank market when exchange rate movements become volatile. Therefore, if the level of SBP reserves is too low (based on an adequacy criterion), the Pakistan rupee may come under speculative attack in the interbank market.

2.2. Kerb Market

The kerb market comprises mainly exchange companies (moneychangers). Major inflows include workers' remittances and dollar purchases from the public (see Section 3). Major outflows include hard currency bought for medical, travel, and education purposes, either in the form of hard cash or telegraphic transfers and demand drafts.

Broadly speaking, the public deals with exchange companies, rather than banks, when selling or buying FX. For instance, an individual who wishes to purchase US dollars in cash to pay his or her child's college fee or a medical bill or for travel expenses abroad will approach an exchange company. Similarly, Pakistanis returning from abroad with US dollars in cash will sell these to exchange companies for Pakistani rupees. The open market exchange rate is determined by the demand for and supply of dollars in the kerb market. The spread between the interbank and open market exchange rates is typically known as the kerb premium.

2.3. Hawala Brokers

Hawala is the informal FX market based on the network of hawala brokers located in the Middle East, the Indian Subcontinent, Africa, and even the US and UK. Since this system is based solely on mutual trust and social networks, it is not regulated and is conducted by a large number of brokers. There is no physical movement of currency on spot, as claims are settled after netting out opposing transactions. Even with the existence of exchange companies, the hawala network remains operational in Pakistan.

3. A Primer on the Kerb Market

Exchange companies were established in 2002 to bring informal moneychangers into the mainstream financial system (SBP, 2002). These companies were required to register with the Securities and Exchange Commission of Pakistan and then apply to the SBP for a license to commence operations. The SBP issued rules and regulations authorizing these companies to deal in foreign currency notes, coins, postal notes, money orders, bank drafts, travelers' checks, and transfers. The minimum paid-up capital for an exchange company was set at PRs 200 million.

In June 2004, the SBP also allowed the formation of 'B' category exchange companies, which were authorized to deal only with the sale and purchase of cash FX, not FX transactions (including through banks, such as wire transfers or noncash instruments). The minimum paid-up capital for these companies was set at PRs 25 million. 'B' category exchange companies are required to sell their FX holdings at the end of the day either to other 'B' category exchange companies, to full exchange companies, or to banks, so that they carry no overnight exposure.

3.1. How Exchange Companies Remit FX

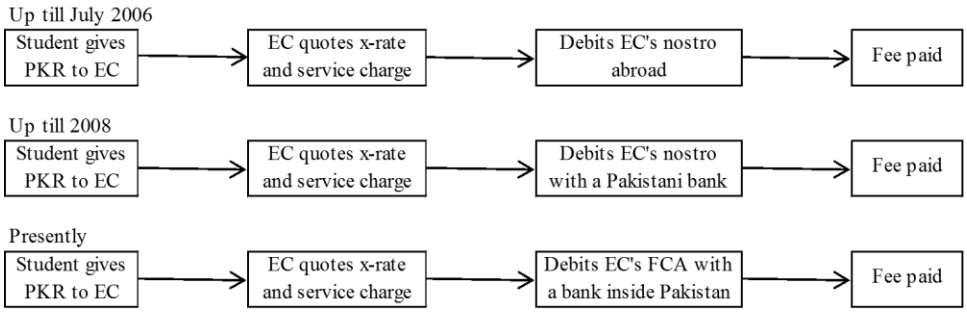
Exchange companies can remit money either through telegraphic transfers and demand drafts or through global money transfer organizations such as Western Union, MoneyGram, and Xpress Money. Although exchange companies were initially allowed to hold nostro accounts with exchange companies abroad,[2] in 2006, the SBP made it mandatory for all such companies to hold nostros only with Pakistani banks abroad. Later, in 2008, exchange companies were disallowed from holding nostros abroad and directed to execute all transactions through

[2] A nostro is an account held in a foreign country by a domestic bank (in a foreign currency) to facilitate the settlement of FX and foreign trade.

their FCAs with commercial banks in Pakistan (SBP, 2006, 2008a, 2008b). Figure 5 shows the difference in accounting treatment of a single transaction during these periods.

Similarly, the remittances business is conducted through exchange companies' FCAs held with banks operating in Pakistan. For instance, if an exchange company collects FX remittances through Western Union, the corresponding bank (on intimation from Western Union) will credit the exchange company's FX account and debit Western Union's FX account. To make payment to the beneficiary, the company will withdraw FX from its own account, convert it into Pakistani rupees by selling the FX either to a bank or other exchange company, and pay this to the beneficiary.

Figure 5: Student paying his/her fee in FX through an exchange company



Thus, whenever the demand for FX increases in the kerb market, exchange companies make withdrawals from their FCAs to close the demand-supply gap. However, commercial banks are not always in a position to ensure the physical supply of dollars since they keep most FX in their nostros instead of holding cash. When hard cash is in demand, it has to be physically transported to Pakistan from the country where the nostros are held—this incurs not only transportation and insurance costs for the bank, but also the foregone return during the travel time (normally two days).

Exchange companies are required to sell 15 percent of their inward remittances to commercial banks and submit the details of daily inflows and outflows under assigned categories to the SBP. In addition, they are required to bring a minimum of 25 percent of the FX they export to the FCAs they maintain with banks in Pakistan on an ongoing basis. Of this 25 percent, the companies are required to sell at least 10 percent in the interbank market.

3.2. Size of Exchange Companies

Although exchange companies submit daily reports on their FX inflows and outflows to the SBP, a portion of their activities remains undisclosed. There appear to be two key reasons for this. First, this parallel FX market caters to the FX requirements of a large informal economy, the size of which is estimated to be between 50 and 100 percent of the documented economy. The clients of this market are individuals and businesses who (i) wish to avoid disclosing their income and wealth to the tax authorities, (ii) avoid documentation and proper accounting of their transactions, (iii) want to invest abroad without disclosures, and (iv) are involved in smuggling and other illegal activities that cannot be transacted through a bank (see Section 2).

Second, it may also suit exchange companies to disclose less in order to avoid higher capital requirements. The guidelines for these companies limit their exposure at the close of each business day to a level not higher than 50 percent of their capital base, which caps the FX exposure allowed to exchange companies.[3] In addition, most of their declared transactions are not properly categorized—broadly, over 70 percent of their FX sales to individuals are categorized as 'others,' which makes it hard to single out major usage. This is mainly because exchange companies are not required to follow know-your customer (KYC) rules if the underlying transaction value is less than US$ 2,500.[4] Therefore, if a customer makes a transaction within the prescribed limit, the exchange company will neither ask for his or her credentials nor document the purpose of the transaction. Anecdotal evidence suggests that these companies execute a large number of such transactions, but the volume per transaction remains small.

4. The Main Sources of FX in the Kerb Market

This section looks at the key sources of FX inflows (remittances from Pakistani workers overseas and inflows from Afghanistan).

[3] The method for determining exposure is the same as prescribed for banks, i.e., the higher of the overbought or oversold positions at the close of day.

[4] For currency exchange transactions exceeding US$ 2,500 (or the equivalent in other currencies), customers must provide their name, address, and national identity card number on the receipt after due verification (SBP, 2013). At the time of establishment, exchange companies were required to follow the KYC rule only when a transaction exceeded US$ 10,000. However, in 2008, this limit was subsequently lowered to US$ 5,000 (SBP, 2008a). In July 2013, it was further lowered to US$ 2,500 in order to strengthen the AML/KYC regime of the exchange companies sector (SBP, 2013).

4.1. Home Remittances

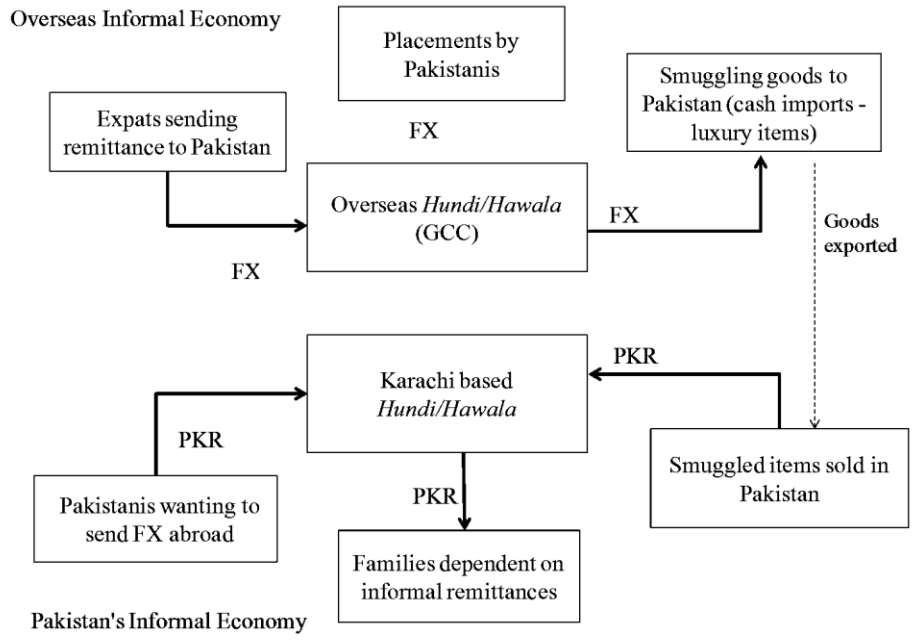
Exchange companies also procure FX in the form of official home remittances. As mentioned before, these companies can use only the FCAs they hold with local commercial banks to send and receive FX. However, since exchange companies are the only source through which the public is able to exchange hard currency, it is possible that individuals involved in hawala transactions also sell cash FX to these companies.

Hawala is used primarily by those Pakistani workers who are either uncomfortable using banking services or do not know how. Instead, they rely on word-of-mouth to send money home securely and quickly. Similarly, hawala is the only option available to illegal migrants living abroad who cannot use banks or global money transfer organizations to send money home. Hawala also ensures the speedy receipt of money in remote areas in Pakistan, where banking services are not easily available.

The informal market for money transfers thrives on the basis of faster, cheaper, efficient, and convenient flows of remittances into the country. This market has attracted Pakistani workers because it allows immediate and hassle-free delivery to the recipient at their doorstep. When remittances come through the hawala system, this does not necessarily imply a realtime FX inflow into the country. Given the double coincidence of wants, those transactions are netted out (in the Gulf countries) and only the rupee counterpart is delivered to the beneficiary in Pakistan.

Figure 6 illustrates how money might be sent from the UK to Pakistan. In this case, there is a physical movement of currency within the country, but no movement of currencies across borders. For example, the hawaladar in the UK receives GBP 100 from the sender (a client), who then instructs the corresponding hawaladar in Pakistan to deliver the equivalent in Pakistani rupees to the beneficiary. Thus, there is no immediate physical movement of pounds sterling.

Figure 6: Hawala transactions flowchart



Simultaneously, a client in Pakistan who imports electronics and personal goods worth GBP 80 from the UK may not want this transaction documented. While the goods will be brought in physically by a *khepia* (a professional traveler who carries the goods as personal items), the payment for this transaction will be carried out through the same hawala brokers. The hawala broker will collect the Pakistani rupees from the khepia after the goods have been sold in Pakistan, and instruct the hawaladar in the UK to remit the amount in pounds sterling to the counterparty. Since hawaladars cater to a large number of people—some of who send money and some of who receive—instead of physically executing every transaction across borders, they settle only net commitments. In the example above, the two hawala brokers will settle only GBP 20 instead of executing two transactions totaling GBP 180.

At the time of settlement, if there is an FX inflow to Pakistan, it will remain outside the banking system unless it is deposited in an FCA and/or sold to an authorized dealer.[5] Similar to other individuals, hawala brokers

[5] Although FX inflows through these channels declined considerably after the post-9/11 crackdown on the global hawala network, the volume of inflows remains significant. Remittances used to be the major FX source in the kerb market, but in recent years, they account for an estimated 25–30 percent of total FX inflows into the kerb market.

may also approach exchange companies to exchange FX in cash for Pakistani rupees.[6]

4.2. Inflows From Afghanistan

Cordesman (2012) argues that there is no reliable estimate of total international aid flows to Afghanistan, mainly because a significant portion of this aid does not pass through the Afghan central government. However, keeping in view the figures provided by the Congressional Research Services and the Office of Money and Budget, Cordesman estimates that US overall direct spending in Afghanistan reached US$ 641.7 billion during FY2001–2013, of which US$ 198 billion was to be spent only in 2012 and 2013. This spending was carried out with limited controls and auditing, and part of the money was reportedly smuggled out of the country to Dubai and Iran—mostly via Pakistan.

5. Major Uses of FX Sourced From the Kerb Market

This section describes the main sources of FX from the kerb market: payment for unofficial imports, gold imports, and capital flight (see also Figure 7).

5.1. Payments for Unofficial Imports

A wide range of goods is smuggled into Pakistan, including fabric, electronics, personal care items, tyres, and readymade garments. Similarly, some goods are smuggled out of Pakistan, e.g., precious stones, cotton fabric, vegetables, jewelry, and wheat flour. Cross-border smuggling with China, India, Afghanistan, and Iran involves the physical movement of goods as well as the physical exchange of FX, primarily through the hawala network. Anecdotal evidence suggests that a significant portion of imports from China is financed by purchases from the kerb market, primarily to avoid import duties, taxes, and transaction costs.[7]

In the case of Dubai, Thailand, and Indonesia, goods are smuggled by assigning a large number of khepias to physically transport the goods and FX across borders. FX can be taken out of the country either in the

[6] Interestingly, hawala settlements can also involve a third party (country). For instance, in the above example, instead of sending GBP 20 to Pakistan, this sum may be used to settle payments due from Pakistan for the informal import of certain products from China.

[7] The transaction cost in the formal channel may arise at various stages: securing import/export licenses, procedural delays at customs, processing costs, and margin requirements at banks.

form of "export of currency"[8] or by using the US$ 10,000 per passenger limit. In exchange for this currency movement, the khepias bring fabric, readymade garments, electronics, toys, shoes, and other consumer items to be sold in the domestic market.

5.2. Gold Imports

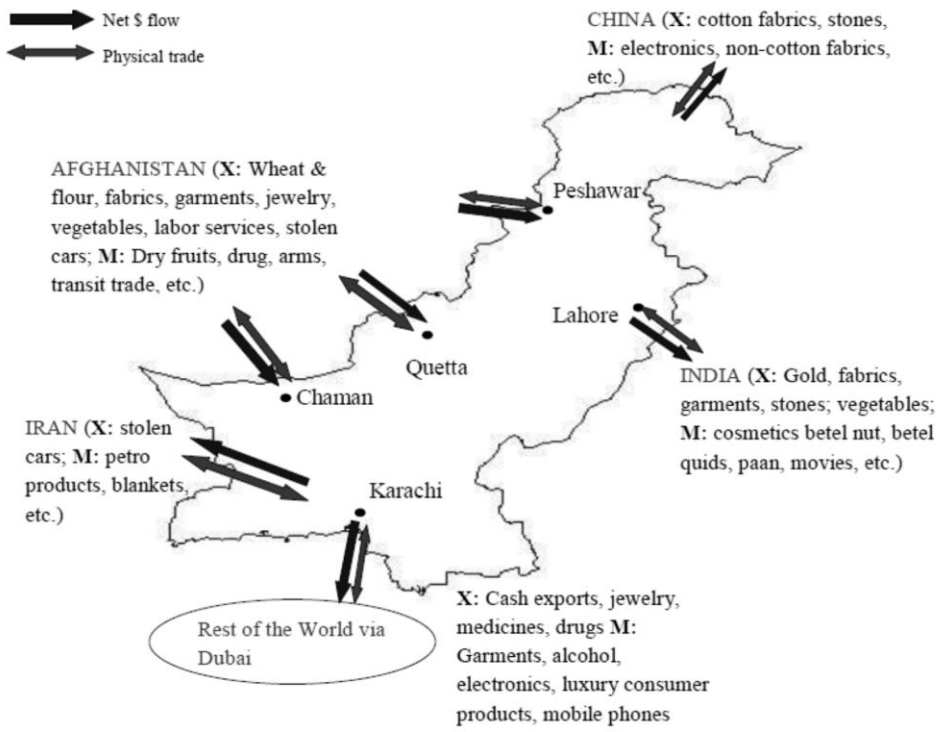
All FX payments related to the import of gold are directed through the kerb market since banks are not allowed to make such payments. Customs data estimate the import of gold at US$ 346 million in FY2013, payment for which was made via cash dollars bought from exchange companies. However, it is estimated that roughly 50 percent of gold imports is not reported to customs to avoid stringent regulations; the associated demand for dollars from exchange companies was, therefore, much larger than the recorded value. Over 90 percent of this gold is imported from Dubai.

5.3. Capital Flight

As mentioned above, given the easily accessible hawala network and liberal FX regime, a large volume of FX tends to leave the country as a norm. Not all this amount is used for smuggling: corruption money also makes its way abroad through these channels. A significant amount is also used for investments abroad.

[8] The SBP allows exchange companies to physically export all currencies (except the US dollar) in surplus and bring back US dollars against these. We have learned that these consignments are under-invoiced: the actual value of FX leaving the country exceeds the amount that is declared.

Figure 7: Cross-border movement of FX and goods



6. Concluding Remarks

Several points are worth making when focusing on the macro-economy within a historical context.

First, workers' remittances should be viewed as export receipts. However, since what are being exported are labor services, which are not routed through the banking system (unlike other exports), it is very difficult to ensure that all such receipts are realized by the formal economy or the country at large. The sharp growth in remittances after 9/11 and their persistent growth during the global financial crisis of 2007/08 is sufficient proof that remittances are channeled increasingly through formal institutions.

Second, Pakistan's export of human resources is increasing in net terms, which means that the flow of remittances should continue to increase. So, even as Pakistan's economy continues to underperform, this avenue of FX revenues should remain robust. It is also important to realize that remittances do not depend on the goodwill of expatriate Pakistanis or

the state of the economy; they are a robust source of FX and, arguably, countercyclical to the performance of the domestic economy.

Given that exchange companies have evolved from moneychangers, they retain a close operating relationship with the global hundi/hawala network. Although regulated by the SBP, it is very difficult for exchange companies to sever their link with the hawala network (or the range of services it provides). As all policymakers know, it is virtually impossible to halt the services of a parallel market that offers a service for which there is a vibrant demand.

One must also consider the role of regional developments in Pakistan's FX market. There is a great deal of speculation concerning charitable flows from the Middle East that are used to fund local seminaries and the heavy inflow of cash dollars from Afghanistan. With the exit of NATO troops from Afghanistan in late 2014 and changing attitudes in Pakistan, there is some concern that that these sources of hard currency may shrink. Looking at these as two components that make up the supply of hard currency flowing into Pakistan, it would either force domestic demand to fall or, more likely, increase the premium in the kerb market. However, since the kerb premium is quasi-formal—in the sense that exchange companies' rates are tracked by the SBP—it is unlikely to increase much without being investigated.

This suggests that, even if the kerb premium is contained, most underlying transactions could slip into the hundi/hawala network and threaten to segment Pakistan's FX market as it was before 9/11. However, given the emphasis on KYC in the country's financial system and ongoing international oversight to identify terrorist funding, such a situation is highly unlikely. Having said that, both the SBP and the government will have to remain vigilant in guarding against this.

Given the concentration of wealth in the country and the poor level of documentation, it is safe to say that urban Pakistanis are far richer than official statistics would suggest. The availability of high-end consumer products that are imported against cash payments and the quantum of Pakistani wealth held abroad implies that cash imports and capital flight are facts of life in the country. What is less well known is that these have been financed largely by remittances that were not realized by official channels (i.e., banks and exchange companies).

Conservative market estimates put total Pakistani remittances at about US$ 18–20 billion per annum as against the US$ 15 billion realized in FY2014. If Pakistan was able to channel a larger fraction of these remittances through formal avenues, the current account deficit could easily become a surplus.[9] With policy efforts to attract a larger fraction of remittances through the formal system or by incentivizing expatriate Pakistanis to save in Pakistan (via special investment schemes), the external sector should no longer be a source of concern. The resulting stability of the rupee and the growth in FX reserves would go a long way in boosting Pakistan's growth prospects.

[9] As a matter of principle, for countries such as Pakistan that are large exporters of human resources, it is the current account gap, not the trade deficit, which should be a policy concern.

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From Fear of Floating to Benign Neglect: The Exchange Rate Regime Roller Coaster in Pakistan

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Abstract

One of the most pressing issues concerning policymakers today is the choice of an exchange rate regime. Despite the intricacies of this problem, monetary authorities could narrow down their list of options if they were to focus on the following principles: full implementation to ensure credibility and synchronization with domestic realities and economic infrastructure. This paper proposes an optimal exchange rate regime for Pakistan based on a historical study of the outcomes and performance of different monetary stances adopted over the last 40 years.

Keywords: Exchange rate, flexibility, regime, fear of floating, floating, pegging, Pakistan.

JEL classification: E42, E58, F31, F33, F41.

1. Introduction

Perhaps no question has initiated as much debate in the literature on international finance as the adoption of an optimal exchange rate regime. The choice of exchange rate regime is complex for many reasons. First, the decision is not simply restricted to choosing between a fixed and floating exchange rate regime, rather it is a continuum of choices ranging from pegs to target bands to floats with varying degrees of intervention. Second, irrespective of the choices available under exchange rate flexibility, the behavior of an exchange rate in practice may diverge considerably from its *de jure* classification. Finally, the lack of consensus concerning the unambiguous theoretical relationship between exchange rate regimes and macroeconomic performance makes it even more difficult for a monetary authority to choose a regime.

While recent world trends suggest that floating exchange rates have become more desirable in advanced economies, emerging economies cannot

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afford to adopt an attitude of "benign neglect" (BN)[1] and are thus forced to control and target their exchange rates. The rationale for this is the high cost attached to the vulnerability of the exchange rate. These costs arise for three main reasons. First, exchange rate vulnerability can lead to capital flight, in turn threatening the domestic currency (Mishkin, 2000). Second, currency depreciation will amplify the burden of debt denominated in a foreign currency while simultaneously reducing the value of assets denominated in the domestic currency; this reduces the net worth of the economy (Calvo, 2000). Third, emerging-market countries are more likely to find that depreciations lead to a rise in inflation as a result of the pass-through from higher import prices (Mishkin, 2004).

Not surprisingly, as an emerging economy Pakistan has always found the adoption of an exchange rate regime to be a difficult choice. The country followed a fixed-peg exchange rate regime up to the early 1980s. The State Bank of Pakistan (SBP) decided to abandon the pegged regime once it started working on comprehensive financial sector reforms with the help of the International Monetary Fund (IMF) and World Bank in the late 1980s. As a consequence of this initiative, the de jure exchange rate regime shifted to a managed float till 2000 and a free float thereafter. Notwithstanding the floating regime, it is frequently reported that the behavior of the exchange rate in Pakistan diverges significantly from its de jure classification.

Given the dilemma of choosing an exchange rate policy on one hand and adhering to the assertion of the central bank on the other, the objective of this study is threefold. First, we look at the different exchange rate regimes Pakistan has adopted and assess their economic and financial performance and outcomes in the form of certain macroeconomic indicators. Second, we assess the credibility of the central bank in maintaining its chosen exchange rate regime: the detection of the so-called "fear of floating" (FOF). Third, if the behavior of the exchange rate is found to be inconsistent with the stated exchange rate policy, we examine possible reasons for such inconsistencies and, more importantly, whether these inconsistencies benefit or harm the overall economy. We also propose an optimal exchange rate regime for Pakistan based on other macroeconomic and financial realities.

2. An Analysis of the Data

The annual data for 1961 to 2013 comprise several macroeconomic and financial indicators taken from the World Bank database. However,

[1] See Miskhin (2000): Watching your exchange rate depreciating, whether or not corresponded by the fundamentals, and doing nothing.

for analysis purposes, we have included only the observations from 1975 and onward because of the extreme inconsistencies in the data resulting from the structural changes to the economy that followed the separation of East and West Pakistan in 1971.

2.1. A Policy Overview

The comprehensive financial sector reforms undertaken in the late 1980s with the help of the IMF and World Bank proved to be a turning point for the monetary sector in two respects. First, the SBP was assigned sole responsibility for making and conducting monetary policy in 1994. Second, Pakistan adopted market-based or indirect instruments of monetary policy where, previously, the SBP had relied on administered monetary policy regimes governed by ad hoc changes in the reserve ratio, directed credit, and regulated interest rate policies.

The SBP adopted monetary aggregate targeting in 1994, assuming a stable money demand function for Pakistan, which continues to date. The goals of monetary policy under this framework are inflation reduction (maintaining price stability) and output growth with broad money (M2) as the intermediate target and base or reserve money as the operational target. With the adoption of market-based instruments, more attention was paid to managing the short-term interest rate. The SBP adopted the three-day SBP discount rate as its major policy instrument to signal an easing or tightening of monetary policy.

Pakistan followed a fixed-peg exchange rate regime up to the early 1980s, after which it was abandoned in order to initiate an important transmission mechanism of monetary policy. As a result of this policy shift, the *de jure* exchange rate regime evolved into a managed float till 2000 and became free floating thereafter (Khan & Qayyum, 2007).

2.2. Categorizing Different Exchange Rate Regimes

We divide our sample period of 1975 to 2013 into four exchange rate regimes (see Table 1 and Figure 1). The period 1975–81 is considered a pegged regime with an exchange rate of PKR 9.90 = $1. The period 1982–2000 is classified as a managed float as per the SBP's official stance. The third regime, a floating exchange rate or free/pure float, officially started in 2001 and continues to date; this is broken down into two sub-regimes.

During 2001–07, despite the free-floating regime the exchange rate remained almost stagnant at PKR 60 against $1. This sub-period is

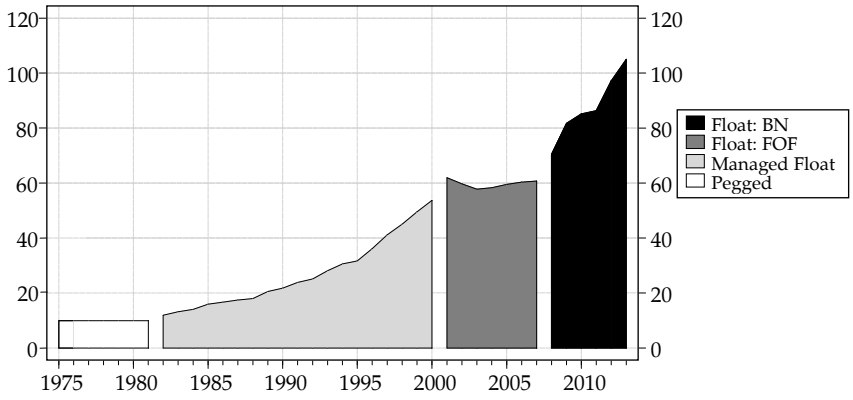
categorized as *float-FOF* where we presume that FOF behavior explains the almost constant exchange rate under the pure floating regime that was officially in place. In the second sub-period (2008 to date), the rupee lost almost 75 percent of its worth and jumped from PKR 60 to almost PKR 105 against the US dollar. This period is denoted as *float-BN* to indicate the "benign neglect" of the monetary authorities in allowing market forces to decide freely the equilibrium exchange rate between the rupee and the dollar. Although this nonintervention was commendable on paper and was synchronized with the SBP's official stance of a pure float, it has had serious repercussions that should have been anticipated and resolved by the monetary authorities.

Table 1: PKR-USD exchange rate volatility under different regimes

Period	Regime	Exchange rate (mean)	Exchange rate (SD)	Obs.
2008–13	Float-BN	87.639690	12.100560	6
2001–07	Float-FOF	59.740730	1.429629	7
1982–2000	Managed float	27.043340	12.770980	19
1975–81	Pegged	9.900000	0.000000	7
				39

Source: Authors' estimates.

Figure 1: Exchange rate movement under different regimes



2.3. Performance Analysis of Different Regimes

Extending this analysis by looking at the performance of different regimes (in terms of outcome and macroeconomic and financial variables) could help the monetary authorities formulate an optimal exchange rate policy, given the country's economic idiosyncrasies. The foremost variable

determining the health of any economy is the GDP growth rate. Although it is simplistic to believe that the exchange rate could solely determine overall GDP growth, Figure 2 and the corresponding regression results in Table 2 show that the slope coefficient of the exchange rate is not only negative but also highly significant with an explanatory power of 19 percent. It would, therefore, be unwise to entirely ignore the potential role of the exchange rate in determining this bottom-line variable.

Figure 2: OLS estimation of growth over exchange rate

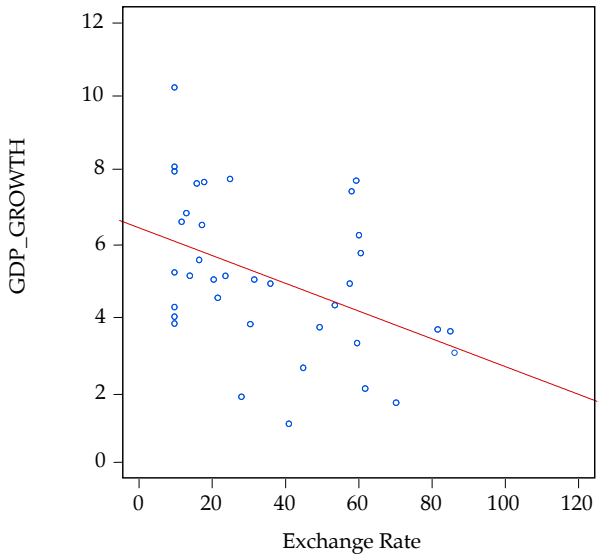


Table 2: Dependent variable: GDP_GROWTH

Variable	Coefficient	SE	t-stat.	Prob.
XRATE	-0.037924	0.013153	-2.883225	0.0067
C	6.396717	0.567442	11.272900	0.0000
R-squared	0.191928	Mean dependent var.	5.038649	
Adjusted R-squared	0.168841	SD dependent var.	2.111224	
SE of regression	1.924760	Akaike info criterion	4.200018	
Sum squared resid.	129.664500	Schwarz criterion	4.287094	
Log likelihood	-75.700330	Hannan-Quinn criterion	4.230716	
F-statistic	8.312989	Durbin-Watson stat.	1.634146	
Prob. (F-statistic)	0.006689			

Source: Authors' estimates.

Table 3 presents the economic performance of Pakistan under different exchange rate regimes reflected by the average GDP growth rate for

those periods. It is safe to say that the country's economic performance was impressive during the float FOF period with an average GDP growth rate of around 5.2 percent per annum. During the float-BN period, however, the GDP growth rate declined on average by almost 2.35 percent.

Table 3: GDP growth rates under different exchange rate regimes

Regime	Mean	SD
Float-BN	2.923502	0.931532
Float-FOF	5.278538	2.094297
Managed float	4.975131	1.907178
Pegged	6.179820	2.535719
All	5.038649	2.111224

Source: Authors' estimates.

Table 4 describes the current account balance as a percentage of GDP under different regimes. Clearly, the BN policy is associated with poor performance in the trade sector. Notwithstanding arguments concerning the causal relationship between the current account balance and exchange rate regime, it is worth pointing out that the high degree of FOF during 2001–07 is associated with the country's lowest average current account deficit (percentage of GDP). The period during which Pakistan followed a *de jure* free-floating regime, however, had severe consequences in the shape of a negative current account balance equivalent to almost 3.4 percent of GDP on average.

Table 4: Current account balance

	Nominal values (USD)		Percent of GDP	
Regime	**Mean**	**SD**	**Mean**	**SD**
Float-BN	-5.81E+09	6.65E+09	-3.462383	4.126803
Float-FOF	-1.45E+09	4.91E+09	-0.428004	4.572595
Managed float	-1.54E+09	1.11E+09	-3.196601	1.770231
Pegged	-8.47E+08	1.52E+08	-4.500759	1.018332
All	-1.88E+09	3.26E+09	-2.905154	2.923895

Source: Authors' estimates.

Similarly disappointing results emerge with respect to other variables. The market capitalization of listed companies declined by almost 10 percent during the float-BN period (Figure 3). Inflation, one of the most critical variables determining the overall health of the economy and its

future progress, almost doubled (to 13.2 percent) during the float-BN period when the *de facto* regime was put into practice (Figure 4). Not only did the level of inflation increase significantly, it also became more volatile, directly hampering the credibility of the monetary authorities. This increase in volatility along with high average inflation makes it difficult for consumers and investors to plan ahead and poses a significant threat to future development by increasing the cost of capital unnecessarily.

Figure 3: Average market cap of listed companies (percentage of GDP)

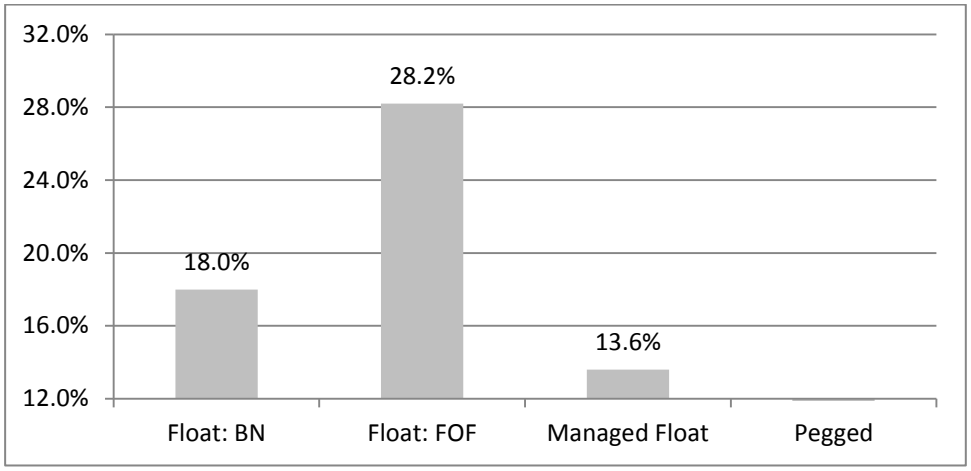
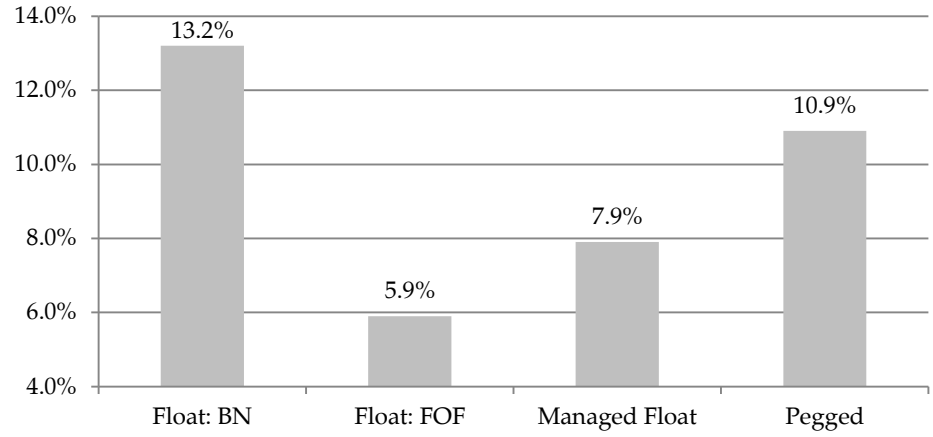
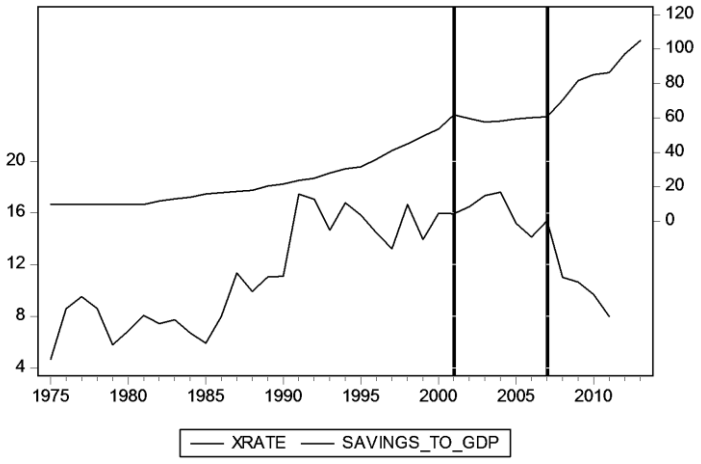


Figure 4: Average inflation under different regimes



Another key variable is the volume of domestic savings. Figure 5 illustrates the disappointing performance of this variable during the period of benign neglect.

Figure 5: Savings as a percentage of GDP vs. the exchange rate



Savings declined sharply during the float-BN period when the rupee depreciated against the dollar. Almost 6 percent of GDP retained as savings, which could have translated into investment, evaporated (Table 5) because of the uncertain environment in the exchange rate market. This affected not only domestic savers and investors and compelled capital flight, but it also left foreign investors uncertain about the wisdom of investing in domestic assets. This negative perception among foreign investors is evident from the declining trend in net foreign direct investment (FDI), portfolio equity inflows, and gross capital formation (GCF) (Tables 6, 7, and 8, respectively).

Table 5: Savings as a percentage of GDP

Regime	Mean	SD
Float-BN	9.846151	1.350556
Float-FOF	16.02370	1.228923
Managed float	12.39053	3.891199
Pegged	7.455923	1.734753
All	11.86925	4.027091

Source: Authors' estimates.

Table 6: Net FDI as a percentage of GDP

Regime	Mean	SD
Float-BN	1.599760	1.174274
Float-FOF	1.765538	1.318932
Managed float	0.612804	0.362096
Pegged	0.215368	0.123201
All	0.880369	0.903620

Source: Authors' estimates.

Table 7: Portfolio equity inflows as a percentage of GDP

Regime	Mean	SD
Float-BN	0.022928	0.194964
Float-FOF	0.307788	0.440569
Managed float	0.250935	0.558014
Pegged	0.000000	0.000000
All	0.194833	0.459147

Source: Authors' estimates.

Table 8: GCF as a percentage of GDP

Regime	Mean	SD
Float-BN	17.22634	3.841086
Float-FOF	18.67048	2.661692
Managed float	18.63228	1.123026
Pegged	17.96139	1.015146
All	18.36059	1.855848

Source: Authors' estimates.

3. What Exactly Happened?

The discussion above clearly illustrates the association between Pakistan's impressive economic performance and the float-FOF regime followed from 2001 to 2007—the period during which (we argue) the monetary authority adopted a pure float on a *de jure* basis but intervened significantly in the market on a *de facto* basis to keep the exchange rate stable. Given that the authority's designated mandate was different from its action, this section provides evidence to support our argument.

Following Levy-Yeyati and Sturzenegger's (2007) methodology, we develop an index to measure the intervention in the foreign exchange market based on changes in foreign exchange reserves relative to the

monetary base of the economy. Although the methodology approximates intervention on the basis of changes in reserves over the prior 12 months, we calculate the intervention measure (IM) using Equation 1 on a yearly basis due to the absence of monthly data:

$$IM = \frac{R_t - R_{t-1}}{MB_{t-1}/e_{t-1}} \quad (1)$$

R_t and R_{t-1} are the values of foreign exchange reserves denominated in USD terms in the current and previous years. e_{t-1} is the value of the monetary base denominated in the local currency (PKR) in the previous year and is the exchange rate between the rupee and the dollar in DC/FC format (direct quotation). Therefore, the IM is the yearly change in reserves as a percentage of the monetary base (with both denominated in the foreign currency).

Table 9 below gives descriptive statistics for the IM calculated using this methodology under different exchange rate regimes. Both the magnitude and sign under different regimes indicate the presence of FOF during 2001–07 (float-FOF) where the average yearly change in foreign exchange reserves is equal to 5.5 percent of the monetary base. The negative sign indicates that, on average, each year's reserves were smaller than the reserves of the previous year. The only explanation for this gradual decline in reserves at a time when the exchange rate was stable (at PKR 60 against $1) is that the monetary authority intervened in the foreign exchange market to stabilize the supply of foreign currency by sacrificing the country's own reserves in order to halt or postpone domestic currency depreciation.

Table 9: Intervention through foreign exchange reserves

Regime	Mean	SD
Float-BN	2.169026	6.965869
Float-FOF	-5.499390	6.410043
Managed float	-0.192059	3.179686
Pegged	0.382518	1.677876
All	-0.865934	4.760767

Source: Authors' estimates.

A counter-argument to this would be to ask whether the monetary authority was even capable of making such a large, successful intervention in the foreign exchange market to the extent that the exchange rate did not move beyond the average value of PKR 60 for almost seven years. However, the data suggest that the absolute as well as relative level of reserves (in

terms of months of imports and as a percentage of GDP) were extremely high during this period (Tables 10 and 11). This would have helped the monetary authority intervene successfully.

Table 10: Foreign exchange reserves in terms of months of imports

Regime	Mean	SD
Float-BN	3.765508	1.191607
Float-FOF	5.184935	1.695350
Managed float	1.949845	0.867383
Pegged	2.627308	0.214554
All	2.893541	1.624968

Source: Authors' estimates.

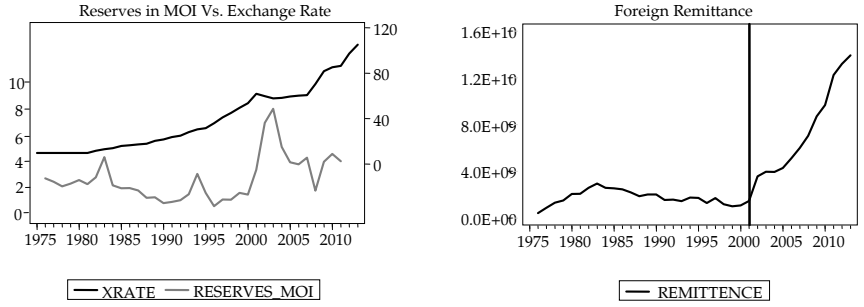
Table 11: Foreign exchange reserves as a percentage of GDP

Regime	Mean	SD
Float-BN	6.606003	1.578582
Float-FOF	9.623899	2.468907
Managed float	2.386589	1.566301
Pegged	2.498898	0.783996
All	4.233210	3.348625

Source: Authors' estimates.

In Figure 6, we focus on the area that lies above the red horizontal line (the generally acceptable threshold of three months' import bills) and between the two vertical lines (the period occupied by FOF). This area corresponds exactly to the period for which Pakistan reported its highest-ever level of foreign exchange reserves. (Although beyond the scope of this paper, one factor that might explain the high level of reserves is the surge in foreign remittances that followed the 9/11 attacks in the US.)

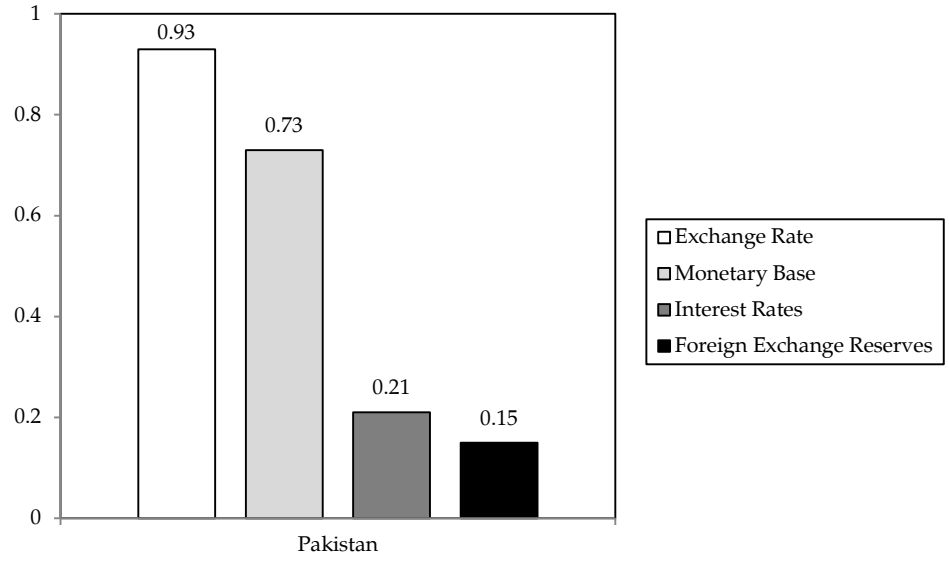
Figure 6: Foreign exchange reserves in terms of months of imports vs. the exchange rate



Rizvi, Naqvi, and Mirza (2013) provide sufficient evidence in favor of the existence of a *de facto* rupee-to-dollar peg during 1999-2009. Rizvi, Naqvi, and Bordes (2012) calculate a set of probabilities (Appendix 1) capturing the chances that the change in different variables falls outside the prespecified narrow interval during a specific period. Their findings also suggest that Pakistan has exhibited a high degree of FOF by intervening in the foreign exchange market not only through foreign exchange reserves but also through interest rates.

Figure 7 shows that the exchange rate is one of the most stable variables during the period studied, with a 93 percent probability that any monthly change will fall within the narrow band of +/− 2.5 percent. However, this stability is at the cost of extreme volatility in interest rates and foreign exchange reserves, which show a 21 and 15 percent chance, respectively, that any monthly change will fall within the band of +/− 2.5 percent. Rizvi et al. (2012) argue that the stability of the monetary base may be a result of the sterilization exercise conducted after the foreign exchange intervention to nullify its impact on the monetary base.

Figure 7: Stability of different variables, 2000–10



Note: The figure depicts the probability of monthly changes falling within a +/− 2.5 percent change band.
Source: Rizvi, Naqvi, and Bordes (2012).

4. Policy Implications and Conclusion

What, then, might be an optimal exchange rate regime for Pakistan? As mentioned earlier, choosing an exchange rate regime is a complex matter, given the variations of fixed and floating regimes available and their associated advantages and disadvantages. It is equally important that, whatever policy the monetary authority deems fit to adopt, there should be no divergence between that stated policy and realtime implementation, otherwise it will affect the credibility of the policymakers.

The easiest choice lies at one extreme of the exchange rate flexibility spectrum: pegging. The merits of this regime should not be ignored, given that Pakistan is subject to the concept of original sin, i.e., the inability to borrow internationally in the domestic currency,[2] exchange rate pass-through, inflation, and a huge trade deficit. Most of these problems could be resolved simply by opting for a fixed peg.

The strongest point in favor of pegging is that it can stabilize inflation if the domestic currency is pegged to a stable foreign currency. This is done in two ways: (i) by fixing that part of local inflation to the inflation of the base country that originates from traded goods and (ii) anchoring the expectations of local agents to the inflation of the base country (Mishkin, 1998). Pegging also tends to equalize interest rates in both economies, depending on the degree of commitment to making the peg credible. This could also induce more disciplined policymaking and encourage policymakers to avoid discretionary policies to achieve short-run objectives—the time-inconsistency problem described by Kydland and Prescott (1977), Calvo (1978), and Barro and Gordon (1983).

Criticism of the policy of exchange rate pegging centers on the loss of an independent monetary policy, the transmission of external shocks, speculative attacks, and weakened accountability (Obstfeld & Rogoff, 1995). In addition, Mishkin (1998) argues that pegging is inherently prone to full-fledged financial crises triggered by an exchange rate crisis when the peg breaks down. These arguments and the Asian financial crisis of 1997 ruled out the choice of pegging in general and of intermediate regimes (soft pegs) in particular, by blaming them as a fundamental reason for the crisis. This yielded the so-called "bipolar"

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[2] See Eichengreen, Hausmann, and Panizza (2007); Eichengreen and Hausmann (1999); Eichengreen, Panizza, and Borensztein (2008); Hausmann and Panizza (2003).

prescription, i.e., a country should either opt for a hard peg or let the currency float freely.

However, as we have just analyzed in the case of Pakistan, a pure floating regime is not a solution to the country's problems (some of which we have mentioned above). This is why, even after officially adopting the regime in 2001, it was not implemented on a *de facto* basis for the next seven years. When, finally, Pakistan decided to fulfill its policy commitments in letter and spirit, the outcome was disastrous.

At this point, Pakistan would be ill advised to go against international financial institutions and the global community. Moreover, its policymakers are under pressure to opt for laissez-faire policies. The only conceivable solution then would be to adopt a managed float (Appendix 2). The monetary authority should declare that, in principle, it will not intervene in the foreign exchange market and allow market forces to freely determine the equilibrium exchange rate. However, it will retain the right to smooth exchange rate movements in order to curb any opportunistic drive by market manipulators or to stop any abrupt moves in the exchange rate that are not synchronized with the current situation or justified by the fundamentals. Such interventions will occur within prespecified thresholds or bands by taking action, including direct intervention if needed.

Many countries, such as Singapore, Bangladesh, Russia, Malaysia, and Switzerland, still follow similar "managed arrangements" (as termed by the IMF in its recent *de facto* classification of exchange rate regimes).[3] Such arrangements are not only able to accommodate market-driven changes in the exchange rate continuously, but they also reassure market participants that no unjustified action will be allowed to drive the exchange rate away from its fundamental value.

[3] See http://www.imf.org/external/pubs/nft/2012/eaer/ar2012.pdf

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Appendix 1

Following the methodology of Calvo and Reinhart (2002), Rizvi et al. (2012) calculate the probabilities of confining a percentage change within a prespecified narrow band for different variables (Equations 1 to 4). As Calvo and Reinhart (2002) have shown (substantiated by Rizvi et al., 2012), the calculated probability is an increasing function of rigidity for the exchange rate and a decreasing function for reserves, base money, and the domestic interest rate.

The structure of the methodology is as follows:

$$P(LB \leq E^{PC} \leq UB|Peg) > P(LB \leq E^{PC} \leq UB|Float) \quad (1)$$

$$P(LB \leq R^{PC} \leq UB|Peg) < P(LB \leq R^{PC} \leq UB|Float) \quad (2)$$

$$P(LB \leq M^{PC} \leq UB|Peg) < P(LB \leq M^{PC} \leq UB|Float) \quad (3)$$

$$P(LB \leq i^{C} \leq UB|Peg) < P(LB \leq i^{C} \leq UB|Float) \quad (4)$$

Left hand side of each equation represents a probability of staying a change within a pre-defined narrow interval for different variables given that country is observing fixed or pegged regime. Right hand side is the same probability for floating regimes. LB and UB are lower and upper bound for the narrow interval which is set as 2.5% for equation 1, 2 and 3 and 50 basis points (0.5%) for equation 4. E^{PC}, R^{PC}, and M^{PC} are percentage change in Exchange rate, Reserves and Base Money respectively, calculated as difference in the natural logarithms of concerned series:

$$\%\Delta\, x = lnx_t - lnx_{t-1} = \frac{x_t - x_{t-1}}{x_{t-1}}$$

And i^{C} is the change in interest rate calculated as $\Delta i = i_t - i_{t-1}$.

Appendix 2

Scoring matrix

Period	Regime	Exchange rate (mean)	GDP growth	CA balance	Average market cap	Inflation	Savings	FDI	PEI	GCF	Total score
2008–13	Float-BN	2	1	2	3	1	2	3	2	1	17
2001–07	Float-FOF	3	3	4	4	4	4	4	4	4	34
1982–2000	Managed float	1	2	3	2	3	3	2	3	3	22
1975–81	Pegged	4	4	1	1	2	1	1	1	2	17

The above matrix has been developed to help understand the comparative performance of the four regimes identified earlier: pegged, managed float, pure float (with FOF), and pure float (with BN). The rating scale used is from 1 to 4 (1 being the worst performing regime and 4 being the best performing regime). It is clear that Pakistan's economic managers performed best when strictly controlling the exchange rate market while simultaneously claiming it was a pure float (i.e., FOF behavior). However, given that international financial institutions and investors tend not to look kindly on FOF, the second-best option remains the managed float.

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What Does the Exchange Rate Do? A Status Symbol?

Sikander Rahim[*]

Abstract

This paper aims to assess the harmful impacts of exchange rate depreciations on Pakistan's economy, including impacts on international capital movements, wages, the domestic price level, and development. Devaluation of a currency in terms of foreign currencies or metallic standards was for long considered to be undesirable and, if unavoidable, a sign of failure. Attitudes have since changed and devaluation is thought to bring advantages, especially by making economies more competitive exporters. This paper is intended to show that it has disadvantages that outweigh any supposed advantages, notably its effects on inflation, income distribution, service on foreign debt and incentives. It does so by describing in concrete terms the relations between foreign and domestic prices and the costs of untradeable goods and services that are components of the price of any good in any domestic price index. It also discusses the motives, official and unofficial, that have prompted the monetary authorities of Pakistan to make a practice of regular depreciation of the rupee and to question their justification.

Keywords: Pakistan, exchange rate, depreciation.

JEL classification: E31, O24.

1. Capital, Income, and Prices

This paper describes some of the economic and social losses to a country from currency devaluation or depreciation and the mechanisms that cause them. During the time of fixed exchange rates—especially the first quarter-century after the Second World War—devaluation was something to be avoided. For governments, it was a sign of weakness; for the public, it was a national humiliation. Attitudes have changed since then. A lower price of a currency in terms of other currencies is thought to bring economic benefits and the readiness of the monetary authorities of low-wage countries to let their currency prices fall gains approval from the authorities of high-wage countries and from multinational institutions, most of all the International Monetary Fund (IMF)—all the more if it seems to be in response to the market. In many countries, including Pakistan, the

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monetary authorities take pride in this approval. However, there has been no systematic discussion of the harm that can follow and no empirical or theoretical assessment of whether Pakistan has benefited overall from the depreciation of its currency over the last 40 or so years.

We begin with a point of theory: the exchange rate is a macroeconomic quantity or variable. In principle, a change in the exchange rate results in changes in the price of tradable goods through the whole economy as well as in financial and fiscal quantities such as foreign debt and revenue from import duties. Why does this matter? It matters because it implies that partial equilibrium arguments cannot be used to discuss the effects of changes in the exchange rate; devaluation has effects throughout the economy and these have to be taken into account before anything can be said with confidence about the gains and losses that follow.

1.1. Expectations and Capital Flight

Devaluation leads to expectations about the future course of the exchange rate and, with this, can make further devaluation more likely. In the time of fixed exchange rates, when a country did devalue it was in the hope that the new exchange rate would be permanent. By the 1960s and 1970s, however, there was little doubt as to which countries would devalue again and which would not: expectations had been formed. Speculation on exchange rates became so profitable and the consequent capital movements so great that countries sometimes had to devalue to avoid losing all their international reserves. The inability to cope with these speculative capital movements caused the system of fixed exchange rates to be abandoned. Since then, any inhibitions about devaluing have been lost. Most high-wage countries let their currency exchange rates be determined by the market, i.e., they let them "float."

The ways in which expectations are formed have also changed. In the case of Pakistan, as with many others, repeated devaluations gave rise to the expectation that the rupee would depreciate continually, which experience continued to justify and confirm. Until 1972, the official exchange rate was PRs 4.76 to the dollar, though, because of the Bonus Vouchers scheme, the rupee cost of the dollar was, for many imports, two or three times as high. With the abolition of the scheme in 1972, the exchange rate was fixed at PRs 9.91 to the dollar until 1981, after which it depreciated unsteadily. In 2000, it was about PRs 58 to the dollar; by March 2014, it was about PRs 105. No one doubts that the Pakistani rupee will continue to depreciate and if ever anybody had expectations of

appreciation, except for occasional short fluctuations, it was long ago. Official attitudes confirm these expectations: depreciation of the currency is considered to be, in the case of Pakistan, somehow a good thing.

Speculative capital movements are a natural consequence of expectations of currency depreciation, but speculative capital from a high-wage country can be expected to return home after the country devalues. This has happened each time countries such as France and the UK devalued in the 1960s or 1970s. In contrast, it does not happen after currency depreciations in countries such as Pakistan for which the expectation of further depreciation holds firm. In such countries, people with financial assets consider placing some of them in solid currencies such as the US dollar, euro, and yen.

At the least, this is prudent portfolio management through the diversification of assets. Exchanging rupees for dollars in 1982 (when Pakistan abandoned its fixed exchange rate) would have yielded, in 2000, an annual compound return in rupees of close to 10 percent. To this should be added the yield on foreign investment. Reliable figures are not possible but most higher-income families with members who occasionally travel abroad appear to have foreign bank accounts; some also own property in the UK, the US, and other places where foreign ownership is not restricted. In the short run, if devaluation is expected, any consequent gain can be exceeded by the loss of reserves from capital flight, as was the experience of several European countries during the time of fixed exchange rates. In the long run, the accumulated flight capital can exceed the country's foreign debt, which seems to have been the case for most Latin American countries and is probably true of Pakistan.

Most of the time, outflows of capital are impossible to detect and cannot be seen from the official national accounts or balance of payments (BOP). Over-invoicing imports and under-invoicing exports have been standard practices since the 1950s when imports began to be tightly restricted because of severe foreign exchange shortages, and they have not been the only ways of moving wealth out of the country. With the liberalization of the capital account, the government has virtually given up its ability to control capital movements.

Capital outflows that are not caught in the official statistics imply that gross domestic saving is higher than the low figures given by the national accounts. In Pakistan, as in many other countries where the collection of economic data does not receive enough attention, saving is

calculated from the identity of the trade balance and the excess of saving over investment. Investment is estimated when the national accounts are put together and the data for imports and exports are obtained directly from customs or indirectly from the State Bank of Pakistan's data on external payments. If that part of saving that is lost abroad could be taken into account, the saving rate would be found to be that much higher than the rate calculated from trade and investment.

It is not surprising that gross domestic saving is, in reality, higher than the official figures. Early on, in the 1950s, when Ayub Khan's government formulated its Second Five-Year Plan, it was more or less explicit policy to concentrate income on the argument that those with higher incomes had higher saving rates than those with lower incomes, so that concentrating income raised the saving rate. Haq (1963), who developed this argument, asserted that, for rapid growth it was necessary "to shelve for the distant future all ideas of equitable distribution and welfare state" (p. 30). The government's foreign advisers had similar opinions; one of the most prominent stated: "Inequalities in income contributes [*sic*] to the growth of the economy, which makes possible a real improvement for the lower-income groups" and the "concentration of income in industry facilitates the high savings which finance development" (Papanek, 1967, p. 242). Nowadays this may seem crude, but the saving rate does seem to have been raised, though the benefits have gone abroad.

1.2. Nominal and Real Wages

This policy of concentrating income was pursued with success under fixed exchange rates. Flexible exchange rates have allowed the same results without having to make them deliberate. Toward the end of the 1960s, international organizations such as the World Bank and many development economists began to criticize the extent of the inequalities that had become evident in many low-wage countries, apart from Pakistan. However, the same institutions and economists also advocated more flexible exchange rates, which meant that repeated devaluation and—since its primary purpose and effect are to lower nominal wages and other nominally fixed incomes relative to prices and wages outside the country—the concentration of income has continued, though with more emphasis on development assistance and government policies to relieve poverty.

Examining wages gives an idea of how incomes are affected by exchange rates. It is reasonable to assume that changes in the wages of skilled and unskilled manual workers are a rough indication of how the income of the broad mass of the population changes.

Although there are no good data on the wages received by unskilled and skilled manual workers for the period since the 1950s (which would otherwise have allowed a better understanding of the economy), it is possible to have a rough idea of how workers' pay has changed over time. The International Labour Organization (ILO) has published data given by the Pakistani authorities on monthly wages in manufacturing for 1969 to 2002, though the drops in some years and the amount of increase in others, as well as some gaps, make their accuracy uncertain. Assuming that the trends do indicate changes in the pay that unskilled workers receive in general, we can make three comparisons: (i) with income per head, (ii) with prices, and (iii) with foreign currencies, in this case the US dollar.

An increase in the ratio of nominal income per head, as given by the gross national product (GNP) per head in the national accounts, to the nominal monthly wage can be taken to show that the income per head of the mass of the population has not increased as much as that of people receiving higher incomes. In Pakistan, the ratio rose from the 1980s onward. Until the end of the 1970s, it had been below 6:1, but it increased after that, with fluctuations, to around 10:1 by 2000. Only in 1990 and 1995 did nominal increases in the nominal wage bring the ratio below 6:1.

The real wage, as calculated from the ILO data using the GDP deflator, changed in roughly the same way. After 1980, it fluctuated around the level it had reached at the end of the 1970s—again, at its highest in 1990 and 1995. Hence, the real wage rate increased as GDP increased in the 1970s (though with fluctuations) so that, from its lowest level in 1971 to its highest in 1978, it rose by about two thirds. After that, the years in which it was higher were offset by the years in which it was lower.

As mentioned already, increases in the nominal wage were offset by devaluation, with the cumulative effect that the wage was lower in terms of the dollar adjusted for US inflation in 2000 than it had been in 1970. Converting rupees into dollars at the official exchange rate, the monthly wage's lowest value, US$ 22, occurred in 1972, though the fall from the previous years was a nominal effect of ending the Bonus Vouchers and devaluing the official rate. It then rose fast enough that, by 1979, it had increased nearly 80 percent relative to the dollar deflated by the implicit US GDP price deflator. After that, nominal increases in dollar terms were smaller than the US rate of inflation. By 2000, the wage level had increased by 10 percent in nominal dollar terms from 1979 whereas the US GDP deflator had increased by 110 percent. Even starting from the

lowest value of 1972, the wage increase in nominal dollars was less than that of the US deflator.

Employment outside Pakistan grew after 1973 but made little difference to unemployment and underemployment in the country. It added to the national product, in particular to the income of unskilled workers who were paid more than they would have been at home but normally had contracts of a few months at a time. These workers regarded such employment as a windfall of which part was to be saved and remitted home, often to buy a plot of agricultural or urban land or to build a house. Remittances alone have usually been close to half and mostly more than half of private unrequited transfers, which have been, in nominal terms, equivalent to 4–6 percent of GDP. There is no way of knowing, however, whether they had the effect of keeping wages in Pakistan from falling lower.

Using GNP as a measure of income, much (perhaps most) of the increase in income per head has gone to profit and to the wealthier owners of agricultural land, though the lack of detailed information of the sort provided in the US and Europe by income tax data prevents precise discussion. From 1979 to 2008, much of the middle class must have experienced a decline in income when measured in dollar terms and deflated by the US deflator, for the same was true for the country's income per head. In dollar terms, income per head rose by 83 percent by 2002 as compared to 110 percent for the US deflator; GDP measured in the same way rose 66 percent but was offset by the growth of population.

This kind of comparison must stop at 2000 because the economy's behavior during 2001/02 to 2007/08, as given by the national accounts, is different from all that went before or has happened since. During those years, the rupee appreciated slightly relative to the US dollar and then depreciated to roughly the starting point, but nominal income per head in terms of dollars doubled. Nothing near such a rate of increase in dollar terms had occurred before. One could conjecture that it shows the benefit of a stable exchange rate, but there has not been enough time to look at this exceptional rise in income in detail and it must be left out of the present discussion.

1.3. Inflation

Depreciation of a currency necessarily causes domestic prices to rise, i.e., inflation. There have been disagreements on this point, however, and empirical work using advanced statistical methods has led to quite different results. Ahmad and Ali (1999) conclude that devaluation does

cause inflation whereas Choudhri and Khan (2002) find "no evidence of a significant pass-through of rupee devaluations to consumer prices in the short run" and conclude from this that "concerns about the inflationary consequences of devaluation in Pakistan are somewhat misplaced" (see the Appendix for a comment on this). Rather than enter into abstract models and statistical tests of their conclusions, the discussion here is an attempt to describe the actual components of costs and prices and how they are, or can be expected to be affected by, the exchange rate.

When the Pakistani rupee falls, the dollar, yen, or other foreign currency prices of imports do not, nor do the prices of Pakistan's exports, which are sold in competitive markets that are too big to be noticeably influenced by the rupee's exchange rate. However, the effects of devaluation on the domestic price of any good may be smaller than the actual devaluation or may be delayed. If, for example, devaluation raises foreign prices by 10 percent in rupee terms, the immediate or short-run effect may be to raise the prices of goods that go into calculating the consumer price index (CPI) or wholesale index by 2 percent and only a year later by a further 4 percent. The full 10 percent increase need never occur, though it may.

The reason for this is that the prices that go into any price index used to calculate inflation and the prices of goods bought by the ordinary consumer include an untradable component that is not directly affected by the exchange rate. To take the simplest example, that of an imported consumer good, the difference between the c.i.f. price (the price before any domestic costs or charges) and the price in a shop includes port-handling charges, storage and perhaps finance and insurance charges before transport to the shop. These are often the costs of the wholesaler or intermediary.

When sold as retail, the price must cover the cost of the people employed by the shop, the rent of the premises, utilities, insurance, and often packaging or wrapping. Even a single person selling from a roadside stall has to have a margin to make a living and to pay for the right to keep the stall where it is. With some consumer goods, such as shoes, the mark-up in a shop is around 100 per cent, so that the import price paid before any domestic costs or charges, that is, the c.i.f. price, is less than 50 percent of the final price.

Imported capital goods and intermediate goods used in production also incur some of the first set of costs—those before retail—though there

may be no wholesaler or intermediary. Usually, they do not enter the CPI, barring exceptions such as different fuels of which the varieties used by consumers and producers are the same or closely related. Devaluation increases their c.i.f. prices in rupee terms and raises production costs.

If their final products are tradable consumer goods, producers may raise the prices of their products because the prices of competing imported goods have also increased. If the final product is not tradable, the higher production cost may not have an immediate effect, but it is to be expected that sooner or later the price of the final product will rise and the more producers are used to devaluation of their currency, the quicker will be the price rise. If the price rises caused by devaluation are spread over several years, the price increases of a recent devaluation may be compounded by the price increase caused by previous devaluations. Similar reasoning applies to the effects of devaluation on the prices of tradable goods that are not imported or are exported, for example, some types of textiles and agricultural or fishery products.

For the purposes of this discussion, the costs incurred at each stage between the border price of an import, i.e., the c.i.f. price, and the price to the final buyer can be decomposed into three elements: (i) the cost of space, that is, the rent of premises for storage and retail; (ii) the cost of labor of all sorts; and (iii) the profit margins. The same is true for the costs between the factory gate price of an export and its border or f.o.b. price.

The cost of space varies by location: it is higher in the centers of big cities than on the outskirts of small towns and storage space can be costly in big ports. It is also affected by monetary policy: when the monetary authorities allow credit to grow fast, the rent of urban land and buildings rises and so do their prices, perhaps even faster. Europe and the US showed this on a large scale between 2000 and 2007. When the monetary authorities restrain credit, these prices do not rise as much and, under the right conditions, may fall, perhaps abruptly.

Much of the cost between the ship and the retailer of an imported consumer good consists of payments for dockworkers and the cost of transport, security, and clerical work. There are similar costs between the factory gate and the ship for exports. The purpose of devaluation is to reduce these costs in terms of foreign currencies. It is, therefore, to be expected that the monetary authorities will try to restrain expenditure through monetary policy to prevent nominal wages and salaries from rising. Hence, this component of cost can be expected not to change in terms of the domestic currency.

Since border prices in terms of foreign exchange do not change and, instead, rise relative to nominal wages, profit margins in the production of exports increase. Additionally, since we can assume that production does not fall when the authorities restrain expenditure, total profit increases. Profit margins in the production of goods that compete with imports also rise, though an expenditure restraint could cause demand to fall by enough that output is reduced and total profit does not rise proportionately. What happens to profits in the production of other goods in the short run depends on the specific circumstances. The prices of nontradable goods may rise a little or not at all at first, but they must rise in time with the prices of tradable inputs; as competition causes profit rates to become more even, the production of these goods will also increase.

Devaluation, therefore, causes inflation regardless of attempts to prevent it by restraining expenditure. Some of the price rises do not necessarily occur immediately, so that a single devaluation can result in inflation over several periods. Unless nominal wages rise to offset the price increase, one consequence is lower real wages.

1.4. Financial Stocks and Flows

Other economy-wide repercussions of changes in the exchange rate—apart from those discussed so far with respect to incomes and income distribution—include changes in the relation between financial stocks and flows when the correct or desired amount of the stock or flow depends on the exchange rate. This can cause resources to be misallocated. In a developing country, the three types of financial stocks affected by devaluation are external debt, the amortization of capital equipment, and savings.

1.4.1. External Debt

Devaluation raises the cost, in terms of the domestic currency, of debt denominated in foreign currencies and, even if the volume of domestic sales does not fall, only a rise in prices can prevent the liquidity and profits of nonfinancial businesses from declining. Well-established profitable firms, though they produce for the domestic market, are likely to be able to accommodate the effects of a single, moderate devaluation because their foreign currency debts are likely to be small, and, if they have problems, these firms usually have access to cash reserves or bank loans to tide them over until prices rise. New firms with foreign debt may not yet generate much, if any, profit, and are more likely to be bankrupted.

Financing obtained from banks in terms of the domestic currency can have the same effects as foreign currency loans if the banks themselves have foreign currency debt. As a simple example, a bank that takes a five-year loan at 5 percent and lends it at 10 percent, with repayment in both cases in five equal installments, must raise its lending interest rate to 11.25 percent to cover the cost of its own borrowing if the devaluation raises the price of foreign currency by 25 percent. If the bank wishes to recover its margin of 5 percent to cover administrative costs, risk, and profit, its lending rate will be 16.25 percent.

Since devaluation is normally accompanied by demand restraint intended to keep prices from rising, the effects of the immediate rise in the cost of external debt combined with the slower rise in domestic prices are compounded by a fall in domestic sales. If the devaluation is large, firms become unable to stay current on their loans, banks restrict credit because of the spreading of credit problems, and the demand restraint that was meant to curb price rises, along with the rise in prices of imported inputs, turns the external financing into a source of widespread business failures.

1.4.2. Amortization

Since developing countries, as a rule, import practically all their plant and machinery from developed countries, the amortization for replacing existing equipment and the savings for buying new equipment must be adjusted to the exchange rate. However, amortization is rarely, if ever, adjusted in this way, so that the funds a prudently run firm sets aside to replace old equipment become insufficient if devaluation occurs.

Usually, equipment is amortized at historic cost in terms of the domestic currency. The shortfall for replacing it is then proportional to the devaluation. Amortizing at replacement cost may be difficult or impossible, even if the firm is eager to do it. One reason is that the firm would need to foresee the devaluation several years in advance. In a country that has not devalued for a long time, the expectation of devaluation may arise only weeks or months before the event, whereas the equipment may have been bought several years earlier. If a piece of equipment being amortized over five years is four years old and devaluation raises its replacement cost by 25 percent in terms of the domestic currency, its amortization in the last year would need to be 45 percent of its value.

If the firm has not placed this amount in its cash reserves, it will have to borrow from a bank or issue new shares. Issuing new shares is a

cumbersome process and often disliked by existing shareholders, who do not want their capital diluted. Amortization is, however, a continuous process and so firms resort to more bank loans. The greater the rate of devaluation, the more indebted they will become.

Even if devaluation has been occurring regularly and the firm foresees the exchange rate correctly, amortization at replacement cost may be impossible because the authorities regulate how amortization may be calculated. They do so for good reasons, among them being that amortization affects the taxes paid by the firm and that rules are needed to protect shareholders, creditors, and the public. Hence, even if a firm wishes to amortize at replacement cost, it may be prevented by the rules and it will certainly be unable to persuade the authorities that its forecasted exchange rate should be used to calculate that cost.

1.4.3. Savings

Since devaluation causes inflation, it reduces the real value of savings in the form of cash, bank deposits, fixed-interest securities, and acquired pension rights—the principal financial savings of lower- and middle-income groups. If its purpose is to lower the prices of the country's tradables in terms of foreign currencies, this reduction is an unintended redistribution of wealth.

To some extent, adjusting the nominal value of the savings in step with prices can compensate for this. This is easier with pensions in a state-run defined benefits system, and such an adjustment would apply to workers producing tradables as to any others. Whether it will be financially sustainable in the future is a separate question that can only be answered by an independent assessment of the receipts and payments over the long run. Judging by the diminution in the real values of pensions in most countries that devalue frequently, it seems that wage earners and middle-income groups have merely been the losers in the redistribution of wealth caused by devaluation. Nevertheless, adjusting the nominal value of savings to compensate for higher prices may be impractical in most other cases since it would raise the liabilities of the institutions holding them without corresponding gains in their assets.

Alternatively, the real value of savings can be preserved by adjusting interest for inflation. In practice, this happens rarely; the interest received by lower- and middle-income groups in countries that devalue often does not suffice to offset inflation. The economic difficulties that led

to and followed from devaluation have repercussions for the banking system, which protects itself, in effect, by reducing its liabilities to those who cannot negotiate their own terms for depositing with the banks.

2. The BOP and the Currency

What has to be explained is why Pakistan's currency has been allowed to depreciate more or less continually for so long. Even if depreciation did improve the balance of trade by increasing the quantity of exports and reducing the quantity of imports, there must be some additional reason that it continued. To this, the answer of the IMF and the monetary authorities is that depreciations offset domestic inflation, which is caused by letting the money supply increase. Their argument is that it is in politicians' nature to favor an increase in the money supply and that the central bank is not independent, or not independent enough, to prevent it from happening.

It is in accord with Friedman's assertion, crucial to modern central banking, that inflation is always a monetary phenomenon. Commonly, this type of argument is supported by using models in which prices are assumed to be proportional to the money supply and which, naturally, conclude that the exchange rate has to adjust to bring domestic prices in line with prices outside the country.

2.1. Expenditure, the Trade Balance, and the Currency

This reasoning cannot be applied to countries that do not have BOP restrictions. The simple argument that prices rise with the money supply is the old one of more money being used for a given supply of goods. This may be true of a closed economy but not of an open one for which the supply can be increased by importing more and exporting less. If more money results in higher demand for goods, some of that demand will be for tradable goods and will be met from the trade balance; the rest will be met by increasing the value of the output of nontradables by increasing their physical output and by raising their prices if the supply is constrained. In particular, the rent and, therefore, the prices of commercial and residential property may rise.

This is illustrated by the credit expansion in the US in 1999–2007, during which the Federal Reserve allowed, even encouraged, the growth of consumption and investment expenditure. One consequence was that the trade deficit, which had always been below US$ 200 billion, rose to US$ 750 billion in 2006. This meant that US residents bought more goods and

nonfactor services than they produced; since supply was unconstrained, inflation was too low to be of concern. The current account deficit was still bigger, implying that US residents were incurring debt, which could go on as long as the central bank allowed credit to expand or until the increasing indebtedness of borrowers, especially households, led to a credit crisis.

Most often, as credit is allowed to expand, initially creditworthy borrowers incur too much debt to stay creditworthy while more and more borrowers who were not creditworthy receive loans. This is just the way financial institutions and people behave and has been for at least three centuries; years of excessive credit expansion have regularly been followed by crises. Much the same happened in Europe: the European Central Bank allowed credit in countries such as Greece, Ireland, Portugal, and Spain to expand at about the same time. These countries also had trade deficits and excessive household debt, though their government budget deficits (even that of Greece) were modest. In most cases, the budget deficits were smaller than that of Germany.

The difference that mattered, though, was that German households have always been more averse to debt and did not borrow in the same way. As former Federal Reserve chairperson McChesney Martin said, the job of the central banker is "to take away the punchbowl just as the party gets going." But, if the borrowing becomes excessive, the same central bankers who had allowed it to come this far must have the courage to be unpopular if it is to be reduced. The further the borrowing has gone, the greater the courage needed, for the more likely a crash. Galbraith (1961) remarked in this connection that it was not easy to deflate a bubble without it bursting.

Trade deficits have counterpart trade surpluses in other countries and, as is well known, the major counterpart of the deficits, especially of the US, was the surpluses of China. The excess of expenditure over production of the deficit countries was met by the frugality of the Chinese and the high growth rates of their economy. Politicians and economists of the West often blame the US deficits and China's surpluses on the Chinese government for keeping their currency "undervalued" although it is evident that the US was experiencing a credit boom, one fostered by the central bank, and that the US economy's saving rate had fallen close to zero. They do not explain how the exchange rate of the renminbi could have been the cause. To emphasize the point, the renminbi appreciated by about 20 percent in 2004, after which China's monthly current account surplus doubled on average.

Pakistan, however, does have BOP restrictions that the US, Western Europe, Japan, and other high-wage countries do not. These countries' currencies are "hard," which means they are accepted for settling international transactions and large amounts can be exchanged for one another at the going exchange rates and continue to be accepted even when the exchange rates fluctuate. Exporters quote their prices in terms of some of these currencies, usually the US dollar, and expect to be paid in those, but importers in the other hard-currency countries can easily and at little cost obtain the currencies demanded in exchange for their own. Hard currencies are used by the monetary authorities of practically all countries as part of their international reserves.

Currencies such as the Pakistani rupee do not fall in this category and they are not normally accepted for settling international transactions. Exporters in countries whose currencies are not hard do not quote their prices in terms of the latter (even if it is their own currency), but in terms of hard currencies in which they expect to be paid. Monetary authorities do not include these currencies in their reserves. Foreign borrowing for financing specific payments or for the general BOP is also always in terms of hard currencies. Hence, any market for the rupee outside Pakistan is restricted to businesses or individuals connected to the Pakistani economy.

Consequently, the international payments of a country with a currency that is not hard are restricted at any time to that country's receipts of hard currencies (or "foreign exchange") and whatever reserves can be used to make payments then. As a first approximation, the amount of foreign exchange available in the short term—the next few months or year—can be taken as given. Anybody who has made economic projections for countries at the World Bank, prepared a stand-by arrangement at the IMF, or taken part in preparing the Government of Pakistan's annual plans is familiar with this. That part of total expenditure by the country's residents that is in excess of GDP is then spent on foreign exchange and, assuming the market is free and allowed to clear, it determines the price of the foreign exchange.

To describe this explicitly, the country's foreign exchange payments can be divided into the trade part, that is, imports of goods and nonfactor services, and the nontrade part, which includes debt service, repatriation of foreign capital, yields on foreign capital in the country, and payments for services rendered in the country by nonresidents. The foreign exchange receipts are exports and the nontrade receipts, primarily remittances by emigrants and workers abroad and foreign borrowing, especially foreign aid. These can also include the yield on investment abroad and foreign

capital coming into the country. In the normal course of events, all these items can be taken as being out of the control of the authorities in the short run and as given and known. Leaving aside the use of reserves, foreign exchange payments are limited by foreign exchange receipts, which means that the foreign exchange available for the trade deficit (exports less imports) is equal to the net nontrade receipts.

At the same time, the total expenditure by the country's residents comprises goods and nonfactor services sold in the country (GDP at market prices less exports plus imports) and nontrade payments (GDP plus the total foreign exchange available, with an allowance for the use of reserves). Hence, if the amount by which expenditure exceeds GDP is greater than the value of net nontrade foreign exchange receipts at the initial exchange rate and if the government allows the foreign exchange to be bought and sold freely, the price of the foreign exchange adjusts for the market to clear, implying that the rupee depreciates. To the extent, therefore, that the monetary authorities determine expenditure, they also determine the exchange rate.

If the authorities do not allow a free market in foreign exchange and fix the exchange rate, they must have a procedure for distributing the foreign exchange when the demand for it exceeds the supply. The excess demand is met partly by forced saving and partly by diverting demand to nontradable goods, especially land and housing. If, however, foreign exchange is sold outside the control of the authorities on a parallel or black market, buyers will pay a premium.

An alternative, if the authorities have good control over the foreign exchange, is to sell it on the market. If they acquire it at the fixed rate, they can use the market to eliminate the excess demand by converting the premium into revenue, provided that revenue is not spent. This could be done through regular auctions designed to meet the demand in a dependable way. It would be one of a variety of multiple exchange rate practices, which the IMF forbids because they create distortions and, hence, economic inefficiency, and which it has tolerated only in special cases. Economic inefficiency apart, it can help a country avoid the need for BOP support when the authorities have trouble curtailing domestic expenditure, especially budgetary outlays.

The monetary authorities have some flexibility when they have a free market: they can use or add to reserves and they can control expenditure, at least to some extent. Pakistan's reserves are too small to be

more than precaution against illiquidity, but some countries have accumulated reserves equivalent to several years' worth of imports, which allows their authorities to use those reserves to prevent depreciation of the currency when the expenditure would otherwise result in depreciation.

Such reserves are useful for coping with unforeseen events, though they carry a cost in terms of goods exported of equivalent value. Expenditure can, in principle, be kept below the sum of GDP and the available foreign exchange, the unused foreign exchange being added to the reserves. In this case, it is mainly imports that adjust. Such a restriction of expenditure can, equally, have the effect of lowering GDP. It depends on the degree to which the goods that are imported compete with domestically produced goods. If, for example, the latter are basic items of consumption whereas luxury items are imported, and if the expenditure restrictions affect, above all, the upper-income groups, domestic production may be unaffected.

There are also the unofficial and illegal markets dealing in foreign exchange and contraband, which affect the official markets indirectly. Part of the supply of foreign exchange can be remittances that do not go through official financial institutions, though they may be legal. It may be illegal for residents to have investments or property overseas, in which case the income from them, if brought into the country, will be brought in clandestinely. There is also the clandestine transfer abroad of wealth, which can be simply to diversify assets or avoid losses caused by depreciation or can be to launder money obtained illegally, i.e., "black" money. Usually, the monetary authorities try to have some estimates of the amounts involved and to anticipate how events or their own actions might affect them.

2.2. *The Money Supply, Exchange Rates, and Inflation*

From this, it follows that the money supply is associated with inflation through two different mechanisms. First, a larger money supply, through its effect on total expenditure by residents, means that foreign exchange will cost more and domestic prices will be higher. Second, the causation can go the other way: because foreign prices have risen relative to domestic prices, which may have been a result of the currency depreciation or of inflation outside the country, the monetary authorities will allow the money supply to increase to avoid liquidity problems. Nasim (1996) uses statistical techniques to provide empirical evidence of this in a study commissioned by the State Bank of Pakistan, although his conclusion, that "money supply would appear to be a key determinant in an economy" (p. 1) is meant to support the simple idea that prices are directly related to the quantity of money.

No statistical techniques are needed to see from the study's data that they confirm that higher foreign prices in terms of the domestic currency are associated with inflation. Devaluation of the rupee and inflation in the rest of the world caused prices, as indicated by the CPI, to rise in the country. The study's description of events over 1970–95 shows that high inflation in Pakistan is always associated with devaluation or high international inflation and low inflation with a stable exchange rate and low international inflation, although this is not what the author concludes from his description.

The association with money supply is not as close: in certain periods (1977–79, 1982–83, 1992–93), inflation and money supply did not move together. Figure 1.d of the study plots the CPI and the rupee prices of tradable goods (a proxy for international prices) over time and shows that the CPI follows the prices of tradables with a short lag. No such relation is apparent in figure 1.b, which plots the CPI against the money supply; rather it is the contrary movements that stand out.

Nasim (1996) does not attempt to assess explicitly the extent to which the exchange rate could have affected prices. The study mentions the first mechanism as the cause of "simultaneity bias" for which it has no answer. It seems to exclude the second mechanism on the grounds that prices adjust to money supply, apparently because of Friedman's argument that a rise in the price of one good leaves less money to be spent on other goods, whose prices must, therefore, fall. Not only is this argument incompatible with the assumption that the prices of tradables are determined by world prices, but it also ignores the possibility that the quantities bought, not the prices, change.

Inflation occurs if the monetary authorities allow expenditure to exceed the sum of GDP and the foreign exchange available at the current exchange rate, thus causing the currency to depreciate, which is the first mechanism. If the monetary authorities increase the money supply because prices have risen, which is the second mechanism, the result can be further depreciation and inflation. Taken too far, it can result in accelerating inflation, which must be stopped by using the reserves or obtaining enough foreign financing to meet the excess of expenditure over GDP at the exchange rate of the moment.

Normally, the authorities try to prevent or slow down inflation and do not, therefore, allow expenditure to grow that fast. They bring about a permanent cycle of moderate depreciation and inflation. If they believe that inflation in the country is faster than a suitable measure of inflation

outside, they may want the currency to depreciate. They may try, on the one hand, to keep inflation low by not allowing expenditure to increase too much; on the other hand, they may not restrain it enough to prevent further depreciation.

It is much the same if the authorities fix the exchange rate and there is excess demand for foreign exchange. If there has been inflation, the authorities may devalue but still allow enough expenditure for there to be excess demand for foreign exchange at the new exchange rate. If there is a black market, the excess demand will be expressed as a premium, which is sometimes interpreted as being an indicator of the true value of the currency, although it is merely the result of monetary policy.

Another reason that the cycle can be self-perpetuating is that inflation does not directly indicate how the prices of the country compare with the relevant prices outside. It is not inflation, which is the relative movement of price indices, that should be the concern, but the comparison of the actual level of prices in the country with prices elsewhere. Failing direct price comparisons, it is possible that the prices of nontradables in the country have been lowered more than need be in terms of foreign currencies and that the same is true of the prices of tradables that take longer to adjust.

Such price comparisons as have been made seem to confirm that this is the case for Pakistan: the prices of nontradable goods are low by the standards of most countries, especially of the high-wage countries, and the prices of tradable goods that are relatively high are mainly those of imports. The major exception has been the price of electricity, which has at times been relatively high, supposedly to attract foreign investment. If the currency were to stop depreciating, prices in the country would continue rising for some time: the prices of tradables as they adjusted to the prices of other comparable tradables and the prices of nontradables as the prices of their tradable inputs rose. However, since comparing the movement of price indices is easier and quicker than comparing prices directly, depreciation continues.

Friedman's assertion that inflation is always a monetary phenomenon is seen to be wrong. When a country devalues, its prices must rise, even if they fall at first in terms of foreign exchange. Normally, one would expect the rise to be mitigated by the nontradable components of all wholesale and retail prices, such as the cost of local transport and the rent of commercial space, and by the reduction of nominal wages in terms of foreign currencies. Thus, the retail prices of goods can fall in terms of

foreign currencies because the rent of retail space does not go up in proportion to the price of foreign exchange, but they still go up in terms of the domestic currency because the landed cost or export prices go up. Reducing the money supply might perhaps slow down the price rises, which would be a sign of inefficiency in adjusting to the changed exchange rates, but it cannot prevent them. What it does is reduce the rate at which transactions are carried out.

In theory, there is no assurance that any particular prices fall in foreign currency terms. Nominal wages decline relative to prices and, if this decline is permanent, the consequence is a higher rate of profit on capital. In an efficient economy, this diffuses through to all productive capacity and raises prices where they have not already been raised by the effects of competition from imports and exports. Nontradable goods do not compete directly with imports, so the prices of those goods the production of which is capital-intensive rise relative to the prices of those of which the production is labor-intensive. In principle, the price of an nontradable good can rise by more than the devaluation (i.e., in terms of foreign exchange) if the production is sufficiently capital-intensive. Nothing in theory prevents such price rises from causing the nontradable components of retail prices from rising so as to increase some retail prices of tradables in the same way.

This raises the following question: what influence do central banks have over inflation? In countries with hard currencies, a large enough credit expansion can cause rents and property prices to rise as well as perhaps prices on the stock market, while the trade deficit deteriorates and domestic indebtedness grows, though inflation remains at its usual rate. As can be seen at present, central banks cannot raise the rate of inflation when they want to. McChesney Martin's dictum makes no mention of inflation and the financial crises in both the US and Europe show that financial stability and inflation are separate matters.

Jean-Claude Trichet, the head of the European Central Bank at the time of the financial crisis of 2007, has illustrated this point. His response some time after the end of his term to criticisms of his management of monetary policy was that his mandate had been to keep the inflation rate close to but below 2 percent, which he had fulfilled. In countries with currencies that are not hard, central banks can and do cause inflation by allowing expenditure to exceed GDP by more than the amount of foreign exchange available and causing the price of foreign exchange to rise.

This discussion has followed the effects of devaluation through the economy in conformity with the point made at the start, that the exchange rate is a macroeconomic quantity. Proponents of the equilibrium exchange rate (EER) appear to acknowledge this macroeconomic nature because they believe that, as Krugman (1990) states, "the equilibrium real exchange rate at some time in the future will be foreseeably different from today's real exchange rate" and "that policy toward the nominal exchange rate can somehow facilitate the adjustment toward this future real exchange rate" (p. 160).

Friedman (1953) asserted something similar, namely that the exchange rate has a "final position" and that the market takes it there (p. 162). He added that "fundamental factors" could change this final position. Both Friedman and Krugman seem to imply that the final position or EER is something inherent to the economy. This is true also of the variety of EERs that others have proposed, all relying on what are termed "fundamentals." What these have in common is that they are all considered characteristics of the economy in some fundamental way.

Krugman explicitly refers to the EER as a real quantity, as do all other EER proponents, but there is no agreement on what the fundamentals might constitute. Each of the various EERs has its own list of fundamentals, some including the difference in interest rates between countries, others including the share of GDP consumed by the government, the terms of trade, the relative prices of tradables and nontradables, the ratio of output per head in the production of tradables to that of nontradables (as an indicator of the difference in technical progress between the two sectors), or even the old-age dependency ratio and the stage of development (represented by GDP per head).

Among the EERs are the fundamental EER, desired EER, behavioral EER, equilibrium real exchange rate (ERER), and the natural real exchange rate, to mention only some of the older ones. The IMF has tried to impose order by setting up an authoritative body, the Consultative Group on Exchange Rates (CGER), to choose a list of fundamentals that would also be authoritative, though it is not clear with what success, since establishing a real exchange rate by committee, in this case the ERER, does not stop others from thinking up new fundamentals and EERs.

Such diversity is a sign that there is no such thing as an EER. If there were, it would be possible to deduce from it the fundamentals and the mechanism by which the exchange rate affected the BOP. That there cannot be such a thing is seen from the way each country's EER is

calculated independently of the rest. Since the trade and current account balances of all countries must add to zero, no country's BOP can be taken in isolation from the rest, though this is what is done by using each country's fundamentals to calculate its particular EER.

Similarly, calculating the same type of EER for different countries using the same fundamentals ought to yield mutually consistent exchange rates. However, when this kind of calculation was made, for instance, by the CGER, the exchange rates were not consistent and had to be modified to make them so. EERs are also incompatible with the normal effects of monetary policy on the trade balance. Increasing or decreasing expenditure in a country with a hard currency or ample reserves reduces or increases the trade balance; in a country that does not have a hard currency and does not use its reserves to accommodate the expenditure changes, it is the exchange rate that changes.

3. Motives and the Consequences for Development

In Pakistan, as in many other countries, the precondition for the continual depreciation of the currency was a change of attitude toward exchange rates. Until the late 1970s, nearly all countries had tried to keep their exchange rates constant, while economic doctrine asserted that persistent trade deficits had to be remedied by devaluation and surpluses by revaluation. As mentioned at the start, during the time of fixed exchange rates, having to devalue was seen as a sign of weakness, and that as much in France and the UK as in Pakistan or Madagascar. At the same time, countries resented having to revalue because it reduced profits. On the whole, countries were initially successful in keeping their exchange rates fixed; after devaluation by the UK and some other countries in 1949, France was the only other high-wage country to devalue before the 1960s and that because of political events.

The frequency of devaluation began to rise after the early 1960s. Several high-wage countries had to devalue in the late 1960s and 1970s because speculative capital flows had grown so large as to exhaust their reserves. There was a pattern: it was usually the same countries that had repeated deficits and devalued, so these were also the countries least able to accumulate the reserves needed to cope with speculative capital flows. There was rarely any doubt about which countries were likely to devalue or be made to devalue next. Nevertheless, faith in the efficacy of devaluation did not diminish. On the contrary, it led to the replacement of the Bretton Woods system of fixed exchange rates by market-determined or floating exchange rates. In place of the motive for fixed exchange rates—

namely avoiding competitive devaluation of the sort that was believed to have added to the economic difficulties between the two world wars—emerged the new orthodoxy that the markets would get the exchange rates right and bring stability.

From the late 1970s onward, more and more countries let their exchange rates float. Pakistan's exchange rate, which had been fixed at PRs 9.91 to the dollar since 1972, was allowed to depreciate from 1982 onward. The attitude toward fixed exchange rates had changed in Pakistan and this appeared to be a logical consequence of the removal of administrative controls over foreign exchange transactions, particularly the liberalization of the current account. Fixed exchange rates required controls for dealing with excess demand for foreign exchange and it seemed logical that, once the controls were removed, adjusting the price (the exchange rate) would bring demand and supply together. It seemed equally logical that domestic inflation—to the extent that it exceeded inflation outside the country—should be offset by letting the currency depreciate.

From what was said earlier, one can see that these apparently logical conclusions are simple examples of the failure to understand the macroeconomic nature of the exchange rate. In particular, they neglect the undesirable effects of depreciation. Official pronouncements on monetary policy and exchange rates never paid attention to these effects and neither government officials nor their economic advisers showed any awareness of them. A change had taken place, the aversion to devaluation and concern about the repercussions giving way to willingness to devalue, without acknowledging or even being aware that some of the repercussions might be undesirable.

The change has been partly symbolic. The old opposition to devaluation has been inverted. Governments disliked devaluation because they thought of it as a sign of weakness and poor economic performance. Now, in Pakistan and similar countries, the weakness is taken for granted with depreciation its normal consequence. Willingness to let the currency depreciate is judged a sign of realism and, therefore, of maturity, especially by such upholders of the orthodoxy as the multilateral organizations, notably the World Bank and the IMF, and other official development agencies on which countries such as Pakistan depend.

Continual depreciation of the currency has become an indicator of how the officials of a country regard its status; if they regard their country to be a weak economy, the currency depreciates. For such a country to let its currency appreciate would be presumptuousness. When the rupee

appreciated slightly against the dollar in 2002 and 2003, the change was quickly reversed. When, by the logic of their own orthodoxy, Pakistan's monetary authorities should have revalued—namely during the high international inflation of the 1970s—rather than do so, they complained about having to "import inflation." Revaluation would have been at odds with the country's status.

The history of the initial industrialization of the present industrial countries shows that they almost never changed their exchange rates. Only during the chaotic period between the two world wars did changing exchange rates come to be regarded as sometimes necessary. While industrializing before the First World War (1914–18), these countries were, for the most part, on gold or silver standards and the notion that the exchange rate was in some way a quantity that had to be adjusted according to fundamentals or price indices was unknown. These countries developed because the incomes of a large part of the population, not just of the elite, rose as they developed. On the one hand, growing middle classes with rising incomes and workers earning higher wages raised the demand for more and better goods; on the other, rising wages, including better working conditions, stimulated the invention of better production methods. From these came new industries and improved products.

This is a kind of progress in which cause and effect cannot be quantified or represented by a mathematical formula and it was even greater after the Second World War, when the US, Western Europe, and Japan had fixed exchange rates and decades of fast economic growth with full or close to full employment and low inflation. The incomes of the great majority of their populations rose in step with GDP and, as far as it can be quantified, technical progress in the form of new or improved goods and better production methods was faster than ever before.

In Pakistan, as in many other countries, the process has been the reverse: the exchange rate has been used to keep wages down so as to keep to the old industries. Here is a comparison with the history of the high-wage countries that cannot be made using formalized methods to capture rigidly the functioning of economies: such formulae, equations, and diagrams postulate relations that do not exist, simplify to keep the mathematics manageable and, by almost always being cast in a single period, ignore time and, therefore, the consequences of events. What this shows instead is the most pernicious consequence of repeated devaluation.

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Appendix

A Comment on Choudhri and Khan (2002)

In their article referred to here, Choudhri and Khan state that concerns about devaluation causing inflation in Pakistan are "misplaced," which must be taken to mean that devaluation does not cause inflation. This conclusion is the reverse of the usual widely held belief that devaluation normally causes inflation. Even central banks such as the Bundesbank have, on occasion (and especially before the creation of the euro), expressed the worry that a depreciation of the German currency would cause prices in Germany to rise (see, for example, Marsh, 2009, pp. 37, 75). Similar opinions in newspapers are common enough. A recent example, taken at random, is given in the *Financial Times* of 7 February 2014, in which James Mackintosh in his column "The Short View" quotes the head of the European Central Bank, Mario Draghi, on how the exchange rate affects prices.

The conclusion raises several questions about how the economy of Pakistan fits in with the rest of the world. If Pakistan's price level is unaffected by devaluation, is there not an inconsistency between domestic and border prices? If it is the foreign market that determines the prices of Pakistan's exports, such as textiles and rice, why do they not go up in the country? There must be some relation between domestic and foreign prices and, if so, does devaluation not create new distortions? Is the conclusion true of Pakistan alone or is it true of all countries or of some countries but not others? If it is not true of all countries, as Draghi, Mackintosh, and others imply, how is it that depreciation causes inflation in high-wage countries but not in a low-wage country such as Pakistan?

What has to be explained is how the statistical results come about and exactly what they say. This is, as is often the case when statistical results are suspect, a question about specification. In theory, a statistical exercise should test a specified hypothesis, which, in this case, should be a mechanism describing how the exchange rate does or does not relate to domestic prices. Here, there is no specification in this sense. Instead, it is a search for a possible connection between the rate of change of the CPI on the one hand and the lagged rates of change of the exchange rate, of an index of foreign consumer prices, and of Pakistan's CPI on the other.

According to basic economic reasoning, domestic prices of tradable goods will rise because the border prices of imports and exports rise in

terms of the domestic currency after devaluation. The mechanism is described briefly in this paper. A correctly specified test should, therefore, use border prices, not the CPIs of other countries that have no connection to the Pakistani economy. If the composite index made out of these indices is to be a proxy for border prices, some evidence should be given for how good a proxy it is. Since the exchange rate affects the relation between border and domestic prices but has no independent effect, the specification should not include it. If devaluation increases domestic prices, the relation to be tested should be between the change in border prices in terms of the domestic currency and the appropriate domestic price index, not between their rates of change.

The rates of change are related too, but not closely if there are lags. It takes more advanced techniques to determine whether the data indicate a significant relation when there are lags and variations in the rate of change of the exchange rate and, hence, of border prices. This also holds when the speed at which domestic prices respond to changes in the border price varies as a result of monetary policy, which is not included in the regression. The difficulty is greater when a composite index of foreign consumer prices is used. There is also no reason that the rate of change of the CPI in the current period should be affected by the rate of change in previous periods, which should not, therefore, be included in the regression.

Finally, the lags are limited to four, which confines the conclusions to the short term, i.e., one year. It would be surprising if devaluation did not take longer to have its full effect on prices. Usually, two years or more are thought necessary. Even if the regression were to indicate that more lags do not improve the statistical results and if the conclusion that concerns about the effect of devaluation on inflation being misplaced could be accepted for the short term of about one year, the results of the regressions do not justify extending the conclusion beyond that.[1]

[1] A confession: the author's study of statistics and econometrics ceased before cointegration, Dickey-Fuller tests, etc., were invented.

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Toward a Competitive Pakistan: The Role of Industrial Policy

Irfan ul Haque[*1]

Abstract

This paper's basic premise is that an improvement in Pakistan's export performance is crucial to raising economic growth. After examining the reasons generally given for Pakistan's poor export performance, we conclude that the country's very slow productivity growth was the single most important factor that hurt competitiveness. We argue that a coherent and articulated industrial policy is required to overcome this disadvantage. While the experience of the East Asian economies offers useful lessons, Pakistan's policy must accord with its own conditions, which are, in many ways, different. The formulation of industrial policy should involve key stakeholders, particularly the private sector. The paper identifies certain factors that should underpin the new industrial policy, notably the changed basis of international specialization and rules governing world trade.

Keywords: Pakistan, East Asia, industrial policy, export performance, productivity

JEL classification: F43, L59.

1. Introduction

Pakistan's balance of payments (BOP) has been an enduring constraint to its economic growth. Other factors—natural disasters and political instability in particular—have also been important, but they have not had a deterministic or consistent impact on the country's economic performance. This paper's basic premise is that, while occasional surges in the import bill or sudden declines in foreign inflows may have been proximate causes of past BOP crises, low export growth has remained a persistent drag on economic growth. Thus, improving the country's export performance to match that of other rapidly growing economies is pivotal to achieving and sustaining accelerated economic growth.

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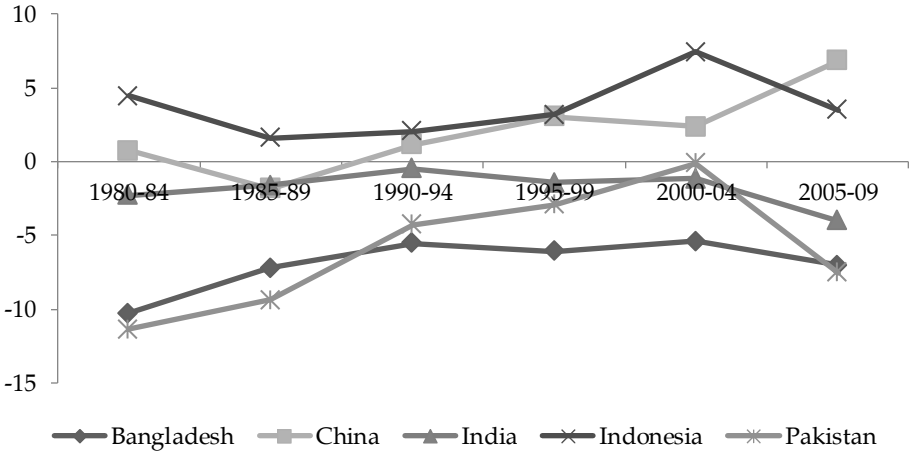
Why export growth must be taken as a dominant concern in policymaking is elucidated in the next section. We show that unsatisfactory export performance, rather than untoward rises in the import bill, has generally been the underlying cause of Pakistan's unsustainable trade deficits. Section 3 explores the "pathology" of the export failure, which is linked, directly or indirectly, to the failure of a thriving, internationally competitive industry to arise. The factors that have hampered industry have also affected the growth of agricultural or services sector exports. This section is followed by a discussion of the form of industrial policy that could help Pakistan become internationally competitive and realize more secure and rapid export growth. The final section concludes the study.

2. Export Performance: The Dominant Concern

Figure 1 traces the changes in Pakistan's trade balance as a percentage of GDP since 1980 along with the corresponding data for four other countries in the region: Bangladesh, China, India, and Indonesia. Two facts are striking. First, Pakistan's trade balance declined consistently for almost two decades, i.e., from the early 1980s up to the early 2000s. Indeed, the decline was substantial: the trade deficit stood at 11 percent of GDP during 1980–84 but fell in each of the succeeding five-year periods, virtually disappearing in 2000–04. However, the trend thereafter reversed and the trade deficit started to rise quickly, reaching about 8 percent of GDP in 2005–09. This was at the core of the economic crisis of 2008/09 (see Haque, 2010).

Figure 1: Balance of trade as a percentage of GDP

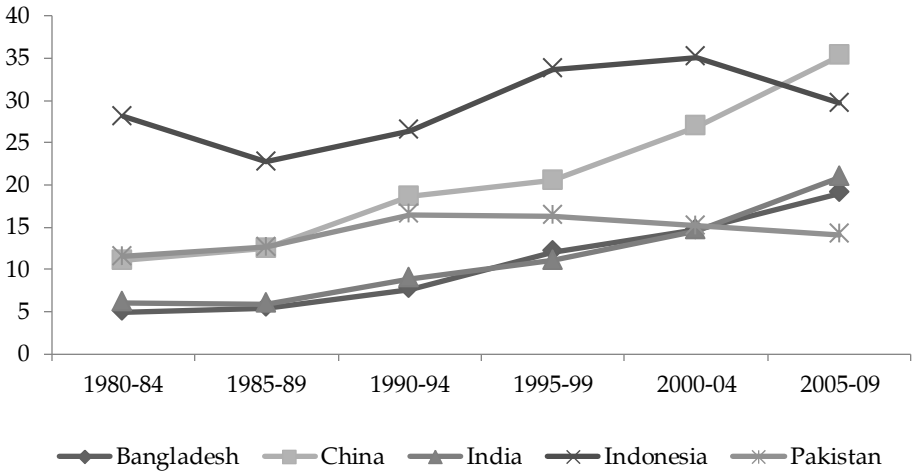


Source: World Bank, World Development Indicators, 2014.

Second, except for a brief period in the early 2000s, Pakistan ran substantially higher trade deficits in relation to its GDP than India, while China and Indonesia had sizeable trade surpluses. This mirrors Pakistan's notorious savings deficit, where it is not just that savings are low in relation to investment but, more seriously, that they are low in relation to a very low investment rate (Haque & Amjad, 2012) The country's problem is not just one of financing the trade deficit but also that such financing supports an extremely low investment rate. In other words, it is really noninvestment expenditures that are behind Pakistan's trade deficits. Thus, measures aimed at cutting investment in order to improve macroeconomic imbalances have tended to fail while dampening economic growth. This was amply evident in the aftermath of the 2008 crisis (Haque & Amjad, 2012).

An examination of export and import trends over the three decades 1980–2009 suggests that, because Pakistani exports varied only a little in relation to GDP, the movement in trade deficits was, by and large, driven by imports (Figures 2 and 3). Pakistan's export ratio hovered around 12 percent during the 1980s but rose to about 17 percent in the first half of the 1990s, before trending downward for more than 15 years. Exports were down to less than 15 percent of GDP in 2004–09. This is in sharp contrast to the performance of all other comparator countries, whose export ratios generally rose, in some cases, sharply.

Figure 2: Exports as a percentage of GDP



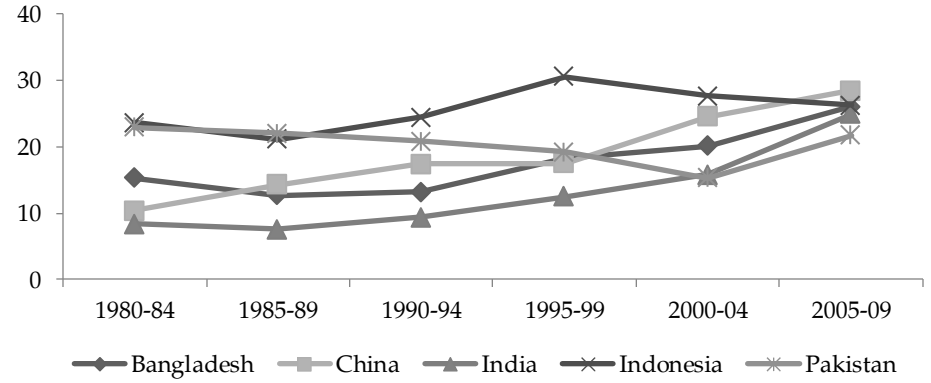
Source: World Bank, World Development Indicators, 2014.

While China's export ratio was about the same as Pakistan's (around 12 percent of GDP) during the 1980s, those of India and

Bangladesh were less than half (Figure 2). However, each of the other three countries registered a sharp improvement in their export performance, leaving Pakistan well behind. Bangladesh's ratio rose from barely 5 percent in 1980–84 to 19 percent in 2005–09, while India's ratio rose from 6 percent to over 20 percent. China's stellar performance as an exporter is, of course, well known and is evident from the figure: exports now account for more than a third of its GDP. Of the group of countries in the figure, Indonesia appears to be particularly outward-oriented. Although its exports were already high in relation to its GDP in the 1980s (slightly under 30 percent), they continued to rise and reached 35 percent in the early 2000s.

The behavior of imports, on the other hand, is distinctly different. Imports—as in the case of exports—constituted a much larger proportion of Pakistan's GDP than in the case of Bangladesh, China, or India (Figure 3). During the 1980s, Pakistan's import ratio was practically the same as that of Indonesia. The difference was that, while imports into the latter three countries registered steep increases during the period and more or less tracked the movement in exports, Pakistan's import ratio experienced a substantial decline—from close to 25 percent during the 1980s to a low of 15 percent in 2000–04. In other words, imports rose much faster than GDP in other countries but, in Pakistan, the increase was far slower. However, imports recovered strongly post-2004, causing a dramatic turnaround in the trade balance and culminating in a BOP crisis in 2008/09 (see Haque, 2010).

Figure 3: Imports as a percentage of GDP



Source: World Bank, World Development Indicators, 2014.

Pakistan's lagging foreign trade performance suggests that, while other countries became more closely integrated with the global economy, the former showed signs of withdrawal. Pakistan's share of world trade is currently under 0.2 percent, considering its share of world GDP (about 0.4

percent) and world population (over 2.5 percent). Rapidly rising exports permitted Bangladesh, China, and India to sustain higher import levels, but imports into Pakistan remained constrained primarily by foreign resource inflows as foreign exchange reserves even at peak were relatively modest. In the years that the foreign exchange situation was particularly tight—as during the late 1980s and 1990s—imports were sharply compressed. On the other hand, with foreign exchange becoming more plentiful during 2005–08, imports recovered sharply.

This finding suggests that, because foreign resource inflows into Pakistan are, by and large, exogenous (i.e., the country has little control over them), the only way to sustain adequate imports is through export growth. Even during the peak of 2005–09, Pakistan's import ratio was lower than that of any of the other comparator countries. This implies that, far from being exceptionally import-dependent as is commonly believed, the country is import-*constrained*. Since economic growth and imports are interdependent, relieving the constraint on the latter makes the sustainability of the former more likely. In order for imports to keep pace with future economic expansion, exports must rise sufficiently to keep the trade deficit manageable.

In brief, Pakistan's foreign trade problem is one of lagging export performance combined with surges of imports during periods of rapid economic growth and easier availability of foreign exchange. Imports into Pakistan, as has been the experience of other countries, should be expected to rise more rapidly than the rise in overall demand, which, for a given level of foreign exchange reserves, would necessitate increased reliance on foreign inflows. The common cause of past BOP crises has been insufficient foreign inflows even as the trade deficit widened. The situation is not helped by the fact that Pakistan's savings ratio is abysmally low in comparison to that of other Asian countries. Raising export levels—along with improving the domestic savings rate—must, therefore, be the key goal of macroeconomic policy.

3. The Pathology of Export Failure

Pakistan's poor export performance has often been attributed to the *structure* of its exports, i.e., concentration on a few traditional products, a failure to diversify and move up the value chain, and an absence of domestic technology-intensive industries.[2] The reasons for this state of

[2] A number of studies have addressed the issue of Pakistani exports, notably Ahmed, Mahmud, Hamid, and Rahim (2010), Felipe (2007), Lall and Weiss (2004), Rahim (2012), and the World Bank (2006).

affairs are diverse but low fixed investment, low skill accumulation, lack of competition, poor infrastructure, and government policy are usually cited though with differing emphasis. However, this list of factors, while comprehensive as a description, does not provide a practical approach to dealing with the problem of poor export growth. The causes identified are generic and would more or less explain the faltering export performance of (say) the US as well as of Pakistan. What is attempted here is to assess the scale of the failure, both in its own terms and in comparison to other countries, and to identify the main source of the problem.

In their seminal study, Imbs and Wacziarg (2003) provide statistical evidence on the long-term relationship between sectoral concentration and per capita income. They show that economies tend to become more diversified as they grow and become richer, but after reaching a certain threshold of income, the sectoral concentration begins to rise. There is, however, no particularly satisfactory explanation for this phenomenon. Imbs and Wacziarg attribute it to two factors: (i) as incomes rise, consumer demand becomes more diversified, leading to more diversified production; and (ii) sectoral diversification allows the spreading of investment risk. The authors, however, acknowledge that "there is no theoretical consensus as to how measures of sectoral diversification should evolve as countries grow, although the force of diversification is probably more at play among low-income countries, and the force of concentration among richer countries" (p. 64).

Ahmed et al. (2010) measure the diversification index for Pakistani exports over 1974–2008 and find that, after hovering around 0.45 until the mid-1980s, product concentration increased until the mid-1990s before trending downward. It fell back to about the same level as during the 1970s. Considering the length of the period covered, the variation in the index is rather small. The authors also note that Pakistan's product concentration is greater than that of Malaysia, Thailand, or India. However, this does not satisfactorily explain Pakistan's poor export performance for two reasons. First, the differences in the countries' indices, while significant, are not large enough to explain the large dissimilarity in inter-country performance in trade. India has the lowest concentration of the countries mentioned but its export performance was significantly worse than that of either Malaysia or Thailand.

Second, the causation could be running in the opposite direction. Rapidly growing economies are associated with higher investment rates, resulting in increasingly diversified production structures. A country with

a high investment rate can be expected to invest in a broader range of industries than one with a low investment rate. This might also explain why industrial concentration tends to rise after per capita income has reached a certain level, since investment rates in mature industrial economies are seen to decline to low levels in comparison to economies on a rapid growth path.

Although there has been little change in the degree of product concentration in Pakistan, as Ahmed et al. (2010) show, the ranking of the country's leading exports has shifted, albeit modestly, over time. In other words, while there were few new entrants among Pakistan's top exports, some exports became more important than before as other exports yielded ground. Table 1 provides the rank correlation of leading exports (at three-digit SITC) between 1995, 2000, 2005, and 2010. As expected, the rank correlation between closer years is quite high; it declines when the comparison is between more distant years. Thus, the rank correlation between 1995 and 2000 is 0.93 but is 0.64 between 1995 and 2010. We observe a similar trend when comparing other pairs of years.[3] Such change in the ranking of exports as occurred, however, did not noticeably affect Pakistan's export performance.

Table 1: Rank correlation estimates for Pakistan's exports*

Rank correlation wrt	2000	2005	2010
1995	0.93	0.75	0.61
2000		0.85	0.72
2005			0.82

* Calculated on the basis of export data from the United Nations Commodity Trade Statistics, 2010.

A closely related explanation for Pakistan's poor export performance is the low-technology intensity of its exports. Lall and Weiss (2004) observe that, in contrast to the East Asian economies, Pakistan's medium- and high-technology products occupy a very low share of production and exports. Although the country has moved from primary exports to manufactures over time, textiles and clothing—which are regarded as low-technology products—have a preponderant weight in total exports. The authors note:

[3] Pakistan's industrial structure, however, changed far less, implying that the relative importance of industries remained virtually unchanged. Using the data in Felipe (2007, Table 3), the rank correlation was 0.97 between the 1970s and 1980s, and 0.94 between the 1970s and 1990s.

> Such concentration is inherently risky, but the nature of the products makes it even less desirable. These are not dynamic activities … they are among the slowest growing industrial activities in the world. Their export growth is reaching a plateau as the relocation from high to low wage countries matures. They offer limited potential for learning or technological and skill spillovers. They attract relatively little and low value FDI. Its current export structure gives Pakistan a weak competitive base that is unlikely to drive sustained industrial growth (p. 29).

Felipe (2007) has voiced similar concerns. Although the share of Pakistan's top ten exports declined from over 60 percent in 1986 to 50 percent in 2004, nine of these exports consisted of textiles and apparel (p. 21). Drawing on the methodology developed by Hausmann, Hwang, and Rodrik (2005), Felipe measures the weighted average income levels of other countries exporting these products (the so-called PRODY index) and finds that the average declined from about US$ 5,000 in 1986 to about US$ 3,500 in 2004. In other words, *overall*, Pakistan appears to be stuck in exporting products that are exported largely by other low-income countries, suggesting that the possibilities for technological upgrading or improving productivity are more limited.

Traditional and low-technology products, of course, dominate Pakistan's export basket, but whether that is a principal cause of its poor export performance is less obvious. The basic premise of the Hausmann et al. (2005) study is that, the higher the per capita income of the economies with which a country competes, the greater will be the scope for enhancing productivity. Theoretically, this may be so: a T-shirt producer in Pakistan could aspire to producing Dior dresses one day, but whether it happens is contingent on overcoming a host of real-life handicaps and difficulties, not least salesmanship and the self-promotion that characterize the fashion industry. Just because a product is also produced in an advanced country is not a particularly reliable indicator of a low-income country's technological or productivity potential.

Put differently, designer clothes made in France or Italy do not necessarily lay out the path Pakistani garment manufacturers could or should follow or even indicate how and where they might direct their efforts toward raising productivity and becoming competitive. In the context of the garments industry, however, this does not rule out the option for low-income countries of adopting policies and investments to

utilize their native capabilities and talent in design and art in order to seek out niche markets and raise their value-added. There is already a thriving fashion industry in Pakistan, though it is concentrated mostly in the domestic market.

Nevertheless, it is useful to know which countries Pakistan is competing against in the world market. The indices proposed by Hausmann et al. (2005)—the PRODY and its cousin, the EXPY—provide the weighted average of the income per capita of a country's competitors, but measuring them is complex and data-intensive. The Pakistani data required for such an exercise are, in any case, of doubtful quality (Felipe, 2007). For the present purpose, a simpler approach involving the identification of Pakistan's lead competitors in the world market will suffice. The results of this exercise are given in Table 2, which identifies the top five world suppliers of each of Pakistan's major exports during 2009–12 and gives the weighted average GDP per capita of these countries.

Table 2: Pakistan's lead competitors

	PK leading exports 2009–12 (average)	Share of total PK exports (%)	PK share of world total (%)	PK's main competitors in world market	Main competitors' share of world market (%)	Weighted av. GDP per capita (US$)	Ratio to PK GDP per capita
041	Wheat, unmilled	0.8	0.4	US, Canada, Australia, France, Russia	66.7	9,480	7.3
042	Rice	9.0	9.7	Thailand, India, Vietnam, US	76.0	1,916	1.5
334	Petroleum oils, etc.	3.6	0.1	Russian Federation, US, Singapore, The Netherlands, India	41.6	6,775	5.3
651	Textile yarn	8.2	3.8	China, India, US, Hong Kong, Italy	47.5	3,649	2.8
652	Cotton fabric, woven	10.2	7.8	China, Hong Kong, Italy, India	66.0	2,217	1.7
653	Fabric, woven (manmade textile materials)	1.3	0.7	China, Korea, India, Japan, Italy	57.6	2,575	2.0
658	Made-up articles of textiles	14.6	7.2	China, India, Germany, Turkey	68.5	1,536	1.2
661	Lime, cement, etc.	2.3	2.0	China, Italy, Turkey, Germany, Spain	45.5	3,579	2.8
841	Men's or boys' garments	4.2	1.6	China, Italy, Germany, Hong Kong, Turkey	54.3	3,384	2.6
842	Women's or girls' garments	2.3	0.7	China, Hong Kong, Italy, Germany, India	58.8	3,214	2.5
843	Men's or boys' garments, other	4.0	3.7	China, Hong Kong, India, Cambodia	64.5	1,516	1.2
845	Apparel, textiles, n.e.s.	2.3	0.4	China, Hong Kong, Italy, Germany, Turkey	57.6	3,296	2.6
848	Apparel, other than textile fabrics	1.7	1.4	China, Malaysia, Italy, Hong Kong, Germany	62.7	2,904	2.3
897	Jewelry	3.0	0.7	China, India, US, Switzerland, Hong Kong	57.2	4,841	3.8

Source: United Nations Commodity Trade Statistics, 2010; UN Data Explorer, 2014.

The data show that China is Pakistan's leading competitor (11 products), followed by India (nine products), and Germany (five products). The significance of China or India as competitors to Pakistan lies not so much in the differences in per capita income, which are rather small, but in their extraordinarily high growth rates, while Pakistan has fallen behind. Interestingly, Germany—Pakistan's other leading competitor—is also among the more rapidly growing high-income economies.

Leaving aside wheat and petroleum product exports (which are rather idiosyncratic), the weighted average of per capita income of Pakistan's lead competitors is in no case less than its own, but in most cases it is at least twice as high. Since Pakistan's main competitors are rapidly growing economies or have higher per capita incomes, it would appear that there is considerable room for technological catch-up and productivity growth *within* the existing production structure. It does not matter how important Pakistan's exports are relative to its competitors; what matters is that these countries still compete in those markets. This is not to deny that it would be desirable for Pakistan to produce and export technologically more sophisticated products with a higher value-added, but enhancing the efficiency of its existing industries would greatly help to improve its performance in the world market and should take precedence.

Another weakness that has been underscored by some observers is that a large segment of Pakistani exports faces declining markets. Lall and Weiss (2004) note:

> The picture for Pakistan is … one of weak product positioning within its areas of export specialization. Sustaining rapid export growth with this positioning if world trade continues to follow recent patterns would involve Pakistan raising its market share in declining markets. Since these markets are fiercely competitive and are being liberalized, this would require massive upgrading of production capabilities, quality and marketing relative to competitors. This is possible, of course, but will not be easy (p. 35).

What an economy produces and exports is, of course, consequential for its longer-term growth. Other things being equal, a rapidly growing market opens up opportunities for new entrants while a stagnant market makes it difficult for firms to grow. However, this does not signify that a country is assured success in one case and failure in the other. Success in

the world market involves a host of things, notably salesmanship, but occasionally also serendipity.[4] Dynamic markets often arise through the creativity and drive of individual firms that innovate and create new wants (for example, Sony during the 1970s and Apple in more recent times), and come to enjoy the "first-mover advantage." Even industrial country producers face serious hurdles to entering such markets. As noted above, the relevant point for Pakistan is that, even with its present export composition, it has done little to effectively compete in the world market.

Following the methodology employed by Lall and Weiss (2004), Ahmed et al. (2010) revisit the evidence on the relative performance of different categories of Pakistani exports according to their classification as (i) "champions" (where Pakistan's share has increased in markets that expanded more rapidly than overall trade), (ii) "under-achievers" (where Pakistan has underperformed in otherwise rapidly growing markets), (iii) "achievers in adversity" (where Pakistan's share has risen in markets experiencing a relative decline), or (iv) "declining" (where both Pakistan's share and that of the world market has declined). They find that "champions" (products such as rice, surgical instruments, jewelry, and furniture) accounted for about one fourth of Pakistan's exports in 2008, while the share of "achievers in adversity" was 8 percent. In all, therefore, about a third of Pakistani exports increased their share of the world market while two thirds were in expanding markets. Ahmed et al. correctly conclude that Pakistan's export structure appears to be "fairly healthy" (p. 10).

The foregoing discussion suggests that the country's export composition is not the real problem. Nonetheless, like other successful exporters, Pakistan must over time adapt its areas of specialization to market conditions, eagerly seek out opportunities to move up the value chain, and develop the capabilities to produce increasingly technology-intensive exports. The argument that Pakistan would have done better by specializing in a different set of products is a counterfactual, hard to substantiate. Its poor performance in the world market does not appear to have been principally due to industry-specific failures that might not have arisen had Pakistan's industrialization followed a different course. Because developing countries now dominate world trade in manufacturing, the main challenge for an exporter is to compete with other low labor-cost

[4] The extraordinary success of Brazil's aircraft manufacturer, Embraer, owes something to luck: it received a large order for aircraft at an air show in France (see United Nations Conference on Trade and Development, 2003). Bangladesh's move into garments manufacturing and export was also somewhat accidental when Korean producers found in it a way to bypass the quota restrictions under the Multi-Fiber Agreement.

producers and learn from their experience in bringing about incremental efficiency improvements. This is terrain where countries do not quite reach the level of "best practice" as much as approach it through gradual and sustained improvements in products and processes. In this respect, Pakistan's poor performance in the world market reflects primarily its generally deficient competitiveness.

Apart from quality considerations, a country's competitiveness depends on its direct labor cost and the costs associated with physical infrastructure (transport, power supply, etc.) as well as on the general business environment (regulations, governance, etc.). Pakistan is notorious for its poor infrastructure, especially for the power shortages that have become progressively worse. With supplies unpredictable and plants operating far below capacity due to the lack of natural gas and frequent power outages, industrial efficiency has suffered seriously while production costs have risen. The state of road transportation and ports—never good—has also deteriorated and added to producers' woes.

Taking into account the costs associated with its poor physical infrastructure leaves Pakistan with an enormous competitive disadvantage in the world market. The World Bank (2006) has compared the manufacturing cost of a pair of jeans in Pakistan and certain other countries in 2005 (that is, when the situation was not as dire as it is today). The wage cost in Pakistan is found to be just 60 percent of China's but the former's much lower productivity and higher cost of assembly still give China an enormous cost advantage in the world market. The study also shows that Pakistan faces a serious cost disadvantage vis-à-vis China in the US market on account of higher transportation costs. While these are all serious handicaps that need to be overcome, they still do not quite explain why Pakistani exports continue to lose ground in the world market. The acute power shortage is a relatively recent phenomenon while the country's poor export performance has a long history. The state of physical infrastructure in Bangladesh or India is nothing to boast about, but their exports have performed far better than Pakistan's.

With respect to the general business environment, Pakistan's reputation is poor both within and outside the country. However, the World Bank's Doing Business reports, notwithstanding their many weaknesses, offer a rather more nuanced picture. Over the years, they have consistently placed Pakistan above other Asian exporters, including China, in terms of some criteria. Table 3 gives Pakistan's position vis-à-vis Bangladesh, China, India, and Indonesia in terms of three indicators: the

"ease of doing business," the average number of days it takes to export, and the average container costs of shipping. In terms of ease of doing business, Pakistan ranks above all others except China, while it takes the same number of days to export in Pakistan as it does in China (21 days). India and Indonesia, however, take far less time to export (Table 3).

With regard to the cost per container, Pakistan's position is again not very different from that of China or Indonesia, but far superior to India or Bangladesh (about 60 percent of their estimated cost).[5] Clearly, Pakistan must do a great deal to improve the current state of affairs—especially in areas where it lags behind—but the business environment per se does not offer an adequate explanation for the country's poor export performance.

Table 3: Doing business: Selected indices

Indicator	Pakistan	B'desh	China	India	Indonesia
Ease of doing business (rank)	110	130	96	134	120
Time to export (no. of days)	21	25	21	16	17
Cost to export (US$ per container)	660	1,075	620	1,170	615

Source: World Bank (2013a).

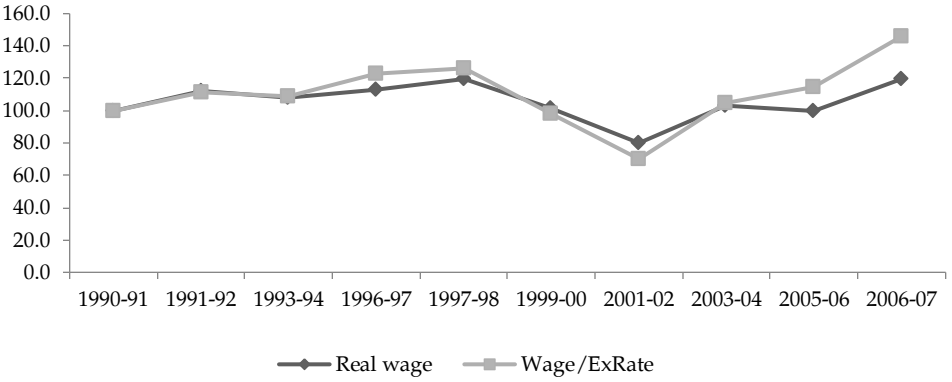
The direct labor cost in production is a composite of wages paid and the labor input per unit of output, i.e., the inverse of labor productivity. The data on wages in Pakistan are not systematically collected and are unreliable. Nevertheless, Irfan (2009) has compiled such data on wages as are available for Pakistan, which include a sectoral as well as gender breakdown. Figure 4 describes the movement in real wages in manufacturing covering the years 1990/91 to 2006/07 and the wage movement in terms of US dollars, i.e., the nominal wage index discounted by the nominal exchange rate index.

For most of this period, the two indices track each other closely, which suggests that the exchange rate was kept broadly in line with domestic inflation. Taking the period as a whole, real wages hardly increased between the mid-1990s and mid-2000s, although there was a substantial decline up till the early 2000s and a sharp recovery thereafter. When wages are adjusted for the exchange rate, the pattern remains broadly the same, although the wage recovery is stronger in the latter

[5] According to Transparency International's (2013) Global Corruption Barometer, the incidence of bribery in Pakistan is estimated at 34 percent while that of India is 54 percent. This is not meant to suggest that corruption is not a serious problem in Pakistan, but instead that it is probably not a leading cause of its economic failures.

period. It is possible that there was some erosion of competitiveness during the 2000s, but the data do not go beyond 2006. However, any further significant loss in competitiveness in subsequent years seems unlikely, since real wages probably remained depressed because of the faltering economic activity while the rupee underwent a substantial depreciation during the 2008 economic crisis.

Figure 4: Wages in Pakistan's manufacturing



Note: The data for real wages are taken from Table 2 in Irfan (2009).

The principal source of Pakistan's lack of competitiveness, therefore, comes down to its dismal productivity growth. Table 4 provides data on productivity growth for a number of Asian economies over the past decade. In terms of overall productivity, Pakistan registered the lowest growth of all economies during 2000–11: just a little over 1 percent a year in contrast to China's 10 percent and India's 8 percent. With respect to productivity in manufacturing, Pakistan's performance at 2.3 percent, while not at the very bottom, is among the weakest performers.

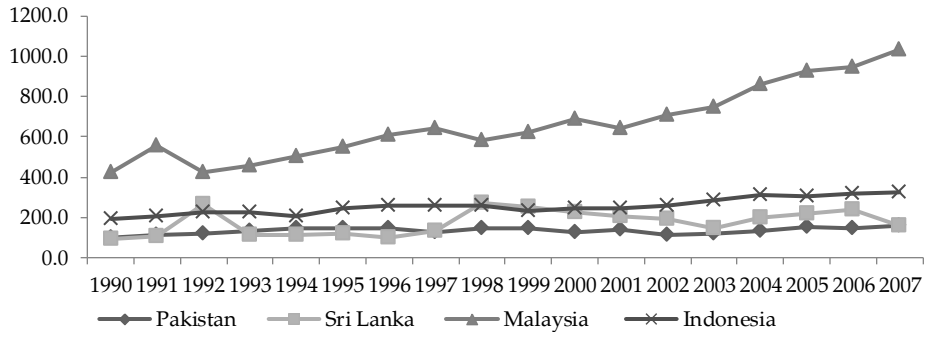
Table 4: Productivity growth (annual %)

	Overall			Manufacturing
Country	**2000–05**	**2005–11**	**2000–11**	**2000–10**
Bangladesh	1.9	3.0	2.4	1.3
India	3.5	7.7	5.6	3.4
Indonesia	3.6	2.8	3.2	2.5
Rep. of Korea	2.9	3.0	3.0	6.8
Malaysia	3.0	1.0	2.0	4.2
Pakistan	2.0	0.4	1.2	2.3
Singapore	3.1	0.4	1.8	3.9
Sri Lanka	2.5	4.9	3.7	2.4
Thailand	3.0	2.1	2.5	4.0
China	8.6	10.2	9.4	8.0

Note: Average annual growth rate of GDP at constant basic prices per worker, using 2005 purchasing power parity.
Source: Asian Productivity Organization (2013).

Sectoral productivity growth data are generally weak and particularly hard to access for some major developing countries, notably for China and India. Figure 5 compares Pakistan's manufacturing productivity growth with that of Indonesia, Malaysia, and Sri Lanka during 1990–2007. It shows that, as early as 1990, Pakistan's productivity in manufacturing was half that of Indonesia and one fourth that of Malaysia; this gap has widened considerably over time, especially with respect to Malaysia. In 2007, Malaysia was more than ten times as productive and Indonesia three times as productive as Pakistan. Sri Lanka's productivity growth was quite volatile, but its overall performance was not too different to Pakistan's. Far from catching up, these two laggards fell far behind the other economies.

Figure 5: Productivity performance of selected countries



Source: United Nations Statistics Division, National Accounts Estimates of Main Aggregates, 2014.

What explains this performance? While a number of factors could be held responsible for low productivity in Pakistan's case—power availability, other infrastructure weaknesses, and not least the security situation—extremely low investment in fixed as well as human capital must be considered the heart of the problem. This is confirmed by many studies relating to Pakistan's economic performance (Haque & Amjad, 2012). With an investment rate of barely 15 percent of GDP, Pakistan ranks among the world's lowest investors. This means that its capital stock is, on the whole, much older than that of its competitors and becoming increasingly so. If we assume a capital–GDP ratio of roughly 3 and an average lifespan of physical assets of 20 years, then no more than a fifth of Pakistan's capital stock is five years old or less. The same for India, which has been investing more than 30 percent of its GDP, is probably in the vicinity of one third. The ratio for China, with much higher investment rates, could be expected to be far higher.

In brief, Pakistan's competitiveness disadvantage—notwithstanding certain industry-specific problems—emanates largely from its generally low and slow-growing productivity. The key to competitiveness is for the economy to become more productive and efficient. Were it to succeed, Pakistan would begin to overcome some of the other identified handicaps (product concentration, its position in the value chain and, not least, the lack of technology-intensive industries) with time. The factors behind its productivity performance are responsible for the generally poor and variable quality of its exports. They also hold back progress in agriculture and trade in services, where the quality and reliability of supply is often even more important. It is, therefore, urgent to alter the current state of affairs as the economy is operating far below its potential and continues to fall further behind other Asian economies. For this to happen, making a concerted effort along the lines adopted by other successful economies will be essential.

4. Industrial Policy for International Competitiveness

International competitiveness and industrial policy are controversial subjects. Paul Krugman dismissed international competitiveness as a "dangerous obsession" two decades ago, arguing that, while a firm's competitiveness could be defined, the term had little meaning in relation to an individual economy. The comparative advantage

doctrine had established that each economy was competitive and could always successfully trade in at least something[6] (Krugman, 1994).

With respect to industrial policy, on the other hand, economists grant that policy intervention may be required to address market failures arising from information asymmetries, scale economies, or externalities. Markets also fail when investment decisions involve longer-term considerations or are interdependent and require coordination when investment in one industry is contingent on (say) a road or a power plant being built. However, mainstream economists warn that policy interventions could do more harm than good because of administrative incompetence, corruption, wrong incentives, and other so-called "government failures."

In practice, however, industrial policy remains an instrument of choice even in countries that are otherwise loath to activist government. With the weakening of the "Washington Consensus," its credibility has, if anything, increased. Rodrik (2004) observes: "The reality is that industrial policies have run rampant during the last two decades—and nowhere more so than in those economies that have steadfastly adopted the agenda of orthodox reform" (p. 29).

It was the East Asian economies, however, that demonstrated how industrial policy could be effectively employed to accelerate growth and gain in international competitiveness. All countries, of course, attempt to promote or regulate industry, but these are mostly ad hoc measures aimed at specific concerns pressed upon by different interest groups, whether businesses, labor unions, or regional politics. Where the Asian success stories differ, however, is in their policies forming an essential component of national development programs aimed at achieving accelerated economic growth.

It is not possible or desirable to mimic the approaches adopted by those economies, for Pakistan's "initial conditions" differ and the world trading environment has evolved over time. Nevertheless, their experience affords lessons on which Pakistan could usefully draw, the most important being that the country must, before all else, agree on the general direction of its industrialization. This is as much a political as an economic exercise, requiring consultation and consensus building among stakeholders. What policies are adopted and which industries or businesses are promoted is

[6] With time, Dr Krugman has become politically more progressive (certainly in his columns in the *New York Times*). Perhaps his views on international competitiveness have also become more moderate.

inevitably a difficult and uncertain process, but the more egregious mistakes are less likely under a collaborative and transparent process. Rodrik (2004) underscores the "need to embed private initiative in a framework of public action that encourages restructuring, diversification, and technological dynamism beyond what market forces on their own would generate" (p. 3). Neither government bureaucrats unfamiliar with industry nor individual investors with short-term horizons can be trusted to make the right choices regarding investments for long-term sustainable economic growth.

The process of consultation and consensus building is, however, particularly arduous, even risky, in nascent democracies where the "fundamentals" still wait to be worked out. An influential section of Pakistan's professional opinion is skeptical about interfering with the market and assigning state influence in domains where its competence is suspect. Thus, the vision of the Planning Commission's economists of industrial development has been at odds with that of the Ministry of Industry and Production (Hussain & Ahmed, 2011). The East Asian economies, under dictatorships or virtual dictatorships, arguably enjoyed a certain advantage in defining their national economic goals and devising interventionist policies in pursuit of these goals during their early industrialization.

Naseemullah and Arnold (2012) identify the absence of "developmental state persistence" as an important reason that Pakistan has failed to emerge as a strong, competitive economy—a goal that seemed within its reach back in the 1960s when it compared rather favorably with the Republic of Korea or Taiwan. The commitment to the "developmental state" waned, in the first instance due to the wholesale nationalization of industry under Zulfikar Ali Bhutto in the 1970s, which was undertaken without much planning or thought or even ideological commitment. However, before the economy could recover from this shock, the 1980s witnessed the rise of a neoliberal ideology that insisted on free markets, trade liberalization, deregulation, and privatization. The economics profession—but more importantly, the international financial institutions—embraced this ideology without question or demur and started to push it on the developing world under the rubric of "structural adjustment." Pakistan, too, came under its sway and the government's role in economic development remains contested territory to this day.

The conventional wisdom maintains that, for exports to grow, it is necessary to remove the "bias" against them. Recommendations to that

end typically include trade liberalization, exchange rate depreciation, deregulation, and a general opening up of the economy (Pakistan, Planning Commission, 2008; Hussain & Ahmad, 2011; Pursell, Khan, & Gulzar, 2011). There is little evidence to suggest, however, that such measures by themselves caused the rapid economic growth in Asia or that they would have on their own helped Pakistan turn its fortunes around (Haque, 2004, 2009).

Pakistan is a relatively open economy. Although, like other developing economies, it has nurtured and protected domestic industry, import barriers have come down over time. Its present level of protection (when nontariff barriers [NTBs] are also taken into account) compares well with other developing economies, including those that have grown rapidly in recent years, notably China and India.[7] But this has not brought about the promised gains in productive efficiency or resulted in much diversification of exports. It is doubtful that further liberalization should be the country's top priority at this juncture, although there is an obvious need to rationalize protectionist policies and eliminate import barriers and regulations that are redundant or inefficient.

Pursell et al. (2011) identify a number of areas where Pakistan's trade policy could usefully be re-examined. Such policy reforms need to be cast in the context of a coherent, articulated industrial policy specifically aimed at improving the country's economic performance. In devising a program of reform, taking into consideration today's realities and exigencies will be paramount. What countries could do to promote economic growth and development 20 or 30 years ago is now no longer feasible or practical.

Indeed, the profound changes in the world trading order over the past two decades call for a fundamental rethinking of industrial policy. Foremost among these developments is the loss of relevance of the textbook model that explained trade and specialization between a developing country and the high-income industrialized world in terms of countries' factor endowment. Today, Pakistan's wellbeing is threatened

[7] The state's role in China is well established, but India is no exception. According to the World Bank (2013b): "Although India has steadily opened up its economy, its tariffs continue to be high when compared with other countries, and its investment norms are still restrictive. This leads some to see India as a 'rapid globalizer' while others still see it as a 'highly protectionist' economy." Also: "India however retains its right to protect when need arises. Agricultural tariffs average between 30–40 percent, anti-dumping measures have been liberally used to protect trade, and the country is among the few in the world that continue to ban foreign investment in retail trade. Although this policy has been somewhat relaxed recently, it remains considerably restrictive."

more by competition from other low-cost producers with broadly similar factor endowments than from industrialized countries. The impact of this relatively new source of competition is felt in export markets as well as in its own domestic economy. Chinese imports have effectively replaced imports from the industrialized countries and, more importantly, severely hurt some segments of the domestic industry.

This competition has done little to push Pakistan's industry to become more efficient, and there is little chance of this happening in the future. The fact is that its new competitors are much larger and are actively supported by their own governments even as they continue to invest ever-greater amounts in upgrading physical and human capital. They also have the financial muscle to acquire foreign firms, pursue research and development (R&D), and promote sales in overseas markets. Pakistan, in all these respects, finds itself at a considerable disadvantage.

The corollary is that the dismissal of import substitution policies on the grounds that they violate the comparative advantage has lost any merit it ever had. A good portion of Pakistan's imports now consist simply of products that were once produced or could possibly be produced domestically under proper circumstances—demonstrating successful import substitution on the part of its new competitors. If import substitution worked for them, it should in principle work also for Pakistan. Their success confirms that the comparative advantage is not something *endowed* to a country but created (or lost). Unfortunately, Pakistan did not respond to the new source of competition with the required vigor, foresight, and nimbleness, but accepted passively the new trade winds. The consequence was that it lost ground to other suppliers that could possibly have been retained, but would now be difficult to recapture.

A related development is that it is no longer sufficient to be a low-cost producer. In order to be able to sell in the world market, the producer is required to become part of a trade network or value chain. As the Asian Development Bank (2003) has observed: "Explaining how and where a manufactured good is 'produced' is no longer an easy matter—design, production, distribution, and servicing are all divided into elements that are spread all over the world" (p. 211). Thus, the "outward-oriented" strategies based on low wages (pursued, for example, by the Republic of Korea or Taiwan in their early industrialization) are unlikely to be as effective in today's environment.

This suggests that what Pakistan needs to be concerned about is not its "comparative advantage" (whatever that may mean) but its "absolute advantage." In other words, it will successfully compete against such countries as China or India only by ensuring that domestic producers are more productive and efficient and at least as good in quality. This will not be possible, however, by merely letting the market do its magic: it requires a vast increase in investment in physical capital and skills development.

Indeed, active and concerted government intervention is required to persuade, help, and support domestic industry toward that end. Profit maximization (or cost minimization) in standard economics textbooks is indifferent to the means adopted for its realization, but the means do matter. It is one thing to maximize profits by compressing wages (e.g., by means of a currency devaluation) and quite another to do so through deliberate measures to enhance productivity. Factory owners or managers do not seek to maximize profits in a literal sense, but rather use it to guide their decision-making (Nelson & Pack, 1998).

Central to a strategy for gaining international competitiveness, therefore, is a concerted effort to raise Pakistan's investment rate to a level comparable to other Asian economies (perhaps a minimum target of 30 percent of GDP could be set), while fostering entrepreneurship, creativity, and innovativeness in the private sector. The latter involves policies and institutions that promote learning and technological adaptation in industry. This is the real challenge. In the context of Pakistan, Lall and Weiss (2004) note:

> By its nature, it is very difficult to measure technological effort in practice. It is clear from official statements that the Government of Pakistan has recognized fully the need for increasing local technological effort. However, per capita R&D spending in Pakistan is among the lowest for all countries for which data is available, and enterprise-financed R&D is negligible. Other indicators, such as number of scientists engaged in R&D per million inhabitants, number of technicians in R&D, number of scientific and technical journals per million inhabitants, and royalty and technical fees per capita, also highlight the lag that Pakistan suffers with respect to its comparators in the region (p. xix).

This leads to another important element of the new approach to industrial policy. What Pakistan needs at this stage is not so much promotional policies for specific industries—since the lack of competitiveness is pervasive in industry—as devising a program to significantly improve firm-level performance. A country's competitiveness depends ultimately on the global performance of its business firms, which are the principal agents of technological change. It is their investment in machines and skill upgrading as well as innovation (bringing to the market new products at lower cost) that determine the growth in their sales and profits. Thus, the performance of individual firms—be it Toyota in Japan, Huawei in China, or Tata in India—determines whether a country is positioned to catch up with the industrially more advanced economies. Unfortunately, Pakistani firms have generally performed poorly in all these respects, with a few notable exceptions that give cause for hope and could provide guidance on what other firms must do (Sender, 2013).

Competitive pressure might induce firms to take steps to reduce costs and improve quality, but that is seldom enough, especially when the entire economy is trapped in a malaise, as is the case in Pakistan. Government action and intervention is then required to set things in motion. Again, this is an area where the East Asian experience offers useful guidelines on how a government might reward or punish firms depending on their performance against established and transparent criteria. The Korean government, during the early phase of the country's industrialization, relied on agreed performance targets that firms had to fulfill to qualify for various incentives on offer, notably for subsidized credit. However, the most pressing handicap to Pakistani industry just now is the acute power shortage, which has raised production costs and made supplies unreliable. Unless this bottleneck is removed, there is little hope of Pakistani firms gaining competitiveness. Resolving the energy crisis must, therefore, be made the topmost priority—even a precondition—in the new industrial policy.

Finally, the design of industrial policy must take into account the rules that govern world trade, which have over time become more stringent and are being more strictly enforced. The so-called "policy space" for Pakistan, as for other developing countries, has shrunk greatly since conventional protectionist measures are no longer permitted under the World Trade Organization (WTO) regime. At the same time, with the rise of complex and crisscrossing preferential trading arrangements, the most-favored nation (MFN) clause has become increasingly irrelevant.

The MFN principle disallowed discriminatory tariffs and trade preferences and was the cornerstone of the postwar multilateral trading system. This development is particularly threatening to Pakistan, which is neither a large enough economy to attract the interest of the US or the European Union (EU) as a bilateral preferential trading partner nor is it a least-developed economy that might qualify for preferential treatment under the General Scheme of Preferences (GSP) (Haque, 2009). The EU has, however, recently granted Pakistan (on an exceptional basis) GSP-plus status under which some 20 percent of the latter's exports will enter the EU duty-free and 70 percent at preferential rates. This will help Pakistan but it is too early to tell its actual economic significance.

Pakistan's Ministry of Commerce lists a number of bilateral trade agreements on its website, including those with Sri Lanka, Malaysia, China, and Iran as well as a multilateral agreement among the SAARC members, i.e., the South Asian Free Trade Area (SAFTA). The free trade agreement (FTA) with China, which was signed in 2006, is by far the most significant. It provided for China to eliminate tariffs on 35.5 percent of its imports from Pakistan within three years and on another 34.5 percent within five years, bringing the total to 70 percent of imports. On its part, Pakistan undertook to eliminate tariffs on 35.6 percent of its imports from China within three years and on a further 19.9 percent within five years.

The agreement's actual implementation and benefits to Pakistan have not so far been evaluated, but the country's trade deficit with China has risen rapidly and currently stands at about US$ 10 billion. This situation is clearly unsustainable and calls for action to bring the deficit down. The true significance of the FTA with China goes beyond trade and lies in the development of closer economic and political ties with a large, rapidly growing economy; this potential, however, remains untapped. Any serious strategy for Pakistan's industrialization must seek to exploit this potential, especially in the sphere of technological upgrading.

Segments of Pakistan's business community and official circles are eager to normalize commercial relations with India, but serious hurdles remain. Trade between the two countries has, nevertheless, grown rapidly over the past decade and, despite Pakistan continuing to withhold the extension of MFN status to India, the trade deficit with India now exceeds US$ 3 billion. The reality is that trade between the two countries is governed not so much by the height of the tariffs as by NTBs, a domain where India has been particularly astute.

Given India's importance as a trading partner, Pakistan's ability to compete would depend critically on how "normal commercial relations" come to be defined between the two countries. Rather than debating the MFN issue (which has little economic significance for either country), it would probably be more useful to seek a bilateral trading arrangement based on strict reciprocity, where the costs and benefits for both countries are appropriately balanced. Given the disparities in firm size and the technological edge Indian firms enjoy vis-à-vis Pakistan, trade between the two countries cannot just be ignored or left for the market to work out, as some suggest, but should be made a key element in defining a new industrial policy for Pakistan.

5. Conclusions

The paper has developed a case for a concerted effort, initiated and pursued by the government, to improve Pakistan's performance in the global economy. Unlike some of the more rapidly growing Asian economies, Pakistan has come to lag behind in terms of virtually every economic indicator and its role and place in the global economy remains quite insignificant. For the size of its economy, it is clearly punching well below its weight in the world market.

We have reviewed the reasons generally offered to explain the country's unsatisfactory export performance, but found them wanting in one or another respect. It is factually accurate that Pakistan's exports are concentrated in a few products with low value-added. Compared to the East Asian economies, the technology intensity of its industry and exports is also quite low. The paper has also examined the previous prognoses of the export sector, but found little to assure that Pakistan's export performance would improve by simply promoting new industries and exports. In other words, while the description of the problem is correct, the reasons proffered for the country's export failure are less than convincing. Nor have we found in the present sorry state of its physical infrastructure a satisfactory explanation for Pakistan's poor performance in the world market.

Our own assessment is that Pakistan's problem is fundamentally one of pervasive low labor productivity in industry compared to its competitors in the world market. This state of affairs is unlikely to be remedied through such conventional measures as exchange rate adjustment, trade liberalization, privatization, or deregulation, which are often put forward. What seems to be required is a national commitment to improving Pakistan's competitiveness in the world market through a coherent

industrial policy. The minimum goal must be not to let Pakistan fall further behind its main competitors—which are now mostly other low-income economies—in terms of productivity, technology, and general efficiency. As shown in the paper, the productivity gap between Pakistan and some other Asian economies is wide and increasing rapidly. Rather than proposing a set of specific policies, the paper has highlighted certain elements that should underpin the design of a new industrial policy. These elements are:

- The definition of a new industrial policy should be viewed as a *political* rather than an economic or technocratic exercise. For the policy to be taken seriously and implemented assiduously as a national action program, it must have the support of at least the principal stakeholder, i.e., the private sector.
- The new industrial policy must recognize and be based on the fundamental change in the pattern of international trade that has occurred over the past several decades, i.e., the emergence of some developing countries as dominant world suppliers of manufactured goods. This is indicative of a change in the basis of specialization in world trade from one of "comparative advantage" derived from cheap labor to one based on deliberate, policy-supported enhancement in the "absolute advantage." By making a concerted effort, Pakistan could expect both to become internationally competitive and to bring about a sustained increase over time in its living standards. For this to happen, it is vital that Pakistan's investment rate (and, therefore, savings rate) as well as expenditure on skills upgrading and innovation is substantially raised. This calls for a fundamental rethink in the approach to competition in the world market, from one of short-term cost-cutting measures (as, for example, currency depreciation) to one targeted at improving productivity and product quality.
- However, since the principal agents of technological change are business firms, the new strategy should focus on the performance of Pakistani firms in the world market rather than promoting individual industries. This shift in focus is also warranted because, as noted, Pakistan's competitive weakness is not industry-specific but pervades virtually all sectors. The government's role would lie in instituting a system of incentives and penalties that encourages firms to take a longer-term view in their investment decisions and foster a spirit of entrepreneurship, creativity, and innovativeness. How this is to be done is at the heart of the new industrial policy and will obviously require the private sector's involvement in working out the process.

- Finally, the new industrial strategy must take into account the changed international trading environment where, on the one hand, WTO rules are being more strictly enforced, but on the other, preferential trading agreements have greatly compromised the notion of MFN status, the guiding principle of the world trading system. This has given rise to ad hoc and reciprocal preferential trading arrangements spearheaded by the US and EU, from which Pakistan is excluded and has little likelihood of being included. Pakistan needs to find ways of taking fuller advantage of its bilateral trade agreement with China and to ensure that its long-term commercial interests are protected as it opens up to trade with India. Extending MFN treatment to India is not really the issue and Pakistan could remove this hurdle without any cost to itself. What is, however, required is that the "normalization" of trade relations be strictly based on the principle of reciprocity, particularly with respect to NTBs.

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Pakistan's Growth Spurts and Reversals: A Historical Perspective

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Abstract

This paper takes a historical perspective to search for the major causes of Pakistan's stop-go growth cycles and come to the conclusion that, to varying degrees, the foreign exchange constraint provides a major explanation for these cycles of irregular economic growth in the country, particularly since the 1990s.

Keywords: Pakistan, macroeconomic management, foreign exchange, IMF

JEL classification: F43.

Pakistan's sixty-seven year history (1947-2014) has been characterized at regular intervals by spurts of relatively high economic growth followed by periods of low growth and stagnation. The recent prolonged recession accompanied by high inflation – stagflation – over the last five years (2008-13) has focused attention on the causes of these stop-go cycles and measures needed to break-out into a high and sustainable growth trajectory. The paper reviews the earlier and more recent explanations of these growth cycles. The aim is to help identify the critical factors that can explain these cyclical fluctuations especially those which act as a major constraint or bottleneck in the way of sustained economic growth. An important conclusion drawn from this historical analysis and review of earlier studies is that to varying degrees the foreign exchange constraint provides a major explanation for the stop-go cycles that have characterized economic growth in Pakistan. This is especially true of economic performance since the 1990s. These findings are especially relevant in the context of the main issue which this annual conference on the management of the Pakistan economy is addressing of increasing the country's export performance if it is to move to a path of higher and sustained growth.

While attention has been focused on explaining fluctuations in economic growth at regular intervals the paper further argues that this feature of the Pakistan economy should not draw away attention from an

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equally important characteristic which is its display of overall resilience over the years and which has resulted in the economy growing on average at over 5 per cent over the entire period. Even during the downturns the economy has only in one year, 1951, had a negative growth rate. By analyzing the period of the recent stagflation (2008-2013) the paper shows that even during this slowdown the economy displayed both resilience and dynamism which had important implications for poverty reduction and growth of consumer demand in the economy. The paper therefore argues that it is not just important to analyze growth spurts and reversals but also the process of structural and dynamic changes which underlie these growth trends and their impact on important aspects of the economy.

Pakistan's growth spurts and reversals

Till recently Pakistan's growth performance was divided into periods of relatively high growth (the 1960s, 1980s, and 2002–07), which were also periods in which the country was under military rule, and periods of low growth (the 1950s, 1970s, 1990s, and 2008/09 onward), during which the country was under a civilian or democratically elected government.

The main explanation of this differing performance it has been argued, as by Amjad (1982) for the sixties, that in most cases, the economic downturns were triggered by the emergence of a foreign exchange constraint; this was eased considerably when military governments took over in situations where Western governments needed Pakistan's support, which the military in power were both better able and willing to provide.

It is, therefore, no coincidence that economic upturns and military rule coincided with major geopolitical developments: (i) the Cold War between the West and the former USSR in the 1960s (General Ayub Khan's government ruled from 1958 to 1969); (ii) the Soviet invasion and occupation of Afghanistan from 1979 to 1988, which was actively opposed by the US and other Western powers who provided rebel forces with arms and funds channeled through Pakistan (General Zia-ul-Haq's government ruled from 1977 to 1988), and (iii) the post-9/11 occupation of Afghanistan by US and NATO forces (supported by General Pervez Musharraf's government, which ruled from 1999 to 2008).

This division of Pakistan's economic performance into periods of military and civilian rule and the major explanation that the better performance of the former can be traced to large doses of external assistance is contested by McCartney (2011). First, he identifies a different breakdown of Pakistan's growth performance based on relative performance of one period as compared to the earlier period. Based on

these results he identifies three episodes of growth – 1951/52 to 1958/59, 1960/61 to 1969/70, and 2003/04 to 2008/09 – and two episodes of stagnation – 1970/71 to 1991/92 and 1992/93 to 2002/03. The early period of civilian rule in the 1950s is seen as a period of higher economic growth and structural transformation in relation to the earlier pre-independence period. Interestingly, McCartney does not see a significant break in the growth performance of the economy between the periods of the Bhutto and Zia-ul-Haq military regimes, as compared to the period of growth in the 1960s. Indeed this episode of stagnation, so defined, continues all the way to 1991/92, well after the end of the Zia period in 1989 and the advent of civilian rule. This episode is followed by another period of what would be even relatively deeper stagnation as compared to the earlier period.

Second, and more importantly, McCartney finds no credible evidence for attributing Pakistan's episodes of growth to increases in foreign aid inflows or to shocks emerging from the external economy. His view is that, even when Western aid was cut off or slowed down, Pakistan managed to turn to other countries such as China (after 1965) or Saudi Arabia and other donors in more recent years.

McCartney's view is that the role of the state, rather than external factors, was mainly responsible for Pakistan's economic growth spurts and reversals. He argues that the state creates conditions through its economic policies (as it did, for example, by restricting imports after the Korean War boom in the early 1950s), which result in high profits, and then channels credit to the private sector to invest in these sectors or industries (as in the 1950s and 1960s as part of an import substitution industrial strategy). He also finds no systematic relationship between economic growth and external finances or economic liberalization.

While one would fundamentally agree with McCartney on the critical role of the state in spurring episodes of growth or development, he perhaps underplays the role of rising foreign resource inflows in breaking or at least easing the foreign exchange constraint that Pakistan has periodically faced. While, with hindsight, Amjad (1982) may have overemphasized this role, it would appear that McCartney takes an extreme position in almost completely ignoring it.

There are, however, some important lessons to draw from McCartney's analysis. If the role of the state is critical, as he argues, in creating conditions that are conducive to investment and growth, then clearly after the 1950s the military governments were relatively more successful in creating such conditions than their civilian counterparts.

More recently, the World Bank (2013) and López-Cálix, Srinivasan, and Waheed (2012) have analyzed growth patterns in Pakistan for the period 1960–2010. They identify eight episodes of high growth (more than 5 percent) spanning 28 years in all with an annual average of 7 percent; the longest spurt extends over six years from 1978 to 1983. They also identify eight episodes of low growth (less than 5 percent) spanning 22 years in all with an average growth rate of 3.3 percent; here, the longest period lasted seven years from 1997 to 2003.

Relying on these results and other studies, the World Bank (2013) points to increasing episodes of short growth acceleration as well as the fact that growth expectations (at least in its view) are becoming increasingly less optimistic. Since various studies have argued that developing countries need growth acceleration to stretch over a period of at least eight years in order to move onto a higher and sustained growth path, the Bank's findings are clearly worrying.

The World Bank draws two major explanations from its analysis: (i) external shocks (i.e., those resulting in increased foreign resource inflows) produce growth accelerations that fizzle out (when these inflows decline), and (ii) economic reforms remain a significant predictor of sustained accelerations.

There are three important conclusions that we can draw from the World Bank's analysis. First, it reinforces the earlier view that the availability of external resources has played an important role in generating episodes of economic growth and, therefore, in partly explaining the better economic performance of military regimes who had easier access to such resources during their rule.

The second is that economic reforms increase the efficiency and productivity of the economy by fostering foreign and domestic competition as well as through measures leading to better governance and economic management. This occurs in part when the arbitrary interference exercised through government controls is reduced and plays an important role in accelerating economic growth. Again, there is evidence that military governments have been far more committed to and successful in implementing such reforms compared to their civilian counterparts.

The third that the potential of the economy to accelerate economic growth is over time being reduced. This would appear to be the result of the economy becoming structurally more inefficient and hence the reforms needed become more severe and thus more challenging to implement.

Explaining growth cycles: Identifying binding constraints on sustained growth

To bring out somewhat more sharply the critical factor or factors that can act as a constraint on economic growth in developing countries we turn to the traditional models that identified these constraints and showed how these act as major bottlenecks or gaps to economic growth and development. These models extended the traditional savings gap to other variables, the most important of which was identified as the foreign exchange gap in the two-gap models. This was because foreign exchange was critically needed to import machinery which could not be produced domestically as well as other imported inputs and the demand for these could not be met by the country's meager export earnings. These models were then further extended to include the shortage of skilled labor ("skills gap") or lack of public resources to fund essential physical and social infrastructure ("fiscal gap"). Major pioneering studies of the two- and three-gap model include those of Chenery and Strout (1966) and McKinnon (1964).

An important finding of these studies was that the emergence of these bottlenecks or constraints could vary depending on the stage of economic development as well as differ amongst countries at different levels of development. These exercises also brought out the need or importance of foreign aid or assistance to overcome these gaps as well as to help prioritize the use of such aid made available including the quantum of aid.

More recently the concept of binding constraints on development have been used to prioritize needed reform measures to overcome these constraints through a "growth diagnostic" exercise (see Hausmann, Rodrik, and Velasco, 2005). An important objective of these exercises have also been to "develop a better understanding of how the binding constraints on economic activity differ from setting to setting," and how this understanding can be used to "derive policy priorities, in a way that uses efficiently the scarce political capital of reformers." (Ibid, p.1).

In the case of Pakistan two studies, one covering the period 1970-93 (Iqbal, 1995) and the second covering the period 1988-2008 (Panel of Economists (2010) are discussed in the context of the binding constraints to growth during these periods.

Iqbal (1995) in his study sets up a three gap model to determine the main macroeconomic constraints to economic growth of Pakistan. These are identified as: (a) foreign exchange constrained growth; (b) savings-constrained growth; and (c) fiscal constrained growth. By estimating

potential output, capacity utilization and natural rate of unemployment the study comes up with an estimate of a plausible growth rate in potential output of 5.7 per cent for Pakistan. Also his estimates show that the Pakistan economy was working at full capacity until 1977 after which it started declining and reached 87 per cent in 1992-93. He does caution, however, that since these estimates of potential output are based on open unemployment rate these estimates may not be a good indicator of potential output and capacity utilisation in Pakistan's case.

His findings are somewhat difficult to interpret in terms of the relative importance of each of these constraints over the time period as his model primarily identifies policy measures which would ease these three constraints that keep the economy working below its full potential. His results based on regression analysis covering the period 1977-92 show that in the face of a foreign exchange constraint, real devaluation and growth in foreign demand ease this constraint and allow an accelerated rate of growth of potential output. In contrast, in the face of a savings constraint, real devaluation and increased foreign demand reduce potential output growth. Finally, the result of the fiscal constraint equation shows that as this constraint is eased, it improves potential output through higher capacity utilization.

The more recent study by the Panel of Economists (Pakistan, Planning Commission, 2010)[1] perhaps illustrates better how the foreign exchange and savings constraints have acted as a bottleneck to the economy realizing a growth rate which would result in the productive absorption of the growth in the labor supply.

The interesting result of the Panel of Economists study over the twenty year period 1988-2008 is that given its current savings rate to finance investment and without getting into a balance of payment crisis (through running an unsustainable current account deficit) the sustainable rate of growth of the economy is 5.45 per cent. This calculation is based on estimating the availability of total resources (national savings plus foreign savings taken as the current account deficit) over the 1988-2008 period and multiplying it with incremental-capital-output ratio (ICOR) estimated at approximately 4.0. The study then calculates the rate of job creation by using the estimated growth rate of 5.45 per cent and multiplying it by the employment-elasticity of output

[1] The study was conducted by Dr. Naved Hamid and Dr. Azam Chaudhry of the Lahore School of Economics both of whom were members of the Panel of Economists.

estimated at 0.465 and comes up with an annual employment gap of 0.46 per cent given the growth rate of the labor force of 2.95 per cent.[2]

The conclusion that the Panel of Economists study therefore reaches is that a "fascinating" imbalance exists for at the current rate of sustainable growth of 5.45 per cent, which is also close to the average actual growth rate of 5.05 per cent over the last twenty years, the rate of unemployment would increase by 0.46 per cent per annum and based on the actual average growth rate of 5.05 per cent (by 0.63 per cent). Also, importantly their results show that if the unemployment rate is to be kept from increasing the economy would be facing a 3.25 per cent resource gap per year which "being unsustainable would sooner or later result in a balance of payment crisis" (ibid, p.26).

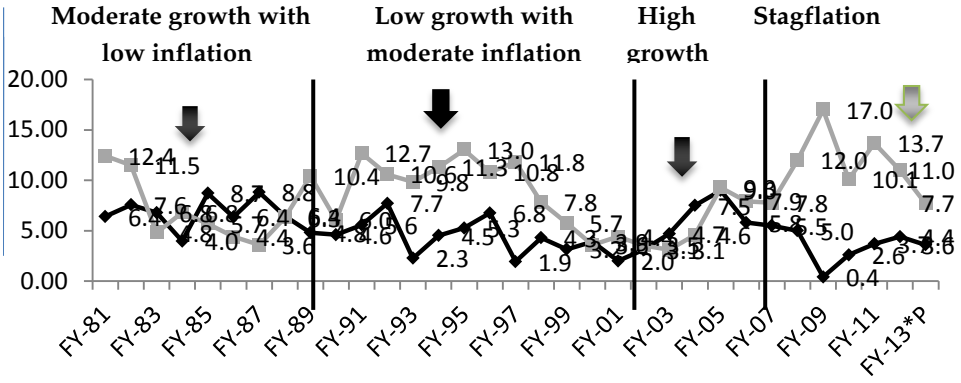
Foreign Exchange Constraint as the biding constraint in the last twenty five years (1988-2013)

In order to further illustrate the importance of the foreign exchange constraint we have shown separately the growth pattern over 1980-2013 and the foreign exchange reserves[3] over this period. Taking the latter to represent the vulnerability of the foreign exchange situation in terms of capacity to meet foreign exchange obligations (payment for imports, repatriation of profits and debt repayment), Figure 2 clearly shows that, in most years, the foreign exchange reserve situation was below the safe average normally taken as a minimum of three months of reserves in term of import requirements, and in fact needed to be much higher to take into account debt repayments which had increased substantially during this period. The years between 1986 and 2000, when the economy drastically slowed down, is also reflected in the very low foreign exchange reserves during these years. Similarly the years of high economic growth from 2002 to 2007 also coincide with a very significant improvement in the foreign exchange reserves which rise sharply after 2000. This increase was due initially to a loan injection from the IMF and then a dramatic increase in remittances and repayments being reduced due to the rescheduling of debt by the major donors post-9/11. But again the reserve situation deteriorates due to sharp increases in oil and commodity prices, leading to a drastic decline in foreign exchange reserves which reach critical levels in 2008.

[2] The study also uses alternative estimates of the ICOR (3.65 and 4.0) but these do not change the main findings of the study.

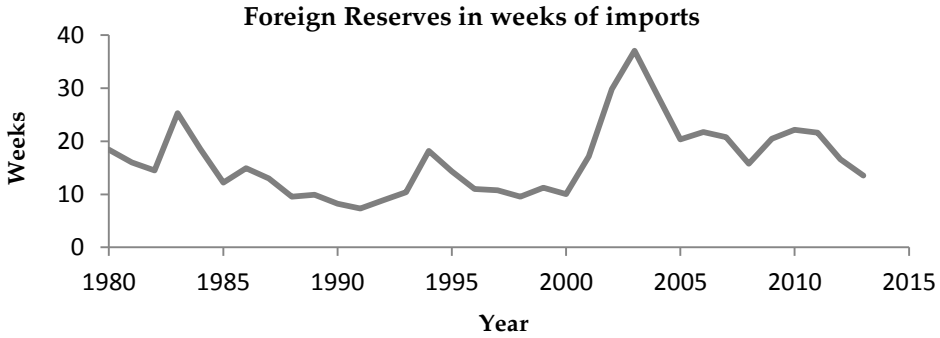
[3] The foreign exchange reserves for a particular year are taken as the average of the reserves held in June and December.

Figure 1: Economic Performance 1980-2013



Source: Pakistan Economic Survey (Different Years)

Figure 2: Foreign Exchange Reserves in weeks of imports (1980-2012)



Source: Pakistan Economic Survey (2013-14))

This vulnerability of the economy in terms of available foreign exchange reserves is to our mind best illustrated by the frequent recourse to the IMF over this period primarily, as most studies have shown, to obtain funding for resolving the balance of payment crisis (see Hussain, 2002), Over this period, from 1988 until 2013, Pakistan entered into as many as 11 agreements with the IMF (December, 1988 (two), September, 1993, February 1994, December, 1995, October, 1997 (two), November, 2000, December, 2001, November, 2008 and July, 2013) primarily to avoid default on debt repayments (especially to the IMF) and meeting import requirements.

While each of these episodes requires careful study as to the nature and cause of the crisis which led to the recourse to the IMF, what can be safely said is that in most cases it was the result of a balance of payment crisis and a fear of debt default. Also, the resulting agreements with the IMF have required steps to compress aggregate demand and

slow down the growth of the economy. This happened in the most extreme form in 2008 when, after the signing of an agreement with the IMF in November 2008, the growth rate drastically fell from over 5 per cent in 2007-08 to 0.4 per cent in 2008-09. This is a strong illustration of how the emergence of a severe foreign exchange constraint and fear of default can sharply cut down the growth rate.

The results of the two earlier studies, Iqbal (1995) and Panel of Economists (2010) as well as this illustration of the relationship between economic growth and the vulnerable foreign exchange reserve situation, all point to the fact that at least in the short- to medium- term the economy is working below or well below its existing capacity which of course negatively results also on its long term growth prospects.

These results also show the importance of studying not just the medium to long term growth cycles through which Pakistan has passed but also the importance of short- to medium term macroeconomic management of the economy so as to predict the emergence of the foreign exchange constraint as well as how best to manage it. What has frequently happened in the past is that economic managers and policy makers have waited until the situation has become desperate and then have turned to the IMF to bail out the economy which resulted, due to strong measures needed to restore macroeconomic stability, in a much steeper decline in the growth rate than would otherwise have been required. This is not to suggest that if one had not gone to the IMF such cuts in growth would not have taken place. Indeed quite the opposite. The hidden assurance that the IMF would bail you out makes you take this dangerous route.

It is also somewhat ironic that after having signed the loan agreements with the IMF and got the first tranche of the loan (which also helped to get loans from other donors and IFIs) in all cases starting in 1988 until 2000, none of the agreements were successfully completed and most were abandoned fairly soon after they were signed. This was due to the fact that the government could not carry out the economic reforms they had agreed to with the IMF mainly due to lack of political will and fear of public backlash (against raising prices of public utilities, reducing subsidies and expanding the tax net). It was therefore not long that in the absence of needed reform measures the foreign exchange constraint once again re-appeared and the government once again went to the IMF which obliged with even tougher agreed measures and which led to the loan agreement again being abandoned. There are important lessons here both for policy makers as well as the IMF.

Resilience during the economic downturn: 2007/08 to 2012/13

This rather depressing scenario of poor economic management, the resulting poor growth performance of the economy and the need to tackle it should not, however, detract from the fact that despite these failings the Pakistan economy over the years has displayed resilience and dynamism including during the downturns in economic growth. To illustrate this dynamism we analyze in some detail Pakistan's economic performance during the years of low growth and high inflation from 2007/08 to 2012/13 in terms of some key economic variables.

The dynamism of Pakistan's economy in the five years from 2008 until 2013 can be seen through the movement and performance of some key economic variables:

- Despite low economic growth, consumption levels have grown faster. This reflects not only the fact that a larger portion of national output is being consumed rather than invested, but also that a large part of remittances and income generated from the undocumented economy (estimated at 80 to 90 percent of the documented economy) (see Kemal & Qasim, 2012) are driving these higher levels of consumption.
- The high levels of consumption are reflected in the high profitability ratios of food industries quoted on the Karachi Stock Exchange over the last five years as well as the high profits of foreign companies such as Pepsi, Unilever, and Nestle whose profits and sales have grown between 15 and 20 percent per annum during this period.
- Poverty levels have declined at least up until 2010/11 (for which data are available). Poverty levels based on a 2,350 caloric intake (an income of around PRs 11,000 per month for a six-person household or Rs 56 per day in 2010/11) declined from over 30 percent in 2000/01 to around 17.2 percent in 2007/08 and further to 12.4 percent in 2010/11. The latest data have also been examined by the World Bank, which, after taking into account some of the criticism leveled against the 2010/11 estimates, concluded that poverty levels had indeed fallen (although they may be slightly higher if measured by a higher poverty line) (Newman, 2013).
- There is an emerging middle class whose share of the total number of households increased between 2007/08 and 2010/11 from 18.8 percent to 24.2 percent, based on a strict definition of the middle class, or from 34.6 to 42.9 percent, based on an expanded definition (see Nayab, 2011, 2013). An Asian Development Bank study (2010) has shown that, in 2005, the percentage of total households living on US$ 2–4 (PPP) a day in Pakistan was around 32.94 percent (compared to 20.45 percent in

India the same year). The proportion living on US$ 4–10 (PPP) was 6.56 in Pakistan compared to 4.15 percent in India. The annual sale of around 1.7 million motorcycles a year in 2013 points to an emerging middle class as do the rising sales of many consumer durables.

- The real wages of agricultural workers increased from 2007 to 2010, based on the reports of the Agriculture Price Institute. The Labour Force surveys also point to an increase in wages in the agriculture and services sectors, although they declined in construction (see Amjad, 2012).
- Pakistan has a very high tele-density: in November 2013, the number of subscribers to mobile telephones was 132 million out of a population of 180 million.

Key factors contributing to the resilience and dynamism of the economy during the downturn of 2008-13

Explaining these positive developments at a time when the economy was going through a period of severe stagflation in terms of low economic growth and until recently double digit inflation is a challenging task and the author has tried to identify some of the factors in a recent study (Amjad, 2013). The major explanations appear to be the following though it must be readily admitted that there still remains a considerable schism between these explanations and the macroeconomic situation as provided in the official data, which must perforce be considered as sacrosanct (unless officially altered).

- First is the massive increase in remittances which not only increased significantly during the boom years from 2002-2008 but also continued to sharply increase in the stagflation years of 2008-2013. They increased to around USD 6.5 billion in 2007/08 and nearly USD14 billion in 2012-13 which was around 6 per cent of GDP in the latter year.[4] This could have been an important factor in increasing consumer demand, although it must be admitted that the multiplier effects on the economy in terms of increased production levels are not sufficiently captured in the macroeconomic or sectoral data (unless they led to an increase in imports).
- Second, the youth bulge with the young entrants possess higher levels of education and skills than the existing work force having generated for themselves self-employment opportunities including a large part in the small and informal sector which again may not be captured in the official statistics.

[4] Pakistan Economic Survey 2013-14 for remittances in different years.

- Third, the increasing entry of educated women into both self-employment (eg. dress making including fashionable clothing, food items) catering to a rising middle class and service sector jobs especially in major urban centers which again may be only partially captured in both the economic as well as the labor force statistics.
- Fourth, at least in the initial years, from 2008 to 2009, a massive increase in support prices for wheat from Rs. 450/ 40 kg in 2007 to Rs. 950/ 40 kg in 2008 as well as increases in prices of other items such as rice and milk and livestock have had a favorable impact on rural incomes and correspondingly on rural wages and may also explain the rise in demand for food products, motorcycles and semi-luxury items like creams and hand lotions and make-up items emanating from rural areas.
- Finally, rapid urbanization and the growth of mega cities have generated job opportunities and rising incomes especially for those in service sector jobs.

Conclusions

The main conclusion of the paper is that the Pakistan economy has not performed to its potential and this reflects both poor short- to medium term macro-economic management and the emergence of serious structural constraints which have resulted amongst others in recurring balance of payment crisis. The country has been fortunate in that favorable external developments in the form of a manifold increase in remittances and some positive internal developments have kept the economy afloat and in the process generated sufficient dynamism such that extreme poverty has continued to decline.

A glaring message which does emerge from our historical analysis is that a binding constraint has been the foreign exchange constraint which especially in the last two and a half decades has been responsible for the economy's poor performance. While the manifold increase in remittances in the last decade and a half need to be welcomed they cannot substitute for Pakistan's continuing poor export performance. This again is an area which has been analyzed many times earlier and with hindsight on what has worked and not worked. This conference, with its focus on improving Pakistan's export performance, offers us an opportunity to come up with workable and doable policy solutions to help remove and initially ease the foreign exchange constraint which continues to throttle economic growth.

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The Political Economy of Industrial Policy: A Comparative Study of the Textiles Industry in Pakistan

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Abstract

The textiles industry in Pakistan has failed to fulfill its "historical mission," whether judged in terms of promoting rapid and sustained economic growth, reducing poverty, or providing employment to young women and so promoting wider social transformation. This paper makes a case for a particular and targeted form of industrial policy that would help the textiles sector learn and upgrade. It argues that those factors commonly seen as constraints to industrial policy—the "China effect," the global rules of globalization, global value chains, and the problems of energy and education in Pakistan—do need careful consideration, but they are not insurmountable obstacles to industrial upgrading. The key market failure is the risk and uncertainty associated with acquiring and learning to use new technology. The paper explores a number of policy options, reviewing the lessons that cannot be learned from the Republic of Korea and India and one that can from Bangladesh. The latter shows that rapid and sustainable export growth in textiles can be achieved, even in an economy with a weak, corrupt, and unstable form of governance.

Keywords: Pakistan, Korea, Bangladesh, textiles, industrial policy, technological change, upgrading.

JEL classification: L50, O40.

1. Introduction

It is often assumed, but much less often explained, that being self-sufficient in raw cotton is good for the textiles industry in Pakistan. It may be true that Pakistan, among only a few other developing countries, has "a fully developed textile value chain from fiber to fabric to garment exports and a low import intensity of only 1%" (Tewari, 2005). Yes, this does mean that the country's textiles industry has its cotton nearby but also means that the industry is tied to a local cotton monopoly. In Pakistan, cotton yields are much lower than among other producers and quality has long remained

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below international standards. The textiles industry in nineteenth-century Britain, by comparison, was a leading sector in a much wider process of industrialization and Britain's cotton was always imported from the most competitive supplier. When the prices of US cotton increased during the 1860s Civil War, Britain switched suppliers to colonial India.

The domestic value chain is not just a source of inputs, it is also a source of vested interests or what Amjad (2005) calls "cottonomics." This, he argues, is a story of the conflict between the textile industrialists who want cheap raw cotton and the landlords and farmers who want higher prices paid by domestic users or at least the freedom to export at higher world prices. During the 1990s, argues Amjad, "this classic battle was fought between the industrial classes represented by the Nawaz Sharif government and the cotton-producing belt of southern Punjab and Sindh represented by Benazir [Bhutto]'s People's Party. Who got a better deal depended very much on which party was in power" (2005, p. 389).

For whatever reasons—and many have been suggested—the textiles industry in Pakistan has not (yet) fulfilled its historical mission. Whether in nineteenth-century Britain, 1920s Japan, 1960s Republic of Korea, or 1980s China, the textiles industry functioned as a "lead sector." Textiles in these examples were associated with a number of developments: (i) the rapid growth of exports, (ii) being a conduit for the introduction of new technology, (iii) drawing low-skilled labor into formal sector employment and so reducing poverty, (iv) facilitating the structural change to an urban-industrial economy, (v) creating jobs for young women and so promoting female mobility empowerment, and (vi) wider indirect developmentally positive impacts on female education and children's health. While acknowledging that the reasons for the sector's failure are manifold and the resulting policy conclusions potentially overwhelming, this paper makes a case for market failures in technological learning as being a "key reason" for this historical failure in Pakistan. This reason is "key" in the very specific sense that targeted policy interventions to reduce this market failure are feasible and low-cost, and would require only a manageable amount of political and administrative effort to implement.

The paper is organized as follows: Section 2 outlines a brief history of the textiles industry in Pakistan. Section 3 critically reviews factors that are currently seen to constrain growth and upgrading in Pakistan's textiles sector. Section 4 explores the link between technology and learning in the textiles sector. It starts by problematizing a typical form of economic "analysis" in Pakistan: that of compiling long lists of

problems and advocating their solutions. It then focuses on a key market failure, that of technology acquisition and learning, and finally part explores some potential solutions that are both feasible and draw useful lessons from elsewhere. Section 5 concludes the study.

2. A History of the Textiles Sector

This section reviews the "historical failure" of the textiles sector in Pakistan after independence, from its promising start in the 1960s to the long era of stagnation after 1970.

In 1950, Pakistan was a predominantly agrarian economy: agriculture comprised 53 percent and manufacturing only 6.4 percent of the GDP (McCartney, 2011, p. 42). The industry that did exist was small-scale and mainly agro-based, such as flour mills, rice mills, sugar factories, and cotton-ginning factories. East Pakistan was the world's biggest supplier of jute but had no jute mills; its output was exported to mills in Calcutta. West Pakistan was a major supplier of raw cotton but had inherited only 14 of the near 400 cotton textile mills of British India. Raw hides suitable for the production of leather were exported to tanneries in Madras and Kanpur. East Bengal produced bamboo pulp, the North-West Frontier Province (now Khyber Pakhtunkhwa) raw wool, and Chitral mineral oil and antimony, which were exported to the paper mills of West Bengal and the wool mills of eastern Punjab, Uttar Pradesh, and Bombay (Talha, 2000, p. 153).

Rapid industrial growth (from a low base) during the 1950s saw Pakistan achieve domestic self-sufficiency in many consumer goods industries. Over the 1960s, these sectors began to export. The process was helped by a number of deliberate policies. The Export Bonus Scheme introduced in January 1959, for instance, provided an incentive to increase manufactured exports. There was also a diversification of exports away from traditional primary exports to textiles (Lewis, 1970, p. 120). The government acted to channel resources to emerging industries.

In the early 1960s, the public sector development banks—the Pakistan Industrial Credit and Investment Corporation (PICIC) and the Industrial Development Bank of Pakistan—provided almost 70 percent of the foreign exchange component of total investment projects sanctioned. The projects of these institutions accounted for about 65 percent of the total investment sanctioned (Amjad, 1982, p. 56). Cotton and jute textiles and sugar refining were the most important areas in which PICIC operated

during this time (Lewis, 1970, p. 103). The Pakistan Industrial Development Corporation (PIDC) was established in the 1950s to pioneer investments in sectors that, although important, the private sector was unwilling to enter.

As time elapsed, many of these projects were sold to the private sector and played a crucial role in establishing some of the major industrial houses. In West Pakistan, the Saigols bought the Jauharabad Sugar Mill and the Dawoods took over the Burewala Textile Mills from the PIDC (Amjad, 1983, p. 237). The data show that this process of industrial diversification in the 1960s was relatively efficient. There was also rapid productivity growth in manufacturing, including textiles (Cheema, 1978, p. 48; Srinivasan, 2005; Zaidi, 2005, p. 102; Kemal, Din, & Qadir, 2006, p. 306). Unfortunately, this favorable pattern of growth did not continue.

The textiles sector (and industry more generally) performed poorly from the 1970s onward. After an encouraging start to economic diversification in the 1960s, Pakistan remained stuck in the following decades as an exporter of low-value raw cotton and intermediate textile products. The share of cotton yarn and cotton cloth in export earnings remained at about two thirds of the total with raw cotton accounting for another quarter from 1970 to the mid-1990s (Khan, 1998, p. 602). In 2012/13, the readymade garments (RMG) subsector provided the highest value-added of all textiles, but constituted only US$ 1.3 billion (about 10 percent) of textile exports. External constraints were not obviously responsible. During the 1990s, Pakistan's textile exports were not constrained by trade protection in developed countries. In 1993, quota utilization in certain categories for the major European Union (EU) countries was as low as 20 percent, and for the US, 28 percent (Khan, 1998).

There were real costs as a consequence of this failure to upgrade. High-technology products tend to have a more income-elastic demand and so, offer potential for more rapid growth of output and exports. Such products also offer greater potential for learning because there is more scope for applying new scientific knowledge and so, larger spillover effects in terms of creating new skills and learning. Simpler technologies are vulnerable to being replaced by new technological change and entry by lower-wage competitors. There is strong empirical evidence to support these arguments. Between 1985 and 1998, world exports of primary products grew by 3.4 percent per annum, low-technology manufactured exports by 9.7 percent, and high-technology manufactures by 13.1 percent (Lall, 2000, p. 344).

As a result of these differential growth rates, there were corresponding changes in the structure of world trade. The share of resource-based exports fell from 23.7 percent of world exports in 1985 to 17.3 percent in 1998. Low-technology and medium-technology exports remained stable (at 18.6 and 18.8 percent, and 40.9 and 38.9 percent, respectively), while the share of high-technology exports increased (from 16.8 to 25.1 percent) (Lall, 2000, p. 351). Participation in this process of upgrading exports was characteristic of many successful developing country growth stories. Between 1981 and 2000, the share of developing countries in those high-technology exports increased from 9.2 to 32.3 percent (Lall & Weiss, 2004, p. 17). In this, the failure of Pakistan is evident: its share of low-technology exports in total exports from Pakistan *increased* from 54 percent in 1985 to 76 percent in 2002 (Lall & Weiss, 2004, p. 30).

More evidence on the technological failure of Pakistan is available at the industry level. Total factor productivity growth in the manufacturing sector slowed down from the 1990s onward (Mahmood & Siddiqui, 2000; Pasha, Ghaus-Pasha, & Hyder, 2002; Ara, 2004). An indirect indicator of technology relevant to export structure and competitiveness is the number of ISO 9000 certificates awarded at the national level. These certificates relate to management quality rather than technical effort alone and cover all activities, not just manufacturing. The number of such certificates in Pakistan increased from 1 in 1994 to 795 in 2002; in India, from 328 to 8,110; in China, from 150 to 75,755; and in Thailand, from 24 to 4,556 (Lall & Weiss, 2004, p. 59).

In more recent years, the textiles sector has continued to perform poorly. Exports from Pakistan of all textiles increased from US$ 11 billion in 2006/07 to US$ 12.5 billion in 2011/12, although about a fluctuating rather than rising trend. Pakistan has also missed the rapid growth in world markets. World trade in textiles and clothing increased from US$ 157 billion in 2000 to US$ 250.7 billion in 2010, while Pakistan's share remained at 2 percent or less, showing no sign of a trend increase. The textiles sector experienced growth of less than 1 percent per annum in 2010/11, 2011/12, and 2012/13. The share of textiles in total exports fell from 65 to 53 percent.

Today, Pakistan's textile and clothing sector accounts for 46 percent of total manufacturing, 38 percent of the total manufacturing labor force, and 8 percent of GDP. Some have found causes for recent optimism. In November 2012, the EU announced a duty waiver on 75 products, which has increased market access for textile exporters. The

media made bold forecasts: *The News* predicted in January 2014 that this would see "textile exports likely to rise by US$ 3 billion." This is certainly good news, but a one-off boost to market access is not likely to generate sustainable growth over the longer term.

A telling example is that of the African Growth and Opportunity (AGOA) Act of the early 2000s. This act gave many exporters in Africa duty-free access to the US market. Between 1999 and 2004, clothing exports grew from virtually nothing to US$ 495 million in Lesotho, US$ 333 million in Kenya, and US$ 205 million in Swaziland. In the mid-2000s, the preferential treatment for Africa was removed and its exporters competed in the US market on more equal terms with other countries. The value of sub-Saharan African clothing exports to the US dropped by 26 percent during 2004–06, including 26 percent from Madagascar, 24 percent from Swaziland, 53 percent from South Africa, and 48 percent from Mauritius (Kaplinsky & Morris, 2008). Over the same period, the value of China's clothing and textile exports to the US increased by 84 percent and in the major products exported by AGOA, the value of Chinese exports rose by 161 percent.

3. Constraints on Textile Exports from Pakistan

This section reviews various constraints to upgrading technology as part of a policy effort to boost textile exports from Pakistan. These are the "China effect," the global rules of globalization, global value chains, and the country's energy and education crises.

3.1. The China Effect

The accession of China to the World Trade Organization (WTO) in the early 2000s had two effects. First, the country was forced to reduce trade protection and open its domestic market to foreign imports. Second, it gained easier access to the markets of other member countries. The impact was significant: in 2002, the first year of accession, China reduced tariff rates on more than 5,300 commodities and its general tariff level to 12 percent (Agrawal & Sahoo, 2003). Many have argued the net "China effect" will likely be negative for exporters such as Pakistan. Chinese exports in sectors such as textiles, garments, leather, and leather products compete directly with Pakistani exports—a negative competition effect. The main commodities imported by China, such as machinery, minerals and mineral products, iron and steel, and organic chemicals, are not principal exports of Pakistan—an absent market access effect.

The impact was real. With the later liberalization of global textiles trade and the abolition of the Multi-Fiber Agreement (MFA) in 2005, EU imports of textiles and clothing (in value terms) changed by –7 percent from Bangladesh, –17 percent from Pakistan, –35 percent from the Philippines, and +35 percent from China. The latter's export volumes increased by 50 percent in the first half of 2005 and global prices fell sharply—for cotton trousers, skirts, and sweaters, by almost 50 percent (Ananthakrishnan & Jain-Chandra, 2005, p. 9).

Collier (2007) is pessimistic about any country outside Asia surviving this competitive onslaught. The poorest developing countries, he argues, will have to wait a long time until development in Asia creates a wage gap between those countries and the world's poorest countries similar to the massive gap between Asia and the developed world in 1980. This concern is overstated for Pakistan where the wage gap already exists. Comparative estimates of labor costs in textiles show them to be consistently lower in Pakistan than in China and other competitors. In 2000, for example, the average hourly wage (US$) was 1.8 in Mexico, 0.9 in China, 0.7 in India, and only 0.2 in Pakistan and Bangladesh (Tewari, 2005, p. 28).

Another estimate, this time of "total textile industry operator costs" per hour (US$) in 2000, was 1.18 in Thailand, 1.13 in Malaysia, 0.69 in China, 0.58 in India, and 0.37 in Pakistan. Only Indonesia at 0.32 was lower than Pakistan (Palpacuer, Gibbon, & Thomsen, 2005, p. 416). A more recent, if more limited, estimate showed the hourly wage to be very low in Pakistan (US$ 0.55) and in Bangladesh (US$ 0.32) (Nathan Associates, 2009). Between 1999 and 2007, real wage growth was only about 1 percent per annum in Pakistan and 13 percent in China (International Labour Organization, 2012).

Collier would retort that only a small share of the cost of labor-intensive goods comprises wages (about 16 percent according to one estimate). This implies that, if wages among the poorest developing countries were only one sixteenth of those in Asia, this would yield only a 15 percent cost advantage. For a fuller picture of costs in Pakistan, we do need to consider other costs, such as transport, law enforcement, corruption, electricity, and the availability of skilled labor. There is more extensive comparative cost evidence available. The rather detailed Table 1 below tries to quantify all the costs going into making a simple man's T-shirt. Notably, the fabric cost per kilogram (locally sourced) in Pakistan at US$ 2.89 per kg is significantly lower than the US$ 3.37 in Bangladesh and Cambodia, both of which source fabric from China. Overall, the total

cost of producing a man's T-shirt in Pakistan is 7 percent less than in Bangladesh and 19 percent less than in China.

Table 1: T-shirt production cost estimates

Garment making up by country	**India**	**India**	**China**	**Pakistan**	**Bangladesh**	**Cambodia**
Fabric source	India	China	China	Pakistan	China	China
Main fabric						
Fabric cost per kg (US$)	3.019	3.336	3.336	2.894	3.336	3.336
Fabric shipping cost per kg (US$)	0.000	0.069	0.000	0.000	0.060	0.069
Fabric use per garment (kg)	0.235	0.235	0.235	0.235	0.235	0.235
Fabric waste (short pieces, end of rolls, faults) in %	5.000	5.000	5.000	5.000	5.000	5.000
Main fabric cost per garment (US$)	0.710	0.801	0.784	0.680	0.798	0.801
Trim cost per garment (US$)						
Thread	0.045	0.45	0.045	0.045	0.045	0.045
Labels, tags	0.037	0.037	0.037	0.037	0.037	0.037
Packaging per garment (US$)						
Plastic poly bag	0.018	0.018	0.018	0.018	0.018	0.018
Cardboard box/carton	0.06	0.06	0.06	0.06	0.06	0.06
Total materials cost per garment	0.870	0.961	0.944	0.84	0.958	0.961
Labor-hour US$ cost in making up	0.830	0.83	1.44	0.55	0.32	0.335
Standard minutes per garment cut, make, trim, finish	6.120	6.12	6.12	6.12	6.12	6.12
Efficiency adjustment	25.00	25.00	15.00	30.00	50.00	70.00
Labor cost per garment (US$)	0.106	0.106	0.169	0.073	0.049	0.058
Reject garments (3%)	0.029	0.032	0.033	0.027	0.03	0.031
Manufacturing overhead per garment (25% on labor) (US$)	0.026	0.026	0.042	0.018	0.012	0.015
Inclusive of electricity, rent, indirect labor						

Garment making up by country	India	India	China	Pakistan	Bangladesh	Cambodia
Sales and administration costs (10% on labor)	0.011	0.011	0.017	0.007	0.005	0.006
Total cost per garment (fabric, labor, overhead) in US$						
Sales and administration	1.042	1.136	1.206	0.966	1.055	1.070
Agent fees per garment (4% on total cost)	0.042	0.045	0.048	0.039	0.042	0.043
Factory gate cost per garment	1.084	1.181	1.254	1.005	1.097	1.112
Shipping and insurance to Long Beach, CA (TEU)						
Land transport cost to port (US$)	400	400	470	300	250	600
Ocean freight from X to Long Beach	Mumbai	Mumbai	Shanghai	Karachi	Dhaka	Sihanoukville
Ocean transport cost per container incl. insurance (US$)	2,100	2,100	1,800	2,000	1,900	1,900
Units per container	18,000	18,000	18,000	18,000	18,000	18,000
Transport and insurance cost per garment (US$)	0.139	0.139	0.126	0.128	0.119	0.139
Total cost per garment including c.i.f. (US$)	1.223	1.32	1.38	1.133	1.216	1.251
Tariff % (import duty to US)	16.1	16.1	16.1	16.1	16.1	16.1
Tariff per garment (US$)	0.197	0.212	0.222	0.182	0.196	0.201
Quota cost per garment (US$)	0.000	0.000	0.000	0.000	0.000	0.000
VAT percentage	12.50	12.50	17.00	15.00	15.00	10.00
VAT applied (US$)	0.150	0.160	0.000	0.000	0.180	0.000
Cost per garment (tariff, quota, and VAT) (US$)	0.350	0.377	0.222	0.182	0.378	0.201
Full landed cost per garment duty paid (US$)						

Source: Nathan Associates (2009, pp. 1–2).

3.2. The Global Rules of Globalization

Chang (2003) argues that the International Monetary Fund (IMF), World Bank, and WTO have pushed a "good governance" agenda onto developing countries, which consists of conservative macroeconomic policies, the liberalization of international investment and trade,

privatization, and deregulation. His main point is what he calls the "historical fact" that the now developed countries, during their own historical processes of growth and development, used virtually none of these. His second point is that this package of policies amounts to "kicking away the ladder" and prevents contemporary developing countries from promoting industrialization, technological acquisition, and upgrading.

Wade (2003) agrees that developing countries are now more "tightly constrained in their national development strategies by proliferating regulations formulated and enforced by international organizations" (p. 621). The most contentious policy is that of trade-related investment measures (TRIMs), which emerged from the Uruguay Round of GATT-WTO trade negotiations in the mid-1990s. The TRIMs policy aspires to "avoid trade and investment distortions" which, argue Chang and Wade, prevents the governments of developing countries from deliberately distorting the policy framework to promote investment and technological absorption by firms located within the domestic economy.

These concerns are overstated. TRIMs prohibit measures that (i) require particular levels of local sourcing by an enterprise, (ii) restrict the volume or value of imports that an enterprise can buy/use to the volume or value of products it exports, (iii) restrict the volume of imports to the amount of foreign exchange inflows attributable to an enterprise, and (iv) restrict the export by an enterprise of products or a proportion of the volume/value of local production (Di Caprio & Amsden, 2004). This list of restrictions leaves open various other "safeguards" that can be used by contemporary developing countries to promote industrialization and technology acquisition.

Developing countries can support their own industries, target national champions, and advance general national competitiveness in the name of "promoting science and technology." A wide range of subsidies is still permitted in research and development (including innovation, technological upgrading, and venture financing), disadvantaged sub-national regions, and environmental upgrading (Weiss, 2005). The main constraint is not international law but domestic politics: "the most coercive part of the new international economic order is informal" (Amsden & Hikino, 2000, p. 110). Rarely do contemporary developing countries (certainly including Pakistan) have a political faction capable of articulating and promoting creative industrial policy and of going beyond the mantra "the more liberalization, the better."

3.3. Global Value Chains

A key factor determining the structure of the global clothing and textiles sector is the concentration of global buying power in the developed countries. There has been a massive increase in market concentration among retailers in the developed countries. Even by 1995, Wal-Mart, Sears, Kmart, the Dayton-Hudson Corporation, and JC Penney accounted for 68 percent of all apparel sales in the US. This process has influenced the prospects for exports and upgrading in Pakistan in various ways. Such buyers require large volumes and low prices, making it difficult for small suppliers (typical of Pakistan) to meet their requirements. Instead, this has benefited large Chinese suppliers. The demand for shorter lead-times, greater inter- and intra-seasonal variety, and tighter delivery logistics typical of highly competitive world markets makes it harder to enter a value chain without an established production reputation. The profitability of being a producer in such a value chain is, therefore, tightly constrained.

Since the 1990s, there has been a downward trend in the global price of clothing as reflected in the unit price of clothing imports into the US (Kaplinsky & Morris, 2008). This has combined with ever more demands beyond simple assembly being pushed onto producers by the buyers, including contributions to product design, fabric sourcing, inventory management, and management of production sourcing. Textiles is typically a buyer-driven chain whereby those large retailers and branded manufacturers outsource production but retain control of access to the major resources (such as product design, new technologies, brand names, consumer demand) that generate the most profitable returns—and so, constrain efforts to upgrade (Gereffi & Memedovic, 2003).

Taiwan established textile production in the 1950s with hundreds of small firms. In this earlier era, low labor costs was the key to being globally competitive. The subsequent rise of global value chains has meant that constraints to participation in the industry have increased, but this process has also supplied the means by which determined countries can do so. Today, retailers and marketers in developed countries tend to rely on full-package sourcing networks and buy readymade apparel from East Asia. As wages have risen in East Asia, low-wage assembly is carried out in third countries' regions. East Asian manufactures have moved to being intermediaries in value chains that include 50–60 exporting countries. These intermediaries may squeeze developing country

producers hoping to enter a global value chain but, crucially, they can also help facilitate that entry.

Once part of a global value chain, history has shown that local entrepreneurs *can* learn the preferences of foreign buyers and international standards for price, quality, and delivery and so develop substantial linkages to the domestic economy and develop production expertise over time. This potential broadening of the supply base is something Pakistan could work to its advantage.

It is also important not to think of global value chains as a single and uniform global process. Too often, survey evidence from the US or UK markets is used to generalize global trends. In various European countries, the state has used the law to restrain the power of retailers in order to promote more equitable relations between them and product suppliers. Based on fieldwork studies in the early 2000s, Palpacuer et al. (2005) find that buying was far more dispersed in French than British sourcing networks and that UK firms had rationalized their supply base much more than had French and Scandinavian firms. In Scandinavia, the limited extent of supply base rationalization indicates a more informal system of relations with suppliers. French firms did not insist that new suppliers offer all the extra production services (as noted above) and there was greater ease of entry and upgrading opportunities for developing country producers in French networks. This implies that there do remain easier market niches in developed countries to which firms from developing countries can gain access.

3.4. The Problem of Energy and Education in Pakistan

Pakistan has suffered an ongoing energy crisis since 2007. Unannounced power outages in some cities have reached up to 18 hours at a time. Siddiqui et al. (2011) have conducted a survey of 339 firms in four major industrial cities of Punjab (Gujarat, Faisalabad, Gujranwala, and Sialkot). Over 52 percent of firms in the textiles sector reported losing more than three labor-hours per day. Almost 76 percent of the total firms had opted for alternative energy arrangements (mostly standby generators); 85 percent of them argued that this had increased production costs by an average of 26.5 percent. Some 67.5 percent of textile firms confirmed delays in supply orders. Overall, textile firms reported losing 22 percent of their output. There is no question that this energy crisis must be addressed for the entire industrial sector to competitively produce, export, and upgrade. Importantly, however, the energy crisis is not the root cause of the

"historical failure" of the textiles sector in Pakistan. As Section 2 has shown, this failure was evident long before the energy crisis emerged.

A significant constraint to Pakistan's ability to break away from its dependence on low-skill, low-technology manufactured exports is the country's poor state of human capital. In 2003/04, 48 percent of the population aged 10 years or above was illiterate, including 60 percent of females (Khan, 2009). There are not just concerns with the lack of quantity in education but also with quality. The 2003 Learning and Educational Achievement in Punjab Schools (LEAPS) project survey generated test scores in three subjects for over 12,000 children and combined test scores and child characteristics for 6,241 children. At the end of grade 3, a bare minimum had mastered the mathematics curriculum for grade 1 and less than 20 percent could understand a simple written sentence in the vernacular. Less than 10 percent could graphically represent simple information (bar charts) compared to more than 70 percent internationally. "Close to one half of the three million born in Pakistan will leave school unable to add, subtract, multiply or divide, unable to read and write simple sentences in Urdu; and unable to read a short word like "BALL" in English" (Das, Pandey, & Zajonc, 2012, p. 232).

The main factor is schooling, not household, characteristics. It is primarily a problem of school availability and quality, not of social inequalities. The adjusted gap between public and private schools in English is 12 times the adjusted gap between rich and poor children; the adjusted gap between public and private schools in mathematics is eight times the adjusted gap between children with literate and illiterate fathers. Pakistan also fails with regard to vocational education. By the mid-2000s, it had 3,125 technical and vocational institutions with a total enrolment of 256,000. The curriculum had little relevance to the changing skill needs of the labor market and there was minimal hands-on training.

Outcomes were equally bad in the 70 percent of such institutions based in the private sector. The oldest polytechnic institute, the Government Polytechnic Institute in Karachi, offered training in 17 different trades, but by mid-2009 was in a state of disrepair (Khan, 2009). Pakistan has increased its school enrolment slower than countries with comparable GDP growth and has a lower level of enrolment than countries with similar levels of income (Birdsall, Ross, & Sabot, 1993; Easterly, 2001).

There is no question but that the state of education must be improved. Not only does poor-quality education constrain exporting and

upgrading, it is also a vital part of what constitutes the good society. The problem is the time-scale. It is not easy to change the education system, marred as it is by poor attendance, poor facilities, and absent teachers. My own university, after nearly 800 years, has still not achieved parity across genders and ensured equal access for poorer students. Reforms are, of course, needed but improved education is unlikely to be part of any policy-driven solution for textiles in the immediate future.

4. Technology and Learning

This section problematizes a typical form of economic "analysis" in Pakistan: that of producing long lists of problems and urging policymakers to solve them. The second part focuses on a key market failure: that of technology acquisition and learning. Finally, we explore some potential solutions accounting for prioritizing reform, the feasibility of reform, and learning applicable lessons from elsewhere.

4.1. Prioritizing Reform

There is a tendency among both consultancy organizations and the Government of Pakistan to produce long lists of problems, urge their "solution," and call this a serious analysis and agenda for reform. Rarely is there any attempt to prioritize reform, learn from reform efforts elsewhere, or consider the feasibility of reforms in the Pakistani context.

The first example from consultants is that by the Competitiveness Support Fund (2010), a report financed by the United States Agency for International Development. In its evaluations of the country's economic competitiveness, Pakistan scores poorly on security (terrorism, organized crime, the business costs of crime and violence, and the reliability of the police services), infrastructure (especially energy), health and education (primary, higher, and training), and the business environment (international distribution networks, supplier quality). In response, the report argues that a "comprehensive institutional reform program is vital to Pakistan's competitiveness strategy" (p. 62).

This is no clearly articulated strategy in terms of a practical plan for policy action but rather a bewildering and overwhelming list of desirable outcomes. Aspects of this "comprehensive strategy" include "working with Pakistan's leading export industries to remove obstacles to competitiveness, lower cost of inputs, enhance efficiency of trade logistics, increase productivity and introduce innovative technology" (Competitiveness Support Fund, 2010, p. 43); modernizing the financial

sector; ending electricity shortages; improving infrastructure; improving education and training; commercializing research in Pakistani universities; and creating an effective security and police system that reduces the cost of doing business.

Another example, this time from the government, is the Framework for Economic Growth (Pakistan, Planning Commission, 2011). The report contains a familiar litany of aspirations posing as policy advice: to "strive for institutions that support free and fair markets, create a professional, well trained civil service" (pp. 17–18), "developing physical and regulatory space for entrepreneurial and innovative investments" (p. 27), "governance and institutions reforms are required" (p. 41), and "a focused effort will be required in areas such as science and technology, attracting talent and investment, venture capital and education policies that promote enterprising talents" (p. 56). In the appendix to the report (pp. 136–144) are listed the short-term policies that should be achieved within a year. These include restructuring public enterprises, rationalizing subsidies, amending zoning laws and building regulations, establishing a regulatory body for the real estate market, enforcing rules and regulations in energy provision, and enhancing literacy.

Beyond their mania for lists, this type of approach ignores what we can learn from history in two ways: first, the history of institutional change and, second, the relation between economic growth and institutional change.

First, the possibility of the rapid institutional change advocated in these reports is contradicted by the historical experience of today's developed countries. Now-developed countries experienced, according to Chang (2003), a "long and winding road" of institutional development that took "decades." From full male to universal suffrage, it took France from 1846 to 1946 and Switzerland from 1879 to 1971. The need for a modern professional bureaucracy in Britain was first mooted in the eighteenth century and became a reality only in the early nineteenth century. Such slow change was often because of widespread realization that many changes were expensive (labor laws and social security), resistance from those who would lose out (democracy, income tax), the absence of supporting changes (the tax revenues needed to pay for a professional bureaucracy), or prejudice (female suffrage) (Chang 2003).

Second, in historical terms, "good institutions" have tended to follow, rather than been a precondition for, rapid economic growth,

industrialization, and upgrading. Khan (2002) notes that the indices of institutional quality (based on the quality of bureaucracy, the rule of law, expropriation risk, and contract repudiation) among East Asian governments were, as late as the mid-1980s, only slightly better than those of many poor-performing countries. Fast-growing Indonesia scored the same as Myanmar or Ghana, and the Republic of Korea, Malaysia, and Thailand the same as Cote D'Ivoire. The corruption index created by Transparency International shows that, for 54 countries between 1980 and 1990, the rapidly growing East Asian countries had corruption scores that were little different from those of other developing countries (Khan, 2002).

There is much broader evidence to show that now-developed countries also had poor institutions during their initial transition to rapid growth (Chang, 2002). At a similar stage of development, the now-developed countries were much less institutionally advanced. The UK in 1820 had a broadly similar per capita income to India today, but did not have many of the latter's present-day institutions and organizations, including universal suffrage, a central bank, income tax, generalized limited liability, a modern bankruptcy law, a professional bureaucracy, and securities legislation (Chang, 2003).

The approach in this paper is to suggest a small number of feasible policy interventions that could be made in the textiles sector, recognizing the domestic political and administrative constraints within Pakistan and drawing on lessons from similar developing countries.

4.2. Identifying the Constraining Market Failure: Technology Acquisition and Learning

Catch-up requires sustained and rapid productivity growth and this depends on the creation of new technologies. Despite very low wages in developing countries and being freely able to buy machinery and equipment in international markets at virtually the same price as in advanced countries, developing countries find few areas in which they can achieve global competitiveness. Low wages do not compensate for the very low initial productivity of developing countries, even in low-technology sectors. Productivity is determined by much more than access to technology. In the nineteenth-century textiles industry, most key industrial technologies were able to diffuse quite rapidly as Britain had developed a specialized export-oriented machine-building sector within its cotton industry; by 1845, some of these firms were exporting at least 50 percent of their production. These firms provided a complete package of services to customers, including technical information, machinery,

construction expertise, managers, and skilled operatives (Wolcott & Clark, 1999; Clark, 2007).

Having access to this same technology in Japan nearly trebled its output per worker between 1907 and 1935, while India showed no change over the same years (Clark, 2007, p. 347). India failed to efficiently utilize this basic technology and Indian mills employed up to five times the number of workers needed (p. 363). There are other more recent examples. Productivity was four times greater in Mauritius than Ghana, using similar production technology in manufacturing; for large firms, wages were only three times as high. This combination gave Mauritius a significant competitive advantage (Teal, 1999). Thai firms produce three times as much value-added from given capital and labor in the textiles and food-processing industries than do Kenyan firms in the same industry (Zuefack, 2001).

There is good evidence that the problem in Pakistan is with using existing capacity (productivity), not with a lack of capacity (investment). There is no obvious constraint to meeting any extra demand. In the cotton-spinning sector in 2011, capacity utilization was 89 percent in spindles and 60 percent in rotors. Low rates of capacity utilization were also characteristic of automobiles, cement, and fertilizer. Table 2 below shows that (in the jute industry) between 2011/12 and 2012/13, there were small increases in the number of spindles and looms installed but significant falls in the number of spindles and looms actually worked.

Table 2: Installed and working capacity in jute

	2011/12	**2012/13**	**% Change**
Spindles installed	36,087	36,172	0.24
Spindles worked	24,279	21,836	-10.06
Looms installed	1,852	1,856	0.22
Looms worked	1,021	940	-7.00

Source: Pakistan Economic Survey 2012–2013, p. 41.

Low productivity can be explained by inadequate knowledge of modern production techniques and activities such as modern factory layout management, inventory management, sales, and servicing (Khan, 2008). Much of the technological and organizational knowledge necessary for competitiveness is tacit, embedded in routines. Effective production requires a mix of formal or codifiable (that which can be communicated

in words/symbols) and uncodifiable knowledge (embedded in unconscious and often complex routines) (Khan, 2013a). Unlike investment, which expands existing production or replicates well-known technologies, new technologies have an unknown payback period and, therefore, carry a higher degree of risk and uncertainty. It takes time to experiment and integrate new machines into production in an optimal manner; the mechanism for learning to improve actual production processes is through learning-by-doing.

The key market failure is, therefore, a financing problem: the period of risk and loss making that has to be financed while learning-by-doing is taking place. Own-investment by the firm will be limited to the availability of retained profits and the owner's willingness to undertake the risk. In theory, private investors could be lured by the prospect of future profits and finance that loss making. In reality, this rarely happens. Private investors are happy to finance investment in known sectors where the market is assured, the methods of production standardized, and the payback period clearer. In Bangladesh, for example, survey evidence shows that there is no shortage of bank finance that is readily available for established technologies and entrepreneurs (Khan, 2008). In the World Bank's (2007) Enterprise Survey, only 17.7 percent of Pakistani firms surveyed reported access to finance as a major constraint, compared to 33.4 percent in other South Asian countries and 29.7 percent across 135 countries.

Learning to utilize new technology to raise productivity requires significant effort by managers, workers, and suppliers (Khan, 2011). A firm could contract with a bank to supply this requisite effort in return for lending and repay the loan from future profits. Accurate disclosure of profits and enforcing the rights of outside investors (such as banks or shareholders) is difficult to ensure in a developing—or even developed—country. In theory, enforcing the rule of law, reducing corruption, and increasing transparency can ensure the enforcement of such contracts but (as noted in Section 4.1) this is likely to take a long time.

In Bangladesh, survey participants were asked about the mechanisms by which good governance reforms might solve their problems—such as a more efficient stock market allowing them to raise funds. Participants "universally agreed that these conventional mechanisms were implausible even in the medium term" (Khan, 2008, p. 21). In Pakistan, less than 1 percent of firms in 2007 financed investment by equity or stock sales (World Bank, 2007). In practice, banks try to protect themselves by requiring high-quality collateral and high interest

rates from borrowers, which passes on the risk from the bank to an entrepreneur-owner. Survey evidence in Bangladesh confirms this, showing that firms were concerned about the high levels of interest rates even for loans backed by good collateral, the combination of which shifted the risk of delay and problems with new technology to the borrower (Khan, 2008).

4.3. Solutions to the Learning Failure

One solution would be to directly subsidize the cost of acquiring technologies. The 2005/06 budget in India proposed investing US$ 700 million in apparel parks, cluster development, cotton procurement, health and insurance, and upgrading technical skills. The resulting Technology Upgradation Fund covered all manufacturing segments of the textiles industry and encouraged the private sector to set up world-standard integrated textile complexes and processing units. The fund aimed to provide 50,000 shuttle-less looms for the sector and modernize 250,000 power looms in the decentralized sector. Under the fund, manufacturing firms became eligible for long- and medium-term loans from state banks at an interest rate 5 percent lower than the normal bank lending rates. Imports of textile machinery items and raw materials and parts for the manufacture of such machinery were permitted at concessional customs duty to reduce the cost of production.

In Pakistan, the Textiles Policy 2009–14 produced by the Ministry of Textiles was a similar effort, though much broader in scope. The policy recognized many of the constraints faced by the textiles industry: inadequate infrastructure facilities; the absence of exclusive areas dedicated to textiles production and provided with key services such as power, gas, and clean water; the lack of skilled labor; and the fact that the regulatory framework increased the cost of doing business.

True to the habit in Pakistan of making long lists of solutions in response to a long list of problems, the plan had no focus. It was less a plan than a long list of aspirations: to "develop state-of-the-art infrastructure facilities;" to "increase the supply of efficient human resources;" to "evolve a legislative framework that sets standards for each stage of processing" with a view to "increasing productivity," "improving quality," and "ensuring optimum utilization of resources;" to "promote R+D" to "achieve product diversification," "technological advancement," and "increased productivity throughout the value chain," specifically in the "quality and diversity of fibers;" to support the

"development of allied industry such as machinery manufacturing, dyes, and chemical industry and accessories" for "reducing the cost of doing business;" and to "encourage exports by meeting the demands of competition, technology and higher labor productivity."

This effort was costed at US$ 8 billion (largely for the private sector) over five years and a government-provided "textiles investment fund" was promised. Areas for government funding were to include the modernization of machinery and technology, the removal of infrastructure bottlenecks, skills enhancement, better marketing, and the use of information technology. The funding was all-purpose to encourage manufacturers in all subsectors to modernize their machinery and technology. This aim did not target the key market failure in the risk associated with learning and technology acquisition. Funding was not targeted at risk but at "reducing the cost of financing to international level and ensuring adequate availability of credit for such purposes." Support was also promised "to attract joint ventures, mergers and FDI [foreign direct investment] for expansion and upgrading in the sector." The policy subsequently fizzled out in response to budget cuts and IMF pressures to reduce public spending.

A second solution would be to target incentives more closely to the mechanics of the learning failure. A firm could obtain a rent[1] such as a subsidy or cheap credit that would allow it to engage in learning-by-doing. The conditions of rent withdrawal would need to be clear from the outset so that owners and managers felt compelled to put high levels of effort into learning (Khan, 2013b). This brings into question the balance of power—whether the state has the capacity and willingness to allocate rents that are contingent on learning and to remove them in the event of failure.

In the 1960s in the Republic of Korea, technology was mainly transferred to large firms (*chaebols*) that received various forms of subsidy and protection from imports to give them an opportunity to expand production. Increased production was closely linked to learning-by-doing because such incentives were conditional on firms successfully reaching their export targets, reducing costs, and absorbing new technologies. The state maintained a credible threat to remove these incentives should firms fail to meet their targets. The balance of power between the state and the chaebols

[1] An economic rent can be defined as the proportion of earnings in excess of the minimum amount needed to attract a firm to enter a particular industry or produce a product using new methods of organization/technology.

was such that inefficient firms were not able to protect their subsidies if the state decided to withdraw them (Khan & Blankenburg, 2006).

Pakistan pursued a very similar economic strategy in the 1960s, although it was ultimately unable to attach performance conditions to subsidies and large firms were able to form alliances with powerful political factions to prevent subsidies being reallocated once given. Too often in Pakistan, analysis stops here, compares Pakistan to the Republic of Korea and argues that it should try and emulate the latter; that Pakistan should try and recreate the political conditions that supported such successful policy interventions.

For the Republic of Korea, those successful preconditions are usually framed in terms of it having been a "developmental state." A developmental state is defined as "states whose politics have concentrated sufficient power, autonomy and capacity at the centre to shape, pursue and encourage the achievement of explicit development objectives, whether by establishing and promoting the conditions and direction of economic growth, or by organizing it directly, or by a varying combination of both" (Leftwich, 1995, p. 401). There are six components that determine these political preconditions. These include (i) a small elite of developmentally determined senior politicians, (ii) the autonomy of the state from special interest groups, (iii) a competent bureaucracy insulated from the demands of politics, (iv) a weak civil society, (v) independence from international capital and rural interests, and (vi) the popular legitimacy given to a single-minded approach to economic growth. This is not going to happen in Pakistan, so any comparison with, and especially calls to emulate, the Republic of Korea are nonsense (Leftwich, 1995).

A more reasonable comparison is with Bangladesh. In 2005, the country tied for bottom place (with Chad) in Transparency International's ratings of corruption. This did not prevent Bangladesh from adopting fairly reasonable economic policies and growing. By 2010, RMG exports totaled US$ 16 billion and provided 82 percent of Bangladesh's total merchandise exports. Since 2005, clothing exports have grown at an average annual rate of 25 percent, despite concerns that the end of the MFA quota system would undermine Bangladeshi exports.

Ahmed, Greenleaf, and Sacks (2014) ask how effective industrial policies can be pursued with weak governance institutions, widespread corruption, and an intensely politicized policymaking process. Neither of the two main political parties in Bangladesh (the Bangladesh Awami

League and Bangladesh Nationalist Party) has a clearly defined economic platform nor campaigns on distinct policy agendas. Both parties maintain large enough coalitions of support to remain in power via the redistribution of the spoils of office. The parallels with the Pakistan People's Party and Pakistan Muslim League (PML-N) are evident where ideology has been off the agenda since the 1970s. For both parties in Bangladesh, these coalitions increasingly comprise legislators with financial stakes in the RMG sector. Despite the two main parties alternating in power, economic policy has remained consistent: both parties favor liberalization, privatization, and export-led growth. Again, the parallels with Pakistan are evident. The incoming PML-N government in 2013 had no aspirations to change the broad thrust of policy in Pakistan, only to pursue the liberalization agenda more competently.

So, it is to Bangladesh that policymakers in Pakistan could turn for policy learning. The state in Bangladesh has decentralized and delegated responsibility to private organizations such as the Bangladesh Garment Manufacturers and Exporters Association (BGMEA) and the Bangladesh Knitwear Manufacturers and Exporters Association. The government's decision to delegate authority to the BGMEA to issue trade (import) customs certificates (utility decision and preparation) streamlined the process by which garment manufacturers acquire imported raw materials and technology. To facilitate export financing without government subsidies, the government implemented a back-to-back letter of credit (L/C) system in 1986/87 that made it easier to acquire working capital for garment manufacturers. The system works in a way that does not require garment manufacturers (or the government) to invest money to open import L/C or make payments to the fabric suppliers from their own resources.

This system is not vulnerable to the budget constraints that undermined the 2009 textiles policy in Pakistan. The operation of the back-to-back L/C system assured garment exporters of almost 70 percent of the working capital they needed. Most RMG exporters agree that the L/C is the most important factor responsible for the rapid growth of garment exports in Bangladesh (Ahmed et al., 2014).

Even with a wage/cost advantage, Bangladesh did not break into the garments business without a number of critical financing accidents that allowed it to build the capabilities that launched the industry. This demonstrates that even a labor-intensive and low-technology activity can require a period of learning-by-doing (Khan, 2011). The MFA post-1973 set bilaterally negotiated quotas on developing countries for textile and

clothing exports mainly to satisfy US producers threatened by cheap imports. Bangladesh was not initially included in the MFA, which created incentives for multinationals to set up garment production units in Bangladesh as a base for exporting to developed countries.

The Korean firm Daewoo set up Desh garments in 1979 with a domestic entrepreneur providing the capital for investment in plant and machinery. The collaboration between Desh and Daewoo was initially scheduled to run for five years. Desh workers were provided six months' training in Korea. Desh also purchased machinery from Daewoo and managed production with supervision/marketing by Daewoo. Desh was to make royalty payments to Daewoo for the technical training and supervision equal to 3 percent of its sales and pay sales commission for marketing services.

The Desh workers at the Pusan plant received some of the most intensive on-the-job training in garment production ever seen in the history of developing countries (Rhee, 1990, p. 337). The training provided actual experience of running a factory that produced world-quality exportable goods. Everyone had strong incentives and compulsions to expend high levels of effort on learning and capability building. Daewoo had strong incentives to push knowledge and capabilities as the fastest way to recover its investment. Desh employees had strong incentives to learn in Pusan—to ensure the firm would survive. Desh saw its average export values grow by 90 percent per annum in the 1980s. By the end of the 1980s, 115 of the 130 employees initially trained by Daewoo became entrepreneurs and set up their own factories. The migration of skilled workers/managers worked to create an industrial cluster that attracted buyers and created its own beneficial dynamic to drive growth in the sector (Khan, 2011).

Pakistan cannot, in 2014, replicate those peculiar features of the quota rents created by the MFA at the end of the 1970s, but it can learn from that experience. Increased learning needs new financial institutions that specialize in providing long-term finance at low interest rates to finance technology acquisition and subsequent learning-by-doing. These financial instruments can be designed to replicate the incentives and compulsions faced by Desh in 1979. A well-designed financing instrument for technology upgrading should be able to pool the risk so that an individual firm would not face bankruptcy if a project to upgrade technology takes longer than planned. Such an instrument should also create sufficient incentives for the owner/manager to put in significant effort, and finally set a satisfactory rate

of return for outside investors. Given the problems of ensuring the accurate disclosure of financial and profit data, a viable risk-sharing financial instrument in Pakistan should rely on easily observable proxy indicators to assess profit and asset values indirectly.

Export earnings are relatively easy to observe. Banks in Bangladesh have long-standing arrangements that deduct the interest due from export earnings. As the garments industry in Pakistan is largely export-oriented, this rule would achieve effective profit sharing based on an easy-to-monitor income stream rather than profit disclosures by firms. Payments based on export earnings mean that firms would only start to repay a loan once they had mastered the new technology sufficiently to begin exporting.

The second requirement is that the design of the instrument should compel the borrower to acquire the technology needed as rapidly as possible. The initial loan from the bank would take the form of an equity share in the textile company, which would entitle the bank to a profit share for as long as it held that share. The firm would, over time, be able to repay the bank and so buy back its claim on the company's assets. There would have to be an effective increase in the buyback value to reflect growth in the value of underlying assets due to successful technology adoption and adaptation. A possible solution would be to agree in advance to a moderate rate of increase in the underlying asset value, which would create pressure on the firm to buy back the equity quickly without making the investment excessively risky (Khan, 2008).

5. Conclusion

The textiles industry in Pakistan has failed to fulfill its "historical mission." It has failed to lead a wider process of rapid economic growth, to reduce poverty, to provide empowering employment for young women, and to act as a conduit for the introduction of technology into Pakistan. The promising momentum of the 1960s was not sustained. The 1970s to 1990s were associated with continued growth but also a continued failure to realize these wider benefits. Most recently, the promise of new market access to the EU has stirred some optimism, but a brief examination of the AGOA program of the early 2000s shows how quickly the gains from any preferential market access can unravel if that access is not accompanied by real improvements in productivity.

There is widespread awareness and even consensus surrounding what is wrong with textiles. Unfortunately, this has produced a particular kind of "analytical" response: to list all the various problems in Pakistan's economy, in particular those factors doing badly in relation to other developing countries, and to then advocate their "reform" and "improvement" and pass this off as serious policy advice. This produces no practical guide for policymakers or the means to prioritize their scarce administrative capacities. Rather, it overwhelms them with the scale of the task, producing a sense of cynical hopelessness.

This paper makes a case for a particular and targeted form of industrial policy to promote learning and upgrading in the textiles industry. It has argued that those factors commonly seen as hindering industrial policy—the China effect, the global rules of globalization, global value chains, and the problems of energy and education—do need careful consideration but are not insurmountable obstacles to industrial upgrading. The paper then goes on to make a case for key market failure: that of the risk and uncertainty associated with acquiring and learning to use new technology. It explores a number of policy options, reviewing the lessons that *cannot* be learned from the Republic of Korea and India and one that *can* from Bangladesh. The latter shows that rapid and sustainable export growth in textiles can be achieved, even in an economy with weak, corrupt, and unstable governance.

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Barriers to the Growth of Small Firms in Pakistan: A Qualitative Assessment of Selected Light Engineering Industries

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Abstract

This article identifies constraints and barriers to growth for small firms in Pakistan, a survey of the existing literature and through in-depth interviews with a sub-sample of firms in two important SME sectors, that is electrical fans and sporting goods. Policy recommendations for the SME sector include addressing problems in contract enforcement (such through alternative dispute settlement mechanisms), promoting R & D through linkages with academia locally and research institutions globally, simplifying of the tax regime to encourage transparency, resolving the energy crisis and rationalize power tariffs, increasing the availability of credit to SMEs (allowing alternative forms of collateral). In addition, more detailed recommendations specific to the fan and sporting goods sectors are also offered.

Keywords: Pakistan, SMEs, light engineering, constraints, electrical fans, sporting goods.

JEL classification: L10, L60.

1. Introduction

This study explores the impediments faced by Pakistan's small and medium enterprise (SME) sector. SMEs in Pakistan constitute 90 percent of all economic establishments, contributing 30 percent to GDP and 25 percent to export earnings. Improvements in the SME sector, therefore, have important repercussions for growth and employment, making the sector a focal point for industrial policy. Pakistan's growth in general and that of the manufacturing sector specifically has remained fairly stagnant in the recent past. Over the period 1960–2012, the country

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has achieved an annual average GDP growth rate of only 4.47 percent, with the manufacturing sector having grown at around 6.3 percent. However, over the same period, many regional economies grew far more rapidly, with China leading with a phenomenal GDP growth rate of 9.1 percent during the period 1970–2009.

Many studies have attempted to address the question of diminished firm performance and the limited growth of the manufacturing sector in Pakistan. The vast body of literature that exists on the cost of doing business in Pakistan talks about the stagnation of the manufacturing sector, low levels of productivity, and stunted firm growth. Taking a broader approach, the literature explains how different factors—the shortage and high cost of energy, corruption, macroeconomic instability, the limited availability of skilled labor, credit market failures, weak institutions, infrastructural constraints, and inadequate business management and strategy—have, over the years, inhibited the growth of Pakistani firms.

This study synthesizes the literature explaining key barriers to firm growth and augments it with more insightful evidence built from primary information from two pilot industrial sectors. The unstructured, more detailed format of our interviews with stakeholders has allowed us to complement the aggregated level of analysis provided by standard cost-of-business studies. While these typically identify factors that are common to all businesses operating in a sector, our case studies allow us to corroborate and provide detail on these factors. In addition, the case studies allow us to delve deeper by identifying specific characteristics that enable some firms to succeed *despite* the industry-level barriers common to all firms within the industry.

We have developed case studies on the fan and sporting goods industries, both of which fall in the light engineering sector. The two industries were selected based on the importance of the light engineering sector in terms of value added and employment generation. Within these two industries, we cover a spectrum of firm types, from those reliant solely on export markets to those that supply only the local market. This diversity enables insights into the nature and size of the business. While the external validity of the analysis is limited by the small sample size, we are able to identify areas that would benefit from further research and possible policy interventions.

Section 2 describes the methodology employed. Section 3 identifies the main barriers to firm growth reported by the literature. Sections 4 and 5 discuss the case studies in light of earlier research.

Finally, Section 6 explores the potential for further research and suggests areas on which policymakers could focus to help improve firm productivity in the sectors studied.

2. Methodology and Sample

Much of the research on barriers to the growth of small firms is based on cross-sectional surveys that present owners/managers with a list of barriers and a scale on which to rate the applicability of each barrier to their own firm. However, this limits the depth of analysis considerably. First, it is based on perception, which may not match experience. Second, it provides limited policy implications because it falls short of identifying the specific parts of the problematic process.

Keeping this in mind, our approach was to conduct detailed semi-structured interviews with a small representative sample of firms in the light engineering sectors. This has allowed greater depth of analysis, complementing the less detailed, but large, cross-sectional studies already available. We have focused on the fan and sporting goods sectors because of the variation they provide: the sporting goods sector is forward-looking, highly enterprising, and export-oriented while the fan manufacturing sector is largely inward-looking and appears to be trapped in a cycle of low quality and low profitability.

Twelve firms were chosen in each sector such that we had a variation in growth paths. We used existing data on the population of firms to identify the distribution of firms within each sector. For firms in the fan industry, we used a dataset of 125 firms representing 70 percent of the sector. Using this distribution, a purposive sample was selected such that we had as adequate a representation as could be managed within the limitations of a small sample. Firms that responded positively were then interviewed. For sporting goods, we held a focus group discussion at the office of the sporting goods association in Sialkot; with their help, we selected firms (out of a total of 450) that were suited to the applied methodology.

We interviewed at least one of the top few players in the market to examine how the obstacles to growth were circumvented and what determined high growth in that sector. In addition, we interviewed firms that appeared to be struggling to gauge the most severe barriers to growth. The remaining sample comprised firms that lay in between, for example, those that appeared to be on the cusp of breaking into export markets. This allowed us to establish which characteristics allow some

firms to grow despite the barriers they face, and to compare them to firms that had managed to survive but had experienced more limited growth.

The interviews were open-ended and the firms were directed to lead the discussion by suggesting which barriers *they* considered most important. We did not give them a list from which to choose (as other cross-sectional surveys have done) since we did not want to influence their responses. In addition, we spoke to the firms not just about their own experience, but also about their perception of the industry and performance of other firms in the sector. We also sought their opinions on issues flagged by other interviewees in order to corroborate the information and obtain a more accurate and unbiased understanding of the industry. Using this iterative strategy, we were able to minimize the influence of idiosyncratic perceptions, giving more importance to opinions and perceptions that were unanimous. However, given the small sample, we did not discard conflicting views, but have presented them as areas that could benefit from further inquiry.

3. The Barriers to Firm Growth

In this section, we make use of several recent surveys that have explored the constraints to industry in Pakistan. A useful starting point is the World Bank's Enterprise Survey, which is administered to a representative sample of private nonagricultural firms across a host of countries. The survey aims to assess and track changes in the business environment by collecting a wide range of qualitative and quantitative data, including perceptions of obstacles to doing business across a range of factors: infrastructure, trade, finance, regulations, taxes and business licensing, corruption, crime and informality, finance, innovation, and labor.

Two measures collected by the Enterprise Survey are of particular interest for our purposes: the "top obstacle" to doing business identified by the sample firms and the identification of a factor as a "major constraint." For the former, firms are presented with a list of 15 factors of which they select one as the biggest obstacle they face. For the latter, when investigating a particular factor, the firm is asked if it presents a major constraint to daily operations. The Enterprise Survey was last conducted in Pakistan in 2007 and surveyed over 900 firms (see World Bank, 2007).

Other useful reference points are the World Bank Enterprise Analysis Unit and the Investment Climate Assessment (ICA) surveys. The Enterprise Analysis Unit administered the Enterprise Survey questionnaire

to a group of 385 Pakistani firms in 2007 and again in 2010. The ICA survey collected data on perceptions of the business environment in 2002 and 2007 (see Manes, 2009). Hussain, Khan, Malik, and Faheem (2012) have also used the ICA as a starting point to identify the constraints faced by Pakistani firms specifically in Punjab. Together, the results from these surveys enable one not just to obtain a snapshot of the constraints that are most relevant at a certain point in time, but also to observe trends that facilitate a deeper understanding of the business environment.

The Enterprise Survey compares the top obstacle reported by businesses in Pakistan to those reported by other countries in South Asia in 2007. Electricity appears to be the most critical constraint, followed by corruption and crime, all three of which were considered more severe than in other countries in the region. Other important obstacles identified include access to finance, tax rates, and access to land. These, and other obstacles, are discussed below.

3.1. Electricity

Electricity is not just one of the most important hindrances to present-day manufacturing; it is also one that has been growing in importance. In 2002, 39.3 percent of firms ranked electricity as the most severe constraint (Manes, 2009). By 2007, this had increased to 79.6 percent. Yang (2011) also notes an increase in the percentage of firms reporting electricity to be the top obstacle between 2007 and 2010: from 44 to 65 percent. This reflects the increase in the number of power outages experienced per month.

Hussain et al. (2012) report that, as a result of these outages, firms in Punjab lost on average more than 10 percent of their total annual sales. Unscheduled outages disrupt operations more severely and lead to greater wear and tear of machinery, much of which cannot be repaired locally. The authors' pilot survey finds that more than half the firms sampled reported the number of monthly outages as varying between 45 and 100. This is compounded by the shortage of gas, which could otherwise have served as an important alternative source of energy. The survey finds that 45 percent of firms report that gas is unavailable more than four days a week.

Firms have come up with several kinds of coping mechanisms: 73 percent of the firms surveyed use power generators, over 90 percent of which are diesel-run, tripling the cost per unit of power generated. Most

firms also employ overtime labor through longer working hours. All these measures increase costs by increasing overheads and worker payments.

3.2. Corruption

Transparency International's corruption perception index for 2012 ranks Pakistan at 139 out of 176 countries, with a corruption control percentile rank of just 12 percent.1 Corruption features heavily in all recent surveys on the barriers to doing business in Pakistan. It is the second most important constraint identified by the Enterprise Survey. The ICA confirms that corruption is a severe constraint, with 56.7 percent of firms ranking it a major obstacle in 2007: an increase from 40.3 percent in 2002 (Manes, 2009). However, the World Bank Enterprise Unit surveys report a decrease over three years, from 27 percent in 2007 to 14 percent in 2010.

Hussain et al. (2012) find that more than a third of the firms they have surveyed identify corruption in their top three constraints. The most common form of corruption reported is the inconsistent interpretation and application of regulations and policies across the government departments relevant to manufacturing: tax, labor, and licensing. Their survey indicates that firms see the process of implementing regulations as deliberately complicated and extractive—one that facilitates rent seeking by government officials. Most firms report having to make informal payments to government officials in order to get things done, with labor and tax inspections identified as the most corrupt processes.

Although fewer firms in Pakistan are inspected relative to comparator countries, the incidence of bribe payments in both departments is, overall, higher (Manes, 2009). Hussain et al. (2012) calculate that, on average, the industry sector loses three to seven days in resolving a single issue with government officials. Their study confirms that labor inspectors are considered the most corrupt, but electricity officials, too, are apt to threaten firms with suspension of power and incorrect billing unless side payments are made.

3.3. Crime, Theft, and Disorder

Crime and the inefficacy of the judicial system is another constraint dominating the surveys analyzed. The percentage of firms reporting crime, theft, and disorder as a major constraint increased from

[1] The control of corruption reflects perceptions of the extent to which public power is exercised for private gain. Point estimates range from –2.5 to 2.5, with higher scores indicating less corruption. Pakistan's score is –1.1 on this index.

21.4 percent in 2002 to 32.5 percent in 2007 (Manes, 2009). However, the percentage of firms reporting this as the top obstacle to doing business fell from 8 percent in 2007 to 3 percent in 2010 (World Bank Enterprise Analysis Unit). The ICA surveys reveal that, although crime and security losses are less widespread in Pakistan than in other comparator countries, their intensity is greater.

The World Bank's (2007) survey reveals that less than 20 percent of Pakistani firms believe that the courts function fairly—a proportion half that of other South Asian countries and low-income countries as a whole. The ICA surveys also find that the functioning of the judiciary is a serious obstacle for a third of Pakistani firms compared with a fifth of firms in comparator countries. This is a serious problem because the absence of an effective and fair system of dispute resolution hinders business activity. It also affects long-term investment adversely because the need for investment protection is not fulfilled consistently. As a result of these perceptions of the judicial system, only 5 percent of Pakistani firms chose to settle their disputes in court in 2007—a 40 percent decrease since 2002.

3.4. Access to Finance

The perception of access to finance, while remaining an important obstacle to doing business, has seen recent improvements. In 2007, 17.6 percent of firms reported access to finance as a major constraint—an improvement from 38.3 percent in 2002 (Manes, 2009). The World Bank Enterprise Analysis Unit also shows improvements, from 6 percent of firms reporting access to finance as their top obstacle in 2007 to 2 percent in 2010. However, the Milkin capital access index, which scores access to financial capital for entrepreneurs across the world, ranks Pakistan at 74 out of a possible 122 countries in 2009—a reversal in the improvements that were calculated between 2002 and 2006.

The World Bank Enterprise Analysis Unit also reports that less than 15 percent of firms use external financing for working capital compared to over 30 percent in South Asia, which indicates potentially inefficient financial intermediation. In line with this, less than 10 percent of Pakistani firms have bank loans or lines of credit with a bank compared to over 30 percent of firms in South Asia. Hussain et al. (2012) report that this is a more severe obstacle for smaller firms.

3.5. Macroeconomic Instability

Macroeconomic instability has become more important as a barrier to doing business: the percentage of firms to have declared it a major constraint increased from 34.5 percent in 2002 to 56.6 percent in 2007 (Manes, 2009). Hussain et al. (2012) report that 7.9 percent of firms in Lahore identify macroeconomic and political instability as their most serious constraint while almost 46 percent rank it among their top three constraints. Macroeconomic instability is more serious for those firms that depend on imported raw material as the depreciation of the rupee increases their costs of production. Both exchange rate volatility and inflation are seen as impediments to doing business.

3.6. Political Instability

Yang (2011) reports that 20 percent of Pakistani firms ranked political instability as their top obstacle to growth in 2010—a fivefold increase from 2007. The ICA surveys also find an increase between 2002 and 2007, from 40.4 percent of firms reporting political instability as a major constraint in 2002 to 46.8 percent in 2007 (Manes, 2009).

3.7. Inadequate Workforce

The constraint of an inadequate workforce does not feature heavily in the national surveys we have examined. Yang (2011), for example, reports that the percentage of firms that identified inadequately trained labor as a major constraint fell from 2 percent in 2007 to 1 percent in 2010, with both figures being lower than the global and South Asian averages. The World Bank (2007) also finds that 8.1 percent of Pakistani firms cited the lack of an educated workforce as a major constraint compared to 14.3 percent in South Asia and 26.8 percent globally.

However, Hussain et al. (2012) identify this factor is a key impediment to industrial performance in Punjab, listing it among their top five constraints for the region. Apart from textiles and leather, where it is seen as a major obstacle, most sectors view labor quality as a moderate constraint. The authors find that low levels of education, both in terms of the quality of education and number of schooling years, impede skills development. Low levels of basic literacy mean that written instructions are harder to follow, even at a more basic level of manufacturing. It also means that firms have to offer training programs in-house, which raises their costs of production.

The constraints discussed above have been identified in recent perceptions-based surveys. This is an important complement to our own fieldwork because the surveys were larger and it is, therefore, easier to identify these constraints as universal enough to have policy implications. However, there are some serious limitations. The data quoted above highlight the fickle nature of using variables such as the "top constraint to doing business," which is identified as a single variable that is, at that time, the most problematic for the firm being surveyed. It does not mean that other factors are, therefore, not important. Electricity, for example, is currently singled out as by far the most important constraint, overshadowing other constraints that affect the long-term viability and growth of firms.

With this in mind, our fieldwork aims to discuss the lifespan of the firm retrospectively, identifying not just constraints that are relevant today, but also those that have influenced the growth history of the firms in the sectors studied and of the industry as a whole. We intend to take a longer-term view of barriers to growth and to explore the specific features of certain firms that make them more resilient to obstacles than others.

4. The Fan Industry

Fan manufacturing is a light engineering industry and one of Pakistan's older industries (existing at the time of independence). Here, we describe the sector and examine its constraints to growth.

4.1. Overview

The fan industry is clustered in four major cities: Gujrat, Gujranwala, Lahore, and Karachi. However, 98 percent of the country's production is centered in Gujrat and Gujranwala. The location of this cluster appears to have been rather arbitrary, born of historic path dependencies. However, with the development of a vibrant cluster over the years, firms have benefitted from external economies such as sufficient access to raw material with over 700 vendors operating in the area.

The fan cluster has grown significantly in economic importance over the 2000s, experiencing an annual average growth rate of 17 percent since 1999. Currently, production equals approximately 10 million fans per year and accounts for PRs 18 billion in sales (0.27 percent of the national GDP). The fan industry feeds on a wide range of supporting industries, including plastic, aluminum casting, and steel. The potential

reverberations in the economy are, therefore, far greater than what the figure above represents.

Furthermore, the cluster provides direct employment to 35,000 workers in the area and indirect employment to roughly four times this figure. It also contributes 0.2 percent to Pakistan's total exports. The sector's performance in the export market has picked up recently, with foreign exchange earnings consistently on the rise. In recent years, Pakistan's exports have reached US$ 40 million, increasing its share of world fan exports to over 1 percent. However, the number of fans exported has fallen over the last two years.

The fan industry comprises roughly 450 medium, small, and micro-enterprises. This structure is sharply fragmented with five or six of the largest companies responsible for 70 percent of the total industrial sales. They are classified as large-scale manufacturing units, characterized by higher levels of investment and modern technology. Most of these firms are individual proprietorships and small partnerships, over 90 percent of which are formally registered. Output consists of a diverse production mix with ceiling fans representing 60 percent of total production and pedestal fans and other categories accounting for another 30 and 10 percent, respectively. Overall, the fan cluster represents a significantly mature and well-established industry: about 72 percent of its firms are 10 years or older. There is also a high correlation (0.9) between firm age and sales, reflecting the sector's stability in terms of solvency.

4.2. Constraints

In this section, we discuss which features have prevented the industry from reaching its full growth potential. Previous research on the fan industry has flagged barriers to growth such as low levels of investment in research and development (R&D), the myopic entrepreneurial mindset of cluster firms, problems of seasonal production, quality constraints, and limited access to viable credit (Munir & Khan, 2011). Using our case study approach, we were able to explore these barriers in greater depth and isolate some of their root causes. In addition, we find that institutional features, poor factor markets, and management issues all contribute to an environment that ultimately impedes growth. We also examine what make these constraints so hard to overcome at the individual firm level.

4.2.1. Standardization

Quality constraints have restricted the expansion of the fan industry and limited its potential for growth, particularly in the international market. Exports over the last two years have fallen because of the sale of substandard products, which has been a severe setback for the industry. As an electrical product, fans have to comply with certain minimum electricity safety and performance requirements and this compliance is key to maintaining a successful business. However, the firms in Pakistan's fan industry do not have a standard-quality product and do not even use standardized inputs. For example, each firm uses parts that are not necessarily substitutable in other fans. The result is a market flooded with unregulated parts and products. Larger firms are able to circumvent the problem of quality assurance by exporting directly and having their products certified privately by international laboratories their clients trust. However, for the large majority of small firms, standardization remains an insurmountable problem.

Munir and Khan (2011) find that the key reasons for low standardization and compliance are lack of capital and slack enforcement of standards in local markets. Probing this further, we have found that the lack of unity among firms and the pressure to compete on price remain the most severe impediments to standardization. A case in point is the recent failure of a large order sent jointly by several firms to Iraq. The trader who received the order then auctioned it off to several small firms, each of which was to deliver an unbranded product to the trader. There was pressure to compete on price and no repercussions for individual companies sending poor-quality fans. A poor-quality shipment was dispatched with the result that the reputation of Pakistani fans in Iraq was ruined and the demand shifted to China and India.

Several firms mentioned this recent failure, which highlights the difficulties small firms face in reaching international markets. They are too small to export directly and have to rely on traders. The traders have no incentive to develop a brand reputation and to ensure that quality standards are met. The firms themselves are fragmented and operate in an intensely competitive environment, which prevents them from uniting in the domestic market. They cannot export without certification, but without an export order already in place they find it difficult to justify the expenditure on private foreign certification (which costs approximately PRs 80,000 per product line).

While the Pakistan Council of Scientific and Industrial Research exists to address these issues, the industry perceives it as a corrupt body that is prepared to certify substandard products based on payments rather than laboratory tests. These firms are aware that standardization is now a prerequisite to exporting successfully; finding a way to achieve these standards jointly was, therefore, at the forefront of the agenda of the small firms we interviewed.

4.2.2. Access to International Markets

The large majority of small fan manufacturers target only the local market. Larger firms export a small proportion of their output via traders, but are not always even aware of the final destination of their product or of the modifications it will undergo before being shipped. Only the largest few firms export a significant portion of their production directly. Barriers to entry in the domestic market are low, with the result that the market is saturated with small firms operating on thin profit margins. The firms we interviewed were all well aware that tapping into foreign markets was the only way to break out of the incremental growth path that comes from expanding one machine at a time to make fans for domestic markets. However, they appear to be trapped in a cycle of low capability, poor quality, and poor investment because of which they cannot break into the export market.

Their low capacity and capability means that, if they were to try to manufacture fans for export, they would need to divert all their resources toward it, tying up capital in purchasing, for example, electric sheet instead of recycling scrap metal as they do for local markets. However, the export business is risky and if that order did not result in a sustained demand for the new high-quality product, they would also lose their established local market—a risk that the smaller firms are not prepared to take.

Small firms also lack the know-how and human resources needed to process the paperwork involved and handle government departments and banks. For some firms, this discourages them from even attempting to export directly. For others, the lack of information means that the chances of failure are higher (see Box 1 below). Larger firms usually employ someone exclusively to deal with these requirements. They are also able to undercut the orders obtained by smaller firms, which acts as another major disincentive for the small firm to attempt to export. For smaller firms, therefore, risk aversion, driven by low capacity and low profitability, is the biggest impediment to venturing into foreign markets.

4.2.3. Management and Succession Planning

Many of the small firms struggle with management issues. The firm's chief executive officer (CEO) typically manages the business singlehandedly, delegating very little to other staff. Some management is sometimes shared with other relatives successfully, but this is not always the case. The firm's ability to grow is, therefore, constrained by the capacity of the individual. Several factors contribute to this practice: low profit margins, the inability to retain staff, low trust, and poor contract enforcement. Low profit margins mean that firms simply cannot afford to hire professional accountants and managers. The scale of operations is too low to justify it and the lack of vision that comes from the absence of professionals further constrains growth and output.

Box 1: The case of Golden Star

Malik Zulfiqar Anwar's motto of "making the impossible possible" is well suited to the history of his firm. He started off as an uneducated worker at Famous Fans. In 1960, he purchased a broken machine from his employer, using PRs 4,000 that he had received as a bonus, to make a down payment. In the evenings, he started to manufacture fans, using the repaired machine to perform two different operations by changing the end tool. In 1986/87, Anwar established Gold Star as a partnership. He sold the small number of family assets he had—his motorcycle and his wife's jewelry—and invested all the money into his fledgling business. For a long time, neither partner drew a salary and worked around the clock to make the firm a success. By 2000, Gold Star was producing 36,000 fans a year.

Shortly afterward, they faced a series of personal setbacks in which the partnership split and the brand went to his partner. However, in 2001, Anwar restarted his business as Golden Star, producing 18,000 fans with two machines. As before, he clawed back all his profits into production. His determination to succeed was so strong that he would personally market his fans door-to-door, competing so heavily on price that he was making barely PRs 50 per fan. With the brand name established, the firm's production volume picked up and business stabilized.

His next step was to attempt exporting his product line. Not being educated, he had no idea how to obtain the required licenses and certifications. He approached the Pakistan Electric Fan Manufacturers Association (PEFMA) and a leading fan manufacturer who was already exporting, but to no avail. Eventually, he dispatched a 20-foot container to Dubai without the necessary paperwork. Although the shipment was held and his payment stalled, he dispatched another 40-foot container to Jeddah. That, too, ended up in Riyadh instead and payments for both containers were received three years after the containers had been sent. Slowly, however, he learned how to export—the

hard way. Today, his exports stand at PRs 120 million; he now operates two factories and has several small, diversified businesses on the side.

By his own evaluation, Anwar has succeeded. Although his firm is still small, he has made some successful inroads into foreign markets and can see the potential for growth ahead. However, his case shows how every step of the journey was fraught with obstacles and illustrates how frustrating and discouraging the effort to grow beyond the domestic market can be when external support is missing.

These firms appear to be stuck in a vicious cycle of low profits and low investment in firm capabilities. Many felt that larger firms succeeded because they could afford to pay their professional staff better. However, even these large salaries are not enough to retain high-end professionals in Gujrat. The fact that it is a small city means that there is a paucity of educated locals who can be hired. Professionals hired from outside Gujrat do not consider their engagement a long-term option as they do not wish to live in a small city.

In addition, poor contract enforcement and weak law and order mean that pilferage, deceit, and defection to competitors are common—a problem faced by small and large manufacturers alike. Firms may attempt recovery at a personal level, but do not involve the courts or the police, perceiving that the exercise is almost guaranteed to be futile. As a result, the CEO retains all information and authority for fear of leaking confidential information.

As a result of the lack of professional management, the success of a firm depends heavily on the CEO's vision and management skills, the lack of which has caused even large and very successful firms to fail, for example, while transitioning between generations. There are several examples of firm failure due to poor management, one of which is National Fans. Despite its advanced manufacturing facility and status as a market leader at one time, the firm had to shut down because its new generation of management failed to run the firm well. One of our interviewees, the CEO of a successful enterprise, claimed that the failure rate in transitioning from one generation to the next is probably twice that in other countries.

Some firms are able to circumvent this problem by dividing various roles successfully between brothers and/or children. Different people may be assigned, for example, to manage supplies, exports, and operations. This allows them to specialize and complement each other and reach a higher growth path than could be achieved by one person alone. On the other

hand, we found an equal number of examples where the joint running of a firm by family members had led to its demise. In such cases, lack of unity and trust among the family members operating the business had led to the accumulation of personal wealth rather than investments in the business. Eventually, both the firms and families had collapsed.

The market is rife with such examples of inefficiencies arising out of weak succession planning, and this is cited as one of the most important reasons for firm failure in the industry. Other examples include fragmentation into small units—each replicating the existing business model—rather than the consolidation and specialization that could come from pooling resources and human capital.

4.2.4. R&D

Lack of investment in R&D via a strong support sector emerges as one of the top constraints impeding the industry's competitiveness. Munir and Khan (2011) undertake a value chain and productivity analysis, which reveals that the sector faces several supply-side constraints and weaknesses in value addition. Specifically, the industry typically adds around 20 percent in value, which amounts to a mere PRs 450 per fan.

This low level of productivity is a result of the lack of modern technology and weak production process flow management. Around 80 percent of the costs are material costs, which can easily be circumvented by developing new materials that are cost-effective. For instance, the development of alternative materials has enabled the Chinese industry to reduce their production costs significantly. However, the Pakistani fan cluster suffers from weak academia–industry linkages and low investment in R&D. The techniques used by the local industry are now outdated: 42 percent of firms still use technology installed over 10 years ago. This severely constrains them from realizing significant opportunities for value addition.

It also precludes the development of a strong and viable ancillary and support sector for the industry. Specifically, the industry (and any support linked to it) has no capacity for working on product design, development, quality standards, and marketing. Manufacturers also want strongly to increase the quality of their vendors since 92 percent of the firms outsource some of their production processes.

This technological setback has contributed further to the lack of support institutions and common services technology institutions. The

Fan Development Institute was introduced into the cluster to help firms make a smooth transition from manufacturing units into a cluster with the capacity for internal innovation. However, it has failed to achieve its objectives so far. To make matters worse, firms generally lack information regarding sources of external support for increasing competitiveness. Almost all the firms we surveyed were unaware of any support activity being provided in the cluster.

Alongside limited investment in technology and cutting-edge research, the industry's myopic entrepreneurial mindset has left the cluster far behind in realizing the true economies of scale that result from agglomeration. According to Porter's diamond model, the way that firms are organized, created, and managed within a cluster has a significant bearing on its national competitive advantage. This domestic rivalry is also important in stimulating pressure to innovate, thus determining the development of successful industries in a cluster.

Our case studies reveal that the most important reasons for low investment in R&D are the low level of education and professional skills, the narrow profit margins on which many firms operate, and the low level of trust and cooperation within the sector. Poor levels of education and professional skills limit how firms visualize growth in the sector. This has meant that most small firms know only one way to grow: increasing production and sales by scaling up their existing infrastructure. In addition, since these firms rely primarily on their own accumulated funds to scale up, they usually grow one machine at a time, with little room for process innovation or large-scale overhauls of the production technology.

There also appears to be little scope for collaborative research as the culture in which the fan industry conducts its business is one of secrecy, suspicion, and market warfare. The underlying lack of trust means that firms do not wish to contribute to programs that do not benefit them per se as they believe their individual efforts will benefit the entire sector at a cost to themselves. The option of diverting resources toward an investment that will not improve their own competitive edge over other domestic players is not considered an attractive one. This precludes peer group learning, as a result of which the industry is dominated by small firms that do not benefit from economies of scale.

The larger firms do, however, engage in some R&D: Royal Fans, for example, is in the process of developing a fan that is not sensitive to power fluctuations while running on a low-quality UPS. However, even among the largest firms, most R&D takes the shape of reverse engineering.

4.2.5. Seasonal Production

The issue of seasonal production is also a critical hindrance to the growth of the industry. Most firms perceive their capacity utilization as being in the region of about 80 percent. However, this is an inadequate indicator of demand as the industry operates near full production capacity only during the first five months of the year. Off-season, factories suffer from a lack of capital to maintain production; during the season, they have excess supply capacity. This seasonal production not only impedes investment, but also drains out skilled workers from the industry. As a result, production is far below its potential since the cyclical labor is not willing to invest in training and human capital development for an industry that provides employment only five months of the year.

This, coupled with inadequate training facilities, has further constrained human resource availability: over 30 percent of the firms we surveyed said they found it difficult to procure a skilled workforce. This is corroborated by the lack of management capacity and poorly documented production and monitoring activity, which makes it difficult to track performance. Seasonal demand and production also complicate the accounting process as prices and costs both vary over the year. The basic accounting systems in place among small firms cannot handle costing and pricing exercises effectively under these circumstances.

4.2.6. Factor Markets

Labor. Labor that is reasonably suited to fan manufacturing is easily available in Gujrat, where it is a home industry. However, skilled and educated labor is harder to find and retain. This impedes the adoption of more complicated machinery. Most small firms' operations focus on basic manufacturing techniques and machinery. Additionally, pilferage and poor law enforcement lead to an erosion of trust.

Credit. Like all SMEs, the lack of access to viable credit is also a critical issue for the fan industry—a problem that is exacerbated by the paucity of reliable financial data. A survey conducted by the Asian Development Bank suggests that, in Pakistan, only 6 percent of fixed investment finance for SMEs comes from commercial banks and development finance institutions (Bari, Cheema, and Haque, 2005). The problem of access to credit is more acute for smaller firms in the fan cluster, which are virtually shut out from access to bank credit. About 85 percent of the firms in the cluster reported "self-financing" as their primary source of funding (Munir & Khan, 2011).

This limited availability of viable bank credit stems from the capacity issues that plague firms and banks alike. Firms suffer from typical SME information asymmetries and limited capacity to provide reliable financial data. Most of their financial transactions are recorded informally and almost 70 percent do not use audited financial statements. This creates a classic case of information asymmetries and moral hazard since banks cannot differentiate between high-quality and low-quality projects or ascertain whether the funds given to the firms will be appropriately used. This was verified by our own interviews, which yielded examples of firms that had obtained bank loans for a planned default or for purposes other than those for which the loan had been sanctioned.

To make matters worse, SMEs face a more uncertain competitive environment and are less equipped to deal with economic adversity and risks. To circumvent this problem, banks require the financing to be collateralized, with the collateral often exceeding 100 percent of the loan. This further bars firms' access to credit since they do not possess assets that can be collateralized.

Details from the case studies have enabled us to tease out additional demand-side issues that affect bank-financed investment. Most of the firms we interviewed said they used banks for ordinary transactions and their overdraft facility for working capital, but still preferred using "market credit"[2] even though they recognized that this was an expensive way to finance their operations, given that prices were approximately 10 percent higher for supplies purchased on credit.

Market credit is not just expensive, but it is also a fragile and not necessarily dependable system. Credit cycles of different duration and involving several players exist, increasing the codependence of the firms. Default by a single firm can have a domino effect so severe that several firms have been reported to go out of business as a result. Market credit also complicates the accounting process. The multi-party overlapping system of credit was cited as a cause of failure where some firms had misinterpreted the spreadsheet balance as profit. This had led them to sell below cost and eventually collapse as the credit bubble became unsustainable.

Another reason given for the low demand for credit is that, for many small firms, the return to the capital invested is not higher than the bank rates and charges involved. It is not, therefore, worth their while to

[2] Market credit is the practice of buying raw material on credit. Repayment is required only once the final product has been sold, thereby creating a chain of credit in the market.

borrow from a bank to invest in their business. In addition, firms tend to dislike the formality and rigidity of dealing with a bank. Some respondents claimed that they simply did not want to owe that kind of money. Others had had bad experiences with bank loans and found the repayment schedule too burdensome.

From this, it appears that commercial banks do not serve the requirements of SMEs in the fan cluster. There has never been any pressure on commercial banks to extend long-term credit to the SME sector and, as a result, commercial lending remains too expensive, inflexible, and complicated for these firms.

Capital. All the smaller firms in the sample work with recycled material and machinery. Typically, used machinery is purchased in the second-hand market at Daroga, where it arrives as factories around the world discard it as obsolete or shut down operations. The firms purchase these machines, repair them, and make adjustments locally. This way, the machines typically cost less than half the price of a new machine. However, these machines also have a much smaller capacity than those employed by larger factories. For firms serving the local market, this machinery and installed capacity is sufficient, but it also prevents them from bidding for foreign orders independently. They are well aware that their own capacity is insufficient and that they lack the unity and standardization to work together.

4.2.7. Branding

The establishment of a brand name is an important factor in the success of large firms in the fan industry. The first few market entrants started with substantially more capital and were able to develop a brand name associated with a high-quality product. These firms are now able to charge a premium for their products and, consequently, have a greater outlay on advertising and maintaining their brand name.

Smaller firms may be able to produce high-quality fans, but cannot obtain the required price. This acts as a disincentive to invest in improved quality. Such firms may also engage in small-scale, low-end marketing, but with so many small firms competing with each other using similar marketing strategies, it is difficult for one firm to stand out. Here, again, intense price competition and low profit margins emerge as the underlying factors behind firms' inability to establish a high-quality product with an established brand name.

4.2.8. Institutional Support

Firms in the fan industry operate in an environment that provides little institutional support: they cannot rely on the courts and law enforcement agencies, have little in the way of consistent support from the research and other support institutions set up specifically to assist them, and face corrupt and inefficient government departments. This section explains how these institutional features compel firms to remain small.

The courts and law enforcement. Firms can face several legal issues, including theft, outright robbery, and breaches of contract. However, they unanimously reported having to absorb and accept such losses or to deal with such cases in their limited personal capacity. Since it is common knowledge that the courts and law enforcement agencies are not effective, the repercussions of reneging on a contract or stealing from an employer are low; the practice is thus rampant. Although much of the pilferage is low-level and more of an irritant than a major obstacle, the underlying trust issues it creates are much more serious. Firms feel they cannot effectively delegate authority and control to their labor, which is a major barrier to their ability to grow.

PEFMA. PEFMA was intended to serve as a platform from which fan manufacturers could address the issues they faced jointly; it could, potentially, have paved the way to greater standardization, quality control, and export opportunities. However, PEFMA remains a controversial organization. Originally, it was created and managed by the largest few companies and some firms claim that, at that time, the benefits of any orders, inquiries, and information that came via PEFMA were not circulated widely enough, thus disproportionately benefitting the larger firms. For example, when the Small and Medium Enterprises Development Authority (SMEDA) held workshops on brand development and media planning (organized via PEFMA), smaller firms were not informed. The larger firms were, therefore, able to develop an even greater competitive edge over the small firms. Although the association is now managed by the smaller firms, it has since lost the main benefits it had purported to deliver, possibly due to lack of connections and knowledge.

Currently, most firms agree that PEFMA is a fair, equal-opportunities organization. Even the smallest firms reported attending workshops it had organized. The support it provides is, however, limited and only firms that have the requisite ability and aptitude are liable to benefit.

Government departments. Most respondents reported that tax and labor department officers actively encouraged under-reporting income and employment, going so far as to suggest what kind of fictitious numbers would mutually suit the officer and the firm. In the short run, this might appear to benefit the firms as it allows them to evade tax, but in the long run it is extremely harmful—a fact that most firms seem to recognize. It prevents them from keeping a transparent set of financial records, which would allow them to benefit from accurate accounting and access to formal credit. It also leaves open an avenue for blackmail and extortion, the fear of which keeps them in the grey.

All firms said they would like to be clean, but for an individual firm, the barriers to this are insurmountable. It renders them uncompetitive if other firms continue the practice of under-reporting and it also means that all prior accounts might be questioned, which would expose the firm to more legal inquiry. This fear of being checked keeps many firms small so that they can stay under the radar of enforcement agencies.

There is also the view that larger firms have an edge in handling government departments: they have better established contacts through which they can have their work cleared easily, for example, at customs. Other benefits include being able to hire or allocate someone exclusively for lobbying and handling government departments and bureaucratic procedures—something that is outside the scope of the smaller firms. Some small firms also claimed that effective lobbying by the large firms meant they were able to have policies approved at the Federal Board of Revenue that benefitted them (large firms), such as income tax commissions, which are the same amount for everyone, regardless of size. One respondent went so far as to claim that some institutional officers were on the payroll of certain companies and sought to actively create obstacles and delays in processing the applications of competing firms.

The lack of formality in the supply chain is also a problem. Even though some firms are registered for sales tax, the material they purchase has no proof of sales tax having been paid because all receipts from suppliers are informal. These suppliers provide proper receipts only to the large firms, with the result that the latter can obtain tax rebates while the smaller firms cannot.

4.2.9. Gas and Electricity

Energy shortages are particularly severe for smaller firms. While all firms said they had made alternative arrangements, low power supplies tend to hit small firms the hardest, given their already low margins. The cost of alternative fuel can be debilitating. We were told that natural gas was available for the first 20 days of each month while furnace oil had to be used as a substitute for the next ten days. The cost of furnace oil over those ten days easily exceeds a firm's expenditure on gas for the whole month. Furnaces need a large volume of gas to reach the requisite temperature. As the gas pressure falls, the furnaces begin to cool. Both gas availability and consistent pressure are, therefore, issues that firms must contend with on a regular basis.

Electricity, too, poses a constraint: although the firms were all equipped with a UPS or generator, it had raised their cost of production. Furthermore, unscheduled and prolonged power outages cannot be sustained, causing problems even for the large firms.

4.3. Conclusion

In summary, the smaller firms in the fan industry seem to be trapped in a vicious cycle perpetuated by their low profit margins. This has led to low investment in professional management, brand establishment, installed capacity, and certification. Without these investments, they cannot tap into the higher-margin export market. However, without the revenue boost of exports, the firms cannot generate enough profit locally as they operate in an intensely competitive domestic market where competition is on price rather than quality. The institutional features of the environment in which they operate also perpetuate this cycle by remaining more accessible to larger firms and creating disincentives to becoming transparent.

Although the fan cluster in Pakistan has emerged as a vibrant agglomeration promoting the growth of incumbent firms and attracting new entrants because of low barriers to entry, there is still considerable potential for creating economic value, which has not been exploited for the reasons discussed above. The scale of production remains small, with the average output of a median-size factory being 500 fans per day (compared to 35,000 fans for a factory of comparable size in China). There is a need to move away from these closed ownership patterns toward greater informal and formal collaboration within the cluster.

5. The Sporting Goods Industry

The sporting goods industry in Pakistan is clustered mainly around the city of Sialkot, which accounts for nearly 95 percent of the industry's total production. The location of this cluster is largely a result of agglomeration economies, Sialkot having been a center of excellence for the production of sporting goods for more than 100 years. This is attributed to the availability of skilled artisans and entrepreneurs in the city and its favorable indicators for literacy, health, electricity, and water facilities. In addition, Sialkot benefits from the availability of a basic infrastructure for industry, including a dry port and an international airport, which serves as an export hub for manufactured goods.

5.1. Overview

Sporting goods producers in Sialkot are predominantly SMEs comprising over 360 formal and over 10,000 informal units. The main sporting goods produced can be divided into five categories: (i) articles and equipment for physical exercise, gymnastics, and athletics; (ii) articles and equipment for fishing; (iii) sports gloves; (iv) articles and accessories for billiards; and (v) articles for funfair games. Among these, articles for gymnastics and athletics and articles for funfair games have been the key drivers of the sector's growth in the world. Moreover, the country is considered a leading manufacturer of footballs, cricket balls, hockey sticks, and cricket bats—products that enjoy global market recognition.

As a result of this reputation, the Sialkot cluster has successfully established linkages with major international brands that source a large portion of their supplies of sporting goods from the city. The sporting goods industry has, therefore, been an integral part of Pakistan's economy, providing employment to 300,000–350,000 skilled and unskilled laborers. The sector also represents roughly 1.42 percent of the country's total export base.

Despite its current and potential importance to Pakistan's economy, the sector remains mired in difficulties due to the limited opportunities for growth. For instance, most of the companies in Sialkot fall under the category of commercial exporters, which have minimal staff and operate with a very short-term orientation, in turn facing high failure rates. Additionally, the recent energy shortages have affected the sector's competitiveness adversely and seriously impeded its overall growth.

Having failed to perform to its capacity, the industry now faces a decline in its share of sporting goods exports. Although Pakistan's sports goods have enjoyed a sound reputation worldwide, the industry has failed to convert this into a sustainable and growing share of the global market: Pakistan accounts for less than 1 percent of the total worldwide sale of sporting goods. While its global exports increased more than 100 percent from US$ 7.5 billion in 1999 to US$ 18 billion in 2009 (Competitiveness Support Fund, 2010), sporting goods exports have remained stagnant and currently stand at US$ 256 million. This is evident in the stark difference between the average market share of China's sporting good exports (32.5 percent) and that of Pakistan (1.37 percent).

Part of this less-than-satisfactory performance can be attributed to the effects of the financial crisis in the US, which had an adverse impact on Pakistan's trade since the sporting goods industry is largely consumer-driven, its major importers being the US, the UK, Germany, and France. However, a greater cause for concern is that, in recent years, not only has Pakistan's share of sporting goods exports declined, the sector has also registered the highest negative annual growth of exports relative to its competitors. This is true for three of the five sporting goods categories: articles for gymnastics and athletics, articles and equipment for fishing, and articles for funfair games.

5.2. Constraints

The following analysis of the sporting goods sector identifies some critical issues at the level of the firm and the industry that constrain both firm growth and overall industry development.

5.2.1. Credit Market

In the interviews we conducted of 12 sporting goods firms, which ranged from small and medium to large, we found that SMEs did not borrow from the formal credit market, i.e., commercial banks. Borrowing from commercial banks is generally limited to letters of credit, overdrafts, and short-term working capital. None of the SMEs interviewed had ever resorted to long-term financing for capital investment purposes.

The main reason they cited was the high interest rate charged by commercial banks, which, according to some firms, was greater than their expected return from business. There is also too much uncertainty inherent in the sector, especially for smaller enterprises, most of which rely entirely on foreign buyers, which means that a couple of defaults on

large shipments can potentially result in firm closure. Hence, factory owners are generally risk-averse and tend to diversify investments in assets that are perceived to be more secure.

The recent energy shortages, weak law and order situation, increasing security concerns, and general uncertainty also explain why firms are reluctant to consider formal borrowing or even to use retained earnings for investment in their own business. Instead, money is channeled into "safe" investments such as land and gold.

This behavior has a perverse outcome: small firms that make a profit and are more risk-averse do not invest and grow, but choose to diversify out of the sector instead; this partly explains why many of them remain small. Very few large firms reported having taken recourse to formal long-term financing to set up their factory or plant. Most of them had, however, used retained earnings to increase their plant size or upgrade machinery and technology.

5.2.2. Entrepreneurship, Management, and Succession Planning

Sialkot's strength lies in the versatility, dynamism, and enterprising nature of its population. Relatively better educated than the rest of the country and exposed to international markets, potential entrepreneurs start early in life. Their entry into business is via trading: obtaining orders on the Internet is relatively easy as is finding manufacturers to meet the orders. It requires a very low level of initial capital investment and has low barriers to entry otherwise as well. Profits made through trade are most often invested in small-scale manufacturing and export. By the time these young traders get into manufacturing, they have already established a potential international clientele through previous trading relations and contacts. Thus, the general transition in Sialkot is from trading to manufacturing for export. This particular feature makes the emergence of small enterprises easier and more frequent in the cluster.

Although there is no dearth of entrepreneurs in the sporting goods sector, firms' management practices leave something to be desired. Generally, SMEs are managed and run by the owner. This limits expansion beyond a certain point and makes the business highly sensitive and vulnerable to the abilities and decisions of an individual. From our interviews, it was evident that the management and production activity of most firms was ill organized. Hardly any standard management practices were employed, even in some of the larger units.

Firms generally lack a well-educated, socially aware professional middle management due to which they tend to lag behind in areas such as efficiency, workforce productivity, and marketing. As a consequence of inefficient management, little to no attention is paid to meeting social standards such as hiring fixed-wage workers or maintaining a good working environment. As these firms grow and start catering to international brands, they begin finding it difficult to adhere to and comply with the social standards imposed by the brands concerned.

For instance, when Silver Star, a leading local manufacturer of inflatable balls, became a supplier for Nike, it was forced to adopt Nike's business model, which included converting piece-rate employees to salaried workers, offering them better incentives, establishing fixed working hours, not allowing people to work from home, and instituting a proper monitoring system. Although there is growing realization that, if local firms are to compete internationally, they must bear the costs incurred in meeting the standards of international brands, efforts to comply remain fairly weak.

However, there are some important exceptions—these are the firms that have established themselves as major suppliers of large international brands. These brands closely monitor the production and management of their international supply chain to ensure that the required quality standards are met. The successful firms are those that have been able to comply with these standards and changed their management style and production methods according to the specified standards of their brand.

None of the SMEs we interviewed were new entrants to the sporting good sector. On average, they were almost 50 years old, most having started as a single establishment, which, over successive generations, had been divided among the family. Similar to other sectors, succession planning is a critical issue and one of the factors differentiating success stories from failures. Sporting goods firms are usually owned by members of one or two families where the head of the family is in charge of running the entire business. In case he or she is incapacitated, there is usually no succession plan in place whatsoever, thereby creating major problems for firm survival.

Those companies that have adopted a more systematic and professional approach to succession—where the younger generation is gradually trained in the business and given room to innovate and change—have been more resilient. Moreover, firms that have established

export markets and the ability to diversify and differentiate products for the international market have tended to grow in spite of divisions. In such cases, it was rare to find a parent company fragmenting into inefficient smaller units with each facing diseconomies of scale and scope.

5.2.3. Labor Market Issues

According to most of the firms we interviewed, a major competitive advantage that Sialkot has over other manufacturing and export hubs across the world is the availability of cheap labor. However, this competitive edge is blunted if we compare the average skill level of Pakistani workers to those of workers in other developing countries. Thus, while it may be that labor in Sialkot is cheap relative to that in China, the former may not be as productive. This lack of human capital is a result of Pakistan's low levels of primary and secondary education and makes it more difficult to train labor. Hence, whereas Pakistan has a large and growing pool of workers, whether this translates into a competitive advantage is questionable, especially since there are few, if any, training facilities or degrees in educational institutions that are geared toward the industry in general and sporting goods in particular.

Firms that invest in new machines and technology may also find that training workers presents a challenge. For firms that supply major brands directly, this is less of a problem—they are required to upgrade and improve their workers' skills and comply with international labor regulations in any case. However, for smaller firms that export indirectly (through buying houses) and have low-skilled workers, investing in training is perceived as a risky and costly activity, especially in the absence of labor contract enforcement. For these firms, low-quality labor becomes a binding constraint to further growth.

Larger enterprises are more likely to face problems retaining highly skilled staff such as engineers, who generally prefer moving to bigger cities such as Lahore or Karachi. Some of these firms have resorted to hiring diploma holders who are trained on the job and are easier to retain.

A key labor-related issue raised by the firms we interviewed was the voluntary signing of International Labour Organization (ILO) regulations by the Government of Pakistan. Interestingly, India and China have not signed these regulations and, hence, buyers do not seek compliance from them. However, exporters from Pakistan are bound to comply with a host of ILO regulations, which increases their cost of production, making them relatively less competitive.

5.2.4. *Supply of Raw Material and Absence of Ancillary Industry*

A global shift in technology in the sporting goods industry in the 1980s occurred with the introduction of composites in sports rackets and hockey sticks. This change hit the Pakistani industry hard as it was slow to move to composite materials, and many tennis, squash, and badminton racket manufacturers were forced to close down. There has been no domestic investment in composites since and manufacturers have to import all their raw material (paper, lacquer, resin, carbon fiber, and glass fiber). Their complete reliance on imported raw materials makes these firms susceptible to exchange rate shocks, customs duties, and bureaucratic rent seeking. There are also regulatory issues to contend with in the case of carbon fiber imports, which have potential use in the defense industry.

One firm reported that India had allowed exports of carbon fiber to Pakistan, but the Pakistani government had, for its own reasons, not allowed these imports. Although importing raw material from India would be much cheaper, regular instances of delay in releasing shipments at the Wagah border deters firms from doing so. These delays are primarily due to customs procedures and red tape, which can even require negotiations at the highest bureaucratic level for a shipment to be released.

Furthermore, the quality and price of the final exportable product hinges completely on the availability, consistency, and quality of raw materials. Almost 90 percent of the sector's raw materials and inputs are imported from China, Japan, Taiwan, and Europe. As stated above, government policy has failed to encourage any investments in large-scale input industries. The absence of such primary industries as chemical and latex manufacturers and of design houses and quality testing and certification facilities has seriously hampered the sector's overall growth.

5.2.5. *Innovation and Product Diversification: The Challenge of Remaining in Sync with Global Demand*

The sporting goods industry is constrained by the lack of investment in R&D and shortage of proper scientific and technological infrastructure, as a result of which it suffers from low levels of innovation, competitiveness, and productivity. The country is currently ranked 118 out of 142 countries on the 2011/12 global competitiveness index. This indicates that most sectors have failed to keep up with global trends, innovations in product development, new designs, modern manufacturing techniques, and diversification into growing product lines.

The industry's lack of competitiveness is also due to inadequate specialized factors such as modern technology, training institutes, and research centers. In comparison to major players in the global sporting goods market such as China, India, and Thailand, Pakistan is far behind in terms of technology and modern production processes. The introduction of new technologies, production methods, and materials wiped out certain product categories (tennis, badminton, and squash rackets) from Pakistan's product profile and now threatens its core product—inflatable balls.

Among our respondents, small firms felt that the most serious obstacle to their growth was their limited ability to innovate and diversify their product range. As mentioned before, in comparison to international standards, the industry still uses only a basic level of production technology involving cut and stitch (balls, bags, and apparel) and relies primarily on imported inputs. The firms that have been able to move onto a higher growth trajectory and doubled in size over the last ten years are those that have innovated and effectively diversified their product range. According to them, the global sporting goods market is now about "lifestyle" and 95 percent of the market demand is for sporting accessories and apparel. Firms that made a timely and strategic move toward manufacturing a wider range of products in line with changing patterns of global demand have thus grown significantly (see Box 2).

For example, a medium-size to large firm that used to make soccer balls for a major international brand diversified into apparel in a joint venture with a Dutch firm. Recently, the firm has also begun manufacturing sports shoes in association with an Italian firm that is also a potential client. The firm has been able to establish links with sports clubs and retailers in Australia and supplies products to them directly. This is a niche market, they report, with a low volume but very high margins. Their strategy in shoe manufacturing is to import the raw material first, experiment with production for the local market, and then gradually bring the quality up to international export standards.

The essential ingredients for product diversification include investing in modern machinery and technology, good dyeing and knitting facilities, and firm-level R&D. Given the trends in global demand toward sporting apparel, there is a dire need for ancillary industries (such as polyester and dyeing/knitting firms) to be developed. As in the example mentioned above, partnerships and joint ventures with foreign brands and investors have led to diversification and also been a source of finance and knowledge and technology spillovers.

Box 2: The case of Forward Sports: Linkages with the global market

Forward was started in 1990 with an initial capital outlay of PRs 1.5 million. The firm had an edge from the start: its CEO had worked at his father's firm, Capital Sports, for 15 years prior to starting Forward. Capital Sports had been manufacturing footballs for Adidas since 1975. An established client, Adidas continued working with both Capital Sports and Forward Sports after the split. Initially, Forward produced hand-stitched footballs. In 1998, as a consequence of growing concern about child labor, most foreign brands exited the Pakistani market. Forward starting moving toward technology-based production so as to become less dependent on labor.

It invested steadily in foreign machinery and developed local machinery where possible, realizing that labor laws were making it harder to maintain a competitive edge in hand-stitched balls. In 2003, the international market demand switched to machine-stitched and thermo-bonded balls. In 2007, Forward followed suit, becoming the first and only firm in Sialkot to produce thermo-bonded balls. In 2011, they added machine-stitched balls to their product range. Currently, Forward produces all three categories: 250,000 machine-stitched balls, 75,000 thermo-bonded balls, and 600,000 hand-stitched balls a month.

The firm has an established in-house R&D process, which reverse-engineers all imported machines as soon as they arrive, with the result that manufacturing is almost entirely on locally built machines. It has also identified key parameters of performance and quality and moved to 3D visualization and virtual sampling. This enables it to enhance whichever parameter the client requires and produce it for sampling in just four weeks.

The key to its success in the industry has been the firm's innovative and forward-looking behavior. It has constantly pre-empted market demand, driven by a clear understanding of product and technology lifecycles. As it approaches the point where a particular product or production technique is declining, the firm innovates and moves onto new products and techniques. Its patronage by Adidas as a main client is a constant source of knowledge and technology spillovers, and the established demand for the firm's product allows it the margins needed to invest in labor, machinery and, most important, R&D. These investments, in turn, ensure that the firm is able to retain Adidas football manufacturing and remain part of the global changes in technology rather than being left behind.

Hockey manufacturers in Sialkot have, with the help of a foreign consultant, established links with local universities for the purpose of product innovation. Collaboration with the National University of Sciences and Technology and the Ghulam Ishaq Khan Institute of Engineering Sciences and Technology has helped resolve many of their problems such as new resin development and breakage issues. Interestingly, prior to this,

they were not even aware that these universities had the required laboratories and facilities to help with product development. This underscores the critical need to establish industry–academia linkages, which is currently limited to just a few cases.

Finally, there are many advantages to being a major supplier for an international brand. These range from constant upgrading and investments in labor training programs, the introduction of lean manufacturing processes, logistics training, and environmental training to conducting audits and measuring performance indicators. The following statement by a firm owner/manager encapsulates the importance of working closely with big brands:

> Success is entirely dependent on relationships with the brand. Any firm that is able to cling on to a major brand grows phenomenally.

5.2.6. Branding: A Viable Option?

Most sporting goods firms, including those we interviewed, manufacture products either directly or indirectly for a particular international brand. Although there are huge margins to be made in establishing one's own brand name internationally, the perceived costs of doing so are exorbitant. Branding is considered a completely different ballgame that requires a very different set of skills and resources from what the majority of established firms in Sialkot have. Our respondents felt that the industry's strength or comparative advantage lay squarely in manufacturing and not in branding, which explains their reluctance to move toward that objective.

The sector has made little effort to promote the establishment of a local market. The negligible market for sporting goods that currently exists in the country is quite unsophisticated and has been taken over by low-quality, low priced Chinese products. None of the firms interviewed were selling in the domestic market, which, they observed, the proliferation of fake brand names and low-quality goods had made very difficult for domestic producers to penetrate.

5.2.7. Institutions and Infrastructure

With no competition laws governing Pakistan's manufacturing sector, predatory pricing is common. Firms in this sector engage in stiff competition with one another and regularly resort to price wars to attract

buyers; in a significant number of cases, the undercutting has been so substantial that they could barely recoup their production costs. Such predatory tactics are highly damaging and have contributed to the overall decline of the sporting goods sector.

Respondents offered contrasting opinions on the role and effectiveness of industry associations. Some felt there was inadequate information sharing among firms while weak contract enforcement meant they had failed to export jointly in order to meet large import orders. Many firms thought that the negative nature of competition in the industry (severe price-cutting and the active poaching of customers) would hurt its long-term development.

In sharp contrast to this is the Hockey Association, which has a membership of about 20 firms. The association's platform is used effectively to benefit all its members through joint activities such as purchasing imported raw material, sponsoring national hockey players, fixing labor rates, and employing lawyers for legal representation. The central reason for this cooperation is that these firms do not compete with each other—the international market and the brands for which they manufacture are large enough to absorb many players without any threat of market stealing.

Few public sector institutions exist to support the sporting goods industry. Quality testing and certification facilities are limited and the capacities of independent R&D, training, and vocational institutes are often outdated. According to most of our respondents, the government had collected billions of rupees from exporters through the Export Development Fund, but spent little to upgrade technological know-how or develop technology for the sporting goods sector.

A pertinent example of the inefficiency of government departments in supporting innovation and technology in this sector concerns the mechanization of football manufacturing. Our survey revealed that approximately 10 manufacturers had got together to work on producing a mechanized, composite-based football. They had asked the government for support and started work on the initiative with SMEDA; subsequently, PRs 187 million was approved for the project in 2004. However, due to a lapse in funding, no further progress was made, resulting in a huge loss to football manufacturers, in particular to SMEs, which lack the capacity or resources to invest in mechanization.

Another major public sector initiative to promote innovation in the industry was the establishment of the Gujranwala Tools and Dye Moulding Centre. However, the machinery and tools it manufactures are, reportedly, outdated, poor-quality, and very expensive. As a consequence, most firms prefer to buy machines and tools from the private sector. The Sialkot Chamber of Commerce and Industries has repeatedly demanded that the management of the center be handed over to them.

Government departments, particularly customs, are seen as being extremely inefficient. There is no facility for tracing imports and EMS lacks the standard system employed by international courier firms that allows importers to trace their order and manage their production schedule accordingly. Although rent seeking by customs officials was identified as a problem, the more pressing issue highlighted was the sheer inefficiency and incompetence of officials.

The inadequate support provided by the public sector is coupled with policy uncertainty. So far, the government's policies for the sector have lacked focus because it does not know with which stakeholders to engage. From the sector's perspective, existing government policies such as customs regulations and duties are often unclear, a number of previous policies (such as that of gas disconnections without prior notice) have been inconsistent, and policies with regard to R&D and export rebates are not satisfactorily implemented. This lack of policy focus, clarity, and inconsistency has been counterproductive and inhibited the growth of firms and the development of the industry as a whole.

The government's failure to provide the industry with the requisite infrastructure has compelled the private sector in Sialkot to address this problem directly. Accordingly, the latter has established a dry port and international airport—both unprecedented examples of private sector cooperation and initiative to relieve infrastructural constraints.

5.2.8. Energy Shortages

Over the last couple of years, all firms across Pakistan, including those in Sialkot, have identified energy shortages as the most serious constraint to growth and productivity. This is evident from the various cost-of-doing-business surveys conducted periodically in the country. Although the continued energy crisis is a major constraint to firms in the sporting goods sector, our interviews did not focus specifically on this for two important reasons. First, the energy crisis, albeit a serious issue, has

not been a chronic constraint to firm growth. We have focused exclusively on impediments to firm growth identified retrospectively since the inception of a firm; this particular impediment does not figure as an endemic issue over this long-term timeframe. Second, the cost-of-doing-business surveys have already dealt with the energy issue in considerable detail, looking at its impact across sectors and firm size and estimating the effect on costs of production. Focusing on this constraint here would merely have repeated earlier findings.

5.3. Conclusion

Our focused study indicates that perhaps the foremost impediment to growth for small firms in the sporting goods sector is their inability to innovate and diversify their product range in accordance with changing patterns of world demand. Firms that are closely connected to large international brands have, on average, fared better and grown over time. Those that export through buying houses have tended to remain small. The availability of raw materials and credit, inadequate human capital, and labor rules and regulations are more of a binding constraint for smaller firms than for larger ones. The latter have access to technology, capital resources, and training because of their close links with international brands or the global value chain.

Better managerial skills and succession planning is also a major factor distinguishing high-performance firms from low performers. Firms that have been poorly or unprofessionally managed and fragmented into smaller units over generations have generally stagnated and eventually gone out of business. Smaller firms, which are less diversified, tend to engage in fiercer competition involving price wars to poach potential buyers or brands. This results in a low survival rate in the sector. In contrast, firms that have been able to innovate in production and diversify their product range face no such threat.

Finally, public sector interventions to promote innovation and technology have been unsuccessful. Conversely, Sialkot is a good example of coordination and cooperation by the private sector itself to provide infrastructure such as the dry port and airport. Additionally, the government's lack of policy direction and general policy uncertainty has not only impeded the growth of small firms, but also been a major obstacle to the growth and development of the overall sporting goods industry.

6. Policy Recommendations

The fan and sporting goods industries provide an interesting comparison of the barriers to firm growth. The fan industry appears to be trapped by low profitability, poor-quality production, and an inability to access international markets. With the important exception of a few large firms, the sector is characterized by many small firms supplying a relatively unsophisticated domestic market and competing on price rather than product quality. Survival rates of firms in this sector are low and very few have been able to grow into successful medium to large enterprises.

Along with other factors, this vicious cycle is perpetuated by the lack of access to formal credit markets. This prohibits the financing of capital investments that could, potentially, enable small firms to move from their present low-level equilibrium onto a higher growth trajectory. Even the most persevering and enterprising firms in the sector have made only limited inroads into products and markets that generate higher margins and profits. The fan sector, therefore, requires far more institutional support from the government in order to break out of this trap, and it is hard to visualize a scenario in which they might manage this independently of such support.

The sporting goods sector, on the other hand, is outward-oriented with most firms either supplying directly to major international brands or indirectly through buying houses. What limits firm growth in this sector is the degree of product diversification and innovation, which, from the interviews we conducted, seems to depend largely on whether a firm is a direct supplier to a major brand.

In terms of government support to the sector, Sialkot is an exceptional case of the private provision of infrastructure. The private sector in Sialkot has cooperated successfully to finance the development of a dry port and international airport. In addition, it has sought financing through its major buyers—foreign brands—for labor training and product development purposes. Nonetheless, it will be difficult for these firms to remain competitive internationally if they continue to shoulder the burden of infrastructural development without support from the public sector. The role of government policy in providing infrastructure and facilitating product development and innovation, therefore, remains key.

This section draws on the case study analysis to identify areas in which the government can potentially intervene to increase the productivity of smaller firms and improve their growth prospects.

6.1. Crosscutting Issues and Policy Interventions

The policy interventions below are common to both industries.

6.1.1. Weak Contract Enforcement

Weak contract enforcement results in many problems that can severely impede firm growth. There is a lack of trust evident in the system, which prevents the formation of successful partnerships and reduces opportunities for businesses to expand beyond a certain point.

In order to address this, the government must aim to improve the functioning of the lower courts, enabling them to enforce contracts. It should also strengthen alternative dispute settlement mechanisms. Finally, the role and credibility of the police—as the first point of contact with the private sector—must improve significantly. These institutions need to work effectively and in tandem in order to make commercial arbitration quick and transparent.

6.1.2. Limited R&D

The study shows that both sectors operate under the technology curve. The fan industry's output is of low quality and design and has poor electrical efficiency. The sporting goods sector has, with a few exceptions, lost its global position in the rackets industry and is now fast losing its position in footballs as it fails to keep up with changing technology and products. Firms in both sectors consistently supply products for which there is declining global demand.

In order to address this issue, the government needs to provide an environment that is more conducive to investing in technology. Local research institutions should be strengthened to work closely with the industry. Public sector universities' research grants should be linked to the needs of the local industry so that the latter can benefit from innovative research. Agencies such as SMEDA and the Technology Upgradation and Skill Development Company (TUSDEC) should help link these sectors to the best research institutions globally to help induce technology. Technology development incubators could be developed as public-private partnerships to work on newer production methods, technologies, and products. We

would strongly suggest that the government fund or facilitate privately managed initiatives as government-managed setups tend to suffer from lack of ownership dynamism and lead to progress that is too slow to be useful.

6.1.3. Simplification of the Tax Regime

Corruption has been identified as one of the most serious obstacles to firm growth. It generally stems from rent seeking by government officials and creates a perverse incentive for businesses to remain small and informal. An interesting consensus to emerge from our case studies was that firms said they *wanted* to operate in an environment where all firms paid their full tax liability and reneging firms did not have an unfair advantage. For this, we propose instituting a simplified tax system that requires minimal contact with public sector offices and allows firms to calculate and pay their tax liabilities easily and quickly. The current tax regime for exports could be used as a potential model.

6.1.4. Energy Shortages

Although we have already explained why energy shortages are not an endemic barrier to firm productivity across these sectors (Section 5.2.8), chronic energy shortages do have a significant impact on the future growth potential of firms across sectors.

The current tariffs are not industry-friendly: the industry winds up subsidizing the cost of electricity for domestic and commercial users, whereas, internationally the practice is the reverse. Electricity tariffs keep increasing in arrears, with instances where firms have had to pay the increased cost of electricity of the past six to nine months. These ex-post tariff changes make it difficult to carry out appropriate business costings. In order to address the issue, the government needs to resolve the energy crisis and rationalize power tariffs. In the interim, further research is required on cost-effective coping mechanisms that would allow firms to remain competitive internationally.

6.1.5. Availability of Credit

Credit rationing for SMEs emerges due to asymmetric information stemming from their limited capacity to provide reliable financial information and collateral. Small firms, in particular, do not have the capacity to comply with banks' documentation requirements. The cost of finance in terms of the high rate of interest has also been reported as a critical issue impeding access to credit.

Policy suggestions that could, potentially, improve credit disbursement to SMEs include encouraging and introducing product- and program-based lending at subsidized, single-digit mark-up rates with flexible repayment schedules. Moreover, the credit application process could be simplified to reduce red tape and allow alternative forms of collateral to be accepted for SMEs.

6.2. The Fan Industry

While some of the key impediments to firm growth in the fan industry could be resolved efficiently through the market mechanism, others will have to be addressed over the medium to long term and may require a certain degree of government intervention. These are discussed below.

6.2.1. Low Barriers to Entry and Substandard Product Quality

Extremely low barriers to entry in the fan industry have resulted in a large number of very small manufacturers producing, on average, very low-quality fans. Cutthroat price competition in the domestic market tends to generate a perverse incentive for producers to minimize cost at the expense of quality. This lack of quality filters through to the export market, making it costlier and far more difficult for the industry to meet international quality standards and compliance requirements. A related issue is the absence of standardization for common parts in fan manufacturing: this precludes the development of a support industry, which could lead to economies of scale.

The government needs to strengthen the capacity and transparency of the Pakistan Standards and Quality Control Authority to develop a consumer watchdog that periodically rates the quality parameters of fan manufacturers. The rating system should list the top-quality fans based on their reliability, energy consumption, design, and overall quality. Introducing such a system may initially force some low-quality manufacturers to close down, but it will also open up space for progressive and quality-conscious manufacturers. It will also increase the incentive to invest in better technology and management systems.

Rationalizing the industry might also lessen price competition in local markets and thus increase the average firm's return on investment. Moreover, strictly enforcing local standards for both products and parts will significantly improve the quality of Pakistani fans, reduce costs due to scale economies, and make it easier for the industry to meet export requirements.

6.2.2. Limited Knowledge and Management Skills

Much of the industry is characterized by low levels of literacy among business owners and poor management skills in areas such as succession planning and delegation. Both factors result in basic shortcomings such as poor account keeping, lack of capacity and confidence to export, limited expansion and diversification of business, and problems in dealing with service providers, e.g., commercial banks.

The government needs to help create opportunities for the systematic training of owners. Training courses in business management, strategy, record keeping, export procedures, banking procedures, succession planning, and consumer rights could be held in Gujrat jointly or individually by government bodies such as the National Productivity Organization, Engineering Development Board, Trade Development Authority of Pakistan (TDAP), and SMEDA. Such courses should be provided on a cost basis to ensure that firm owners participate. The organization providing the course should also continue to monitor its participants and provide support to those who wish to implement the changes they have learned.

6.2.3. Seasonal Production and the Number of Skilled Workers

Seasonal production in the fan industry has resulted in an outflow of skilled labor and created a shortage of trained workers, especially at the level of supervisor and factory floor manager. In order to address this issue, the government needs to work with PEFMA to initiate training programs for these particular skill levels (process supervisors and factory managers) through the Technical Education and Vocational Training Authority (TEVTA). Additionally, capacity-building programs will need to have a rapid impact on firms' capacity to export quickly in order for them to maintain production throughout the year. In doing so, TDAP should provide information on markets with opposite weather cycles to Pakistan, ensuring consistent demand throughout the year. Facilitating and funding privately owned and managed centers would help firms benefit from greater dynamism.

6.2.4. Access to International Markets

Many firms lack the information and confidence needed to export, which stems from unclearly stipulated export requirements and the counterproductive role played by commercial exporters. Areas for policy

intervention include the provision of an export enquiry point for small or new exporters, which would consolidate and facilitate all the financial and logistical information required to export. In addition, trade road-shows could be arranged to market products in potential export destinations, particularly those with opposite weather cycles. In arranging road-shows, the fan sector could potentially collaborate with the furniture sector, which is slightly more developed; fans could then be marketed as a higher-value decor item along with home furnishings.

6.3. The Sporting Goods Industry

The policy interventions discussed below address the specific issues of the sporting goods sector.

6.3.1. Lack of Innovation and Product Diversification

The sporting goods industry is outward-oriented and thus far more dynamic than the fan industry. However, in order to keep pace with changing demand patterns worldwide, the industry must continuously improve and invest in R&D. With some exceptions, most producers in Pakistan are reactive rather than proactive with regard to product demand and technology changes. The resultant lack of diversification in their export base limits growth opportunities and reduces their world market share over time.

An innovation and design center that works jointly with the sporting goods industry and external research institutions would help bridge the knowledge and technology gap. The private sector has already initiated a technology center and invested in creating the infrastructure and procuring the equipment needed. However, the deliverables of this project on the government side are still missing.

6.3.2. Inadequacy of Ancillary Industry

The sporting goods industry depends heavily on imported inputs, which means that small firms are left struggling due to the limited and uncertain availability and the high cost of importing these inputs. For larger firms, which import materials directly, availability is less problematic as they keep an inventory. However, this translates into higher costs with six to eight months of inventory tying up funds. The input and support industry is, therefore, a major concern for almost the entire value-added sector of Pakistan. The government needs to introduce

appropriate incentives so that large-scale manufacturing in key inputs (such as latex and composites) is established within the country.

6.4. Areas of Further Research

Cost–of-doing-business surveys identify the main crosscutting constraints to firm productivity and industrial development. Their very large samples and wide range of industries mean that they are unable to delve deeper into the firm-level constraints identified. Also, such studies are based on cross-sectional data reflecting the perception of firms at a particular point in time. Thus, they are unable to capture the historic and endemic issues that have resulted in firm success or failure.

The methodology we have adopted was an attempt to fill this gap in research on firm-level constraints. By focusing on just two, but very different, clusters and restricting the sample to a relatively small number of firms, we were able to adopt a more detailed, retrospective method of extracting information on the specific ingredients of firm success or failure. This case study method has enabled a richer and deeper insight into the chronic problems inhibiting firm growth.

Although we have identified a number of areas that need policy attention, further research is needed to fine-tune specific, implementable policy interventions to counter the inherent inefficiency and weakness of the public sector. Broadly, the guiding principle behind these interventions should be to incentivize and facilitate the private sector. We suggest this policy design-focused research be undertaken in collaboration with the industry.

An interesting aspect that emerged from our case studies concerned the very divergent characteristics and trajectories of two geographically proximate clusters. It would be interesting to identify the factors that have led to the clusters operating in apparent isolation without the expected spillovers that the literature on industry and economic geography predicts.

The study could also be easily expanded in scale and scope to additional sectors so that a more comprehensive picture of firm constraints is established, particularly for industries or clusters categorized as "sunrise" sectors with potential that is not being fully exploited.

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The Need for a Coordinated Industrial Strategy to Boost Pakistani Exports: Lessons from Asia

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Abstract

This paper focuses on a group of Asian countries that have successfully increased exports and found a common industrial strategy. Several key factors emerge from this study. First, countries that have managed to increase their exports focused on doing so in sectors in which they had expertise while slowly developing new export sectors at the same time. Second, high-growth Asian economies have developed their export sectors by making a significant move up the quality ladder and, in particular, moving away from low value-added to higher value-added exports. Third, there is no single economic policy that has worked across Asia; rather, successful exporters have used two or three policies in tandem to boost exports. Fourth, industrial policy has been coordinated with education and training policies to develop both the entrepreneurs and the workforce needed to produce high value-added exports. Finally, the only consistent factor that has an impact on high value-added export growth is domestic credit to the private sector. These results point to the urgent need for a coherent industrial strategy to boost Pakistan's exports (preferably before future trade agreements are signed, which could otherwise damage potential export sectors).

Keywords: Pakistan, East Asia, industrial policy, quality ladder.

JEL classification: F10, L50.

1. Introduction

There is little question that Pakistan is in the midst of a severe macroeconomic crisis, with the most immediate problem being a significant balance-of-payments constraint. Most analysts agree that the most sustainable way of resolving this problem would be to promote exports. Behind this simple statement, however, lie many complex questions.

Underlying our analysis of Asian countries that have successfully increased their exports is a series of interesting phenomena. First, such

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countries have followed a two-tier strategy: (i) increasing exports in those sectors where they already have expertise (textiles or electronics being obvious examples) and (ii) at the same time, slowly developing new export sectors while recognizing that it may take years (and sometimes decades) for these sectors to develop. Second, an analysis of export product varieties reveals an important common thread: Countries that have successfully increased their exports have not significantly expanded their product varieties. This means that these sectors have developed by making significant moves up the quality ladder and, in particular, by moving away from low value-added to higher value-added exports; in many cases, the same businesses have moved up the quality ladder. Third, there is no single economic policy that has worked across Asia; rather, successful exporters have used two or three policies in tandem to boost exports. So, there is no one-size-fits-all solution (contrary to what many analysts say about using exchange rate policies to boost exports). Finally, in a simple empirical analysis of which factors affect countries moving up the quality ladder in terms of higher value-added exports, the only consistent factor that has an impact is domestic credit to the private sector (and not the more commonly cited factors such as the exchange rate, the interest rate, and foreign direct investment [FDI]). What one can conclude from this analysis is that economic policies that promote exports are not related to exchange rate management or macroeconomic stabilization but rather to industrial policy. In other words, only a strong industrial policy can lead to export-led growth.

The structure of this paper is as follows: Section 2 looks at some of the existing literature on export diversification. In Section 3, we develop a simple methodology for examining how countries have transitioned from low value-added exports to a wider range of higher value-added exports. We then use this methodology to determine the historical pattern of export diversification in Asia. Section 4 reviews the specific policies followed by the Asian economies to boost exports. In Section 5, we discuss how these countries have chosen "winning sectors" and not "winners." Section 6 presents the results of a simple empirical analysis that looks at the factors that are correlated with moving from low value-added to high value-added exports. Section 7 presents our conclusions.

2. A Literature Review: Lessons From Other Asian Economies

Export diversification has recently been at the center of the debate on how developing countries can improve their economic performance through trade. Broadly, the literature categorizes this discussion in terms

of (i) how export diversification affects economic growth and (ii) the factors leading to export diversification. Ferdous (2011) focuses on the latter. Using the commonly employed Herfindahl index,[1] she shows that East Asian exports became significantly diversified during the 1980s and 1990s. The main factors responsible for this were low tariff rates, exchange rate depreciation, and high trade intensity within the region. By the 2000s, most East Asian economies were specializing in the SITC 7+ category (transport equipment and machinery).

Kim (2012) and Yoo (2008) both explain the structure of export diversification in the Republic of Korea. They show that, in the 1960s, Korean exports comprised mainly SITC 6+8 category goods—products such as low-value manufacturing items (textiles, yarn, and other clothing accessories). In the 1980s, there was a significant shift toward the SITC 5+7 categories, which resulted in more value-added and diversified exports. These categories included transport equipment, office machinery, data processing equipment, and electrical machinery, etc. During this time, the Korean government adopted a range of policies such as duty-free imported raw materials, exchange rate devaluation, and other export promotion schemes, which, according to Mah (2010), also included "tax and financial incentives." As Kim (2012) points out, the country's top ten sources of export earnings changed from SITC 6+8 to SITC 5+7 over time.

Bebczuk and Berrettoni's (2006) empirical analysis of the export diversification path followed by a sample of Latin American and European countries shows that the Herfindahl index of export diversification initially decreased over the 1960s–1990s. They also find that countries with a higher ratio of manufactured exports to total exports are more likely to achieve product diversification in the future. Similarly, an economy with a higher ratio of agricultural exports to total exports will have less room for export diversification. The reason that Latin America and Europe (the latter having achieved export diversification earlier) were able to diversify their export portfolios is that their ratio of manufactured exports to total exports increased over time.

Amiti and Freund (2010) examine the "anatomy" of export growth in China. Their results show that China's export base increased by 500 percent within a span of 13 years (from 1992 to 2005). This pattern is not very different from that of other East Asian economies: a major shift in export product categories from SITC 0+6+8 to SITC 7. The authors also distinguish

[1] Where a value closer to 0 indicates more diversification and less specialization.

between the extensive and intensive margins of export growth. The extensive margin reflects diversification in different types of product categories and exporting them across different regions of the world; the intensive margin explains diversification (or more types of products) *within the same* product category and more exports to the *same destinations* as before. The literature shows that economic growth is more strongly linked to the extensive margin of export growth: Amiti and Freund present evidence that China experienced growth through the extensive margin and was, therefore, able to improve its economic performance as well.

Agosin, Alvarez, & Bravo-Ortega (2009) argue that factors such as higher levels of schooling and human capital, higher domestic credit as a percentage of GDP, and the absence of an "overvalued" exchange rate account for export diversification in many countries. Hobday (1996) uses Malaysia as a case study to explain how the process of innovation was initiated in East Asia and how this eventually led to a diversified export structure. Malaysian engineers who interacted with transnational companies such as Sony benefited from knowledge and technological spillovers. As employees learned more about the production of a particular high value-added product, they began to establish their own businesses or spinoffs, which then acted as raw material suppliers. The Malaysian government revamped university curricula to help engineers and other graduates learn to use modern technologies. It also attracted the Malaysian diaspora living and working abroad by offering them lucrative financial contracts. Such policies gave the country a competitive advantage and facilitated the production of higher value-added and more sophisticated products, which ultimately became its export base.

Some important lessons emerge from the discussion above. First, export-led growth in Asia has followed the extensive margin approach: instead of increasing exports in one particular category targeted at a small number of destinations, successful Asian economies have diversified their export base as well as destinations. Second, manufacturing exports matter more than agriculture-based exports for growth. So, while high-growth Asian economies have exported (and continue to export) agriculture-based goods, their long-term industrial strategies focused on manufactured exports. Third, these economies have relied intensively on technology spillovers from foreign manufacturers who had begun to produce within the country. As foreign companies set up manufacturing units in these countries, local engineers learned how to apply the technologies and production techniques being used and set up their own businesses producing these goods. This strategy was combined with

focused university curricula and incentives for highly skilled overseas-trained nationals to return home. This, in turn, created an environment conducive to foreign investment in these economies as well as a skilled group of individuals starting spinoff enterprises.

3. How Successful Asian Economies Have Boosted Exports

This section looks at the experience of Asian countries in increasing exports. What is obvious is that almost all the growth in this sample of economies has been export-led. What is not clear is how this occurred at a micro-level. In increasing exports, did the Asian economies just produce more of their existing low value-added products? Did they just start producing a larger variety of products across the quality scale? Or did they immediately recognize that they had to start replacing low value-added product varieties with higher value-added ones? Additionally, as they developed, did they try to "jump" to higher value-added exports in new sectors or did they start expanding relatively new sectors with low value-added products at first? Finally, moving up the quality ladder, did firms start switching sectors at the expense of those already established?

Figure 1 traces the phases of export development for a sample of Asian countries. We have formulated a timeline that begins from 1965 and ends in 2010 and is divided into five phases. In the first two phases, economies gain export earnings mainly from low-value items such as agricultural products, tobacco and beverages, and other manufactured items such as textiles and furniture. In phase 3, economies *take off* to high value-added items such as chemicals, machinery, and transport equipment. In phase 4, they continue to expand production in both types (low-value items as well as more advanced product categories). In phase 5, economies produce more high value-added items at the expense of the basic export items with which they had begun international trade in the first phase.

Figure 1: Phases of export development for a sample of Asian economies

Indonesia	1					3		4
China	1				2	3	4	
Singapore	1			3	4			
Pakistan	1			2				3
Malaysia	1		2	3	4			
Rep. of Korea	1			3	4			
India	1			2			3	4
Thailand	1			2	3	4		
	1965	1975	1985	1990	1995	2000	2005	2010

As the figure shows, most countries transitioned from the takeoff phase to the high value-added phase relatively quickly—unlike Pakistan, which is still stuck in the take-off phase of export development. More importantly, this shows that, since Pakistan is finally entering the early part of phase 3, it needs both (i) a coherent industrial policy that will induce significant investment in the higher value-added product categories in its existing exports (such as textiles) and (ii) a strategy for developing other sectors in which the country can start expanding exports. The lack of such an industrial policy is one of the glaring policy gaps in Pakistan today.

The second part of our analysis looks at how export categories and product varieties in each category have grown over time in a cross-section of Asian countries. The reason for this is simple. One idea is that export-led growth in a sector such as textiles means that a country starts by producing low value-added goods and then expands into higher value-added goods while, at the same time, retaining its low value-added exports. Another idea is that countries are either pushed out of producing low value-added goods (as costs increase) or that firms may decide to transition from low value-added to higher value-added as they grow (or some combination of both these ideas).

The figures in Appendix 1 give a cross-country breakdown of the number of product types in each export category as well as the value of exports in each category over time. This is done to show how product varieties and values have changed in each country over time. What is clear is that, after the initial export-led expansion, the number of product types in each category has stayed the same over time while the value of exports in each category has expanded significantly (which occurs as countries enter phase 3 of their export-led growth).

This is important for two reasons. First, it means that exports increased in each category primarily by moving up the value chain (the textiles sector, for instance, moved from the production of cloth to towels to garments to higher value-added garments). Second, unless one believes in a large-scale model of Schumpeter's creative destruction (which is not supported by the cross-country evidence), then manufacturers themselves have generally moved up the quality ladder in terms of what they are producing. In other words, export-led growth has to come from existing manufactures moving up the quality ladder. Merely producing larger quantities of the same type of export commodity (as Pakistan has been doing for many decades) simply does not work as a long-term growth strategy.

A second observation concerns the growth in export categories and the types of products produced in each: Did countries that started with producing cloth then start producing large volumes of sophisticated electronics immediately? What the figures show is that successful countries initially increased their value-added in existing export categories and then started at the lower end of the quality scale in new products. Eventually, they began producing higher-quality exports in *these* categories, but without technology jumping. If one produces textiles and wants to start producing electronics, then one must start from the bottom of the scale in terms of electronics (no matter what the quality of textiles one exports) and moves one's way up.

This is important for a country such as Pakistan. Expertise in producing higher-value exports does not translate into expertise in producing higher value-added goods in other categories. Rather, any industrial policy that is developed will need to focus on producing simple low value-added goods in other categories for some time as expertise and skills in these areas develop.

Finally, these countries have, historically, retained production in sectors of comparative expertise. If they have exported textiles or electronics or agriculture-based commodities, they have continued to expand exports in those sectors while, at the same time, expanding exports in other sectors. The idea of reducing dependence on one sector (in the case of Pakistan's textiles sector) is not realistic. Reduced dependence is only observed in terms of other export categories catching up in the long term, but not by switching emphasis to preexisting export categories. Simply put, countries stick with what they are good at over time while developing expertise in other sectors in tandem.

4. Choosing "Winning Sectors," not "Winners"

The growth policies followed by our sample of Asian countries have all been based on developing a strong industrial policy. What makes the model interesting is that these countries have chosen "winners" in terms of "winning export sectors." Thus, Singapore chose to base its export-led growth in the electronics sector while China chose textiles and electronics (among others). While some countries may have chosen to focus incentives on a particular company or companies to lead their export promoting industrial strategy, some chose particular sectors and let competition determine the individual winners.

Having determined their winning sectors, these countries then followed a long-term industrial policy in which the sectors started out as small exporters (producing low levels of value-added exports) and eventually expanded in terms of the number of products produced as well as value addition. Finally, these countries pursued trade policies that supported their chosen sectors by (i) incentivizing capital investment (through cheap credit and tariff policies that promoted capital imports), (ii) creating incentives for foreign multinationals to establish production sites locally (which aided in technology transfer), and (iii) pursuing trade policies that gave these sectors the space to develop.

These lessons are key for Pakistan: its lack of a coherent industrial policy has led to a relatively stagnant textiles sector and a set of policies that, instead of promoting new export categories (such as light engineering or machinery), have encouraged the influx of cheap foreign goods. This, in turn, is leading to the deterioration of sectors in which Pakistan has developed core competencies. It also means that free trade agreements (FTAs) with countries such as China and India may lead to a greater variety of goods becoming available at reasonable prices (potentially spurring technological upgrades because of increased competition), but could also limit the number of sectors on which Pakistan can focus for export expansion. In other words, FTAs in the absence of a coherent industrial policy could, potentially, trap Pakistan in a cycle of low value-added textile exports.

5. Specific Industrial Policies in the Asian Context

In this section, we look at a series of industrial policies pursued by Asian economies to boost exports. These range from exchange rate policies to tariff policies, the establishment of free trade zones (FTZs) and export zones, export insurance and credit policies, to policies attracting multinational enterprises (MNEs) and FDI. This menu of macroeconomic and industrial policies open to governments to promote exports is outlined in Appendices 2 and 3.

A few things stand out: First, there is no one policy that each country has adopted to boost exports; rather, each has adopted multiple policies simultaneously. China has relied heavily on FTZs and FTAs, the Republic of Korea and Indonesia have relied on export insurance and credit, and Singapore has focused on attracting FDI and MNEs to boost technological spillovers. It is also important to note that these countries have signed FTAs only with those countries that have significant markets for their export

goods. So, as is the case with the China-Pakistan FTA, the prime beneficiary may potentially be Chinese exporters and not Pakistani exporters.

Second, there has been heavy emphasis on two major components of an export promotion strategy: the establishment of FTZs as well as export insurance, finance, and credit. Although Pakistan's experience with export credit has been mixed, very few effective incentives have been given to Pakistani exporters in terms of export insurance and particularly cheap financing. Third, Pakistan's strategy of developing industrial estates has not been followed extensively by other high-growth Asian economies.

A critical question in the context of export-boosting policies concerns exchange rates. Appendix 3 shows the various exchange rate policies followed by selected Asian economies over time and identifies phases 3 and 4, which represent periods of high-value export takeoff (see also Figure 1). In most cases, these economies have followed a system of either adjustable pegs or managed floats (within predetermined bands) as they were entering the takeoff period (phase 3 in Figure 1). Additionally, they have tended to pursue the same currency system throughout phase 3 and into phase 4 of their high-value export growth push.

What this discussion implies is that all the high-growth Asian economies chose a few industrial strategies and a managed exchange rate regime as they pushed toward high-value exports. For a country such as Pakistan that is just entering the stage of higher value-added exports, the message is simple: It is critical to develop (and effectively pursue) a few key aspects of an industrial strategy as well as developing a coherent exchange rate policy over time. This policy prescription is one that Pakistan has failed to follow.

6. An Empirical Analysis of the Transition from Low to High Value-Added Exports

Our empirical analysis examines factors that affect countries moving up the export ladder from low value-added exports to high value-added exports. In particular, we have looked at how (i) the exchange rate, (ii) the lending rate, (iii) the level of FDI, (iv) the level of domestic credit to the private sector, (v) the percentage of the population with tertiary training, and (vi) the level of imports have affected the transition from low value-added exports to high value-added exports. Appendix 4 describes the variables used in the analysis.

We perform two estimations. The first estimates a fixed-effects model in which the dependent variable represents high value-added exports as a proportion of total exports. The second estimates a logit model in which the dependent variable is the discrete variable we constructed in Section 3, showing the various phases of export development in our sample of Asian countries.

In the first set of results (see Appendix 5), we find that the only significant industrial policy variable determining the share of high value-added exports is the amount of credit given to the private sector. This supports the idea that a critical component of export-led growth is a coherent and consistently followed industrial policy. What is also interesting is that there is no significant relationship between the exchange rate and the movement from low- to high-quality exports. There is, however, a significant relationship between imports and movement up the quality ladder. So, while imports may be the villain of the piece in terms of short-run stabilization and growth, as countries move up the quality ladder there is a significant increase in imports.[2]

The experience of the Asian economies is that these imports are primarily capital imports that have helped them upgrade the quality of their exports, and not consumer imports. In the case of Pakistan, this raises two important points. First, there is a strong case for incentives (in the context of a coherent industrial policy) to promote the import of capital that can help the country technically upgrade its exports. Second, the FTAs signed by Pakistan with China may turn out to be a key strategic error if the ultimate objective is to diversify the export base by starting to produce low value-added export goods in other categories.

The second set of results (also presented in Appendix 5) is based on the stages of export growth discussed in Section 3. What we find is extremely interesting. First, the level of tertiary training has a significant impact on countries moving from low to high value-added exports (whereas the level of secondary education is not significant in our results). Second, the exchange rate is positively related to moving from low to high value-added exports. In light of the discussion in Section 5, this means that countries that have successfully pursued export-led growth have carefully used the exchange rate (either through a system of moving pegs or carefully managed floats) to boost exports. Third, credit

[2] In a separate set of estimations not shown in this paper, we find that most of the increase in imports is due to an increase in intermediate imports, which supports the argument that imports can complement an industrial strategy.

to the private sector and the interest rate are also very significant tools used by the Asian economies in moving from low to high value-added exports. Fourth, remittances are associated with export growth and imports tend to accompany an export-led growth strategy (though, as discussed above, these were primarily intermediate imports used in the manufacturing sector).

Again, these results have important implications for a country such as Pakistan that is slowly moving out of a low value-added export trap. First, there is an urgent need to coordinate vocational and technical training in Pakistan to support an industrial policy capable of generating high value-added exports. Second, this industrial policy has to make aggressive use of cheap and readily available credit to certain export-oriented (and potential high value-added export) sectors. Third, there has to be a coherent strategy that differentiates between the import of intermediate goods (which can be used in the manufacturing sector) and the wholesale import of all foreign goods (which could damage potential export sectors). This last point is extremely important as Pakistan is in the midst of pursuing FTAs without an industrial strategy that would help identify potential export sectors.

7. Conclusion

Unlike Pakistan, the Asian economies have pursued a set of coherent and consistent industrial policies to promote exports. Their strategy has been simple: a multi-tier set of policies that have helped core industries develop from low value-added to high value-added exporters while identifying secondary industries to develop over the medium term from simple exporters to high-quality exporters. These economies have not just let these sectors develop themselves; rather, they have identified "winning sectors" with the potential to start out slowly and expand into major export sectors. The strategies adopted have also been relatively simple: to provide cheap credit to these sectors while giving them incentive to improve their technology through imported capital or collaborations with foreign investors or MNEs. The economies in question also set tariffs at levels that allowed their chosen sectors to develop and, over time, relaxed these levels to allow competition.

In addition to these policies, the high-growth Asian economies have coordinated other policies with their long-term industrial strategies. So, universities were partnered with industrial sectors to develop a workforce that could not only work in the chosen industrial sectors but also learn from foreign technological advances to develop businesses of

their own. Incentives were put in place to tempt nationals who had trained abroad in the chosen sectors to return and set up their own enterprises. The overall industrial policy was, therefore, beyond a set of policies to promote industrial output and exports. Rather, it was a coordinated strategy that combined macroeconomic policies, educational policies, financial sector policies, and focused sector-specific incentives.

This shows the weaknesses inherent in Pakistan's present policies. There is no coherent long-term industrial strategy that looks at how to move from low to high value-added textile exports. At the same time, there is no set of policies that identifies sectors in which Pakistanis could start developing basic exports and expanding these to high value-added exports over time. Interestingly, the country's strategy over the last few decades has been precisely the opposite: to let the textiles sector continue producing low value-added exports, have no coherent policies to provide cheap credit or improve technology, and sign FTAs with other economies that might have the effect of destroying other potential export sectors.

Simply put, what is *not* needed is a growth strategy or export strategy, but rather a medium- to long-term industrial strategy that (i) identifies winning sectors, (ii) provides them with incentives, (iii) builds capacity through education and training toward specific sectors,[3] (iv) identifies Pakistanis with technical expertise abroad and creates incentives for them to return and expand certain sectors, (v) moves away from the idea of signing broad-ranging FTAs toward focused agreements that could lead to foreign technology transfer, and (vi) focuses on credit policies to promote technology upgrading in a few key sectors.

[3] A good starting point would be to focus Higher Education Commission scholarships, funding for Pakistani research, and technical and vocational training toward the pre-identified sectors.

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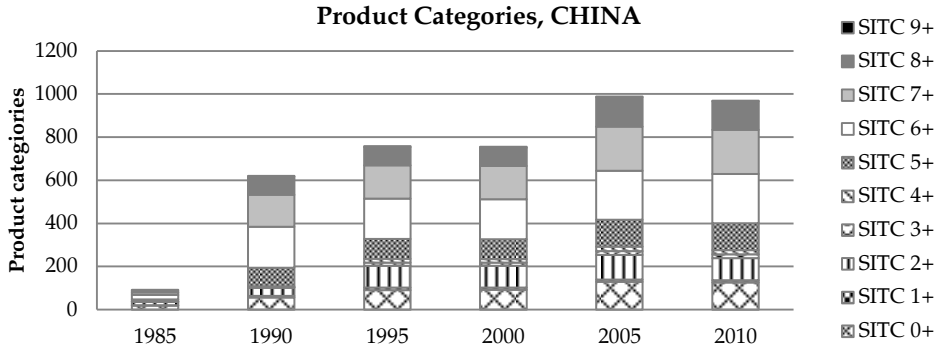
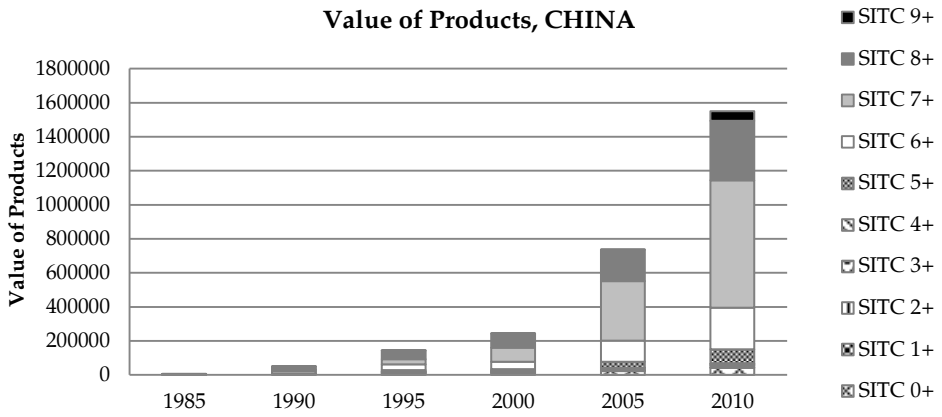
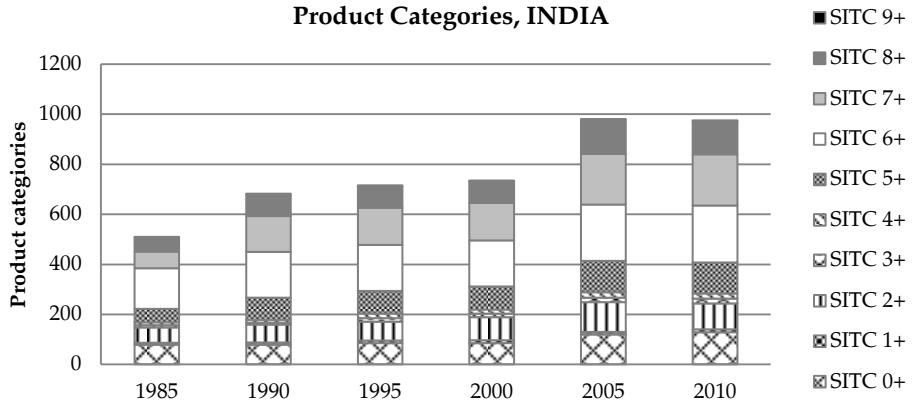
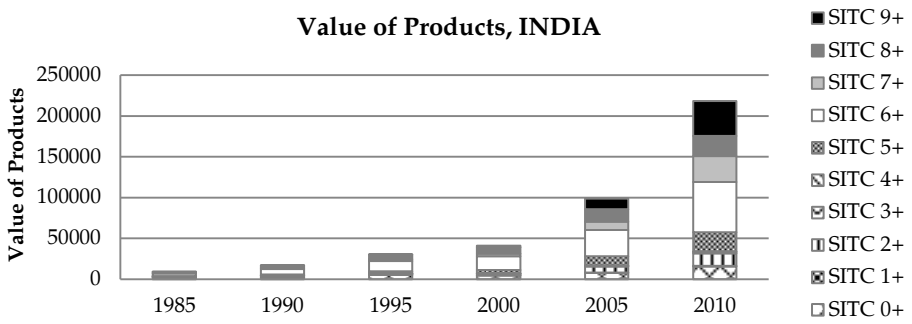
Appendix 1

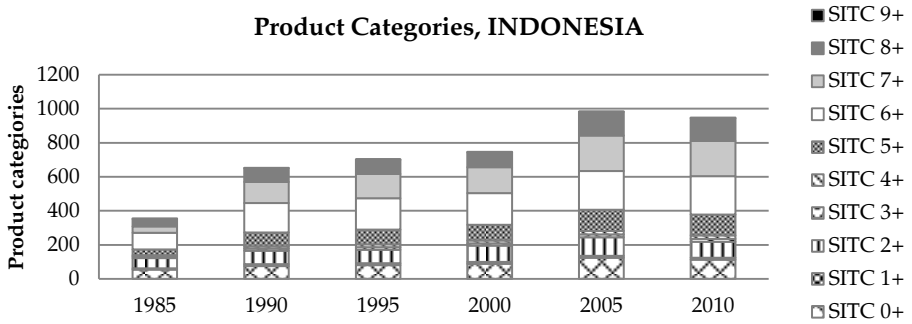
Asian exports by product category and value added








Value of Products, INDIA
Value of Products
250000
200000
150000
100000
50000
0
1985
1990
1995
2000
2005
2010
SITC 9+
SITC 8+
SITC 7+
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+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1000
800
600
400
200
0
1985
1990
1995
2000
2005
2010
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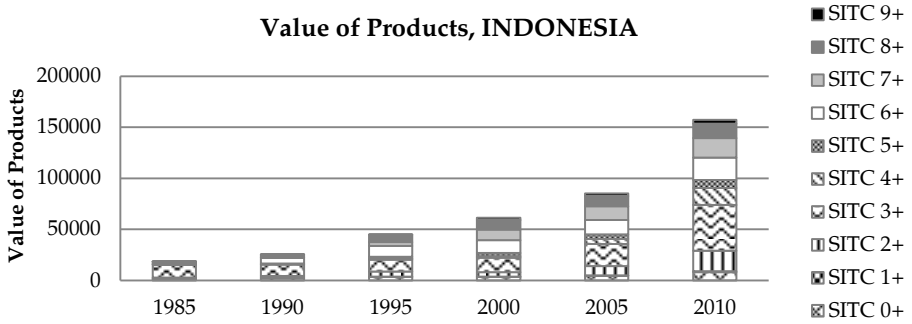
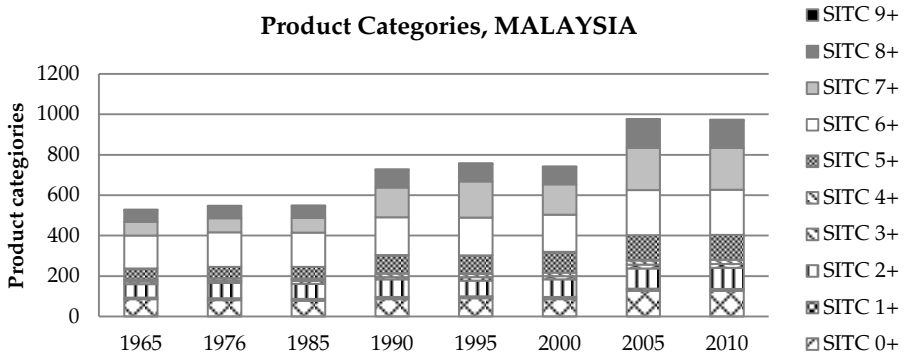
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+


Value of Products, INDONESIA
Value of Products
200000
150000
100000
50000
0
1985
1990
1995
2000
2005
2010
SITC 9+
SITC 8+
SITC 7+
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+


Product Categories, MALAYSIA
Product categiories
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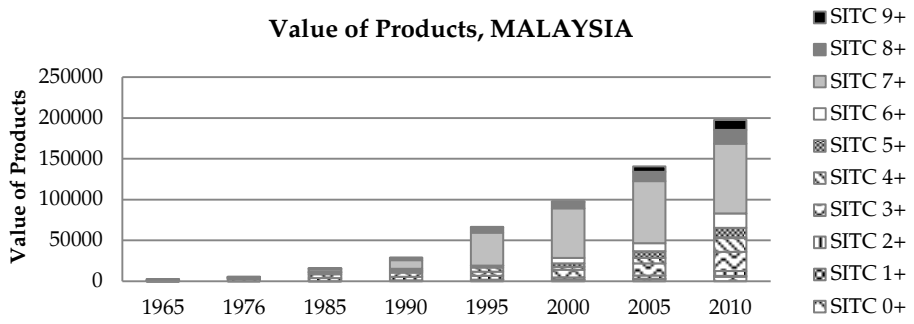
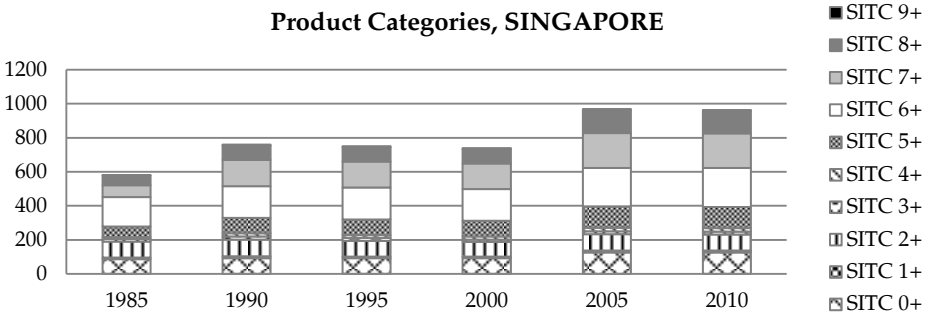
1000
800
600
400
200
0
1965
1976
1985
1990
1995
2000
2005
2010
SITC 9+
SITC 8+
SITC 7+
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+


Value of Products, MALAYSIA
Value of Products
250000
200000
150000
100000
50000
0
1965
1976
1985
1990
1995
2000
2005
2010
SITC 9+
SITC 8+
SITC 7+
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+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1000
800
600
400
200
0
1985
1990
1995
2000
2005
2010
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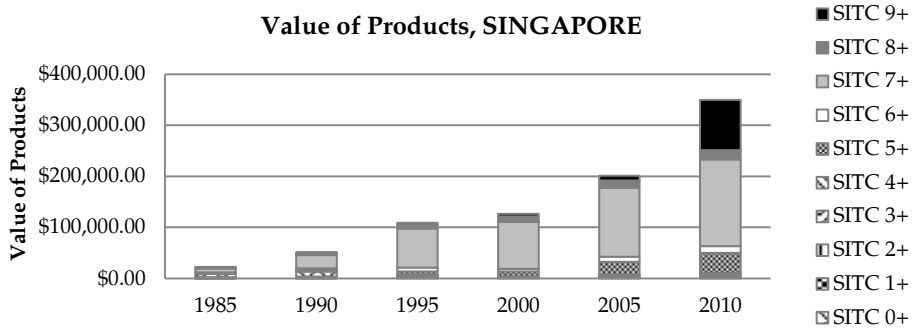
SITC 8+
SITC 7+
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+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$300,000.00
$200,000.00
$100,000.00
$0.00
1985
1990
1995
2000
2005
2010
SITC 9+
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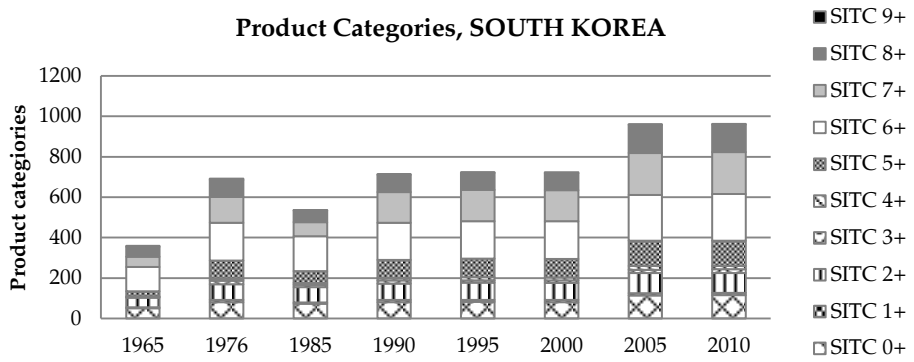
SITC 7+
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+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Product categiories
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1000
800
600
400
200
0
1965
1976
1985
1990
1995
2000
2005
2010
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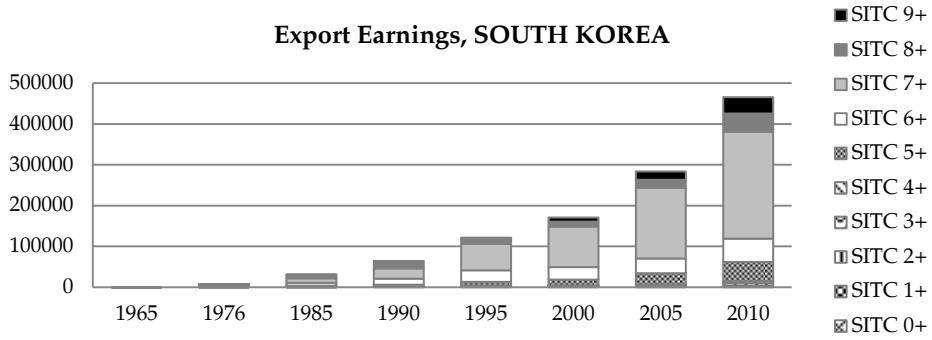
SITC 8+
SITC 7+
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+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300000
200000
100000
0
1965
1976
1985
1990
1995
2000
2005
2010
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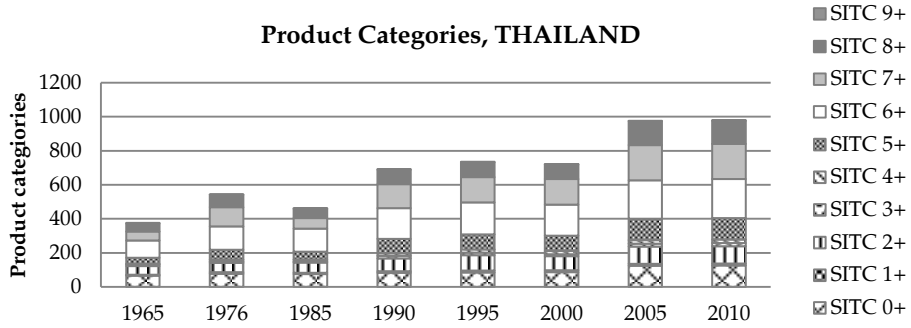
SITC 8+
SITC 7+
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+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400
200
0
1965
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1985
1990
1995
2000
2005
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SITC 3+
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SITC 1+
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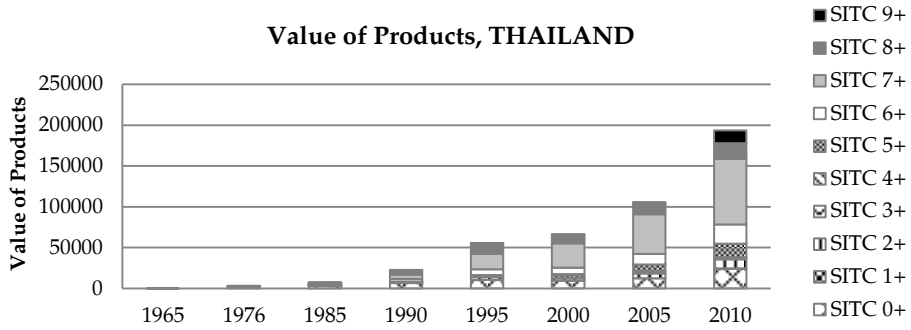
Value of Products, THAILAND
Value of Products
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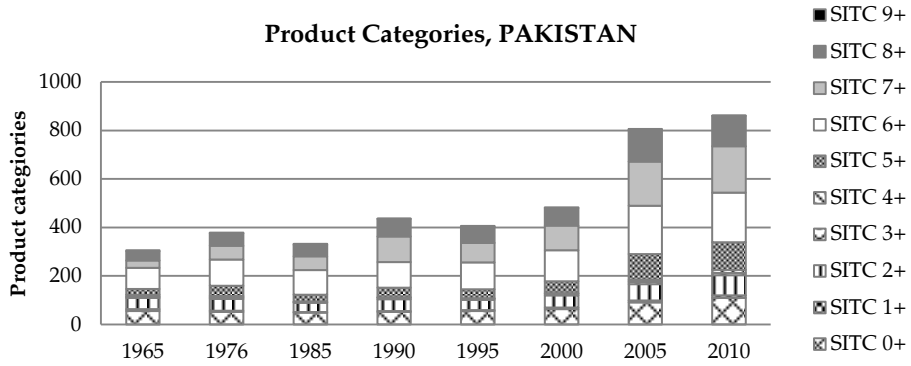
200000
150000
100000
50000
0
1965
1976
1985
1990
1995
2000
2005
2010
SITC 9+
SITC 8+
SITC 7+
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+


Product Categories, PAKISTAN
Product categiories
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600
400
200
0
1965
1976
1985
1990
1995
2000
2005
2010
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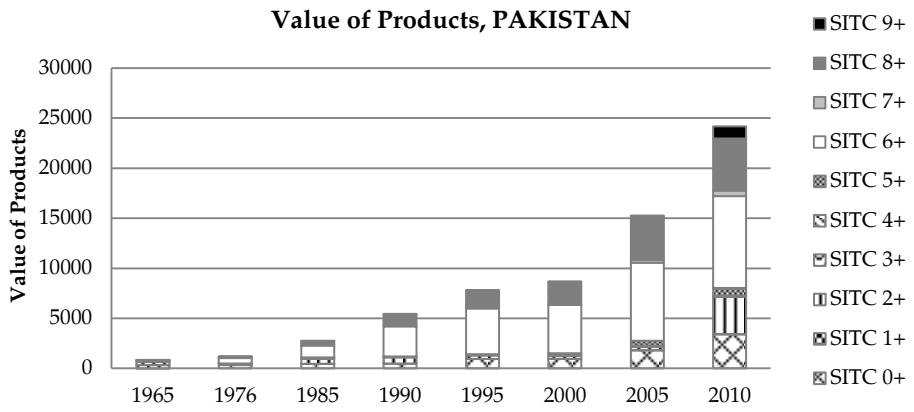
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+


Value of Products, PAKISTAN
Value of Products
30000
25000
20000
15000
10000
5000
0
1965
1976
1985
1990
1995
2000
2005
2010
SITC 9+
SITC 8+
SITC 7+
SITC 6+
SITC 5+
SITC 4+
SITC 3+
SITC 2+
SITC 1+
SITC 0+

Appendix 2

Components of Asian industrial strategy/export policy

	Tariff reduction	FTA/FTZ	EPZ	Industrial estates	Export insurance, finance, credits	FDI, MNEs, TNCs	Other
China							
1985–1990			X		X		X
1990–1995		X				X	X
1995–2000	X	X	X				
2000–2005		X					X
2005–2010	X	X					
Republic of Korea							
1965–1970				X	X		
1970–1975		X			X	X	
1975–1980					X		
1980–1985					X		
1985–1990							
1990–1995					X	X	X
1995–2000	X				X		
2000–2005	X	X					X
2005–2010		X					X
Indonesia							
1985–1990	X				X	X	X
1990–1995	X	X			X	X	X
1995–2000	X						
2000–2005	X					X	X
2005–2010	X	X	X				
Malaysia							
1965–1970							
1970–1975			X		X	X	X
1975–1980					X	X	
1980–1985						X	
1985–1990					X		
1990–1995		X					X
1995–2000	X				X		
2000–2005		X					
2005–2010	X	X					X
Thailand							
1965–1970							
1970–1975	X			X			
1975–1980							

	Tariff reduction	FTA/FTZ	EPZ	Industrial estates	Export insurance, finance, credits	FDI, MNEs, TNCs	Other
1980–1985						X	
1985–1990							
1990–1995		X					
1995–2000						X	X
2000–2005	X	X			X		
2005–2010	X	X			X		
Singapore							
1985–1990	X					X	
1990–1995	X	X				X	
1995–2000	X					X	
2000–2005	X	X				X	
2005–2010	X	X				X	X
India							
1985–1990			X				
1990–1995	X	X			X	X	
1995–2000	X						
2000–2005	X	X					
2005–2010	X		X				
Pakistan							
1965–1970							X
1970–1975							X
1975–1980							
1980–1985							X
1985–1990							X
1990–1995	X					X	
1995–2000							
2000–2005	X				X	X	
2005–2010	X	X				X	

EPZ = export processing zone, FDI = foreign direct investment, FTA = free trade agreement, FTZ = free trade zone, MNE = multinational enterprise, TNC = transnational company.

Appendix 3

Asian exchange rate policies over time (matched with phases 3 and 4 of high-value export expansion):

	China
1985–1990	Controlled float, mainly pegged to US$ (steep devaluation: 21.2%). Foreign exchange swap market.
1990–1995	Devalued by 9.6% (uniform swap rate or retention rate set).
1995–2000	Adjustable peg (swap rate abolished).
Phase 3	
2000–2005	Crawling peg.
Phase 4	
2005–2010	Crawling peg moving toward floating exchange rate.
Phase 4	
	Republic of Korea
1965–1970	A "unitary floating system" was established at a basic rate of W255.00/US$.
1970–1975	The won was cut from W327.40/328.90 to W370.00/371.60 per US$.
1975–1980	The support fund rate for the purchase of finished export goods for storage was lowered from W400 to W380 per US$, and the rate for purchasing raw materials for exports was decreased from W450 to W430 per US$ (IMF, 1979, p. 250).
1980–1985	Devaluation: W484.00 to W580.00 per US$. The won's fixed link to the US$ was abandoned and a controlled, floating effective rate was established. The exchange value of the effective rate was linked to the SDR in combination with a basket of the currencies of Korea's major trading partners.
1985–1990 **Phase 3**	The effective rate was replaced by a market average rate (MAR), which was to be determined in the interbank market, based on a weighted average of rates for won/US$ spot transactions of the previous day and was to float freely within margins of plus and minus 0.4% against the MAR. The won-US$ exchange rate in the interbank market was allowed to fluctuate within fixed margins of plus and minus 1.5% against the MAR of the previous day.
1990–1995 **Phase 4**	The won-US$ exchange rate in the interbank market was allowed to fluctuate within fixed margins of plus and minus 2.25% against the MAR of the previous day.
1995–2000 **Phase 4**	The won exchange rate was allowed to float freely, determined on the basis of supply and demand.
2000–2005 **Phase 4**	Free float.
2005–2010 **Phase 4**	Korea was characterized as an independent floater.

	Indonesia
1985–1990	Managed floater (mainly pegged to US$). The effective rate for the rupiah (Rp) was devalued by 31% in terms of the US$. It was changed from Rp1,134 to Rp1,664 per US$.
	An export tax was implemented ranging from 5% to 30%.
	The exchange rate system was revised. The effective rate, based on a managed float, would apply only to certain transactions undertaken at certain times of the day. An interbank free rate, which was determined between banks, would govern all other transactions.
1990–1995	Managed float.
Phase 3	Bank Indonesia announced daily buying and selling rates that were computed on the basis of a basket of weighted currencies with a spread of plus or minus Rp15.
	Bank Indonesia announced buying and selling rates computed on the basis of a basket of weighted currencies with a spread of plus or minus Rp22.
1995–2000	Bank Indonesia, within a managed float system, determined the exchange
Phase 3	rate. The system was based on a ”conversion rate band“ announced daily (for official transactions with foreign exchange banks, the government, and supranational institutions) and an ”intervention band“ (consisting of buying and selling rates that were computed on the basis of a basket of currencies). The spread of the intervention band was increased to Rp118 (5%) from Rp66.
	The spread of the intervention band was increased to Rp192, approximately 8%, and then from 8 to 12%.
	The managed floating exchange regime was replaced by a free-floating exchange rate arrangement.
	A foreign exchange subsidy for food was introduced, which led to the reclassification of the exchange rate system from unitary to dual.
2000–2005	Free floating of rupiah (softly pegged to US$).
Phase 3	
2005–2010	Recognized as a managed floater with no predetermined path for the
Phase 4	exchange rate (basic policy goal: inflation targeting).

	Malaysia
1965–1970	The old pound sterling (GBP)-linked Malayan/Straits dollar was replaced by separate dollar currencies for Malaysia (M$), Singapore, and Brunei. All three were freely interchangeable.
1970–1975	The M$ was linked to the GBP at a fixed rate of M$7.3469 per GBP. A new official rate was established at a rate of M$2.81955 per US$. With the floating of the GBP and dismantling of the Sterling Area on 23 June 1972, Malaysia broke the M$'s ties to the British unit and linked the currency to the US$ with a fluctuation range for the effective rate (between M$2.7561 and M$2.8830 per US$). Following the US$ devaluation in February 1973, the official rate of the M$ was realigned to M$2.5376 per US$. The new fluctuation range for the effective range was defined as M$2.4805–M$2.5947 per US$. The Central Bank of Malaysia intervened in order to maintain relative stability in the value of the ringgit (RM) in relation to the basket of currencies (US, Japan, UK).
1975–1980	The controlled, floating effective rate for the ringgit was replaced; its external value was determined on the basis of its relationship with a weighted basket of currencies of Malaysia's major trading partners. Rates for all other currencies were determined on the basis of the ringgit-US$ rate and the US$ rates for those currencies in markets abroad.
1980–1985	The recorded average exchange rate for every US$ was RM2.63 during 1986–90, RM2.60 for 1991–95, or RM2.61 for 1986–95.
1985–1990 **Phase 3**	Following the IMF classification, Malaysia was considered pegged to a composite basket of currencies.
1990–1995 **Phase 4**	Peg continued (stable exchange rate).
1995–2000 **Phase 4**	The exchange rate was no longer determined by demand and supply following the crisis. The central bank announced that the exchange rate of the RM would be pegged against the US$ at RM3.80 = US$1.
2000–2005 **Phase 4**	RM3.8 = US$1 till 2003. Although the exchange rate of the RM exhibited high correlation with the currencies of major trading partners, it was not completely fixed to specific currencies.
2005–2010 **Phase 4**	Recognized as a managed floater with no predetermined path for the exchange rate and no specific nominal anchor.

	Thailand
1965–1970	The original floating exchange rate regime was abolished. Thailand adopted a fixed exchange rate regime linked to the US$ at a peg rate of B20.08 per US$.
1970–1975	The devaluation of the US$ led to the baht's devaluation. The central bank introduced a 4.5% fluctuation range, which allowed the exchange rate to float within a limited range, revalued to B20.00 per US$.
1975–1980	The baht's link to the US$ was broken and an effective rate was established. The external value of the baht was determined on the basis of a weighted basket of currencies of Thailand's major trading partners, including the US$, West German mark, Swiss franc, and Japanese yen. The baht was upgraded to B20.175/20.225 per US$. The effective rate was controlled on a floating basis. The controlled floating rate was later devalued to B20.39/US$. Devaluation continued to B20.45/US$.
1980–1985	Devaluation continued to B20.63/US$. The soaring US$ increased the cost of imports while depressing the receipts of exports. Therefore, Thailand downgraded the baht by 1.08% to B21.00 per US$. The baht was devalued by 8.7% to B23.00 per US$. The baht underwent its biggest change in the currency's history: from B23.00 to B27.15 per US$ (devaluation of 14.8%). The Exchange Equalization Fund announced that the basket of currencies would be revised to include the US$, Japanese yen, West German mark, GBP, Malaysian ringgit, Hong Kong dollar, and Singapore dollar.
1985–1990	Baht revalued to B26.13/US$. Following a series of interventions by the central bank, the baht depreciated 2% from B26.19 to B26.69 per US$ in an attempt to assist exports and stop capital outflow. A "managed float" was used to control the currency. Following the IMF classification, Thailand was considered pegged to a composite basket of currencies (25.69/US$).
1990–1995 **Phase 3**	The Exchange Equalization Fund announced that the basket of currencies would be increased from 7 to 10 currencies. The additional currencies included the Brunei dollar, Indonesian rupiah, and Philippine peso. The exchange rate fluctuated between B25.255/US$ to B25.09/US$.
1995–2000 **Phase 4**	The exchange rate was devalued marginally to B25.19/US$. In 1997, the baht exchange rate was determined on the basis of supply and demand in the foreign exchange market and allowed to float freely (independently floating). The authorities introduced a two-tier currency market created to separate exchange rates for investors who had bought baht in domestic versus overseas markets (which was later unified).
2000–2005 **Phase 4**	Independent floating exchange rates.
2005–2010 **Phase 4**	Recognized as a managed floater with no predetermined path for the exchange rate with inflation target as nominal anchor.

	Singapore
1985–1990 **Phase 3**	The Singapore dollar (S$) was permitted to float according to supply and demand on the foreign exchange market, but would be monitored by the monetary authority against a trade-weighted basket of currencies.
1990–1995 **Phase 4**	
1995–2000 **Phase 4**	The authorities used the exchange rate as an intermediate target, allowing the S$ to fluctuate within an undisclosed band. They widened this target during the Asian crisis but did not publicly announce the width of the band.
2000–2005 **Phase 4**	
2005–2010 **Phase 4**	Recognized as a managed floater with no predetermined path for the exchange rate. The S$ is managed against a basket of currencies of major trading partners (also known as the S$ nominal effective exchange rate or S$NEER).
	India
1985–1990	The Indian rupee (INR) was linked to a basket of currencies with the GBP and US$ assigned the most weight. The Reserve Bank of India (RBI) announced it would henceforth purchase the GBP at a revised notional rate of £1 = INR14, and the US$ at US$1= INR 13 under the Foreign Currency Nonresident Accounts (FCNR) Scheme. A revised notional rate of £1 = INR15 was introduced and later devalued to £1 = INR16. The RBI began to announce, on a daily basis, its buying and selling rates for the currencies of the member countries of the Asian Clearing Union. It was announced that the Reserve Bank would henceforth purchase GBP under the FCNR Scheme at the revised notional rule of £1 = INR17 and the US$ at US$1 = INR12 (later revised to US$1 = INR13.12). By December 1989, ER ➔ US$1 = INR17.035.
1990–1995	The INR was devalued by 9.29% and then by 11.3%. New exchange rate ➔ US$1 = INR25.95. In 1992, a dual rate system was created. The effective rate would govern only certain import payments, 40% of export and invisibles' receipts, and official grants and IMF transactions. All other dealings would come under an interbank free rate determined by supply and demand in the interbank market. In 1993, the rate system was unified at the interbank free rate and the INR was fully convertible. All foreign exchange transactions would be conducted by authorized dealers at market-determined rates. Authorized dealers would not be required to transfer to the RBI any portion of foreign exchange that was surrendered to them by exporters of goods and services. The rate listed since was the interbank free rate. Shift toward market-determined ER. INR depreciated to US$1 = INR31.37.
1995–2000	Further depreciated to INR35.18.
2000–2005 **Phase 3**	INR determined by demand and supply, averaging between INR44 and 48/US$. In line with the exchange rate policy, the INR moved in line with economic fundamentals in the post-reform period (mid-1990s).

2005–2010 **Phase 4**	Recognized as a managed floater with no predetermined path for the exchange rate and no specific nominal anchor (averaged between INR40 and 45/US$).

	Pakistan
1965–1970	The Pakistan rupee (Pre) was pegged to the US$ at US$1 = PRs4.76 (analysts thought the rupee was overvalued).
1970–1975	The exchange rate was maintained at US$1 = PRs 4.76 till 1971. In 1972, the PRe was devalued by 56.7% in terms of gold to a new, unified official rate of PRs11.00 per US$. A 4.5% fluctuation range for the currency was also introduced. At the same time, the entire Export Bonus Voucher scheme with its complex of accessory rates was abolished. In February 1973, the US$ was devalued by 10%, which led to the subsequent revaluation of the PRe by 10% to PRs9.90 per US$. It remained fixed at this level until the decision to adopt a managed float in 1982.
1975–1980	
1980–1985	During the early 1980s, the real effective exchange rate appreciated substantially due to the appreciation of the US$ against major currencies and higher domestic inflation compared to trading partners. Keeping in view this sharp appreciation, Pakistan adopted a managed floating exchange rate system on 8 January 1982. A controlled, floating effective rate for the PRe, initially at PRs10.10 per US$, was established in relation to a trade-weighted basket of currencies. By 1984, the PRe had depreciated to PRs15.36/US$.
1985–1990	By 1989, it had depreciated to PRs21.42/US$.
1990–1995	Nominal devaluation continued in the 1990s, from PRs24.72/US$ to PRs34.28/US$ by 1995. With the transformation of the economy from a semi-closed to a more open or market-oriented economy at the beginning of the 1990s, the exchange rate was devalued far more in nominal terms, which was just offset by the higher level of inflation in Pakistan compared to its trading partners.
1995–2000	The State Bank of Pakistan (SBP) introduced a numbers of measures, including the implementation of a two-tier exchange rate system in July 1998 to steer the economy away from crisis. The exchange rate arrangement was reclassified from ”other conventional fixed peg arrangement“ to ”managed floating with no preannounced path for the exchange rate.” The exchange rate was determined in the interbank foreign exchange market as a weighted average of a free interbank rate and the official exchange rate (December 1998). The weights of the floating interbank rate and official exchange rate in the composite exchange rate were changed to 95% and 5%, respectively. The multiple exchange system was unified (May 1999). The PRe was floated, only to be informally controlled by the SBP within a narrow range of PRs52.10–52.30 rupees to the US$. The PRe exchange rate was de facto pegged to the US$. The exchange rate arrangement was reclassified as a “conventional fixed pegged arrangement” from the category “managed floating with no preannounced path for the exchange rate“ (by June 1999).

2000–2005	In July 2000, the SBP moved to a floating exchange rate regime. Initially, the PRe/US$ parity witnessed a sharp nominal depreciation of 18.5% during FY2001, which showed a market correction of the cumulative overvaluation that took place in FY1999/2000. Under the new exchange rate regime, monetary instruments were used as a nominal anchor to curb the anticipated high volatility of the exchange rate. This, coupled with the buildup of forex reserves, led to stability in the nominal exchange rate after the sharp depreciation in FY2001. The SBP avoided an abrupt exchange rate appreciation in 2001–04 by purchasing US$8.2 billion in October 2001–March 2004 to preserve exports competitiveness.
2005–2010 **Phase 3**	Recognized as a managed floater with no predetermined path for the exchange rate. The PRe depreciated significantly during this period.

Appendix 4

Description of variables used in estimations

Variable	Description
Percentage of high value-added export categories	Exports in SITC (5+6+7+8) codes/total exports
Percentage of secondary schooling attained	Secondary schooling attained (not necessarily completed) over time among total population
Percentage of tertiary schooling attained	Tertiary schooling attained (not necessarily completed) over time among total population
Exchange rates	Exchange rate (period average)
Domestic credit to the private sector	Domestic credit to the private sector as percentage of GDP
Foreign direct investment	Foreign direct investment, net inflows (% of GDP)
Personal remittances	Personal remittances, received (% of GDP)
Lending interest rate	Lending interest rate (%) to private sector
Trade openness	Openness defined as (exports + imports/GDP) at constant prices
Imports	Total imports as % of GDP
Intermediate imports	Intermediate imports + capital imports/total imports

Appendix 5

Regression results

Table A5.1: Fixed-effects model of high-value export growth in a sample of Asian economies

Variable name	Coefficient	Standard error
Secondary level attainment in total population	0.0319782	0.1810342
Tertiary level attainment in total population	-0.9778628***	0.4181360
Exchange rate	0.0014843	0.0014999
Domestic credit to private sector as percentage of GDP	0.2273099**	0.1069705
Foreign direct investment, net inflows (% of GDP)	0.8852764	0.7237738
Lending interest rate	0.2396041	0.7365707
Total imports as % of GDP	0.5230164***	0.2054949
Number of observations = 44		
R^2 = 0.5374		

Note: Dependent variable = total amount of high value-added exports as a proportion of total exports. *** Significant at 1%, ** significant at 5%, * significant at 10%.

Table A5.2: Ordered logit model of stages of export growth between 1965 and 2010 in a sample of Asian economies

Variable name	Coefficient	Standard error
Secondary level attainment in total population	-0.0121959	0.0294395
Tertiary level attainment in total population	0.1006378*	0.0578499
Exchange rate	0.00064700**	0.0003160
Domestic credit to private sector as percentage of GDP	0.0326102*	0.0172840
Foreign direct investment, net inflows (% of GDP)	0.2079195	0.2914196
Lending interest rate	-0.3564100***	0.1321924
Personal remittances received (as % of GDP)	1.0205500**	0.4718146
Total imports as % of GDP	0.3622970**	0.0177036
Number of observations = 38		
Pseudo-R^2 = 0.4513		

Note: Dependent variable is measured on a scale from 1 to 4 where 1 = the country is exporting low value-added goods and 4 = the country is exporting high value-added goods. *** = Significant at 1%, ** = significant at 5%, * = significant at 10%.

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Exporters in Pakistan and Firms Who Do Not Export: What's the Big Difference?

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Abstract

A variety of stylized facts about exporters have emerged in the new literature on international trade based on firm-level data. These include low levels of export participation among firms; small shares of export sales in firm revenue; larger firms; and higher levels of productivity, skill, and capital intensity among exporters. In this paper, we seek to examine the extent to which these stylized facts fit the experience of firms in Pakistan, using two cross-sections of firm-level data—the Census of Manufacturing Industries (CMI) 2000/01 for Punjab and the World Bank Enterprise Survey dataset (2006/07) for all Pakistan.

We find similar levels of export market participation but very large shares of export sales in firm revenue for those who do, compared to the US sample studied by Bernard, Jensen, Redding, and Schott (2007). We also find, as do many other studies, that exporters exhibit significantly higher total factor productivity (TFP) and are larger in terms of employment than nonexporters. Controlling for a variety of firm-level characteristics, exporters' TFP is 41 percent higher than that of nonexporters. Considering the eight largest sectors (which comprise more than 80 percent of the CMI Punjab), with a few exceptions, exporters had higher labor productivity and offered higher compensation to workers, but used more capital per worker and more imported inputs.

The government's recent emphasis on developing the readymade garments sector is well placed: more than half the apparel producers in the CMI Punjab 2000/01 were exporting—and nearly all of their output (93 percent). The capital-labor ratio and use of imported inputs was modest. Exporters were relatively large employers with 400 workers on average and offered significantly higher compensation than nonexporting firms. A greater understanding of firm dynamics could be gained if the CMI were to resume collecting data on firm-level exports (not collected since 2000/01) and if this data were linked across years so that firm performance could be measured over time.

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1. Introduction

Following on the obvious successes of the export-led growth of the 'East Asian tigers' and the perceived failures of the earlier inward-looking import-substitution industrialization policies pursued by most developing countries in the decades following independence, developing countries have sought to promote exports as a growth strategy, as both a source of demand and of coveted foreign exchange.

The Washington Consensus, which promoted economic liberalization generally, also recommended freeing trade (through low uniform tariffs and a competitive exchange rate) to improve economic efficiency and eliminate the deadweight losses associated with import restrictions. The argument was that substituting inefficient domestic production with lower-cost supply from abroad and as a source of competition would make surviving domestic producers more efficient. Researchers also documented the experience of East Asia and policymakers sought to emulate their experience. However, these "lessons" can be quite confusing since prominent scholars (for example, Anne Krueger and Dani Rodrik) have disagreed on the extent to which the success of East Asia happened in spite of, or thanks to, government intervention in "picking winners."

Proponents of trade liberalization advocate that there is a relationship between the openness of an economy and the productivity of its firms. The suggested mechanisms through which this works is that the introduction of cheaper imports will (i) reduce the mark-up that firms can charge consumers due to greater competition in the final goods market, and (ii) lower the average cost of production in the sector due to the exit of low-productivity firms that were only able to operate in a protected market (Bernard, Jensen, Redding, & Schott, 2011). In addition to intra-industry reallocation of resources, within-firm productivity gains have also been documented (Pavcnik, 2002; Trefler, 2004: cited in Bernard et al., 2011).

Productivity is often found to be higher among exporters, which begs the question of the direction of causality. In other words, do firms that are more productive export or does exporting enhance productivity? The

bulk of the evidence accumulated over the last 15 years (starting with Roberts & Tybout, 1997) shows that firms that entered export markets were more productive to begin with (also see Bernard & Jensen, 2004). In other words, there are fundamental differences between firms along dimensions that are difficult to measure, such as entrepreneurial ability. Such features differentiate among firms such that the more productive firms export and the less productive firms do not. This explanation for the positive productivity-exporting relationship also coincides with the Melitz (2003) model, which incorporates the fixed costs of exporting.

Firms have also been found to experience gains in productivity after they began exporting (see Van Biesebroeck, 2006, on Côte d'Ivoire; Mukim, 2011, on India; Aw, Chung, & Roberts, 2000, on the Republic of Korea; De Loecker, 2007, on Slovenia; Aw, Roberts, & Xu, 2011, on Taiwan). Some of these gains to productivity post-exporting may be due to "learning by exporting." Bernard et al. (2011) note that more recent evidence indicates that exporting activities can raise returns to the kinds of investments that complement exporting, thus raising the productivity of exporters even further (they also cite Bustos, 2011; Lileeva & Trefler, 2010; Aw et al., 2011). For example, Aw et al. (2011) find that, in Taiwan, firms that are more productive initially are both more likely to export and invest in research and development, and that these activities cause further increases in productivity.

On the other hand, Gervais (2012) finds that product quality is a better predictor of exporting behavior than firm-level productivity and that idiosyncratic demand also plays a disproportionate role. Easterly, Reshef, and Schwenkenberg (2009), however, downplay the role of import demand and show that technological dispersion (the mass in the far right-tail of the distribution, indicating the existence of a few, highly productive, successful exporters) explains the high concentration of manufacturing exports, which constitute a large share of total trade.

If exporting firms are more productive, can firms be made to become exporters or are firms born exporters? The answer is not necessarily simple. As discussed earlier, to a (likely large) extent, firms self-select into export markets. That said, other factors, particularly government policy (of either the exporting or importing countries), can also influence the decision to export or the amount exported. This can occur, for instance, through alleviating credit constraints for would-be exporters (Zia, 2008), trade costs both explicit and implicit (Khan & Kalirajan, 2011), or discouraging firms from entering new markets by imposing stringent

technical regulations and standards (Chen, Otsuki, & Wilson, 2006). Zia (2008) finds that, for Pakistan, the loss of subsidized export credit led to a fall in exports, but only among the (credit-constrained) nonpublicly listed firms, which constituted only half the recipients of the subsidized credit. This last observation demonstrates both the promise and pitfalls of governments' export promotion efforts.

2. The Stylized Facts

A variety of stylized facts about exporters have emerged in the new literature on international trade based on firm-level data, which have been made available only fairly recently in many cases.

Bernard, Jensen, Redding, and Schott (2007) note that:

1. Export participation tends to be low and the share of exports in sales varies greatly by industry.
2. Firms export a relatively small share of sales.
3. Exporting firms tend to be more productive.
4. Exporters are larger (in terms of employment).
5. Exporters are more skill- and capital-intensive, even in developing countries (Alvarez & Lopez, 2005: cited in Bernard et al., 2011).

In this paper, we seek to examine the extent to which these stylized facts fit the experience of firms in Pakistan, using two cross-sections of firm-level data—the Census of Manufacturing Industries (CMI) 2000/01[1] for Punjab and the World Bank Enterprise Survey 2006/07 for all Pakistan.

Looking at the CMI Punjab, eight sectors make up more than 80 percent of the population of firms. These are (in descending order of sector population size): (i) textiles (702 firms), (ii) food manufacturing (323), (iii) apparel (173), (iv) machinery, except electrical (132), (v) fabricated metal products (127), (vi) other chemical products (121), (vii) iron and steel (103), and (viii) electrical machinery apparatus (102). With a few exceptions, exporters in these sectors have higher labor productivity[2] and offer higher

[1] Neither the CMI 2005/06 nor the CMI 2010/11 ask firms about their sales for export, and so we cannot analyze exporters using these datasets. However, we note that the composition of Pakistan's exports has not changed significantly over the period 2000–10, so that an analysis based on the CMI 2000/01 can still provide valid insights (see Table A1 in Annex 1).

[2] Except iron and steel, where the labor productivity of nonexporters is at par.

compensation to their workers,[3] but also use more capital per worker[4] and more imported inputs.[5]

2.1. Export Participation

According to the CMI 2000/01, about 22 percent of firms are exporters out of 2,136 manufacturing firms in Punjab (Table 1). Using the World Bank Enterprise Survey, for which we have data covering all of Pakistan, we get nearly the same figure, with 23 percent of 1,122 firms reporting some exports (Table 1). However, this does not really make Pakistan an outlier; Bernard et al. (2007) calculate a similar proportion of exporters from the 2002 firm census data for the US, at 18 percent of firms.

[3] Except iron and steel and electrical machinery, where nonexporters offer slightly higher average compensation to production workers (including contract workers).
[4] Except nonelectrical machinery, where the capital-labor ratio of nonexporters slightly exceeds that of exporters.
[5] Except apparel, where nonexporters use a slightly larger volume of imported inputs.

Table 1: Export participation of manufacturers in Punjab, by sector

		CMI Punjab 2000/01			Enterprise Survey 2006/07	
ISIC code	Industry	Total firms	Percentage exporting	Share of exports in total sales (exporters only)	Total firms	Percentage exporting
311	Food manufacturing (general)	323	4.95	0.38	184	6.0
312	Food manuf. (other)	35	5.71	0.37	21	14.3
313	Beverages	17	11.76	0.44	10	20.0
314	Tobacco	3	0.00	n/a	0	n/a
321	Textiles	702	22.65	0.55	206	22.8
322	Apparel	173	54.34	0.93	190	27.9
323	Leather and leather products	48	45.83	0.91	74	40.5
324	Footwear	9	44.44	0.57		0.0
331	Wood and wood prod.	18	0.00	n/a	7	14.3
332	Furniture and fixtures	13	7.69	1.00	21	0.0
341	Paper and paper products	48	10.42	0.02	11	0.0
342	Printing, publishing, allied industries	33	3.03	0.10	28	7.1
351	Industrial chemicals	43	6.98	0.20	26	19.2
352	Other chemical prod.	121	9.09	0.17	48	35.4
354	Petroleum products	3	0.00	n/a	4	25.0
355	Rubber products	23	8.70	0.51	4	25.0
356	Plastic products	28	3.57	0.21	37	10.8
361	Pottery, china, earthenware	27	7.41	0.28	3	66.7
362	Glass and glass prod.	8	25.00	0.02	9	22.2
369	Other nonmetallic mineral products	33	3.03	0.02	20	15.0
371	Iron and steel basic industries	103	1.94	0.28	39	5.1
372	Nonferrous metal basic industries	10	0.00	n/a	4	25.0
381	Fabricated metal prod.	127	10.24	0.57	35	25.7
382	Machinery, except electrical	132	9.85	0.21	14	7.1
383	Electrical machinery apparatus	102	13.73	0.30	46	10.9
384	Transport equipment	69	2.90	0.04	10	20.0
385	Scientific equipment	48	93.75	0.98	31	58.1
390	Other manufacturing	58	81.03	0.94	66	47.0
	Couldn't identify				38	13.2
	Total	**2,136**	**21.5**		**1,122**	**22.99**

Source: Authors' calculations based on CMI 2000/01 (full data) and World Bank Enterprise Survey 2006/07 data for Pakistan.

Export participation varies widely by industry in Punjab (Table 1). As we can see from the CMI data, very few food-manufacturing firms

engage in exports in Punjab (5 percent), in addition to iron and steel (2 percent), transport equipment (3 percent), plastic products (4 percent), industrial chemicals (7 percent), pottery (7 percent), and furniture and fixtures (8 percent). Industries with a high degree of export participation include footwear (44 percent), apparel (54 percent), leather (46 percent), other manufacturing (81 percent), and scientific equipment (94 percent). Firms in these last three categories export nearly all their output.

The level of export participation among textile firms is average—23 percent of firms in the CMI Punjab—but these export more than half their output. In other sectors as well, the share of exports in total sales is significant for exporting firms despite the low export participation of the sector as a whole. For example, no more than 10 percent of firms export in sectors such as industrial chemicals, plastic products, rubber products, pottery, iron and steel, fabricated metal, and machinery, but the share of exports in total sales for firms that do export ranges from 20 to 50 percent.

Looking at firms' exporting status in the CMI by disaggregated industry codes (Table A2 in Annex 1) yields a slightly clearer picture. While we have already noted that export participation in the foods sector is low, an exception is rice milling at 40 percent of firms. Within textiles, there is significant variation but also a larger share of exporting firms, on average. In industries such as surgical goods, sporting goods and, oddly enough, bone crushing, there are a few firms that do not export.

The data from the Enterprise Survey span a larger geographical area, but are limited to urban areas and about half the number of firms. The export participation numbers are largely consistent with the CMI data for Punjab for industries such as food manufacturing (general), textiles, leather, glass, machinery, and electrical machinery. In other sectors, the World Bank data show export participation to be two or three times greater (with the exception of garments, scientific equipment, and other manufacturing). These differences could be due to the inclusion of the other provinces—particularly Sindh, with its large manufacturing base around Karachi—or the focus on urban areas.

Table 2 gives firms' exporting status by the form of organization and ownership. The upper panel shows there is little variation in the level of export participation by form of ownership (column 1), except for the purely public sector firms, which do not export. Firms (both public and private) with foreign collaboration tend to export, as do private firms that are wholly owned domestically. While firms with foreign collaboration

participate in exporting activities somewhat more than the average of 21.5 percent, their levels (27.3 and 30.4 percent) are not exceedingly high considering the external partnership. On the other hand, exporting status varies more so with the legal form of organization: only private limited and public limited firms participate in export markets at any significant level. Less than 10 percent of individually owned firms and partnerships participate in export markets (Table 2, lower panel).

Table 2: Exporting status by ownership and form of organization

	(1) Exporters (as % of firms in this category)	(2) Firms in this category (as % of all firms)	(3) Firms in this category (as % of exporters)	(4) Number of firms
Form of ownership				
Pakistani, public sector	0.0	0.40	0.0	9
Public sector with foreign collaboration	27.3	0.50	0.7	11
Pakistani, private-owned	21.5	97.60	97.4	2,084
Private sector with foreign collaboration	30.4	1.10	1.5	23
Foreign-controlled	22.2	0.40	0.4	9
Form of organization				
Individual ownership	7.8	21.00	7.6	449
Partnership	8.3	23.20	8.9	496
Private limited	25.4	39.90	47.2	853
Public limited	51.9	15.10	36.3	322
Other	0.0	0.75	0.0	16
Total	21.5		100.0	2,136

Source: Authors' calculations based on CMI 2000/01 (full data). The "other" category includes cooperative societies, federal ownership, provincial government establishments, and other unspecified ownership structures.

2.2. Share of Exports in Firm Revenues

In the case of US firms, Bernard et al. (2007) find that only around 14 percent of sales are exports, ranging from 7 to 21 percent. In the CMI Punjab, there is significantly greater variation: among exporters, the average percentage of sales for export is 51 percent, with sector averages ranging from 2 to 98 percent. The World Bank Enterprise Survey records the average share of exports as 67 percent, although the information on the share of export sales was asked as a direct question rather than calculated using the firms' administrative data.

Nearly half the 460 exporters in the CMI Punjab reported that at least 90 percent of their sales were destined for foreign markets; 34 percent said they exported exclusively, i.e., all sales were exports (see Table 3). Just over half the exporters interviewed in the Enterprise Survey responded similarly. As we can see, exporters in Pakistan rely very heavily on exports and many do not have much domestic presence at all. Typically, we tend to think that firms that diversify into foreign markets are protected informally against domestic demand slumps so long as their export markets are not hit equally by the same demand shocks. However, when exporters have such a limited domestic presence, they may be left very vulnerable to exchange rate movements and other external shocks.

Table 3: Distribution of the share of exports in sales

Export share in sales	Share of exporters (CMI Punjab)	Share of exporters (Enterprise Survey)
< 0.05	0.12	0.05
0.05–0.15	0.07	0.16
0.15–0.3	0.06	0.07
0.3–0.5	0.05	0.08
0.5–0.7	0.09	0.04
0.7–0.9	0.13	0.07
> 0.9	0.48	0.52

Source: Authors' calculations based on CMI 2000/01 (full data) and World Bank Enterprise Survey 2006/07 data for Pakistan.

3. Productivity of Exporters

In this section, we look at a variety of productivity measures, including firm-level total factor productivity (following the techniques of Hsieh & Klenow, 2009) and labor productivity, comparing the performance of exporters to non-exporters along these dimensions.

3.1. Total Factor Productivity

We find, following the techniques used by Hsieh and Klenow (2009) for measuring total factor productivity (TFP), that exporters are more productive than nonexporters.[6]

Based on a Cobb-Douglas firm-level production function,

[6] See Annex 2 or Hsieh and Klenow (2009) for more details on how these measures were derived.

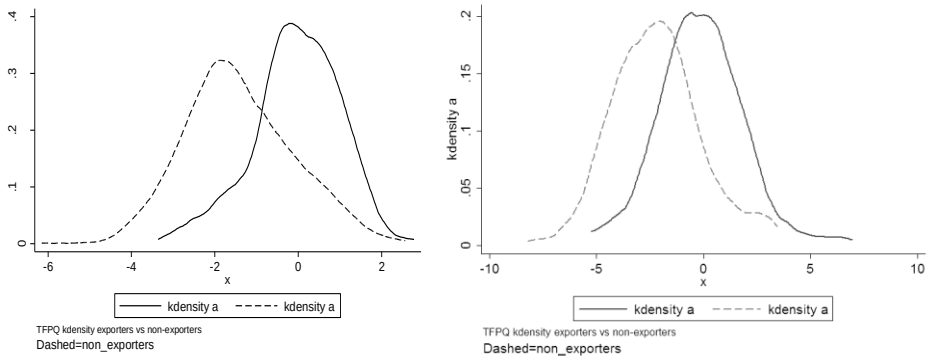
$$Y_{si} = A_{si} K_{si}^{\alpha_s} L_{si}^{1-\alpha_s} \quad (1)$$

Where K_{si} and L_{si} represent capital and labor respectively, and A_{si}represents the firm's individual *output-based* TFP measure, referred to as TFPQ for firm *i* in sector *s*. TFPQ is written as:

$$TFPQ_{si} = A_{si} = \frac{Y_{si}}{K_{si}^{\alpha_s} L_{si}^{1-\alpha_s}} \quad (2)$$

Naturally, different firms will have different values of A_{si} because all firms, depending on the characteristics of their owners and managers, location, and even luck, will differ in levels of entrepreneurial ability, organizational capital, and access to customers, among others. As we can see in both panels of Figure 1, the mean TFPQ is higher for exporters than for nonexporters in both the CMI Punjab and the World Bank Enterprise Survey samples, although the difference between the two groups of firms is greater in the former. There is also greater spread in the distribution of TFPQ and a long tail on the left-hand side of the distribution for nonexporters in the CMI Punjab sample, indicating a high level of dispersion and the survival of low-productivity firms.

Figure 1: Distributions of TFPQ for exporters vs. nonexporters



Panel A: CMI Punjab 2000/01 Panel B: Enterprise Survey 2006/07

Source: Authors' calculations.

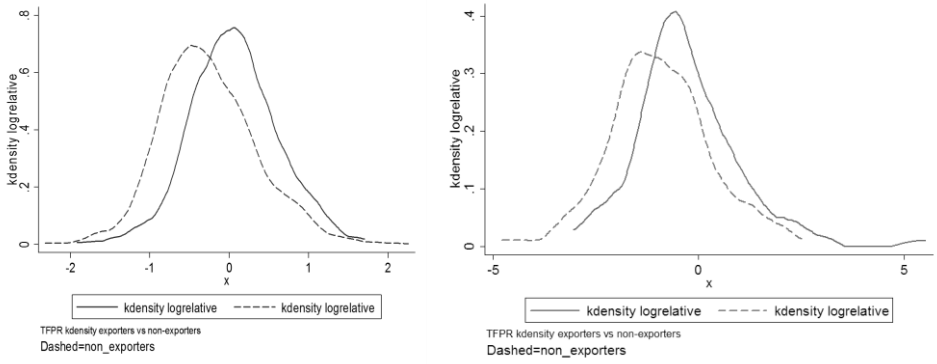
An alternative productivity measure that can be used to measure distortions in the economy is the *revenue-based* TFP measure, or $P_{si}A_{si}$, referred to as TFPR for firm *i* in sector *s* is defined from the production function as:

$$TFPR_{si} = P_{si}A_{si} = \frac{P_{si}Y_{si}}{K_{si}^{\alpha_2}L_{si}^{1-\alpha_2}} \quad (3)$$

The idea underlying the revenue-based TFPR measure of productivity is that firms that are more efficient (with higher A_{si} or $TFPQ$) should optimally produce a higher level of output but, as a result, will sell their product variety at a relatively low price (Hsieh & Klenow, 2009). Assuming there are no distortions in the economy—so that some firms are not relatively disadvantaged compared to others—with regard to policies such as regulation or credit, then more resources will be allocated toward efficient producers such that the marginal products of capital and labor are equated across firms. In this way, *TFPR* should equalize across firms regardless of the distribution of A_{si} ($or\ TFPQ$), as long as the economy is relatively undistorted.

Dispersion in TFPR (Figure 2), therefore, indicates the presence of distortions in the economy: firms with a high (low) TFPR are those that should be allocated more (fewer) resources—capital and labor—and should be bigger (smaller) than their current operations. As expected, TFPR displays less dispersion than TFPQ and the gap between exporters and nonexporters is narrowed but not eliminated.

Figure 2: Distributions of TFPR for exporters vs. nonexporters



Panel A: CMI Punjab 2000/01 Panel B: Enterprise Survey 2006/07

Source: Authors' calculations.

In this context, firms in the right-tail of the distribution (with a high TFPR) have a high marginal productivity because they are somehow constrained, unable to obtain enough resources to grow to the extent that marginal productivity would come down to the sector average. The World

Bank sample's TFPR distribution exhibits a long right-tail. On the other hand, the TFPR distribution of nonexporters in both samples has a long left-tail. These firms are those that have low marginal productivities compared to the industry average and are too large (have too many resources).

Another view of the differences in TFP distribution according to exporting status emerges when we examine the dispersion statistics calculated in Table 4. The output-based TFPQ distribution for exporters has a smaller standard deviation and lower ratios of the 75th to the 25th percentile and of the 90th to the 10th percentile compared to nonexporters. The same pattern applies to the revenue-based TFPR measure where dispersion represents the misallocation of productive resources.

Table 4: Dispersion of TFP, CMI Punjab 2000/01

	TFPQ			TFPR		
	SD	**Ratio 75–25 percentile**	**Ratio 90–10 percentile**	**SD**	**Ratio 75–25 percentile**	**Ratio 90–10 percentile**
Nonexporters	1.46	1.78	1.67	0.66	0.92	3.92
Exporters	1.00	1.31	1.33	0.54	0.69	2.49

Source: Authors' calculations.

A potential concern is that other factors, such as firm size, may differ systematically for exporters and account for the differences in TFP seen in Figures 1 and 2. To address this, we regress the TFP of firms (relative to the sector mean) on exporting status in addition to a number of observable firm-level characteristics. It is important to note that these regressions are not intended to establish causality, but simply correlation. The regression equations are:

$$\log TFPQ_{si} - \log \overline{TFPQ_s} = \beta_0 + \sum_j \beta_j X_{jsi} + \varepsilon_{si} \quad (4)$$

$$\log TFPR_{si} - \log \overline{TFPR_s} = \beta_0 + \sum_j \beta_j X_{jsi} + \varepsilon_{si} \quad (5)$$

The dependent variable is the log difference of firm-level TFP (for firm i in sector s) from the average TFP for sector s, for TFPQ and TFPR, respectively. X_j represents dummy variables for the firm-level characteristics considered (exporting status, firm size, ownership, and location).[7]

[7] The districts in each region are: northern Punjab (Rawalpindi, Attock, Jhelum, and Chakwal); southern Punjab (Bahawalpur, Bahawalnagar, Rahimyar Khan, Multan, Khanewal, Lodhran, and Vehari); western Punjab (Dera Ghazi Khan, Layyah, Muzaffargarh, Bhakkar, Khushab, Rajanpur, and

Until we add controls for firm size, exporters have a 29 percent-higher TFPR and 150 percent-higher TFPQ compared to nonexporters even after controlling for firm-level characteristics such as geographical location and ownership status (Table 5a). Controlling for firm size causes the coefficient of exporting status to fall appreciably in magnitude for both the TFPQ and TFPR regressions and to lose statistical significance in the regression on TFPR. This result should not be surprising since exporters tend to be larger (see Figures 4a and 4b).

Similar to the results here, Hsieh and Klenow (2009) find exporters' TFPQ and TFPR to be around 50 percent and 6 percent higher, respectively, for US firms. On the other hand, they find Chinese exporters' TFPQ to be 46 percent higher while their TFPR is 14 percent lower. We cannot say, however, that exporting status is a causal factor for TFP. It could be that exporting induces firms to grow larger or that large firms are able to become exporters, or that a third factor (such as entrepreneurship or productivity) is related both to firm size and exporting status. The literature already shows that firms that export tend to have a higher productivity even before exporting compared to firms who do not.

Mianwali); central Punjab (Faisalabad, Jhang, Toba Tek Singh, Nankana Sahib, Gujranwala, Gujrat, Mandi Bahauddin, Hafizabad, Sialkot, Narowal, Sheikhupura, Kasur, Okara, Sahiwal, Pakpattan, Sargodha, and Lahore).

Table 5a: Regressions of firm-level TFP on firm characteristics, all firms, CMI 2000/01

	(1) Log relative TFPQ	(2) Log relative TFPQ	(3) Log relative TFPR	(4) Log relative TFPR
Exporter (dummy)	1.522***	0.100*	0.294***	0.0213
	(26.53)	(1.752)	(10.46)	(0.584)
Foreign-controlled (dummy)	2.808***	1.334***	0.232	-0.0482
	(5.052)	(3.269)	(0.851)	(-0.185)
Foreign collaboration (dummy)	1.932***	0.803***	0.425***	0.202*
	(8.326)	(4.666)	(3.732)	(1.836)
Northern Punjab	0.0578	0.143	0.123**	0.148**
	(0.452)	(1.524)	(1.963)	(2.484)
Southern Punjab	-0.199**	0.116*	0.0575	0.148***
	(-2.130)	(1.676)	(1.255)	(3.348)
Western Punjab	0.713***	0.252**	0.0867	-0.00230
	(4.835)	(2.320)	(1.197)	(-0.0332)
First quartile (smallest firms)		-3.063***		-0.726***
		(-37.60)		(-13.97)
Second quartile		-2.023***		-0.331***
		(-28.99)		(-7.424)
Third quartile		-1.329***		-0.213***
		(-20.72)		(-5.208)
Observations	1,793	1,793	1,793	1,793
Adjusted R-squared	0.318	0.636	0.062	0.154

Note: t-statistics in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1.

In Table 5b, we limit the analysis to exporting firms to see how exporting intensity is related to TFP. A 1 percent increase in exports is associated with a 23 percent-higher TFPQ and a 9 percent-higher TFPR (columns 1 and 3). A one-percentage point change in exports/sales ratio is associated with a 1.17 percent increase in TFPQ and a 0.669 percent increase in TFPR (columns 2 and 4).

Table 5b: Regressions of firm-level TFP on firm characteristics, exporters only, CMI 2000/01

	(1) Log relative TFPQ	(2) Log relative TFPQ	(3) Log relative TFPR	(4) Log relative TFPR
Log (exports)	0.234***		0.0935***	
	(11.10)		(6.643)	
Ratio exports/sales		1.171***		0.669***
		(10.23)		(9.374)
Foreign-controlled (dummy)	1.230	1.572	-0.161	0.0877
	(0.982)	(1.230)	(-0.193)	(0.110)
Foreign collaboration (dummy)	0.257	0.311	0.116	0.224
	(0.600)	(0.713)	(0.408)	(0.824)
Northern Punjab	-0.201	-0.126	-0.214	-0.118
	(-0.941)	(-0.575)	(-1.500)	(-0.867)
Southern Punjab	-0.0434	-0.0221	0.0551	0.0951
	(-0.309)	(-0.154)	(0.588)	(1.063)
Western Punjab	0.107	0.287*	-0.0781	0.0138
	(0.668)	(1.758)	(-0.732)	(0.135)
First quartile (smallest firms)	-1.274***	-2.666***	0.0841	-0.525**
	(-3.150)	(-6.643)	(0.312)	(-2.100)
Second quartile	-1.033***	-2.029***	-0.0968	-0.520***
	(-3.961)	(-7.976)	(-0.557)	(-3.276)
Third quartile	-0.792***	-1.356***	-0.190**	-0.418***
	(-6.140)	(-11.16)	(-2.209)	(-5.519)
Observations	398	398	398	398
Adjusted R-squared	0.452	0.432	0.153	0.231

Note: t-statistics in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1.

4. Labor Productivity

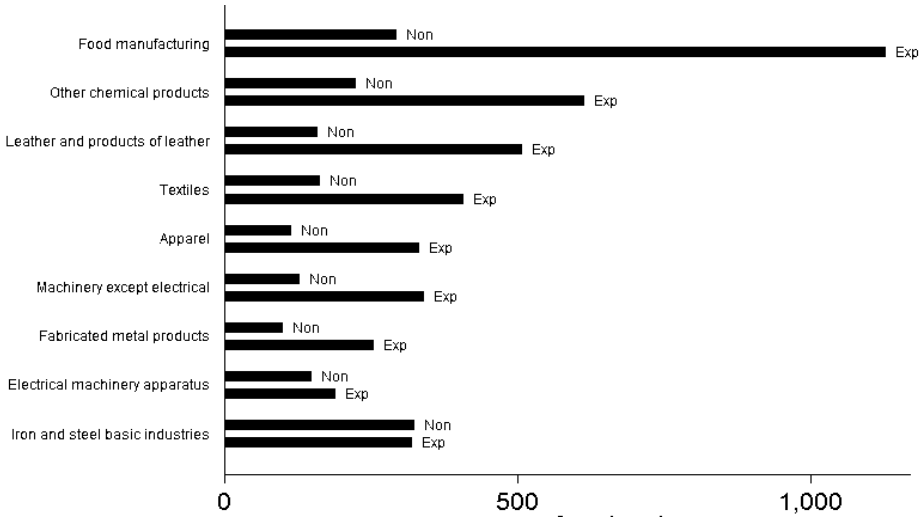
This section compares the mean labor productivity of exporters to that of nonexporters by industry.[8] Mean labor productivity is higher among exporters in 13 of the 19 sectors in the CMI, including seven of the eight largest sectors that comprise more than 80 percent of manufacturing firms in Punjab[9] (Figure 3a and Figure A1 in Annex 4). These differences exhibit large margins in food manufacturing (3.8 times), paper products

[8] Following the OECD methodology, labor productivity is calculated as the ratio of value-added to employment. We have taken the number of production workers (including contract workers) as the number of workers.

[9] Of the eight largest sectors (in terms of the number of firms), only in iron and steel was the labor productivity of nonexporters at par with that of exporters.

(3.4 times), other chemicals (2.7 times), leather products (three times), textiles (nearly 2.5 times), apparel (2.9 times), nonelectrical machinery (2.6 times), fabricated metal products (2.5 times), and pottery (1.8 times). The labor productivity of nonexporters is exceeded by that of exporters by a large margin only in the minor sectors of nonmetallic minerals and scientific equipment.

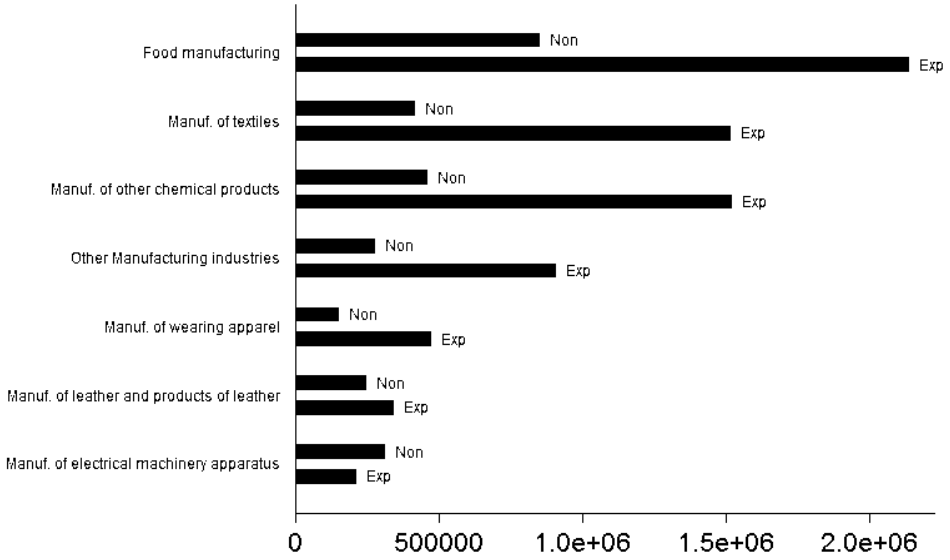
Figure 3a: Average labor productivity, by sector and exporting status, CMI 2000/01



Source: Authors' calculations based on CMI 2000/01 (trimmed data).

Using the World Bank Enterprise Survey's 2006/07 smaller dataset for all Pakistan, we consider a smaller group of sectors to ensure a sufficient number of firms per sector (Figure 3b). The average labor productivity of exporters is two to three times that of nonexporters for food manufacturing, textiles, other chemicals, other manufacturing, and garments, and by a smaller margin for leather goods. Only in electrical machinery is the pattern reversed.

Figure 3b: Average labor productivity, by sector and exporting status, Enterprise Survey 2006/07

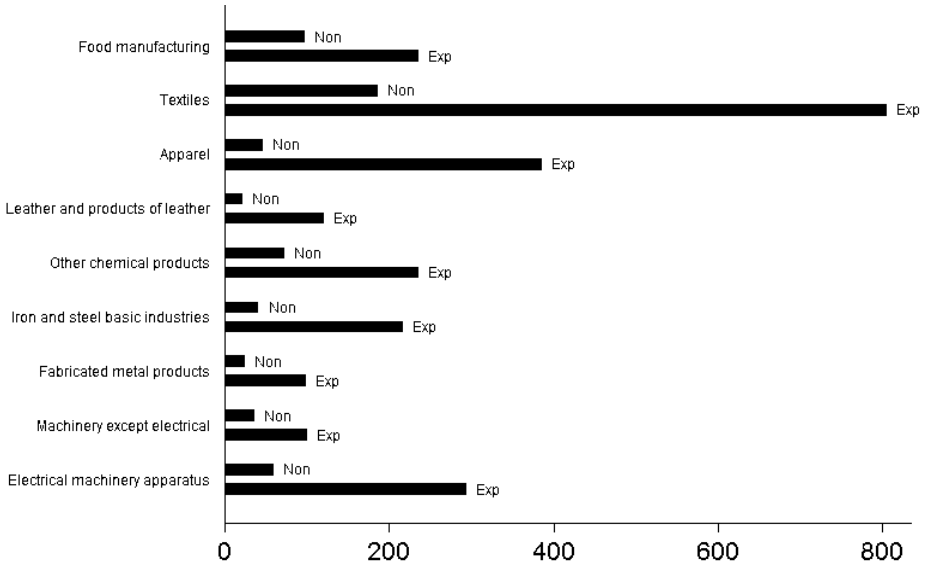


Source: Authors' calculations based on World Bank Enterprise Survey 2006/07.

5. Relative Size of Exporters

In the CMI Punjab 2000/01, exporting firms have higher average employment than nonexporting firms in 15 out of 19 sectors (Figure 4a and Figure A2 in Annex 4). In some sectors, the average size of exporters dwarfs that of nonexporters. For example, in textiles, exporters are (in terms of employment) around four times the size of nonexporters on average; in garments, exporters are around eight times the size of nonexporters.

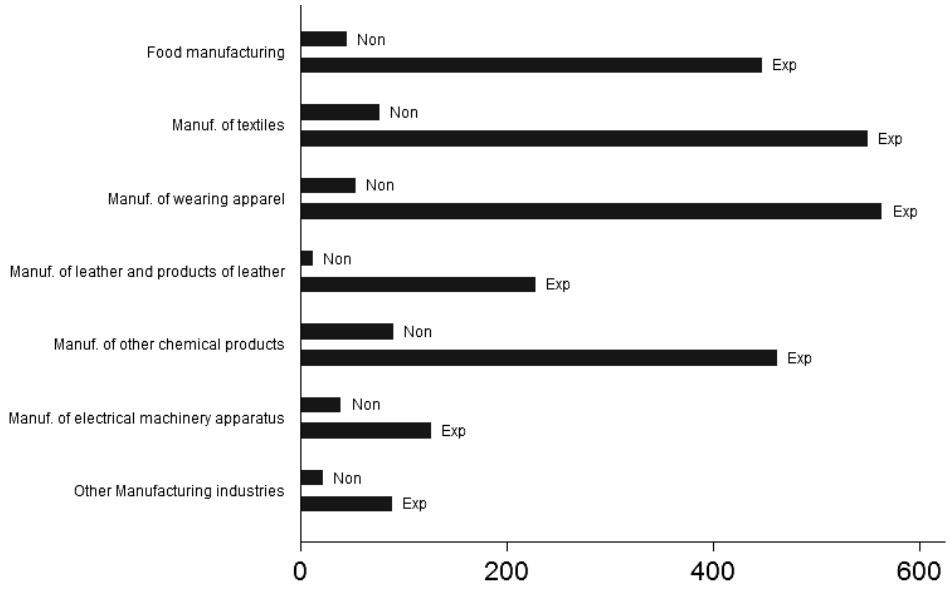
Figure 4a: Average employment, by sector and exporting status, CMI 2000/01



Source: Authors' calculations based on CMI 2000/01 (trimmed data).

The scale of exporters is also much larger in several other sectors, including paper products (ten times), leather products (five times), iron and steel (five times), electrical machinery (almost five times), pottery (4.5 times), fabricated metal products (four times), other manufacturing (four times), industrial chemicals (three times), other chemicals (three times), nonelectrical machinery (2.5 times), food manufacturing (nearly 2.5 times), rubber products (twice), and plastic products (twice). Only in the minor industries of transport equipment, scientific equipment, and nonmetallic mineral products were nonexporting firms larger. The average size of exporters dwarfs that of nonexporters in all seven sectors considered from the Enterprise Survey 2006/07 for all Pakistan (Figure 4b).

Figure 4b: Average employment, by sector and exporting status, Enterprise Survey 2006/07



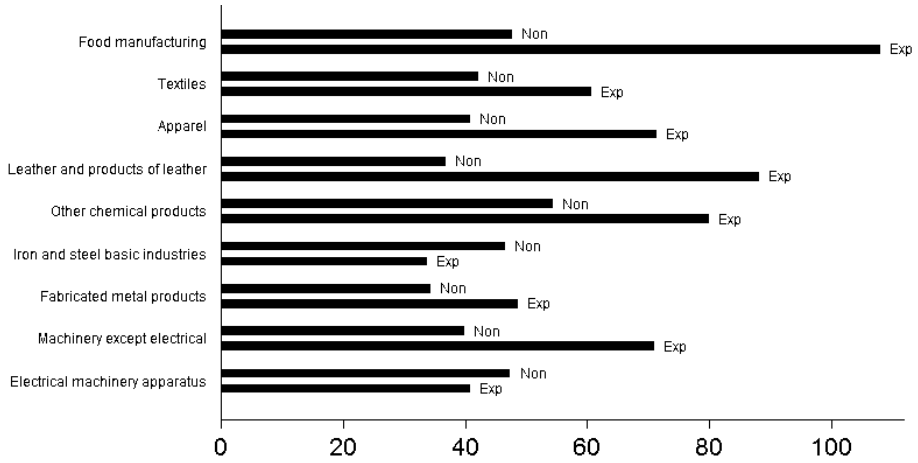
Source: Authors' calculations based on Enterprise Survey 2006/07.

6. Skill and Capital Intensity of Exporters

While we do not have information on the skill level of workers, some significant differences emerge between exporters and nonexporters' average compensation for production and contract workers. At least part of these differences are likely attributable to skill differences, even if capital intensity differs.

The CMI Punjab dataset for 2000/01 yields dramatic differences, with workers in exporting firms being paid twice as much as those in nonexporting firms in some sectors, such as food manufacturing, leather products, paper products, and pottery (Figure 5a and Figure A3 in Annex 4). Considerable, if less extreme, differences are evident in the compensation paid to workers in textiles, garments, nonelectrical machinery, fabricated metal products, printing, and other chemicals. Compensation was roughly similar for exporters and nonexporters in industrial chemicals and other manufacturing, while nonexporters offered somewhat better compensation in the rubber, plastic, nonmetallic mineral products, iron and steel, electrical machinery, transport equipment, and scientific equipment sectors.

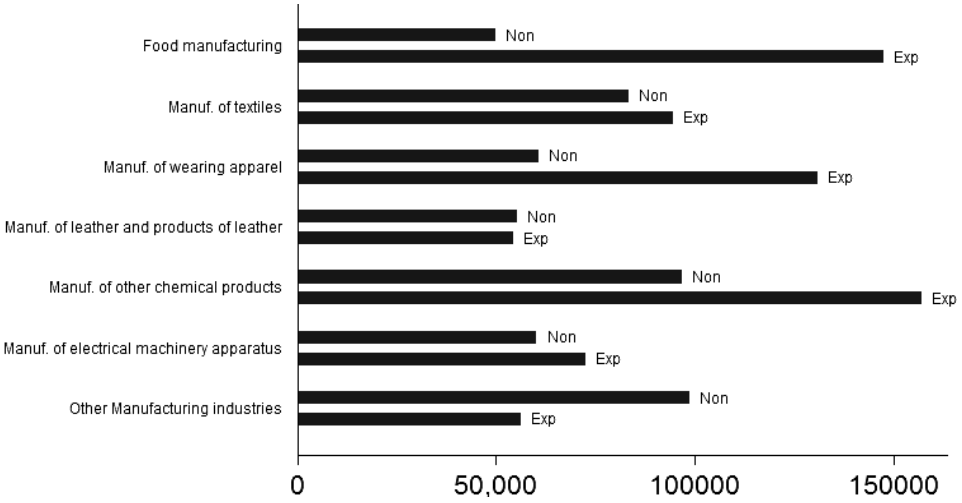
Figure 5a: Average compensation for production (including contract) workers, by sector and exporting status, CMI 2000/01



Source: Authors' calculations based on CMI 2000/01 (trimmed data).

Based on the Enterprise Survey 2006/07 for all Pakistan, workers in exporting firms were far better paid in food manufacturing, garments, and other chemicals; somewhat better paid in textiles and electrical machinery; and lower paid on average in other manufacturing (Figure 5b). The average pay was about even in leather goods production.

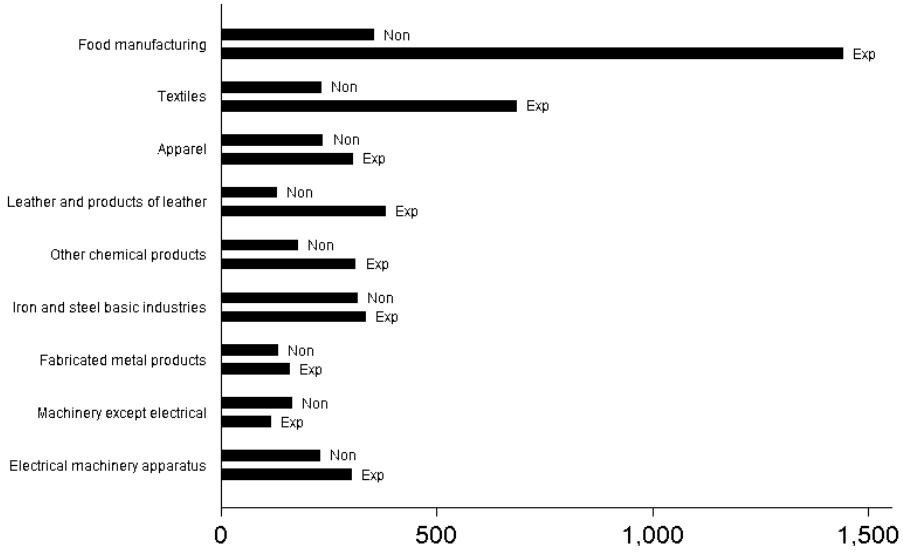
Figure 5b: Average compensation for production (including contract) workers, by sector and exporting status, Enterprise Survey 2006/07



Source: Authors' calculations based on World Bank Enterprise Survey 2006/07.

There are also very large differences in the capital-labor ratio between exporters and nonexporters in some industries surveyed in the CMI Punjab (Figure 6a and Figure A4 in Annex 4). In food manufacturing, textiles, paper products, leather products, and printing, the capital-labor ratio among exporters is at least twice that of nonexporters. For a few industries, the inequality moves in the other direction, so that nonexporters' capital per worker greatly exceeds that of exporters (in nonmetallic mineral products and plastic products). The differences in the capital-labor ratio are more modest in other sectors, with that of exporters exceeding nonexporters in garments, other chemicals, transport equipment, fabricated metal, iron and steel, and electrical machinery (see also Table 6).

Figure 6a: Capital-labor ratio, by sector and exporting status, CMI 2000/01



Source: Authors' calculations based on CMI 2000/01 (trimmed data).

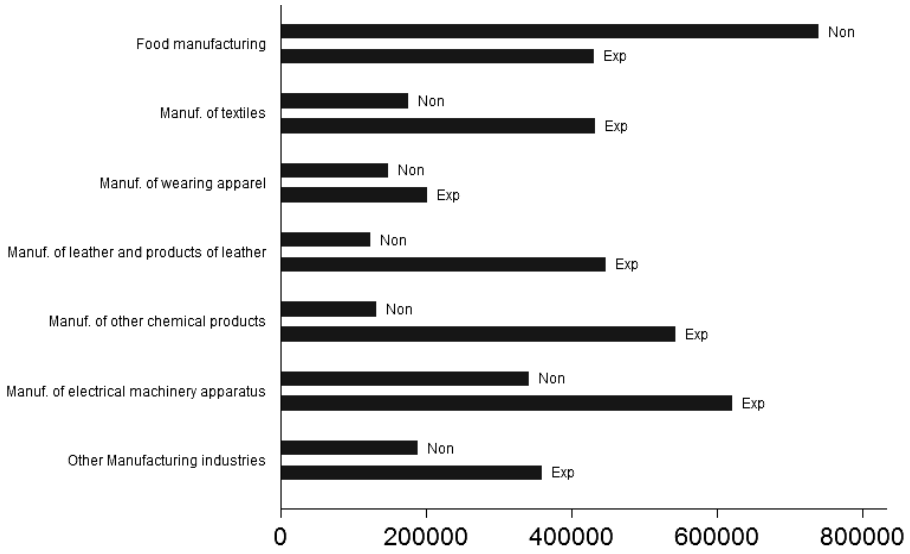
Table 6: Capital purchases of exporting and nonexporting firms, by sector

	Percentage that imported machinery		Percentage that bought local machinery	
Industry	**Nonexporters**	**Exporters**	**Nonexporters**	**Exporters**
Food manufacturing	2.6	6.3	21.9	62.5
Textiles	4.5	30.1	25.5	71.3
Apparel	1.4	4.7	19.2	53.5
Leather and products of leather	4.5	5.9	9.1	35.3
Paper and paper prod.	2.6	50.0	15.4	75.0
Printing, publishing and allied industries	6.5		6.5	100.0
Industrial chemicals	5.1	33.3	30.8	100.0
Other chemical prod.		11.1	35.4	77.8
Rubber products		50.0	15.8	50.0
Plastic products	7.7		34.6	100.0
Pottery, china, earthenware			8.0	50.0
Other nonmetallic mineral products			10.0	100.0
Iron and steel basic industries	1.1		13.3	50.0
Fabricated metal prod.		9.1	8.6	9.1
Machinery, except electrical	1.0	18.2	14.7	45.5
Electrical machinery apparatus	1.3	7.7	15.2	46.2
Transport equipment	1.8		21.1	
Scientific equipment		5.1	66.7	43.6
Other manufacturing industries	11.1	7.1	33.3	40.5
Total	3.0	15.7	20.3	56.6

Source: Authors' calculations based on CMI Punjab 2000/01 (trimmed data).

According to the Enterprise Survey 2006/07 data for all Pakistan, exporters display a considerably higher capital-labor ratio in textiles, leather goods, other chemicals, electrical machinery, and other manufacturing; a somewhat higher ratio in garments; but significantly lower capital intensity in food manufacturing (Figure 6b).

Figure 6b: Capital-labor ratio, by sector and exporting status, Enterprise Survey 2006/07



Source: Authors' calculations based on World Bank Enterprise Survey 2006/07.

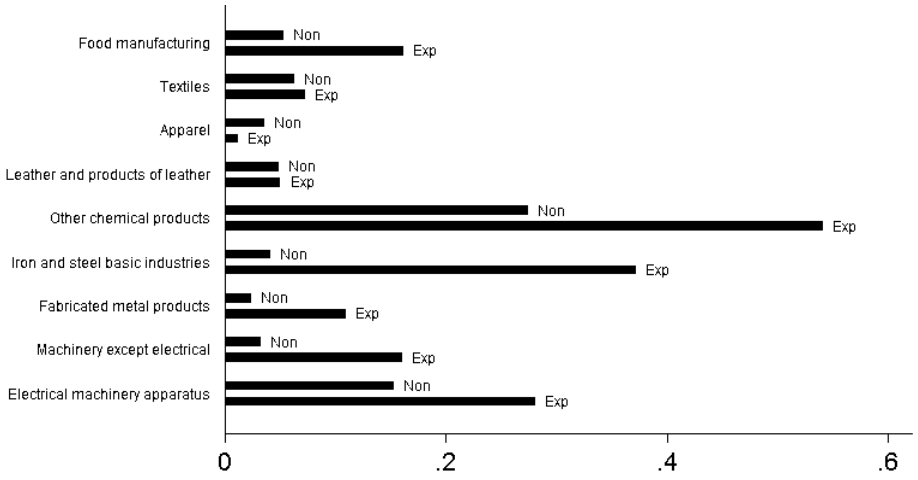
7. Other Differences Between Exporters and Nonexporters

In this section, we note some additional dimensions along which exporting and nonexporting firms differ, including the use of imported inputs and the number of days the factory operates.

7.1. Use of Imported Inputs

In many industries, firms that export appear to also use a larger share of imported materials in their input mix, on average, compared to nonexporting firms (Figure 7 and Figure A5 in Annex 4). Sectors for which this difference is large include food manufacturing, paper products, printing/publishing, other chemicals, iron and steel, electrical machinery, pottery, transport equipment, fabricated metal products, and plastic products. The only sectors in which nonexporters exceed exporters by a large margin in their use of imported inputs are the relatively small scientific equipment and other manufacturing sectors.

Figure 7: Use of imported inputs, by sector and exporting status, CMI Punjab 2000/01

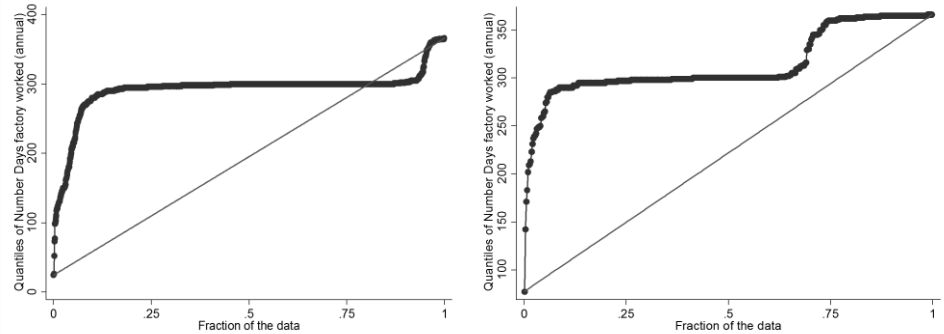


Source: Authors' calculations based on CMI Punjab 2000/01 (trimmed data).

7.2. Number of Days a Factory is in Operation

From the quantile plot in Figure 8, it would appear that exporters' factories operate, on average, more days than those of nonexporters. Only a small fraction of nonexporters reported being in operation more than 300 days in the year, whereas around a quarter of exporters reported operating 350 days in a year. One possible theory is that exporters are less subject to fluctuations in demand for their output and, therefore, shut down very infrequently.

Figure 8: Number of days the factory is operational, by exporting status



Panel A: Nonexporters Panel B: Exporters

Source: Authors' calculations based on CMI Punjab 2000/01 (untrimmed data).

However, when we look by sector at the share of exporters and nonexporters that operate longer than the sector average, there is no clear pattern differentiating the two groups (Table 7). The result appears to be driven mainly by textile producers, such that nearly 80 percent of exporting textile concerns operate more days than the industry average, whereas the same is true for only 16.5 percent of nonexporting textile producers. It is also the case that a larger share of exporters operate more days than the industry average (but to a smaller degree) in six other sectors: printing, industrial chemicals, plastic products, fabricated metal products, scientific equipment, and other manufacturing. For nine industries, the inequality is reversed; for the remaining three, the figures are nearly the same.

Table 7: Percentage of factories that operated longer than the industry average (in days), by sector and exporting status

Sector	Exporters	Nonexporters
Food manufacturing	60.0	81.5
Textiles	79.6	16.5
Apparel	58.6	67.6
Leather and products of leather	64.7	73.9
Paper and paper products	75.0	74.4
Printing, publishing, and allied industries	100.0	64.5
Industrial chemicals	33.3	23.1
Other chemical products	44.4	82.3
Rubber products	50.0	89.5
Plastic products	100.0	76.9
Pottery, china, and earthenware	0.0	72.0
Other nonmetallic mineral products	100.0	76.7
Iron and steel basic industries	50.0	77.8
Fabricated metal products	100.0	85.6
Machinery, except electrical	63.6	71.8
Electrical machinery apparatus	76.9	74.7
Transport equipment		49.1
Scientific equipment	51.3	33.3
Other manufacturing industries	61.9	55.6
Total	67.6	62.4

Source: Authors' calculations based on CMI 2000/01 (trimmed data).

8. Conclusions

In terms of thinking about which sectors could improve living standards for workers and expand employment opportunities, the higher compensation and productivity of the export sectors and larger firm size

are attractive features. When combined with the foreign exchange that accompanies exports, it seems that promoting the export-intensive sectors is a no-brainer. However, exporters tend to use more imported inputs and more capital per worker, some of which must also be imported and all of which must be financed. Given the credit constraints that firms frequently encounter and the shortages of foreign exchange to which the country is sometimes subject, one has to look more closely at the individual sectors.

The textiles industry is already the largest sector in terms of both manufacturing and exports: 23 percent of textile firms in the CMI Punjab 2000/01 export, and those that do, export more than half their output on average. Textile exporters tend to be considerably larger than nonexporters, compensate their workers somewhat better, and use modest quantities of imported inputs (due mainly to government restrictions on fabric importation). They are, however, very capital-intensive, purchasing both imported and local machinery.

In food manufacturing, only around 5 percent of firms export (CMI Punjab 2000/01) and those that do, export more than a third of their output. Exporters of food products are twice as large as nonexporters and pay their workers twice as much. They also use twice the imported inputs and have (surprisingly) among the highest capital-labor ratios of the industries studied, although firms seem to be more likely to buy locally manufactured rather than imported machinery.

According to the CMI Punjab 2000/01, the export participation of firms in the "other chemicals" sector is lower (9 percent), and less than 20 percent of sales (on average) comprise exports. Firms in this sector have a modest capital-labor ratio and commonly purchase locally built capital. Firms are not large, but their compensation is above average. The largest strike against the sector, however, is that it relies heavily on imported inputs.

Firms in the fabricated metal products sector do not use an excessive amount of imported inputs or capital per worker, but they are small and while exporters' employees are paid somewhat more, compensation in this sector is below average compared to exporters in other sectors. Firms in the nonelectrical machinery sector are similar except that the compensation paid to production workers is somewhat better. The sector imports more capital, however, than most other sectors. The iron and steel and electrical machinery apparatus sectors are average according to most measures, except that they use imported materials somewhat more intensively.

More than half the apparel producers surveyed in the CMI Punjab 2000/01 were exporting, and export nearly all their output (93 percent). The capital-labor ratio and use of imported inputs is modest for both exporters and nonexporters; fewer than 5 percent of exporters imported capital in 2000/01. Exporters are around eight times the size of nonexporters, employ on average 400 workers, and offer significantly higher compensation. The picture that emerges from the Enterprise Survey is not as favorable, but still positive. Therefore, the government's recent emphasis on developing the readymade garments sector is well placed.

The CMI Punjab 2000/01 captures only a small number of leather products firms (this coverage is better in the World Bank dataset), but nearly half the firms export, selling most of their output abroad. These firms use very few imported inputs. Exporters have a higher (although still relatively modest) capital-labor ratio; in most cases, they purchase locally produced machinery. Total employment is larger among exporters, but their firm size is not very large compared to other sectors. Compensation is, however, above average compared to other sectors in the CMI Punjab, especially among exporters of leather; this same picture does not emerge from the World Bank Enterprise Survey data. This may be another sector whose potential is worth exploring more closely.

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Annex 1

Table A1: Commodities' share of total exports of Pakistan

Commodity	2000/01	2009/10
1. Fish and fish preparations	0.01	0.01
2. Rice	0.06	0.11
3. Molasses	0.00	0.00
4. Raw wool	0.00	0.00
5. Raw cotton	0.01	0.01
6. Cotton waste	0.00	0.00
7. Leather	0.03	0.02
8. Cotton yarn	0.12	0.07
9. Cotton thread	0.00	0.00
10. Cotton cloth	0.11	0.09
11. Petroleum and petroleum products	0.02	0.05
12. Synthetic textiles	0.06	0.02
13. Footwear	0.00	0.00
14. Animal casings	0.00	0.00
15. Vegetables and fruits	0.01	0.02
16. Guar and products	0.00	0.00
17. Towels of cotton	0.03	0.03
18. Paints and varnishes	0.00	0.00
19. Tobacco, raw and manufactured	0.00	0.00
20. Readymade garments and hosiery	0.19	0.16
21. Drugs and chemicals	0.01	0.04
22. Surgical instruments	0.01	0.01
23. Carpets and rugs	0.03	0.01
24. Sporting goods	0.03	0.02
25. Others	0.25	0.31

Source: http://www.pbs.gov.pk/content/pakistan-statistical-year-book-2011. Calculated from table 9.7 (major exports by commodity), Pakistan Statistical Yearbook 2011.

Table A2: Exporter status by disaggregated industry code

PSIC		No. of firms	% Exporters
1121	Dairy products (except ice cream)	8	12.5
1122	Ice cream	2	0.0
1130	Processing and preserving of fruits and vegetables	3	0.0
1151	Hydrogenated vegetable oils	24	4.2
1152	Vegetable oils (except hydro CS oils)	1	0.0
1153	Cottonseed oils	28	10.7
1159	Vegetable and inedible animal oils and fats	1	0.0
1161	Rice milling	15	40.0
1162	Wheat and grain milling (except rice)	176	0.0
1163	Preparation of grain-milled products	4	0.0
1169	Wheat and grain milling and products n.e.c.	1	100.0
1171	Breads, buns, bakery products, except biscuits	11	0.0
1172	Biscuits	10	0.0
1179	Other bakery products n.e.c.	4	25.0
1181	Refined sugar	29	6.9
1191	Cocoa, chocolate, and confectionery	5	20.0
1199	Confectionery n.e.c.	1	0.0
1212	Blending of tea	1	0.0
1222	Feed for fowls	16	0.0
1291	Starch and its products	2	50.0
1292	Edible salt refining	1	0.0
1293	Ice	12	0.0
1299	Misc food products n.e.c.	3	33.3
1320	Wine	1	0.0
1341	Fruit drinks	5	20.0
1349	Soft drinks and carbonated water n.e.c.	11	9.1
1410	Cigarettes (including pipe tobacco)	3	0.0
2011	Spinning of cotton	152	63.8
2012	Weaving and finishing of cotton textiles	45	64.4
2020	Spinning, weaving, and finishing of woolen textiles	34	8.8
2030	Spinning, weaving, and finishing of jute textiles	6	50.0
2040	Spinning, weaving, and finishing of silk textiles	32	15.6
2050	Spinning, weaving, and finishing of narr. fabrics	7	0.0
2070	Dyeing, bleaching, and finishing of textiles	205	8.8
2120	Made-up textiles, apparel goods except wearing	21	38.1
2130	Knitting mills	79	48.1
2141	Carpets and rugs (cotton)	1	0.0
2142	Carpets and rugs (wool)	5	40.0
2150	Cordage, rope, and twine	2	0.0
2160	Spooling and thread ball making	2	0.0

PSIC		No. of firms	% Exporters
2190	Textiles n.e.c.	10	10.0
2210	Readymade garments	50	86.0
2290	Wearing apparel n.e.c. (except footwear)	3	66.7
2310	Tanning and leather finishing	41	41.5
2332	Suitcases	1	100.0
2339	Products of leather and leather substitutes	6	66.7
2410	Leather footwear	9	44.4
2510	Cotton ginning and pressing	221	1.8
3120	Plywood and plywood products	6	0.0
3140	Hardboard and its products	11	0.0
3190	Wood and cork products n.e.c. (except furniture)	1	0.0
3210	Wooden furniture	12	0.0
3220	Fixtures	1	100.0
4110	Pulp and paper	15	13.3
4120	Paperboard	6	16.7
4130	Articles of pulp, paper, and paperboard	15	6.7
4190	Paper and paper products n.e.c.	12	8.3
4220	Printing and publishing of books, periodicals	6	0.0
4230	Commercial lithographing and job printing	22	0.0
4240	Printed cards and stationery	3	33.3
4260	Metal sheet printing	1	0.0
4290	Printing, publishing, and allied industry n.e.c	1	0.0
5010	Medical and pharmaceutical preparations	61	11.5
5020	Unani medicines	9	11.1
5040	Homeopathic and biochemical medicines	2	0.0
5111	Alkalis	6	16.7
5112	Acids (except sulfur) salts (excl. common salt)	8	12.5
5113	Sulfuric acid	4	25.0
5120	Dyes, colors, and pigments	3	0.0
5130	Compressed liquefied and solidified gases	8	0.0
5140	Fertilizers	5	0.0
5150	Insecticides and pesticides	3	0.0
5160	Synthetic resins, plastic materials	6	0.0
5210	Paints, varnishes, and lacquers	11	0.0
5220	Perfumes and cosmetics	3	33.3
5230	Soap (all kinds) and detergents	23	0.0
5250	Matches	2	0.0
5260	Ink (all kinds)	3	33.3
5290	Chemical products n.e.c.	7	14.3
5410	Petroleum products	2	0.0
5420	Coal products and by-products	1	0.0
5510	Tyres and tubes	4	0.0

PSIC		No. of firms	% Exporters
5520	Rebuilding and retreading tyres and tubes	1	0.0
5591	Rubber footwear	4	25.0
5592	Vulcanized rubber products	2	50.0
5593	Rubber belting	4	0.0
5599	Misc rubber products n.e.c.	8	0.0
5610	Plastic footwear	6	0.0
5690	Misc plastic products n.e.c	22	4.5
6110	Earthenware	1	0.0
6120	China and ceramics	22	9.1
6190	Pottery, china, and earthenware n.e.c.	4	0.0
6210	Glass	3	33.3
6220	Glass products	5	20.0
6910	Bricks, tiles, and clay products	10	10.0
6920	Cement	6	0.0
6930	Cement products	8	0.0
6940	Lime, plaster and their products	2	0.0
6950	Refractories	1	0.0
6990	Nonmetallic mineral products n.e.c.	6	0.0
7110	Iron and steel mills	15	0.0
7120	Iron and steel foundries	14	0.0
7130	Iron and steel rerolling mills	73	2.7
7190	Iron and steel basic industries n.e.c.	1	0.0
7210	Basic aluminum and aluminum alloys	4	0.0
7220	Basic copper and copper alloys	6	0.0
8010	Cutlery	11	63.6
8020	Hand and edge tools	2	0.0
8030	Razors, safety razors, and razor blades	1	100.0
8040	Furniture and fixtures, primarily of metal	7	0.0
8050	Structural metal products	4	25.0
8060	Metal stamping, coating, and electroplating	3	0.0
8070	Heating, cooking, and lighting equipment	6	0.0
8080	Wire products	3	0.0
8090	Utensils, aluminum	27	3.7
8120	Utensils, steel	2	0.0
8130	Metal barrels and drums	3	33.3
8140	Tin cans and tin-ware	5	0.0
8150	Metal trunks	1	0.0
8160	Bolts, nuts, rivets, and washers	4	0.0
8170	Plumbing equipment	25	4.0
8180	Safes and vaults	2	0.0
8190	Fabricated metal products n.e.c.	21	4.8
8210	Engines and turbines	7	0.0

PSIC		No. of firms	% Exporters
8220	Agricultural machinery and equipment	64	7.8
8230	Metal- and wood-working machinery	5	20.0
8240	Textile machinery	15	13.3
8250	Industrial, except agricultural, metal textile machinery	16	0.0
8270	Sewing machines	6	0.0
8290	Machinery equipment n.e.c. (except electrical)	19	26.3
8310	Electrical industrial machinery and apparatus	15	13.3
8321	Radio, TV receiving and transmitting equipment	1	0.0
8322	Gramophones, dictating machines, tape recorders	1	0.0
8323	Telephone and telegraph equipments	1	100.0
8331	Electric fans	38	15.8
8332	Electrical appliances (except fans)	25	8.0
8340	Insulated wires and cables	7	14.3
8350	Electric bulbs and tubes	4	0.0
8360	Batteries	2	0.0
8390	Electrical apparatus and supplies n.e.c.	8	25.0
8441	Motor vehicles	1	0.0
8442	Automobile parts	38	5.3
8450	Motorcycles, auto-rickshaws	4	0.0
8461	Complete cycles	3	0.0
8462	Cycle parts	8	0.0
8491	Body building	3	0.0
8492	Repair of vehicles	12	0.0
8510	Surgical medical and dental instruments	47	93.6
8520	Watches and clocks	1	100.0
9200	Sporting and athletic goods	38	94.7
9330	Musical instruments	2	100.0
9370	Pens and other office articles	4	25.0
9390	Buttons, studs, hooks, and fasteners	1	0.0
9420	Bone crushing	7	85.7
9490	Other manufacturing industries n.e.c.	6	33.3

Source: CMI 2000/01.

Annex 2

Measurement of TFP

Estimates of and the distributions of TFPR and TFPQ are based on calculations of the following four productivity measures (Hsieh & Klenow, 2009):

$$TFPR_{si} = P * A_{si} = \frac{P_{si}Y_{si}}{K_{si}^{\alpha_s} L_{si}^{1-\alpha_s}} \tag{A1}$$

$$TFPQ_{si} = A_{si} = \kappa_s \frac{(P_{si}Y_{si})^{\frac{\sigma}{\sigma-1}}}{K_{si}^{\alpha_s} L_{si}^{1-\alpha_s}} \tag{A2}$$

Where $\kappa_s = \frac{(P_s Y_s)^{-\frac{1}{\sigma-1}}}{P_s}$

$$\overline{TFPR_s} = \frac{\sigma}{\sigma-1}\left(\frac{\overline{MRPK_s}}{\alpha_s}\right)^{\alpha_s}\left(\frac{\overline{MRPL_s}}{1-\alpha_s}\right)^{1-\alpha_s} \tag{A3}$$

Where $\overline{MRPK_s} = \frac{R}{\sum_{i=1}^{M_s}\frac{(1-\tau_{Y_{si}})}{(1+\tau_{K_{si}})}\frac{P_{si}Y_{si}}{P_s Y_s}}$ and $\overline{MRPL_s} = \frac{w}{\sum_{i=1}^{M_s}\left(1-\tau_{Y_{si}}\right)\frac{P_{si}Y_{si}}{P_s Y_s}}$

$$A_s = \left[\sum_{i=1}^{M_s}\left(A_{si}\frac{\overline{TFPR_s}}{TFPR_{si}}\right)^{\sigma-1}\right]^{\frac{1}{\sigma-1}} \tag{A4}$$

The first expression (A1) measures the plant-level Total Factor Revenue Productivity. Expression (A2) measures the plant-level $TFPQ$ with nominal output $P_{si}Y_{si}$. In the data sets, plant-level real output is unobserved. Therefore, observed nominal output is raised to the power $\frac{\sigma}{\sigma-1}$ to impute the real output Y_{si}. This exercise makes use of a scalar κ_s, which is unobserved and therefore assumed as $\kappa_s = 1$. This assumption will not affect are calculations for relative productivities. Expression (A3) is a measure of industry-level Total Factor Revenue Productivity. This expression is derived by taking a geometric mean of industry-level $\overline{MRPK}$ and $\overline{MRPL}$. Finally the last productivity measure (A4) is an industry-level $TFPQ$.

In order to compute the $\overline{MRPK}$ and $\overline{MRPL}$ we need information on plant level distortions. Hsieh and Klenow (2009) impute the distortion parameters in the following manner:

$$\tau_{K_{si}} = \frac{\alpha_s}{(1-\alpha_s)} \frac{wL_{si}}{RK_{si}} - 1 \tag{A5}$$

$$\tau_{Y_{si}} = \frac{\sigma}{(\sigma-1)} \frac{wL_{si}}{(1-\alpha_s)P_{si}Y_{si}} - 1 \tag{A6}$$

Expression (A5) implies that a capital distortion is observed where the ratio of the plant's wage bill to capital stock is higher than the ratio of their respective output elasticities. The next expression (A6) implies that an output distortion is observed where the labor share is lower than the elasticity of output with respect to labor. In both cases, we are comparing undistorted US labor and capital shares with the corresponding information observed for Punjab to infer the distortions.

This exercise requires following key parameters: labor and capital shares (α_s), elasticity of substitution between plants (σ), rental price of capital (R), and industry output shares (θ_s). We will follow the same conventions in order to maintain the comparability of our results to Hsieh and Klenow's analysis. We have already discussed source of labor and capital distortions. Elasticity of substitution between plants is positively correlated with liberalization gains; therefore, to avoid the exaggeration of results, it is taken as the modest estimate of $\sigma = 3$. Undistorted rental price of capital is taken as $R = 0.10$. For each firm, this parameter will change according to observed capital distortion. Furthermore, since we are using relative productivity measures, choice of this parameter will not affect our liberalization experiments. Finally, industry output shares are taken as ratio of aggregate industry value added to aggregate economy-wide value added $\theta_s = \frac{P_s Y_s}{Y}$

Annex 3

Caveats About the Data

Coverage in the CMI may be somewhat smaller than implied by the summary reports. According to the Pakistan Bureau of Statistics' summary report on the CMI 2000/01, 68.8 percent of still-operating firms responded in the Punjab. According to the 2002 Directory of Industries, there were 287 surgical instrument producers with at least ten employees, but the 2000/01 CMI captures only 47 firms in this sector. Furthermore, there appear to be variations by industry: the 2002 Directory of Industries reports 43 sporting goods firms with at least ten employees, while the 2000/01 CMI dataset indicates 38 firms in the same industry. Moreover, 267 firms do not report any sales (local or export) of final goods and earn their income mainly as subcontractors to other firms.

Annex 4

Figures for Other Sectors Considered

All the figures in this annex are based on data from the CMI Punjab 2000/01.

Figure A1: Average labor productivity, by sector and exporting status

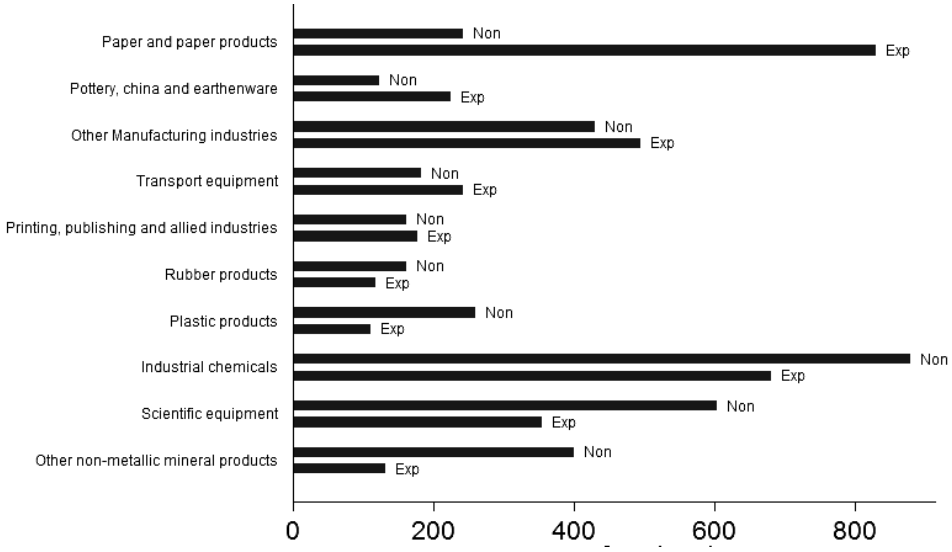


Figure A2: Average employment, by sector and exporting status

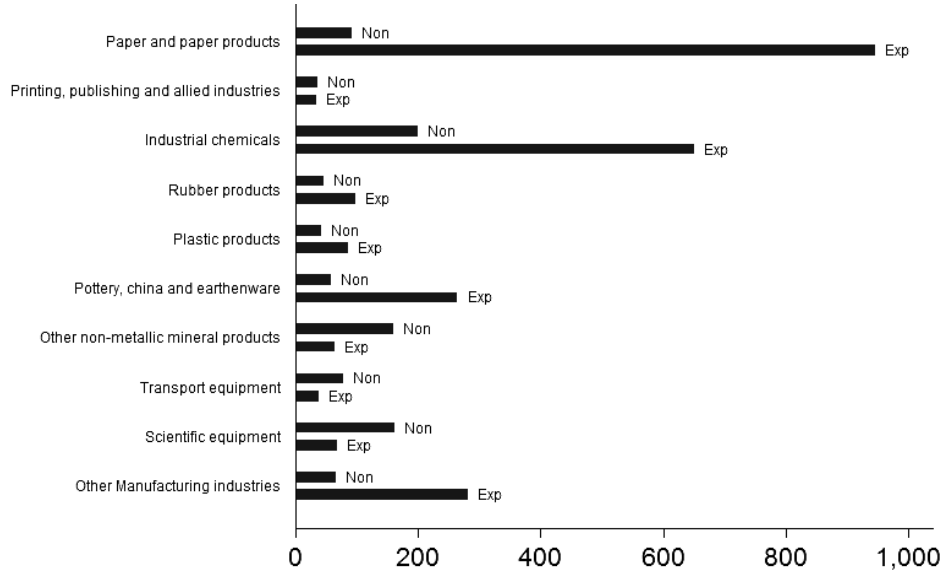


Figure A3: Average compensation for production (including contract) workers, by sector and exporting status

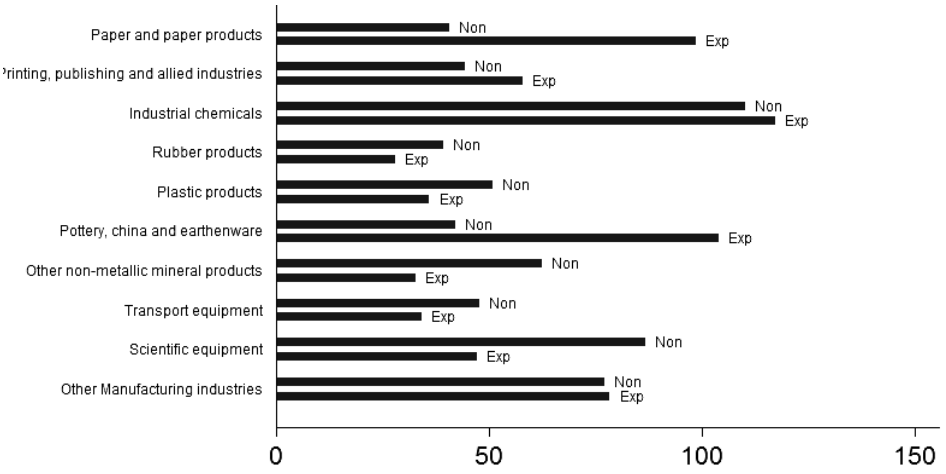


Figure A4: Capital-labor ratio, by sector and exporting status

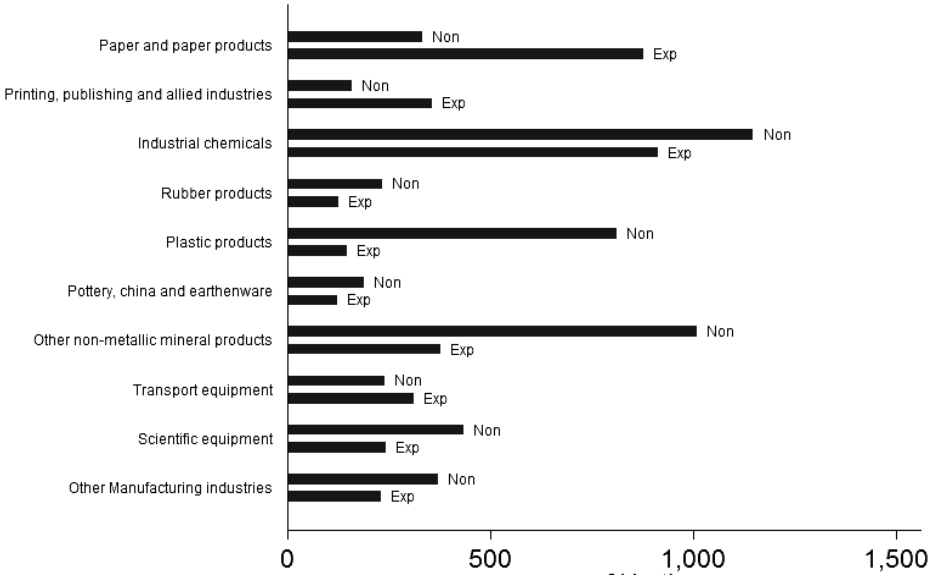
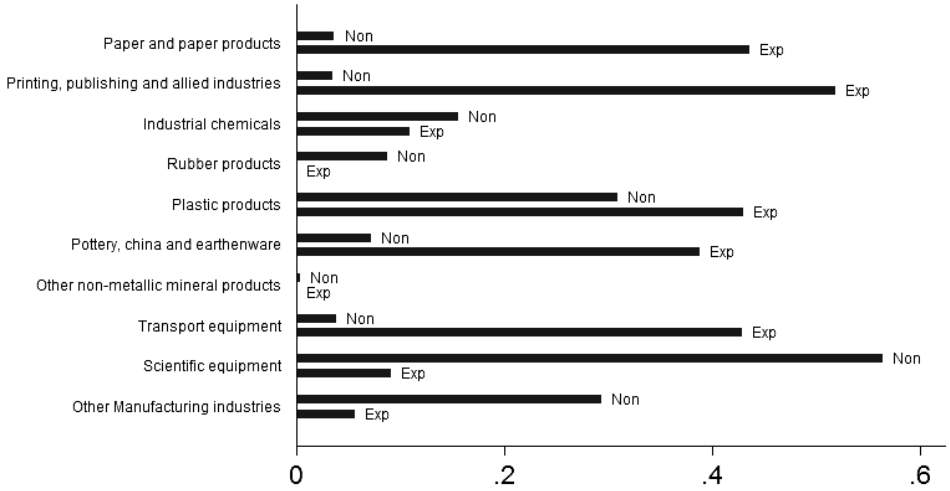


Figure A5: Use of imported inputs, by sector and exporting status



Source: Authors' calculations.

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Compliance with Global Quality Requirements in Pakistan's Export Sector

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Abstract

This paper describes the level of compliance with quality standards in relation to Pakistan's top export product categories. With greater competition, innovations in technology, and stricter measures of quality being enforced, Pakistan needs to adopt a holistic, systematic approach to not just meeting, but also exceeding, international quality standards and certifications for its exports. Focusing on rice and textiles, we identify which compliance-related gaps need to be filled to ensure the sustainable growth of high-quality exports to major global markets. The study outlines the key dimensions of international quality standards as well as specific standards and requirements for textiles and rice, examines the quality assurance infrastructure in Pakistan, and presents policy recommendations.

Keywords: Global quality standards, exports, compliance, Pakistan.

JEL classification: L15, P45, Q18, Q27.

1. Introduction

Global trade has increased manifold in the last 15–20 years with countries such as China, India, and Bangladesh having increased their exports significantly since 2000. The overall economic contribution of a country's export sector should not be underestimated: Pakistan's exports, for instance, are a major source of foreign exchange earnings and a key source of employment (Table 1).

The opportunities arising from increased global trade are accompanied by numerous challenges both for manufacturers and exporters. One of these is meeting strict quality and compliance requirements, not only from a product-specific and technical perspective, but also from regulatory, social, environmental, performance, and customer-specific standpoints. This paper provides an overview of quality standards and certification with reference to Pakistan's principal export

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categories: textiles (specifically cotton cloth, knitwear, cotton yarn, readymade garments, and towels) and rice. It assesses their level of compliance with global requirements, identifies any gaps, and presents some policy recommendations for improving the situation. Chemicals and pharmaceuticals are seen as a potential category of export growth and thus included in our analysis in some cases.

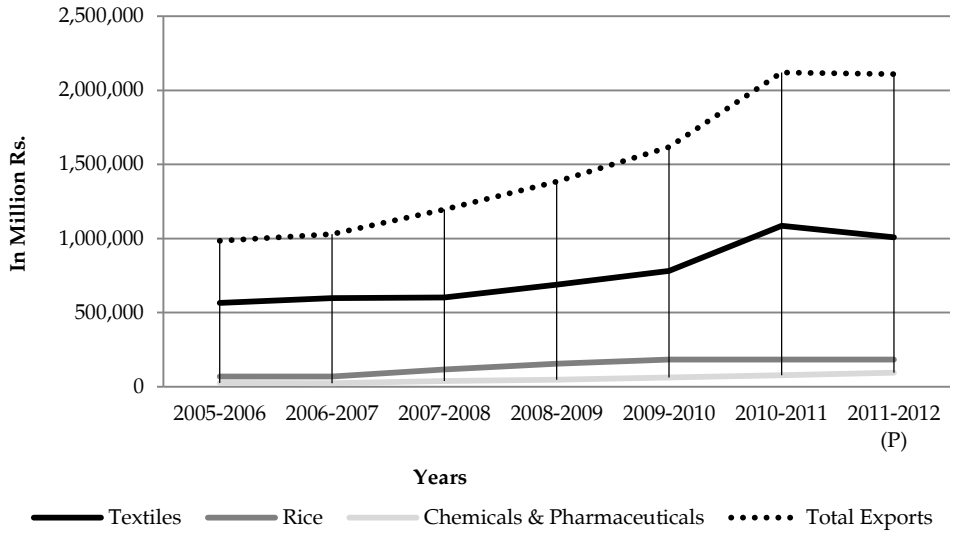
Table 1: The textile industry's economic contribution, 2011/12

Exports	52% of total exports (US$ 12.36 billion)
Manufacturing	46% of total manufacturing
Employment	40% of total labor force
GDP	8.5% of total GDP
Market capitalization (listed companies)	5.0% of total market capitalization

Source: http://www.aptma.org.pk/Pak_Textile_Statistics/repo.asp

Historically, the textiles sector has dominated Pakistan's exports with respect to value as well as volume (Table 2). Rice represents the country's important agriculture sector and has shown significant export growth in recent years, increasing almost threefold from 2005/06 to 2011/12 (Table 2 and Figure 1). Figure 1 shows growth trends for textiles, rice, chemicals and pharmaceuticals, and total exports.

Figure 1: Pakistan's major exports, 2005–12



Note: P = provisional.
Source: Pakistan Economic Survey for 2011/12 and 2012/13.

Table 2: Export categories

	Top exports	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12*
1	Rice	68,786	68,286	117,088	154,762	183,371	183,557	184,405
2	Fish and fish preparations	11,578	11,419	13,329	18,465	19,051	25,319	28,598
3	Fruits	7,331	6,892	9,086	12,313	20,086	23,138	32,069
4	Wheat		5,863	446	3,064	61	49,746	11,179
5	Sugar	1,591		5,739	640	2		2,576
6	Meat and meat preparations	1,126	2,515	3,069	5,546	8,327	13,027	15,518
7	Raw cotton	4,038	3,048	4,425	6,827	16,367	30,734	41,392
8	Cotton yarn	83,490	86,588	81,321	87,354	120,069	186,601	162,003
9	Cotton cloth	126,674	122,864	126,172	153,039	150,937	219,065	218,160
10	Knitwear	103,876	115,865	114,481	135,998	147,866	196,110	176,681
11	Bed linen	120,750	121,005	119,030	136,105	146,195	178,290	155,109
12	Towels	35,699	36,546	38,453	50,387	56,012	64,978	61,326
13	Readymade garments	79,131	86,965	93,703	96,483	106,446	152,858	144,268
14	Made-up articles (art, silk, and synthetic textiles)	11,847	25,464	25,494	21,740	37,422	57,103	48,816
15	Carpets, carpeting, rugs, mats	15,367	14,147	13,528	11,392	11,473	11,285	10,758
16	Sports goods excl. toys	20,569	17,481	19,012	21,393	25,021	27,839	30,242
17	Leather excl. reptile leather (tanned)	17,293	20,237	26,026	23,394	28,699	39,569	39,841
18	Leather manufactures	42,870	33,592	43,765	43,473	38,413	46,178	46,535
19	Footwear	8,709	6,944	7,778	9,875	7,763	9,296	8,861
20	Medical/surgical instruments	9,739	11,571	16,368	19,870	19,203	21,995	27,126
21	Chemicals and pharmaceuticals	25,799	23,744	38,913	47,289	62,251	77,816	96,009
22	Engineering goods	13,105	14,397	13,356	20,752	19,294	21,650	24,727
23	Jewelry	966	2,550	13,477	22,444	53,456	34,588	82,774
24	Cement/cement products	6,143	8,844	26,390	45,574	40,261	38,191	44,618
25	All other items	168,362	182,485	226,189	235,539	299,412	411,914	417,015
	Total exports	984,839	1,029,312	1,196,638	1,383,718	1,617,458	2,120,847	2,110,606

* Provisional exports.

Source: Pakistan Economic Survey for 2012/13.

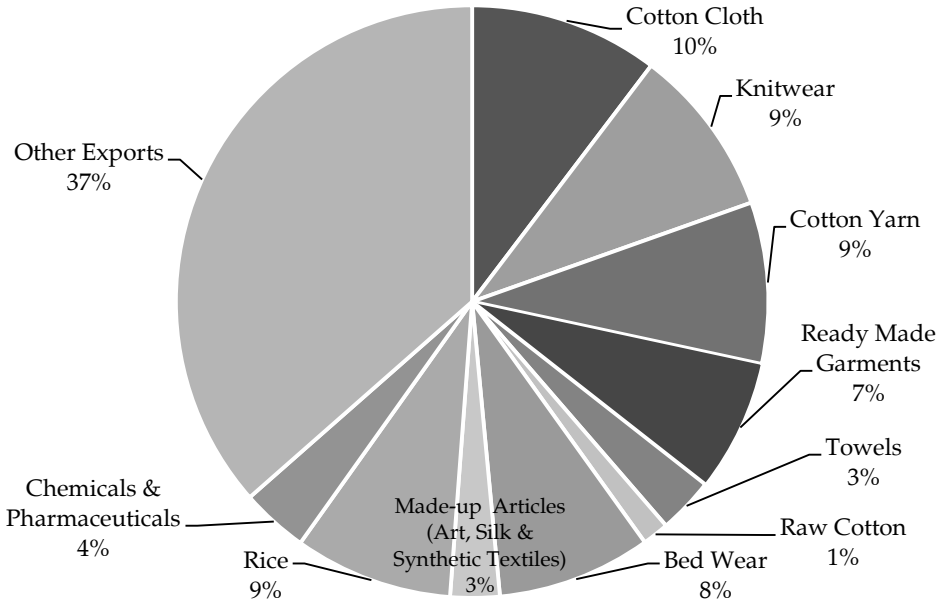
Table 3 shows the structure of major exports from 2005 to 2012. Figure 2 shows that the textiles sector still leads among export categories, followed by rice.

Table 3: Pakistan's major exports (PRs million)

	Textiles										
Year	Cotton cloth	Knitwear	Cotton yarn	Readymade garments	Towels	Raw cotton	Bed linen	Made-up articles*	Rice	Chemicals + pharmaceuticals	Total
2005/06	126,674	103,876	83,490	79,131	35,699	4,038	120,750	11,847	68,786	25,799	984,839
2006/07	122,864	115,865	86,588	86,965	36,546	3,048	121,005	25,464	68,286	23,744	1,029,312
2007/08	126,172	114,481	81,321	93,703	38,453	4,425	119,030	25,494	117,088	38,913	1,196,638
2008/09	153,039	135,998	87,354	96,483	50,387	6,827	136,105	21,740	154,762	47,289	1,383,718
2009/10	150,937	147,866	120,069	106,446	56,012	16,367	146,195	37,422	183,371	62,251	1,617,458
2010/11	219,065	196,110	186,601	152,858	64,978	30,734	178,290	57,103	183,557	77,816	2,120,847
2011/12 (P)	218,160	176,681	162,003	144,268	61,326	41,392	155,109	48,816	184,405	96,009	2,110,606

Note: * = art, silk, and synthetic textiles; P = provisional.
***Source*:** Pakistan Bureau of Statistics.

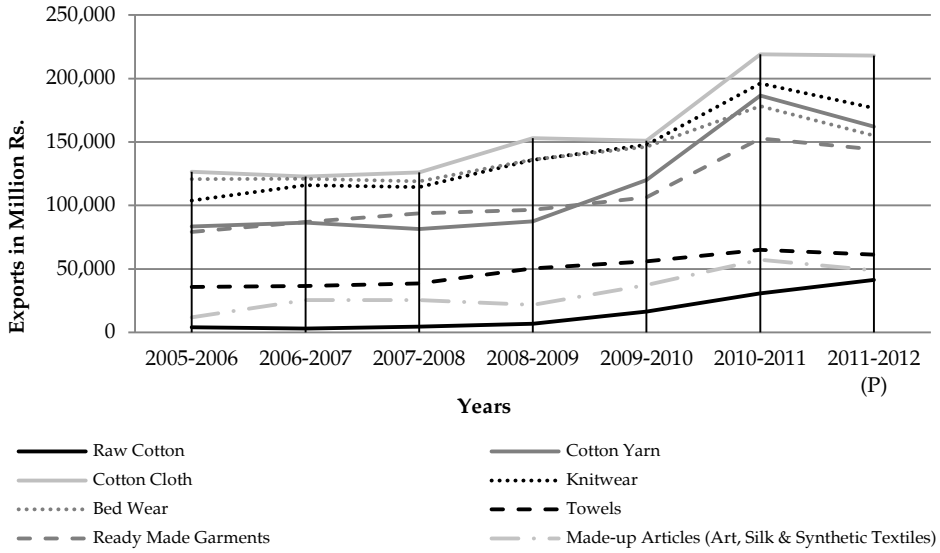
Figure 2: Overall exports of textiles, rice, and other products, 2010/11



Note: Data includes provisional exports.
Source: Pakistan Economic Survey for 2012/13.

Figure 3 shows the overall growth trends for all textile categories; of these, cotton cloth has consistently trended upward.

Figure 3: Growth trends for textile export categories, 2005–12*



Note: * = provisional.
***Source*:** Pakistan Bureau of Statistics.

2. Key Dimensions of International Quality Requirements

This section examines the main international quality standards that apply to textile and rice exports.

2.1. Textiles

The requirements and standards that apply to textile exports can be categorized broadly as (i) regulatory (safety, labeling, origin, or other); (ii) product-specific (durability, performance, appearance); (iii) customer-specific (physical, chemical, or other); (iv) social (labor, facility, and work environment); and (v) environmental.

2.1.1. Key International Quality Standards Applicable

The main international quality standards for textile exports include the following (see Small and Medium Enterprise Development Authority, n.d.):

- *ISO 9001/2000* (gaining competitive advantage through quality)
- *ISO 14001* (proving the producer's environmental responsibility)

- *OHSAS 18001* (demonstrating the ability to manage risk)
- *SA 8000* (enhancing a company's reputation through social responsibility)
- *ISO 17799/BS 7799/BS 15000* (improving the security of a business)
- *WRAP* (certification of lawful, human, and ethical manufacturing)
- *Eco-labels* (eco-labels differ in many respects. Based on the product's scope and familiarity with the textiles sector, two labels are selected that could add value to the Pakistani industry.)
- *Oeko-Tex 100* (a label that focuses on minimizing the presence of dangerous chemicals in textile products)
- *EU Eco-Label for Textiles* (sometimes referred to as the "European flower," it takes into account the complete lifecycle of a textile product)
- *Customer-specific requirements* related to facility, product, labor, and environment.

Compliance with these standards is likely to boost textile exports. They cover a range of dimensions, including technical, product-specific, safety/regulatory, performance-related, and social and environmental standards. Larger firms, particularly those conscious of their corporate image, identify their own codes of conduct, employ their own auditors, and do not rely solely on international certifications such as ISO. Such firms include, among others, Disney, Ikea, Gap, Wal-Mart, Levi Strauss & Co., and Nike. Their own codes of conduct relate mainly to capacity, capability, safety, environment, child labor, discrimination, applicable laws, and working conditions.

Nike, for instance, follows a Restricted Substance List program and does not allow the use of heavy metals such as cadmium, azo dyes, and other chemical compounds deemed harmful for humans and/or the environment. Other global brands may insist on using organically grown cotton for their products given consumer demand and willingness to pay a premium for such products. In the case of Disney, the company employs a focused code of conduct including environmental protection and labor standards.

2.1.2. Constraints to Meeting Quality Standards

Our findings are based primarily on interviews with the Sapphire Group of Companies, the Chakwal Group, Matrix Sourcing, Trans-Atlantic

Business Solutions, and Intertex.[1] The key constraints identified by the business operators we interviewed are listed below:

- The lack of quality orientation and commitment to labor on the part of entrepreneurs
- Poor in-process handling, which can result in product contamination and poor appearance, and an emphasis on fixing defects downstream instead
- Inconsistent product quality
- Very few facilities that are engaged in high-quality pattern making and stitching
- The near absence of approaches to labor and human resource development
- The country's poor law and order situation, which discourages customers from visiting the industry regularly
- The high cost of energy, which, in some cases, compels producers to cut corners in process and product quality
- The dearth of high-quality raw materials and inputs needed to produce high-value consumer products
- Issues related to packaging material quality and labeling (barcodes, radio frequency identification, etc.)
- The lack of IT infrastructure, such as enterprise resource planning and electronic data interchange at the supplier level, which are critical to becoming part of high-performance global supply chains.

2.2. Rice

According to the Codex standards (198-1995) for rice,

> Rice is whole and broken kernels obtained from the species *Oryza sativa L.* Paddy rice is rice which has retained its husk after threshing. Husked rice (brown or cargo rice) is paddy rice from which the husk only has been removed. The process of husking and handling may result in some loss of bran. Milled rice (white rice) is husked rice from

[1] These firms were represented, respectively, by: Shayan Abdullah (owner and operator), Khawaja Shehzad (owner and operator), Azfar Hassan (chief executive officer), Mohammad Azhar (chief executive officer), and Shahid Chaudhry (chief executive officer).

> which all or part of the bran and germ have been removed by milling. Parboiled rice may be husked or milled rice processed from paddy or husked rice that has been soaked in water and subjected to a heat treatment so that the starch is fully gelatinized, followed by a drying process. Glutinous rice (waxy rice) [comprises] kernels of special varieties of rice, which have a white and opaque appearance. The starch of glutinous rice consists almost entirely of amylopectin. It has a tendency to stick together after cooking (Codex Alimentarius Commission, 1996).

Rice quality factors thus include general as well as specific standards, and relate to contaminants, hygiene, packaging, and labeling. According to the Rice Exporters Association of Pakistan (REAP) (2012), "for consumers, quality encompasses a complete range of visual, sensory and palatability criteria that include impressive appearance of raw as well as cooked rice texture in terms of stickiness/flakiness and appealing aroma."[2] Rice is generally classified by grain length or by the ratio of length to width. For simplicity's sake, Pakistan's rice exports can be divided into basmati and non-basmati varieties. Basmati generally fetches a much higher price than non-basmati varieties.[3]

2.2.1. Constraints to Meeting Quality Standards

Our main findings are based on interviews with leading rice exporters, including Guard Rice, Reem Rice Mills, and Ideal Rice.[4] The key constraints identified by the business operators we interviewed are listed below:

- The dearth of effective research on grain development and new varieties
- The poor handling of pre-harvest and post-harvest paddy, which results in high moisture content, leading to numerous quality issues such as the development of aflatoxins
- The lack of accredited local testing facilities for critical tests related to DNA, aflatoxin, heavy metals, genetically modified organisms (GMOs), pesticide residue, and others

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[2] See http://reap.com.pk/links/about_rice.asp

[3] Interview with Abdul Basit, Head of Exports, Guard Rice, Lahore.

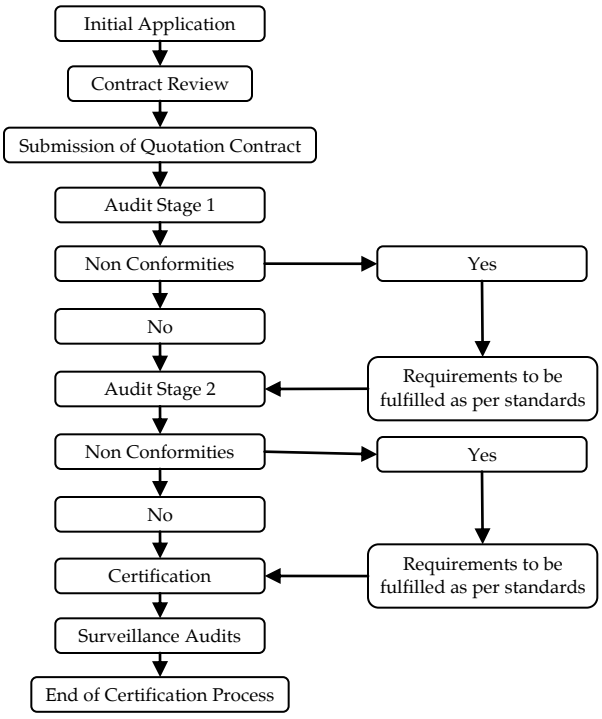
[4] These firms were represented, respectively, by Abdul Basit (head of exports), Javed Islam Agha (firm owner and cofounder of REAP), and Ahsan Saeed Sheikh (owner and operator).

- The change in pre-shipment inspection (currently handled by the Quality Review Committee (QRC) under the government-controlled Trade Development Authority of Pakistan; since control shifted from REAP to TDAP, exporters' confidence in the QRC has been compromised significantly)
- Inadequate quality and compliance orientation at the grower level, leading to numerous issues for exporters
- The absence of an effective body representing the interests of the supply chain as a whole.

2.2.2. Obtaining International Certification

Figure 4 illustrates the procedure for obtaining major international certification such as from the International Organization for Standardization (ISO) and hazard analysis critical control point (HACCP) systems.[5]

Figure 4: Procedure for obtaining major international certification

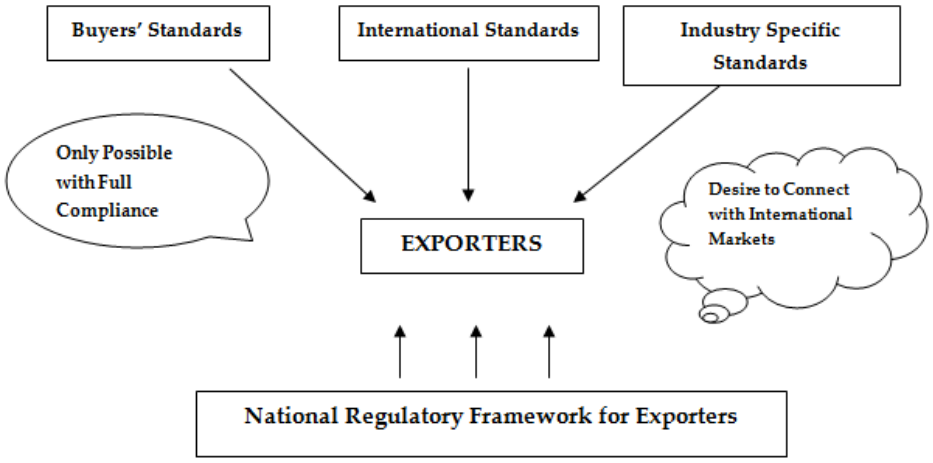


Source: Small and Medium Enterprise Development Authority (n.d.).

[5] For further details, see http://www.fao.org/docrep/meeting/008/y5871e/y5871e0m.htm

Figure 5 provides a general idea of the regulatory framework followed by exporters, who need to comply with buyers' standards, international standards and, in some cases, industry-specific standards (e.g., Nike and Ikea in the case of textiles). Rice exporters may need to comply with country-specific standards such as those laid down by the Saudi Standards, Metrology and Quality Organization (SASO) (for exporting rice in to Saudi Arabia).

Figure 5: Regulatory framework for exporters



3. Standards and Requirements for Textiles and Rice

Some of the main international testing standards for textiles are laid down by the American Society for Testing and Materials, the American Association of Textile Chemists and Colorists, the British Standards Institute, the ISO, the European Committee for Standardization, the Electrotechnical Commission, and the Technological Association of the Pulp and Paper Industry (see Appendix).

Rice testing requirements can vary from market to market. Some of the more common testing requirements for Europe include tests related to:

- Aflatoxin
- DNA
- Heavy metals
- GMOs
- Pesticide residue

The inspection criteria include product specifications and physical characteristics such as:

- Moisture percentage
- Average grain length
- Broken grains
- Purity
- Shriveled percentage (immature grain)
- Damaged grains (discolored, field damage, heat damage, fungus)
- Foreign content (e.g., insects, stones, etc.)
- Tip breakage
- Whiteness

4. Quality Assurance Infrastructure in Pakistan

Tables 4 and 5 provide a generic capability matrix for the textiles and rice sectors. It is evident that international quality service providers are generally considered more reliable and are often a nominated source for testing, inspection, and certification requirements because they are globally recognized and have the requisite capacity and networks.

Table 4: Major players in textile quality assurance in Pakistan

	Capability			
Organization	**Testing**	**Inspection**	**Certification**	**Origin**
SGS Consumer Testing Services	√	√	√	International
Intertek Pakistan	√	√	√	International
Bureau Veritas Consumer Products Services	√	√	√	International
Textile Testing International	√	√	×	National
Pakistan Textile Testing Foundation	√	√	√	National
Pakistan Council of Scientific and Industrial Research	√	√	×	National
In-house laboratories	√	×	×	National

Source: Pakistan Standards and Quality Control Authority.

Table 5: Major players in rice quality assurance in Pakistan

Organization	Capability			Origin
	Testing	Inspection	Certification	
SGS	√	√	√	International
Intertek Pakistan	√	√	√	International
Bureau Veritas	√	√	√	International
Eurofins	√	√	×	International
Agriculture – Industry – Marine Survey and Inspection Group	√	√	√	International
e-Rice Lab	√	√	√	National
National Institute for Biotechnology and Genetic Engineering	√	√	×	National
Pakistan Council of Scientific and Industrial Research	√	√	√	National
Nuclear Institute for Agriculture and Biology	√	×	×	National
In-house laboratories	√	×	×	National

Source: Pakistan Standards and Quality Control Authority.

5. Policy Recommendations

Based on our findings, the following measures would help the textiles sector improve its compliance with international certification standards:

- Investing in research and development (R&D) in cotton crop production to improve yield and quality.
- Investing in human resource development at all levels, including leadership and management training for entrepreneurs.
- Seeking joint ventures with technically advanced and mature players such as China, Sri Lanka, and Turkey.
- Encouraging textile firms to hire and train women workers for garments and knitwear production—a step the government should, in turn, facilitate.
- Facilitating travel by foreign buyers.
- Promoting cluster development for sub-sectors within textiles.

- Encouraging big players across different sectors of the industry to form strategic partnerships (holding companies) capable of reaching a size/scale of operations comparable with that of regional competitors.
- Promoting effective public-private partnerships to improve Pakistan's image as a high-quality supplier of textiles and apparel.
- Introducing a national quality award in Pakistan along the lines of the Malcolm Baldrige National Quality Award in the US; the government could support this with financial and nonfinancial rewards.

The following measures would help the rice sector improve its compliance with international certification standards:

- The sector should focus on result-oriented R&D in grain development and new varieties of rice.
- The government should enact laws that deal with the proper pre- and post-harvest handling of paddy and launch awareness campaigns at the grower level to highlight the benefits of doing so.
- The government could also offer soft loans for the establishment and improvement of storage facilities for paddy.
- National and local testing and inspection facilities should seek globally recognized accreditation.
- The QRC should function independently of the TDAP.
- For pre-shipment inspections, recognized third parties such as SGS should be added to the list of approved service providers (in addition to the QRC).
- The government should encourage the export of branded rice by offering soft loans and other incentives.
- The sector should establish an effective body that represents the interests of the whole sector and has global outreach. This would facilitate R&D and help register new varieties. The proposed body should work in coordination with the public sector to improve awareness at the farmer level and help formulate a comprehensive code of conduct and/or regulations for the entire rice supply chain.

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Appendix

Table A1: Testing standards for textiles and fabrics

Standard	Description
ASTM D1388	Measures the stiffness of fabrics, bending length, and flexural rigidity.
ASTM D1683	Measures the sewn seam strength in woven fabrics by applying a force perpendicular to the sewn seams.
ASTM D2061	Determines the strength of zippers and zipper parts.
ASTM D2136	Fabrics coated with rubber or rubber-like material display increased stiffening when exposed to decreasing ambient temperatures. This test employs a simple pass/fail procedure to determine material flexibility at a specified low temperature. Failure indicates the unacceptability of the coated fabric for use at that temperature.
ASTM D2208	Determines the breaking strength of leather by the grab method. Intended for use on light, soft leathers; boarded, sueded, or embossed leathers tested on a specimen in the form of a rectangle; narrow strap, welt, lace, and round belt leathers; or other leathers that cannot be accurately tested using method D2209. Does not apply to wet blue.
ASTM D2209	Determines the load required to rupture a leather test specimen of 1/2″ (12.7 mm) width. The load to rupture divided by the original unstretched cross-sectional area gives the tensile strength. Can be used for all types of leather that are smooth and firm enough to permit accurate thickness measurements.
ASTM D2211	Measures the elongation or stretch characteristics of leather produced by a tensile load.
ASTM D2212	Determines the slit tear resistance of light leathers such as shoe uppers, gloves, and upholstery.
ASTM D2213	Determines the compressibility of sole leather.
ASTM D2261	Measures the tearing strength of textile fabrics by the tongue (single-rip) procedure using a recording CRE-type tensile testing machine.
ASTM D2594	Measures fabric stretch and growth of knitted fabrics intended for applications requiring low-power stretch properties.
ASTM D3107	Determines the amount of fabric stretch, fabric growth, and fabric recovery of fabrics woven in whole or in part from stretch yarns after a specified tension and extension.
ASTM D4393	Determines peel adhesion of reinforcing fabrics that are bonded to rubber compounds. Applicable to either woven or parallel cord textile structures from both natural and manmade fibers and to parallel steel cord structures.
ASTM D4704	Determines the tearing strength of leather by measuring the force required to tear a specimen cut perpendicular to the surface.
ASTM D4705	Determines the stitch tearing resistance of leather, using a double-hole tear. Particularly applicable to lightweight leathers.
ASTM D4786	Determines the stitch-tearing strength of leather with a tear originating from one hole. Particularly applicable to heavy leather.

Standard	Description
ASTM D4831	Intended for use on all types of leather to determine the load required to tear a leather strap fastened in a buckle.
ASTM D5034	Grab and modified grab test procedures to determine the breaking strength and elongation of most textile fabrics. Provision is made for wet testing.
ASTM D5035	Raveled-strip and cut-strip test procedures to determine the breaking force and elongation of most textile fabrics. Provision is made for wet testing.
ASTM D5170	Measures the peel strength of hook-and-loop touch fasteners using a recording CRE tensile testing machine.
ASTM D5587	Measures the tearing strength of textile fabrics by the trapezoid procedure using a recording CRE-type tensile testing machine.
ASTM D5733	Measures the tearing strength of nonwoven fabrics by the trapezoid procedure using a recording CRE tensile testing machine.
ASTM D5735	Measures the tearing strength of nonwoven fabrics by the tongue (single-rip) procedure using a recording CRE tensile testing machine.
ASTM D6077	Measures the tearing load of nonwoven fabrics by the trapezoid method for leather.
ASTM D6571	Measures compression resistance and recovery properties of any type of high-loft nonwoven fabric using a simple, economical applied static weight-loading technique.
ASTM D6614	Determines the amount of fabric stretch and fabric growth after a specified extension and held for a specified time.
ASTM D6644	Measures the resistance of the bridge of a sew-through button to a steadily increasing strain.
ASTM D6775	Determines the breaking strength and elongation of textile webbing, tape, and braided materials using a split-drum type specimen clamp.
ASTM D6797	Measures the bursting strength of woven and knitted textiles taken from rolls of fabric or fabric taken from garments.
BS 3356:1990	Determines the bending length and flexural rigidity of fabrics.
BS 3424-5:1982	For coated fabrics. Methods 7A, 7B, and 7C. Determines tear strength.
BS 4098:1975	Determines thickness, compression, and recovery characteristics of textile floor coverings.
BS 6906-8:1991	Geotextiles: determines sand-geotextile frictional behavior by direct shear.
BS EN 12242:2000	Touch-and-close fasteners: determines peel strength.
BS EN 13542:2001	Manufactured articles filled with feather and down: determines the compressibility index of clothing.
BS EN 13895:2003	Textiles and monofilaments: determines tensile properties.
BS EN 1875-3:1998	Rubber- and plastic-coated fabrics: determines tear strength using trapezoidal method.
BS EN 1876-1:1998	Rubber- or plastic-coated fabrics: low temperature tests, bending test.

Standard	Description
BS EN 1897:2001	Geotextiles and geotextile-related products: determines compressive creep properties.
BS EN 29073-3:1992, ISO 9073-3:1992	Nonwovens: determines tensile strength and elongation.
BS EN ISO 10319:1996, ISO 10319:1993	Geotextiles: wide-width tensile test.
BS EN ISO 10321:1996, ISO 10321:1992	Geotextiles: tensile test for joints/seams by wide-width method.
BS EN ISO 10618:2004	Carbon fiber: determines tensile properties of resin-impregnated yarn.
BS EN ISO 12957-2:2005	Geosynthetics: determines friction characteristics; inclined plane test.
BS EN ISO 13431:1999	Geotextiles and geotextile-related products: determines tensile creep and creep-rupture behavior.
BS EN ISO 13934-1:1999	Textiles: tensile properties of fabrics; determines maximum force and elongation at maximum force using the strip method.
BS EN ISO 13934-2:1999	Textiles: tensile properties of fabrics; determines maximum force using the grab method.
BS EN ISO 13935-1:1999	Textiles: seam tensile properties of fabrics and made-up textile articles; determines maximum force to seam rupture using the strip method.
BS EN ISO 13935-2:1999	Textiles: seam tensile properties of fabrics and made-up textile articles; determines maximum force to seam rupture using the grab method.
BS EN ISO 13937-2:2000	Textiles: tear properties of fabrics; determines tear force of trouser-shaped test specimens (single-tear method).
BS EN ISO 13937-3:2000	Textiles: tear properties of fabrics; determines tear force of wing-shaped test specimens (single-tear method).
BS EN ISO 13937-4:2000	Textiles: tear properties of fabrics; determines tear force of tongue-shaped test specimens (double-tear test).
BS EN ISO 14125:1998	Fiber-reinforced plastic composites: determines flexural properties.
BS EN ISO 1421:1998	Rubber- or plastic-coated fabrics: determines tensile strength and elongation at break.
BS EN ISO 2062:1995	Textiles: yarns from packages; determines single-end breaking force and elongation at break.
BS EN ISO 252-1:1999	Textile conveyor belts: adhesive strength between constitutive elements; methods of test.
BS EN ISO 283-1:2000	Textile conveyor belts: full thickness tensile testing; determines tensile strength, elongation at break, and elongation at the reference load.
BS EN ISO 3376:2002	Leather: physical and mechanical tests; determines tensile strength and percentage extension.
BS EN ISO 3377-1:2002	Leather: physical and mechanical tests; determines tear load (single-edge tear).

Standard	Description
BS EN ISO 3377-2:2002	Leather: physical and mechanical tests; determines tear load (double-edge tear).
BS EN ISO 4674-1:2003	Rubber- or plastic-coated fabrics: determines tear resistance (constant rate of tear methods).
BS EN ISO 505:2000	Textile conveyor belts: determines tear propagation resistance.
BS EN ISO 5079:1996	Textiles: determines breaking force and elongation at break of individual fibers.
BS EN ISO 9073-4:1997	Textiles: nonwovens; determines tear resistance.
BS EN ISO 9073-7:1998	Textiles: nonwovens; determines bending length.
BS ISO 3341:2000	Textile glass: yarns; determines breaking force and breaking elongation.
BS ISO 3342:1995	Textile glass: mats; determines tensile breaking force.
BS ISO 3597-2:2003	Textile glass-reinforced plastics: determines mechanical properties on rods made of roving-reinforced resin (flexural strength).
BS ISO 3597-3:2003	Textile glass-reinforced plastics: determines mechanical properties on rods made of roving-reinforced resin (compressive strength).
BS ISO 4606:1995	Textile glass: woven fabrics; determines tensile breaking force and elongation at break by the strip method.
EN 14689	Leather: physical and mechanical tests; determines bagginess, creep, and relaxation.

Note: CRE = constant rate of extension.
Source: ASTM International (2014).

Table A2: Different testing and international inspection standards

International testing standards
Textiles
• ASTM International (www.astm.org) • British Standards Institute (www.bsigroup.com) • International Organization for Standardization (www.iso.org) • European Committee for Standardization (www.cen.eu) • International Electrotechnical Commission (www.iec.ch) • Technological Association of the Pulp and Paper Industry (www.tappi.org) • AATCC is the world's leading not-for-profit association serving textile professionals. It provides test method development, quality control materials, and professional networking for thousands of members in 60 countries throughout the world. • Azo dyes (banned in Europe) • Customer-specific
Rice
• Codex Alimentarius Commission (Codex 198-1995)
International inspection standards
Textiles
• As the leading US standards and conformity assessment system, the American National Standards Institute empowers its members and constituents to strengthen the US marketplace position in the global economy while helping to assure the safety and health of consumers and the protection of the environment. • ASTM International (formerly known as the American Society for Testing and Materials) is a globally recognized leader in the development and delivery of international voluntary consensus standards. Today, some 12,000 ASTM standards are used around the world to improve product quality, enhance safety, facilitate market access and trade, and build consumer confidence. • Intertek provides comprehensive services for all textile and apparel inspection, testing, and certification needs to help deliver the highest-quality products. • 4-point American system for acceptable quality limit (AQL) • Saudi Standards, Metrology and Quality Organization • Customer-apecific (e.g. Levis, Nike, Wal-Mart)
Rice
• Food and Agriculture Organization, World Health Organization

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Foreign Direct Investment and Technological Capabilities: The Relevance of the East Asian Experience for Pakistan

Khalil Hamdani[*]

Abstract

This paper makes the case for a vigorous policy thrust to support investment-led growth. Pakistan's economy has not maintained a sufficient level of capital formation to sustain growth over the long term. Two thirds of current growth is driven by consumption and not investment: this needs to be turned around. The government needs to put in place an investment regime that motivates and induces industry to invest, innovate, and reinvest. Foreign direct investment can play an important role in strengthening the country's investment rates. There is also need for deliberate polices to boost technological capabilities in the enterprise sector. In this context, East Asia – which successfully created a dynamic process of capital formation and technological learning that upgraded its productive capacity and underpinned export success – holds important lessons for Pakistan.

Keywords: Investment, technology, industry, Pakistan.

JEL classification: F21, O38, O53.

1. Introduction

The 600-page primer of the Lahore School of Economics, *Pakistan: Moving the economy forward*, contains a wealth of analyses and insights that should nurture a new generation of homegrown economic policymakers. One of these insights is that Pakistan's economy is growing, but not necessarily advancing, in the global economy. On the one hand, it is reassuring to note that economic activity has remained resilient over the last 50 years—with GDP growing at 5.2 percent annually—in spite of frequent setbacks, shocks, and missed opportunities (Hasan, 2013, p. 25). On the other hand, it is disconcerting that growth has not been sustained. This sputtering growth has handicapped Pakistan's efforts to keep pace with other developing countries of comparable economic strength.

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In recent years (2009–13), some two thirds of the country's economic growth has been driven by consumption and not investment (Pakistan, Ministry of Finance, 2013, pp. 9–10). Growth is, of course, welcome in any form, but investment-led growth can instill a dynamic process of capital formation and technological learning that transforms productive capacity and underpins export success. This growth dynamic—which has not taken hold in Pakistan—is one of the main features of the East Asian experience and is relevant to Pakistan's current economic predicament of prolonging growth spurts into growth spirals (Amjad, 2014).

2. The East Asian Experience

Economic growth involves an expansion of output through capital accumulation, factor use, and productivity/efficiency gains according to the available production possibilities. Investment generates income, creates productive capacity, and harnesses technological progress. This can be an arduous process but for developing countries operating inside the world technological frontier, it is a relatively simple matter of "catch-up."

The premise of catch-up is that scarcities at home can be augmented from abroad. The catch-up process operates through capital inflows, technology transfers and knowledge sharing, and trade: the exchange of traditional products for capital- and skill-intensive goods necessary to transform and upgrade productive capacities. Generally, the more backward the economy, the greater potential it has to catch up with the rest of the world. Additionally, the more open the economy, the greater the links through which the catch-up process can operate and, hence, the greater the scope for catching up. At the same time, the larger objective is to catalyze a growth dynamic within the economy. Excessive reliance on external drivers can perpetuate dependencies that stifle the emergence of entrepreneurial and innovative behavior.

Thus, the policy challenge is to manage the catch-up process—the asymmetry of global links, the interaction between foreign and domestic actors, and the national institutions that incentivize economic activity—in a way that the stimulus from abroad uplifts and empowers national capabilities. A passive approach can inculcate a *rentier* attitude on the part of consumers, producers, and the state. With the right policies, however, the catch-up trajectory can seed growth poles, endogenously driven, that eventually take over, shape, and sustain a country's development path.

The East Asian catch-up experience is illustrative (see, for example, MacDonald, 1993; United Nations Conference on Trade and Development [UNCTAD], 1993; Ernst, Ganiatsos, & Mytelka, 1998; Lall & Urata, 2003). In the 1960s, the East Asian economies—the Republic of Korea, Taiwan (China), Malaysia, Singapore, Thailand, and others—were agricultural economies like Pakistan. However, in a relatively short period, these commodity producers were able to achieve high rates of capital accumulation and transform themselves into newly industrialized economies. They altered their structure of exports from primary commodities to manufactures in little more than a decade, and upgraded their export performance to higher-skill manufactures in the following decade.

The East Asian catch-up was driven by investment and technology in a variety of ways. The Republic of Korea fostered technology acquisition by large conglomerates (*chaebols*). Taiwan encouraged small and medium enterprises (SMEs). Both Korean and Taiwanese enterprises relied on technology transfer through original equipment manufacturing arrangements with large transnational corporations (in electronics) to gain technological competence and access to export markets. Singapore supported state enterprises and attracted foreign direct investment (FDI). Malaysia and Thailand also sought technology transfers through FDI (in textiles, electronics, and automotive components).

Whether through FDI, technology licensing, or other arrangements, a common feature was a twofold strategy to (i) import technology from developed countries to create a manufacturing industry and (ii) augment the transfer with an array of complementary activities and measures to facilitate technological learning. These measures ranged from education programs and business services to favorable (fiscal, financial, tariff, and procurement) polices. The effect was to buttress the ability of enterprises to absorb, assimilate, master, and diffuse technology. The process of "learning by doing" and knowledge spillovers increased technological capabilities across industries.

The enlarged capabilities triggered, in turn, additional processes of technological upgrading and international production sharing. As enterprises mastered particular stages of production, they moved up the technology ladder: from low-skill assembly operations to medium-skill component fabrication and up to higher-skill equipment manufacture and product design. In the process, they outsourced lower-level activities to other domestic firms or to companies in neighbouring countries, including China, linked through cross-border production networks and

value chains. Exports were diversified and inter-industry trade expanded rapidly throughout East Asia. From the Republic of Korea and Taiwan emerged global players such as Acer, Daewoo, Hyundai, and Samsung.

In brief—and this is admittedly a cursory summary—the East Asian experience was a pragmatic mix of FDI, technology transfer and capability development, private initiative, public investment, and policy intervention. While the state nurtured leading industrial sectors, industrialization was enterprise-led. It was the enterprises (public or private) that invested and, crucially, reinvested, ensuring that aggregate *ex post* savings were high and used for productive purposes, thereby enlarging industrial capacity, infusing technological progress, and sustaining dynamic growth.

3. The Relevance for Pakistan

Pakistan's catch-up strategy was similar to that of East Asia in several respects. The emphasis was on rapid industrialization, based on import substitution by the private sector with capital inflows and technology transfers from abroad. Industrial policy restricted the import of consumer goods; offered to enterprises, on favorable terms, financial credit and foreign exchange for the import of machinery and industrial inputs; and invited joint ventures with foreign companies. Industrial policy also favored agro-based industries. Modernized industrial plants were established for fertilizer production. The textiles industry, built on imported capital-intensive machinery, received raw cotton inputs at favorable prices and became the principal exporter of manufactures. The economy expanded at a comfortable rate, with GDP growing at an annual average of 7.3 percent and manufacturing at 9.9 percent in the 1960s.

However, there were also differences in the growth trajectories of East Asia and Pakistan. The latter's technological progress was driven mainly by the acquisition of capital goods from abroad—in some cases, by importing entire turnkey plants and factory complexes. Investment approvals favored capital-intensive production. Little attention was paid to technological learning—absorption, assimilation, improvement—and the possibilities for innovation and, hence, to the need for reinvestment. Capital accumulation, which had risen steadily in the first half of the 1960s, fell back by the end of the decade: the share in GDP of gross fixed capital formation (GFCF) rose from 11 percent in 1960 to 21 percent in 1965 and then slipped back down to 11 percent in 1973. In contrast, GFCF

more than doubled in the Republic of Korea from 11 percent in 1960 to 24 percent in 1973 (World Bank, 2014).

Consider the case of textiles, a priority industry for Pakistan and the East Asian economies. In Taiwan, companies invested in the production of textiles and then reinvested in new technologies for the manufacture of synthetic fibers and the production of garments. The textiles industry soon fostered an upstream fabrics industry and a downstream apparel industry, intertwined with backward and forward linkages. Support industries, such as light engineering, mushroomed. Pakistan, however, did not feel the push to upgrade to manmade fibers due to the availability of natural cotton fibers. Its expansion into the manufacture of higher value-added apparel was slow: today, Pakistan is still mainly a textiles exporter while its principal competitors (China, Bangladesh, India, Indonesia, and Viet Nam) export mainly garments (Table 1).

Table 1: Share of garments in textile and clothing exports, 2012

Country	Percent share
Bangladesh	89
China	62
India	41
Indonesia	61
Pakistan	31
Viet Nam	76

Source: http://unctadstat.unctad.org

There was also a difference in relations between industry and the government. Although industry and wealth was concentrated in East Asia and in Pakistan, the rich in East Asia were more inclined to invest than the rich in Pakistan. The ratio of capital accumulation to wealth concentration—a measure of the propensity of the rich to spend their income on investment rather than consumption—was a low 14 percent in Pakistan and a high 46 percent in the Republic of Korea in the 1970s. In part, this reflects a difference in investor behavior but it also reveals a difference in policy response. In Pakistan, the government responded by nationalizing private enterprise. In East Asia, governments chose to work with industry to inculcate in people the equivalent of the Protestant ethic (sometimes referred to as the Confucian ethic) and establish a positive nexus between profit and investment such that corporate earnings were largely reinvested.

Would Pakistan now be a newly industrialized country alongside East Asia had it not nationalized its industrial sector? Certainly, the disruption was costly. However, the counterfactual is the textiles industry, which was not nationalized and which did not develop a dynamic profit-investment nexus. Clearly, there is a role for a developmental state to put in place an investment regime that motivates and induces industry to invest, innovate, and reinvest.

The state played a key role in the East Asian development experience, and this included operating state-owned enterprises and even nationalization. The Republic of Korea nationalized banking in the 1960s in order to finance the development of the strategic industries of steel, petrochemicals, and shipbuilding. This strategy has its critics but there is no doubt that the country succeeded in shifting its industrial base from the manufacture and export of apparel to automobiles. The success lay not so much in picking winners but in ensuring that those picked became winners.

Consider the case of steel. Both Pakistan and the Republic of Korea built steel mills at about the same time. Pakistan invited Russia to build a massive turnkey plant in Karachi. The Republic of Korea sourced technology from Japan and Europe to build and expand multiple plants through the 1980s. It invested in human resources and technological innovations, and established institutes of industrial science and technology that developed new techniques for smelting and casting. The country also negotiated long-term contracts with overseas suppliers for the import of iron ore and coal, including joint ventures with Australia, Brazil, and Canada. Meanwhile, the Pakistan Steel Mill took 12 years to build (1973–1985) and, although only half its planned size, it has operated in most years at less than half capacity and been unable to cover operating expenses. In retrospect, perhaps a less ambitious and more determined effort would have been preferable—in 1956, the German company Krupp had proposed building a steel mill to process the coal and iron ore in Kalabagh district. Anyhow, the broader lesson is that the role of the state in setting industrial policy is circumscribed by the adequacy and capacity of institutions to support its implementation.

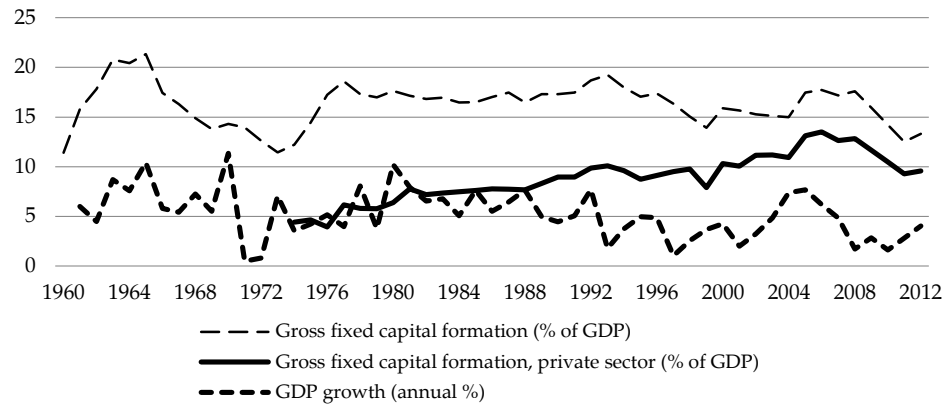
Generally, Pakistan's public enterprises have operated at a loss and been unable to generate sufficient earnings for reinvestment and technological upgrading. The decline of public enterprises suggests an overreach in the 1970s. Since then, the baton of capital accumulation has,

once again, reverted to the private sector: its share has doubled and now accounts for over two thirds of GFCF.

However, a major constraint affecting all industry is the crippling energy shortage that emerged in the 1990s. The energy crisis is a self-inflicted tragedy. It reflects long-term neglect, the weakness of institutions, and a stagnating standoff between vested interests and free riders. Power cuts have escalated from being a nuisance to an endemic problem. Industry now operates at drastically reduced hours, shaving off two percentage points from current growth (Pakistan, Ministry of Finance, 2013, p. 1) and stifling investment for future growth. The economy remains resilient—driven by consumption, remittances, and imports—but the opportunity cost of the energy (and more complex security) problem is that it distracts from the longer-term need to restore the economy to a dynamic growth path.

Looking back at its long-tem performance, Pakistan has not been able to maintain a sufficient level of capital formation to sustain economic growth. Sustainability depends on many factors—including policies and institutions, macro-conditions, and the external environment—and capital formation is also a matter of investing in people (e.g., in their education and health). Nevertheless, economic growth is strongly and positively related to GFCF. A cross-country analysis for 1960–2000 suggests that, as a rule of thumb, a GFCF level of 20–25 percent of GDP is the minimum threshold for dynamic growth (UNCTAD, 2003, p. 61). Capital formation in Pakistan has been well below that level for most of its history (Figure 1).

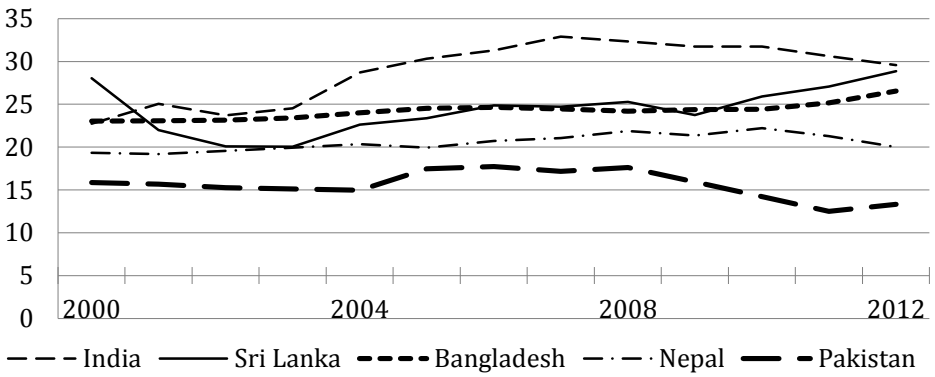
Figure 1: Capital formation below the threshold for dynamic growth



Source: World Bank, World Development Indicators.

Pakistan's comparative performance is also weak. Its neighbors faced similar constraints but have passed the 20 percent threshold (Figure 2). Pakistan's investment regime has also been less successful in inducing a strong response from its elite in comparison not only to East Asia but also within South Asia (Table 2). The country is, relatively, more of a *rentier* than entrepreneurial economy.

Figure 2: GFCF in South Asia (percent of GDP)



***Source*:** World Bank, World Development Indicators.

Table 2: Propensity of the rich to invest (Accumulation/concentration ratio, %)

Country	1970–79	1980–94	1995–2000
Bangladesh	11	16	34
India	25	28	34
Korea	46	53	70
Malaysia	28	32	41
Pakistan	14	18	22
Thailand	35	46	49

Note: The accumulation/concentration ratio is the share of private investment in GDP expressed as a percentage of the share of the richest quintile in total income or consumption.
***Source*:** UNCTAD (1997, pp. 164–165; 2003, p. 64).

4. Toward a Dynamic Growth Strategy

To recap, Pakistan, like other developing countries, has pursued a catch-up growth strategy through the acquisition of capital and technology from abroad. Among possible growth paths, it opted for the turnpike, choosing capital-intensive processes and turnkey projects.

While the economy industrialized rapidly, technological progress became embedded in capital accumulation; technological capabilities did not become a secondary driver of capital formation and growth as they did in the East Asian economies, which stressed technological learning. As a consequence, investment has been sluggish, productivity gains in manufacturing have generally not been realized, and industrial upgrading and diversification has lagged behind that of other countries.

In the 1950s, Pakistan's manufacturing sector grew more rapidly than that of any country except Japan (Papanek, 1964, p. 462), but that was then and its present manufacturing output is less than that of even the lower middle-income developing countries. The technological content of this output is considerably lower (Table 3). Paradoxically, the technology bias implicit in Pakistan's initial choice of capital-intensive techniques contributed to the low technological capability of its manufacturing industry (Table 3).

Technological weakness is a particular handicap to engaging in world trade. Textiles, which were a dynamic export in the 1960s, are now a low-technology, low value-added product in a saturated market. The European Union's award of GSP-plus (tariff preference) status provides welcome room for further growth but it is along a downward path. Pakistan will be expanding exports but it will also be falling behind in the global economy. Textiles have served the country well, but it is time for other industries to develop their export potential and contribute to export diversification.

Table 3: Technological content of manufactures, 2011 (%)

	Pakistan	Lower middle-income developing countries
Manufacturing value added to GDP	18	24
Of which medium- or high-technology	25	40
Manufactured exports in total exports	81	79
Of which medium- or high-technology	11	55

Source: United Nations Industrial Development Organization (2013).

There is need for a vigorous policy thrust to support investment-led growth. Although the scope for macroeconomic stimulus may be limited, there are actions the government can take to bolster investor confidence. FDI can also augment capital formation while easing balance-

of-payments constraints. However, foreign investment—particularly portfolio but also FDI—is not a panacea because outflows can offset inflows under the open capital account.

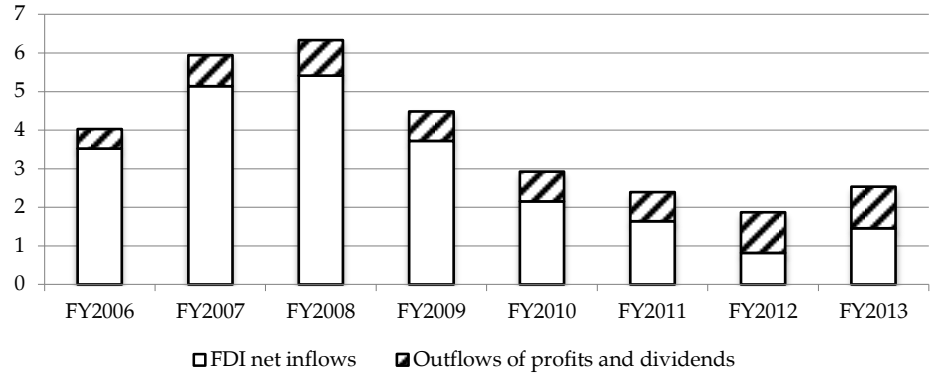
4.1. The Need For a Broader FDI Strategy

A particular effort is needed to realize the potential contribution of FDI. Not only does it generate capital inflows, it also has wider benefits: FDI can infuse capital accumulation with technology and skills transfer, and expand exports through global production networks. However, these benefits are not automatic. The contrasting experience of East Asia suggests that imported technology can either obsolesce (as in Pakistan) or be absorbed into technological progress and productivity growth (as in East Asia). Foreign investors may either settle for domestic markets (as in Pakistan) or upgrade their activities for world markets (as in East Asia). Pakistan needs to make greater effort to capture these wider benefits.

The government's 2013 investment policy and FDI strategy (2013–17) to increase annual FDI inflows to USD 4 billion by 2017 set a target that is ambitious but not unreasonable. As discussed elsewhere (see Hamdani, 2013), Pakistan has successfully attracted FDI in all sectors in the past, including extractive industries, manufacturing for a growing consumer market, and services (telecommunications and banking). FDI inflows in 2007/08 exceeded USD 5 billion. At present, net FDI inflows are around USD 1 billion—less than half the target for 2014. In the first half of the current fiscal year (July–December 2013), the net inflow of FDI from China was negative (USD –12.6 million) even though it had invested USD 174 million in Nepal in the same period. Clearly, we should be doing better, given the political vision of a Pakistan-China economic corridor.

The weakness of the strategy is not its ambition but its singular focus on attracting FDI. Pakistan's preoccupation with macroeconomic management and the balance of payments emphasizes attracting foreign capital inflows and neglects the need to create an investment environment that is conducive to reinvestment and technological upgrading. Both are important: Pakistan needs to attract FDI and also promote sequential investment. The neglect of sequential investment is apparent in the significant annual outflows of profits and dividends that are reducing the net inflow of FDI (Figure 3). With a credible strategy to encourage reinvestment, FDI inflows would be double their level of the past two years. Without it, the economy is merely filling a leaking tub.

Figure 3: FDI inflows would double with reinvestment (USD billion)



Source: State Bank of Pakistan.

A comprehensive approach to FDI strategy would require the government to work with existing investors (foreign and domestic) and encourage them to reinvest and upgrade production, train workers, create supplier linkages, and develop exports. It should also strengthen policies and institutions that support the building up of industrial technological capabilities. Without such efforts to increase sequential reinvestment, future outflows of FDI profits will burden the balance of payments.

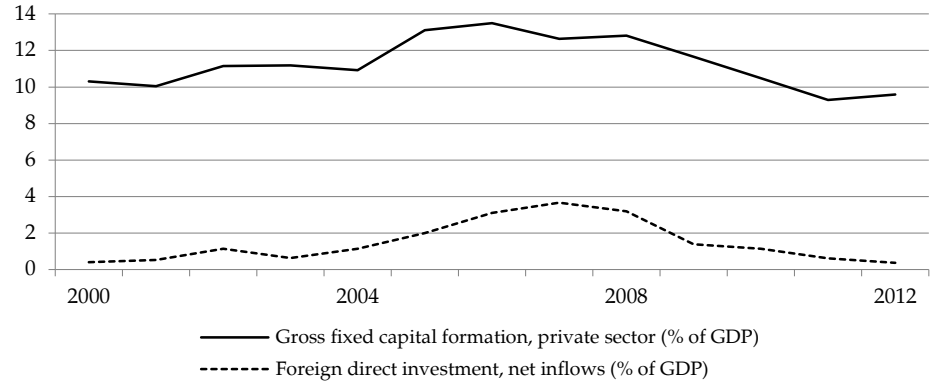
4.2. Bolstering Investor Confidence

There is a need to bolster investor confidence across the economy. Too often, government efforts to facilitate investment favor foreign over domestic business but, in reality, foreign investors tend to follow the lead of the local private sector (Figure 4). Put differently, it is unrealistic to expect foreign businesses to invest in Pakistan when its own private sector is not investing. The problem of investor confidence must be addressed at home before making overtures abroad.

The government must engage more with the domestic private sector in formulating investment policy and strategy. Over the years, the Pakistan Planning Commission has generated a wealth of analyses, projections, and strategic plans. The Five-Year Plans were serious and laudable efforts for their time. The recent Framework for Economic Growth (see Pakistan, Planning Commission, 2011) was a refreshing diagnostic. Unfortunately, these efforts have fallen short on implementation. Again, the East Asian experience is instructive: planning was less a strategic framework and more a pragmatic exercise undertaken

in consultation with industry, the outcome of which was shared goals and commitments to concrete action on the part of the stakeholders. Pakistan's planning process needs effective consultation and coordination mechanisms, extending beyond the government bureaucracy.

Figure 4: FDI follows the private sector



Source: World Bank, World Development Indicators.

A credible interface between the government and the actors in the real economy serves two purposes. First, it provides a platform to address broad issues on an economy-wide basis. These include the urgent problems of energy, security, and investor confidence; practical matters of the regulatory barriers that impede entrepreneurship and business; and policy questions relating to pro-growth macroeconomic conditions. To be effective, the exchange must be frequent, not ad hoc, and involve decision makers in the government and industry, including the foreign private sector. High-level, institutionalized consultation has been particularly effective in East Asia.

Second, the interaction between the government and industry needs to proceed at the level of specific industries. A rudimentary SWOT (strengths, weaknesses, opportunities, and threats) analysis would shed light on actions conducive to, say, diversifying and upgrading the textiles and garment industry, raising the export profile of the pharmaceuticals industry (as happened in India), and integrating the affiliates of multinationals (in electronics and motor vehicles) into their global production systems as exemplified in East Asia. There are surely other opportunities too and these are best identified by industry.

FDI should be seen as a component of a larger industrial strategy. Pakistan's natural resources and large consumer market is attractive to

foreign investors. Although they are initially market- and resource-seeking, their activities create links and spillovers that can be enlarged and diffused, diversifying the industrial base and encouraging the growth of SMEs. Successful ventures will generate profits for owners, some of which can be reinvested to expand and upgrade production, including for export. In this way, through sequential investment, market-seeking investment can also become export-oriented.

With appropriate support, industrial transformation can be catalyzed. In other countries, public (federal, provincial, and municipal) officials have successfully worked with existing foreign investors to expand their operations, enter export markets, create business links with SMEs, and provide training and credit to local suppliers. Industrial clusters and science parks have been built in partnership with, and funded by, multinationals. Such experiences should be widely replicated in Pakistan.

Finally, it deserves emphasizing that, while public expenditure can sometimes crowd out private expenditure, public investment generally supports private investment and can even accelerate it in the case of development expenditure in education, health, and infrastructure. The common denominator in the dynamism of the East Asian economies has been their deliberate efforts to build up their technological capabilities through a host of programs aimed at: education and training, particularly in science and technology; enterprise and entrepreneurship development, including credit facilities and support services; and technology diffusion through research institutes, industrial clusters, and business link schemes. These intuitive imperatives are vital components of industrial policy.

To sum up, FDI is more than an external resource inflow. It can also, and more importantly, modernize industry and better integrate Pakistan with international production. Although natural resources and a large internal market are Pakistan's main attractions for FDI, with appropriate policies and a strategy developed in partnership with industry, the country stands to realize significantly wider gains, including in exports.

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The Textiles and Garments Sector: Moving Up the Value Chain

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Abstract

The textiles and garments (T&G) sector accounts for almost 50% of Pakistan's exports and is the largest component of manufacturing. T&G sector, because of recent favorable developments for the industry in Pakistan and the expected future changes in the international trade structure for the sector, has the potential to play an important role in expanding Pakistan's exports. In addition, garments manufacturing is the least energy and capital intensive industrial activity and thus resonates with Pakistan's resource endowment to generate economic growth and employment.

Garment manufacturers have tried to overcome the constraints arising from the energy shortages and adverse security and country risk perceptions by investing in power generation, upgrading IT, developing design and R&D capability. Punjab Government's focus on garments as a central plank of its industrial strategy has also helped. However, this paper argues that for the sector to fully realize its potential, government policies that shape the incentive structure faced by the industry need to be re-aligned In this regard, the most important is Pakistan's import policies and customs procedures that discourage the import of materials such as synthetic yarn and fabric, technical textiles and specialized trimmings and accessories needed by exporters to move up the value chain, and a significant bump up in the growth trajectory will only take place if import policy and custom procedures are substantially reformed. This paper focuses on the following themes: First, structural changes and trends in T&G exports; second, the associated constraints to growth of the garments sector; and third, to highlight some of the steps taken by the industry leaders in terms of policy reforms and by firms, particularly with regards to managing resources to enhance competitiveness.

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JEL classification: F10, F13, L10, L25, L50, L60, L67, O10, O14.

1. Introduction

The textiles and garments (T&G) sector accounts for 48 percent of Pakistan's total exports, 30 percent of value-added in large-scale manufacturing, and 40 percent of industrial employment (Table 1). The sector is expected to continue doing well, given that Pakistan was recently granted GSP-plus status by the European Union (EU), which has opened up a large market for the country's T&G exports. Furthermore, rising labor costs in China and the increasing technological sophistication of its manufactured exports are likely to reduce the Chinese share (about 40 percent in 2012) of the world garments market.[1] This will create an opportunity for other T&G exporters, including Pakistan, to expand their share of the market.

Additionally, as incomes rise in the large, fast-growing economies of China and India, their demand for T&G will likely rise in tandem. This will further expand the sector's export potential for Pakistan if it builds on its close economic and political ties with the former and common overland border with the latter. Several recent developments thus point to the continued—even rising—importance of the T&G sector in expanding exports and employment in Pakistan over the next five to ten years. However, we argue that, for the sector to realize its potential, policies that shape the incentive structure facing the industry need to be realigned.

[1] According to Lin (2011, pp. 29–30), "China has already seen rapid growth in wages. Manufacturing wages rose from just over $150 a month in 2005 to around $350 in 2010. [It is likely that] China's real wages will approach $1,000 a month within a decade." He continues, pointing out that "China will have to follow the path of the earlier Asian 'geese' and start to relocate its labor-intensive industries to low-income countries." There are a number of indications that, in the case of the apparel industry, this process is well underway. First, almost none of the garments exporters interviewed by Nabi and Hamid (2013) said they faced much competition from China; some even said that, "China is almost out" (pp. 37–39). Second, Pakistani business publications have reported for some time that Chinese investors are looking to acquire local textiles firms: in January 2014, a major textiles group from China acquired majority shares in Masood Textile Mills, Faisalabad—probably the largest knitwear manufacturer in Pakistan (Alam, 2014). Third, according to a recent McKinsey survey, 86 percent of the chief purchasing officers in leading apparel companies in Europe and the US plan to decrease levels of sourcing in China over the next five years because of declining profit margins and capacity constraints (Berg, Hedrich, & Tochtermann, 2012).

Table 1: Economic importance of the T&G sector

T&G sector's share of…	Percentage share in 2011/12
National exports	48
Large-scale manufacturing	30
Industrial employment	40
GDP	4
Market share capitalization	5

Source: Adapted from the State Bank of Pakistan (n.d.); Pakistan, Ministry of Finance (2013); All Pakistan Textile Mills Association (2014).

This paper is divided into five sections.[2] Section 2 describes the structure of the T&G sector and recent trends in T&G exports. Section 3 discusses the problems and weaknesses of the garments sector, particularly those arising from the policy environment. Section 4 explores the ways in which many garments manufacturers have successfully overcome the problems associated with Pakistan's weak industrial environment. Section 5 summarizes the recent initiatives undertaken by the Punjab government, which has made the development of this sector a key element of its industrial policy. Section 6 concludes the study.

2. T&G Exports: Structure and Trends

Since independence in 1947, Pakistan has been a major producer of raw cotton: in 2012, it was the fourth largest producer, accounting for about 8 percent of the world's total cotton output (US Department of Agriculture, 2014). It is not surprising, therefore, that Pakistan has followed a cotton textiles-led industrialization strategy. The textiles chain in Pakistan consists of activities spanning cotton ginning, spinning, weaving, finished fabrics, textile made-ups (particularly towels and household linen), and garments (woven and knitted apparel). In the 1960s and 1970s, Pakistan also promoted the synthetic fiber industry by giving it fiscal incentives and a high level of protection.

Initially, the textiles-led strategy was very successful and Pakistan was among the fastest growing economies in the world in the 1960s. Except for a brief interregnum during the Bhutto government's nationalization drive and heavy industry push in the 1970s, textiles remained at the forefront of Pakistan's industrialization strategy through the 1990s. The

[2] The discussion on garments draws heavily on Hussain et al. (2013) and Nabi and Hamid (2013).

results of this strategy are evident from the continuing importance of the T&G sector to the economy.

However, the industry's historical pattern of development and the resulting dominance of the spinning industry in textile policymaking as well as the presence of a highly protected synthetic fiber industry have become major constraints to the growth of the value-added components of the T&G sector since the 1990s. To some extent, this is evident from the differential performance of T&G exports in Pakistan and Bangladesh. In 2011, Bangladesh—which does not produce any cotton and had no cotton spinning mills at the time of its separation from Pakistan in 1971—had garments exports of almost US$ 20 billion, i.e., about two thirds more than Pakistan's total T&G exports that year. Although there are also other factors underlying this remarkable difference in the export performance of the two countries, we believe that the historical pattern of development of the industry has, in both cases, played an important role.

Following the end of the textiles quota regime, Pakistan's T&G exports increased from US$ 9.7 billion in 2005 to US$ 11.9 billion in 2012. As a proportion of world T&G exports, however, Pakistan's share declined from 2.46 percent in 2005 to 2.17 percent in 2012. The country's failure to benefit from the opening up of T&G trade in 2005 is largely a result of government policies and the ensuing structure of Pakistan's T&G sector. As Table 2 shows, Pakistan's T&G exports are primarily either low or intermediate value-added products, which, in 2012, accounted for 69 percent of T&G exports compared to 32 percent of world T&G exports.

While little value is added at the spinning stage, particularly in the low- and medium-count cotton yarn that Pakistan exports, the share of yarn in its T&G exports increased significantly between 2005 and 2012, at the expense of intermediate value-added items such as textile made-ups and manmade fiber (MMF) yarn and fabric. We also see that, while the total share of the garments sector in world T&G exports remained more or less constant at 68 percent in 2005–12, trade in knitted apparel increased far more rapidly than in woven apparel. Unfortunately, in Pakistan the reverse seems to have been the case with woven apparel exports growing more rapidly than knitted apparel. This indicates that Pakistan's strength may lie in the slower growing portion of the apparel market, which could have implications for future export growth.

Table 2: Structure of Pakistan and world T&G exports

		Share of Pakistan's T&G exports (%)		Share of world's T&G exports (%)	
Product	**HS code**	**2005**	**2012**	**2005**	**2012**
Low value-added					
Cotton yarn	5204-07	12.6	18.9	2.4	2.7
Intermediate value-added					
Cotton fabric	5208-12	21.5	21.9	6.8	5.4
MMF yarn and fabric	54	2.5	0.3	9.3	8.3
Knitted fabric	60	0.7	0.3	5.1	5.5
Textile made-ups	63	31.8	27.6	8.5	9.9
High value-added					
Knitted apparel	61	17.1	16.8	31.2	36.0
Woven apparel	62	13.8	14.2	36.7	32.3

Source: Authors' calculations based on data from the United Nations Commodity Trade Statistics database.

Given that this paper stresses the importance of moving up the value chain in the T&G sector, it is necessary to gain a more concrete idea of why that is so important. Table 3 provides data on the average export price per kg for the main T&G products exported by Pakistan. In many cases, at the aggregate product level the quantity in terms of weight is not available, which is why the table provides the average price per kg for the most important items at the HS 6-digit level in that product category.[3]

Starting with 1 kg of cotton with a value of US$ 2, the spinning stage adds about US$ 1 in value; the weaving stage adds another US$ 3.5–5 and the finishing of the fabric can add as much as US$ 6 (as seen from the difference in value between unbleached and dyed twill). However, converting 1 kg of fabric into garments can add US$ 20–25 (allowing for 5 percent in wasted fabric and an additional 10 percent of the garment's value for the cost of trimmings and accessories). Since spinning is the most capital-intensive industry in the T&G sector, followed by weaving, and garment manufacture is the most labor-intensive, the ratios in terms of the number of jobs created per kilogram at each stage probably increase even more sharply. These numbers give some idea of the impact on export earnings and job creation if Pakistan was able to move up the value chain in the T&G sector.

[3] Since quantity in terms of weight is not reported for 2012, we have used data for 2013 in Table 3. However, for comparison, the aggregate mean unit values per item for garments are provided for both 2012 and 2013: we can see there is no significant difference between the two years.

Table 3: MUV per kg of Pakistan's major T&G export items

HS code	Product and description	Product/item* share, 2013	MUV ($) in 2012	MUV ($) in 2013	
				Per item	Per kg
5204-07	Cotton yarn	18	*Per kg*		
520511	Single yarn of uncombed fibers (< 14 metric no.)	7	2.77		2.76
520512	Single yarn of uncombed fibers (14–43 metric no.)	64	2.91		2.93
520532	Multiple yarn of uncombed fibers (14–43 metric no.)	9	3.22		3.26
5208-12	Cotton fabric	22			
520812	Unbleached plain weave	8			6.47
520911	Plain weave	5			8.87
520912	Unbleached twill	8			6.81
520932	Dyed twill	7			12.52
520942	Denim	18			8.27
63	Textile made-ups	29			
630231	Other bed linen of cotton	18	7.62		7.66
630260	Toilet and kitchen linen of terry fabric, cotton	21	4.50		4.57
61	Knitted apparel	17	*Per item*		
610332	Men's/boys' suits, jackets, trousers of cotton	3	6.37	6.71	31.73
610462	Women's/girls' suits, dresses, skirts of cotton	2	4.05	3.49	29.25
610510	Men's/boys' shirts of cotton	13	3.69	3.74	46.97
610910	T-shirts, singlets, other vests of cotton	10	2.31	2.26	33.20
62	Woven apparel	15			
620342	Men's/boys' suits, jackets, trousers of cotton	35	6.67	6.84	39.17
620462	Women's/girls' suits, jackets, dresses, skirts of cotton	26	7.09	6.90	45.98

* Product share as a percentage of total T&G exports and item share as a percentage of the total export of that product. MUV = mean unit value.
Note: The average international price of cotton in 2012 and 2013 was $1.97 and $2.00, respectively (derived from National Cotton Council of America, 2014).
Source: Authors' calculations based on data from the United Nations Commodity Trade Statistics database.

In 2012, Pakistan's share of world exports of cotton yarn, cotton fabric, textile made-ups, and garments (knitted and woven apparel) was 15.3, 8.8, 6.1, and 1.0 percent, respectively (Table 4). Instead of moving up

the value chain, Pakistan seems to have moved downward in the last decade or so: in 2003, its world export share of these four product groups was 10.7, 6.0, 9.4, and 1.1 percent, respectively. At the same time, Pakistan's increasing concentration on cotton textiles can be seen from its declining world export share of MMF yarn and fabric, which was 1.9 percent in 2003 and 0.1 percent in 2012.

Immediately after the end of the textiles quota regime, Pakistan's garment exports declined; in order to reduce the impact of the elimination of quotas and adverse security environment, the government granted a 6 percent research and development (R&D) subsidy to apparel exporters in 2005 (and subsequently to all T&G exporters). The subsidy was withdrawn in 2008 because of a fiscal crisis. At best, it prevented a decline in T&G exports, which, after increasing from US$ 7.8 billion in 2003 to US$ 9.7 billion in 2005, stagnated for the next three years. In 2008, T&G exports began to grow once again, increasing to US$ 11.9 billion in 2012, but the main driver of growth was cotton yarn, which contributed over 50 percent of the total increase in T&G exports during this period (Table 4). Other products that recorded a significant increase over these four years were cotton fabric and woven apparel, both of which also increased their share of world exports of these products.

Table 4: Value of Pakistan's (PK) T&G exports and share of world (WX) T&G exports by major products

Commodity	HS code	Exports 2003		Exports 2005		Exports 2008		Exports 2012	
		PK	Share of WX	PK	Share of WX	PK	Share of WX	PK	Share of WX
		$ mn	%	$ mn	%	$ mn	%	$ mn	%
Cotton yarn	5204-07	979	10.7	1,221	12.8	1,215	10.5	2,250	15.3
Cotton fabric	5208-12	1,470	6.0	2,078	7.8	2,216	7.8	2,603	8.8
MMF	54	621	1.9	240	0.7	35	0.1	34	0.1
Knitted fabric	60	53	0.3	67	0.3	69	0.3	36	0.1
Textile made-ups	63	2,358	9.4	3,071	9.2	3,146	7.0	3,285	6.0
Knitted apparel	61	1,300	1.3	1,655	1.3	1,888	1.1	2,006	1.0
Woven apparel	62	1,051	0.9	1,330	0.9	1,361	0.8	1,694	1.0
Total T&G exports		7,832	2.4	9,661	2.5	9,931	2.0	11,909	2.2

Source: Authors' calculations based on data from the United Nations Commodity Trade Statistics database.

Pakistan's T&G exports were largely concentrated in the EU and US, with these two markets accounting for 22 and 36 percent of total T&G exports in 2005, respectively (Table 5). With the end of the quota regime in 2005 and the post-9/11 security environment in Pakistan—with resulting long-standing travel advisories issued by the US State Department—T&G exports to the US have fallen steadily from US$ 3.5 billion in 2005 to US$ 3.1 billion in 2012. In this period, exports to the EU increased from US$ 2.1 billion in 2005 to US$ 3.4 billion in 2012: as a result, the EU is now the largest market for Pakistan's T&G exports, accounting for 28 percent of total exports in 2012.

Thus, it seems that an important factor in Pakistan's poor export performance in the T&G sector, particularly in value-added items (textile made-ups and garments), is the country's security situation. Had T&G exports to the US grown at the same rate as to the EU, Pakistan's T&G exports would have been US$ 2.5 billion higher in 2012 than they were.[4] China is Pakistan's third largest market for T&G exports and its share has increased from 3 percent in 2005 to 15 percent in 2012. However, this increase was almost entirely due to cotton yarn exports, which accounted for 80 percent of T&G exports to China in 2012.

Table 5: Main markets for Pakistan's T&G exports (%)

		2005			2012		
	Product	**EU**	**US**	**China**	**EU**	**US**	**China**
1	Cotton yarn	6.19	9.52	16.77	3.99	1.02	63.75
2	Cotton fabric*	13.16	14.67	2.74	17.72	4.43	12.30
3	Textile made-ups	25.01	48.49	0.04	35.27	40.76	0.70
4	Knitted apparel	24.56	62.39	0.06	32.78	54.68	0.25
5	Woven apparel	42.22	39.83	0.02	57.40	28.35	0.40
	Total	21.93	36.28	2.75	28.23	25.67	15.03

* Bangladesh is also an important market for fabric—largely denim—accounting for 15.6 percent of Pakistan's fabric exports in 2012.
Source: Authors' calculations based on data from the United Nations Commodity Trade Statistics database.

The garments industry is divided into knitted and woven apparel; in 2012, Pakistan's exports of these two products were US$ 2 billion and US$ 1.7 billion, respectively, with the EU and the US accounting for 87 and 82 percent of knitted and woven apparel exports, respectively. The

[4] Garment exports would have been US$ 4.4 billion, i.e., 20 percent higher than actual exports in 2012.

knitwear industry was the first to develop due to substantial US quotas under the Multi-Fiber Arrangement, which came into effect in 1974. The US accounted for 62 percent of Pakistan's knitted apparel exports in 2005. Subsequently, the knitwear industry suffered a major setback with the end of the quota regime in 2005. This, compounded by the impact of the post-9/11 security situation on exports to the US (as discussed above) compelled some of the largest firms, such as Ammar and Klass, to close down between 2006 and 2008.

The primary products exported by the woven apparel industry are cotton jeans and this is largely because the medium-staple cotton grown in Pakistan is particularly suitable for denim production; the country is also a major exporter of denim cloth. In 2005, the EU and the US were more or less equally important for Pakistan's woven apparel exporters; since then, exports to the US have declined while exports to the EU increased by over 70 percent in 2012, with the EU accounting for over 57 percent of Pakistan's woven apparel exports that year. With Pakistan having been granted GSP-plus status by the EU from 2014, the latter's market share of both knitted and woven apparel exports is likely to continue to increase.

Not only is the garments industry a major contributor to exports (15 percent of Pakistan's total exports in 2012), it is also labor-intensive and probably the largest employer in the manufacturing sector. There may be a tendency to associate employment in the garments industry with visions of 'sweatshops', but the work environment is generally much better than that of most other industries in Pakistan. This is because virtually the entire output is exported, which means that the large and medium-sized garment firms have to meet the safety and social compliance standards set by international buyers. In the "post-9/11–post-textile quotas" world, Pakistan, unlike Bangladesh, has not been the country of choice for international buyers. As a result, large garment manufacturers in Pakistan have faced much stricter scrutiny and had to meet higher standards of compliance to retain or attract large buyers (both among brands such as Levis and Gap and retail chains such as Zara and JC Penney) as customers.

Jobs in the garments industry also pay better on average as the ratio of unskilled to skilled workers (mostly stitchers) is 20:80 and, according to Nabi and Hamid (2013), in 2012 the take-home monthly earnings of stitchers (PRs 15,000) were two thirds higher than the minimum wage (PRs 9,000). In addition, given the large number of skilled workers required by the garments industry and the paucity of formal training institutions in Pakistan, many large garment manufacturers run

their own training programs. Most other firms use the apprentice route, i.e., an experienced stitcher is allowed to bring a helper who, in three to four months, acquires the necessary skills, first by observing and then performing the simpler tasks.

Finally, the garments industry probably provides employment to more female workers than any other industry in Pakistan. A number of firms we visited had set up special training programs for women and provided a pick-and-drop service for their female workers. The firms explained that the extra effort they made to hire and retain female workers was because the latter were more productive employees, better at handling fine fabrics, and more quality-conscious.

3. Constraints to the Growth of the Garments Sector

This section examines the key constraints to the garments industry, which include the sector's narrow base and price range, energy constraints, the poor security situation, and lack of investment in human capital.

3.1. Product Range, Price Range, and Government Policy

Pakistan's garment exports have a relatively narrow base, with a few products accounting for the bulk of exports. Table 6 presents data on Pakistan's exports in the ten most important products (at the HS 4-digit level that are described in Table 7) in world trade, which together account for about 74 percent of the world's garment exports. Pakistan has substantive exports (over US$ 200 million in 2012) in only half these products. The top six products it exports account for over 78 percent of the country's garment exports but only 41 percent of the world trade in garments. This implies that Pakistani exporters are not competing in about three fifths of the world market for garments, which seems to be in line with the share of cotton and MMF in world fiber consumption.

Table 6: Pakistan and world exports of top ten garment products, 2012

	World		Pakistan		
Product	**Exports (m$)**	**Share (%)**	**Exports (m$)**	**Share (%)**	**Share of world exports (%)**
6204	49,478	13.21	591	15.97	1.19
6110	44,059	11.77	99	2.67	0.22
6104	38,505	10.28	128	3.46	0.33
6203	36,610	9.78	921	24.89	2.52
6109	33,479	8.94	291	7.86	0.87
6103	14,409	3.85	294	7.94	2.04
6202	12,755	3.41	2	0.06	0.02
6115	12,752	3.41	260	7.02	2.04
6205	12,289	3.28	15	0.41	0.12
6201	11,064	2.95	3	0.08	0.03
6105*	7,521	2.01	543	14.68	7.22
Total for PK top six exports	154,249	41.2	2,900	78.40	1.90
Total garments	374,493	100.00	3,701	100.00	0.99

* Ranked 16 in importance in 2012.
Source: Authors' calculations based on data from the United Nations Commodity Trade Statistics database.

An important segment of the market in which Pakistan has a very limited presence is women's garments. For example, women's garments account for three of the ten most traded products in the world—Pakistan has substantial exports in only one of these, probably because MMF yarn and fabrics and other imported inputs (such as trimmings and accessories) are more important in the case of women's garments than men's garments.

Table 7: Leading garment products in world trade

HS code	Description of products in that category
6103	Men's/boys' suits, jackets, trousers, etc., knitted or crocheted
6104	Women's/girls' suits, dresses, skirts, etc., knitted or crocheted
6105	Men's/boys' shirts, knitted or crocheted
6109	T-shirts, singlets, other vests, knitted or crocheted
6110	Jerseys, pullovers, cardigans, etc., knitted or crocheted
6115	Pantyhose, tights, hosiery n.e.s., knitted or crocheted
6201	Men's/boys' overcoats, capes, wind-jackets, etc., woven
6202	Women's/girls' overcoats, capes, wind-jackets, etc., woven
6203	Men's/boys' suits, jackets, trousers, etc., not knitted
6204	Women's/girls' suits, jackets, dresses, skirts, etc., woven
6205	Men's/boys' shirts

Source: United Nations Commodity Trade Statistics database.

Pakistan's exports are also concentrated around the lower end of the price range for the products it exports. Table 8 gives the average unit prices of Pakistan's garment exports of the most traded products in which its exports exceeded US$ 200 million in 2012. For four of the five items listed, Pakistan's average export price is 47–58 percent of the world average export price. In only one item—men's knitted jackets and suits, which includes fleece jackets, hoodies, and tracksuits—is the average export price relatively close to the world average of 85 percent. In other words, not only are Pakistani exporters exporting a limited range of products, they are also competing at the lower end of the price range.

Table 8: Average unit value of Pakistan's top five garment exports, 2012*

		Average unit price (US$)		Pakistan average
Product	Pakistan exports (m$)	World	Pakistan	/world average (%)
6103	294	6.36	5.41	85.1
6105	543	7.91	3.99	50.4
6109	291	4.01	2.32	57.9
6203	921	13.62	6.38	46.8
6204	591	12.73	6.70	52.6

* The combined export value of these five items was US$ 2,640 million, i.e., 71 percent of Pakistan's garment exports.
Source: Authors' calculations based on data from the United Nations Commodity Trade Statistics database.

While the structure of Pakistan's garment exports explains why the sector has failed to expand more rapidly since the textile quotas regime ended in 2005, it also shows that there is considerable potential for export expansion both on the extensive (i.e., number of products) and intensive (i.e., export unit price) margins.

The government's poor industrial policy is an important reason for the narrow product range and low export unit value of Pakistan's garment exports. As already mentioned, government policies have aimed to protect existing firms in the T&G industry, with two consequences. First, the spinning and weaving firms, which are the oldest and the largest in terms of investment, remain the most influential with regard to policymaking in this sector. Their influence can be gauged from the fact that, when exports of cotton yarn to China declined in 2013/14, they lobbied successfully for the imposition of regulatory import duty on cotton yarn from India despite strong opposition from the garments industry.

Second, the existing MMF manufacturing plants, which were set up in the 1960s and 1970s as part of the government's import substitution strategy in that period, are small, high-cost producers that rely on outdated technology and require protection to survive. Government policy in this context takes the form of tariff and nontariff barriers on the import of MMF yarn and all kinds of fabric, including fine cotton, cotton-MMF mixed, pure MMF, and technical[5] fabrics.

This, on top of the country's inward-looking trade policy—reflected in the generally high duties and taxes imposed on imported materials, a nontransparent tariff structure, and a complex set of customs procedures[6]—has serious implications for the range of products exported and the price segment of the market targeted by Pakistani exporters. Besides MMF yarn and various kinds of fabric, garment manufacturers need to import trimmings and accessories, chemicals for washing, and dyes. Most of the entrepreneurs interviewed by Nabi and Hamid (2013) complained that customs procedures inflicted costly delays on meeting orders (p. 63).[7] Thus, garment exporters generally limit themselves to products that do not require imported yarn, fabric, or special trimmings and accessories.

[5] Technical fabrics, such as odor-resistant, heat technology, and wicking fabrics (which force out moisture from perspiration but do not allow it to soak in) are a growing high-value segment of the garments market.

[6] Nontransparency arises from the large number of statutory regulatory orders (SROs) issued by the Federal Board of Revenue and by the finance, commerce, and other ministries concerned. These provide for concessional import duties levied on items for a particular firm, a certain category of importers, or a particular location, and may require certification by the director general of the Input Output Coefficient Organization. SROs may also restrict the import of certain items to a few firms and require a no-objection certificate from a government body (such as the Engineering Development Board); they can also be issued to levy regulatory duties on the import of certain items. Their implications for the complexity of the system and the discretionary powers they give to customs officials, considering that the items are specified at the 8-digit level of the Pakistan Custom Tariff Code, can only be imagined.

[7] An excellent example of how complex trade policies can prevent firms from moving up the value chain or innovating is the following incident, which was narrated to the authors by a firm owner and office bearer of the Pakistan Readymade Garments Manufacturers and Exporters Association (PRGMEA) in Karachi. A firm had an order from Walmart, which involved inserting a small gadget in a hoodie that would allow the wearer to listen to music on a smartphone or MP3 player in the pocket without earphones. The firm had imported the gadget under the Duty Tax Remission for Export framework, in which the SRO listed 492 items, including "others" that could be imported (against a post-dated check for the import duty) for re-export within two years. The customs officer concerned refused to release the gadget on the grounds that it was an electronics item, which was not on the list. It took the firm a month, and the support of the PRGMEA, to have the consignment of gadgets released. Because of the delay, the order had to be shipped by air at a substantial additional cost (Nabi & Hamid, 2013, p. 65).

As a result, given that MMF now comprises 65 percent of total fiber consumption in the world, Pakistani garment exporters are excluded from a substantial proportion of the market (Hussain et al., 2013, p. 27). Additionally, as it is the use of trimmings and accessories, special fabrics, and unusual dyeing and washing that add value to a garment,[8] Pakistani garment exporters are generally restricted to the lower end of the price range for the products they *do* export.

3.2. Energy Shortages

According to the owners and managers of garment firms, the most important constraint to the growth of production and exports in the garments sector has been the energy (electricity and natural gas) crisis (Nabi & Hamid, 2013, p. 52). Pakistan has faced growing energy shortages since 2007; in 2012, most of the industry suffered power outages of 8 to 12 hours a day[9] while the supply of natural gas was suspended for several months in the winter. Most large firms have installed generators at a substantial cost to meet their basic power needs, but small firms may not be able to afford this. This is particularly important in the case of the trimmings and accessories industry, which is dominated by small firms: delays in supplies of trimmings and accessories can affect both large and small firms. Suspended gas supplies are especially disruptive to the knitwear industry as natural gas is used to fire boilers for dyeing—a crucial component of the production cycle for knitted apparel—and the capital cost of switching to an alternative fuel source such as coal is substantial while the cost of LPG in place of natural gas can be prohibitive.

The energy crisis has had a twofold impact on the garments industry. First, it has raised the cost of production for garment manufacturers in Pakistan and thus made them less competitive. Second, it has increased uncertainty with regard to production planning by creating the possibility of delays at different stages of the production cycle over which the firm has little control. Timely delivery of an order is extremely important in the garments industry given its seasonal nature,[10] and in the case of a delay, the manufacturer may have to ship the order by air. Thus, energy shortages not only impose a substantial cost on the manufacturer,

[8] In woven apparel, 40 percent of the in-house value-added comes from washing and finishing; in knitwear, dyeing and finishing contributes over 50 percent (Nabi & Hamid, 2013, p. 22).

[9] While firms located on industrial estates received an uninterrupted power supply for eight hours a day, other firms in Punjab were subject to hour-long power outages every one or two hours throughout the day.

[10] For example, if an order is delayed even by a few weeks during the Christmas season, it becomes worthless to the buyer and may have to be disposed of by the manufacturer at a fraction of the price.

but also erode the firm's credibility with its buyers as a dependable source. The latter has long-term implications, not only for the growth of export volume, but also for the product price range as the importance of timeliness increases as firms move up the price range. At the high end, even a few days' delay is usually not acceptable.

3.3. Security and Country Risk Perception

The impact of post-9/11 security concerns on aggregate garment exports, particularly to the US, has already been discussed. From the firms' perspective, security concerns (and travel advisories) manifest themselves in international buyers not coming to Pakistan.[11] This has obvious implications for obtaining new orders, particularly for medium and small firms that cannot afford an overseas presence—many have complained that this leaves them entirely dependent on local buying houses and that they only receive orders during peak season when firms in Bangladesh are unable to meet the demand.

Security concerns also affect the price range in which Pakistan exporters can compete. The normal practice in the garments industry is for the employees of international buyers (i.e., from the design department during the product development stage and from the quality control department during the production stage) to spend considerable time in the country working with their counterparts in the exporting firm. Due to security concerns, these employees almost never visit Pakistan and since the importance of such interaction increases as firms move up the price range for a product, this makes it very difficult for Pakistani exporters to target the medium- to upper-end of the garments market in any product.

Poor security, political uncertainty, and the law and order situation mean that international buyers have a high country risk perception of Pakistan. As a result, they think (not incorrectly) that delays in production and shipment can occur at any time for reasons beyond the control of the exporter.[12] Therefore, they generally do not include firms in Pakistan among their list of "reliable suppliers." The implications of this for Pakistani exporters include smaller orders, items that are less time-

[11] As one firm owner put it, "there are more buyers in the lobby of one hotel in Dhaka in Bangladesh on any given day than in all of Pakistan in a month" (Nabi & Hamid, 2013, p. 13).

[12] A recent example of such unforeseen delays caused by political uncertainty was the stoppage of all intercity transport and the confiscation of all containers on the road in Punjab at the time by the government in the first ten days of August 2014. This resulted in many export shipments being delayed, damaged, or lost.

sensitive and thus at the lower end of the price range, and a price discount relative to their competitors in other countries.

3.4. Lack of Investment in Human Resources

In Pakistan, the lack of educated and skilled workers is an important constraint to industry in general. The low level of general education in the country translates into poor trainability of the workforce and the shortage of formal vocational training institutions results in a skills gap that firms must fill themselves. Firms in the garments industry have identified two categories of workers vital to their growth: stitchers and middle management, i.e., supervisors, technicians, and engineers in the areas of production, quality control, dyeing, and washing (Nabi & Hamid, 2013, p. 45). Of the large firms, over 60 percent complained of a shortage of stitchers and over 85 percent reported difficulties in finding middle managers[13] (ibid). Many of the large firms have formal training programs in place for stitchers and all of them train most of their middle managers. However, most firms felt that the poor quality of entry-level workers' schooling was an issue.

In some regions, labor shortages were exacerbated by other factors. For example, in Faisalabad, a number of firms pointed to the acute shortage of stitchers, which they explained as follows. Since workers are paid at a piece rate, the ongoing power outages had reduced their monthly earnings to the equivalent of 15–20 days worked in a month. As a result, many stitchers had left the labor market and turned instead to self-employment in the services sector or agriculture (Nabi & Hamid, 2013, p. 47). In Karachi, the labor shortage was linked to the poor law and order situation, which had compelled some female workers to withdraw from the labor market or find service jobs nearer their homes. Stitchers from Punjab had moved to garment clusters in their province, particularly Lahore, where they felt it was safer (ibid).

To sum up, a number of constraints have prevented garment exports from expanding more rapidly. These have had an impact on both supply and demand, affecting all aspects of the industry, including costs, production volume, product diversity, and targeted price range. Some of these constraints—such as the security situation and country risk perception—are difficult for the government to address. Others, however, such as trade policy reforms and a demand management policy aimed at

[13] Small and medium firms felt the shortage of stitchers far less than large firms, but as far as the shortage of middle managers was concerned, the proportion (75 percent) was almost as high.

providing the export industry (including garments) with an uninterrupted power and gas supply for eight to ten hours a day, could be implemented in the short to medium term with minimum budgetary implications.

4. Garment Manufacturers' Response

It seems surprising that, despite these constraints, the garments industry has continued to grow; some of its components, such as denim products, have expanded quite rapidly. The reason is that many firms have invested a great deal of capital (e.g., installing standby power generation capacity) and management resources to enhance their competitiveness. The purpose of this section is to highlight some of the steps taken by industry leaders, particularly with regard to the latter.

4.1. Overcoming International Isolation

Many firms are using information technology not only to improve their production planning and management, but also to overcome the constraint arising from buyers' unwillingness to travel to Pakistan because of security concerns. Some have installed electronic job tracking systems, which provide information from the time the yarn or fabric enters the firm, through each step of the production cycle to packing and until the shipment leaves the premises. This is made available online in the form of an "order tracking system" for the buyer, who while sitting in her office anywhere in the world, can check the status of her order in realtime (Nabi & Hamid, 2013, pp. 27–29).

Some firms have provided their buyers with online access to all the CCTV cameras on the premises, allowing the latter to monitor in realtime the production area, cafeteria, etc., for compliance assurance. One of the larger knitwear firms is operating a just-in-time inventory system for its buyer—the Pakistani firm has been given access to realtime sales data for each of the buyer's stores and it automatically replenishes stocks as needed from the firm's warehouses in the US (Nabi & Hamid, 2013, pp. 27–29).

To improve and retain access to large international buyers, another area that firms have worked on is meeting global standards for environment and social compliance. Some of the larger firms have invested in wastewater treatment plants and many of them have Worldwide Responsible Apparel Production Principles certification, which assures buyers of their compliance with socially responsible global standards for

manufacturing and certifies that the products are produced under lawful, humane, and ethical conditions (Nabi & Hamid, 2013, pp. 29–31).

4.2. Moving Up the Value Chain

To be part of the supply chain of a product in the middle to upper price range, it is essential for a firm to have own design capacity for product development and be able to ensure a quick turn-around for samples and trial orders. Most of the larger firms in the woven apparel industry have well-staffed design departments in Pakistan and a number of firms have also set up R&D and design departments in London or Istanbul (Nabi & Hamid, 2013, pp. 25–26). These are staffed by locally hired designers who spend half their time in Pakistan and half at the overseas office. Some firms have also invested in facilities for producing samples so that when they are given a new design, they can send out samples in less than a week. One firm has even set up a small production facility in Istanbul that manufactures and retails its products locally. This gives it a head-start on new fashion trends in Europe and if it receives a large order for one of the designs it has developed, the firm shifts production to its facility in Pakistan.

One approach adopted successfully by a number of small and medium-sized firms is to move up the price range by targeting niche markets. The products being supplied by different firms include heavy protective garments produced using denim and Kevlar for bikers, baseball and American football uniforms for teams in the US, sports uniforms (particularly rugby shirts) for schools in the UK, and fleece jackets (hoodies) for universities in the US (Nabi & Hamid, 2013, pp. 26–27).

Another approach has been to develop the capacity to produce small orders of complex garments, such as heavily embroidered garments (Nabi & Hamid, 2013, pp. 23–24). To add value to their garments, many of the large firms in the woven apparel industry have invested in advanced washing systems for denim jeans, many with technical expertise from Turkey. [14] Some of the knitwear firms have invested in specialized equipment such as computer-controlled Jacquard knitting machines to produce patterned knitwear. A few firms have acquired Global Organic Textile Standard manufacturing certification. This requires creating a certified supply chain and, since there are few certified local suppliers, they

[14] In denim, most of the value addition occurs through the washing process: Turkey is a leader in this field.

have to rely on imported organic cotton and other inputs (although one firm now grows its own organic cotton and gins it in its own factory).

5. Recent Initiatives by the Punjab Government

Employment generation is one of the key objectives of the Punjab government's development strategy: given the importance of the garments industry in the province and its employment and export potential, the government set up a working group in July 2013 to recommend measures that could help the industry realize its potential. The working group, which comprised policymakers and garment manufacturers, put forward a number of recommendations based on studies carried out by the International Growth Centre and other analytical work. The recommendations targeted a number of areas, including market access, energy, skills development, garment clusters, import policy, and customs procedures. The Punjab government accepted these recommendations and has initiated efforts to implement them.

On energy, which is a key determinant of the sector's international competitiveness but is a federal subject, the government decided to take a cluster-based approach by linking its efforts to Punjab's solar and coal power initiatives. Similarly, since import policy is under the purview of the federal government, the Punjab government's efforts in this area focus on customs procedures and facilitation by working with federal officers located in Punjab. The progress made in implementing the recommendations of the working group is discussed below.

5.1. Market Access

Pakistan had become eligible for duty-free export status to the EU under the new GSP-plus scheme. However, to benefit from the scheme, the country was required to ratify and give binding commitment to effectively implement 27 international conventions on human rights, political rights, labor rights, environment, narcotics control, and good governance. Although it ratified the necessary conventions, submission of the required implementation reports was delayed since they could be submitted only after the federal and four provincial governments had taken the necessary steps to address the shortcomings. The application for GSP status, supported by the completed reports, would then be evaluated by the European Commission's technical team and approved by the European Parliament.

In the past, Pakistan had missed similar opportunities because of bureaucratic delays or failure to complete the reports and pursue the application on the diplomatic front. With this in mind, the working group, particularly its private sector members, highlighted the pending issues. The Punjab chief minister then personally guided the process to ensure the reports were submitted in time and the necessary diplomatic effort made to secure sufficient support for approval by the European Parliament. As a result of these efforts, Pakistan's application for GSP-plus status was approved in December 2013.

5.2. Skills Development

The Punjab Skills Development Fund (PSDF) has taken the lead in skills development for the garments sector with help from the PRGMEA, Punjab's Technical Education and Vocational Training Authority (TEVTA), and the Punjab Vocational Training Council (PVTC). A workshop hosted by the PSDF in collaboration with the PRGMEA was held in September 2013 to assess the demand for skilled workers in the garments industry.

Following the demand assessment, the PSDF launched the Skills for Garments scheme, which is designed to address skills shortages in the apparel industry, especially at the worker and middle management level. Under this scheme, the PSDF has started its first program for training over 9,000 individuals using a private provision, government-financed model. The 14 skills training providers in this program include some of the country's largest garment manufacturers (such as Crescent, Nishat, and Style), the PRGMEA's training institution, the Pakistan Readymade Garment Technical Training Institute, and public sector training institutions such as TEVTA and the PVTC.

5.3. Customs Facilitation

The Punjab government has facilitated meetings between garment manufacturers' representatives and the Federal Board of Revenue to discuss the former's concerns and suggestions for simplifying the import regime for garment exporters. While much remains to be done on this front, the government has succeeded in having the following recommendations of the working group implemented:

- A customs clearance facility for imports by the garments industry has been made available on a 24/7 basis.

- The Input Output Coefficient Organization (IOCO) office in Lahore has been fully staffed to provide quick approval for the import of materials by garment exporters under the Duty and Tax Remission for Exports (DTRE) scheme.[15]

5.4. Developing Garment Clusters

It is difficult for the Punjab government to address the pressing problem of power and gas outages, as energy sector policy and providers are under the federal government's purview. Therefore, it was decided to set up a model garments cluster near Lahore where existing firms could relocate or undertake expansion projects. The Quaid-e-Azam Apparel Park is being developed on over 1,500 acres near the Sheikhupura motorway interchange, 40 km from Lahore. The government has acquired the land, constituted a management board, and asked the Punjab Industrial Estates Development and Management Company to initiate development work. Some of the planned features of the apparel park are:

- A private sector management board
- Space for over 100 garment manufacturers and accessories suppliers
- Dedicated power plants for an uninterrupted power supply to the estate
- Common facilities such as effluent waste treatment plants, clean drinking water, and solid waste disposal
- A garments center of excellence for skills.

6. Conclusion

Given recent favorable developments for the industry in Pakistan and expected changes in the international trade structure of the sector, the T&G industry could potentially play an important role in expanding Pakistan's exports. Garments manufacturing is also the least energy- and capital-intensive industrial activity and thus resonates with Pakistan's resource endowment to generate economic growth and employment. However, to fully realize its potential, garments manufacturing must move up the value chain. This requires reversing the 2003 to 2012 trend whereby the share of the lowest value-added product (cotton yarn) in Pakistan's

[15] Before a firm can import materials for use in the manufacture of garments for export under the DTRE scheme, it must obtain certification of the quantities to be imported from the IOCO. Previously, the IOCO office in Lahore served primarily as a drop-box and all applications were processed at the head office in Karachi. This often required making several trips to Karachi by someone from the firm and caused long delays in getting approval.

T&G exports increased by 50 percent, while the share of the highest value-added product (knitted apparel) declined.

An important reason for the poor growth of the garments sector is that Pakistan exports a limited number of products and barely (if at all) competes in those products that account for about 60 percent of the world trade. Furthermore, Pakistani garment exports are concentrated around the lower end of the price range: the average export unit value of its main products ranges from 40 to 60 percent of the world average.

A major cause of the sector's lackluster export performance are the federal import policies and customs procedures that discourage the import of materials such as MMF yarn and fabric, technical textiles, and specialized trimmings and accessories, which exporters need in order to move up the value chain. Other constraints include the chronic energy shortages and Pakistan's poor security and country risk perception since 9/11. The impact of the latter can be judged from our estimate that garment exports would have been 20 percent higher in 2012 if exports to the US, the largest market for Pakistan in 2005, had grown at the same rate as Pakistan's exports to the EU after the end of the quota regime in 2005.

Garment manufacturers have tried to overcome the constraints arising from the energy shortages and adverse security and country risk perception by investing in power generation capacity, upgrading IT, developing design and R&D capability, and opening up offices and warehouses in or near major markets and fashion centers. The Punjab government's focus on garments as a central plank of its industrial strategy has also helped. In areas of federal domain, Punjab has liaised with the concerned federal ministries and agencies to mitigate some of the constraints, such as market access and customs procedures. In areas that are in the provincial purview, the government has launched important initiatives such as the development of skills and garments clusters.

Given the emerging opportunities and the support of the Punjab government, growth in the export of garments—particularly from Punjab—is likely to accelerate. However, a significant bump up in the growth trajectory will only take place if import policies and customs procedures are substantially reformed.

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Patterns of Export Diversification: Evidence from Pakistan

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Abstract

This paper examines historical trends in the diversification of exports in Pakistan, using the Hirschman index to quantify the degree of export diversification. We analyze the structure of exports through the lens of 'traditionality,' for which we construct industry-specific, average cumulative export experience functions, i.e., a traditionality index of all 2-digit export industries in Pakistan from 1972 to 2012. This is useful in distinguishing between traditional and nontraditional export industries. We also study the degree of structural change in the export sector since 1972 by recalculating the traditionality index based on five-year interval periods. The cross-industry variance of this index is then used to calculate the structural change index. Periods for which the index values are low are interpreted as periods during which the export industries experienced uniform patterns of export growth (and thereby no structural change). Periods for which the index values are high are interpreted as periods during which the export industries experienced varied patterns of growth, thus undergoing structural change. Finally, we explore the determinants of structural change in exports by looking at variables such as GDP growth, export growth, the real exchange rate, the growth rate of world trade, trade liberalization, and the degree of product concentration in the country's export base.

Keywords: Pakistan, export, growth, trade.

JEL classification: F40.

1. Introduction and Literature Review

The trade literature has identified the diversification of exports as an important ingredient of long-term sustainable growth (see Rosenstein-Rodan, 1943; Presbisch, 1950; Singer, 1950; Vernon, 1966; Krugman, 1979; Grossman & Helpman, 1991; Gutiérrez-de-Piñeres & Ferrantino, 1997). Trade theory, too, has been supplemented by the experience of developing countries. The "East Asian miracle," for instance, showed how countries'

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ability to introduce new products within existing industries (horizontal diversification) and to move production from low value-added sectors to high value-added sectors (vertical diversification) could serve as a powerful driver of growth.

Several empirical studies have also established the importance of product diversification for exports and GDP growth. For a sample of 91 countries, Al-Marhubi (2000) shows that diversification promotes growth. Hausman, Hwang, and Rodrik (2005) explain the export performance of various countries in terms of the mix of commodities they produce. By constructing PRODY and EXPY indices, they show that productivity levels differ across commodities: some yield high levels of productivity while others are associated with low productivity levels. Countries able to position their export baskets around the high-productivity end of the spectrum exhibit higher rates of growth.

There are several reasons to believe that export diversification is necessary for an effective trade policy. For instance, studies show that diversification helps mitigate the negative effects of economic shocks. In the short run, dependence on a few commodities would imply that foreign exchange earnings are highly volatile in response to changing demand and supply conditions. Diversification is considered especially important for developing countries, which tend to specialize in the production of primary commodities as a means to counter the adverse effects of declining terms of trade in the long run. Moreover, primary commodities have (i) a low-income elasticity and (ii) limited scope for developing forward and backward linkages. Thus, from a long-term perspective, the prospects of raising future revenues from the export of primary commodities and the possibility of benefiting from growth spillovers are limited.

Regarding Pakistan, Ahmed, Hamid, and Mahmud (2013) argue that

> the country's share of world exports has remained more or less stagnant over the past three decades. This reflects the country's inability to expand exports faster than world trade (see Table 1). On the other hand, its South Asian neighbors and the East Asian countries have shown a tremendous increase in export shares. Malaysia and Thailand entered their rapid export growth phase in the 1980s and 1990s, while Bangladesh and India started theirs in the 1990s, which continues to date. India has managed to increase its export share almost fourfold and

Bangladesh by more than three times since 1980. As a result, Pakistan's exports, which were more than a third of India's and almost four times that of Bangladesh in 1980, are now less than one tenth of India's and about the same as Bangladesh. The latter has achieved this tremendous export growth on the back of its garments sector, and today Bangladesh exports garments worth over USD 14 billion, which is almost four times the value of Pakistan's garment exports.

Table 1: Country-wise share of world exports (1980–2011)

Country	1980	1990	2000	2010	2011
Bangladesh	0.04	0.05	0.09	0.14*	N/A
India	0.43	0.57	0.70	1.55	1.78
Pakistan	0.15	0.18	0.15	0.15	0.15
Malaysia	0.74	0.94	1.61	1.40	1.34
Thailand	0.37	0.74	1.13	1.37	1.35

Note: * Bangladesh's data is for 2007.
Source: Authors' calculations based on data from the UN Commodity Trade database.

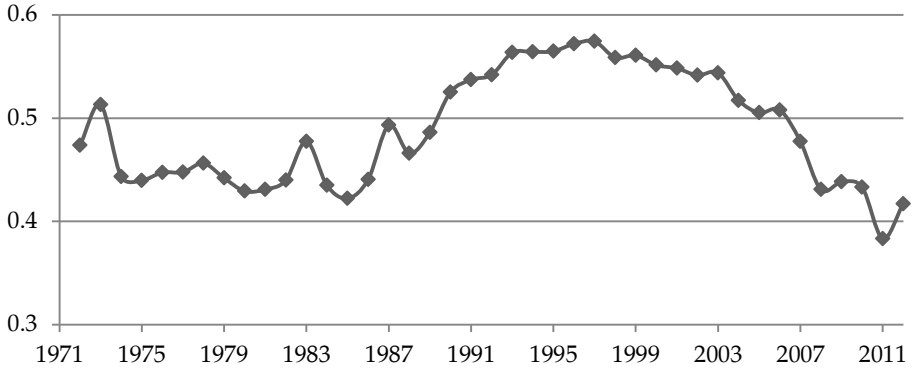
The historical lack of product diversification is considered an important reason for Pakistan's poor export performance. Using the Gini Hirschman index,[1] we analyze the degree of product diversification in Pakistan's exports from 1972 to 2012 (Figure 1). What we find echoes our findings in an earlier study (see Ahmed, Mahmud, Hamid, & Rahim, 2010) undertaken for the Planning Commission of Pakistan. While concentration levels were high during the 1990s, there has been an increasing trend toward diversification since 2003. In 2012, Pakistan's product concentration index stood at 0.42. In 2008, 15 commodities accounted for more than 90 percent of the country's exports; by 2012, this number had increased to 17.

Thus, while there has been some improvement in broadening Pakistan's export base, the index remains substantially higher than that of comparator countries such as Malaysia, Thailand, and India. A recent study by the World Bank (2013) discusses various structural and emerging constraints that are slowing down Pakistan's ability to continue the process of product diversification.

[1] Following Akbar and Naqvi (2001), this index is calculated using the formula where represents the export share of commodity *i* in total exports for year *t*, while *k* represents the total commodities that account for more than 90 percent of the country's export basket. The index ranges between 0 and 1, where 1 reflects perfect concentration and 0 perfect diversification.

In this study, we extend Ahmed et al. (2010) by exploring in detail product diversification patterns in Pakistan. We argue that, while Ahmed et al. (2010) provide a good understanding of how aggregate diversification has changed in the export base, their approach does not allow for a micro-level investigation of the process of diversification. Using the Hirschman index to assess concentration is equivalent to measuring it purely on the basis of the number of commodities in the export base—this is a rather narrow approach to measuring product diversification.

Figure 1: Product concentration index (1972–2012)



Source: Authors' calculations based on data from the UN Commodity Trade database.

The literature lends merit to this claim. Hausmann et al. (2005) show that a country's growth is affected by what it exports. In an attempt to understand the constraints to Pakistan's export performance, the World Bank (2013) employs five different measures of diversification: (i) the expansion of the product and market base, (ii) the growth of the extensive versus the intensive margin, (iii) the share of high-tech products in the export basket, (iv) the degree of export sophistication, and (v) the degree of export connectedness.

The first measure calculates the degree of diversification using the Herfindahl index on the basis of concentration (or otherwise) in certain products or markets. The second measure analyzes the growth of exports in 'new' products and industries (extensive margin) versus the growth of 'old' products and industries (intensive margin). The third compares the share of high-tech and low-tech exports in the country's export basket. Sophistication levels are assessed using the indices employed by Hausmann et al. (2005), which are based on a weighted average of each commodity's share of total exports; the weights represent the average per capita income of countries that produce similar products. Finally, using

their ideas, export connectedness is defined on the basis of the location of industries in the 'forest,' i.e., whether they are located in dense or thin parts of the forest.

Concentration levels in products and markets have gone down over time. Growth at the extensive margin has been sluggish relative to the intensive margin. While the country is moving into new products and markets, this process has been very slow. The share of high-tech products in the export basket has remained stagnant, not having moved beyond 2 percent since the 1980s. The share of low-tech exports has, however, continued to increase—from 54 percent in the 1980s to 65 percent in 2008. Pakistan's exports lag behind in sophistication compared to other Asian countries such as India, Thailand, China, and the Philippines. Finally, most export industries are still located in the thin parts of the forest with limited opportunities for moving up the value chain. Overall, Pakistan appears to be faring poorly on all indicators of export diversification except for the first. These findings motivate the need to move away from narrow measures of diversification in order to understand the export industry's underlying dynamics, in other words changes over time.

Motivated by this line of work, we augment the conventional measure of diversification, the Gini Hirschman index, with an analysis of the extent of traditionality and structural change in the export sector. Following Gutiérrez-de-Piñeres and Ferrantino (1997), we do so by constructing an average traditionality index (ATI) for each industry and a structural change index (SCI) for each year since 1972. The ATI is the mean of the cumulative export index for each industry while the SCI is the variance of the ATI calculated across industries but using five-year intervals rather than the full sample period.

Our study has three main objectives: (i) to assess the degree of traditionality in all 2-digit export industries over time; (ii) to study the degree of medium-term structural change that has occurred in the country's export sector from 1972 to 2012; and (iii) to explore the determinants of this structural change, which could help identify factors that would boost the country's export performance in the future.

A distinguishing feature of this research is our approach to analyzing structural change. In an earlier study by Felipe (2007), structural change has been analyzed using an external lens, i.e., by comparing the degree of structural change in Pakistan with respect to other comparator countries in Asia. However, in this paper, we adopt an internal lens for

analyzing structural change by looking at patterns of change across industries and within industries since 1972.

2. Data and Methodology

The study employs industry-level trade data at the 2-digit level taken from the United Nations Statistics Division (2014). The data cover a period of 40 years from 1972 to 2012. In order to assess the degree of traditionality for each industry (*k*), we calculate a cumulative export experience function or traditionality index (*trad*) for year *t* using the following formula:

$$trad_t^k = \sum_{1972}^{t} e_t^k \Big/ \sum_{1972}^{2012} e_t^k \quad (1)$$

The numerator contains the cumulative sum of real exports (*e*) starting from the initial time period t_0 (in this case, is 1972) up until period *t*; the denominator contains the total sum of real exports for industry *k* from 1972 to 2012. The means of these export experience functions are used to obtain the average level of traditionality for each industry as follows:

$$avg\_trad^k = \sum_{t_o}^{T} trad_t^k \Big/ T - t_0 + 1 \quad (2)$$

Each industry's cumulative export experience function ranges between 0 and 1. An industry for which the export experience function is close to 1 is classified as traditional and vice versa. In other words, the formulae for these indices predict that a traditional industry is one for which the export experience was concentrated earlier in the sample period while a nontraditional industry is one for which the export experience was concentrated later in the sample period.

Once the ATI (*avg_trad*) for each industry has been calculated for the period under study (1972–2012), we rank all industries on the basis of this mean index. The industry with the lowest ATI (*avg_trad*) will be ranked 1 while the industry with the highest ATI (*avg_trad*) will be ranked 30. Although there are 65 export industries at the 2-digit level, we focus our attention on the top 30, which, collectively, accounted for 96.93 percent of Pakistan's total exports in 2012. In addition to *avg_trad*, we will calculate its variance for each industry over time. These are referred to as within-industry (or **intra**-industry) variances, reflecting the deviation of each industry's (*k*) *avg_trad* from its average value over the period of study.

Next, we investigate the degree of medium-term structural change in the country's export sector since 1972. For this purpose, we will first recalculate the cumulative export experience functions for each of the top 30 2-digit industries using five-year intervals instead of the full sample period as used before. This is done using the following formula:

$$trad5_t^k = \frac{\sum_{t-2}^{t} e_t^k}{\sum_{t-2}^{t+2} e_t^k} \tag{3a}$$

The $trad5_t^k$ index will be used to calculate the **inter**-industry variance for each year t as shown by equation (3b).

$$sc_t = Var(trad5_{k0}^k)_t \tag{3b}$$

We expect these inter-industry variances over time to prove useful in understanding the degree of medium-term structural change in the country's export sector over time. Periods in which the inter-industry variance is low will reflect stable trends in the export sector while periods in which the inter-industry variance is high can be interpreted as periods of structural change with differing patterns across industries—some leading while others lag behind in terms of export performance.

The final part of the analysis entails studying the determinants of structural change, using the following regression model:

$$sc_t = \alpha + \beta_1 Liberalization_t^{PK} + \beta_2 PCI_t^{PK} + \beta_3 \log(RER)_t^{PK} + \beta_4 GDPgrowth_t^{PK} + \beta_5 Exgrowth_t^{PK} + \beta_6 Tradegrowth_t^{WORLD} + \varepsilon_t \tag{4}$$

$$Liberalization_t^{PK} = \frac{Import\ Duty\ Revenue_t}{NonOil,NonFood\ Imports_t} \tag{5}$$

$$PCI_{\mathrm{t}} = \left(\sum_{\mathrm{k}} \mathrm{W}_{\mathrm{it}}^2\right)^{1/2} \tag{6}$$

$$RER_t^{PK} = \frac{E_t^{PKR\ to\ USD} . WPI_t^{USA}}{CPI_t^{PK}} \tag{7}$$

where the sc_t index represents the degree of structural change as measured by the inter-industry variance of the trad5 index each year, $GDPgrowth_t^{PK}$ measures growth rate of real GDP for Pakistan, $Exgrowth_t^{PK}$ measures Pakistan's growth rate of exports, $Tradegrowth_t^{WORLD}$ represents growth rate of world trade and ε_t represents the error term.

$Liberalization_t^{PK}$ measures the degree of trade liberalization for each year as given by the ratio of import duty revenue to total non-oil, non-food imports of the country (shown by (5) above). An increase (a decrease) in the ratio of import duty revenue to non-oil, non-food imports would imply a decrease (increase) in trade liberalization.

PCI_t is the product concentration index of the country's export sector for each period t. W_{it} represents the export share of commodity i in total exports for year t, while k represents the total commodities that account for more than 90 percent of the country's export basket. The index ranges between 0 and 1: an increase (decrease) in this index would imply an increase (decrease) in concentration levels, or, in other words, a decrease (increase) in diversification.

RER_t^{PK} measures the country's real exchange rate as given by the ratio of the prices of tradable and non-tradable goods. The product of the nominal exchange rate (of the local currency with regards to the US dollar) and the US whole price index is used as a proxy for the price of tradable goods while Pakistan's consumer price index is used as a proxy for the price of non-tradable goods for each year (t). An increase in this ratio would imply depreciation of the rupee with regards to the dollar, and therefore an increase in competitiveness of the export sector and vice versa.

The data used for the regression analysis has been compiled from various sources. These include the United Nations Statistics Division (UN Comtrade), the *UNCTAD Handbook of Statistics 2008*, various rounds of the Pakistan Economic Survey, the State Bank of Pakistan's annual reports, and the World Development Indicators database.

3. Results

This section presents our calculations of traditionality levels across the export sector and the disaggregated pool of export industries as well as the SCI over time.

3.1. Traditionality Levels Across Export Industries

Tables 2 and 3 below present results for Pakistan's top 30 export industries. Cumulatively, these industries accounted for 97 percent of the country's total exports in 2012. (Table A1 in the Annex (column 5) ranks the top 30 2-digit export industries by traditionality.) For each of these industries, we have calculated a year-wise cumulative export experience function for 1972–2012, the means of which, or ATI, are given in column 3.

Industries with a smaller ATI are classified as less traditional and vice versa. The traditionality rank ranges from 1 to 30 where 1 denotes the least traditional and 30 the most traditional industry.

Table 2: Traditionality ranks of the top five export industries

(SITC 2-digit level)

(1) UN code	(2) Description	(3) ATI	(4) Variance of traditionality index	(5) Traditionality rank	(6) Share of total exports (2012)
65	Textile yarn, fabrics, made-up articles, related products	0.363	0.092	19	35.37
84	Articles of apparel, clothing accessories	0.288	0.098	12	17.12
04	Cereals and cereal preparations	0.438	0.066	23	9.44
89	Misc manufactured articles	0.306	0.075	15	8.62
66	Nonmetallic mineral manufactures	0.218	0.051	8	2.55

Source: Authors' calculations based on data from the UN Commodity Trade database.

Table 3: Traditionality ranks of the top five export industries in the UN89 category

(SITC 3-digit level)

(1) UN code	(2) Description	(3) ATI	(4) Variance of traditionality index	(5) Traditionality rank	(6) Share of total exports (2012)
897	Jewelry and semiprecious materials	0.084	0.04	1	6.62
894	Baby carriages, toys, games, sporting goods	0.393	0.11	7	0.89
893	Articles, n.e.s. of plastic	0.194	0.07	3	0.44
899	Misc manufactured articles n.e.s.	0.498	0.09	8	0.15
892	Printed matter	0.522	0.09	9	0.04

Source: Authors' calculations based on data from the UN Commodity Trade database.

Three main insights can be drawn from the results given in Tables A1, 2, and 3:

- The inter-industry variation in the ATI shows that the cumulative export experience function of industries has differed over time from 1972 to 2012, with the least traditional industry enjoying an ATI of 0.095 and the most traditional industry with an ATI of 0.678.
- The share of the least traditional industries accounted for only a tenth of total exports in 2012. This is evident from the fact that the cumulative share of the top ten least traditional industries (those with a rank ranging from 1 to 10 in column 5, Table A1) in total exports was 9.45 percent in 2012.
- Pakistan's top export industries (in terms of export share) emerge as the most traditional on the basis of this classification. This comes across starkly in Table 2, which gives the top five exports on the basis of their export share (column 6). These exports accounted for 73.1 percent of the country's total exports in 2012. On a traditionality scale of 1 to 30, three of the top five export industries are assigned a traditionality rank of 15 or higher. Moreover, this pool contains some of the most traditional industries, namely textile fibers and leather, which are ranked 29 and 25, respectively.

3.2. Traditionality Levels Across the Disaggregated Pool of Export Industries

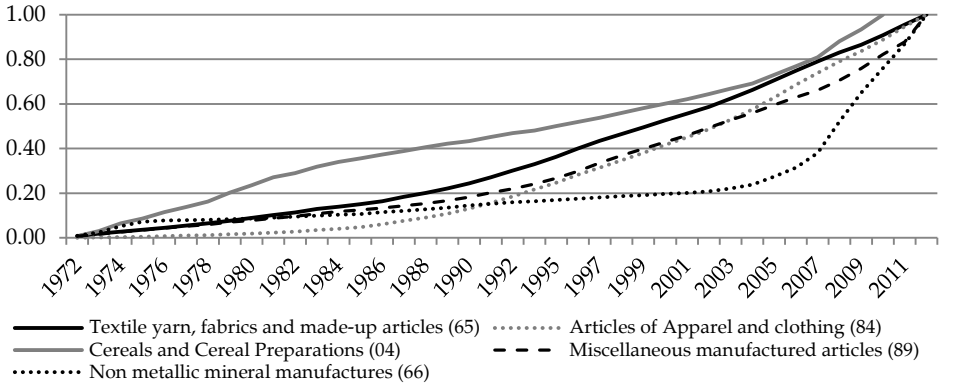
Next, we analyze traditionality levels for the country's top five exports as well as for the small and medium enterprise (SME) sector. Following Ahmed et al. (2013), SME industries include miscellaneous manufactured articles (primarily sporting goods), scientific equipment (primarily surgical instruments), general industrial machinery and parts, road vehicles and parts, telecommunications and sound-recording equipment, power-generating machinery and equipment (primarily motors and fans), and specialized machinery for particular industries (primarily machine tools). Most of the export production of these products takes place in small and medium units in industrial clusters around Karachi, Lahore, and the Sialkot–Gujrat–Gujranwala triangle in central Punjab. Finally, the pool of agricultural industries is defined to include rice, meat and meat preparations, and fruits and vegetables.

Figures 2 and 3 plot the traditionality index for the top five export industries (at the SITC 2-digit level) and for the top five exports in the UN89 category (at the SITC 3-digit level). Industries for which the index lies to the left are considered more traditional than those for which the index lies to the right. As anticipated from Table 2, Figure 2 shows that

some of the most important export industries—cereals and cereal preparations (i.e., rice) and textile yarn, fabrics, and made-ups (where both groups collectively accounted for 45 percent of total exports in 2012—are also the most traditional, their export experience functions positioned to the left. On the other hand, nonmetallic mineral manufactures (i.e., cement) and jewelry and semi-precious stones emerge as the least traditional export industries (Figures 2 and 3).

Figure 2: Traditionality levels across the top five export industries

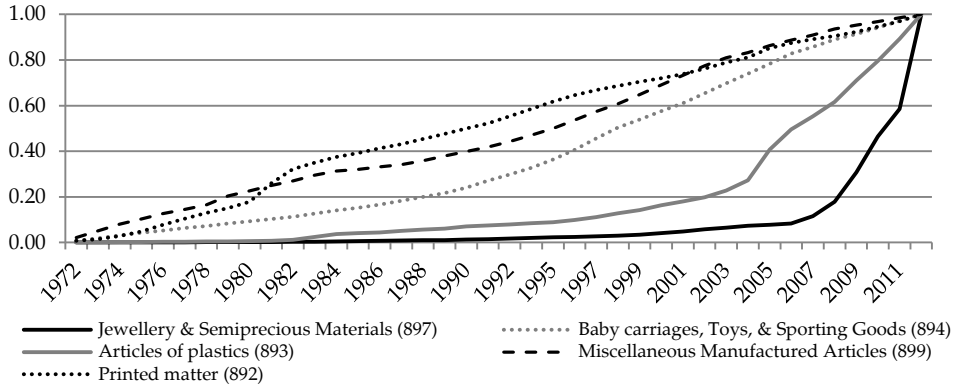
(SITC 2-digit level)



Source: Authors' calculations based on data from the UN Commodity Trade database.

Figure 3: Traditionality levels across the top five export industries in the UN89 category

(SITC 3-digit level)

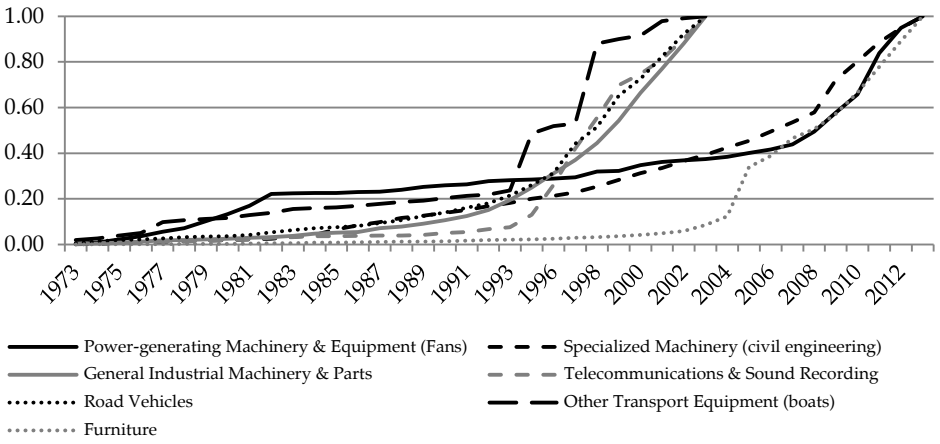


Source: Authors' calculations based on data from the UN Commodity Trade database.

Figure 4 compares the traditionality levels of each of the SME export industries according to the definition given earlier. Three particular

industries emerge as the least traditional: furniture, power-generating machinery and equipment, and specialized machinery. The remaining SME export industries feature similar levels of traditionality.

Figure 4: Traditionality levels of SME industries, 1972–2012



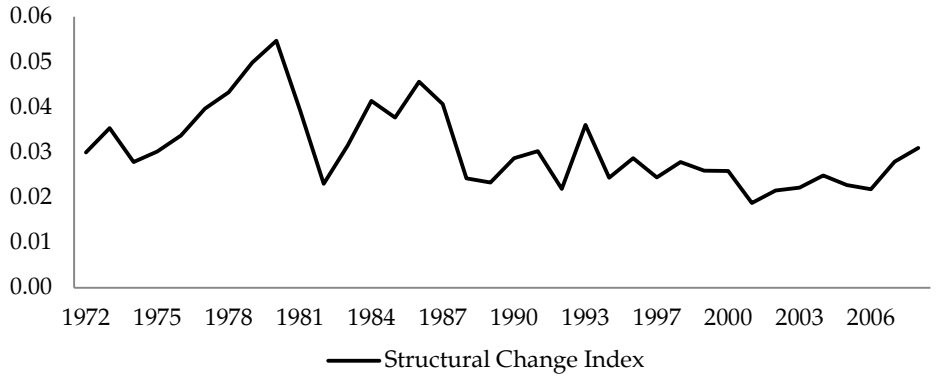
Source: Authors' calculations based on data from the UN Commodity Trade database.

3.3. Structural Changes in the Export Sector Over Time

Table 4 gives the SCI (calculated using the across-industry variations in traditionality levels for each year from 1976 to 2007, as explained in Section 2), along with data on some key macroeconomic variables such as the degree of trade liberalization, the growth rate of GDP, and the real exchange rate. The SCI is also plotted over time as shown in Figure 5, which is useful for looking at the overall direction of structural change in the export sector over time.

The data in Table 4 along with the product concentration index is used to estimate the regression model given by equation (4) in Section 2. The dependent variable is the SCI, which measures the inter-industry variance for each year. In order to rule out the possibility of a spurious correlation, the first difference of each series was regressed on its own one-period lag and a time variable. The results of these regressions show that the world growth rate of trade and Pakistan's export growth rate are stationary in levels, while the product concentration index is nonstationary in level but stationary in first difference. All the other variables—the SCI, trade liberalization, the real exchange rate, and Pakistan's GDP growth rate—are trend stationary.

Figure 5: Annual SCI, 1972–2012



Source: Authors' calculations based on data from the UN Commodity Trade database.

Table 4: SCI and other macroeconomic indicators

Year	SCI	Trade liberalization	GDP growth rate	Real exchange rate
1972				24.7
1973			7.1	42.6
1974	0.03		3.5	37.5
1975	0.04		4.2	33.9
1976	0.03		5.2	33.1
1977	0.03		3.9	31.9
1978	0.03		8.0	32.4
1979	0.04	0.452	3.8	33.7
1980	0.04	0.419	10.2	34.3
1981	0.05	0.454	7.9	33.5
1982	0.05	0.395	6.5	39.7
1983	0.04	0.463	6.8	40.8
1984	0.02	0.339	5.1	41.8
1985	0.03	0.431	7.6	45.1
1986	0.04	0.498	5.5	44.5
1987	0.04	0.520	6.5	45.0
1988	0.05	0.485	7.6	44.6
1989	0.04	0.418	5.0	50.9
1990	0.02	0.519	4.5	49.9
1991	0.02	0.433	5.1	49.9
1992	0.03	0.249	7.7	47.4
1993	0.03	0.248	1.8	47.2
1995	0.02	0.355	8.9	44.8
1996	0.04	0.311	4.8	47.0
1997	0.02	0.265	1.0	48.7
1998	0.03	0.243	2.6	50.8
1999	0.02	0.201	3.7	54.9
2000	0.03	0.195	4.3	56.4
2001	0.03	0.157	2.0	67.9
2002	0.03	0.119	3.2	60.1
2003	0.02	0.147	4.8	59.4
2004	0.02	0.131	7.4	59.0
2005	0.02	0.123	7.7	59.6
2006	0.02	0.098	6.2	58.4
2007	0.02	0.102	4.8	57.1
2008	0.02	0.082	1.7	58.8
2009	0.03	0.084	2.8	56.2
2010	0.03	0.091	1.6	55.4
2011		0.089	2.8	54.2
2012		0.060	4.0	54.6

Source: Authors' calculations based on data from the UN Commodity Trade Database, UNCTAD Handbook of Statistics 2008, State Bank of Pakistan annual reports, and various rounds of the Pakistan Economic Survey.

In order to de-trend these series, each variable was regressed on time and the predicted values subtracted from the original series. Having carried out these transformations, the final model was estimated, the results of which are given in column 1 of Table 5 below. The model was re-estimated with two-period lags for the GDP growth rate (column 2), the export growth rate (column 3), the real exchange rate (column 4), and the growth rate of world trade (column 5) in order to check the robustness of the results.[2]

Table 5: Determinants of structural change in the export sector

Dependent Variable: Structural Change Index

	(1)	(2)	(3)	(4)	(5)
Liberalization	0.0193	0.0228	0.0137	0.0175	0.0192
	[0.01]	[0.01]	[0.02]	[0.02]	[0.01]
L1(Liberalization)	0.0207	-0.0284*	0.0235	0.0204	0.0226
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
L2(Liberalization)	-0.0317***	-0.0360***	-0.0316***	-0.0311***	-0.0348***
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
FD(Product Concentration Index)	0.0630	0.0619	0.0636	0.0623	0.0983
	[0.06]	[0.05]	[0.06]	[0.06]	[0.06]
L1(GDP Growth)	0.000443	0.000514	0.000667	0.000487	0.000572
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
L2(GDP Growth)		0.00130**			
		[0.00]			
L1(Exports Growth)	-0.00561	-0.0115	-0.0117	-0.00439	-0.00852
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
L2(Exports Growth)			-0.000783		
			[0.00]		
L1(RER)	-0.000131	-0.000140	0.0000105	0.0000360	-0.0000397
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
L2(RER)				-0.000187	
				[0.00]	
L1(World Growth)	-0.000131	-0.00000167	-0.0000678	-0.000142	-0.000155
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
L2(World Growth)					-0.000467
					[0.00]
Constant	0.0330***	0.0375***	0.0353***	0.0340***	0.0310***
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
N	36	36	36	36	36
R-sq	0.574	0.644	0.589	0.577	0.610
Adj. R-sq	0.448	0.520	0.447	0.431	0.475

Standard errors in brackets
* p<0.1, ** p<0.05, *** p<0.01"

In all these estimations, the second-period lag of trade liberalization significantly explains variations in the SCI. As discussed in Section 2, trade liberalization is defined as the ratio of import duty revenues to total nonoil, nonfood imports, implying that an increase in this ratio would represent a

[2] The model was also estimated with lagged terms of the first-differenced product concentration index, but the results were not significantly different from zero. The model was also estimated with GDP growth, export growth, the real exchange rate, and world growth in levels but these variables did not emerge as significant determinants of the SCI.

decrease in trade liberalization while a decrease in the ratio would represent an increase in trade liberalization. On the basis of this definition, the negative sign of the trade liberalization term in all the regression results can be interpreted as follows: a decrease in the ratio of import duty revenues to nonoil, nonfood imports (implying an increase in trade liberalization) is likely to increase medium-term structural change in the export sector.

This effect, however, takes place with a lag such that any measures aimed at decreasing the ratio of import duty revenues to nonoil, nonfood imports, i.e., increasing the degree of trade liberalization in the past, can be predicted to boost structural change in subsequent years. The country's GDP growth rate may also contribute to hastening the pace of medium-term structural change in the export sector. Like trade liberalization, GDP growth is also expected to affect structural change with a two-period lag.

All other control variables, i.e., the first difference of the product concentration index, the export growth rate, the real exchange rate, and the growth rate of world trade, along with their one-period lags do not appear to have any significant impact on the SCI.

4. Conclusion

The objective of this study was to assess the degree of traditionality across all export industries in Pakistan, to analyze the degree of structural change that has occurred in the export sector since 1972, and to explore the determinants of medium-term structural change in the export sector.

Our results suggest that the current export base continues to be fairly traditional as is evident from the fact that the least traditional industries accounted for less than a tenth of total exports in 2012. Moreover, the results highlight two main factors that may be critical for the export sector to undertake structural change and become more dynamic in the future. The first of these pertains to a more liberal trade policy stance by the government; the second relates to the country's ability (as given by GDP growth) to successfully expand in the future.

However, the effectiveness of both measures—a more liberal trade policy regime and a sustained drive toward growth—will likely also depend on the availability of complementary fundamentals such as a supportive business environment, a trade-enabling regulatory framework, good governance with the rule of law, and political and macroeconomic stability.

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Annex

Table A1: Export industries ranked by traditionality

(1)	(2)	(3)	(4)	(5)	(6)
UN code	Description	ATI	Variance of traditionality index	Traditionality rank	% Share of total exports (2012)
01	Meat and meat preparations	0.095	0.048	1	0.86
02	Dairy products and birds' eggs	0.115	0.056	2	0.32
57	Plastics in primary form	0.124	0.067	3	1.55
43	Animal or vegetable fats and oils	0.128	0.088	4	0.89
28	Metalliferous ores and metal scrap	0.161	0.054	5	1.18
82	Furniture and parts thereof	0.173	0.079	6	0.37
51	Organic chemicals	0.204	0.065	7	0.74
66	Nonmetallic mineral manufactures n.e.s.	0.218	0.051	8	2.55
74	General industrial machinery and equipment n.e.s. and machine parts n.e.s.	0.237	0.082	9	0.31
54	Medicinal and pharmaceutical products	0.239	0.077	10	0.68
67	Iron and steel	0.260	0.059	11	0.78
84	Articles of apparel and clothing accessories	0.288	0.098	12	17.12
69	Manufactures of metals n.e.s.	0.298	0.068	13	0.91
33	Petroleum, petroleum products and related materials	0.301	0.067	14	1.34
89	Misc manufactured articles n.e.s.	0.306	0.075	15	8.62
05	Vegetables and fruit	0.318	0.071	16	2.24
72	Machinery specialized for particular industries	0.339	0.083	17	0.31
85	Footwear	0.363	0.083	18	0.42
65	Textile yarn, fabrics, made-up articles n.e.s., and related products	0.363	0.092	19	35.37
06	Sugars, sugar preparations, and honey	0.386	0.104	20	1.03
27	Crude fertilizers and crude minerals	0.398	0.049	21	0.61
87	Professional, scientific, and controlling instruments	0.403	0.090	22	1.28
04	Cereals and cereal preparations	0.438	0.066	23	9.44
03	Fish and preparations thereof	0.448	0.090	24	1.11
61	Leather and leather manufactures	0.465	0.092	25	1.91

(1)	(2)	(3)	(4)	(5)	(6)
UN code	Description	ATI	Variance of traditionality index	Traditionality rank	% Share of total exports (2012)
07	Coffee, tea, cocoa, spices, and manufactures thereof	0.489	0.077	26	0.27
29	Crude animal and vegetable materials	0.497	0.079	27	1.10
93	Special transactions and commodities not classified according to kind	0.505	0.068	28	1.21
26	Textile fibers and their waste	0.583	0.105	29	2.10
08	Feeding stuffs for animals	0.678	0.050	30	0.30

Note: In Tables 2 and 3, column 5 is based on the ranking of the top 30 2-digit export industries by their export share.
Source: Authors' calculations based on data from the UN Commodity Trade database.

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Should Pakistan Liberalize Trade With India Against the Backdrop of the FTA with China? A Comparative Advantage Analysis for the Manufacturing Sector

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Abstract

Pakistan and India have not yet normalized trade relations and gained the full benefits of bilateral trade despite significant developments to this end since 2011. Pakistan has yet to reciprocate the most-favored-nation status granted by India. This study investigates the benefits of trade liberalization between the two countries by studying the global competitiveness of Pakistan's industrial sector from a policy perspective. We construct a revealed comparative advantage index for manufacturing products (HS 2-digit level) for Pakistan, India, and China for the period 2003–12, and then identify the changing patterns of comparative advantage for Pakistan. We find that 18 industries should be protected upon liberalizing trade with India. These industries are termed 'vulnerable' as they have moved from either borderline competitiveness to becoming uncompetitive or vice versa. Additionally, the excessive concessions granted to China in its free trade agreement with Pakistan and the resistance to opening up trade with India may have resulted in inefficient trade, i.e., imports from a less competitive partner and exports to a less lucrative market. We aim to establish a direction for further research to determine the ex ante impact of trade with India on the economy via a change in the production levels of these vulnerable industries, given the impact of free trade with China and the availability of Chinese substitutes.

Keywords: Pakistan-India trade, revealed comparative advantage, manufacturing exports, trade liberalization.

JEL classification: F10, F11, F12.

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1. Introduction

That international trade expansion is an important driver of economic growth is well documented, especially in the case of Asia. Countries such as Japan, China, the Republic of Korea, Malaysia, and Thailand experienced exceptional GDP growth by following a trade-led growth policy. However, the South Asian countries have learned little from this. While the Southeast Asian bloc has made tremendous progress by virtue of intraregional trade (61 percent of its manufacturing exports are traded within the region), trade between the SAARC member countries remains very low. Further, the expansion of regional trade, especially intra-industry trade, helps economies expand their global trade. The Southeast Asian countries hold 8.2 percent of the world's total exports while the share of the South Asian countries (Pakistan and India) is only 0.5 percent (Asian Development Bank & Asian Development Bank Institute, 2013).

This remarkably low level of trade within South Asia is attributed mainly to the trade restrictions between Pakistan and India, given Pakistan's strategic geographical location and connectivity within the region. Unfortunately, despite numerous rounds of talks in the last decade, the two neighbors have failed to normalize trade relations. Steps taken by the Government of Pakistan to harmonize trade with India do not necessarily find favor among local industries, some of which fear that imports from India will crowd out local production—the severe domestic energy crisis and competition from other trading partners such as China has already affected local output. However, this perception is changing and a significant proportion of local industries now strongly recommend that the government lift trade barriers and negotiate a favorable trading agreement with India. Pakistan also faces pressure from international agencies to grant India most favored nation (MFN) status, which it has long withheld. Granting MFN status to all World Trade Organization (WTO) signatories is obligatory for Pakistan under the General Agreement on Tariffs and Trade (GATT).

Given the taxing nature of the problem and the concerns of the local business community, this study aims to identify sectors that require government support to attain global competitiveness. We do this by constructing a revealed comparative advantage (RCA) index for HS[2] 2-digit level code products for Pakistan, India, and China from 2003 to 2012. The

[2] The Harmonized System of coding is an international nomenclature for the classification of traded goods on a common basis.

change in RCA trends can help identify products that are showing a decline or an improvement in competitiveness over the years. Comparing RCA trends across countries also helps find evidence of inefficient trade, i.e., trade violating the theory of comparative advantage.

The study finds that 18 products require prompt government attention if they are to become more globally competitive in the long run. We recommend providing protection to these sectors in the presence of a more open trading regime in the short run. A comparison of RCA trends across these three countries shows that there are 12 items for which India has a comparative advantage over China, although Pakistan imports these items from the latter. Moreover, four (Pakistani) products that could have a large potential market in India are being sold in larger volume to China instead. This can be attributed to the artificial advantage given to China and the ease of access to the Chinese market as a result of the Pakistan-China free trade agreement (FTA) and the trade barriers enforced on the Indian side.

Both Pakistan and India have implemented numerous measures to restrict trade. These include trade based on positive lists, land route restrictions by Pakistan, and multiple nontariff barriers (NTBs) imposed by India. According to a recent report by the Pakistan Economic Forum (2013), reducing tariff barriers and NTBs could lead to a massive increase in bilateral trade (the potential trade is estimated at US$ 10 billion compared to the current trade volume of around US$ 2.5 billion).

Policymakers suggest that liberalizing trade between Pakistan and India will enhance trade within the region, given the strong probability of trade diversion to regional members. Normalizing trade with India would give it overland access to Afghanistan and the Central Asian states. Pakistan would benefit from the transit trade and gain access to the economies of Nepal and Thailand. One school of thought suggests that a significant improvement in growth rates and per capita income could be achieved in the long run by increasing trade with India on the basis of comparative advantage.

Section 2 summarizes Pakistan-India trade relations since 1947. Section 3 gives a brief overview of the literature addressing Pakistan-India trade problems and the competitiveness of different manufacturing sectors in Pakistan. Section 4 presents our empirical framework and dataset used. Section 5 reports the detailed results. Section 6 presents the study's main conclusions and implications and suggests areas for further research.

2. A History of Pakistan-India Trade Relations

Immediately after Partition in 1947, the trade volume between the two countries was considerably high as both depended heavily on each other. However, there was a dramatic decline in trade in 1949 when Pakistan decided not to devalue its currency, rendering the trade balance unfavorable for India. Subsequently, trade was completely paralyzed as a consequence of the 1965 and 1971 wars.

The situation improved in 1975 (see Maini & Vaid, 2012) when the two countries signed a trade agreement. Both continued trading without any mutual agreement and in 1982, the Pakistan government announced a positive list of 40 items. Bilateral trade during the 1990s was marked by fluctuations but registered an overall increase. This can be attributed to the trade liberalization regime adopted by both countries on joining the WTO in 1995; India granted Pakistan MFN status in 1996.

A major development during the next decade was the South Asia Free Trade Area (SAFTA) agreement of 2004. The SAARC countries agreed to decrease their tariffs to 0–5 percent by 2013. As a consequence of this agreement and the trade talks initiated by President Pervez Musharraf in 2005, bilateral trade reached a record high. In 2010, bilateral trade stood at US$ 2.2 billion compared to US$ 1.5 billion in 2006. Since then, the issue has received special attention: trade talks between Pakistan and India are carried out episodically in academic, business, and diplomatic circles.

The main development since 2011 has been the elimination of the positive list (see Table 1). Instead, a negative list[3] was introduced and the number of products that could be traded by road was increased from 40 to 137. However, the promise that Pakistan would reciprocate with MFN status for India by December 2012 remains unfulfilled.

Table 1: Policy developments since 2004

Year	Policy changes
2004	Positive list comprising 757 items allowed to be traded
2006	Positive list expanded to 1,075 items
2009	Positive increased to 1,934 items

[3] SRO 280, issued by Pakistan's Ministry of Commerce on 20 March 2012, lists 1,209 items not importable from India. It also lists 137 items that may be traded overland (see http://www.tdap.gov.pk/.php). In January 2014, the item petroleum coke was also permitted for trade across the Wagah-Attari border (see http://www.dawn.com/news/1079280/import-of-petroleum-coke-allowed-by-road-from-india).

February 2012	Positive list abolished
March 2012	Negative list comprising 1,209 items introduced; 137 items allowed to be traded via land

Source: Authors' compilation.

2.1. The MFN Story

Both Pakistan and India joined the WTO on its formation in 1995. According to Article I of GATT, it is incumbent on all WTO signatories to trade with each other according to the MFN principle. India complied with this and granted Pakistan MFN status soon after joining the WTO, but the latter has yet to reciprocate.

MFN treatment ensures nondiscriminatory trading terms among WTO members. It guarantees that if favorable tariff rates are given to one trading partner, then all other member countries will receive the same terms. The principle does not entail giving extra advantages to any one partner; rather, it provides for uniform terms of trading for all member countries. However, not all countries fulfill this obligation. In addition to allowing the formation of preferential trade agreements (PTAs) and FTAs, some GATT clauses[4] allow one country to discriminate against the other. For instance, the US has not awarded China unconditional MFN status because of its communist regime.

Pakistan decided to accord MFN status to India only as recently as 2011. In 2012, it was decided that the two countries would enjoy mutual MFN treatment from January 2013. The present government is expected to fulfill this promise soon as it faces considerable pressure to do so from the local business community and international donor agencies. One of the main reasons for not according MFN status to India concerns the NTBs imposed on the Indian side. These are complex and range from quality assurance and physical inspection by customs officials to visa issuance. NTBs account for a significant proportion of the overall trade restrictiveness index (OTRI) for India (see Table A in the Annex).

3. Literature Review

A number of studies on India-Pakistan trade have examined the impediments to trade, the potential trade volume, and the advantages and disadvantages of normalizing trade between the two countries. Most of

[4] See Articles XX and XXI for general exceptions in the text of the GATT 1968. A special exception was included for Pakistan and India (paragraph 11, Article XXIV).

these also investigate the impact of trade liberalization on indicators such as consumer surplus, producer surplus, welfare, and tariff revenue. The current annual trade volume between Pakistan and India is approximately US$ 2.5 billion, which, Khan (2013) argues, could potentially reach US$ 50 billion in the long run under an open trade regime. Over the next five years, the estimated trade volume is expected to range between US$6 billion and US$ 10 billion—an estimate with which most studies concur. The Pakistan Economic Forum (2013) also estimates potential future bilateral trade at US$ 10 billion.

Gopalan, Malik, and Reinert (2013) apply a partial equilibrium, imperfect substitutes framework to the items on a negative list between Pakistan and India. Assuming a constant elasticity of substitution between imports from India and imports from the rest of the world, the authors run simulations using the general algebraic modeling system to estimate the impact of trade liberalization on import volume, net output, tariff revenue, consumer surplus, and net welfare. They find that granting MFN status to India would result in a considerable degree of import substitution toward India; it would have a moderate impact on output and increase overall tariff revenue and net welfare. However, the tariff revenue gains become losses if the simulations are run assuming a free trade regime under SAFTA and the substitution toward Indian imports increases slightly. An important finding of this study is the significant negative impact on domestic output in three sectors—footwear, sporting goods, and leather—under the SAFTA regime.

Raihan and De (2013) employ a global trade analysis project model and find that Pakistan's overall exports and imports change minimally under MFN treatment, but increase a little under SAFTA along with MFN tariffs. There is significant evidence of substitution toward the Indian market for imports. On liberalizing trade, the increase in imports from India is significantly greater than the increase in Pakistan's exports to its neighbor, but overall welfare rises for both countries. There is no correspondingly large increase in Pakistan's exports to India because Pakistan's export basketare largely less diversified and comprises low technology manufacturing products.

Several studies have investigated the problems faced by Pakistan's industrial sector, using different quantitative and qualitative methods to understand the competitiveness of manufacturing sector exports in a global market context. Yousuf (2009), in discussing manufacturing exports under the liberalization reforms of the 1990s and 2000s, reports that the structure

and composition of Pakistan's export base has not changed in any substantial way. He highlights the importance of structural reforms needed to transform the sector in order to specialize in high technology/high value-added products.

Lall and Weiss (2004) present similar findings: industry in Pakistan has failed to adapt to the world's changing production patterns or transform from being labor/resource-intensive to technology-intensive. Their study assesses the performance of 20 main manufacturing exports of Pakistan at the SITC[5]-3 level. They conclude that significant investment in physical infrastructure and research and development as well as proper firm-level assistance is critical to address broader competitiveness issues, especially related to technological upgrading.

Mahmood (2004) reports that, among the top 25 most competitive industries (based on comparative advantage), 20 are labor-intensive. Calculating the RCA index for Pakistan's manufacturing products at the HS 4-digit level code from 1990 to 2000, he examines the comparative advantage of 978 product lines in 2000 against the average of the previous three years (1997–99). These products are categorized as competitive, noncompetitive, threatened, or emerging in order to develop an overall export profile. The author points out that trade liberalization alone will not boost manufacturing exports; instead, it poses a potential threat to the competitiveness of the major exporting sectors, given their lack of technological advancement and labor intensity. The study recommends efforts at the micro- and macro-level to sustain and achieve global competiveness.

Drawing on the comparative advantage theory, Taneja, Ray, Kaushal, and Chowdhury (2011) construct an RCA index for those product lines prohibited by India for import from Pakistan under SAFTA. They find that Pakistan does not enjoy a competitive advantage for most of the products included in the sensitive list. On liberalizing trade, therefore, the Indian economy will not face a significant influx of imports from Pakistan. The authors propose reducing the extensive list of 686 items to only 67.

Numerous studies have employed a comparative advantage technique to identify the export potential and competitiveness of a particular product from Pakistan's export basket in the global market. Variations in the RCA index point to shocks that have affected the production or export of a particular product and represent its global

[5] Like the HS Convention, the Standard International Trade Classification (SITC) also classifies commodities traded internationally.

competitiveness. For example, Akhtar, Zakir, and Ghani (2008) compare the RCA of footwear produced by Pakistan, India, and China and conclude that, although India and China have a higher static comparative advantage over Pakistan, the competitiveness of the latter's footwear industry is rising while that of the other two is declining over time. Shahab and Mahmood (2012) report similar results for the leather industry. Other studies, such as Hanif and Jafri (2006), Tahir et al. (2012), and Riaz and Jansen (2012) have analyzed textiles, tomatoes, and other agricultural products, respectively, using the RCA index. They examine the international trade competitiveness of Pakistan's products relative to that of existing or potential trading partners.

The literature reveals three key points. First, there is substantial potential for trade between Pakistan and India. Second, the trade balance will likely favor India as there will be substantial substitution toward the Indian market for imports, whereas the increase in exports will be comparatively small. Third, in order to increase its manufacturing exports, Pakistan must significantly improve its industrial sector through structural reforms and technological upgrading to diversify and enlarge the country's export basket.

Our study also employs the comparative advantage technique, but unlike the studies above, the RCA index is constructed for all manufacturing products at an aggregate level, i.e., the HS 2-digit code level, in order to identify which industries need in-depth analysis. Moreover, we show the pattern of RCA for three countries for a recent period, i.e., 2003 to 2012. Using the RCA indices, the study also finds evidence of inefficient trade.

4. Empirical Framework

Our analysis is restricted to the manufacturing sector as it has already been established that liberalizing trade in agriculture will benefit Indian farmers due to the provision of heavy subsidies to the Indian agriculture sector (Pakistan Economic Forum, 2013). The study constructs an RCA index for all manufacturing products at the HS 2-digit level code for Pakistan, India, and China for the period 2003 to 2012. Reinert, Rajan, Glass, and Davis (2009) define RCA as "an empirical measure of the extent to which a given country specializes in the export of a particular product or range of products, compared with the world."

4.1. Methodology

RCA is calculated using Balassa's (1965) measure of comparative advantage:

$$RCA = (\sum X_{ij}/\sum X_{Tj})/(\sum X_{iw}/\sum X_{TW}) \quad (1)$$

where i and j are, respectively, the good and the country in question; X_{ij} is the export of good i by country j; $\sum X_{Tj}$ is the total exports of country j; X_{iw} is world exports of good i; and $\sum X_{TW}$ is total world exports.

RCA values can range from 0 to positive infinity. A country has comparative advantage in the production of a particular product if the calculated RCA value is greater than 1. An RCA value of less than 1 indicates comparative disadvantage. Hence, by analyzing the RCA indices for three countries, we can identify the products/industries in which Pakistan has a comparative advantage over India and China. A change in the RCA for any particular sector over time for Pakistan, India, and China is understood as a change in global competitiveness over time. Similarly, an RCA trend indicates the ability of a particular sector of the economy to capture the global market.

Sanidas & Shin (2010) argue that using RCA to calculate comparative advantage has several benefits. It helps assess the relative performance of a country's exports over a period of time. It is reasonably accurate when transportation costs are not too high and, hence, appropriate for our analysis of Pakistan-India trade. It can also be used in econometric analysis. Above all, RCA is simple to calculate and the required data (on exports) is easily available. In contrast, for instance, the Lafay[6] index, which estimates the comparative advantage between two countries, requires both import and export data and, therefore, is more suited to analyzing intra-industry trade. This would make the Lafay index an inaccurate measure for Pakistan-India trade because intra-industry trade between the two countries is small.

4.1.1. Trend Analysis

We carry out a trend analysis of Pakistan's RCA index to identify which industries had a comparative advantage but have lost it over time, i.e., the RCA has dropped to less than 1 (from advantage to disadvantage).

[6] An index of specialization or RCA that takes into account both the exports and imports of a particular sector or product.

The analysis also separates out those industries that have shown a gradual improvement over the years, but are not yet able to achieve or maintain global competitiveness. Most of these industries will have an RCA between 0 and 1, such that $0 < RCA_i < 1$, but some will still face difficulties in maintaining the comparative advantage they have attained and fluctuate around 1 (from disadvantage to advantage). These two types of industries are labeled "vulnerable" and we recommend they be protected and helped to gain and sustain global competitiveness in the future.

4.1.2. Inefficient Trade

In order to find evidence of **inefficient trade**, we have included China as a reference country for the reasons below:

- Pakistan has recently completed an FTA round with China.
- As a result of the FTA, Pakistan's overall imports from China increased by 80 percent. Surprisingly, the import of products in the "no concession category" (i.e., the category in which Pakistan did not provide tariff concessions) increased by 174 percent (Pakistan Business Council, 2013).
- Both India and China share a border with Pakistan, but transportation costs are higher for China than for India.

Next, we compare the trends of the RCA indices for China and India for products in which Pakistan is the least competitive. This three-country comparison enables us to separate out those products for which India's RCA is higher than that of China, which in turn is higher than that of Pakistan, i.e., $RCA^I > RCA^c > RCA^P$. The study then reviews the share of India and China in the overall imports of Pakistan for products that fulfill this criterion. A larger Chinese share of these products indicates that the blockage of trade with India has resulted in imports from a less competitive partner, thus resulting in inefficient trade.

Similarly, we identify another group of products for which Pakistan has the highest comparative advantage of the three countries, i.e., $RCA^P > RCA^c > RCA^I$. For these products, India is at a greater disadvantage than China. The study compares the shares of India and China in Pakistan's export basket for these products. A lower Indian share indicates export inefficiency: Pakistan is exporting more to China than to India despite the fact that the potential for growth is higher in the latter.

4.2. Data Sources

Our primary source of data is the United Nations Commodity Trade Statistics database, which provides access to international merchandise trade statistics. The dataset is a comprehensive source of import and export data, ranging from 2- to 8-digit HS code levels. Other sources include datasets available from the International Trade Center, the WTO, and the Pakistan Bureau of Statistics.

5. Results

The competitiveness profile of Pakistan's manufacturing product lines at the HS 2-digit level, based on the trend of the RCA index over a decade, gives us three main categories of products: (i) products that show a rising RCA trend, (ii) products that show a declining trend, and (iii) products that have either no definite trend or display smooth behavior over the years. The study finds that 19 product lines show an increasing trend and 17 product lines show a declining trend from 2003 to 2012. The majority of product lines fall in the third category (see Table A in the Annex). Table 2 lists the rising and falling sectors. The number in parentheses gives the exact count of product lines at the HS 2-digit level that can be classified in one sector. For the codes and names of each product line, see Table B in the Annex.

A falling or rising trend is not, however, a sufficient criterion for industries to require protection. The main aim of this trend analysis is to identify which industries require immediate help either to sustain or attain global competiveness. We find that two types of product lines/industries qualify for favorable treatment: (i) industries trying to reach the comparative advantage benchmark of an RCA value of 1 (moved from a comparative disadvantage to an advantage), and (ii) industries that have fallen below this benchmark over time (moved from a comparative advantage to a disadvantage).

Table 2: Industries with rising and falling RCA trends, 2003–12

Rising industries	Falling industries
Primary milling products (5)	Cocoa (1)
Salt, sulfur, etc. (1)	Tobacco (1)
Inorganic chemicals (1)	Mineral fuels (1)
Pharmaceuticals (1)	Organic chemicals (1)
Tanning (1)	Fertilizers (1)
Soap, candles, etc. (1)	Articles of leather (1)
Raw hides, fur-skin, wool, animal hair (2)	Manmade filament (1)
Photography goods (1)	Yarns (1)
Paper (1)	Textiles (carpets, worn clothing, knitted
Precious metals and pearls (1)	fabrics and articles, etc.) (4)
Cotton and textiles (2)	Footwear (1)
Copper, iron, or steel articles (2)	Toys (1)
	Aircrafts (1)
	Explosives (1)
	Misc manufacturing goods (1)
Total products = 19	Total products = 17

Out of 83 products at the 2-digit level, 13 fall under the first category and five under the second (see Table 3). The table's first column lists those product lines that are trending upward in global competitiveness, but have either failed to cross 1 on the RCA index or have crossed 1 and are finding it difficult to sustain. The second column lists those product lines with a declining RCA that has fallen below 1. The Annex gives the RCA indices for all these products.

Table 3: Vulnerable manufacturing industries over 2003–12

	From disadvantage to advantage		From advantage to disadvantage	
No.	Code	Product line	Code	Product line
1	19	Cereal, flour, starch, milk preparations and products	54	Manmade filaments
2	20	Vegetable, fruit, nut, etc. food preparations	56	Wadding, felt, nonwovens, yarns, twine, cordage, etc.
3	24	Tobacco and manufactured tobacco substitutes	60	Knitted or crocheted fabrics
4	28	Inorganic chemicals, precious metal compounds, isotopes	64	Footwear, gaiters and the like, parts thereof
5	30	Pharmaceutical products	96	Misc manufactured articles
6	32	Tanning, dyeing extracts, tannins, derivatives, pigments, etc.		
7	37	Photographic or cinematographic goods		
8	39	Plastics and articles thereof		
9	48	Paper and paperboard, articles of pulp, paper, and board		

	From disadvantage to advantage		From advantage to disadvantage	
No.	**Code**	**Product line**	**Code**	**Product line**
10	71	Pearls, precious stones, metals, coins, etc.		
11	73	Articles of iron or steel		
12	74	Copper and articles thereof		
13	82	Tools, implements, cutlery, etc. of base metal		

5.1. Disadvantage to Advantage

Products in the disadvantage-to-advantage category have shown an improvement over the years, but have not yet achieved global competitiveness. The RCA index for these sectors has trended upward since 2003. The list includes products such as precious stones and fruits, which are among Pakistan's major exports to China and India, respectively. Product lines such as pharmaceuticals, plastics, paper, tools and cutlery, and tobacco are also sectors that could potentially help strengthen Pakistan's deteriorating balance of payments.

The Pakistan Business Council (2013) recommends protection for the cutlery, plastics, paper, and footwear industries, along with certain other manufacturing sectors, and lists a number of product lines that require immediate attention at the disaggregated level. However, unlike this study, which uses rapid increases in the Chinese share of these imports as a yardstick to identify vulnerable industries, we have based our findings on the principle of comparative advantage.

5.2. Advantage to Disadvantage

The product lines in this category are the most vulnerable as they previously had a comparative advantage in the global market, which they have lost over time. For example, the RCA value for manmade filaments dropped from 12.6 in 2003 to 0.59 in 2012. A similar deterioration has occurred in the competitiveness of other products in this group. While there are many reasons for the decline in RCA, a micro-level study of each industry is needed to account for the fall in output and exports.

The declining patterns identified in this study are consistent with the literature. For instance, we find that Pakistan's footwear industry enjoyed a comparative advantage over India till 2009 and then declined; Akhtar et al. (2008) report similar results. For knitted or crocheted fabrics, Zia (2007) illustrates how Pakistan lost its comparative advantage in the global market, but remains more competitive than India. These results are

in line with our findings. However, in order to understand RCA trends, it is important to carry out a more sophisticated analysis to identify factors such as trade policy, natural disaster, and resource constraints, which may affect the export share of a particular product in the global trade market.

5.3. Inefficient Trade: Comparing RCA Trends

On segmenting the product lines according to a comparison of linear RCA trends for the three countries (based on the two inequalities defined in the methodology, i.e., $\boldsymbol{RCA^I > RCA^c > RCA^P}$ and $\boldsymbol{RCA^P > RCA^c > RCA^I}$,), we find evidence of inefficient trade both for imports and exports.

There are 12 products for which India has a greater comparative advantage than China. According to the theory of comparative advantage, therefore, Pakistan would benefit most from importing these products from India rather than China (see Table 4). The trade data show that Pakistan imports a large proportion of these products from China (see Table C1 in the Annex). Moreover, the share of Chinese exports for these products, as for many others, has increased significantly over the last few years. In 2012, these 12 products accounted for a fourth of the total imports from China—a large enough share to signify the need to address this inefficiency.

Table 4: Industries with evidence of inefficient trade in imports

		RCA India > RCA China > RCA Pakistan
No.	**Code**	**Industry**
1	21	Misc edible preparations
2	29	Organic chemicals
3	32	Tanning, dyeing extracts, tannins, derivatives, pigments, etc.
4	33	Essential oils, perfumes, cosmetics, toiletries
5	34	Soap, lubricants, waxes, candles, modeling paste
6	38	Misc chemical products
7	50	Silk
8	53	Vegetable textile fibers n.e.s., paper yarn, woven fabrics
9	54	Manmade filaments
10	68	Stone, plaster, cement, asbestos, mica etc. articles
11	72	Iron and steel
12	87	Vehicles other than railway, tramway

Note: The table lists Pakistan's manufacturing sector products based on their RCA pattern over 2003 to 2012, for which India is more competitive than China although Pakistan imports a significant proportion of most of these products from the latter.

Similarly, there are four products that Pakistan could export both to India and China (Table 5). Given that India has a greater comparative disadvantage in these products than China, Pakistan should export these products to India. However, a comparison of the Chinese and Indian shares of Pakistani exports shows that exports to China (in these four products) are greater than exports to India (see Table C2 in the Annex). Exporting these products to India rather than to China would, therefore, be more lucrative for Pakistan as the market's potential to grow is greater.

Table 5: Industries with evidence of inefficient trade in exports

		RCA Pakistan > RCA China > RCA India
No.	**Code**	**Industry**
1	42	Articles of leather, animal gut, harness, travel goods
2	61	Articles of apparel, accessories, knitted or crocheted
3	62	Articles of apparel, accessories, not knitted or crocheted
4	63	Other made-up textile articles, sets, worn clothing, etc.

Note: The table lists Pakistan's manufacturing sector products based on their RCA pattern over 2003 to 2012, for which India is at a greater disadvantage than China although Pakistan exports a significant proportion of most of these products to India.

6. Conclusion

The study has constructed RCA profiles for various manufactured products for Pakistan and its two neighboring trade partners. An analysis of these profiles yields a list of products that require immediate assistance to attain or sustain global competiveness. This includes Pakistani industries that have shown some improvement but are still struggling to achieve global competitiveness as well as those that have lost their competitiveness over time. The study suggests that these industries have the potential to grow, thus helping to strengthen Pakistan's deteriorating trade balance. The industries in question include footwear, cutlery, plastics, paper, pharmaceuticals, and others. We propose that these items be protected from additional competition once trade with India is liberalized.

The 18 product lines identified as "vulnerable" industries translate into 1,100 items at the HS 6-digit level. We recommend providing these sectors with protection in the presence of a more open trading regime in the short run. Of these 1,100 items, 284 items are already on the negative list while another 816 items are not. An industry/firm-level investigation would help assess the preparedness of these 284 products, given that they face possible removal from the negative list if India is awarded MFN status.

Further research is needed to investigate why these industries have become vulnerable and the extent to which they should be protected. If such an investigation concludes that Pakistan's trade agreements with its partners have significantly reduced the competitiveness of these industries, a limited form of protectionism may be necessary. This prescription would be subject to assessing the impact of production in these industries on markets and welfare.

Having compared the RCA profiles of these three countries, we find that the unnecessary trade blockage with India has resulted in inefficient trade. Several items that are currently imported from China may be cheaper or better if purchased from India, given that the latter is more competitive in these products. The study also presents a list of items that should be exported to India in greater volume than to China because the former is the least competitive in these products. However, the policy implications of this result remain inconclusive without a comparison of prices, transportation costs, and the implied costs of NTBs. Since this study has used aggregate data, price comparisons were not possible and conclusive evidence of inefficiency remains a subject for further research.

The list of items identified could also be used to carry out a disaggregated inquiry of RCA profiles: we would expect the RCA for aggregated categories to differ from that of disaggregated levels within the same category of product. These results would provide policy implications for a variety of differential tariffs on different levels of production, i.e., intermediary or final goods, which are relevant for trade regime negotiations, especially in the context of a small developing open economy.

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Annex

Table A: Overall trade restrictiveness index for India and Pakistan

		OTRI			OTRI_T		
Country	**Year**	**ALL**	**AG**	**MF**	**ALL**	**AG**	**MF**
India	2009	14.90%	69.47%	13.12%	9.41%	43.27%	8.31%
Pakistan	2009	7.37%	5.82%	7.48%	7.37%	5.82%	7.48%

Note: The OTRI_T focuses only on the tariffs of each country, unlike OTRI, which includes NTBs in the calculation.

Source: http://go.worldbank.org/FG1KHXSP30

Table B: Classification of industries based on RCA trends

	Rising RCA		Falling RCA		Without any pattern or smooth	
No.	**Code**	**Name**	**Code**	**Name**	**Code**	**Name**
1	13	Lac, gums, resins, vegetable saps and extracts n.e.s.	18	Cocoa and cocoa preparations	11	Milling products, malts, starches, inulin, wheat gluten
2	14	Vegetable plaiting materials, vegetable products n.e.s.	24	Tobacco and manufactured tobacco substitutes	12	Oil seed, oleagic fruits, grains, seeds, etc.
3	19	Cereal, flour, starch, milk preparations and products	27	Mineral fuels, oils, distillation products, etc.	15	Animal/vegetable fats and oils, cleavage products, etc.
4	20	Vegetable, fruit, nut, etc. food preparations	29	Organic chemicals	17	Sugars and sugar confectionery
5	21	Misc edible preparations	31	Fertilizers	22	Beverages, spirits, vinegars
6	25	Salt, sulfur, earth, stone, plaster, lime, cement	42	Articles of leather, animal gut, harnesses, travel goods	26	Ores, slag, ash
7	28	Inorganic chemicals, precious metal compounds, isotopes	54	Manmade filaments	33	Essential oils, perfumes, cosmetics, toiletries
8	30	Pharmaceutical products	56	Wadding, felt, nonwovens, yarns, twine, cordage, etc.	35	Albuminoids, modified starches, glues, enzymes
9	32	Tanning, dyeing extracts, tannins, derivatives, pigments, etc.	57	Carpets, other textile floor coverings	70	Glass and glassware

	Rising RCA		Falling RCA		Without any pattern or smooth	
No.	**Code**	**Name**	**Code**	**Name**	**Code**	**Name**
10	34	Soaps, lubricants, waxes, candles, modelling pastes	64	Footwear, gaiters and the like, parts thereof	38	Misc chemical products
11	41	Raw hides and skins (other than furs) and leather	95	Toys, games, sports requisites	39	Plastics and articles thereof
12	37	Photographic or cinematographic goods	96	Misc manufactured articles	40	Rubber and articles thereof
13	48	Paper and paperboard, articles of pulp, paper, and board	36	Explosives, pyrotechnics, matches, pyrophorics, etc.	43	Fur skins and artificial furs, manufactures thereof
14	51	Wool, animal hair, horsehair yarn and fabric thereof	60	Knitted or crocheted fabrics	45	Cork and articles of cork
15	71	Pearls, precious stones, metals, coins, etc.	88	Aircraft, spacecraft, and parts thereof	46	Manufactures of plaiting material, basketwork, etc.
16	73	Articles of iron or steel	61	Articles of apparel, accessories (knitted or crocheted)	47	Pulp of wood, fibrous cellulosic material, waste, etc.
17	74	Copper and articles thereof	63	Other made textile articles, sets, worn clothing, etc.	49	Printed books, newspapers, pictures, etc.
18	52	Cotton			50	Silk
19	62	Articles of apparel, accessories (not knitted or crocheted)			53	Vegetable textile fibers n.e.s., paper yarn, woven fabrics
					55	Manmade staple fibers
					58	Special woven or tufted fabrics, lace, tapestry, etc.
					59	Impregnated, coated, or laminated textile fabrics
					65	Headgear and parts thereof
					66	Umbrellas, walking sticks, seat sticks, whips, etc.
					68	Stone, plaster, cement, asbestos, mica, etc., articles
					69	Ceramic products
					74	Iron and steel

No.	Rising RCA		Falling RCA		Without any pattern or smooth	
	Code	Name	Code	Name	Code	Name
					75	Nickel and articles thereof
					76	Aluminum and articles thereof
					78	Lead and articles thereof
					79	Zinc and articles thereof
					80	Tin and articles thereof
					81	Other base metals, cermets, articles thereof
					82	Tools, implements, cutlery, etc. of base metal
					83	Misc articles of base metal
					84	Nuclear reactors, boilers, machinery, etc.
					85	Electrical and electronic equipment
					86	Railway, tramway locomotives, rolling stock, equipment
					87	Vehicles other than railway, tramway
					89	Ships, boats, other floating structures
					90	Optical, photo, technical, medical, etc. apparatus
					91	Clocks and watches and parts thereof
					93	Arms and ammunition, parts and accessories thereof
Total		19		17		43

Note: The table lists the industries in Pakistan's manufacturing sector based on their RCA patterns over 2003 to 2012.

Table C1: Share of China and India in the import of inefficiently imported products

	Country's percentage share of a particular product's import			
Commodity code	China, 2012	India, 2012	China, 2009	India, 2009
21	9.85	0.75	4.35	0.82
29	18.36	15.15	18.18	22.30
32	29.43	14.19	27.03	13.03
33	16.77	5.46	5.17	2.90
34	17.30	3.50	9.31	12.28
38	21.38	9.66	20.56	6.82
50	99.05	0.04	98.15	Nil
53	5.86	0.37	3.55	0.01
54	70.48	0.68	55.29	0.10
68	41.38	13.01	36.22	12.23
72	19.36	1.52	6.19	1.85
87	11.24	0.00	7.97	0.00

Note: The table presents the Chinese and Indian shares of Pakistani imports of the products listed in Table 4. These are products for which India has a comparative advantage over China.

Table C2: Share of China and India in the export of inefficiently exported products

	Percentage share of country in Pakistan's export of a particular commodity			
Commodity code	China, 2012	India, 2012	China, 2009	India, 2009
42	0.23	0.10	0.20	0.01
61	0.25	0.08	0.03	0.03
62	0.40	0.08	0.06	0.06
63	0.70	0.26	0.31	0.10

Note: The table presents the Indian and Chinese shares of Pakistani exports of the products listed in Table 5. These are products for which Pakistan has a comparative advantage over both China and India.

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Analyzing Pakistan's Trade Opportunity with Turkey

Asha Gul[*]

Abstract

Growing economic cooperation between the Pakistani and Turkish governments—manifested in the recently proposed preferential trade agreement (PTA)—has served to strengthen the historically good relations between both countries. This paper explores the trade relationship between Pakistan and Turkey in an attempt to analyze the potential gains for Pakistan under the proposed PTA. We evaluate potential trade opportunities using descriptive statistics and three trade indices: a trade complementarity index, export similarity index, and intra-industry index. Our findings suggest that Pakistan's trade surplus with Turkey, strong export similarities, and intra-industry trade would allow greater opportunities for firm synergies between the two countries. This, in turn, would help Pakistan achieve greater value addition and a broader market base for its exports. The Government of Pakistan should, therefore, lobby strongly for the proposed PTA (which might later evolve into a free trade agreement) and leverage the agreement in such a way that Pakistan can maximize its potential benefits.

Keywords: Preferential trade agreement, Pakistan, Turkey, trade complementarity index, export similarity index, intra-industry trade index.

JEL classification: F13, F14, F15.

1. Introduction

Pakistan and Turkey have long had good relations, which have been strengthened by growing economic cooperation between the two governments in sectors such as energy, transport, communications, infrastructure, textiles, automobiles, agriculture, industry, food processing, dairy development, information technology, oil and gas, and trade ("Erdogan trip," 2013). An important aspect of this thriving relationship is the proposed preferential trade agreement (PTA), which is expected to "help boost trade ties and achieve the mutually agreed trade target of two billion dollars" ("Pakistan calls for early finalization," 2012). This underlies

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the motivation for this study: our objective is to empirically analyze the existing trade relationship between Pakistan and Turkey and explore potential opportunities that Pakistan might exploit under the PTA.

While there is a significant body of literature available on Pakistan's trade prospects with other important trading partners such as China and the SAARC countries (particularly India), only a handful of studies have attempted to explore the potential for trade with Turkey, even though the latter is a larger export market than India[1] and there is stronger political goodwill between the two. Not only is there little empirical work on Pakistan's trade opportunities with Turkey, but existing studies also have a very narrow focus and do not provide a comprehensive insight into this trade relationship.

Since independence in 1947, Pakistan has maintained friendly relations with Turkey owing to a largely common culture and geopolitical considerations. Both are founding members of the Economic Cooperation Organization (ECO) and part of the Developing 8 (D-8) countries as well as the Organization of Islamic Cooperation. In an attempt to strengthen bilateral commercial and economic relations, Turkey and Pakistan have signed a number of agreements including the Trade Agreement (1965), Economic and Technical Cooperation Agreement (1976), Prevention of Double Taxation Agreement (1988), and Reciprocal Promotion and Protection of Investments Agreement (1997). Within the framework of the 1976 agreement, the countries established the Turkey-Pakistan Joint Economic Committee Mechanism. Since then, regular meetings have been held in Ankara and Islamabad with public institutions from both countries taking part to evaluate bilateral economic and commercial relations.

The Turkey-Pakistan Business Council was founded in order to strengthen relations between the private sectors of the two countries and encourage new business contacts. After a five-year hiatus, the council last met in October 2011. Turkey also initiated the Turkey-Afghanistan-Pakistan Trilateral Summit meetings in 2007 with the aim of establishing mutual confidence and cooperation among the three countries. The sixth meeting of the summit was held in December 2011 in Istanbul.

The last few years have seen an unprecedented increase in collaboration between the governments of both countries. A high-level

[1] As of 2012, Pakistan's exports to Turkey were about US$ 0.42 billion, comprising around 1.69 percent of Pakistan's total exports. Pakistan's exports to India were US$ 0.35 billion, comprising around 1.41 percent of the former's total exports.

cooperation council (HLCC) at the prime ministerial level was established in 2009 and is expected to meet annually in both countries to review trade and economic cooperation. At the first HLCC meeting held in Ankara in December 2010, 18 memorandums of understanding (MOUs) and agreements were signed between the two countries. Another nine cooperation agreements relating to investment, energy, and communications were finalized at the second HLCC meeting held in Pakistan in May 2012.

Cooperation between the two partners received an even stronger push in 2013 when the Prime Minister of Pakistan visited Istanbul, followed shortly after by the Turkish Prime Minister's visit to Pakistan in December. Both heads of state agreed to strengthen their bilateral relationship for greater mutual gains: three important MOUs were signed between the Punjab Industrial Department and Turkey Cooperation Agency, Pakistan Railways and the Turkish Logistics Organization, and the Pakistan Standard Quality Control Authority and Turkish Standards Institution. However, the most important product of this increasing cooperation has been the two countries' mutual agreement to conclude talks concerning the PTA.

Following the proposal to establish a PTA in 2011, some studies have analyzed the prospects and opportunities it holds—most conclude that the PTA favors greater gains for Turkey. Broadly, these studies have employed a gravity model to compute the unrealized trade potential by taking the difference between the predicted and actual trade volumes for both countries.

Khan, Haq, and Khan (2013) predict[2] that Pakistan's actual trade with Turkey is only 55 percent of the predicted trade flow (for 2010), implying that there is a significant opportunity for expanding trade gains through a PTA. Similarly, Suvankulov and Ali (2012) estimate an augmented gravity model for 1996–2009 and emphasize the unrealized potential for trade between Turkey and Pakistan. An interesting finding of this study is that, while actual Turkish exports to Pakistan are significantly lower than the predicted flows, Pakistani exports to Turkey are reasonably higher than predicted, implying that Turkey has a greater opportunity to expand its export market in Pakistan given any PTA between the two countries. The authors also compute a trade complementarity index (TCI)[3]

[2] The study estimates a gravity model using panel data for 1990–2010 with a frequency of two years

[3] For 2009, using UN Comtrade data for the two-digit SITC Revision 4 classification of goods and services.

of 0.41 for Turkish exports to Pakistan, while the TCI for Pakistani exports to Turkey is 0.27, reinforcing Turkey's advantage over Pakistan in the trade relationship (and, therefore, in any subsequent trade agreement).

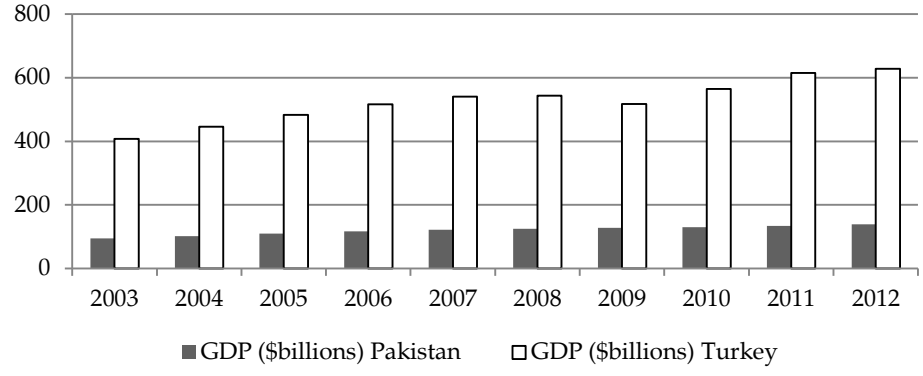
Kamal, Khan, Ghani, and Muhayudin (2012) estimate a gravity model to determine the trade potential of Pakistan with ECO countries, using a cross-sectional dataset of 153 countries for 2008. Their findings also reveal that Pakistan's trade level with Turkey is far higher than predicted by the gravity model.

This study aims to provide a more comprehensive insight into the prospects and potential for trade between Pakistan and Turkey, especially in view of the proposed PTA. It also aims to determine whether the agreement promises any expected gains for Pakistan. Section 2 sets the context by providing a comparative analysis of Pakistan and Turkey in the world trade market. Section 3 traces the status quo trade relations between the two countries by analyzing some important descriptive statistics over the last decade (2003–12). Section 4 explores potential trade opportunities between the countries using a trade indices analysis. Section 5 concludes the study with recommendations for the way forward.

2. Pakistan and Turkey's Comparative Status in World Trade

While Pakistan and Turkey have much in common, their position and performance in the world market is markedly different. Although both countries have maintained a relatively stable GDP level in the last decade, the Turkish economy is almost five times the size of the Pakistan economy with an average GDP of around US$ 526 billion compared to Pakistan's average GDP of about US$ 120 billion (Figure 1).

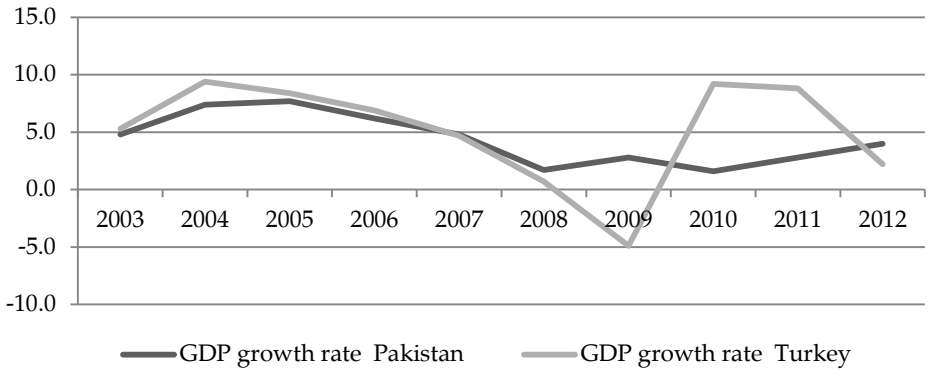
Figure 1: Comparative GDP at constant 2005 US$



Source: United Nations Statistics Division (2010).

However, the GDP growth rates reveal strong variations over the last decade, both for Pakistan and Turkey as well between the two countries (Figure 2). Although Turkey has been one of Europe's fastest growing economies, it plummeted sharply in 2009. The economy recovered soon after with a high growth rate during 2010/11. In 2012, the growth rate nosedived once again to 2.2 percent. Pakistan's GDP growth rate has followed a similar pattern, declining from 7.7 percent in 2005 to around 4 percent in 2012. However, the country has managed to avoid sharp fluctuations in the growth rate and has sustained an average positive growth rate of 4.4 percent.

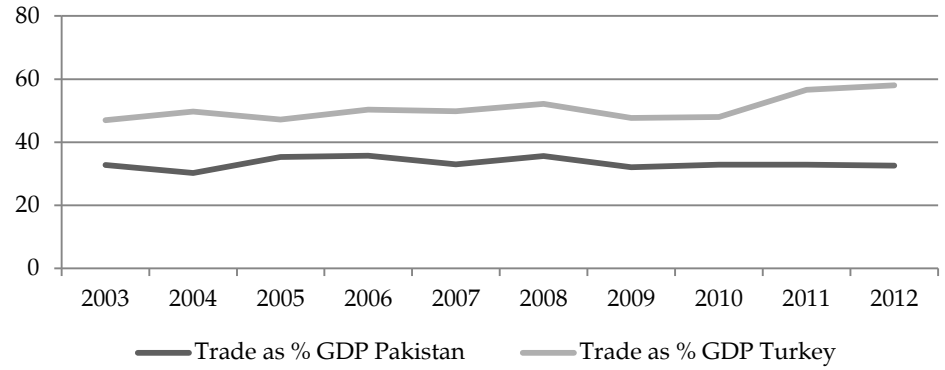
Figure 2: Comparative GDP growth rates, 2003–12



Source: United Nations Statistics Division (2010).

Although it is difficult to determine which factors might best explain the prevailing growth rates in the two countries over the last decade, one important factor has undoubtedly been their level of integration with the world economy. Almost 50 percent of Turkey's GDP is attributable to international trade (Figure 3); the corresponding figure for Pakistan is only 30 percent and this has remained relatively stable over the last decade despite increasing global economic integration. This indicates that Pakistan has lagged behind in capitalizing on the dynamic growth in world markets, which is also a plausible reason for its relatively sluggish performance over the last decade.

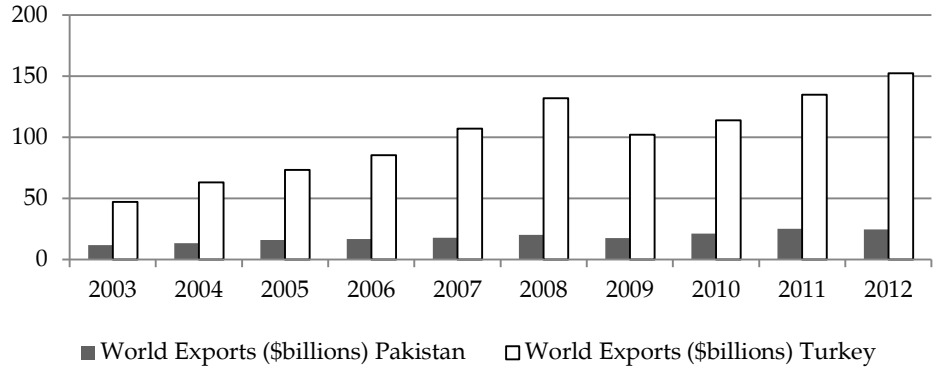
Figure 3: Comparative share of trade in GDP 2003–12



Source: United Nations Statistics Division (2010).

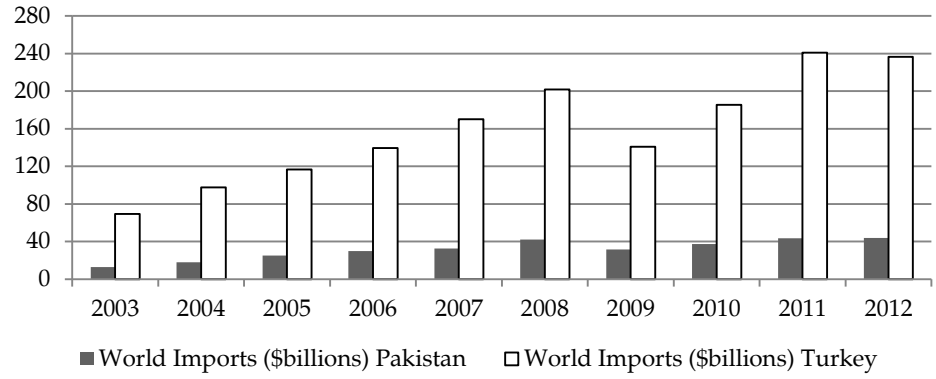
Analyzing the volume of exports and imports for both countries shows that both Pakistan and Turkey are net importers (Figures 4 and 5). Given the difference in the size of the two economies, Turkish imports and exports are almost five times the size of Pakistan's imports and exports. However, an important consideration is that, while Turkey has steadily increased both its exports and imports in the world market, Pakistan's exports have remained relatively stagnant (around US$ 20 billion) compared to its increasing imports (almost US$ 44 billion in 2012).

Figure 4: Total exports to the world, 2003–12



Source: United Nations Statistics Division (2010).

Figure 5: Total imports from the world, 2003–12



Source: United Nations Statistics Division (2010).

Further analysis of the structure of exports and imports reveals that Turkey has a highly diversified portfolio of exports and imports (Tables 1 and 2) while Pakistan has a strongly concentrated basket of imports and exports. Almost 40 percent[4] of its exports stem from the textiles sector alone, followed by rice (7.65 percent) and jewelry (6.54 percent). On the other hand, Turkey's leading exports include gold (8.75 percent), petroleum oils (4.45 percent), and cars (3.98 percent).

Table 1: Pakistan's top ten exports in 2012

Code	Commodity *i*	$ billion	% share
Total	All products	24.61	100.00
'6302	Bed, table, toilet, and kitchen linen	2.52	10.22
'5205	Cotton yarn (85 percent or more cotton, not retail)	2.10	8.54
'1006	Rice	1.88	7.65
'7113	Articles of jewelry and parts thereof	1.61	6.54
'5209	Woven cotton fabric (weight over 200 g/m2)	1.09	4.42
'6203	Men's suits, jackets, trousers, shorts, etc.	0.92	3.74
'5208	Woven cotton fabric (weight less than 200 g/m2)	0.73	2.96
'4203	Apparel and accessories of leather or composition leather	0.63	2.57

[4] This includes household linen (10.22 percent), cotton yarn (85 percent or more cotton, not retail; 8.54 percent), woven cotton fabric (weight over 200 g/m2; 4.42 percent), men's garments (3.74 percent), woven cotton fabric (weight less than 200 g/m2; 2.96 percent), apparel and accessories of leather or composition leather (2.57 percent), women's garments (2.40 percent), and men's shirts (knitted or crocheted, 2.21 percent).

Code	Commodity *i*	$ billion	% share
'6204	Women's suits, jackets, dresses, skirts, and shorts	0.59	2.40
'2523	Cement, portland, aluminous, slag, super-sulfate, and similar hydraulic	0.57	2.32
'6105	Men's shirts, knitted or crocheted	0.54	2.21
	Total share of top ten exports		**53.58**

Source: United Nations Statistics Division (2010).

Not only does Pakistan export a narrow range of products, but also a significant share of its exports comprises low value-added products (for example, a major portion of textile exports). Turkish exports, on the other hand, are high value-added products. Even in the textiles market in which Pakistan seems to have a comparative advantage, Turkey remains a major player and exports a higher volume of high value-added products such as T-shirts and women's suits, jackets, and dresses (readymade garments).

Table 2: Turkey's top ten exports in 2012

Code	Commodity *i*	$ billion	% share
Total	All products	152.5	100.00
'7108	Gold, unwrought or in semi-manufactured form	13.34	8.75
'2710	Petroleum oils, not crude	6.78	4.45
'8703	Cars (incl. station wagons)	6.07	3.98
'7214	Bars and rods of iron/non-al/s, nfw than forged, hr	5.40	3.54
'8708	Motor vehicle parts and accessories	3.40	2.23
'8704	Trucks, motor vehicles for transporting goods	3.39	2.22
'6109	T-shirts, singlets and vests, knitted or crocheted	3.09	2.03
'7113	Articles of jewelry and parts thereof	2.68	1.75
'8544	Insulated wire/cable	2.38	1.56
'6204	Women's suits, jackets, dresses skirts & shorts	2.20	1.45
'8528	Television receivers	2.17	1.42
	Total share of top ten exports		**33.38**

Source: United Nations Statistics Division (2010).

Pakistan's import structure is also heavily concentrated with petroleum and oils comprising almost 40 percent of the total import bill (Table 3). It is one of the reasons for Pakistan's increased trade deficit: the demand for oil has risen with improved growth rates and, when combined with increasing oil prices in the world market, this has led to an almost threefold increase in imports over the last decade. Electrical appliances and

cars, which are other major import items, are also classified as high value-added products.

Turkey, on the other hand, has a more diversified imports portfolio: the share of its top ten imports is only about 25 percent (Table 4). While oil is a major import, it constitutes only 6.6 percent of total imports. Other important imports include industrial raw materials such as ferrous waste and scrap, remelting scrap ingots/iron/steel, gold (unwrought or in semi-manufactured form), petroleum gases, refined copper and copper alloys (unwrought), and polymers of propylene or other olefins (in primary form).

Table 3: Pakistan's top ten imports in 2012

Code	Commodity *i*	$ billion	% share
Total	All products	43.81	100.00
'2710	Petroleum oils, not crude	9.97	22.75
'2709	Crude petroleum oils	5.27	12.03
'1511	Palm oil and its fraction	2.13	4.87
'8517	Electric appliances for line telephones	1.39	3.18
'8703	Cars (incl. station wagons)	0.90	2.06
'7204	Ferrous waste and scrap, remelting scrap ingots/iron/steel	0.62	1.41
'2902	Cyclic hydrocarbons	0.61	1.40
'5201	Cotton, not carded or combed	0.56	1.29
'2701	Coal (briquettes, ovoids, similar solid fuels)	0.55	1.25
'8908	Vessels and other floating structures for breaking up	0.53	1.20
'1205	Rape or colza seeds, whether or not broken	0.49	1.12
	Total share of top ten imports		**52.55**

Source: United Nations Statistics Division (2010).

Table 4: Turkey's top ten imports in 2012

Code	Commodity *i*	$ billion	% share
Total	All products	236.54	100.00
'2710	Petroleum oils, not crude	15.62	6.60
'7204	Ferrous waste and scrap, remelting scrap ingots/iron/steel	9.42	3.98
'7108	Gold, unwrought or in semi-manufactured form	7.64	3.23
'8703	Cars (incl. station wagons)	7.25	3.07
'8708	Motor vehicle parts and accessories	4.49	1.90
'2711	Petroleum gases	2.95	1.25
'7403	Refined copper and copper alloys, unwrought	2.88	1.22
'8517	Electrical appliances for line telephones	2.83	1.20
'3902	Polymers of propylene or other olefins, in primary form	2.78	1.17
'3004	Medicament mixtures (not 3002, 3005, 3006), put in dosage	2.74	1.16
	Total share of top ten imports		**24.78**

Source: United Nations Statistics Division (2010).

Unlike their different export and import structures, Pakistan and Turkey's export markets are relatively similar. In 2012, Pakistan's largest export markets included the US (14.9 percent),[5] the European Union (EU) (12.02 percent), the UAE (11.67 percent), China (10.64 percent), and Afghanistan (8.53 percent); Turkey ranked as the 8th largest export market. Turkey's largest export market, on the other hand, was the EU (more than 21.43 percent), followed by Iraq (7.10 percent), Iran (6.51 percent), and the UAE (5.36 percent). Pakistan is a very small export market[6] for Turkey with a share of only 0.18 percent of total exports. On the imports side, Pakistan imports largely from the UAE (16.46 percent), China (15.26 percent), and Saudi Arabia (9.78 percent), while Turkey's largest import market is Russia (11.26 percent), followed by Germany (9.05 percent), China (9 percent), and the US (5.97 percent). Turkey is Pakistan's 33rd (as of 2012) most important imports market, accounting for 0.43 percent of total imports to Pakistan. Pakistan is Turkey's 53rd largest import market and constitutes only 0.23 percent of its total imports.

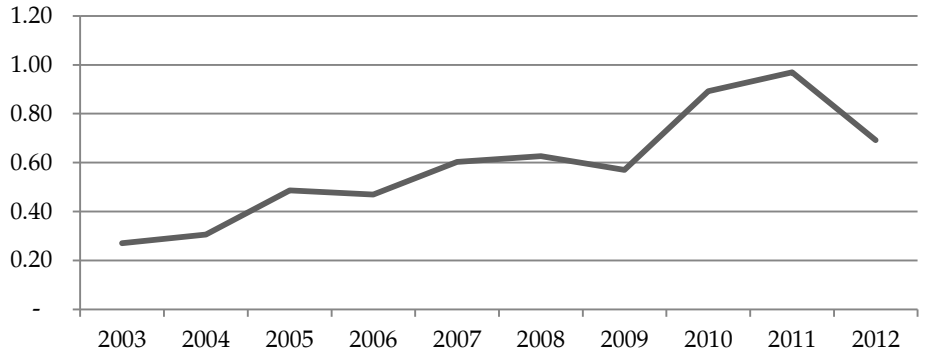
[5] Share of exports to the country as a percentage of total exports in 2012, computed using data from the United Nations Statistics Division (2010).
[6] Roughly, Pakistan is Turkey's 60th largest export market in terms of export share and volume.

Broadly, this analysis reveals one very important aspect of the Pakistan-Turkey trading relationship: Turkey holds greater importance for Pakistan both as an export and import market. Given the size of the Turkish economy, even a small percentage gain of the Turkish market would represent a large gain for Pakistan, even if it is trivial from Turkey's perspective.

3. Trade Between Pakistan and Turkey: The Status Quo

Turkey has emerged as one of Pakistan's most important trading partners over the last decade with the volume of trade[7] rising from almost US$ 0.27 billion in 2003 to near US$1 billion in 2011 (Figure 6). This impressive increase in trade volume accounts for the proposed PTA with both countries agreeing to strengthen trade relations by expanding the trade volume to almost US$ 2 billion ("Pakistan calls for early finalization," 2012). However, a cause for concern has been the sharp dip in the volume of trade to almost US$ 0.69 billion in 2012. This raises important questions about the expected gains from the proposed PTA.

Figure 6: Trade volume between Pakistan and Turkey (US$ billion)



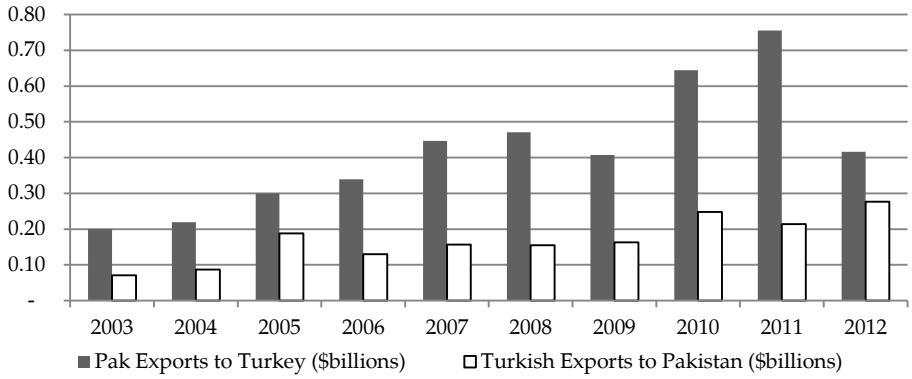
Source: United Nations Statistics Division (2010).

While there is little official evidence to explain this decline in trade volume between the two countries, despite increasing cooperation and political goodwill over the last decade, analyzing the level of exports reveals that the decline is attributable to the sharp fall in Pakistani exports to Turkey (Figure 7). This may have been related to the overall decline in Pakistan's exports in 2012, which should hopefully have been restored by

[7] Measured as the sum of Pakistan's exports to Turkey and Turkey's exports to Pakistan.

2013. However, the situation necessitates a decision concerning the proposed PTA sooner than later.

Figure 7: Exports between Pakistan and Turkey, 2003–12



Source: United Nations Statistics Division (2010).

On a more positive note, Pakistan has enjoyed a trade surplus with Turkey over the last decade, which has expanded over the years (Figure 7). In 2003, Pakistan's trade surplus was almost US$ 0.13 billion; it grew to almost US$ 0.54 billion in 2011, registering an impressive fourfold increase. Despite the fall in Pakistan's exports to Turkey in 2012, Pakistan has been able to sustain its favorable trade surplus. Given the country's persistent trade deficit, its trade surplus with Turkey is an anchor for Pakistan's external sector.

Another important feature of this trade relationship is that the expanding trade surplus in favor of Pakistan is largely a result of increased exports to Turkey from Pakistan (except in 2012) while imports from Turkey have remained relatively stable. This highlights an important opportunity for Pakistan, which, given its growing ties with Turkey, could prove lucrative. In the context of the proposed PTA, this trend in trade surplus is the first evidence of a positive gain for Pakistan since the PTA will likely enable Pakistan to expand its exports.

However, an important aspect to consider is how imports from Turkey may change under the PTA. If the present trade pattern is expected to continue under the agreement, then Pakistan stands to gain reasonably well. The PTA may also help expand access to the European market[8] and

[8] The EU is a major market for both Pakistan and Turkey, and Turkey is in the process of negotiation a free trade agreement with the EU.

Central Asian Republics via Turkey, which would provide impetus to Pakistan's overall exports.

Almost 80 percent (as of 2012) of Pakistan's exports to Turkey are concentrated in just ten product categories (Table 5) with almost 45 percent of its exports concentrated in textiles. Turkey is the country's fourth largest textile exports market, reinforcing its importance as a trade partner for Pakistan. Other important exports of Pakistan to Turkey include industrial chemicals, carpets, and leather articles.

Interestingly, the structure of Pakistan's exports to Turkey is consistent with the former's overall structure of exports: both are concentrated in relatively few items with the textiles sector accounting for the dominant share of export revenues. This highlights another strong opportunity for Pakistan since Turkey's export market closely matches the former's comparative advantage. If the PTA comes into effect, then Pakistan's strongest export sector is likely to experience significant benefits through market expansion. However, the challenge for Pakistan under this agreement would be to diversify and expand other exports to the Turkish market while sustaining a significant increase in existing export specialties such as textile products.

Table 5: Pakistan's top ten exports to Turkey in 2012

Code	Commodity	$ billion	% share
Total	All products	0.42	100.00
'3907	Polyacetals, other polyethers, epoxide resins, polycarbonates in primary form	0.08	19.95
'5209	Woven cotton fabric (85 percent or more cotton, weight > 200 g/m2)	0.08	19.60
'5208	Woven cotton fabric (85 percent or more cotton, weight < 200 g/m2)	0.04	9.52
'5205	Cotton yarn (not sewing thread, 85 percent or more cotton, not retail)	0.03	6.11
'2207	Ethyl alcohol and other spirits	0.02	4.32
'5211	Woven cotton fabric (less than 85 percent, mixed with manmade fibre, weight > 200)	0.02	3.98
'3903	Polymers of styrene, in primary form	0.02	3.64
'5701	Carpets and other textile floor coverings, knotted	0.01	2.63
'6203	Men's suits, jackets, trousers, and shorts, etc.	0.01	2.50
'5210	Woven cotton fabric (less than 85 percent cotton, mixed with manmade fiber)	0.01	2.46
'4107	Leather of other animals, o/t leather of hd no. 41.08/41.09	0.01	2.03
'4203	Apparel and accessories of leather/composition leather	0.01	2.01
	Total share of top ten exports		**78.75**

Source: United Nations Commodity Statistics Division (2010).

Consistent with Turkey's diversified total exports portfolio, its exports to Pakistan also encompass a greater variety of high value-added items with electrical appliances for line telephones being the most significant export (12.52 percent of Turkey's total exports to Pakistan) (Table 6). Other important exports include aircraft parts, carpets, and petroleum oils. Under the PTA, the carpet industry would stand to gain considerably, given that carpets are major export items for both Pakistan and Turkey.

Table 6: Turkey's top ten exports to Pakistan in 2012

Code	Commodity	$ billion	% share
Total	All products	0.276	100.00
'8517	Electrical appliances for line telephones, including current line systems	0.035	12.52
'8803	Aircraft parts	0.011	3.81
'5702	Carpets and floor coverings, woven not tufted/flocked	0.008	2.98
'2710	Petroleum oils, not crude	0.007	2.62
'3202	Synthetic organic or inorganic tanning substances, tanning preparations	0.007	2.38
'2706	Tar distilled from coal, lignite, or peat and other mineral tars, etc.	0.006	2.09
'8705	Special-purpose motor vehicles (firefighting vehicles, crane lorries)	0.005	1.97
'8483	Transmission shafts and cranks, bearing housing, gearing, etc.	0.005	1.84
'8544	Insulated wires/cables	0.005	1.78
'8409	Parts for use solely/principally with motor engines	0.005	1.77
'1512	Safflower, sunflower/cotton-seed oil and fractions	0.005	1.68
'4011	New pneumatic tires, of rubber	0.005	1.66
	Total share of top ten exports		**37.10**

Source: United Nations Statistics Division (2010).

4. Trade Indices Analysis: Potential Opportunities

The literature emphasizes the use of several trade indices, which can provide useful insights into different aspects of a trade relationship. In order to obtain a better picture of the trade opportunities arising from the proposed PTA between Pakistan and Turkey, this section constructs three indices: a Trade Complementarity Index (TCI), Intra-Industry Trade Index (IIT), and Export Similarity Index (ESI).[9]

[9] Although the literature refers to many trade indices, we have computed and analyzed those recommended by the World Bank in its analysis of trade and export competitiveness (http://web.worldbank.org).

4.1. Trade Complementarity Index

One of the most commonly used measures of the degree of trade compatibility between trading partners is the TCI, which is computed as:

$$TCI = 100 - \sum_{i=1}^{n} \frac{1}{2} |m_{ik} - x_{ij}|$$

where is the percentage share of good *i* in the global exports of country *j* and m_{ik} is the percentage share of good *i* in the global imports of country *k*. The index is 0 when no goods exported by country *j* are imported by country *k*, and is 100 when the two countries' export and import shares match. Generally, the higher the TCI, the greater is the potential for intraregional trade between the countries in question on the assumption that the exports of country *j* (supply) match the imports (demand) of country *k*. However, an important limitation of the TCI (see Mamoon, Paracha, Mughal, & Ayesha, 2011) is that it has an inherent size bias, implying that countries with limited export portfolios (such as Pakistan) are likely to have a lower TCI. This is because the greater the variety of items a country exports, the higher is the likelihood of better matching the import demand of its trading partner.

The TCI for Turkish exports and Pakistani imports is calculated to be 26.89 while the TCI for Pakistani exports and Turkish imports is computed to be 13.16.[10] Clearly, the TCI favors Turkey twice as much, indicating that it has greater potential for supplying those commodities (exports) that Pakistan demands (imports). This is as expected, given the diversified exports portfolio of Turkey versus the narrowly concentrated exports basket of Pakistan.

This pattern is consistent with Suvankulov and Ali (2012), who estimate a TCI of 41 for Turkish exports to Pakistan and a TCI of 27 for Pakistani exports to Turkey.[11] One reason for the difference in magnitude of the TCIs could be the difference in product classification: we have computed the TCI using the four-digit commodities classification while Suvankulov and Ali use the relatively more aggregated two-digit commodities classification. Generally, the greater the level of product disaggregation considered, the lower the index is likely to be. However, an important implication of this TCI is that Turkey is in a better position to

[10] Using data on the HS four-digit commodities classification for 2012 from the United Nations Statistics Division.

[11] Using data on the two-digit SITC Revision 4 classification of goods and services for 2009 from the United Nations Statistics Division.

serve the Pakistani market and gain from (preferential) trade. This does not, however, necessarily imply that Pakistan stands to lose.

Analyzing Pakistan's trade complementarities with the SAARC region, Mamoon et al. (2011) compute the average TCIs for Pakistan's exports to Bangladesh, India, Sri Lanka, and the SAARC region as a whole (39, 20, 33, and 24, respectively)[12] for the period 2007–09. The average TCIs for exports from Bangladesh, India, Sri Lanka, and SAARC to Pakistan stand at 8, 58, 17, and 53, respectively.

Pasha and Imran (2012) also compute the TCI for trade between Pakistan and India using the four-digit HC level commodities classification for 2011; they find that the TCI for Indian exports to Pakistan is almost 42 while that for Pakistani exports to India is only 8.2. Compared with the TCI we have computed for trade between Turkey and Pakistan, there seem to be greater gains for Pakistan under the proposed PTA relative to trade between India and Pakistan since the difference between the TCIs is magnified in the Indian context. Given its existing exports portfolio, Pakistan is better suited to serving the Turkish market than the Indian market[13] because Pakistan and Turkey have relatively stable and favorable political relations compared to the volatile and uncertain relationship between Pakistan and India.

Another aspect worth highlighting is that the TCI must be analyzed relative to market size. Given that the Turkish market is almost five times that of Pakistan, the latter stands to gain even with a low TCI of 13 since even 13 percent of the Turkish imports market is a potential market worth almost US$ 26 billion.[14] Turkey, despite its high TCI, has a potential market in Pakistan of only US$ 10.8 billion.[15] Thus, despite its low TCI and narrowly concentrated exports portfolio, Pakistan has the potential to reap benefits from the Turkish market and these expected gains might grow further if Pakistan expands its range of exports to Turkey.

4.2. Intra-Industry Trade Index

In recent decades, there has been increasing emphasis on the importance of international trade not only for the benefits associated with greater inter-industry trade but also with greater intra-industry trade (IIT),

[12] Computed using the HS two-digit commodities classification.
[13] A TCI of 13 with Turkey versus a TCI of 8 with India.
[14] 13 percent of US$ 200 billion (Turkish world imports in 2012).
[15] 27 percent of US$ 40 billion (Pakistani world imports in 2012).

i.e., trade in similar but differentiated products. According to the theoretical literature, differences in the level of technology and human capital can lead to IIT even in products with identical factor input requirements. Another reason for the increase in importance of IIT is the recent growth of regional integration schemes involving cross-country production-sharing arrangements. Therefore, an important dimension of the growing trade relationship between Pakistan and Turkey is the level of existing and potential IIT, using the IIT index.

The IIT index is calculated as follows:

$$IIT_{ijk} = 1 - \frac{|X_{ijk} - M_{ijk}|}{(X_{ijk} + M_{ijk})}$$

where X_{ijk} and M_{ijk} represent the export and import of products from industry *i* in country *j* to and from country *k*. The IIT index ranges between 0 and 1, with larger values indicating greater trade between firms in the same industry. Higher IIT ratios suggest that the net gains from specialization in different products are being exploited and that the participating country is increasing its integration with the world economy.

Computed using the two-digit HS product classification, the IIT index for Pakistan and Turkey in 2012 was around 18.8 percent, with the most important industries being sugar and confectionery, optical/photo/technical/medical apparatus, salt/sulfur/lime and cement, carpets and other textile floor coverings, and manmade filaments.

To put this estimate in perspective, it is important to analyze the IIT index between Pakistan and Turkey with respect to the IIT index with other trading partners. Zaheer, Nizami, and Niazi (2013) find that, on average, Pakistan's IIT index with its major trading partners has increased over the last three decades, with an average IIT[16] index of 26.28 percent with China, 34.14 percent with India, 19.72 percent with Iran, 25.66 percent with Japan, 17.2 percent with Kuwait, 19.69 percent with Saudi Arabia, 39.52 percent with Singapore, 27.73 percent with the UAE, and 18.01 percent with the US. Comparatively, Pakistan's level of IIT with Turkey is not very high but neither is it very low, being almost similar to that with Iran, Kuwait, Saudi Arabia, and the US. Importantly, given the existing level and pattern of IIT even in similar industries, Pakistan exports low

[16] Computed using the one-digit SITC product classification based on data from the United Nations Statistics Division.

value-added products and imports high value-added products on average in the same industry.

More technically, Pakistan has a relatively low level of horizontal IIT and relatively high level of vertical IIT (and a higher level of low-quality vertical IIT versus high-quality vertical IIT). In an analysis of Pakistan-SAARC IIT, Akram (2013) finds that the share of low-quality vertical IIT in total IIT is 69.95 percent and that of high-quality vertical IIT is 12.55 percent; the share of horizontal IIT is 17.50 percent. Although we have not computed the disaggregated IIT between Pakistan and Turkey, their export and import patterns suggest a greater share of (low) vertical IIT. In light of the proposed PTA, it is important to analyze whether there is an opportunity for expanding the existing level of IIT.

4.3. Export Similarity Index

A useful measure that provides an insight into the potential for greater IIT and firm synergies is the export similarity index (XSI). This computes the extent to which two countries export similar products:

$$XS_{jk} = \sum [min\,(x_{ij}, x_{ik})]$$

where x_{ij} is industry i's export share in country j and x_{ik} is industry i's export share in country k. The index ranges between 0 and 1, with 0 indicating complete dissimilarity and 1 representing identical export composition. Just like the complementarity index, this index is also subject to aggregation bias which implies that the more disaggregated the data considered, the lower is likely to be the value of the index, and thus there is a certain degree of arbitrariness due to product/industry choice.

Computed using the two-digit HS product classification code, Pakistan and Turkey shared an XSI of about 0.39 in 2012, implying that almost 40 percent of their export industries are similar. A quick review of their major exports (Tables 1 and 2) reveals that textile products are an important market in which both countries are key players. Another interesting finding is that their major export markets tend to overlap (including the US, UK, Saudi Arabia, China, Germany, Italy, Spain, and the Netherlands).

This has two direct (if opposing) implications. First, such a degree of similarity implies that Pakistan and Turkey are competitors for the same markets (a negative effect, since both are striving to gain a larger share of

the same market). Second, there is considerable opportunity for synergies and horizontal and/or vertical integration and joint ventures between export firms in similar industries (a positive effect, since both countries could, together, capture a larger market and enjoy greater gains). The net effect will depend on the magnitude of these two opposing effects.

Given that Pakistan is a small player with exports worth only about US$ 24.6 billion compared to Turkey, whose total exports are almost US$ 152.5 billion, the competition effect of export similarity strongly favors Turkey, especially in terms of the volume of trade. Moreover, while both countries have similar exports, they are players in different segments of the same market: Turkey focuses on the high end of the market spectrum with Pakistan located at the other extreme. Hussain et al. (2013) find that, in 2011, readymade garments constituted about 13 percent of Pakistan's textile exports (worth US$ 9.6 billion) whereas raw cotton, cotton yarn, and cotton cloth constituted roughly 35 percent. Pakistan's share of the world's top garment products[17] is significantly lower than that of Turkey; Pakistan leads over Turkey in only one market, that for household linen.

This evidence indicates that the competition effect of export similarity is not likely to be very strong. However, it also suggests that therein lies an opportunity for Pakistan to engage in joint ventures and/or production-sharing agreements with Turkey in order to move into higher value-added segments of the same markets in which both operate. This opportunity for firm synergies could be vital for Pakistan, which has been struggling to move up the value chain to augment its export revenues.

Pakistan would also stand to gain greater market access via Turkish firms since Turkey is a major exporter to Europe as well as the Central Asian Republics. Teaming up with Turkey to penetrate these markets—the textiles market in particular, where both countries are important players—would enable greater gains for both. The magnitude of this gain will certainly be higher for Turkey, given its existing share of world trade, but the percentage gain for Pakistan will be greater and more important.

[17] Top garments exports within the four-digit classification include: women's suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib- and brace-overalls, breeches, shorts (other than swimwear), jerseys, pullovers, cardigans, waistcoats, and similar articles, knitted or crocheted; men's suits, ensembles, jackets, blazers, trousers, bib- and brace-overalls, breeches, and shorts (other than swimwear); T-shirts, singlets, and other vests, knitted or crocheted; bed linen, table linen, toilet linen, and kitchen linen; pantyhose, tights, stockings, socks, and other hosiery, including stockings for varicose veins and footwear without applied soles, knitted or crocheted; and women's overcoats, car-coats, capes, cloaks, and anoraks (including ski jackets).

5. Conclusion: The Way Forward

Pakistan and Turkey undoubtedly have a strategically important and economically lucrative relationship. While Turkey could become a bridge between Asia and Europe, Pakistan shares borders with two large, densely populated economies and could become a gateway to energy-rich Central Asia. However, given their present trade structures and volumes, Pakistan needs Turkey more than the other way around. The present government should, therefore, push harder to have the PTA implemented, given its delay since 2011. Pakistan's trade expansion with Turkey promises substantial gains. Direct gains are an expected outcome, given the present trade surplus and Turkey's large, as yet untapped market. There are also strong indirect gains, given the opportunity for greater firm synergies, enabling long-term structural improvements that are imperative for sustained economic growth in Pakistan.

The most important aspect of this relationship is the strong political will needed to facilitate the strengthening of economic and trade relations between the two countries. As export market shares, India and Turkey are almost equally important, but the key factor that tilts the scales in favor of Turkey is the greater certainty and stability that characterizes its relations with Pakistan. Pakistan must leverage opportunities such as the proposed PTA with Turkey so as to maximize its potential gains. It is high time that the reserves of mutual goodwill between the two countries are channeled into lucrative gains for Pakistan.

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Reviewing Pakistan's Import Demand Function: A Time-Series Analysis, 1970–2010

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Abstract

This paper investigates the conventional import demand function for Pakistan using time-series data sourced from the World Development Indicators for the period 1970 to 2010. Using a vector error correction model and impulse response functions, we show that, for the given period, relative prices and income lose their significance as long-run determinants of import demand. This indicates the need for additional determinants. We compare the residuals of the conventional import demand function with those of a model that includes the terms of trade and foreign exchange availability (in addition to the conventional parameters) as determinants of import demand, and find that the latter largely resolves much of what is nondeterministic in the former model. The paper also explores the peculiar trend of a falling imports-to-GDP ratio (from the 1980s to the 2000s), which is unusual for a developing country. In a subsidiary regression analysis for this period, we argue that falling net capital inflows explain this persistent fall in the imports-to-GDP ratio. The recovery thereafter, when Pakistan started catching up with other developing economies, may have been responsible for the 2008 balance-of-payments crisis.

Keywords: Pakistan, import demand function estimation, capital inflows, balance of payments.

JEL classification: F140.

1. Introduction

Despite the rapid globalization of trade in recent decades, Pakistan has largely failed to maximize the benefits of this development and faces a consistent trade deficit. Figure 1 shows that the country's imports have remained volatile over time while the trade deficit almost mirrors the volume of imports as a result of stagnant exports. Import surges, which have tended to occur during boom periods, are directly linked to the rising trade deficit. The main objective of this paper is to understand and explain the anomalies in Pakistan's import behavior.

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Figure 1: Pakistan's imports and trade balance over the last 50 years

After independence in 1947, Pakistan followed an import substitution industrialization policy, which overvalued the exchange rate in order to boost the domestic economy. In 1980, the policy paradigm shifted toward rigorous trade liberalization and export promotion in order to integrate Pakistan's economy with the rest of the world. These policies did not much affect the economy till the 1990s; even then, international trade has had a limited impact on the health of the economy. It has not led to any significant diversification of exports or to economic growth. Exports have, in turn, failed to contribute significantly to output and growth (Afzal 2004; Afzal & Ali, 2008). In combination with the country's stagnant exports, imports have increased persistently over time, contributing to the rising trade deficit.

The current trade deficit is approximately PRs 218 billion—a record high and, therefore, one of the main macroeconomic problems facing the economy. One of the main reasons for this is Pakistan's heavy dependence on other countries for fuel and capital goods. As Table 1 shows, the share of fuel in imports has increased by 33 percent in the last decade, while that of machinery and transport has decreased by 14 percent. The share of food and metal has remained stable over time and that of agricultural raw materials has decreased by 21 percent. Fuel and capital goods still account for a significant portion of imports and their share has remained either stable or increased over time.

Table 1: Pakistan's major imports

	Percent share of total imports										
Commodity	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Fuel	27.32	24.09	22.21	21.59	26.22	25.7	33.25	28.09	30.49	34.24	36.26
Machinery and transport	53.16	56.48	58.21	59.95	56.47	46.85	52.45	48.58	48.51	45.98	45.58
Agriculture	4.85	5.04	5.85	4.27	3.65	5.01	4.94	4.25	4.92	4.94	3.83
Food	11.95	11.52	10.54	10.59	10.42	8.88	11.85	11.37	13.08	11.99	11.11
Metal	2.54	2.70	2.85	3.38	3.11	3.73	3.08	3.69	2.95	2.78	2.63

***Source*:** World Bank.

Our aim is to determine which factors cause import fluctuations by empirically estimating the import demand function. We then move one step further from the literature by investigating and trying to account for these surges. Intriguingly, we also find that imports as a percentage of GDP fall over the period 1980–2000. This is rare for a developing country and so our analysis is divided into two periods to determine the reason for this anomaly.

2. Empirical Estimates of the Import Demand Function

There are numerous empirical studies of Pakistan's import demand function, most of which estimate best-fit models using different econometric techniques and measures or different determinants of import demand. Explanatory variables such as relative prices and GDP appear to explain—fairly convincingly—most of the variations in import demand.

Sarmad and Mahmood (1985) estimate the income and price elasticity of imports for Pakistan at an aggregated and disaggregated level for the period 1969/70 to 1979/80. Their results show that **relative price and income** significantly explain most of the variations in imports at both levels. In their disaggregated analysis, most import commodities have a statistically significant sign and are in the right direction. The authors argue that relative prices, adjusted for customs duties and an income variable, are enough to explain a large portion of the variations in individual commodity imports as well as in aggregate imports. However, their estimation is not adjusted for stationarity and the results are as a result biased to some extent.

Rehman (2007) estimates an import demand function for Pakistan based on **import prices, domestic prices, and income** (using the Johansen-

Juselius cointegration technique) for the period 1975–2005. The results of the log-log model indicate that, in the long run, import prices and income are significant determinants of import demand. The coefficient of income elasticity is 1, implying that imports act as normal goods in the long run. A comparison of long-run and short-run elasticities shows that imports are less sensitive to changes in import prices and income in the short run than in the long run. The study's stability tests conclude that the results are reliable as the import demand function is stable over time.

Fida, Khan, and Sohail (2011) employ the bounds test or autoregressive distributed lag (ARDL) model to examine the long-run relationship between import demand and its determinants—real income and relative prices (the ratio of import prices to domestic prices)—for Pakistan. The short-run elasticities of price and income are estimated using an error correction model (ECM) and their signs are in line with economic theory: thus, imports are price-inelastic (with a negative sign associated with the law of demand) and the income elasticity is positive and less than 1 (imports act as normal goods but are less sensitive to changes in income). The short-run and long-run elasticities are different with imports being relatively more elastic in the long run than in the short run. The stability tests conducted indicate that the import demand function remains stable over time.

Foreign exchange reserves are also seen as an important determinant of imports because they directly determine the international liquidity available to a country for purchasing imports. A country with high foreign exchange reserves also has room to pursue less restrictive trade policies. Rashid and Razzaq (2010) model the import demand function for Pakistan and argue that there is a binding foreign exchange constraint on imports. Apart from relative prices and income, they add exchange rate reserves to their model to study the impact of **foreign exchange availability**. The results suggest that there is a long-run relationship between foreign exchange reserves and imports, implying the presence of a foreign exchange availability constraint on imports. The coefficients of price and income elasticity are higher than the previous estimates, indicating that, after accounting for the effect of the foreign exchange constraint, imports become more sensitive to changes in income and relative prices.

Arize and Malindretos (2012) carry out an empirical investigation of the short-run and long-run impact of domestic income, relative import prices, and foreign reserves on real imports for selected Asian economies. They employ a number of econometric methods—the Johansen and Harris-

Inder cointegration techniques, fully modified ordinary least squares (OLS), dynamic OLS, and the ARDL model—and find that foreign exchange reserves are an important determinant of imports. In line with theory, the effect of foreign exchange reserves is positive. Thus, policies aimed at increasing foreign exchange reserves will encourage imports. The estimates also show that real income is a significant variable in explaining the demand for imports and that income elasticity is highly elastic for India, the Republic of Korea, and Thailand, but inelastic for Japan and Singapore. A high degree of income elasticity implies that higher income growth will lead to a greater trade imbalance. Finally, the results indicate that rising relative prices significantly discourage imports.

Arize, Malindretos, and Grivoyannis (2004) test the relationship between imports and foreign exchange reserves for Pakistan. Their results indicate that, in addition to relative prices and real income, exchange reserves are an important determinant of imports: foreign exchange reserves have a positive and significant impact on imports in the long run. Foreign exchange reserves lose their impact in the short run, however, and have no significant effect on imports for Pakistan.

Sultan (2011) employs Johansen's cointegration method to estimate the aggregate import demand function for India. In his model, import demand is determined by relative prices, real imports, and foreign exchange reserves. He argues that foreign exchange reserves are the primary medium of exchange for every country in the foreign market and, therefore, can present a constraint to the ability to buy imports. The results indicate that an improvement in foreign exchange reserves increases import demand. Like Arize et al. (2004), the author finds that foreign exchange reserves have a long-run relationship with imports, i.e., they have a significant and positive impact on import demand for India.

Aziz and Horsewood (2008) follow a similar approach and include foreign exchange reserves as a major determinant of import demand for Bangladesh for the period 1980–2006. The other determinants of trade included in their model are relative prices, income, GDP components, and liberalization. Using error correction models and cointegration analysis, they find a one-cointegration relationship among the volume of imports, real GDP, relative import prices, and foreign exchange reserves. The results also indicate that real GDP as well as GDP components (final consumption expenditure, expenditure on investment goods, and export expenditure) are positively associated with aggregate import demand. Relative import prices are negatively and significantly associated with aggregate import

demand and are significant in the long and short run. Foreign exchange reserves are positively associated with import demand.

Bahmani-Oskooee (1998) identifies the foreign exchange rate as an important determinant of import demand for six developing countries (Pakistan, Greece, the Philippines, Singapore, the Republic of Korea, and South Africa). He employs the Marshall-Lerner condition, which implies that, for devaluation to have a positive effect on imports, the sum of the elasticities of the import and export demand functions should be greater than 1. Thus, there are two effects attached to devaluation: it will lead to a fall in imports and a rise in exports because exports are now relatively cheap. If the Marshall-Lerner condition is satisfied, then the positive export effect will be greater than the negative import effect. The author's analysis indicates that this condition is satisfied for almost all the countries in the sample, implying that devaluation has positive effects and is, arguably, a good instrument for improving the trade balance.

Afzal (2001) estimates import and export demand functions using a simultaneous equation system for both import demand and import supply. In addition to the traditional determinants of import demand (import prices and income), he includes a dummy variable for liberalization to measure its impact on imports for the period after 1990. Using OLS and two-stage least squares to determine the import function, he finds that income elasticity is positive, implying that imports are an increasing function. The negative sign of price elasticity indicates the same principle: an increase in the price of imports will cause a drop in demand for imports.

3. Methodology

The study's main objective being to critically analyze the determinants of import demand for Pakistan in a static as well as dynamic framework, we have used time-series data for 1980–2010 sourced from the World Development Indicators database. We test the determinants of import demand and empirically evaluate their significance by estimating two different equations: first, we estimate the conventional import demand function, to which we then add two new determinants. When the residuals are estimated for each of these equations, we find that they fall in magnitude when additional variables are introduced. The reduction in the size of the error terms shows that much of what stands to be unknown and nondeterministic in the basic import demand function is resolved in the new regression equation.

Our motivation for estimating the import demand function and the determinants of import demand lies in wanting to explain the peculiar trend of imports in Pakistan between the 1980s and 2000s. Imports as a percentage of GDP were fairly high in the early 1980s, after which they began to decline, then picking up once again after 2004 and returning to their earlier high level. As mentioned before, the import demand function is estimated for two subperiods (1980–2000 and afterward) to isolate the main factors behind this episode.

In the first step, we estimate the conventional import demand function:

$$M = f(RP, Y) \tag{1}$$

Imports (*M*) are a function of relative prices (*RP*) measured as the ratio of the import price index to the domestic price index; real income (*Y*) is measured by the real GDP. All the variables are expressed in natural logarithm form to make this a log linear model (usually the preferred choice of the functional form of the import demand function; see Doroodian, Koshal, & Al-Muhanna, 1994). Given these, we predict that

$$\partial Y > 0, \partial RP < 0$$

The negative coefficient of *RP* implies that imports fall as relative prices rise because consumers tend to substitute domestic products for imports when the prices of imports increase. The positive coefficient of *Y* implies that an increase in real income leads to an increase in real consumption; if the distribution of income remains unchanged, more foreign goods will be purchased. Additionally, if the increase in income also leads to an increase in real investment, then investment goods not domestically produced must be bought from abroad. However, the literature also suggests a potentially negative relationship between the two variables, given that, when real income grows, the country becomes more self-sufficient in terms of production and productive capacity, thereby needing to rely less on foreign goods and more on domestically produced goods.

Once the basic model has been estimated, we estimate the second model:

$$M = f(Y, RP, TOT, FXR/Y) \tag{2}$$

$$Net\ Barter\ Terms\ of\ Trade = \frac{Unit\ Vakus\ Index\ of\ Exports}{Unit\ Value\ Index\ of\ Imports} * 100$$

and FXR/Y represents foreign exchange reserves as a fraction of real GDP.

Here, the terms of trade must have a positive impact on import demand. If the prices of a country's exports rise relative to the prices of its imports, this signifies that its terms of trade have moved in a favorable direction, because it now receives more imports for each unit of goods exported. A depreciation of the exchange rate will lead to a fall in the prices of exports and a rise in the cost of imports. This will worsen the terms of trade and cause import demand (by domestic consumers) to slow down. However, the lower exchange rate will restore the country's competitiveness as the demand for exports grows.

Further, we expect that

$$\partial \mathrm{FXR/Y} > 0$$

We associate the greater availability of foreign exchange with higher imports and vice versa. The availability of foreign exchange and its impact on import demand is linked to the import restrictions imposed by the government. Thus, for example, if foreign exchange reserves receipts fall, the balance of payments (BOP) will worsen, leading the government to tighten import controls, thereby reducing import flows. Therefore, the relationship between the volume of imports and foreign exchange availability is expected to be positive.

4. Data

The data for this study—import volumes, the price indices for imports and exports, real GDP, and foreign exchange reserves—were sourced from the World Development Indicators for 1980 to 2010. The summary statistics for these variables are given in Table 2 below.

Table 2: Summary statistics

Variable	1978–82	1983–87	1988–92	1993–97	1998–2002	2003–07	2008–11
Imports (US$ mn)							
Average	4,454.040	5,597.460	7,458.040	10,523.660	10,185.500	21,506.160	37,393.800
SD	1,193.796	231.982	1,095.541	1,387.485	476.215	7,963.796	3,636.932
Relative price ratio							
Average	7.304	4.842	5.611	3.119	2.682	3.147	3.743
SD	1.464	0.149	0.304	1.234	0.259	0.215	0.050
Real GDP (US$ mn)							
Average	67,850.300	65,175.150	61,005.850	46,453.580	37,221.200	35,894.370	30,094.780
SD	2,690.678	2,015.270	3,625.711	5,191.141	1,468.834	790.337	3,588.070
Terms of trade							
Average	105.744	92.706	87.262	97.200	103.796	72.390	56.185
SD	14.255	3.247	7.085	9.342	14.978	8.444	1.082
Foreign exchange reserves (US$ mn)							
Average	1,451.800	1,971.800	1,431.000	2,288.800	4,539.000	13,809.000	14,169.500
SD	497.146	640.997	202.251	779.690	3,242.903	1,945.305	3,761.101

***Source*:** Authors' calculations based on data from the World Development Indicators.

A brief review of the statistics shows that the five-year average for import volume and foreign exchange reserves has increased over the last 30 years, which is our main concern. Moreover, the relative prices ratio has fallen because of the very high domestic inflation rate over the last decade. The terms of trade have also fallen owing to the continuous devaluation of the domestic currency in recent years.

5. Empirical Estimation

Equations 1 and 2 cannot be estimated using simple OLS as we are dealing with time-series data, which suffers from nonstationarity and can, therefore, yield spurious relationships between the variables under consideration. Post-estimation tests reveal that there is a long-run cointegrating relationship between the variables and so we estimate the following vector autocorrection model (VECM):

$$\Delta Y_t = \beta_0 + \sum_{i=1}^{k} \beta_{1,i} \Delta X_{t-i} + \sum_{i=1}^{k} \beta_{2,i} \Delta Y_{t-i} + \sum_{i=1}^{k} \delta \, ECT_{t-i} + \varepsilon_t \qquad (3)$$

where X is a vector of all the independent variables specified above, Y is import demand, ECT is the error correction term specific to a VECM, the β terms are the short-run elasticities of the independent variables, δ is the parameter of the ECT term and measures the error correction mechanism

that drives X_t and Y_t back to their long-run equilibrium relationship, and i is the number of lags to be included in the VECM specification.

In order to determine the causality among the test variables used in equation (3) in the VECM framework, we need to carry out certain pre-estimations, such as testing the stationarity of the variables and seeking the cointegration of the series. Without this, the conclusions drawn from the estimation will not be valid. First, we apply the augmented Dickey-Fuller test to carry out a unit root analysis of the stationarity of the variables. All the variables we are working with are integrated of order 1. The results of the test are given in Table 3 and assume nonstationarity (a unit root) under the null hypothesis.

Table 3: Augmented Dickey-Fuller test statistics

Variable †	Level t-stat.	First diff. test stat.*	Order of integration
LnM	-1.259	-3.794***	I(1)
LnY	0.076	-6.030***	I(1)
LnRP	-1.485	-5.691***	I(1)
LnToT	-2.184	-7.789***	I(1)
Ln(FXR/Y)	-1.392	-9.083***	I(1)

* If test statistic > critical value, we reject Ho of nonstationarity.
† All the variables were taken in their natural log form and in first-differenced series.
***Source*:** Authors' calculations.

Having determined that all the variables are integrated of order 1, the next step is to determine whether they are cointegrated. If the series is cointegrated, then the VECM will be the most suitable model for the variables under consideration. The Johansen and Juselius multivariate trace and maximal eigenvalue cointegration test is applied to the variables of equation (1) first and the results are presented in Table 4.

The trace values obtained are greater than the critical value for r = 1, implying that the null hypothesis of no cointegration is rejected for trace tests at a 5 percent level of significance. (The trace statistics test the null hypothesis that the number of cointegrating relations is r against k cointegrating relations, where k is the number of endogenous variables.) Our results clearly show that there is at least one cointegrating vector. Therefore, we conclude that, although the individual data series are nonstationary, their linear combination is stationary. We can now apply the ECM to estimate the short-run elasticities of import demand with respect to real GDP and relative prices.

Table 4: Cointegration test (Johansen-Juselius maximum likelihood method) for equations (1) and (2)

		$LnM = \alpha_0 - \alpha_1 LnRP_t + LnY_t + \mu_t$		$LnM = \theta_0 + \theta_1 LnRP_t + \theta_2 LnY_t + \theta_3 Ln\left(\frac{FXH}{Y}\right)_t + \theta_4 LTnT_t + \varepsilon_t$	
Null hypothesis	**Alternative hypothesis**	**Cointegration test stat.**	**5% critical value**	**Cointegration test stat.**	**5% critical value**
$r = 0$	$r > 0$	35.29	29.68	82.45	68.52
$r \leq 1$	$r > 1$	11.25*	15.41	45.90*	47.21
$r \leq 2$	$r > 2$	0.47	15.41	26.18	29.68
$r \leq 3$	$r > 3$			12.08	15.41

***Source*:** Authors' calculations.

Before estimating the VECM, we need to determine the optimal lag length that is to be included in the specification. The lag order selection criteria are applied as a VECM pre-estimation diagnostic test. The results are given in Table 5. We have used the Schwarz information criterion (SIC), Akaike information criterion (AIC), and Hannan-Quinn information criterion (HQIC) to select the optimal lag length.

Table 5: Lag order selection criteria

	Equation (1)			**Equation (2)**		
Lag	**AIC**	**HQIC**	**AIC**	**HQIC**	**SBIC**	**SBIC**
0	3.51	3.55	3.51	3.49	3.57	3.68
1	-3.31	-3.14	-3.31	-4.58	-3.59	-1.72
2	-3.45*	-3.14*	-3.45*	-4.59	-3.80	-2.51
3	-3.23	-2.79	-3.23	-4.74*	-4.15*	-3.44*
4	-3.33	-2.76	-3.33			

***Source*:** Authors' calculations.

The results of the VECM analysis for equation (1) are presented in Table 6. The estimates for the short-run and long-run elasticities of import demand with respect to relative prices and real income are given separately in the table. As far as the short-run elasticities are concerned, the results suggest that both relative prices and real income are not only significant at the 5 and 10 percent levels, respectively, but also have the expected signs. Relative prices have a negative sign and a coefficient less than 1, which means that imports are demand-inelastic. A basic breakdown of commodities shows that Pakistan's imports are concentrated in a few

products such as machinery and fuel for which demand is very price-inelastic. Real GDP has a positive sign and an elasticity that is greater than 1, implying that imports are normal goods. This is in line with the literature: when an economy experiences a rise in income, people demand more imports.

Table 6: Estimates for VECM for equations (1) and (2)

	Equation (1) †		Equation (2) ††	
	Elasticities		Elasticities	
Coefficients	**Short Run**	**Long Run**	**Short Run**	**Long Run**
ΔLnM_{t-1}	0.286	-	-0.124	-
	0.206	-	0.181	-
ΔLnY_t	1.146**	-0.621***	0.498	2.400***
	0.669	0.193	0.544	0.813
$\Delta LnRP_t$	-0.157**	-0.246	-0.055	-0.679**
	0.072	1.414	0.121	0.361
$\Delta LnToT_t$	-	-	0.630**	2.411**
			0.290	1.063
$\Delta Ln\left(\frac{FXR}{Y}\right)_t$	-	-	0.159**	1.186***
			0.070	0.319
Constant			0.060	-
			0.030	-
Error Correction Term	0.0384***	-	-0.1436***	
	0.017		0.0425	
R-squared	48.01		65.88	

† Equation (1) was estimated with two lags of the independent variables with one cointegrating rank.
†† Equation (2) was estimated with three lags of the independent variables with one cointegrating rank.
***Source*:** Authors' calculations.

In the long run, however, these variables lose their explanatory power (here, for the period under consideration). Relative prices become insignificant in the long run whereas real GDP remains significant with the correct, expected sign. This makes it necessary to estimate another import demand function with additional determinants: TOT and foreign exchange availability. Before we do this, we need to make sure that the results of the first model are valid. Accordingly, we test for serial correlation in the error

terms using the Lagrange multiplier test, also testing for normally distributed error terms. The results in Table 6 suggest that there are no signs of autocorrelation and, therefore, the VECM results are valid.

The results of the second model suggest that, in the short run, relative prices and real GDP do not significantly affect import demand. Moreover, the terms of trade and foreign exchange availability have now become significant at a 5 percent significance level and have the correct signs. In the long run, however, all the variables become significant and have the correct signs. Foreign exchange availability is significant in explaining variations in imports in the long and short run. Its sign is positive, indicating that it is a major constraint in Pakistan's case and that an improvement in the availability of foreign exchange would enable the country to import more. Likewise, the terms of trade are significant both in the short and the long run and have the correct positive sign, suggesting that, as the terms of trade fall, so does import demand and vice versa, Falling terms of trade imply that imports are becoming relatively expensive.

This result has to be interpreted with caution: even if imports become relatively more expensive, this does not always imply a significant fall in import demand. A fall in import demand would depend on how elastic it is to a price change. In Pakistan's case, the nature of imports does not allow for a very flexible import demand. Incorporating the effect of the terms of trade and foreign exchange availability has improved our results for the long run, suggesting that, for the period under consideration, relative prices and real GDP alone are not enough to explain the variations in import demand. Moreover, the adjustment coefficient, which was positive in the previous model, has the correct sign and is greater in magnitude; this suggests that a 14.3 percent adjustment in the total import demand toward equilibrium occurs in each period for the sample used.

To test the validity of the estimated VECM, we test for autocorrelation in the residuals of the estimated model, the results of which are given in Table 7. They clearly show that we cannot reject the null hypothesis of no autocorrelation in the residuals. We run a second test to confirm the stability of the VECM estimates—the Jarque-Bera test, which tests for the normality of the error terms. The results show that we cannot reject the null hypothesis that the disturbances in the VECM are normally distributed.

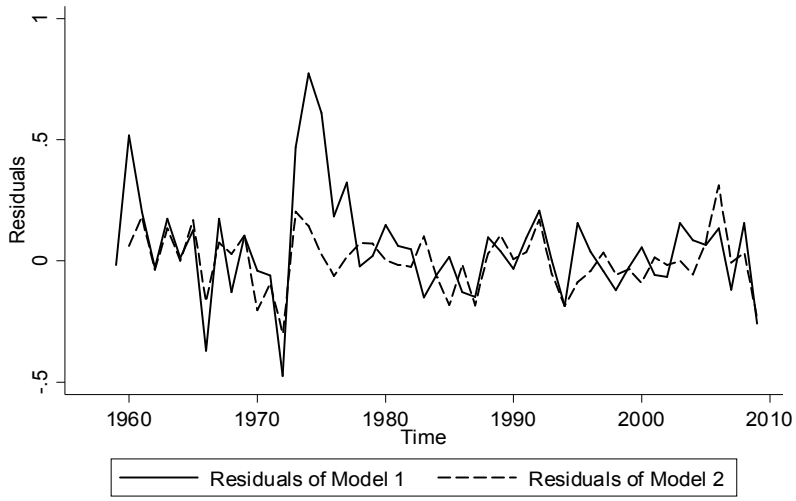
Table 7: Results of VECM stability tests for Equations (1) and (2)

	Model 1		Model 2	
Tests for stability check	**Chi² value**	**P-value of chi²**	**Chi² value**	**P-value of chi²**
Lagrange multiplier test*	3.3925	0.94668	12.8565	0.97821
Jarque-Bera test†	0.6950	0.70649	0.3760	0.82864

* H0: no autocorrelation at lag order.
† H0: Error terms are normally distributed.
***Source*:** Authors' calculations.

Having estimated the valid VECMs, we now analyze their residuals. If the residuals of the second model are smaller than those of the first and if the variations in the residuals of the second model are lower than those of the first, then we can safely say that the second model is superior. Figure 2 plots these residuals against time and shows that the residuals of the second model are much smaller than those of the first. Specifically, the period between 1990 and the mid-2000s is worth noting: this is the problematic period for our analysis since it is when imports surged.

Figure 2: Residuals of equations (1) and (2)



For the said period, the residuals of the second model are very small and show little variation. Table 8 gives the summary statistics for these residuals. The statistics show that the mean and standard deviation of the residuals of the second model are smaller than those of the first. The minimum and maximum of the residuals of the second model are also lower.

An examination of the residuals graph indicates four major peaks. The first peak occurs in the 1970s and has two possible explanations: the oil price hike and the separation of East Pakistan. To test for the second explanation, we introduce a dummy variable for 1970. Since it has no significant effect, we assume that the first explanation holds instead. Rising world oil prices led to an increase in the unexplained part of imports; including the terms of trade and foreign exchange reserves greatly reduces this variation in unexplained shocks. The intuition behind this is simple: both factors pick up the effect of market shocks more effectively and the residuals are reduced as a result of this.

The second peak occurs in 1960 and is due mostly to the import substitution and restrictive policies in place at the time. Again, part of this effect is picked up by the terms of trade and foreign exchange reserves. Some fluctuations are observed after the 1990s, but the residuals are compressed only to some extent, mainly because other factors are responsible for causing these fluctuations in imports. For this reason, we carry out a detailed analysis of the post-1980s period in the next section and estimate another import demand function for the years after 1980.

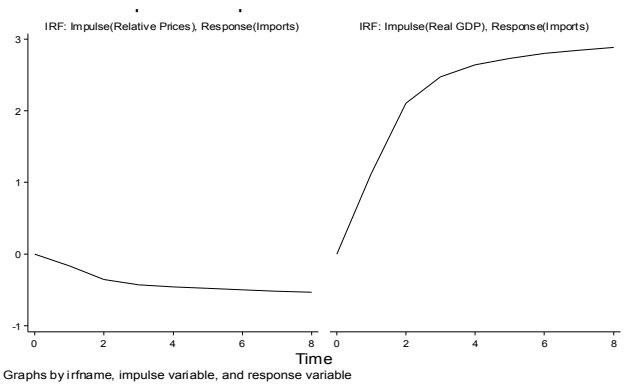
Table 8: Summary statistics for residuals of equations (1) and (2)

Variable	Mean	SD	Minimum	Maximum	Mean ± 3SD
Residuals of equation (1)	0.053357	0.217880	-0.5	0.773229	-0.653, 0.706
Residuals of equation (2)	-3.4E-10	0.119502	-0.3	0.312250	-0.358, 0.360

***Source*:** Authors' calculations.

These stability tests help validate the VECM estimates for the included years, but they do not say much about the causal relationships between the variables beyond the period under study. In order to analyze the dynamic properties of the system, we estimate a set of impulse response functions (IRFs), which illustrate the impact of a one-standard-deviation shock to one of the endogenous variables (caused by an external shock) on the current and the future values of another endogenous variable in the system (see Figures 3 and 4).

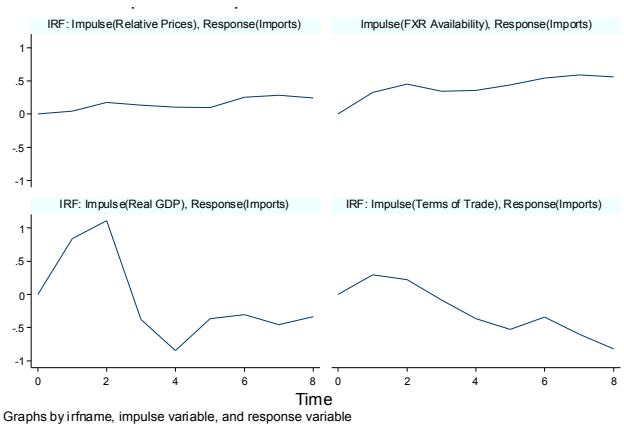
Figure 3: IRFs for model (1)



Note: Left-hand-side: impulse (relative prices) response (imports); right-hand-side: impulse (real GDP) response (imports).

Figure 3 (for the conventional import demand function) shows that the impact of a one-standard-deviation shock to RP (impulse) on import demand (response) is an ever-decreasing fall in imports (due to the shock to relative prices) and an ever-increasing rise in imports (due to the shock to real GDP). This simply means that even a minor change in relative prices and income will bring about large changes in imports. However, for the second model (Figure 4) in which additional factors are controlled for, the IRFs for relative prices and real GDP begin to move toward their mean far more quickly, that is, within four years.

Figure 4: IRFs for model (2)



Note: Top left-hand-side: impulse (relative prices) response (imports); top right-hand-side: impulse (FXR availability) response (imports).
Bottom left-hand-side: impulse (real GDP) response (imports); bottom right-hand-side: impulse (terms of trade) response (imports).

The IRFs for terms of trade and foreign exchange availability show that a one-standard-deviation shock to these variables leads to extreme variations in imports before the latter begins to revert to its mean. It is evident from the second panel that, after including the two new variables, the changes in imports induced by a change in any of the independent variables are very modest. This implies that, once the model has been specified more accurately, conventional estimates of import demand (relative prices and income) lose their significance in terms of causing fluctuations in imports.

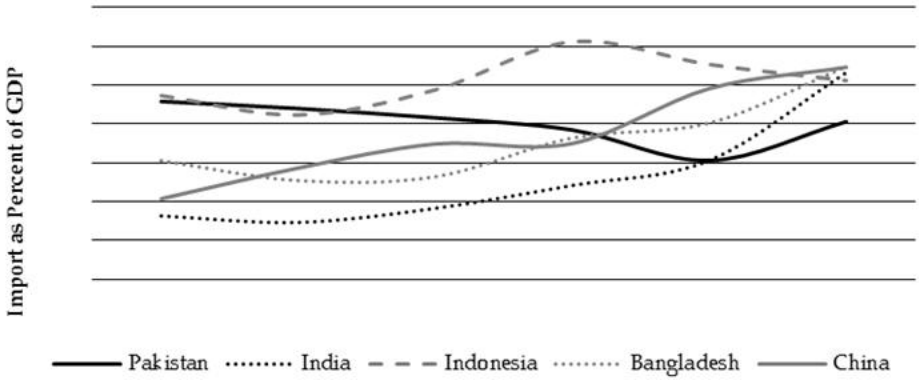
6. Analyzing the 2008 BOP Crisis via the Import Demand Function

Looking at the residuals plotted in Figure 2 for the period 1980 to the mid-2000s, we can see that the residuals of both models almost overlap. The fourth peak occurs in 2008 and depicts the recent BOP crisis that Pakistan underwent. This shows that both models are unable to explain the variations in import demand that occurred during this time. What happened in this particular period that might be responsible for these variations?

A closer look at the imports-to-GDP ratio of Pakistan for 1980–2000 reveals that it fell consistently. Starting from a high of 22 percent, it fell to around 15 percent over 20 years, recovering sharply thereafter and maintaining its pre-1980s level. A falling imports-to-GDP ratio is a peculiar trend for a rapidly growing developing country. As GDP grows, imports (being normal goods with an elasticity greater than 1) tend to grow faster. Since everyone's incomes increase, the overall purchase of goods and services also increases. Part of this increased income is spent on imports as well. Thus, the higher the income, the more of it will be spent on imports.

However, this has not been true for Pakistan, at least not for the 20 years in question. As is evident in Figure 5, the imports-to-GDP ratio of other developing countries (China, India, Bangladesh, and Indonesia) increased while that of Pakistan moved in the opposite direction. Both our conventional and additional determinants fail to explain this occurrence, and so we need to look for other explanations.

Figure 5: Imports-to-GDP ratio for selected developing countries



One likely candidate is foreign resource inflows—imports are constrained by the availability of foreign exchange reserves. In the case of Pakistan, one could hypothesize that imports were constrained during these years due to insufficient foreign resource inflows. If we examine foreign resource inflows during the late 1980s and throughout the 1990s, we observe that the country struggled with a dire BOP situation simply because it was hard to obtain foreign capital owing to domestic political and economic instability. Toward the end of this period, Pakistan found itself isolated economically after it conducted nuclear tests in May 1998 and was subject to sanctions by the West. The situation worsened when General Pervez Musharraf came to power in 1999. At the start of the 2000s, remittances were the chief form of foreign resource inflows. Foreign borrowing seemed unlikely because Pakistan was already on the verge of defaulting on its external debt payments; instead, there was a net capital outflow as the country paid off its previous debts.

Foreign resource inflows picked up only post-2002 when Musharraf declared that Pakistan would support the US-led war effort in Afghanistan. The country's circumstances changed dramatically as the resource constraint began to ease: foreign aid and capital flows were resumed, external debts were rescheduled, workers' remittances increased, and trade sanctions were removed, improving Pakistan's access to the international market. This turn of events led to an unprecedented high level of foreign resource inflows. According to a careful estimate, between FY2002 and 2007, Pakistan received a total of US$ 62.2 billion—equivalent to 80 percent of the country's exports and 60 percent of its imports. This recovery then resulted in a sharp rise in imports and, therefore, became the backdrop to the 2008 BOP crisis (see Haque, 2010).

To test this hypothesis, we have carried out a subsidiary regression analysis for the period post-1980. Two import demand functions are estimated: one for 1980–2000 and the other for 2001–2012. One limitation of this analysis is that, because we have very few data points for the post-2000 period, we cannot use the more sophisticated time-series techniques such as the VECM because of the limited degrees of freedom. Instead, we apply OLS to the stationary series of dependent and independent variables to test our hypothesis.

The determinants in this case are net capital inflows—a BOP account that includes mainly foreign direct investment, portfolio investment, net public borrowing, remittances, etc.—in addition to the conventional import demand parameters. Interestingly, net capital inflows are significant only for the years between 1980 and 2000 and insignificant thereafter as anticipated (see Table 9).[1] This finding validates our hypothesis that Pakistan's imports were constrained by the availability of sufficient foreign resource inflows.

As far as the other determinants are concerned, relative prices were found to be insignificant in both periods, whereas real GDP is significant throughout. However, its sign is negative for the entire period as the falling imports-to-GDP ratio with rising income is a dominant trend post-1980s. The sign is reversed in the regression estimates for 2000–12 when imports as a percentage of GDP begin to pick up rapidly, eventually leading the economy into the 2008 BOP crisis.

Table 9: Regression estimates for import demand function: 1980–2012

Dependent variable = imports-to-GDP ratio

	1980–2012	1980–2000	2000–12
Coefficients	**(1)**	**(2)**	**(3)**
ΔLnY_t	-0.18***	-0.166***	0.612**
	0.043	0.043	0.058
$\Delta LnRP_t$	0.045	0.102	0.058
	0.121	0.152	0.138
$NCI_t^{\dagger}$	0.027***	0.068***	0.016
	5.80E-06	1.62E-05	0.071

† NCI = net foreign resource inflows. It is not first-differenced because its level series was stationary.

***Source*:** Authors' calculations.

[1] Net foreign resource inflows retain their significance for this specific period even when additional determinants such as TOT and foreign exchange availability are added to the regression equation, thus marking their validity as a determinant of import demand solely for this period.

7. Conclusion and Policy Implications

There has been a tremendous rise in Pakistan's level of imports over the last few years, especially following the liberalization regime of the 1990s. In addition, the economy has experienced a rise in foreign exchange reserves and economic growth. However, as a result of its limited export profile, Pakistan's trade deficit has worsened. In light of these circumstances, it has become essential to determine which factors explain the abrupt variations and continuous growth in imports for Pakistan. This paper has tried to do so by empirically estimating the determinants of imports in the long run and short run using a VECM. Our main findings indicate that there is a long-run equilibrium relationship between import demand and real GDP, relative prices, the terms of trade, and foreign exchange reserves availability, signifying the relevance of additional determinants for the conventional import demand equation.

These findings obviously have implications for the trade balance. The import volume would rise significantly if real income were to increase, and that too at a rate higher than the rate of growth of real income, thus causing the trade balance to deteriorate. To prevent this, exports must grow in tandem with imports. With a stagnant export growth rate and a very high import growth rate, the trade balance will keep worsening. Foreign exchange reserves are also statistically significant, affecting import demand both in the short run and the long run. Moreover, import demand is elastic with respect to foreign exchange reserves availability. Omitting such an important variable can cause the misspecification of the model and overemphasize the influence of the other variables included.

We have shown this empirically by estimating two separate models for import demand: a conventional import demand function, to which we then added other variables of import demand. Import demand is inelastic with respect to relative prices, even though relative prices have a negative impact on import demand. The small coefficient implies that Pakistan's export market is noncompetitive: despite the rising prices of imports, this has not led to a significant substitution of exports for imports. This effect marks the inability of the domestic market to provide substitutes that can compete with imports. Finally, the coefficient of the terms of trade is positive and greater that 1. This means that a favorable change in the terms of trade (i.e., an increase in the price of exports) should help domestic consumers buy more imports for each unit of exports. However, this may also imply a worsening trade balance if exports fall because they have become relatively more expensive.

Our estimates of the elasticity of import demand with respect to the terms of trade are greater than 1, suggesting that an increase in the price of imports should lead to a fall in imports at a rate greater than the rate at which the terms of trade improve. For Pakistan, however, even with the constant devaluation of the rupee, a fall in the price of exports and a corresponding rise in the price of imports have not improved the trade balance.

Again, this has to do with the nature of imports. Without suitable substitutes to control import growth, the trade deficit will not improve. Our post-1980s analysis reveals that Pakistan's imports-to-GDP ratio was falling at a time when those of other rapidly growing developing countries (which are now far ahead) were increasing. Import growth is an essential development that takes place alongside economic growth. Pakistan's trade balance is the mirror image of its imports, implying that any variation in the balance of trade comes mostly from imports. Policy propositions to reduce imports and improve the trade balance are, therefore, common.

The real concern, however, is to improve the trade balance without having to reduce imports. If recovery is to come from anywhere, it must come from the export side, given the nature of Pakistan's imports and the fact that it is not self-sufficient in producing what it currently has to import.

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Pakistan's Dependency on Imports and Regional Integration

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Abstract

With growing global and regional economic integration, Pakistan, too, is actively seeking to enhance regional economic cooperation; it has entered into various regional and bilateral trade agreements that encompass trade policies ranging from import substitution to export promotion. However, the country's imports remain concentrated in a few product categories as well as in terms of origin. Despite several regional trade agreements, Pakistan has not been able to source its imports from regional trading partners. This stems from constraints relating to trade facilitation, regulatory frameworks, and physical infrastructure. Our empirical analysis shows that, while changes in real income and import prices have a significant effect on import demand in the long run, variations in the domestic price level do not. If Pakistan is to grow at 7–8 percent per annum as envisaged in official development plans, it will continue to experience strong growth in imports to meet its rising industrial and consumer needs. Pakistan needs to develop a strategy to use regional integration schemes as a platform for enhancing trade ties in both imports and exports. This will ensure greater trade and investment links with its regional trading partners, helping to lower the transaction costs of trade and boosting economic growth.

Keywords: Pakistan, import demand, regional integration.

JEL classification: E64, F13.

1. Introduction

Pakistan's economy is characterized by a fairly open trade regime with imports accounting for the bulk of total trade. Like many developing economies, Pakistan depends on a variety of imports to meet its production and consumption needs. However, the demand for imports is highly concentrated in a few products and import markets. The country's major imports include machinery, petroleum products, chemicals, transport equipment, edible oils, iron, steel, fertilizer, and tea, which

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together constitute around 80 percent of total imports. Among these commodity groups, petroleum products have the highest share (around 34 percent of total imports), followed by machinery and chemicals (Pakistan, Ministry of Finance, 2013).

Pakistan's major import markets include Saudi Arabia, Kuwait, Japan, the US, Germany, and the UK. Like other developing countries, Pakistan has witnessed a substantial increase in the value of imports as a percentage of GDP from 12.8 percent in 1972 to 20.3 percent in 2012 (World Bank, 2014).

We argue that Pakistan's trade regime needs to be seen in the context of increasing regional economic integration. In recent decades, global and regional economic integration has grown substantially: as of 31 July 2013, some 575 regional trade agreements have been notified to the World Trade Organization, of which 379 are presently in force.[1] The purpose of integration is to facilitate the free flow of goods and services and factors of production among countries through the elimination of tariff and nontariff barriers. With the implementation of regional trade agreements and substantially lower trade restrictions, most developing countries' imports have risen rapidly. Regional integration encourages free trade among member countries, which helps expand trade. Pakistan, too, is actively pursuing policies aimed at enhancing regional economic cooperation; it has entered into various regional and bilateral trade agreements that encompass trade policies ranging from import substitution to export promotion.

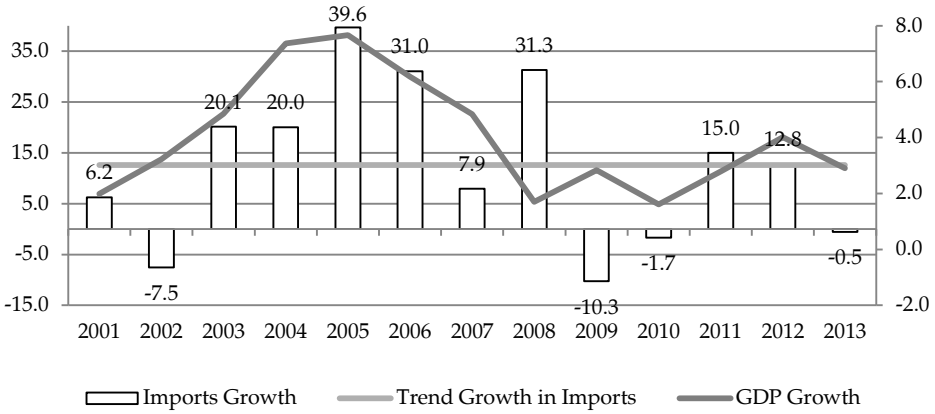
Our objective is to analyze Pakistan's structure of imports with special reference to regional economic integration. We review the importance of regional and bilateral agreements in diversifying imports, estimate import elasticities, and spell out policy options for reaping the benefits of regionalization. Section 2 presents some stylized facts on Pakistan's import structure. Section 3 reviews import trends with reference to regional economic integration. Section 4 describes the data and methodology used. Section 5 presents our empirical findings and Section 6 concludes the discussion.

[1] http://www.wto.org/english/tratop_e/region_e/region_e.htm

2. Stylized Facts

Imports undoubtedly have a significant impact on economic growth. Endogenous growth models emphasize the importance of imports in channeling foreign technology and knowledge into the domestic economy (Grossman & Helpman, 1991). Pakistan's imports as a percentage of GDP have trended upward over the last four decades, with a strong positive relationship between the GDP and import growth rates (Figure 1).[2] A trend analysis shows low or negative import growth during periods of low average GDP growth. During 2003–06, a period of high growth, the import growth rate was above average. Post-2007, the import growth rate has trended downward, coinciding with slowing economic growth. GDP growth declined from 5.8 percent in 2006 to 2.9 percent in 2013, when the growth rate of imports declined from 31 percent to –0.5 percent. Pakistan's economic development is thus strongly linked to the external sector's development.

Figure 1: Import growth rate and GDP growth rate



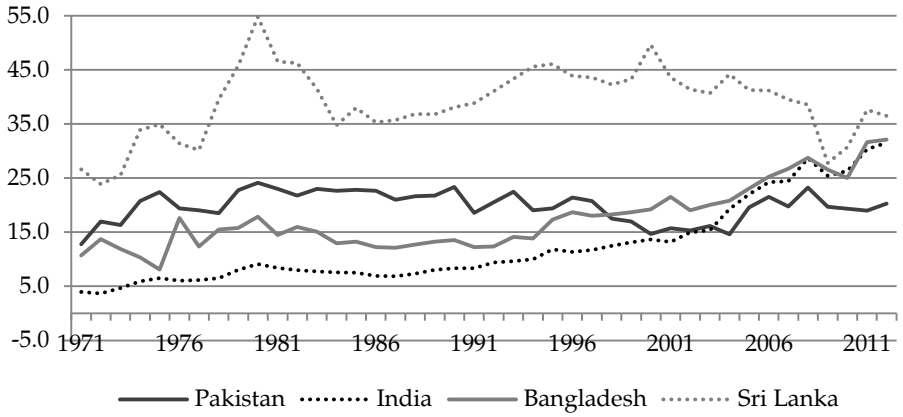
Sources: State Bank of Pakistan (2014); World Bank (2014).

Figure 1 also shows that the import growth rate can be highly volatile, ranging from a high growth rate of around 40 percent in 2005 to a negative growth rate of –10.3 percent in 2009. The trend growth rate in imports is 12 percent. This, in turn, leads to volatility in economic growth. To ensure sustained and high economic growth, Pakistan needs to maintain an import growth rate of at least 12 percent per annum.

[2] The simple correlation between these two variables is 0.6.

Figure 2 shows that the value of imports as a percentage of GDP increased from 12.8 percent in 1971 to 20.3 percent in 2011. However, this is still quite low compared to other countries in South Asia. Pakistan's average import growth rate as a percentage of GDP is around 1.4 percent per annum, while India's imports as a percentage of GDP grew from 3.6 percent in 1971 to 31.5 percent in 2011: an annual average growth rate of around 18.2 percent. Similarly, in Bangladesh, imports as a percentage of GDP increased from 8.1 percent in 1971 to 32.2 percent in 2011: an average growth rate of 7.1 percent per annum. Sri Lanka's imports increased from 23.9 percent of GDP in 1971 to 36.5 percent in 2011. These statistics reveal that, although Pakistan has significantly enhanced its imports, imports as a percentage of GDP remain very low compared to neighboring countries.

Figure 2: Imports as a percentage of GDP in South Asia



Source: World Bank (2014).

Pakistan's import composition has also remained stagnant. In 2012, about three quarters of its total imports comprised machinery (14.5 percent), petroleum products (34 percent), chemicals (13.6 percent), transport equipment (4.8 percent), edible oils (5.4 percent), iron and steel (3.9 percent), fertilizer (2.8 percent), and tea (0.8 percent) (Table 1). We find a similar pattern occurring over the last decade.

Table 1: Pakistan's major imports (percentage share of total imports)

Commodity	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Machinery	17.1	18.5	17.8	22.5	21.3	22.0	18.5	19.2	15.6	2.2	14.5
Petroleum products	27.1	25.1	20.3	19.4	23.4	24.0	28.8	27.1	28.9	49.9	34.0
Chemicals	15.9	15.1	16.1	15.2	12.7	12.3	12.4	12.6	14.0	2.1	13.6
Transport equipment	4.8	5.6	5.6	6.2	7.8	7.6	5.5	3.8	5.6	0.9	4.8
Edible oils	3.8	4.8	4.2	3.7	2.6	3.1	4.3	4.3	3.9	0.9	5.4
Iron, steel	3.3	3.3	3.3	5.1	5.6	4.9	4.2	5.0	4.6	0.7	3.9
Fertilizer	1.7	2.1	1.8	2.0	2.4	1.5	2.2	1.6	2.7	0.2	2.8
Tea	1.5	1.4	1.2	1.1	0.8	0.7	0.5	0.6	0.8	0.1	0.8
Subtotal	75.2	75.9	70.3	75.2	76.5	76.1	76.4	74.1	76.1	57.0	79.7
Others	24.8	24.1	29.7	24.8	23.5	23.9	23.6	25.9	23.9	43.0	20.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Pakistan, Ministry of Finance (2013).

Over the last four decades, raw material has accounted for the highest share of overall imports. Table 2 shows that imports of capital goods gradually declined from 29 percent in 1975 to 24 percent in 2012. During 1980–2005, imports of capital goods remained constant at around 30 percent of total imports. On the other hand, the share of raw material for consumer goods increased from 40 percent in 1975 to 56 percent in 2012. The share of consumer goods fell until 2008, after which it began to increase (from 10 percent in 2008 to 14 percent in 2012).

Table 2: Composition of imports (percentage share of total imports)

Year	Capital goods	Raw material for		Consumer goods	Total
		Capital goods	Consumer goods		
1975	29	9	40	23	100
1980	36	6	42	16	100
1985	32	6	46	16	100
1990	33	7	41	19	100
1995	35	5	46	14	100
2000	26	6	54	14	100
2001	25	6	55	14	100
2002	28	6	55	11	100
2003	31	6	53	10	100
2004	35	6	49	9	100
2005	36	8	46	10	100
2006	37	7	45	11	100
2007	36	7	47	10	100
2008	29	8	53	10	100
2009	29	9	49	13	100
2010	28	7	52	13	100
2011	24	7	53	16	100
2012	24	6	56	14	100

Source: Pakistan, Ministry of Finance (2013).

Over the last two decades, Pakistan's imports from developed countries have declined from 49 percent of total imports in 1995 to 21 percent in 2012 (Table 3). On the other hand, imports from developing countries have increased from 49 percent of total imports to 78 percent in the same period. The bulk of this increase originates from members of the Organization of Islamic Cooperation: from 21 percent of total imports in 1995 to 41 percent in 2012. About 75 percent of Pakistan's total imports originate from ten countries: the UAE, China, Saudi Arabia, Kuwait, Malaysia, Japan, India, the US, Indonesia, the UK, and the Republic of Korea (Pakistan, Ministry of Finance, 2013).

Table 3: Origin of imports (percentage share of total imports)

Region	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012
Developed countries	49.3	36.7	38	34.2	33.3	30.2	29.1	26.3	22.2	21
OECD	48.5	36.1	34.7	32.4	31.5	27.1	27.8	25.3	21.6	19.9
Other European	0.8	0.6	3.3	1.8	1.8	3.1	1.3	1.0	0.6	1.1
CMEA	2.1	1.2	2.1	2.2	1.8	1.4	3.1	1.2	1.1	1.1
Developing countries	48.6	62.1	59.9	63.6	64.9	68.4	67.8	72.5	76.7	77.9
OIC	21.3	35.2	29.2	33.7	32.0	33.4	33.9	37.4	38	40.8
SAARC	1.4	1.9	3.2	3.3	4.5	5.0	3.8	3.9	4.7	3.7
ASEAN	12.6	10.2	10.0	9.1	9.5	9.9	10.4	11.4	11.9	11.8
Central America	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1
South America	1.4	1.0	1.1	1.4	0.8	1.8	1.2	0.6	1.1	0.6
Other Asian countries	9.5	10.3	13.7	13.7	15.9	15.7	15.2	16.3	17.8	18.3
Other African countries	2.2	3.0	2.4	2.2	1.9	2.2	3.0	2.5	2.9	2.6
Central Asian states	0.1	0.3	0.2	0.1	0.1	0.3	0.1	0.2	0.2	0.1

Source: Pakistan, Ministry of Finance (2013).

3. Import Trends and Regional Integration

Like many other developing countries, Pakistan has actively pursued a policy aimed at enhancing regional economic cooperation. In 1993, it became signatory to the SAARC Preferential Trade Arrangement (SAPTA), which aimed to promote and sustain mutual trade and economic cooperation within the SAARC region. The agreement dealt exclusively with trade in goods and was the first step toward establishing an economic union in South Asia.

The establishment of the South Asian Free Trade Area (SAFTA) was another milestone in economic cooperation. Pakistan signed the SAFTA agreement in 2004 when the SAPTA expired on 31 December 2003. This agreement requires member countries to reduce customs tariffs for goods from other member states. Pakistan has also signed various other bilateral agreements with countries including Afghanistan, China, Malaysia, Sri Lanka, Iran, Mauritius, and Indonesia (see Appendix). In spite of all this, the benefits of trade have remained limited for Pakistan. Imports from SAARC members have remained about the same even after SAFTA (Table 4). Of the SAARC countries, India accounts for the highest share of imports (4 percent of total imports).

Table 4: Imports from SAARC (percentage share of total imports)

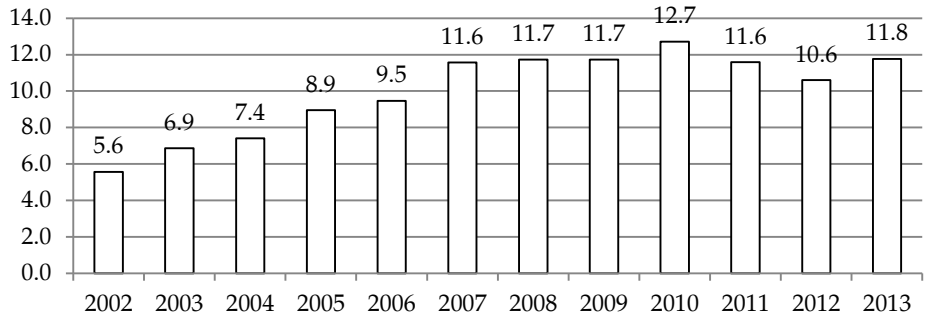
SAARC	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Afghanistan	0.22	0.28	0.30	0.19	0.17	0.25	0.23	0.27	0.40	0.03	0.03	0.11
Bangladesh	0.11	0.27	0.29	0.30	0.23	0.19	0.17	0.23	0.23	0.21	0.16	0.15
India	1.81	1.36	2.45	2.66	2.81	4.05	4.25	3.43	3.53	4.04	3.10	4.18
Sri Lanka	0.28	0.31	0.31	0.22	0.25	0.21	0.15	0.19	0.16	0.15	0.14	0.17
SAARC*	2.41	2.23	3.36	3.36	3.45	4.70	4.81	4.11	4.32	4.43	3.43	4.60

* Only the four above-mentioned countries.

Source: State Bank of Pakistan (2014).

Under its free trade agreement with China (2007), various products manufactured in Pakistan are allowed access to Chinese markets at zero duty. These include industrial alcohol, cotton fabric, bed linen and other household textiles, marble and other tiles, leather articles, sports goods, mangoes, citrus fruit, other fruits and vegetables, iron and steel products, and engineering goods. The trade agreement with China has certainly had a positive impact on imports from China. Figure 3 shows that Pakistan's imports from China accounted for 12 percent of its total imports in 2013 compared to 5.6 percent of total imports in 2002.

Figure 3: Imports from China as a percentage of total imports



Pakistan has also signed several bilateral trade agreements with ASEAN members (Table 5). However, its total imports from ASEAN have not changed very much over the last ten years (ranging from 10 percent of total imports to 15 percent over the period 2002–13). These statistics indicate that Pakistan has failed to reap the benefits of regional integration with no substantial increase in imports from these countries. Constraints that might account for this low level of trade include inadequate measures to facilitate trade, the high cost of doing business, poor regulatory and institutional frameworks, and a weak infrastructure.

Table 5: Imports from ASEAN (percentage share of total imports)

ASEAN	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Indonesia	2.34	2.11	2.29	2.79	2.65	2.77	2.95	2.42	1.85	1.17	1.67	1.74
Malaysia	4.41	4.64	3.86	3.29	2.48	3.10	3.86	4.59	5.03	4.96	5.34	4.41
Singapore	3.12	3.49	3.15	1.81	1.62	1.58	1.94	1.59	2.34	7.03	6.94	7.91
Thailand	1.72	1.86	1.73	2.01	2.28	1.95	1.48	1.68	2.06	1.42	1.44	1.38
ASEAN*	11.58	12.10	11.04	9.91	9.03	9.40	10.23	10.28	11.28	14.58	15.39	15.44

* Only the four above-mentioned countries.
Source: State Bank of Pakistan (2014).

4. Methodology and Data

Policymakers must understand how imports react to changing economic conditions if they are to implement effective trade policies. This makes it important to examine the behavior of import demand. Various studies that have estimated import demand functions for different countries (including Pakistan) show that import demand is determined largely by income and relative prices (see Sarmad & Mahmood, 1987; Sarmad, 1989; Afzal, 2001; Islam & Hassan, 2004; Rehman, 2007). They find that income elasticity is greater than unity while price elasticity is less than unity. Following Doroodian, Koshal, and Al-Muhanna (1994) and Rehman (2007), we estimate the following import demand model for Pakistan:

$$Ln(M_t) = \phi_0 + \phi_1 \ln(Y_t) + \phi_2 \ln(P_{mt}) + +\phi_3 \ln(P_{dt}) + \phi_4 \ln(M_{t-1}) + \varepsilon_t$$

where $\ln(M)$ is the log of the volume of imports, $\ln(Y)$ is the log of real income/GDP, $\ln(P_m)$ is the log of import prices, and $\ln(P_d)$ is the log of domestic prices.

The log-linear form is considered appropriate by various empirical studies (see, for example, Boylan, Cuddy, & O'Muircheartaigh, 1980). This functional form yields elasticity coefficients directly. We have used the following sources of data for our empirical estimation: the World Development Indicators database, various annual reports of the State Bank of Pakistan, and the International Finance Statistics database for the period 1971–2012. The variables used in this analysis are defined below:

- **Imports of goods and services** represent the value of all goods and other market services received from the rest of the world. This variable is measured at constant 2005 US$.

- **GDP per capita** is the country's GDP divided by the midyear population and is measured at constant 2005 US$.
- **Domestic prices** are measured using the GDP deflator as a proxy for the domestic price index.
- **Import prices** are measured by the unit value of imports as a proxy for the import price index.

We examine the stationarity of these variables using the standard augmented Dickey-Fuller (ADF) unit root test. After establishing the time-series properties of the variables, we estimate the import demand function for Pakistan using the autoregressive distributed lag (ARDL) bounds testing approach to cointegration (Pesaran, Shin, & Smith, 2001). To examine the stability of the ARDL approach, we apply the cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) test. The Akaike information criterion (AIC) is used to select the optimal lag length.

5. Empirical Results

Table 6 presents the results of the ADF test. All series are nonstationary at level and stationary at first difference. This implies that all series are integrated of order 1.

Table 6: Results of unit root test

Variable	Test with intercept	Test with intercept + trend	Stationarity
		At level	
ln (M)	-0.72	-3.20	Nonstationary
ln (Y)	-1.29	-1.71	Nonstationary
ln (P_m)	-0.08	-1.62	Nonstationary
ln (P_d)	-1.34	-2.28	Nonstationary
		At first difference	
Dln (M)	-6.77	-6.61	Stationary
Dln (Y)	-5.59	-5.66	Stationary
Dln (P_m)	-4.42	-4.36	Stationary
Dln (P_d)	-5.21	-4.98	Stationary

Note: Critical values = –3.60, –2.94, and –2.61 at 1, 5, and 10 percent, respectively, with intercept, and –4.20, –3.52, and –3.19 at 1, 5, and 10 percent, respectively, with intercept and trend.
Source: Authors' calculations.

The long- and short-run impact of income and prices on imports is estimated using the ARDL approach to cointegration with an appropriate lag length based on the AIC. The F-statistic obtained for the demand

function is 5.8, which supports the hypothesis of cointegration for the proposed model (Table 7). We also apply various diagnostic tests to ensure that the model is adequately specified. The F-statistic confirms the adequacy of the estimated model. The results of the serial correlation test, normality test, and heteroskedasticity test are consistent with their requirements. The CUSUM and CUSUMSQ tests are applied to examine the stability of the long-run parameters. Figure A1 in the Appendix shows that the plotted data points fall within the critical bounds, implying that our long-run estimates are stable.

Table 7: Long-run and short-run estimates

Variable	Coefficient	T-statistic	P-value
Long run			
Constant	16.110	3.29	0.00
Log of GDP per capita	1.060	1.83	0.08
Log of domestic prices	0.090	0.65	0.52
Log of import prices	-0.030	-2.16	0.04
Short run			
Constant	0.153	3.15	0.00
D (Log of GDP per capita)	0.572	1.68	0.10
D (Log of domestic prices)	0.607	1.65	0.10
D (Log of import prices)	-0.248	-1.81	0.08
ECM (–1)	-0.649	-5.23	0.00
Diagnostic tests			
R-sq.	0.55		
F-statistic	3.15***		
Serial correlation	0.60246[.438]		

Source: Authors' calculations.

The long-run estimates show that income has a positive impact on imports. The long-run income elasticity is greater than unity, indicating that an increase in income leads to an increase in imports in the long run. Import prices have a negative and significant impact on imports in the long run, but the estimated coefficient is very small, implying inelastic long-run import price elasticity. Domestic prices have a positive but insignificant impact on imports in the long run. Our short-run estimates show that income and domestic prices have a positive impact on imports while import prices have a negative impact on imports. These statistics reveal that imports are influenced largely by the country's development and by import prices. The estimated elasticities indicate that changes in

real income and import prices significantly affect import demand in the long run, while variations in the domestic price level do not.

6. Conclusion

We have examined Pakistan's import structure in the context of regional economic integration and found that its imports remain concentrated in a few product categories and markets. Despite several regional trade agreements, Pakistan has not been able to source its imports from regional trading partners. This indicates the existence of constraints to trade facilitation, regulatory frameworks, and physical infrastructure.

Our empirical analysis has shown that changes in real income and import prices significantly affect import demand in the long run, unlike variations in the domestic price level. If Pakistan is to grow at 7–8 percent per annum as envisaged in its official development plans, it needs to expand its imports to meet the country's growing industrial and consumer needs. It also needs to develop a strategy to use regional integration schemes as a platform for enhancing trade ties in both imports and exports. This will ensure greater trade and investment with regional trading partners, in turn lowering the transaction costs of trade and boosting economic growth.

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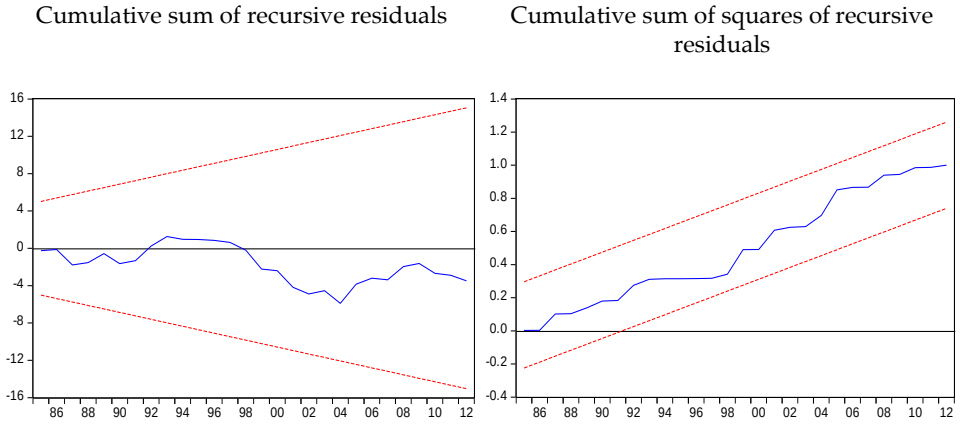
Appendix

Table A1: Summary of trade agreements

No.	Agreement	Scope	Type	Status/year
1	Pakistan-China	Bilateral	FTA + EIA	In force since 2007
2	Pakistan-Malaysia	Bilateral	FTA + EIA	In force since 2008
3	Pakistan-GCC	Bilateral	FTA	Under negotiation since 2006
4	Pakistan-Iran	Bilateral	PTA	In force since 2006
5	Pakistan-Mauritius	Bilateral	PTA	In force since 2007
6	Pakistan-MERCOSUR	Country bloc	PTA	Under negotiation since 2006
7	Pakistan-Morocco	Bilateral	PTA	Under negotiation since 2008
8	Pakistan-Singapore	Bilateral	FTA	Under negotiation since 2005
9	Pakistan-Sri Lanka	Bilateral	FTA	In force since 2005
10	Pakistan-Turkey	Bilateral	PTA	Under negotiation since 2004
11	Pakistan-US	Bilateral	Framework agreement	Under negotiation since 2003
12	SAFTA	Regional	FTA	In force since 2006
13	Pakistan-Bangladesh	Bilateral	FTA	Under negotiation since 2003
14	Indonesia-Pakistan	Bilateral	PTA	In force since 2013

Source: UNESCAP/APTIAD/trade agreement database; Pakistan, Ministry of Commerce.

Figure A1: Cumulative sum and cumulative sum of squares of recursive residuals



Note: The straight lines represent the critical bounds at a 5 percent significance level.

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The Changing Landscape of RTAs and PTAs: Analysis and Implications

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Abstract

This paper traces the evolution of "discriminatory" international trading arrangements: (i) regional trade agreements (RTAs), which offer their members better access to each other's markets; and (ii) preferential trade agreements (PTAs), which offer developing and least developed countries (LDCs) nonreciprocal access to certain markets. The number, coverage, and depth of RTAs have increased tremendously in the last 25 years, potentially leading to even deeper integration among dynamic economies. However, countries on the margin of RTA activity may be in danger of not benefitting from the growth in international trade. The number of countries offering PTAs has also increased with many developing countries now providing LDCs with nonreciprocal market access. This significant level of RTA and PTA activity raises serious challenges for countries such as Pakistan, which remain on the margins. Efforts to rectify this should, in the short term, focus on negotiating RTAs with selected countries to build the required capacity for such negotiations and improve Pakistan's visibility on the RTA landscape. The country must aggressively seek and defend nonreciprocal market access under PTAs, with particular focus on such GSP schemes as offer additional benefits. Medium-term actions should aim to improve competitiveness by investing in infrastructure, energy, and human resources; adopting a coherent and supportive macroeconomic policy framework; and improving law and order. This will help Pakistan enter into and benefit from RTAs with dynamic economies while substantially reducing its dependence on PTAs.

Keywords: Pakistan, WTO, regional trade agreements, preferential trade agreements, GSP.

JEL classification: F13, F40.

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1. Introduction

Global trade governance has evolved substantially in the last 25 years. With the establishment of the World Trade Organisation (WTO) in the mid-1990s, a comprehensive set of binding and enforceable agreements came into force, spanning more than 100 countries and customs territories, and covering most world trade flows (at least of goods). This was a major achievement for nondiscriminatory trade.[1] The world seemed to be moving toward an overarching, global, and nondiscriminatory framework that would eventually cover all countries (through their accession to the WTO) and all aspects of trade (through negotiations among WTO members for the further liberalization of trade in goods and services and development of all the required and related rules).

This has not happened, however. Instead, discriminatory trade agreements (DTAs)[2] have proliferated while the WTO Doha Round of trade negotiations has languished for over 12 years. The increasing number and scope of DTAs is fast reshaping the architecture of the world trading system and the trading environment for developing countries. This is particularly relevant for countries such as Pakistan, which are not party to many DTAs. Moreover, the integration of these diverse agreements into a multilateral framework that facilitates the expansion of trade on beneficial terms for all is one of the main challenges facing the world trading system.

This paper is an attempt to better understand the trend of DTAs over the last 25 years while drawing lessons for Pakistan. For the purposes of this analysis, we divide all DTAs into two broad categories: (i) those based on reciprocity among their members, i.e., regional trade agreements (RTAs);[3] and (ii) those under which one country or defined

[1] WTO members have to abide by the principle of nondiscrimination by granting similar trade privileges to all other members (the so-called most-favored nation treatment). This remains a key foundation of the multilateral trading system represented by the WTO, although certain exceptions are allowed, the most important being regional and preferential trade arrangements.

[2] This paper defines DTAs as all those agreements that are among a small number of WTO members outside the WTO and which provide their members with better trade treatment than they might receive under the WTO, without offering it to all WTO members. Hence, DTAs are categorized as "discriminatory" toward nonmembers as opposed to the "nondiscriminatory" nature of WTO agreements.

[3] RTAs include free trade agreements, customs unions, and economic unions among two or more countries within the same region or across regions.

group of countries offers nonreciprocal trade preferences to another, i.e., preferential trade agreements (PTAs).[4]

Given the depth and breadth of the subject, this paper cannot claim to be comprehensive and exhaustive. Rather, it aims to provide an overall picture and broad-brush analysis to facilitate discussion and further targeted research. Sections 2 and 3 analyze the evolution of RTAs and PTAs, respectively. We trace key developments in both over the last 25 years or so, leading up to the present and identifying the main players, beneficiaries, features, and trends. Section 4 briefly discusses the so-called "mega-regionals," i.e., the proposed Trans-Pacific Partnership (TPP) and Transatlantic Trade and Investment Partnership (T-TIP). Section 5 highlights the specific implications of RTAs and PTAs for Pakistan and then concludes the study by offering some policy suggestions.

2. RTAs: Beyond Numbers[5]

As of 31 July 2013, the General Agreement on Tariffs and Trade (GATT)/WTO has received some 575 RTA notifications (counting goods, services, and accessions separately) (WTO, 2014). Of these, 408 notifications were made under Article XXIV of GATT 1947 or GATT 1994, 38 under the Enabling Clause, and 129 under Article V of the General Agreement on Trade in Services. Of these 575 RTAs, 379 were in force at the time.

However, the number of RTAs in force at the time of writing is 278 (Figure 1). In addition to bringing out the general difficulty of counting and tracking RTA activity precisely, this brings home a very important point. Not all announced RTAs see the light of day. Only about half complete the negotiations stage, reach a final agreement, undergo domestic ratification, and are finally implemented by the participants. While the WTO can rightly be faulted for slow progress, the record of RTAs is not a shining example of success either.

Looking at the number of RTAs notified and entered into force over time is fairly instructive. As Figure 2 shows, RTAs became

[4] The WTO defines PTAs as all such arrangements that include, for example, the Generalized System of Preferences schemes of various developed countries for all eligible developing countries, and specialized preferential trade schemes targeting a defined group of beneficiaries (such as least developed countries). The main feature of such schemes is nonreciprocity: the trade concessions offered do not seek trade preferences in return.

[5] Unless otherwise specified, the data and figures in this section are derived from or based on the WTO's Regional Trade Agreements Information System (see WTO, 2014).

increasingly common in the early 1990s when an unusually high number of agreements entered into force—26 between 1990 and 1994 alone, compared to just 24 up until 1990. The number of RTA notifications continued to increase in the second half of the 1990s. The mid-2000s onward saw the largest number of RTAs notified and coming into force to date. In particular, 28 RTAs were notified in 2008 alone. Despite a subsequent dip in notifications in 2009–11, the number of RTAs has begun to increase once again.

Figure 1: Agreements notified and in force

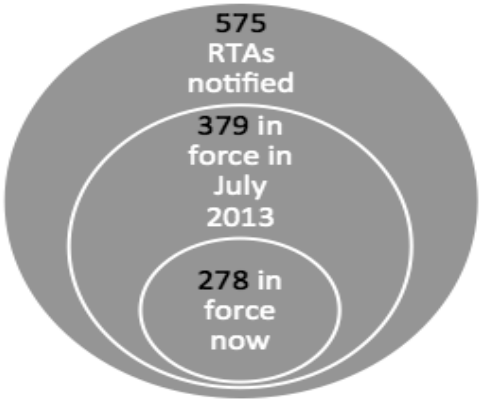
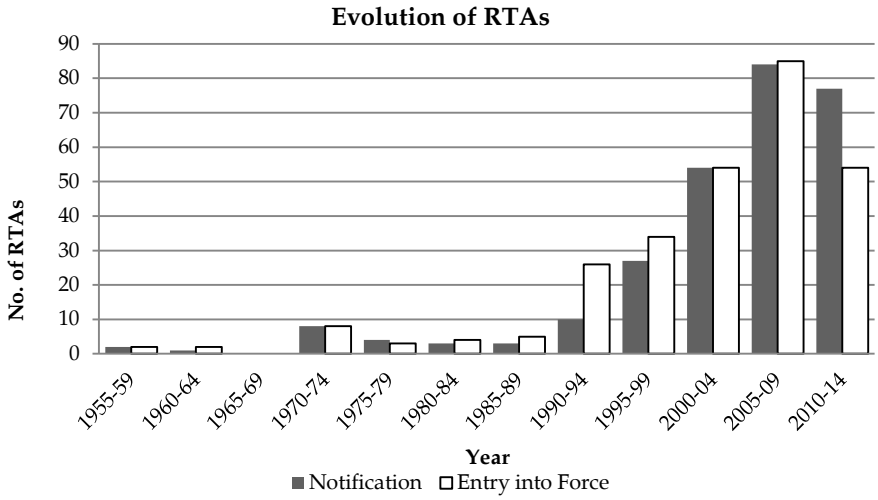


Figure 2: RTAs notifications and entry into force over time



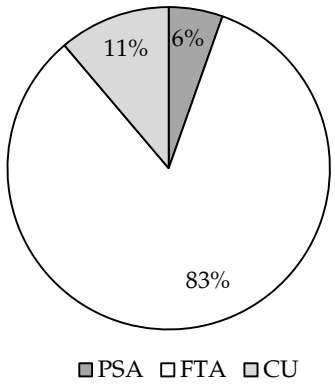
One can safely conclude that the spurt in RTAs occurred in the early 1990s and has since maintained an upward trend in general.

Interestingly, the early 1990s also witnessed the conclusion of the Uruguay Round and the emergence of the WTO—a key achievement for multilateralism. These twin developments do not support the contention that multilateral agreements and RTAs are substitutes for one another, i.e., that one moves forward if and when the other is stalemated. Both made remarkable progress in the 1990s, but while RTAs remained on this trajectory, WTO multilateralism did not advance much farther.

This means that multilateralism can coexist with regionalism, with both "moving" forward but not at the expense of each other. However, the "pace of movement" of one may affect that of the other. In this more nuanced view, if one is stalemated—as the WTO Doha Development Agenda (DDA) has been—pressure increases on the other. However, even when the stalemate in one is broken (as the WTO Bali ministerial conference of December 2013 seems to have done for the DDA), the other may continue to move, albeit perhaps at a slower pace.

The breadth of liberalization and depth of integration among members of an RTA depend on whether it is a partial scope agreement (PSA) covering only some goods, a free trade agreement (FTA) essentially covering substantial trade in goods, or a customs union (CU) where members of the agreement also adopt a common external tariff toward nonmembers. The RTAs listed in the WTO database indicate that the majority in force are FTAs (83 percent), followed by CUs (11 percent), while PSAs are the least common (Figure 3). Looking at the type and membership of RTAs, one notes that those between developing countries more often tend to be PSAs, while developed countries generally conclude FTAs and are more likely to be part of a CU (though this conclusion is heavily influenced by the European Union [EU]).

Figure 3: Types of RTAs worldwide (in force in early 2014)



The major zones of RTA activity are concentrated in the Global North, with the EU being a major RTA participant, followed by the US. The exceptions to this are Chile and Peru, both of which have a substantial number of agreements comparable with those of the US and EU. Both countries are members of the Latin American Integration Association and have numerous bilateral agreements with countries in and outside the region (with a significant proportion of these being with Asian countries). The African continent, the Middle East and, to some extent, Central Asia have the lowest RTA participation. In Africa, despite the existence of many regional organizations—the Economic Community of West African States (ECOWAS), the Economic Commission for Africa, the Southern African Development Community (SADC), and so on—bilateral agreements are practically nonexistent. North Africa is, however, an exception, with some countries that have agreements with the EU and/or Turkey.

Besides the Commonwealth of Independent States (CIS), the Eurasian Economic Community, and the Common Economic Zone (of which, among the Central Asian countries, only Kazakhstan is a member), Central Asia lacks RTAs, though most countries have bilateral agreements with each other. The Middle Eastern countries participate in a limited number of RTAs—namely, the Pan-Arab Free Trade Area and the Gulf Cooperation Council—but similar to the situation in Africa, they lack bilateral agreements both with each other and with countries outside the region.

Figures 4 and 5 capture the dramatic change in worldwide RTA activity between 2013 and 1995, respectively. In 1995, Western Europe had already begun to emerge as the key region in terms of RTA activity. The countries with the highest number of RTAs were European Community (EC) members with 16 agreements each. Most of these were bilateral agreements with other European countries, which, by 2013, had become EU members themselves (such as Andorra, the Czech Republic, and Poland). This also included European countries that would not join the EU but formed the European Free Trade Association (EFTA), including Switzerland, Norway, Liechtenstein, and Iceland. The EC's RTAs outside Europe were limited to three: with the Overseas Countries and Territories, Syria, and Lebanon.

Russia's participation during this period also seems relatively significant, particularly compared to 2013. However, it should be noted that, in 1995, Russia was ahead because of the multiple agreements it

concluded with the former Soviet republics; these agreements remain largely unchanged to this day. Besides the addition of the CU between Belarus, Russia, and Kazakhstan, there were no significant developments in terms of RTAs within the CIS after 1995.

The involvement of African and Central Asian countries was as sparse in 1995 as it is now. No bilateral agreements existed between any African countries—only regional agreements such as the Common Market for Eastern and Southern Africa (COMESA) and ECOWAS. This also corresponds to present-day RTA participation among countries in Africa: bilateral agreements remain fairly rare. The Americas as a whole were relatively inactive in terms of RTA participation at the start of 1995. The Latin American countries, many of which now have a significant number of RTAs under their belt, had yet to emerge in that sense. So, too, did Asia, in particular the Association of South East Asian Nations (ASEAN)+3 (China, Japan, and the Republic of Korea).

Figure 4: RTAs per country in force in 2013

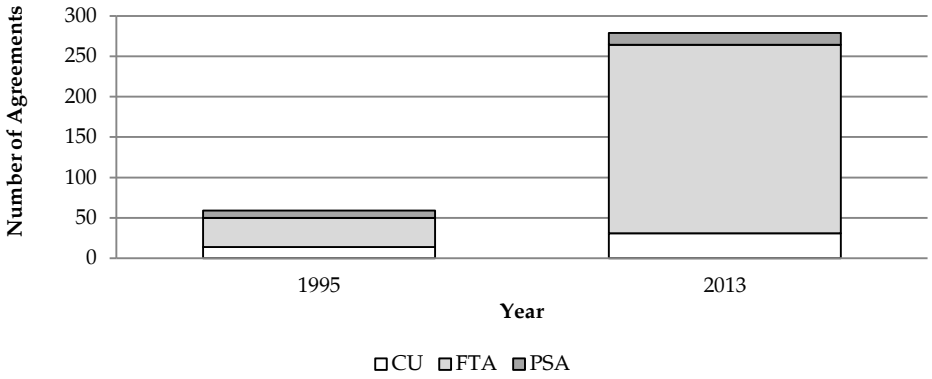
Source: http://www.wto.org/english/tratop_e/region_e/rta_participation_map_e.htm]

Figure 5: RTAs per country in force in 1995

Source: Constructed using WTO and World Bank databases.

As a whole, RTAs pre-1995 applied predominantly to intra-regional trade: the expansion of the EC, the creation of the North American Free Trade Agreement (NAFTA) and Caribbean Community (CARICOM), and other regional agreements. Inter-regional agreements were few: aside from the agreement between the US and Israel, no other inter-regional bilateral agreement existed where one of the parties was not an RTA member (i.e., bilateral agreements between two countries from different regions). As Figure 6 shows, there was a dramatic increase in FTAs (nearly sevenfold) between 1995 and 2013, whereas the change in PSAs and CUs was smaller (both roughly doubled).

Figure 6: RTAs in 1995 vs. 2013



An important question that arises with the proliferation of RTAs, their types, and membership, is whether the world is being divided into blocs. In such a scenario, bigger countries would be seen constructing their respective blocs both within the region and outside. RTA activity with countries outside these blocs would be limited, though one would also see some agreements among the blocs. On taking a closer look, however, this does not seem to be happening.

The EU is currently at the centre of RTA activity, both in terms of the number of agreements it has concluded and is negotiating, and in terms of their geographical spread. It also seems to be negotiating a great deal and is looking to replace bilateral agreements as well as nonreciprocal trade arrangements with more comprehensive agreements with other regional organisations. For example, the EU has signed comprehensive, reciprocal economic partnership agreements with the CARICOM and ECOWAS countries to replace its longstanding nonreciprocal trade relationship with them. Hence, there is no evidence that the EU is constructing an inward-looking trading bloc with defined boundaries.

Similarly, US agreements are predominantly intra-regional as are those in Eastern Europe and Central Asia—with the exception of the former Soviet republics, which seem to be concluding agreements only among themselves. The African continent has a number of overlapping regional organizations but lacks bilateral connections, especially with countries outside the region. In Asia, ASEAN+3 is the most significant RTA, with some bilateral agreements outside the region. Japan, China, India, Singapore, and the Republic of Korea have the highest number of agreements. India, however, only has agreements with developing countries and emerging economies.

Figure 7 illustrates the more recent RTA activity to further explore the emergence or otherwise of RTA blocs. As mentioned earlier, RTAs mushroomed a second time from 2008 onward. During this period, there was a dramatic increase in FTAs (89), with a couple of CUs and a very small number of PSAs (three). The substantial majority of agreements now include both goods and services.

Figure 7: Country by number of RTAs entering into force 2008 onward

A number of existing RTA parties, in particular ASEAN, EFTA, and the EU, also concluded numerous bilateral agreements from 2008 onward with countries outside their immediate region. The EU's bilateral agreements tend to be with the Balkans, the African continent, Latin America, and the Asia-Pacific. EFTA's agreements are also with the Balkans, the Asia-Pacific, and Latin America; this is not surprising as EFTA countries have to maintain parity with the EU in their international trade relations, given the two blocs' very close trade and economic relationship. ASEAN agreements lie primarily within the Asia-Pacific.

The world's main single-country players include Peru, Chile, Panama, Japan, China, the Republic of Korea, and India. In particular, countries in Latin America and Asia have concluded several bilateral RTAs (e.g., Chile and Malaysia, Chile and China, Peru and China, Costa Rica and Singapore). Bilateral RTAs have developed most notably in (and between) Latin America and the Asia-Pacific. In contrast, there were almost no new agreements among countries in Africa and the Middle East.

A tentative conclusion from this complex and evolving picture is that, although the EU remains a highly dynamic region, the world is not necessarily splitting off into blocs. There is still a substantial degree of inter-bloc activity as well as several individually active countries, particularly in Latin America and the Asia-Pacific.

3. PTAs: Who is Offering Preferences to Whom?[6]

Nonreciprocal trading arrangements (PTAs), whereby one country or RTA provides better market access to other designated countries without asking for trade preferences in return, are also fairly common. Together with RTAs, PTAs comprise the universe of so-called discriminatory trade. Hence, it is equally important to examine PTAs to complete our analysis of the global trade arrangements confronting countries such as Pakistan.

The number of PTAs surged in the 1970s, spurred mainly by the work carried out by the United Nations Conference on Trade and Development (UNCTAD). This led to the emergence of the General System of Preferences (GSP) whereby developed countries could offer developing countries nonreciprocal trade preferences. GATT's Enabling Clause, adopted as part of the Tokyo Round, provided the legal cover for this, driving the process further. While GSP schemes were generally available to all developing countries, the 1980s marked the beginning of PTAs that were designed for specific subgroups of developing countries, often on a regional basis. These included PTAs by some developed countries for developing countries from the Caribbean, Pacific, and Andean regions.

The second surge in PTAs occurred around the turn of the 21st century. This period has so far proven to be the most productive in terms of PTAs entering into force with 11 new global players and two different types of schemes.[7] The surge has several interesting new features (see Figures 8 and 9). First, it is characterized by the rise of emerging economies/developing countries as providers of PTAs alongside developed countries.[8] Second, many PTAs benefitting only LDCs have been introduced. This was made possible by amending the Enabling Clause to allow GSP sub-schemes that benefitted the LDCs in recognition of their extreme levels of underdevelopment. Third, new PTAs for specific regions have entered into force, i.e., for the western Balkans and the sub-Saharan African countries, respectively, by the EU and US. Fourth, the regional composition of providers has changed. Although

[6] Unless otherwise specified, the data for this section has been derived from the WTO's Database on Preferential Trade Agreements (see WTO, n.d.).
[7] Overall, 26 PTAs have entered into force since 1948.
[8] Three GSP schemes have been introduced since the beginning of the century: by Iceland, Turkey and the Russian Federation, and Belarus and Kazakhstan.

European countries remain the biggest providers, countries from Asia and the CIS have offered more PTAs than North America in this time. Similarly, both Africa and the CIS have initiated PTAs during this period.

Figure 8: Evolution of PTAs, 1945–2014: GSP/LDC-specific and other schemes entering into force

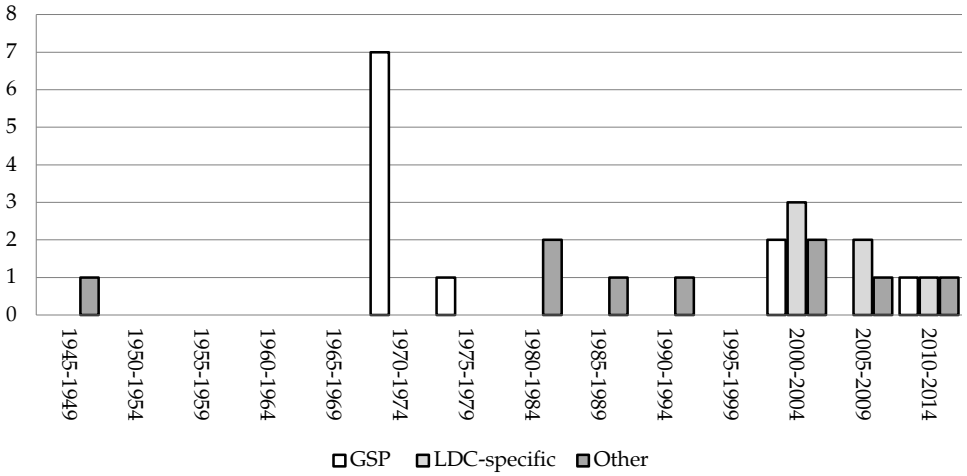
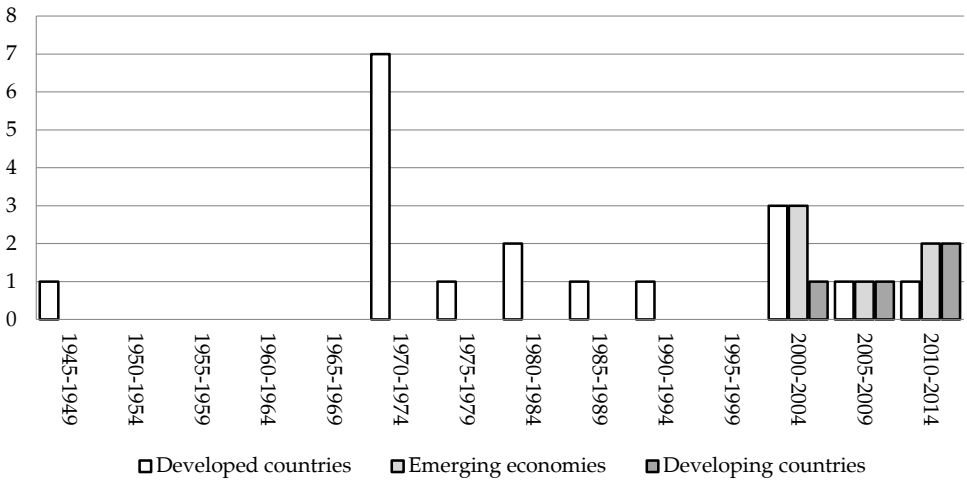


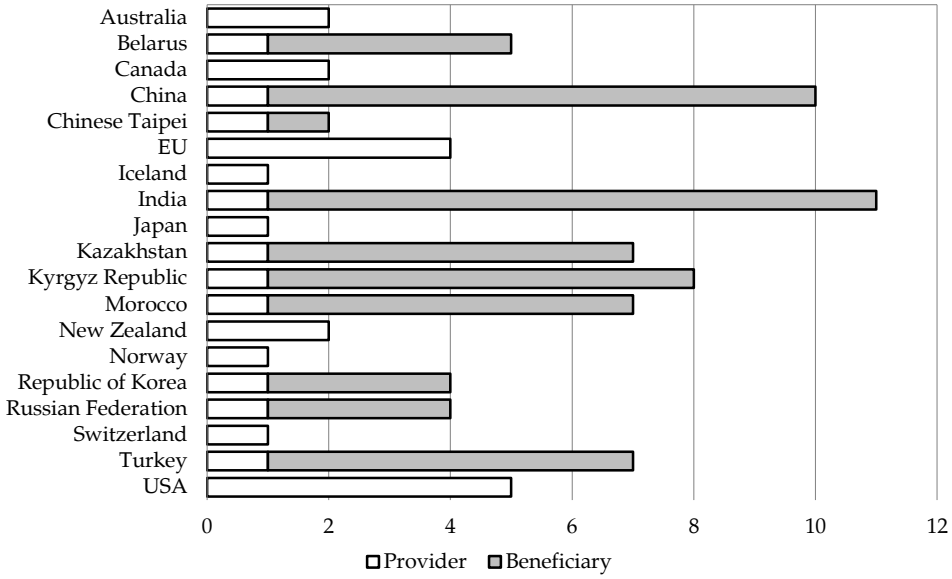
Figure 9: Evolution of PTAs, 1945–2014: Providers



Looking at the current situation, there is a clear distinction between the role of developed countries and that of the emerging economies or developing countries offering PTAs (Figure 10). While no developed country is a PTA beneficiary, all the emerging economies/developing countries that serve as providers are also beneficiaries. Those leading the

ranks of providers among the major developed countries are the US and EU, which offer, respectively, five and four PTAs. A brief analysis shows that all GSP schemes offer unilateral differential trade preferences for LDCs, except for Iceland's GSP scheme.[9] On the other hand, the sole GSP-plus providers are the EU and Norway,[10] although the EU's beneficiaries have yet to be notified following the implementation of the new GSP-plus regulations in January 2014.

Figure 10: PTA providers and/or beneficiaries



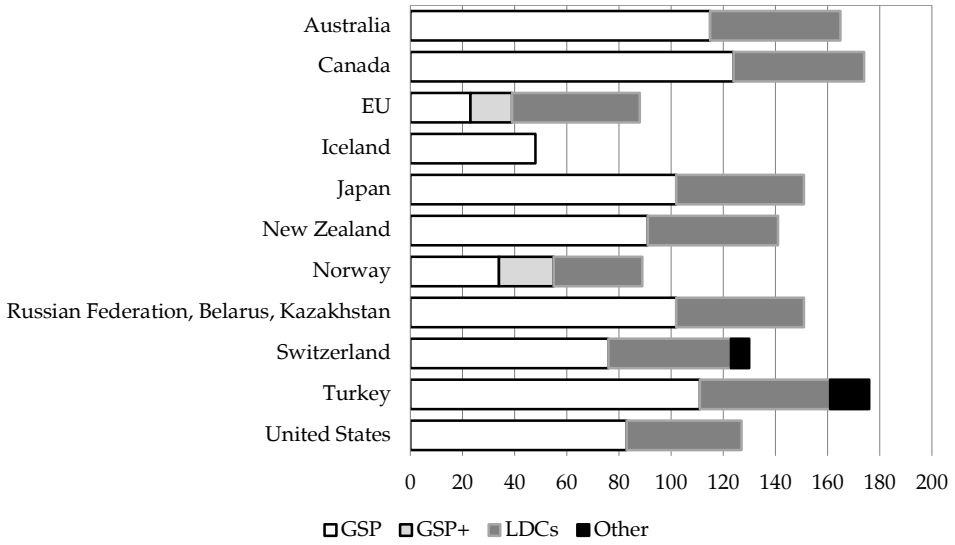
With respect to GSP beneficiaries from a regional perspective, the top three regions are the Americas and the Caribbean, Asia, and Africa. Overall, the smallest beneficiaries are the Middle East, the CIS, and Europe. Africa's GSP benefits greatly augment its substantial coverage under LDC-specific sub-schemes, from which the region benefits extensively in comparison to Asia, the Americas and the Caribbean, the Middle East, and the CIS. Among LDC-specific trade preference schemes, India's is considerably smaller than that of the others, while the Kyrgyz Republic and the Republic of Korea might be considered the top providers in terms of the number of beneficiary LDCs.

[9] Since Iceland does not differentiate between developing countries and LDCs, the latter fall under its "normal" GSP scheme.

[10] Note that Norway's beneficiaries listed on the WTO PTA database website reflect only the GSP-plus and LDC beneficiaries. Its own website also mentions the "normal" GSP beneficiaries.

On a global scale, it is clear that PTA provision is no longer the sole realm of developed countries such as the US, Japan, and Australia. Increasingly, emerging economies are joining the ranks, although of the group Brazil, Russia, India, China, and South Africa (BRICS), Brazil and South Africa are still missing. So far, only Morocco has stepped up as a PTA provider in Africa, with China and India in the Asian region. Emerging/developing country providers are still absent from Central and South America and the Caribbean. In terms of beneficiaries, the LDC group has attracted benefits under numerous PTAs (Figure 11). Of the 49 LDCs, 32 benefit from more than 15 PTAs each. In Europe, it is predominantly the western Balkans (with Turkey as the odd one out) that receive trade preferences from PTA providers.

Figure 11: The nature of PTAs, providers, and beneficiaries



Note: Includes countries that were eligible for the EU's GSP-plus status in July 2013.

In terms of particular relationships between providers and beneficiaries, it is interesting to see that the EU has the least number of African GSP beneficiaries despite their apparent historical connections. However, this could be explained by the fact that the EU has been reformulating its trading relationship with members of the African, Caribbean, and Pacific Group of States by signing economic partnership agreements that offer preferences similar to the GSP scheme but on a reciprocal basis. Moreover, the EC also offers substantial preferences to African LDCs under its Everything-But-Arms scheme (designed specifically for LDCs).

Figure 12 shows the distribution of beneficiaries based on the number of PTAs from which they benefit. Not surprisingly, most of the African and Asian LDCs are in the topmost group with more than 15 PTAs in their favor. Pakistan is in the second bracket, which benefits from 11–15 PTAs and includes countries such as Myanmar, Yemen, the Republic of the Congo, the Democratic Republic of the Congo, Guyana, and Ecuador. Figure 13 shows that, despite the recent increase in the number of PTA providers, the US and EU remain the main players in terms of the number of PTAs they offer, followed by other major developed countries such as Canada and Australia.

Figure 12: PTA beneficiaries by number of PTAs

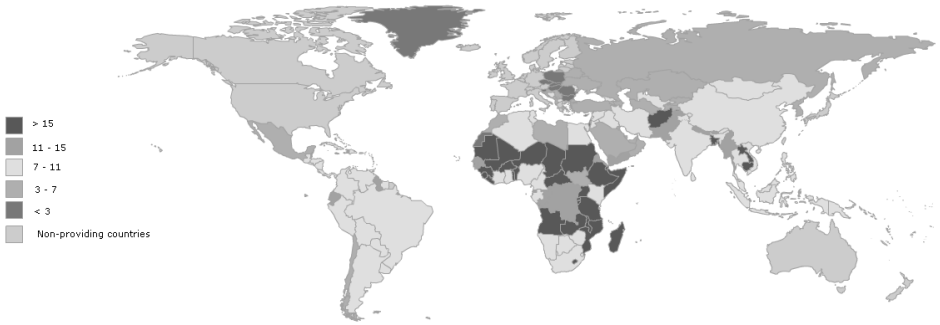


Figure 13: PTA providers by number of PTAs offered

4. Mega-Regionals: Can Hype Become Reality?

Recently, the negotiations for two very large RTAs, the TPP and the T-TIP, have invited much attention. They have been dubbed "mega-regionals" due to their scope, ambition, and coverage of existing global

trade. These two RTAs could prove to be a game-changer if they succeed in establishing two large blocs with the US at the center and the BRICS group outside.

While a case can be made for these mega-regionals, particularly in view of the DDA's long impasse and the inherent difficulty of moving forward multilaterally under the WTO—with 160 odd members at very different levels of development and with different capacities and interests—the TPP and T-TIP can also be viewed as a strategic response by the US and the EU, respectively, to the growing clout of BRICS, particularly China. These agreements may be an effort to counter the country's geopolitical rise where it can be expected to start asserting leadership of the global trading system. Hence, both the US and EU may be moving to secure their access to key markets and regions.[11]

The ongoing TPP negotiations are among a number of East Asian, North American, and South American countries. In 2006, Brunei, Chile, New Zealand, and Singapore initiated negotiations for an FTA (the Pacific 4) to achieve comprehensive trade liberalization by 2015. Five additional countries—the US, Australia, Malaysia, Peru, and Vietnam—joined later, which led to the creation of the TPP. Three more, Mexico, Canada, and Japan, began participating in the negotiations in 2013 after the existing members had approved their participation. The group is, therefore, now often referred to as the TPP-12 (Cheong, 2013). The TPP negotiations aim to achieve the extensive liberalization of trade in goods and services as well as comprehensive development of rules and liberalization in areas such as investment, government procurement, nontariff measures, and intellectual property (Williams, 2013).

The TPP members are significantly diverse in terms of production structures, prosperity, capacity, and levels of economic development. This economic, cultural, and political diversity will necessitate long and difficult negotiations for members to reach their goal of extensive and comprehensive liberalization. Additionally, they will have to reconcile the TPP process with ongoing negotiations for other RTAs, e.g., the Regional Comprehensive Economic Partnership. These complexities have delayed the finalization of the TPP negotiations. Originally slated for

[11] Arguably, China and other major developing economies in the Asia-Pacific are responding with their own initiative, the Regional Comprehensive Economic Partnership, which aims to conclude an FTA among the ten ASEAN members and their partners (Australia, China, India, Japan, the Republic of Korea, and New Zealand) by 2015.

conclusion by end-2012, the deadline was extended to end-2013. This, too, was missed. Perhaps, as a result, TPP members now refrain from setting a firm deadline although the US has indicated its intention to push for the completion of these negotiations by end-2014.

One argument is that, since the goods trade among TPP members amounted to a staggering US$ 2 trillion in 2012, the agreement will have a significant impact on global trade dynamics. However, it may not be as significant as the numbers suggest, mainly for two reasons. First, the bulk of this goods trade is among only four members: the US, Canada and Mexico (NAFTA), and Japan. Intra-NAFTA trade alone amounted to nearly US$1.2 trillion in 2012 and bilateral trade between Japan and NAFTA accounted for another US$ 250 billion. On the other hand, trade flows among the other TPP members accounted for only US$ 180 billion of total TPP trade in 2012. Second, and as mentioned earlier, the numerous FTAs already in force among the Asia-Pacific countries (almost 100 bilateral and multilateral RTAs) may further liberalize the goods trade under the TPP only to a small extent.

The T-TIP negotiations between the US and the EU also aim for a far-reaching trade agreement, including tariff reductions, the liberalization of behind-the-border and other nontariff barriers, and the possible harmonization of regulations and standards governing the services, investment, and public procurement markets (European Commission, 2014). Launched in 2013, the negotiations are still at an early stage, although the parties have indicated their desire to conclude the agreement soon.

Given the currently low tariff levels on trans-Atlantic trade, Fontagné, Gourdon, and Jean (2013) estimate that the average tariff protection on EU goods imported by the US amounts to only 2.2 percent, while US goods imported by the EU attract an average tariff duty of 3.3 percent in ad valorem-equivalent terms. More significant gains are expected by eliminating nontariff measures and harmonizing the standards that act as barriers to trade, investment, and public procurement.

Fontagné et al. (2013) estimate that bilateral ad valorem-equivalent protection between the US and the EU from nontariff measures range between 19 and 73 percent across agriculture, manufacturing, and services. However, eliminating nontariff barriers that often relate to other public policy objectives—such as health, safety, and

environment—and harmonizing regulations emanating from rather different perspectives on the role and reach of public policy on either side of the Atlantic will not be easy. The T-TIP negotiations have attracted a great deal of public attention, anxiety, and some criticism from public interest groups both in the US and the EU. This could mean slow and difficult negotiations and uncertain outcomes.

Given the intended immense breadth, depth, and coverage of the proposed TPP and T-TIP, these mega-regionals could have a significant impact on the trade of nonmembers, particularly LDCs and low-income countries (LICs) that currently enjoy substantial benefits under PTAs with major TPP and T-TIP members and/or are not part of other dynamic RTAs. However, the extent of this impact will depend on two key factors: (i) the existing levels and structure of trade between these countries and members of the TPP and T-TIP, and (ii) the level of liberalization and regulatory harmonization achieved under the TPP and T-TIP.

The implementation of the TPP and T-TIP could affect LDCs and LICs in two ways. The first will be their direct effect on these countries' existing access to EU and US markets on preferential terms under their PTAs. The second will be the impact of the reduction of nontariff measures and harmonization of standards under the TPP and T-TIP, which may increase or reduce export costs for LDCs and LICs.[12]

Studies differ, however, in their assessment of the impact of the TPP and T-TIP on nonmembers. Cheong (2013) finds that the implementation of the TPP will result in a 0.07 percent reduction in the rest of the world's GDP. Petri and Plummer (2012) of the Peterson Institute provide similar estimates: a 0.07 percent reduction in the rest of the world's GDP by 2025 (which includes the potential impact of liberalizing nontariff measures). Against these fairly small negative impacts, the Bertelsmann Institute indicates that the T-TIP could have much larger negative impacts for many developing countries and LICs (Felbermayr, Heid, & Lehwald, 2013). These estimates look at the negative impacts of tariff liberalization alone as well as at a deeper

[12] Standards reforms under the TPP and T-TIP (through harmonization, equivalence, and/or mutual recognition) could have a positive or negative impact on nonmembers. The negative impact will occur if standards and regulations are made stricter, increasing the cost of compliance for nonmembers. On the other hand, the impact may be positive if nonmembers are allowed to comply with a single set of standards to gain access to the entire TPP or T-TIP markets, thus lowering the cost of compliance. The net impact on nonmembers will depend on both the stringency of the new measures as well as the degree of harmonization of standards across the TPP and T-TIP.

liberalization scenario. Under the first, the real per capita income of an individual developing country is estimated to change by between 0.5 and –7.4 percent; under the second, the estimated change is between –0.1 and –7.2 percent. This will occur mainly due to preference erosion and trade diversion away from developing countries.

On the other hand, a study commissioned by the EU finds that LICs would gain from the establishment of the T-TIP. Their GDPs would rise by 0.09 and 0.2 percent, respectively, under the less ambitious and more ambitious scenarios. However, this positive impact is due mainly to the positive spillover effects of the "streamlining of EU and US regulations in the process of negotiations and convergence of EU-US standards" and the "scope for some resulting convergence in global standards and cross-recognition" of standards. Nonetheless, these spillovers will depend greatly on the extent to which the T-TIP results in regulatory reforms and harmonization (Francois et al., 2013).

Generally speaking, LDCs and LICs will face substantial preference erosion and stronger competition if their exports to some or all TPP and T-TIP countries are similar to those traded among TPP and T-TIP countries. For example, the participation of Vietnam in the TPP is expected to have a significant impact on textile and apparel producers from non-TPP countries who currently enjoy preferential access to the US market under various PTAs. Similarly, Rollo et al. (2013) indicate that exports of textiles, clothing and footwear, and specific agricultural products such as fish, bananas, and sugar from developing countries will suffer preference erosion in both the EU and US markets once the T-TIP is implemented.

The above discussion shows that, while the overall global effects of the TPP and T-TIP might be small, certain developing countries will likely face stiffer export competition in specific products in the liberalized TPP and T-TIP markets, particularly the US and the EU. Table 1 summarizes the negative impacts of T-TIP implementation on LDCs and developing countries. Not surprisingly, Pakistan is on the list.

Two further points are in order here, particularly keeping in mind that the US is at the center of both the TPP and T-TIP. First, US trade policy interests are, arguably, a major force behind the politics and substance of these negotiations. However, in both agreements, the US faces strong negotiating partners, especially in the case of the T-TIP. Even the TPP involves a number of advanced industrialized countries as well as a small, but strong, group of developing countries with sound political and technical capacities.

Second, there are formidable domestic political economy constraints facing many TPP and T-TIP countries. This is clearly the case for the US: the Obama administration's commitment to trade and investment liberalization is generally lukewarm and subject to strong opposition even within the Democrats; this could hamper attempts to persuade the much-needed Trade Promotion Authority to negotiate with greater strength with the other trading partners. As a result, the TPP and T-TIP negotiations might yield much more modest agreements.

Table 1: LICs vulnerable to negative impacts from T-TIP

Based on nonfuel exports

Market	5 or more of the top 20 export products have MFN 10% < tariff < 15%	1 or more of the top 20 export products have MFN tariff > 15%	10 or more of the top 20 export products are exposed to SPS
EU	Bangladesh, Pakistan, Cambodia, Haiti, Mauritania, Madagascar, Nepal	Cambodia, Ghana, Chad, Burundi, Madagascar, Malawi, Togo	Ghana, Kenya, Mauritania, Burkina Faso, Burundi, DR Congo, the Gambia, Occupied Palestine Territories, Rwanda, Somalia, Sudan, Uganda
US	Bangladesh, Pakistan, Cambodia, Haiti, Kenya, Madagascar	Bangladesh, Pakistan, Cambodia, Haiti, Kenya, Ethiopia, Guinea, Burkina Faso, Kyrgyz Republic, Madagascar, Malawi, Mali, Mozambique, Occupied Palestine Territories, Rwanda, Togo, Uganda	Ghana, Nigeria, Malawi, Togo, Uganda

Source: Rollo et al. (2013).

5. Pakistan in a World of RTAs and PTAs: Performance and Proposals

This section examines the role of Pakistan in various RTAs and PTAs relative to other countries, and presents some recommendations that could help the country protect and expand its trade benefits.

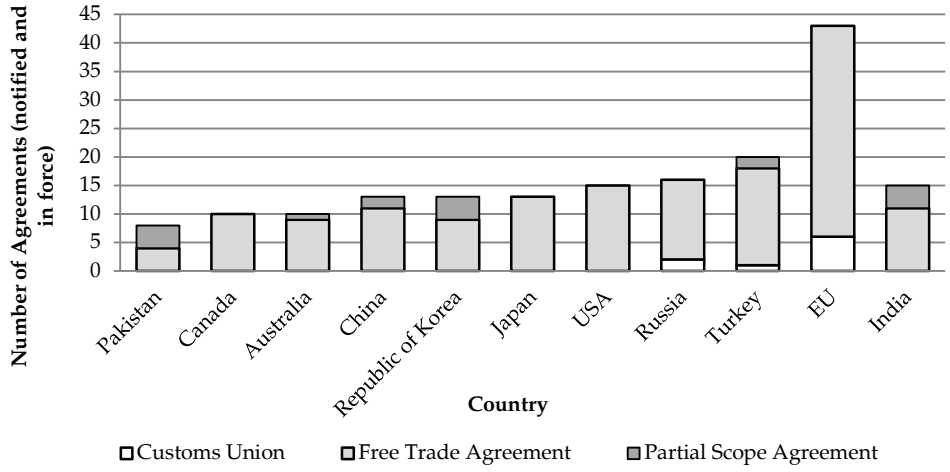
5.1. Pakistan in RTAs: A Marginal Player

Pakistan's RTA activity began with its entering the Protocol on Trade Negotiations in 1973, which led to the Global System of Trade Preferences—a plurilateral trade liberalization arrangement only among developing countries under the auspices of UNCTAD. This was followed

by the Economic Cooperation Organization (ECO) and the South Asian Preferential Trade Agreement (SAPTA) in the 1990s. Since then, Pakistan has joined the South Asian Free Trade Agreement (SAFTA)—in force since 2006—and signed three bilateral RTAs with Malaysia, Sri Lanka, and China, respectively. It has also signed PSAs with Iran, Mauritius, and Indonesia.

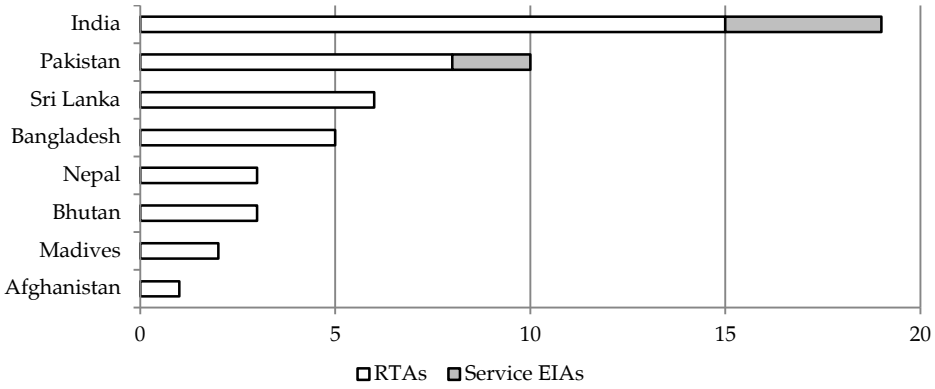
As Figure 14 shows, Pakistan's situation is substantially different from that of the major trading countries, not only in terms of the fewer RTAs it has signed, but also by their limited scope. Half its RTAs are PSAs and the country is not part of any CU. Admittedly, Pakistan has a very limited number of RTAs, but its performance needs to be viewed in the context of a comparable peer group of countries.

Figure 14: Types of RTAs: Pakistan vs. major trading economies



It is tempting to look toward the SAARC countries as the most appropriate peer group for Pakistan. Figure 15 shows that, in terms of RTA membership, Pakistan ranks higher than all the other SAARC countries except India. However, this is misleading because five of the eight SAARC members are LDCs and thus benefit from nonreciprocal PTAs. They would not have much incentive to join an RTA, which would require them to offer reciprocal trade concessions.

Figure 15: RTA membership of SAARC countries



One can construct another peer group for Pakistan by identifying all those countries (excluding LDCs that benefit from PTAs) that belong to fewer than ten RTAs. Figure 16 shows that these are predominantly from the Middle East and North Africa, parts of Latin America, Central Asia, and sub-Saharan Africa. Most of the countries in this group are not considered dynamic economies, with the notable exception of Argentina and Brazil. It is, therefore, a matter of concern that Pakistan should fall within this group. Arguably, Pakistan should aim to move away from this group by strategically joining more RTAs with economies that are more dynamic.

Figure 16: Countries with fewer than ten RTAs

Its relatively small RTA membership aside, the volume of trade between Pakistan and its RTA/FTA partners is fairly limited (see Table 2), barring trade with China. This raises questions concerning the

relevance, additional utility, structure, and coverage of these agreements. Pakistan is reportedly at various stages of FTA talks, or preparations for talks, with many countries—Brunei, Canada, Indonesia, Jordan, Morocco, Nepal, Russia, Singapore, Switzerland, Turkey, and Thailand—as well as with the Gulf Cooperation Council. In 2006, it signed a framework agreement on trade with Mercosur. Moreover, there is mention of possible FTAs with Afghanistan, Algeria, the EU, Japan, Laos, Mexico, New Zealand, South Africa, and Tunisia.[13]

The list of countries with which Pakistan may soon conclude agreements indicates that, much like other developing countries, it has started to engage in agreements outside its immediate region. Its current PSAs and FTAs have been concluded predominantly with countries in Asia, e.g., SAFTA and Malaysia. Although RTA negotiations with other Asian countries are underway (for example, with Singapore), Pakistan has also indicated an interest in negotiating agreements with a number of countries in Europe, the Americas, and Africa.

Table 2: Pakistan's RTAs with trade volumes

		% of Pakistan's total trade		Imports as % of exports	
FTA/PSA	**Year of entry into force**	**One year before entry into force**	**Latest (2012)**	**One year before entry into force**	**Latest (2012)**
ECO	1992	n/a	4.75	n/a	21.09
SAARC	2006	4.31	4.49	177.20	127.03
China	2007	7.32	13.6	575.34	255.26
Malaysia	2008	2.46	3.46	1,423.15	913.14
Sri Lanka	2005	0.58	0.56	33.89	27.72
Iran (PSA)	2004	1.54	0.38	367.43	84.77
Mauritius (PSA)	2007	0.08	0.05	3.39	32.44
Indonesia (PSA)	2013	In force 2013	2.32	In force 2013	571.81

Source: http://www.intracen.org/itc/market-info-tools/trade-statistics/

5.2. Pakistan in PTAs: Losing Out to LDCs

Of the PTAs in which Pakistan participates, the GSP offered by the EU stands out. The benefits to Pakistan under this scheme increased

[13] This information is from www.bilateral.org. However, it is based largely on media reports and could not be verified by other sources.

somewhat when the EU decided to offer the country special trade preferences in view of the unprecedented devastation caused by the 2010 floods. To do this, the EU needed a waiver from the WTO allowing it to offer additional benefits exclusively to Pakistan and not to other developing countries under its GSP. The EU also encountered some opposition from member countries apprehensive about the impact of increased Pakistani exports of textiles and apparel. Both factors reduced the number of products that would have benefitted from additional tariff preferences and also delayed the finalization and implementation of the scheme.

More significant is the fact that Pakistan has become eligible for the EU's GSP-plus scheme, which offers additional benefits that reward the beneficiary country for its performance toward achieving the goals of "sustainable development" and "good governance." This could give Pakistan a competitive edge, given that its major competitors, particularly in textiles and clothing (China, Colombia, India, Indonesia, Thailand, and Vietnam), are not yet eligible for the EU's GSP-plus scheme.[14]

While some Pakistani products were already being exported on a duty-free basis under most-favored nation status, the standard GSP, or the Special Trade Preferences Scheme for Pakistan, the GSP-plus will enable Pakistan to export many more of its products on this basis. The textiles and garments sector is expected to benefit the most: Pakistani trade analysts have projected an overall growth rate of 15 percent for the sector in 2014/15. However, remaining eligible for the GSP-plus will depend on whether Pakistan commits to the implementation of 27 core international conventions concerning human rights, labor rights, environment, narcotics control, and corruption. In essence, what the country requires to continue to benefit from the projected economic gains of the GSP-plus is political will and resources from public and private stakeholders to ensure continued adherence to/implementation of these core conventions.

Three of Pakistan's fellow SAARC members—Afghanistan, Bangladesh, and Nepal—are, as LDCs, among the top PTA beneficiaries globally and have an edge over Pakistan in terms of access to major markets. India, while still a PTA beneficiary, although less so than Pakistan, has also become a provider of PTAs to LDCs. In the competition

[14] China has graduated out of the "textiles" and "garments" sections of the EU's GSP scheme, while India has moved out of the "garments" section.

to benefit from PTAs, therefore, it is the LDCs within and outside the region that Pakistan must take into account.

5.3. The Way Forward: Recommendations for the Short and Medium Terms

With the WTO moving very slowly on one hand and various forms of discriminatory international trading arrangements expanding on the other, countries such as Pakistan face a difficult situation. Its main interests lie in the multilateral trading system because it is not part of many RTAs and its nonreciprocal preferential access to major markets is limited. There are no quick fixes and the factors driving RTAs and PTAs are beyond Pakistan's control. However, it cannot afford to remain idle. Some policy suggestions are, therefore, described below.

While remaining actively engaged with the WTO, Pakistan should consider pursuing several lines of action related to RTAs and PTAs in the short and medium term. In the short term, it should aim to maintain and, where possible, increase its market access opportunities. This will require two-pronged action. First, Pakistan should continue to strengthen current initiatives to negotiate RTAs, either bilateral or plurilateral, with selected countries within the region and outside. This should include both the so-called "dynamic countries" (mostly in the Asia-Pacific) that are at the forefront of RTA activity, as well as countries in a situation similar to Pakistan (e.g., in Latin America, Central Asia, and the Middle East). This initiative will have important spillover effects in building the technical, human, and institutional capacity of Pakistan in the area of RTA negotiations and in improving its visibility on the RTA landscape.

Second, Pakistan should aggressively defend and, where possible, expand its benefits under PTAs. While the LDCs clearly have an edge in this area as the main beneficiaries of nonreciprocal preferential schemes, Pakistan should not give up on the GSP. Of particular interest are the GSP-plus schemes that offer better/greater market access based on a country's ability to meet additional criteria. Pakistan should actively seek these additional benefits wherever possible. It should also closely monitor the pattern of PTAs and not hesitate to challenge those in the WTO whose legal basis is doubtful and which have a detrimental effect on Pakistan.[15]

[15] For example, India successfully challenged the additional GSP benefits provided to Pakistan by the EU after 11 September 2001 under the so-called "Drug Arrangements" (see WTO, 2010).

In the medium term, Pakistan's strategic trade interests lie in becoming part of dynamic RTAs, which are mostly in the Asia-Pacific, Europe, and North America. This will not be easy: many existing members of these RTAs are not necessarily interested in trading with Pakistan. Moreover, large segments of Pakistan's economy may not be competitive enough to take advantage of market access opportunities in these RTAs. This is a formidable challenge and will require Pakistan to improve its competitiveness in agriculture, industry, and services. Key efforts will include substantial and sustained investments in infrastructure, energy, and human resources; improving law and order; and adopting a coherent and supportive macroeconomic framework.

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The WTO Trade Facilitation Agreement: Implications for Pakistan's Domestic Trade Policy Formulation

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Abstract

Recognizing that trade facilitation has contributed significantly to reducing costs and time in cross-border trade, World Trade Organization (WTO) members adopted the new Trade Facilitation Agreement (TFA) at the last ministerial conference in Bali. WTO members are now gearing up to implement the commitments ensuing from the TFA in accordance with the special and differential treatment stipulated for developing countries. This paper assesses the impact of the TFA on Pakistan's national trade policy and shows how the process of policy formulation in Pakistan should be adjusted so that the agreement can be promptly and correctly implemented on a sustainable basis.

Keywords: Pakistan, world trade organization, trade facilitation agreement (TFA).

JEL classification: F13, F40.

1. Introduction

This paper begins with a brief introduction to the concept of trade facilitation and summarizes the commitments arising from the Trade Facilitation Agreement (TFA) for members of the World Trade Organization (WTO). It then highlights how the TFA is perceived in the context of cost reduction and as a tool for development. The next part examines the current situation of Pakistan vis-à-vis the TFA and offers a snapshot of different international trade facilitation indicators (TFIs) that are published periodically by the World Bank and World Economic Forum. Finally, the paper focuses on the implications for domestic trade policymaking in Pakistan as it prepares to categorize and implement the binding provisions of the TFA.

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Trade facilitation is the concept of reducing the costs and time involved in processing cross-border trade transactions. There is no standard definition of trade facilitation but it is universally accepted that it is a way to improve the efficiency of international trade. Institutions[1] working in this area have evolved their own definitions consistent with their mandate, objectives, and work program. Even a cursory examination of these definitions, however, will show that trade facilitation covers the simplification, harmonization, standardization, and modernization of international trade and customs procedures.

In the context of the trade supply chain, the broader concept of trade facilitation covers every step of the movement of goods from the producer's premises up to the retailer's shelf, whereas the narrow version is confined to the procedures of border regulatory agencies. Quoting Robert Zoellick,[2] "trade facilitation measures are basically an extension of market access procedures that lower transaction costs and increase timeliness of transit" (cited in International Trade Centre, 2013, p. 1). Simply put, trade facilitation refers to those measures that improve efficiency and transparency in the trade supply chain.

The term may be relatively new, but the concept is not. The three articles of the General Agreement on Tariffs and Trade (GATT) 1994 (Articles V, VIII, and X), which form the basis of the new TFA, have been part of GATT since its beginning in 1947. The World Customs Organization (WCO) has been working in this area for over half a century. The Kyoto Convention and Revised Kyoto Convention cover many of the areas now included in the new TFA. The mandate of the United Nations Conference on Trade and Development (UNCTAD) in this area dates back to the Final Act of its very first ministerial conference in 1964.[3]

Similarly, UNCTAD's Special Program on Trade Facilitation and the Expert Working Group on Trade Efficiency, which led to the adoption of the 1994 Columbus Ministerial Declaration on Trade Efficiency, are more

[1] Such as Asia-Pacific Economic Cooperation, the Organisation for Economic Co-operation and Development, the United Nations Conference on Trade and Development, the United Nations Economic Commission for Europe, the United Nations Centre for Trade Facilitation and Electronic Business, the World Bank, and the WTO.

[2] Former US trade representative and former president of the World Bank.

[3] The Final Act of the conference recommended that UNCTAD "should promote, within the United Nations family, arrangements for: […] (c) Intergovernmental action for research into improved marketing techniques, the organization of trade fairs, the dissemination of market intelligence and the *simplification of formalities relating to customs procedures*, commercial travel, etc." (UNCTAD, 1964).

than two decades old. The declaration, in turn, was instrumental for the inclusion of trade facilitation in the WTO agenda at the Singapore ministerial conference in 1996. Trade facilitation became more visible once it surfaced on the radar of the WTO and began to figure prominently in the work programs of many institutions and international treaties, including various regional trade agreements.

The success of the Bali ministerial conference was acknowledged by political leaders all over the world and its coverage in the electronic and print media was also overwhelmingly trade facilitation-centric. After protracted negotiations spread over more than a decade, the conclusion of negotiations on trade facilitation paved the way for the first new agreement since the creation of the WTO in 1995. The Bali outcome is the 'agreed text' pending legal review/scrubbing; it will become part of WTO law after acceptance of the Protocol of Amendment by two thirds of the WTO members and enter into force thereafter.

The TFA will create legally enforceable binding commitments across 160 WTO members, including Pakistan, to expedite the movement, release, and clearance of goods (including goods in transit) and will improve cooperation among WTO members on customs matters. The TFA will also provide for "special and differential treatment," such as the staging of implementation after entry into force for developing and least-developed country (LDC) members in accordance with their respective implementation capacities. Developed countries and development partners will provide developing countries with financial and technical assistance to ensure that all WTO members ultimately implement all the provisions of the TFA.

2. The Contours of the TFA

The WTO-developed definition of trade facilitation, after it was tasked for exploratory work, is "the simplification and harmonization of international trade procedures" with trade procedures being "the activities, practices and formalities involved in collecting, presenting, communications and processing data required for the movement of goods" in international trade (WTO, 1998). When the WTO Doha Development Agenda was adopted in 2001, the Doha Ministerial Declaration provided that the Council for Trade in Goods "shall review and as appropriate clarify and improve relevant aspects of Articles V, VII and X of the GATT 1994 and identify the trade facilitation needs and priorities of members, in

particular developing and least-developed countries" (cited in International Trade Centre, 2013, p. 4).

In July 2004, WTO members agreed to start negotiations on trade facilitation under the mandate set out in Annex D of the July package. They agreed that the negotiations "shall aim to clarify and improve relevant aspects of Articles V, VIII and X of the GATT 1994 with a view to further expediting the movement, release and clearance of goods, including goods in transit."[4]

When an agreement was finally reached at the Bali ministerial conference in December 2013, WTO members had achieved a consensus text. Besides the preamble and final provisions, the TFA has two sections: Section I covers the substantive provisions[5] in 13 articles (briefly discussed below) and Section II deals with the Special and Differential Treatment provisions for implementing the TFA by developing country and LDC members.

Articles 1 to 5 of the TFA, which clarify and improve on Article X of GATT 1994, are a crucial step in eventually materializing transparency—one of the three main principles of the WTO—together with nondiscrimination and most-favored-nation treatment. The TFA will require all WTO members to publish timely, accurate, and easily accessible information on trade laws, applicable fees and tariffs, procedures to appeal customs decisions, and penalties. This is essential for the transparency, predictability, and efficiency of international commercial transactions. The online availability of information and 'enquiry points' will provide timely and relevant information.

Consultations with stakeholders for formulating trade policy and procedures will give the trade community an opportunity to address potential challenges and become familiar with new practices before they take effect. The TFA also requires advance notice of new procedures before they are implemented and obligates members to issue binding rulings for tariff classification and the origin of goods to enhance the certainty and predictability of trade. Similarly, the system of administrative and judicial appeals will enhance the transparent application of laws and regulations.

Articles 6–10 of the TFA primarily cover the fees and charges for import, export, and transit, expanding on Article VIII of GATT 1994. The

[4] http://www.wto.org/english/tratop_e/tradfa_e/tradfa_negoti_e.htm
[5] In the context of the TFA, besides "articles," the terms "provision(s)" and "measures(s)" have been used interchangeably without any distinction.

mandatory provisions focusing on customs procedures, fees and charges, and documentation, should lead to a shift from physical controls at border crossings (which often entail delays and interference in the movement of goods) to information treatment, resulting in higher security and easier flows of commerce. Alongside pre-arrival processing, these provisions also promote risk-based processing, post-clearance audit, and additional trade facilitation measures for more compliant traders. These customs rules incorporate some of the best customs practices recommended by the WCO, which countries with the most advanced administrative reforms adopted and implemented some time ago.

Similarly, WTO members will be required to establish procedures for expedited shipment to facilitate the access of traders—including small and medium enterprises (SMEs)—to ensure just-in-time delivery. Members will be obligated to review and reduce the formalities and documents required for international trade and apply these uniformly throughout the country. Moreover, they will have to ensure coordination between all border regulatory agencies at the national level and to the extent possible with those of neighboring members. Establishing a single window for all trade procedures will promote coordination. Such cooperation will reduce compliance and enforcement costs and promote efficiency gains.

Article 11 on freedom of transit seeks to improve security and safety while simultaneously facilitating the efficient movement of goods in transit. The article repeats the provision in GATT 1994 (Article V) that each member state is to treat products in transit no less favorably than if they were being transported to their destination without going through the territory of that member state. Formalities, documentation requirements, and customs controls on traffic in transit are to be limited in scope and applied only at the beginning and conclusion of the transit operation. Other facilitations, such as advance filings and discharging guarantees as provided for import and export, are also included. Procedures governing traffic in transit are especially important for international trade with landlocked countries.

A number of other issues not found in GATT 1994 are included in Articles 12–13 of the TFA. These include customs cooperation and institutional arrangements such as national trade facilitation committees.

Article 12 on customs cooperation sets out the terms and requirements for improving customs cooperation. The broad aim is to establish a framework for cooperation that obligates WTO members to

share information in order to ensure the orderly coordination of customs control while respecting the confidentiality of the information held. The article sets out the procedures that members must follow when a customs authority needs information from its counterpart in another member country to verify an import or export declaration because of suspicions over the truth or accuracy of the declaration.

Such information must be requested in writing, and the authority to which the request is made must promptly supply the information requested to the extent and in the form it is available. Information received must be held in strict confidence by the requesting authority and not disclosed without specific written permission from the supplying member. There are also provisions for the postponement or refusal of a request, including for reasons of lack of reciprocity in meeting a similar request in the opposite direction. The article also makes clear that members may enter into or maintain bilateral, plurilateral, or regional agreements for sharing or exchanging customs information and data.

Through institutional arrangements in Article 13 of the TFA, the WTO Committee on Trade Facilitation has been established to oversee the operation of the agreement and further its objectives. Member states have agreed that the operation of the agreement should be initially reviewed four years after it has entered into force and periodically thereafter. The committee will provide a permanent forum for members to discuss issues related to the implementation of the TFA and for discussions among members to find mutually satisfactory solutions promptly.

The importance of coordination with all domestic stakeholders is also acknowledged by agreeing to a mandatory provision in the TFA to form or maintain a national committee on trade facilitation or to designate an existing mechanism for this purpose. Among the functions that such bodies may perform, the agreement stipulates that they will facilitate the domestic coordination and implementation of the TFA. Private businesses will need to learn about such obligations and engage meaningfully with their governments to establish how such coordination mechanisms can help them bring their perspective into policymaking and implementation of the TFA.

The Annex lists the title of all the articles of the TFA. These titles, however, do not confer any rights or obligations for which the text of every provision is the authentic source.

Section II of the TFA outlines the implementation modalities for WTO members. The agreement will be binding in its entirety for all WTO members. Developed countries will implement all the provisions immediately on its entry into force. Developing country and LDC members will self-designate these provisions into different categories as given below:

- Category A commitments are those that a member has designated for implementation on entry into force of the TFA.
- Category B commitments are those that a member has designated for implementation on a date after a transitional period.
- Category C commitments are those that a member has designated for implementation on a date after a transitional period and the acquisition of implementation capacity through the provision of technical assistance and support for capacity building.

Similarly, developing country and LDC members will make their own sovereign decisions concerning the date of implementation for each provision; this includes linking the implementation of various provisions to the acquisition of implementation capacity, which development partners and bilateral donors will help provide in the form of technical and financial assistance.

For Category C commitments, each country concerned will seek from donor agencies the technical assistance and support for capacity building it requires. An 'early warning' procedure has been established to cover situations in which a country experiences difficulty in (i) obtaining the support required or (ii) implementation without technical assistance and needs to transfer certain commitments from Category B to Category C. In such cases, notification to the Committee on Trade Facilitation is envisaged. The individual commitments of all developing country and LDC members will form part of the agreement and be published.

3. The Relevance of the TFA

The TFA was adopted on 7 December 2013 as part of the Bali package and is a major step toward more transparent and predictable global trade transactions. While its economic impact may be quite different from what recent studies envisage in terms of "boosting the world economy by USD 1 trillion and creating 21 million jobs" (Peterson Institute for International Economics, 2013), the consequences of its implementation will need to be fully evaluated in the next five to ten years. A recent study

by the World Economic Forum in collaboration with Bain and Company and the World Bank (2013) shows that reducing supply chain barriers to trade could increase GDP up to six times more than removing tariffs. Of course, all these benefits can only occur if and when the developing members of the WTO are in a position to implement and take advantage of the mandatory and progressive measures contained in the new agreement. The economic benefits will be proportionate to the additional benefits associated with the implementation of these measures and will also depend on the quality of implementation.

The expected reduction in transaction costs and time is most often presented as the core benefit of trade facilitation. On a case-by-case basis, the most obvious candidates among those benefiting from the provisions of the TFA are SMEs as well as the perishable and intermediate goods sectors in LDCs and landlocked developing countries. The main reason is that most large companies dealing either with bulk trade (such as grains, minerals, chemicals, or oil products) or end-consumer goods (such as electronics or apparel) have already, one way or the other, found a solution to their operational bottlenecks all over the world. Overland transit for landlocked countries or efforts to link ports/airports to SME importer or exporter premises remain areas in which trade facilitation would make all the difference for small businesses in many developing countries.

The efficiency acquired by public actors as a result of implementing the TFA will benefit the trading community in its efforts to access international markets under conditions similar to their competitors in most advanced countries. These benefits will be reflected in measurable reduced transaction costs and times and also in terms of predictability and transparency; this, in turn, will be attractive to external partners willing to join developing country counterparts in global production chains.

Trade facilitation aims not only to simplify the documentation required for clearing goods, but also the procedures employed by border agencies. Focusing on the biggest risks allows border agencies to speed up the flow of goods across the border and increases the collection of duties. Trade facilitation has been described as a classic 'win-win' subject for developing and developed countries. Nonetheless, some developing countries remain concerned about the potential costs of implementing trade facilitation commitments and have sought commitments from developed countries and other donors to assist in the implementation process.

Global standards in trade facilitation and transport can help transfer good practices and technologies to developing countries. This contributes directly to development as it enhances e-governance, improves information technology (IT) connectivity, and streamlines processes to save time and financial costs. The administrative culture embedded in the mandatory provisions of the first ten articles of the TFA is expected to bring about a substantial transformation. In the field of publication and transparency, for example, some of the reforms to be made in many developing countries and LDCs will induce a new way of doing business.

Such reforms are often linked to IT and intelligent systems; they are likely to result in new working methods in public offices, which will need to adapt to a world of easily available information. New skills, knowledge, and mindsets will be required to implement the spirit of the TFA. Competencies in the public sector will have to evolve from control to monitoring and regulatory functions, using intelligence activities and good governance practices to ensure safety and security standards and the operation of transparent and nondistorted trade and transport markets.

Beyond the impact on trade, there is a direct link between trade facilitation and development: most specific trade facilitation reforms are positive steps toward human and institutional development. They help small traders enter the formal sector, make economic activity more transparent and accountable, promote good governance, reduce corrupt practices, generate better-quality employment, strengthen IT capabilities, and generally help modernize societies. For example, trade facilitation measures such as interagency coordination, the right of appeal, and enquiry points could form part of general national reforms not only in the context of international trade, but also within broader public sector modernization programs.

Trade facilitation reforms tend to have a high return on investment. Private traders and operators as well as the public sector save on costs and time. Moïsé and Sorescu (2013) have assessed the impact of trade facilitation measures based on 16 TFIs on trade volume and trade costs for 107 countries, including Pakistan (96 WTO members and 11 WTO observers). They find that improved TFIs reduce the cost of trade by 14.1 percent for low-income countries, 15.1 percent for middle-income countries, and 12.9 percent for upper middle-income countries. The saving generated by facilitating trade can be channeled into other productive and profitable ventures, thus initiating a virtuous circle. Many specific trade facilitation measures, such as pre-arrival processing, automation, electronic

submission, and risk assessment, help reduce the time it takes to process trade transactions.

4. The Status of Pakistan's TFA Implementation and International TFIs

The TFA is clearly a customs-centric agreement that aims to reduce inefficiencies, particularly at border crossing points. Over the last two decades, Pakistan, too, has carried out a series of much needed reforms in this respect. Accordingly, the implementation level of customs-related provisions is relatively high in Pakistan. This is corroborated by UNCTAD (2013), which points out that

> the level of full implementation of the individual trade-facilitation measures suggests that measures with the strongest customs-related component, covered by Articles 4, 7, 10, 11 and 12 are characterized by high implementation rates. At the same time, most of the cross-sectoral or cross-agency measures such as single window, enquiry points, publication of trade-related information, disciplines on fees and charges, together with some advanced customs techniques such as advance ruling and authorized operators, have the lowest implementation rates.

The range of initiatives in automation indicates this clearly. This paper is not intended to comment on customs automation per se, but it is worth pointing out that considerable effort has gone into reforming the customs clearance system in Pakistan over the last 25 years. In the context of the TFA, Pakistan has already invested time and resources in improving its efficiency, whether as a national initiative supported by development partners[6] or as a result of ratifying the Revised Kyoto Convention of the WCO. These deserve special mention although they are far from perfect.

How Pakistan has fared so far in terms of improving processes and achieving results can be gauged from different international indicators. Before discussing these, two points are worth mentioning. First, these indicators are invariably perceptions-based and are not necessarily objective measurements of the selected area. Second, and related to the first, the absolute values may not necessarily be devoid of any incorrect indication. However, as tools for comparison with other countries or regions, they are reasonably representative performance benchmarks.

[6] Different initiatives with the World Bank, including the Tax Administrative Reform Program.

The UNCTAD Trade and Transport Facilitation Project II (2011) has assessed Pakistan's readiness to implement the measures proposed in the TFA. The report provides an insight into the current status of trade facilitation measures in Pakistan, indicating that more than 90 percent of the proposed measures have been fully or partially implemented. If the study's findings are calibrated as per the final text of the TFA, it is heartening to note that Pakistan's compliance level is fairly high. To what extent this translates into reduced costs and time for daily transactions is another significant aspect to be explored.

Apart from this Pakistan-specific study, we take three other sources of information into account for international comparisons of trade facilitation: the World Bank's logistics performance index (LPI) for 2012[7] (see Arvis et al., 2012), the World Bank's (2012) Doing Business report, and Lawrence, Hanouz, and Doherty (2012). These three studies provide detailed data at the world level, allowing comparisons with other countries including at the regional level. For purposes of comparison, we will look at four members of the South Asian Association for Regional Cooperation (SAARC)—India, Pakistan, Bangladesh, and Sri Lanka. The data below offer some insight into the nature of the trade facilitation issues presently faced by Pakistani traders.

The LPI is constructed from six indicators using principal component analysis—a standard statistical technique used to reduce the dimensionality of a dataset. The World Bank has, so far, produced three editions of the LPI,[8] the first having been published in 2007. Pakistan ranks 71 in the third edition (Arvis et al., 2012) with a score of 2.83 (on a scale of 1 to 5) and its performance is equivalent to 58.4 percent of the highest performer, i.e., Singapore (100 percent) as compared to India at 46 with a score of 3.08 and 66.4 percent (Table 1). Other SAARC members rank lower than Pakistan. While its own rank and score is not a comfortable one, two aspects are encouraging. At 71 in 2012, Pakistan's rank has improved significantly from 110 in 2010. Pakistan is also among the top ten performers in the group of lower middle-income countries in 2012.

[7] The rankings are available at http://lpisurvey.worldbank.org/international/global.

[8] The LPI measures on-the-ground trade logistics performance in 155 countries (2012 edition) to understand the challenges they and their trading partners face in reducing logistical barriers to international commerce. The international score for the LPI uses six dimensions, of which we have selected three (relating to customs and trade procedures) for comparison: (i) the efficiency of the clearance process (i.e., speed, simplicity, and predictability of formalities) by border control agencies, including customs (first pillar); (ii) the ease of arranging competitively priced shipments (third pillar); and (iii) timeliness of shipments in reaching their destination within the scheduled or expected delivery time (sixth pillar).

Table 1: LPI ranks and scores for selected countries

	LPI		Customs		International shipments		Timeliness	
Country	**Rank**	**Score**	**Rank**	**Score**	**Rank**	**Score**	**Rank**	**Score**
India	46	3.08	52	2.77	54	2.98	44	3.58
Pakistan	71	2.83	46	2.85	67	2.86	82	3.14
Sri Lanka	81	2.75	72	2.58	51	3.00	108	2.90
Bangladesh (2010)	79	2.74	89	2.33	61	2.99	69	3.46

Source: Arvis et al. (2012).

Pakistan has faired particularly well on the first indicator, i.e., efficiency of customs and border management clearance (rank = 46) where it is ahead of India (rank = 52) and the other SAARC countries. However, it lags behind on the sixth indicator, the frequency with which shipments reach consignees within the scheduled or expected delivery time (rank = 82).

The second set of international indicators is from the World Bank's (2012) Doing Business report.[9] Table 2 gives Pakistan's position relative to South Asia and the OECD countries. Table 3 shows that Pakistan is ranked second after Sri Lanka in the general doing-business average.

[9] This is based on different pillars, but we look at the pillar 'trading across borders,' which takes into account six indicators: (i) documents to export (number); (ii) the time needed to comply with all procedures required to export goods (if a procedure can be accelerated at additional cost, the fastest legal procedure is chosen); (iii) the cost associated with all procedures required to export goods (includes the cost of documents, administrative fees for customs clearance and technical control, customs broker fees, terminal handling charges, and inland transport); (iv) the total number of documents required per shipment to import goods (documents required for clearance by government ministries, customs authorities, port and container terminal authorities, health and technical control agencies, and banks); (v) the time needed to comply with all procedures required to import goods (if a procedure can be accelerated at additional cost, the fastest legal procedure is chosen); and (vi) the cost associated with all procedures required to import goods (includes the cost of documents, administrative fees for customs clearance and technical control, customs broker fees, terminal handling charges, and inland transport).

Table 2: Doing-business indicators

Country/region/indicator	Pakistan	South Asia	OECD
Documents to export (number)	8	8	4
Time taken to export (days)	21	33	11
Cost of exporting (USD per container)	660	1,787	1,070
Documents to import (number)	8	10	4
Time taken to import (days)	18	34	10
Cost of importing (USD per container)	725	1,968	1,090

Source: World Bank (2012).

Table 3: Ease of doing business, South Asia

Country	Ease of doing business (rank)
Sri Lanka	85
Pakistan	110
Bangladesh	130
India	134

Source: World Bank (2012).

The most recent Trading Across Borders data from the World Bank (2014) highlights some concern that Pakistan may be sliding back on its trade facilitation efforts. The country's ranking for both export time and costs has slipped, as has its overall position compared to other regional partners, including the Economic Cooperation Organization. At this time more than any other, it is crucial for Pakistan to maintain its progress and continue to focus on a forward-looking strategy.

The third source of TFIs is the Global Enabling Trade Report (GETR) study by Lawrence et al. (2012),[10] which provides detailed data for 142 countries, four of which are members of the South Asian Free Trade Area (SAFTA)—India, Pakistan, Bangladesh, and Sri Lanka. These data offer some insight into the nature of trade facilitation issues currently

[10] Four of this year's nine indicators from the GETR study are directly relevant to trade facilitation and have been selected to give a general idea of the scope of challenges that Pakistan faces and as an indication of its current status. The GETR survey asked respondents to assess the efficiency of the selected indicators on a scale of 1 to 7, with 1 being slow and inefficient and 7 being among the world's most efficient. Overall, respondents found that ineffective government bureaucracy, an inadequate infrastructure, and corruption were among the most problematic factors in doing business in Pakistan.

facing Pakistani traders and allow, to some extent, comparison with other countries in the region. Table 4 shows that Pakistan lags behind the selected SAFTA countries overall as well as on other indicators, except for border administration, efficiency of customs procedures, and efficiency of import/export procedures. This indicative assessment could help design trade policies that focus on those indicators that need the most improvement. The GETR data give not only a sense of the range of conditions among SAFTA countries, but also how these countries compare with the rest of the world (see Lawrence et al., 2012).

Table 4: GETR indicators for selected countries

	Enabling business environment		Border administration		Efficiency of customs administration		Efficiency of import/export procedures		Transparency of border administration	
Country	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Sri Lanka	73	3.95	73	3.89	85	3.76	47	5.02	92	2.89
India	100	3.55	77	3.82	70	4.10	79	4.38	84	2.99
Bangladesh	109	3.46	100	3.33	103	3.26	86	4.22	115	2.52
Pakistan	116	3.39	71	3.92	66	4.20	56	4.86	101	2.69

Source: Lawrence et al. (2012).

The variance in these data and Pakistan's performance suggest that these indicators might not present conclusive results, but they can certainly be used to make an informed guess concerning the country's performance relative to other players in the region and the world. This, in turn, could help design trade policy interventions in a focused and calibrated manner.

5. Implications for Trade Policy

All 160 WTO members have a binding obligation to implement all 37 measures included in the 13 articles of the TFA on its entry into force. However, developing country and LDC members have the option of tailoring their implementation period to the country's capacity to implement such measures. For Category C measures, these members will also be entitled to seek technical and financial assistance and link the implementation to the acquisition of implementation capacities. Put simply, the starting line for different members may be different, but the finish line will be the same, with some members reaching it later and with some support. Decisions concerning the categorization and timing of implementation will be sovereign decisions, which every developing country and LDC member, including Pakistan, will make as it sees fit.

Trade policy formulation in Pakistan is not very different from policymaking in other sectors such as health, labor, or tourism, or from initiatives taken in other economies at a similar level of development. It is usually a periodic exercise with very little implementation monitoring. Decisions that require legal changes are usually implemented quicker, but their effectiveness is seldom evaluated. Other initiatives pursuing particular objectives are invariably implemented as routine matters and are rarely monitored or evaluated in a systematic way.

Generally, policymaking in Pakistan is driven by an ad hoc bureaucratic mindset combined with some degree of lobbying by interested business groups; trade policy is no exception. However, where international commitments are concerned, policy interventions are more likely to be timely and in line with international obligations.[11] An example is the amendments made to Pakistan's customs tariff every four years in line with its obligations under the Harmonized Commodity Description and Coding System (HS Convention).

The TFA's first impact on trade policy will be to overcome the inertia of business-as-usual among trade policymakers. The Bali ministerial decision requires all WTO members to submit their Category A commitments by July 2014. Similarly, on entry into force (expected by August 2015), the Government of Pakistan will be required to notify the measures it has designated under Categories B and C, along with indicative dates of implementation.

Trade policymakers in Pakistan do not, therefore, have the luxury of time. To fulfill its obligations, Pakistan must analyze all 37 provisions and select those it intends to notify as Category A commitments (those measures that are in place or will be implemented immediately once the TFA enters into force). Pakistan will not be starting from scratch: many of the measures specifically relating to customs are already part of its existing legislation and being implemented. Even before it comes into force, the TFA will have a positive impact on governments working to review the international agreement vis-à-vis domestic legislation and the categorization of different measures.

It is worth pointing out that the approach of different governments to implementing the TFA will vary according to the

[11] However, the implementation of the WTO Agreement on Customs Valuation and Trade-Related Investment Measures in Pakistan suggests that certain international obligations are 'disregarded' or 'circumvented' on one pretext or another.

intended outcome. Governments may aim only to achieve compliance with their international obligations, which is a relatively easy way out. The other option would be to design an implementation plan for the measures included in the TFA so as to achieve a higher degree of trade facilitation. This is a more ambitious outcome where, instead of merely achieving legal compliance with procedures, the benchmarks could be result-oriented to reduce clearance times, etc.

The scope of the TFA extends beyond the trade policy wing of the government as the measures contained therein relate to all border regulatory agencies. In Pakistan, the Ministry of Commerce is responsible for trade policy formulation, but in the case of the TFA, it may only be able to decide on the categorization of measures in consultation with other government ministries, especially the Federal Board of Revenue, which is responsible for customs measures. This will require the ministry to open channels of communication with other border regulatory agencies. The structure of international obligations will thus initiate inter-ministerial consultation and coordination that will apply not only during the categorization process, but also to the subsequent implementation of certain measures.

This has serious implications for the so-called 'turf war' between different government agencies that are apt to be possessive about their areas of work as distributed in the 'Rules of Business.' In the case of the TFA, the responsibility for implementation will lie with the Ministry of Commerce, but the federal government will only be in a position to achieve compliance with its international obligations if its different wings communicate and collaborate with each other on a sustainable basis.

The TFA and technical assistance sought from development partners will also affect the way in which the government (in particular, the Economic Affairs Division) enters into contracts with donors for international assistance. In the case of the TFA, funds will be tied to particular provision(s) of the agreement. The demand-driven, provision-specific proposal will also include an agreement concerning the mechanism for ascertaining the acquisition of capacity to implement that particular provision as well as the indicative date by which that provision is to be implemented. Again, this will require coordination with the relevant implementation agency and regular monitoring for the seamless delivery of the agreed outcomes.

The TFA also obligates WTO members to have in place a national committee on trade facilitation to facilitate domestic coordination and the implementation of various provisions. The TFA is silent on the composition of such committees, but going by international best practices, members should be drawn from all the border regulatory agencies as well as from the private sector. Pakistan has already established the National Trade and Transport Facilitation Committee with a membership of around 40 ministries and private sector bodies. This is a vibrant forum for the coordination of trade policy formulation. Trade policymakers will be obligated to make the committee financially viable and institutionalize its working such that it becomes a forum for domestic coordination compliant with TFA obligations.

Similarly, the TFA will obligate the government to coordinate with its neighboring countries' border regulatory agencies. This three-way coordination—with the private sector, with other border regulatory agencies, and with neighbors' cross-border regulatory agencies, preceded by consultation with the private sector—is bound to improve efficiency, transparency, and buy-in from the stakeholders involved. It will also result in improved implementation for the government and businesses, and influence the 'attitude' of public sector agencies from regulators to facilitators. The TFA aims to promote interaction between the private and public sectors, where both treat each other as 'business partners' working for the good of the country.

Once meaningful benchmarks have been established, measuring success by results (i.e., lower transaction costs) rather than inputs (i.e., procedural changes) is far more likely to yield economic benefits for Pakistan. For this approach to succeed, however, the private sector must be involved in identifying where changes are needed and in monitoring progress.

The involvement of private sector stakeholders in the national policymaking process is not without challenges. Most public sector officials perceive the private sector as being either unfamiliar with the subject matter or unwilling to give quality time. Those who come forward for consultation may expect their particular views to shape the policy outcome. This does not mean, however, that they should not be consulted. Policymakers must plan to build the capacity of the private sector (possibly with the help of development partners) so that it can offer useful input, at least in identifying the gaps that need to be bridged.

Another important aspect of consultation with the private sector is deciphering the common denominator. Invariably, the input from different sectors will represent their personal opinions and not necessarily a 'representative' voice. In many cases, such input and proposed solutions vary among different business sectors and are presented to further their own business agendas, sometimes at the cost of other sectors. Policymakers must design the consultation process in a manner that institutionalizes the process and can overcome such situations.

Trade facilitation is a dynamic, ongoing effort. Policymakers should keep in mind that trade facilitation, unlike tariff reduction, is open-ended. Once tariff rates have been reduced to zero, the tariff reduction exercise is complete. In contrast, steps can always be taken to further reduce the cost of cross-border transactions, which (in addition to unforeseen procedural impediments to maintaining an open trade regime) need to be addressed continually to remain abreast of the dynamic trading realities of global connectivity.

Finally, it is relatively simple to agree on an ambitious trade facilitation agenda; the challenge will lie in creating an enabling environment that gives the agenda effect. Policymakers should recognize that the standard bureaucratic control/enforcement approach is unlikely to be effective for many trade facilitation measures. This is because trade facilitation covers numerous procedures that take place along multiple steps of the international supply chain—both at the border as well as behind. Unlike tariff rate reductions, which are typically administered by a single government agency, trade facilitation measures require many different departments and agencies to cooperate and comply with one another, including with those of bordering countries or trading partners.

6. Conclusion

While every trader and government agency may wish to improve the competitiveness of its sector, this is not necessarily matched by its actions. The gap is usually attributed either to lack of resources or expertise. The Bali TFA qualitatively offers avenues to fill these gaps and specifies which areas would help reduce the inefficiencies of international trade. It not only offers countries the flexibility to tailor reforms in accordance with the prevailing development level, but also presents modalities for soliciting support from development partners, bilateral and international, to address issues of expertise and resources through technical assistance and support for capacity building.

Trade facilitation has two peculiar characteristics. It is a multiagency function where consultation, coordination, and collaboration are key to achieving any meaningful success. It is also an ongoing process. No country may ever be in a position to say that its reforms are complete (as one might easily claim once the tariff rate is zero). The focus of any policy must be designed and implemented keeping in view both these aspects.

Pakistan's performance in the area of trade facilitation has been relatively good, especially in customs, but there is clearly ample room for improvement. While many customs-centric measures are in place (if achieving legal compliance is the performance threshold), the challenge will be to improve these measures and reduce any remaining inefficiencies in order to save time and costs. The TFA provides an opportunity to re-examine the laws and procedures in place as well as their implementation and to address these in a manner that is efficient and predictable. Monitoring key initiatives is equally important.

The TFA also requires that the business sector be consulted and involved in policymaking as well as in developing the relevant national legislation. Some ad hoc initiatives have been introduced, but primarily to accommodate influential lobby groups or to send the message that government functionaries are open to consulting this sector. The challenge will be to persuade public functionaries that private sector stakeholders are the equivalent of their business partners in this undertaking.

Policymakers must also heed wider public opinion, especially if it is represented by a 'single voice.' It may not be binding on the government to accept every view put forward by private sector stakeholders, but the former is obligated to consider the problems or solutions presented. Along the way, it is also incumbent on policymakers to build the capacity of the private sector, enabling it to become an effective partner in national policymaking and implementation.

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Annex

Article 1: Publication and availability of information

1. Publication
2. Information available through the Internet
3. Enquiry points
4. Notification

Article 2: Opportunity to comment, information before entry into force and consultation

1. Opportunity to comment and information before entry into force
2. Consultations

Article 3: Advance rulings

Article 4: Appeal or review procedures: Right to appeal or review

Article 5: Other measures to enhance impartiality, nondiscrimination and transparency

1. Notifications for enhanced controls or inspections
2. Detention
3. Test procedures

Article 6: Disciplines on fees and charges imposed on or in connection with importation and exportation

1. General disciplines on fees and charges imposed on or in connection with importation and exportation
2. Specific disciplines on fees and charges imposed on or in connection with importation and exportation
3. Penalty disciplines

Article 7: Release and clearance of goods

1. Pre-arrival processing
2. Electronic payment

3. Separation of release from final determination of customs duties, taxes, fees and charges
4. Risk management
5. Post-clearance audit
6. Establishment and publication of average release times
7. Trade facilitation measures for authorized operators
8. Expedited shipments
9. Perishable goods

Article 8: Border agency cooperation

Article 9: Movement of goods under customs control intended for import

Article 10: Formalities connected with importation and exportation and transit

1. Formalities and documentation requirements
2. Acceptance of copies
3. Use of international standards
4. Single window
5. Pre-shipment inspection
6. Use of customs brokers
7. Common border procedures and uniform documentation requirements
8. Rejected goods
9. Temporary admission of goods/inward and outward processing

Article 11: Freedom of transit

Article 12: Customs cooperation

Article 13: Institutional arrangements

1. Trade facilitation committee
2. National committee on trade facilitation

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Improving Regional Trade to Support Pakistan's Economic Growth

Manzoor Ahmad*

Abstract

Regional trade has been an important factor in the economic success of many countries. Within most trading blocs, intra-regional trade comprises 40 percent or more of each member country's individual trade. However, for the regional arrangements of which Pakistan is a member, intra-regional trade accounts for less than 5 percent. Pakistan's strategic location is its greatest asset, but it has not leveraged this to its advantage. Although it was a relatively forward-looking country until the mid-1960s its policies have not been favorable to promoting trade and economic development since then. While other successful developing countries have espoused liberal trade regimes since the 1980s—resorting to protectionism only on a selective basis—Pakistan continues to rely on import substitution policies. Clearly, the country needs to revisit its regional and global trade policies.

Keywords: Pakistan, regional trade, Central Asia, regional trade routes, ports, Gwadar.

JEL classification: F10, L50.

1. Regional Trade in Pakistan's Context

Until the 1960s, Pakistan was a relatively forward-looking country and its economic activity more integrated with the rest of the world. Its volume of manufactured exports exceeded those of the Philippines, Thailand, Malaysia, and Indonesia combined. Today, however, Pakistan's total exports are only a fraction of the exports of any of these individual countries. Figure 1 depicts Pakistan's export performance in contrast to its once comparable trading economies.

Since the mid-1960s, Pakistan's policies have not been favorable to promoting trade and economic development. In 1965, it ceased trading with its neighbor India. In the early 1970s, Pakistan nationalized all major industrial and services enterprises, which eventually enabled them to

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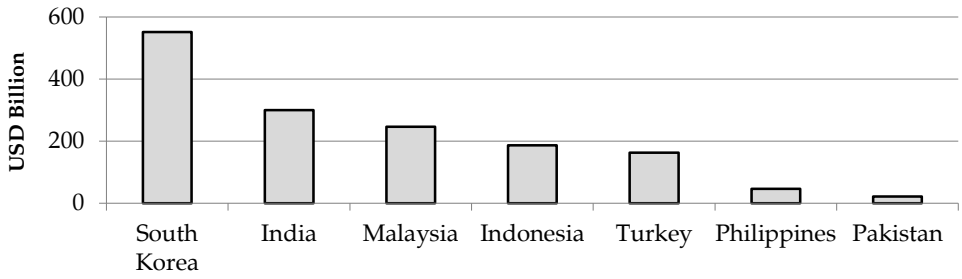
demand higher protection. As a result, exports stagnated. At present, 40 percent of the country's tax revenues are derived from imports, whereas for other competing countries this figure is less than 15 percent.

Figure 1: Pakistan's comparative export performance



Despite its strategic geographical location, Pakistan has yet to leverage this to its trade advantage. The country straddles a key trade route between the energy-rich countries of western and Central Asia and those in South Asia with a high demand for energy. Its three seaports—Karachi, Port Qasim, and Gwadar—provide the shortest routes linking Afghanistan, China, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan to the rest of the world. At present, however, hardly any transit trade passes through these Pakistani ports despite the fact that all these countries would benefit greatly from lower trade and transportation costs.

Figure 2: Pakistan's strategic location

In particular, transit trade through the new Gwadar port could bring huge dividends. The port is located on the coast of the Arabian Sea, approximately 75 km east of Iran's border with Pakistan and 400 km from the Strait of Hormuz, which is the only sea passage to the Persian Gulf

through open sea. For China, trade and energy transiting through Pakistan from the Persian Gulf and East African states would reduce a distance of about 15,000 km to just 2,500 km. Once a high-speed rail and road network across Pakistan is completed, oil tankers from eastern China would reach Gwadar within 48 hours. Gwadar port could, potentially, become even more significant than Dubai because it would be able to handle larger cargo S-class ships and oil tankers.

Pakistan is signatory to two regional trade agreements: the South Asia Free Trade Agreement (SAFTA) and the Economic Cooperation Organization Trade Agreement (ECOTA). However, both are of little service to Pakistan as any normal trading arrangements with the members of these blocs have yet to be established. SAFTA was formed in 2006 and, until recently, Pakistan allowed only a limited number of trade items under its Positive List. In March 2012, the country liberalized its trade policies to some extent although many restrictive policies are still in place. As yet, SAFTA has not been fully implemented in Pakistan although other SAFTA members have integrated their economies and benefitted greatly from this collaboration.

ECOTA was signed in 2003, but after ten years it has yet to become operational. Progress toward its implementation is unlikely as some of its member countries have not been very forthcoming. While other countries in the region have allowed the movement of goods by acceding to the TIR Convention (which works under an international guarantee system and facilitates the movement of trucks and containers), Pakistan has yet to follow suit.

A similar setback to Pakistan's integration with regional trade blocs has been its failure to put into effect the various regional transit agreements to which it is a signatory. The only operational agreement is the Afghanistan Pakistan Transit and Trade Agreement, but since its implementation in 2011, most of Afghanistan's transit trade (which was previously routed through Pakistan) has been diverted to Iranian ports because of the complex provisions and procedures outlined in the agreement. This is unfortunate, given that Pakistan's ports could provide Central Asia the shortest overland route to sea, and there is tremendous export potential among the Central Asian markets.

In addition to these regional trade and transit agreements, Pakistan has signed several bilateral preferential or free trade agreements (FTAs). Many of these—such as with Indonesia, Mauritius, and Iran—are

nominal, covering less than 5 percent of tariff lines. Pakistan's FTAs with China, Sri Lanka, and Malaysia are more significant, but the country would have gained more had it carried out essential domestic reforms prior to signing these FTAs, especially the bilateral FTA with an economic powerhouse such as China.

In contrast, Turkey lowered its external tariffs to the same level as those of the European Union (EU) before joining the latter's customs union. Pakistan, on the other hand, raised its tariffs against other countries (after having signed the FTA with China) in clear violation of World Trade Organization (WTO) rules. This created a trade diversion among Pakistan's importers toward Chinese goods, making it more trade-dependant on its eastern neighbor. According to a recent study conducted by the Pakistan Business Council, Pakistan uses a mere 5 percent of the tariff concessions negotiated with China whereas the latter is able to exploit 57 percent of the concessions negotiated with Pakistan. Thus, instead of benefitting from its FTA with China and Malaysia, Pakistan has hampered its trade prospects by not further liberalizing its trade with other countries.

2. Regional Trade in the Global Context

Over the last two decades, the intensification of regional trade has played a powerful role in economic and political integration. The EU's original free trade area, for example, evolved into a customs union, which later became an economic and monetary union. It is now en route to becoming a political union. Almost two thirds of the EU's trade is conducted between members. Similarly, the North American Free Trade Agreement (NAFTA), which was created 20 years ago to expand trade between the US, Canada, and Mexico, has been a great success. Trade between NAFTA members has grown by over 500 percent: from US$ 297 billion in 1993 to US$ 1.6 trillion. The GDP of the three countries has almost tripled. Similarly, since the formation of the ASEAN Free Trade Area in 1992 in Singapore, many ASEAN economies have registered miraculous growth rates. The area's intra-regional trade is now over 25 percent.

Having consolidated the benefits of intra-regional trade, trade blocs across the world are now moving forward to amplify the benefits of global trade through inter-regional trading blocs. NAFTA and ASEAN members, for instance, are now negotiating the Trans-Pacific Partnership Agreement, while the EU and the US are negotiating the Transatlantic Trade and Investment Partnership Agreement.

3. The Way Forward

Fortunately, the Government of Pakistan has recognized these problems and the value of regional linkages. It has taken some steps in the right direction but a more holistic approach is needed. Bilateral trade with India is being normalized gradually. In 2010, Pakistan also joined the Central Asia Regional Economic Cooperation Program, a partnership of ten countries and six multilateral institutions; 2012 was declared the Year of Regional Trade and Economic Connectivity. In its Vision 2025 document, the present government has emphasized the importance of promoting Pakistan's economic development. Notably, it continues to pursue the normalization of trade with India and build an economic corridor with China, but these policies need to be supplemented with several regulatory changes and other domestic reforms.

While the budget for 2014/15 was a good opportunity to take some concrete steps in this direction, many of the measures proposed have done the opposite. Instead of lowering import tariff levels to those of its regional partners, Pakistan has raised them further. While other competing countries continue to espouse liberal trade regimes, resorting to protectionist trade policies only on a selective basis, Pakistan has turned further inward and enhanced import duties on already over-taxed imports. These measures have widened the existing gap and made it difficult for Pakistan to integrate with other regional countries.

Pakistan needs to benchmark its tariffs or trade policies with those of its competitors and rely less on taxes derived from international trade. This is a major deterrent to promoting local industry since the heavy taxation causes loss of competitive grounds for local industries vis-à-vis their foreign competitors. Table 1 compares the industrial tariffs applied to various categories of products and clearly shows that Pakistan's tariff rates are the highest among other developing countries. Pakistan must carry out serious tariff and trade policy reforms, benchmark its trade openness with that of its competitors, and try to achieve the same level of tariff control.

Table 1: Comparison of average industrial tariffs

Commodity group	China		India		Indonesia		Malaysia		Sri Lanka		Pakistan	
Chemicals	H	6.5	H	8.5	M	4.8	L	1.9	L	2.8	H	8.6
Plastics/rubber	L	9.4	L	9.5	L	8.4	M	13.2	M	12.6	H	17.0
Paper/paperboard	L	5.3	M	9.1	L	4.4	M	10.3	H	12.8	H	15.8
Textiles	M	11.5	L	9.8	M	10.8	L	7.7	L	6.7	H	18.7
Glassware/ceramics	L	13.4	L	9.5	L	7.9	M	17.9	M	17.8	H	24.7
Machinery	M	8.3	L	7.2	L	5.2	L	5.4	L	4.9	H	12.2
Vehicles	L	13.2	H	30.2	L	16.9	L	17.7	L	15.5	H	35.8
Misc manufactures	L	11.6	L	9.8	L	9.5	L	8.9	H	19.8	H	21.3

H = high, L = low, M = median.
Source: World Trade Organization.

Additionally, the country should turn its attention to improving regional trade by developing its current supply chains and production networks. The surge in bilateral trade between China and ASEAN, for instance, is primarily in intermediate goods, accounting for over 80 percent of China's exports to and over 95 percent of its imports from ASEAN.

Unlike most other developing countries, Pakistan has not eliminated its import substitution policies despite the implementation of the WTO agreement on trade-related investment measures (TRIMs) in 2000. For example, in the case of the automobile industry, India, China, Brazil, Indonesia, and many other developing countries eliminated their import substitution policies within five years of the WTO rules. Pakistan, which retained its outdated import substitution policies, is the only country where the production of cars has plunged in relation to that of other countries (Table 2).

Table 2: Number of cars produced

Country	2005	2011
China	5,708,421	18,418,876
India	1,638,674	3,936,448
Brazil	2,530,840	3,406,150
Mexico	1,624,238	2,680,037
Thailand	1,122,712	1,457,798
Turkey	879,452	1,189,131
Indonesia	500,710	837,948
Pakistan	153,393	162,194

Source: World Trade Organization.

Pakistan needs to learn from the trade policies adopted by the more successful developing countries if it wants to achieve similar levels of economic growth. In the 1980s, both Pakistan and Turkey had a similar volume of exports (approximately USD 3 billion). While Pakistan resorted to a protectionist arrangement, raising its external tariffs and encouraging a series of import substitution policies, Turkey made efforts to integrate with the EU and began eliminating its import substitution policies. By 1996, it had lowered its external tariffs to a level comparable to those of the EU. Subsequently, it joined the EU customs union. Today, Turkey's exports are over USD 170 billion while Pakistan's exports have yet to surpass the USD 25 billion mark. Turkey's per capita GDP is about USD 9,000, while Pakistan's per capita GDP stands at less than USD 1,000.

Another interesting example is that of Chile. Until the late 1970s, Chile was one of the world's most protectionist countries. In the mid-1970s, it carried out deep structural economic reforms, among which the most impressive effort was to move from import substitution to export-led economic growth. Chile decided to dispense with protectionism and in the 1980s reduced its tariffs across the board to 10 percent ad valorem; its total exports in 1980 stood at a mere USD 5 billion. Despite temporary hardship and several uncompetitive industries going bankrupt, Chile's exports started to grow by 25 percent per year. In the longer term, it became one of the fastest growing economies in the world with current exports valued at USD 80 billion.

It will not be easy for Pakistan to become part of a global supply chain unless it opens up its economy further. The perception that Pakistan is a considerably open economy is incorrect: its import tariff

profile is comparable only to that of sub-Saharan Africa. Moreover, Pakistan's economy has consistently been rated "mostly un-free" by the Heritage Foundation's global ranking.

4. Conclusion

Pakistan needs to revisit its regional and global trade policies. It must fully embrace trade with India and Central Asia by opening up more routes and acceding to the TIR Convention. Pakistan's ports could provide Central Asia with the shortest land route to sea and there is tremendous export potential among the Central Asian markets. With regard to global trade, Pakistan must restructure its taxation policies and look for ways to integrate its comparative advantages within global supply chains. It must also reassess its current protectionist policies, which are stifling the economy and undermining the country's ability to compete in the global market. Instead, Pakistan must allow domestic industries and infrastructure to operate in an environment that maximizes its potential.

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