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RESTRUCTURING THE STOCK EXCHANGES IN PAKISTAN: ECONOMIC AND REGULATORY POLICY ISSUES

Abstract

The ongoing global financial crisis has forced a paradigm shift in the thinking about the role of free-markets and public regulation which calls for a re-evaluation of the economic and development policies throughout the world. In this spirit, this paper reviews Pakistan's approach towards stock exchange development through demutualization and consolidation of the country's three stock exchanges. While demutualization can provide organizational flexibility and improve governance, it can also give rise to new and possibly more aggravating conflicts of interest issues and place challenging demands on the regulatory framework. Demutualization can also facilitate in the merger of the exchanges which can help to consolidate liquidity in one marketplace and improve economic efficiency. On the other hand, exchange consolidation could lead to monopolistic excesses and diminish regulatory effectiveness. In the aftermath of the financial crises, it would be prudent to preserve a competitive environment and bolster regulatory effectiveness to deal with the complexity and conflicts of interest arising out of the financial innovations. A third option of encouraging an implicit merger of the exchanges may be more attractive which may allow the markets to reap the benefits of the economies of scale and network externalities, while avoiding creation of a semi-monopolistic and too-big-to-fail institution.

Introduction and Background

The continuing global financial crisis (2007-2009) has forced a rethinking of issues relating to the regulation of financial markets and institution. The hitherto accepted wisdom had placed unfaltering confidence in the functioning of the free-markets which were thought to be self-correcting and needed little public regulation. It is now clear that market oversight and prudential supervision were unable to check excessive risk-taking by the financial institutions and other players in the markets. The fragmented regulatory structures and lack of information sharing among regulators led in particular to overlook the interconnectedness of the financial markets and the systemic risk arising from financial innovation and regulatory circumvention by the banks as well as non-bank entities. The regulatory model that relied on transparency, disclosure, and market discipline to curb excessive risk taking proved inadequate in preventing the market failure. It is certain that we are witnessing a reshaping of the financial regulatory landscape in the aftermath of the global financial crisis.

Although the origin of the financial crisis lies in the industrialized countries, there are lessons in there for the developing countries as they continue to develop their financial sector, regulatory structure and supervisory capacity. The developing economies are generally weaker in corporate governance, legal infra-structure and supervisory oversight, enforcement and effectiveness. It is appropriate, therefore, to rethink the economic and financial sector policies that have so far been pro-globalization and relied on open and free-markets.

For Pakistan, an important issue has been the re-structuring of its stock-exchanges which is seen as a critical element in the strategy for the development of its capital markets. Over the years 2004-2008, the thrust of the stock-exchange reform strategy has been to demutualize and consolidate the country's three stock exchanges based in Karachi (KSE), Lahore (LSE) and Islamabad (ISE). The exchanges have been structured as mutual non-profit companies owned by the members who also have the exclusive right to trade on the exchanges. The restructuring will convert the exchanges to for-profit corporations owned by shareholders who may or may not be stock brokers, security dealers or market makers as well. Subsequently, the three exchanges may be consolidated into one corporate entity. The Demutualization Ordinance has recently been approved by the National Assembly and is soon expected to be placed for promulgation before the Senate.[1] It seems to be an appropriate time to examine the post-demutualization regulatory and economic issues, particularly, in the light of the recent paradigm shift in the thinking about the role of free-markets and public regulation.

The present study examines the issues relating to the restructuring of the organized stock exchanges in Pakistan, and its implications for economic and regulatory policies. The next section provides an overview of the stock exchanges and related governance issues. This is followed by a section on the demutualization trends in the emerging economies. The fourth section discusses the issues relating to governance structure and the implications of the conversion to for-profit corporations for economic and regulatory policies. The fifth section draws on the empirical evidence on demutualization and exchange performance and the analytical studies on exchange consolidation and competition issues. The last section concludes the paper and summaries the policy implications.

Stock Exchanges in Pakistan

The three stock exchanges in Pakistan based in Karachi, Islamabad, and Lahore, together list more than 700 of the approximately 2,800 registered public companies in Pakistan. The KSE is the dominant exchange in terms of listed securities, market capitalization, volume of trading, and new listings. The regional stock exchanges have been losing market share over time. In 2003 the KSE's share was over 81% of the volume traded, followed by the LSE with 17% and ISE with 2%. By the end of 2007-08 the shares of the LSE and the ISE had declined to 9.2% and 0.4% respectively. Although, the Securities and Exchange Commission of Pakistan (SECP) is responsible for regulating financial markets, the three stock exchanges also serve as the frontline

self-regulatory organizations (SRO) dealing with listing of securities, admission of trading members, market surveillance and broker conduct. All three exchanges are privately owned and are mutual non-profit organizations owned by their broker members who are about 300 in total number. They are registered as companies limited by guarantee and are licensed by the SECP. The mutual form means that by acquiring membership of an exchange, (by purchasing a "card" or a "seat") the person obtains membership as well as the right to trade on the exchange subject to regulation.

The various problems related to the working of the stock exchanges were examined by the SECP's Expert Committee (SECP, 2004) which concluded that, "the problems faced by the exchanges are fundamental in nature and exchanges are fulfilling their economic role and discharging regulatory responsibilities to a very limited extent. A mutual structure and fragmented market are at the heart of problem being faced by the stock market. A mutual structure allows control of exchange by only one stakeholder, i.e., brokers. It had also deprived the exchanges of economic and human capital that they need for further development….. Because of the mutual structure the reforms in the past have not made substantial impact."

An Asian Development Bank report (ADB, 2007) seems to endorse demutualization for the Pakistan's three stock exchanges as a step to further institute regulatory and institutional reforms. The ADB report further suggests two options: (i) merge the three exchanges, or (ii) strengthen linkages between exchanges to achieve a unified national market system in securities. "The second is more realistic under the present circumstances." The SECP's Expert Committee, on the other hand advances both demutualization and integration as the remedy for the problems faced by the exchanges.

As noted above, "the Stock Exchanges (Corporatisation, Demutualization and Integration) Ordinance, 2007," has been approved by the National Assembly. The Ordinance provides for conversion of the stock exchanges into corporations and lays down a road map for integration of the exchanges, in that any two or more stock exchanges may file a scheme of integration for approval of the Commission.

Restructuring of Exchanges in the Emerging Markets

The Demutualization Trends in the Emerging Markets[2]

Demutualization of stock exchanges has been a major trend globally; in particular, it took place in developed markets quite rapidly. The International Organization of Securities Commissions (IOSCO 2005) reports that, "In the fifteen years since the first exchange demutualization took place in 1993, 21 exchanges in developed market jurisdictions have been demutualized – representing almost 40% of the membership of the World Federation of Exchanges." On the other hand, demutualization in the emerging markets has taken place at a relatively slower place. Up to 2005, exchange demutualization had been completed in only 5 exchanges out of a total of 76 emerging markets which are members of the World Federation of Exchanges. According to the survey by IOSCO Working Group of a sample of 15 emerging

markets, the option of demutualization was considered by the majority of responding stock exchanges, out of which 4 exchanges were in the process of undergoing demutualization. The survey report expressed the opinion that, "It is quite likely that the proportion of those in the demutualization process would decrease substantially" if the sample was expanded to include relatively smaller markets.

According to the IOSCO (2005) report the slower pace of demutualization observed in the emerging markets implies that: (a) either the benefits accruing from demutualization in emerging markets are considerably less than that for a developed market, or the costs are considerably higher; (b) the states of economic and capital market environment in emerging markets are not yet at a level where demutualization is relevant and that there are other more effective alternatives to achieving the goals associated with demutualization.

Motivations for Demutualization

Demutualization is generally considered a step to transform the exchange's business model in response to the emerging new environment shaped by competition, globalized financial markets and technology. One of the main drivers for demutualization in emerging markets is the increasing competition for global order-flow. In the face of increasing globalization of financial markets, domestic markets now compete directly with regional and international markets. Domestic corporations are able to float securities on multiple markets, and the order flow and liquidity from secondary trading could also easily move to regional and international larger markets which can hurt the smaller domestic markets.

For the exchanges, the corporate form of organization offers the flexibility to strengthen their competitive position by forming strategic alliances, or by bringing in new strategic shareholders who can contribute specialized technical know-how, international skills, and knowledge to the domestic exchange. Another reason for demutualization decision has been a desire to accelerate the development of technology-related infrastructure and capabilities. The IOSCO Working Group's survey found, however, that the threat of competition from Alternative Trading Systems (ATSs) and Electronic Communication Networks (ECNs) was not a dominant driver for demutualization. Among the minor considerations to demutualize is also the need to access new funds.

A strong view is that demutualization can be used to reform the exchange's governance structure. The idea is that in a mutual form of organizations, there are inherent conflicts between broker interests and the interests of other stakeholders. The essential difference in the corporate organizational form is that there is a separation of ownership from the trading rights. On the contrary, in some countries, after making the adjustments to the exchange's governance structure, it was decided that demutualization was no longer needed. For example, in Thailand, the steering committee appointed to examine the issue of demutualization recommended that the demutualization of the Stock Exchange of Thailand (SET) should be put on

hold. The committee was of the view that the SET could best meet its objectives and implement capital market development policies under its current structure as a national exchange, rather than as a for-profit entity. A stakeholder-based governance structure was created by having other stakeholders to sit on its board.

Exchange Consolidations

In the developed markets, demutualization and consolidation of exchange have taken place in response to the growing international competition for customers' trade orders (order flow). The European stock exchanges, under the new European Union set-up, faced intense competition from the London Stock Exchange and the Deustche Borse. Their response was to consolidate and form strategic alliances across geographical borders. For example, the Swiss Options and Financial Futures Exchange merged with the Deutsche Terminborse in 1998 to form EUREX. Similarly, the pan-European exchange EURONEXT was formed through the merger of the Amsterdam, Paris, Brussels and Lisbon exchanges in 2000. Likewise, many exchanges in the emerging markets compete globally for order-flows, and see merger of exchanges as leading to order consolidation (hence liquidity) in one market-place.

Some emerging markets may be relatively too small to provide sufficient depth and liquidity to justify the existence of separate exchanges. Multiple exchanges imply that the various functions must be duplicated. The existence of multiple sets of intermediaries, front-end trading systems and information channels can result in economic inefficiencies. The listing companies and the regulators also need to deal with different sets of compliance requirements for the various exchanges. By consolidating multiple exchanges, economies of scale and scope can be achieved, liquidity enhanced and price discovery improved. On the other hand, the existence of multiple exchanges creates a competitive environment and can lower the cost of intermediation, and/or enhance the quality of services. In addition, a single integrated exchange poses systemic risk to the country's capital markets in case the exchange experiences financial distress.

Another argument for demutualization and consolidation is that it can facilitate cross-border mergers and acquisitions. One consolidated exchange rather than multiple exchanges, also increases the bargaining position of the consolidated exchange with respect to external entities seeking strategic alliances or investment. Unlike the developed markets cross-border mergers and acquisitions may, however, face a higher level of political opposition in the emerging markets as the issues of national sovereignty tend to be more prominent in these countries.

Recently, a greater emphasis is being placed on ensuring a competitive environment. For example, the Australian Stock Exchange attempted to acquire the Sydney Futures Exchange six months after it was demutualized. The proposed acquisition was rejected by the Australian regulators on the basis that the existence of two exchanges is likely to facilitate competition. In Pakistan, the Expert Committee's report noted the various concerns from a lack of inter-exchange competition, but concluded that "the arguments and precedents supporting integration outweigh those against integration."

The issue of exchange restructuring may also be dealt with separately from demutualization. In Malaysia, for example, the consolidation of exchanges was completed approximately 2 years prior to the demutualization of the exchange. In Pakistan, the Expert Committee recommended demutualization to proceed simultaneously with integration of the country's three stock exchanges. In India, on the other hand, the consultative group appointed by the Securities and Exchange Board of India recommended that the decision to merge was a commercial decision that should be left to the respective exchanges. The consultative group doubted that the country's 23 existing stock exchanges serve an economic purpose, and saw corporatization and demutualization as a means to facilitate exchange consolidation.

The decision to consolidate multiple exchanges depends on an individual country's unique circumstances relating to the capital markets and regulatory structures. There are, however, alternatives to a complete merger which allow for most benefits of a cross-border merger to occur while retaining national control over the exchange. These include establishing trading links, strategic investments, and using common trading platforms with regional exchanges.

Regulatory Issues Under the Corporate Model

As the exchanges convert to for-profit companies with broader shareholder bases, the changes in the ownership structure and business objectives raise significant issues as to: (a) the regulatory role of exchanges, and (b) the regulation of exchanges. Exchanges have traditionally performed important roles as frontline regulators for a range of market activities. Exchanges make and enforce regulation in the area of membership, registration of broker/specialists, the listing of securities and the modality of trading itself, such as clearing and settlement. There is a strong public interest in exchanges operating in manner that promotes market efficiency and commands market confidence. The transition to a for-profit business model has far reaching implications for the appropriate regulatory role of exchanges. A major issue is whether the for-profit goals of the exchange would be compatible with its regulatory role in public interest. The IOSCO Report (2001) identifies the following four areas in which exchanges' regulatory role is most likely to be impacted by demutualization:

Balancing Commercial and Public Interest Functions

The risk that the exchange will tend to place more weight on pursuing short-term profits and earnings growth is greater after incorporation. The management and the shareholders of a corporatized exchange are likely to be less connected with the market and less motivated to pursue markets interests and, therefore, less inclined to pursue public interest goals in regulation and development of the markets. The for-profit exchange may lower standards in order to generate additional revenues, such as eligibility requirements for the listing of the securities, though such pressures may also be present in a mutual exchange. The exchange "may place insufficient value on the regulatory process, fail to sustain a strong regulatory culture and be less willing to co-operate with their supervisory authorities and other regulatory bodies." On the other hand, for-profit exchanges stand much to lose if their reputation as provider

of fair and orderly markets is compromised and participants lose confidence in the exchange's ability to protect them.

Misuse of Regulatory Powers

A key concern is that a for-profit exchange, compared to a mutual exchange, may be more inclined to misuse its regulatory powers to secure commercial advantage. This tendency may be stronger when there is no effective competition in the exchange industry or when there are barriers to establishing new exchanges. The regulatory powers could be misused in two ways: (i) by taking regulatory actions to the detriment of competing exchanges and market participants; (ii) by generating additional revenues from excessive regulatory activities. Therefore, some experts feel that a for-profit exchange should play a limited regulatory role.

Financial Risk and Exchange Viability

In order to adequately discharge its functions, the exchange must be itself in sound financial health. It is even more important when an exchange is a country's only exchange. In such a case, if the exchange fails, e.g., goes bankrupt, the financial markets could be extensively disrupted. The semi-monopolistic position of the consolidated exchange would render it *too-big-to-fail* for the country's financial sector and compromise regulatory effectiveness. Even in the case it is not the sole exchange in the country, a sound financial position is necessary to be able to transfer its functions to another exchange without disrupting the markets. If it has extensive regulatory functions, it would also need to have a pool of regulatory expertise.

Financial viability of the exchange is likely to be a more significant issue with for-profit exchanges for two reasons. First, a for-profit exchange is likely to take greater business risks than a mutually organized exchange. It may also seek to provide excessive distributions to shareholders which may weaken its capital base. Second, it will be more difficult for it to raise emergency funds, than for the mutual exchange which may have a right to assess members and ask for capital contribution.

Conflicts Due to Self-Listing

A potential for a major conflict of interest with respect to the exchange's regulatory role arises when a demutualized exchange lists its own stock on the same exchange; almost invariably, the demutualized exchanges have also self-listed. The concern is that whether a self-listing exchange can function effectively as its own regulator, or is it appropriate to allow it to do.

A follow up report of the International Organization of Securities Commissions (IOSCO 2006) emphasizes the fact that for some regulators demutualization was not the only way to stimulate the development of capital markets, and not necessarily the most desirable. The report points out that the impact of demutualization on the regulatory role for demutualized exchanges is quite substantial. In case there are multiple for-profit exchanges operating in a country,

the responsibility of any one exchange becomes fuzzy and its ability to efficiently discharge its regulatory function suffers. The IOSCO Report discusses various approaches to alleviate such potential conflicts, which include reducing the regulatory obligations of the exchange by transferring these to the government regulator, to an independent entity, or to an industry self-regulatory organization.

The for-profit exchanges would have greater motivation and the access to capital that may hasten consolidation between exchanges and monopoly issues become a real concern. When there is little or no competition, it is more likely that the exchange may use its market and regulatory powers in a discriminatory manner detrimental to the public interest.

Literature on Exchange Governance and Industry Structure

Evidence on Demutualization and Exchange Performance

As the demutualization of stock exchanges has been a relatively recent development, there have not been many research studies on its impact on the performance of the exchanges. An early study by Domowitz and Steil (1999) examined the relationships between stock exchange automation, governance, and the quality of markets. The researchers argue that the demutualized stock exchanges have several benefits over the mutual stock exchanges due to their favorable governance structure. The mutually organized exchange, they argue, have built-in incentives to oppose innovations even if these increased the value of the exchange. Most of the traditional stock exchanges are also regional monopolies. In such cases, their members may even have a greater incentive to oppose improvements in the quality of exchange services, if it would diminish their personal welfare.

Hart and Moore (1996) argue that both corporate ownership and the mutual ownership are inefficient, but for different reasons. In the corporate form the outside shareholders focus on maximizing profits, and tend to make decisions based on the marginal user. The mutual form is inefficient because "the views of the decisive voter are not necessarily those of the membership as a whole." In exchanges with homogeneous membership, the latter consideration may not be operative. Since traditionally exchanges had a relatively more homogenous membership, the Hart and Moore model provides a rationale for the historically observed cooperative structure adopted by the exchanges.

Krishnamurti, Sequeira, and Fangjian (2003) examine the 'market quality' of the two competing stock exchanges in India, the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE), the former having a mutual and the latter a corporate governance structure. They make direct comparisons of the market quality of the two stock exchanges with respect to forty major stocks that are dually traded on both exchanges. The empirical tests show that NSE provides a better quality market compared to BSE. They attribute this difference in market quality to the different governance structure of the respective stock exchanges. One policy implication of the Krishnamurti et al. study is that "entrenched monopolies may be

successfully persuaded to modify their behavior by engendering competition in the market place, utilizing technology as a catalyst." And "that competition has been more effective than regulatory dictates in transforming the errant behavior of the members on the Bombay Stock Exchange." The authors point out that "the latest technological advances in networking, communications, and information processing, may be utilized to break down barriers to entry in the trading services industry."

A report by Hughes and Zargar (2006) on exchanges demutualization notes a number of significant changes in the focus and activities of the Toronto Stock Exchange (TSX) and the Australian Stock Exchange (ASX) following their demutualization. The noted changes include: (a) increased flexibility in decision-making enabling them to make timely decisions; (b) a shift in the management focus away from the members/brokers to their customers such as listed companies and investors, and to marketing, education and information dissemination; and (c) expansion of activities into new but related businesses, diversifying their revenue base, and providing value-adding services to customers.

Mendiola and O'Hara (2003) examine the effect of exchange conversions from cooperative to corporate governance on exchange performance and valuation by looking at both accounting data and stock return performance. They compare the return behavior of newly-listed exchange stock to other IPO's on each exchange. Their empirical work indicates that the exchange performance tends to improve after the change in corporate governance as reflected by the performance of the exchange shares. Other exchange performance measures such as the liquidity index also generally improve after conversions. The authors attribute the relatively superior performance of the exchange's IPO's which tends to persist in the long run to the change in the exchange corporate governance. Their results, however, show that, "for at least some exchanges, changing corporate governance cannot overcome the challenges posed by their adverse economic environment."

Two papers by Schmiedel (2001 and 2002) employ parametric and non-parametric frontier efficiency methodologies in order to derive relative efficiency values of an exchange based on accounting performance, staff size and transaction data, but not including share price data. The two studies come up with ambiguous results. The first paper shows a positive impact of demutualization on cost efficiency, whereas the second paper indicates that the productivity gains are higher for mutual exchanges.

Serifsoy (2008) uses a balanced panel data set of 28 stock exchanges to examine the effects of demutualization and outsider ownership on the operative performance of stock exchanges. He derives efficiency and factor productivity values for each exchange using Data Envelopment Analysis, and then regresses the individual efficiency and factor productivity values on variables that proxy for the different governance regimes i.e., (1) mutuals, (2) demutualized but customer-owned exchanges, and (3) publicly listed exchanges. He finds empirical evidence indicating that demutualized exchanges are technical more efficient than mutuals. However, the study finds that the demutualized exchanges perform relatively poor with respect to productivity growth and also finds no evidence that publicly listed exchanges possess

higher efficiency and productivity values than demutualized exchanges. It does not support the view that "an outsider dominated exchange is a precondition for dealing adequately with increased levels of competition in this industry," or that a demutualization process is necessary to install modern trading systems.

Otcherea (2006) examines the value effects of self-listing and the changes in business strategy on the performance of listed exchanges. The study finds that exchanges, whose revenues from traditional sources have come under severe pressure, and those with slow growing net profit margin but high growth in market activities, are more likely to convert from mutual to a public ownership structure. The self-listed exchanges show a better operating performance than their non-listed counterparts. The self-listed exchanges also outperformed the stock market indexes and a control group of non-exchange firms. The study concludes that the publicly traded stock exchanges perform better because public listing brings in better monitoring of managerial performance, and a potential threat of takeover, while demutualization leads to a reduction in agency costs associated with the mutual form of exchange and unlocks growth opportunities and exchange value.

Otcherea and Abou-Zied (2008) examine the effects of mutual-to-stock conversion of the Australian Stock Exchange (ASX) on the exchange performance and the quality of the stock market. The study finds that the ASX significantly outperformed the overall stock market and the control group, driven by strong operating performance. The study notes that the profitability ratios of the ASX significantly improved over the five years following the demutualization and self-listing, even after controlling for growth in the Australian economy. It also finds evidence of improvement in the market quality as reflected in the increased trading activity by foreign investors and narrowing of bid-ask spreads in the post-conversion period. The authors conclude that, "stock exchange conversion from mutual to publicly traded exchange is not only value enhancing for the exchange and its shareholders, but it is also beneficial for the stock market as a whole."

Analytical Studies on Exchange Consolidation and Competition Issues

Until recently, stock exchanges were not seen as competing with each other. These were generally regarded as public entities or publicly regulated private organizations. In either case, they resembled a legal monopoly by the nature of their function providing a public good. The recent technological innovations, integration of financial markets, globalization and removal of international barriers on capital movements have created a more competitive environment in the stock exchange industry. In addition many quasi-exchanges and automated trading systems are competing for trading services without offering the listing services. "The borders of what is a market and what is an intermediary become thinner and thinner," according to Di Noia (2006). The extant studies analyzing the evolution of exchanges in the face of competition and technological advancement have examined two broad aspects of the industry (i) the network effects (ii) presence of economies of scale.

Network Effects

Domowitz (1995) points out that the exchanges generate network externalities which means that the greater the number of customers they serve the higher the utility for everyone. Therefore, the firms want to be listed on an exchange where other firms are also listed, and where many intermediaries trade. The intermediaries want to trade on exchanges where other intermediaries also trade and many firms are listed. The presence of network externalities would then lead to only one exchange surviving, unless regulation or other imperfections would segment the market. Domowitz argues that because of the positive liquidity effect of network externalities and standardization in the exchange industry, common electronic trading platforms, i.e., *implicit mergers*, between existing exchanges will emerge. His analysis indicates that such implicit mergers allow individual exchanges to set prices above marginal cost allowing them to sustain profits in the long run.

Di Noia (2006) analyzes the competition among the exchanges using the network theory and finds that multiple exchanges may end up as one consolidated exchange; however, such consolidation may not or may not represent a welfare efficient outcome. His model shows that the exchanges may arrive at equilibrium, "where exchanges may decide, even unilaterally, to achieve full compatibility through implicit mergers and remote access, specializing only in trading or listing services." Such *implicit mergers* are shown to be always more efficient than the actual competition, especially in the presence of cross advantages in marginal costs. It concludes that, "regulation should guide or favor implicit merger, eliminating all obstacles to listing and delisting in exchanges and to trading, implementing, in full, remote access." The model explains the success of automated trading systems that seem to have unilaterally achieved compatibility by listing stocks already listed on the organized exchanges, thus free-riding on the listing services provided by the latter.

Economies of Scale in Exchange Industry

A fundamental issue underlying the stock exchange consolidation is whether competition between stock exchanges is viable. Stigler (1961, 1964) is among the first to point out that the trading of a particular security tends to cluster in a single location. He attributes this tendency to the presence of economies of scale in information production and, therefore, in the price discovery process. Subsequent empirical analysis by Doede (1967) and Demsetz (1968) document the scale economies present in securities markets. The economies of scale will lead to order flow concentration in the market with the lowest execution costs. However, information costs and regulatory barriers can impede this tendency.

Economic analysis based on 'economies of scale' argument suggests that, in the absence of regulatory barriers, a single market in securities will emerge given telecommunication technologies which allow markets to function independent of the physical location. Pirrong (1999) predicts that economies of scale will lead to consolidation among stock exchanges. Davis (1990) argues that the harmonization

of regulation in the EU countries and advancement in technology should lower entry barriers and tighten competition between European financial centers and, hence, lead to decline in natural monopolies within countries. Because of significant economies of scale in financial services a single global centre in Europe may emerge. The recent developments in Europe show how electronic networks like EUREX are able to replace trading floors. Advancements in technology indicate that exchange location may have ceased to be critical for market places and that globalized competition between financial centres will lead to consolidations across regions.

Exchanges are considered to be special kinds of firms that produce prices through a combination of listing and trading services. Exchange serve two types of direct customers, firms that list their securities and the intermediaries that trade in these securities. Gaspar and Glaeser (1996) argue that exchange functions involve the handling of complex information requiring face-to-face contacts and hence multiple market places for securities may exist as a means of reducing the fixed cost involved in such interactions. Since telecommunication may complement but not fully supplement complex information requiring human communication, the local financial centres will still have a role to play. Their analysis directly contradicts the argument that telecommunications will eliminate the significance of location.

Gehrig (1998b) shows that multiple markets will exist under free entry of firms when markets are large enough, even in the presence of strong forces favoring agglomeration. Gehrig (1998a) argues that financial markets are not frictionless, in contrast to the usual assumption in finance literature which leads to geographical dispersion of financial activity. There are both *centripetal* and *centrifugal* forces at work in the financial service industry. Major centripetal forces are economies of scale such as in the payment, settlement and currency trading systems. Other centripetal forces include informational spillovers, market liquidity and market externalities, such as a liquid labor market. The centrifugal forces acting to disperse the financial markets come from local differences in market access costs such as transaction costs and localization of information. Financial securities which are priced on the bases of complex local information are particularly subject to centrifugal forces. It follows that exchange functions involving processing of complex and local information is likely to be concentrated in local instead of global financial centers or electronic trading systems. Malkamäki and Topi (1999) find that trading in bond derivatives shifted from national derivative exchanges to the EUREX, but a parallel concentration of trading did not take place for stock derivatives. They argue that this development was consistent with the network externality argument but also with the analysis of Gaspar and Glaeser (1996) and Gehrig (1998a).

Malkamäki (2000) divides the exchange functions into two groups: (1) trading services which involves matching and processing of transactions through use of computers, software and personnel and (2) listing and monitoring of information which involves personnel and regulatory framework to maintain the market and communicate with the clients. He provides empirical evidence on the economies of scale and efficiency in 38 stock exchanges around the world with respect to the two separate aspects of the exchange functioning. The empirical analysis shows that the

trading function leads to significant economies of scale. The implication is that implicit mergers between stock exchanges as suggested by Domowitz (1995) are thus a realistic scenario as far as this function is concerned. The second function performed by a stock exchange involves market regulation, listing of securities and monitoring of trading and listed companies. This function involves complex information and human communication and the empirical evidence indicates that it entails little or no returns to scale. Malkamaki (2000) concludes that, "it might be optimal that listing procedures and communication with companies and other related matters continue to be handled at the national-exchange level." The study, however, also finds that, "the returns to scale exist in the combined operations of the very large stock exchanges, which suggests that scale (liquidity) is a very strong externality for the biggest exchanges."

Discussion and Conclusions

Demutualization across countries has been pursued as a response to the dynamic changes taking place in the global exchange industry and is seen as hand-in-hand with the industry consolidation through mergers and acquisitions. New and possibly more aggravating conflict of interest issues arise when an exchange transforms from a member-owned into a for-profit entity, which are exacerbated in case the exchange's stock is also listed on the same exchange. The post-demutualization structure of the exchange industry places challenging demands on the regulatory framework to prevent potential conflicts of interest on exchanges operating as for-profit entities and self-regulating agencies.

While the demutualization of the exchanges in Pakistan holds promise in improving corporate governance and alleviating conflict of interest inherent in the mutual forms of organizations, its raises concerns as to the regulatory capacity to deal with the newly emerging environment. Previous studies such as Uppal and Mangla (2006) document that the regulatory effectiveness in the monitoring and enforcement of capital market regulation has been relatively weak in Pakistan. The recent global financial crises underscore the need to ensure that the regulatory effectiveness is commensurate with the complexity and pace of innovation in the financial markets.

The decision to allow multiple exchanges to consolidate has to be evaluated from the public interest point of view depending on an individual country's unique circumstances relating to the capital markets and regulatory capacity. The literature on the question of exchange consolidation brings out two competing considerations. On the one hand, both the net-work theory and the economies of scale arguments suggest that the competitive pressure and advancements in communication technology will lead to only one exchange surviving, unless regulation or other imperfections would segment the market. On the other hand, the exchanges are regarded as public entities or publicly regulated organizations, and their output, the exchange services, are considered in the nature of a public good, and their status as a legal monopoly is accepted. In the developing countries they are also expected to play a leading role in capital markets development.

Recently, a greater emphasis is being placed among regulators on ensuring a competitive environment than on enhancing operational efficiency. There is a need to maintain a competitive environment in which enforcement of market regulation is supplemented and supported by market discipline. In addition, a single integrated exchange poses systemic risk to the country's capital markets in case the exchange experiences financial distress. The current global financial crisis points out to the political and economic perils of letting any one institution become *too-big-to-fail*. The possibility that a single consolidated exchange may overextend itself because it can externalize some risks is real and must be considered.

An econometric study into the performance of the Pakistan's stock exchanges (Uppal 2008) shows that the Lahore Stock Exchange appears to be contributing to the price discovery to an appreciable extent and playing an active and competitive role. Elimination of the competitive pressure by a possible merger of exchanges is likely to lead to higher transaction costs, lower incentives for regulatory compliance and diminish motivation for promoting the capital market development.

A possible way out to reap the benefits of the economies of scale and network externalities through consolidation, while avoiding creation of an exchange monopoly, may be to encourage an 'implicit merger' where separate exchanges achieve full compatibility and remote access capabilities in trading and listing services, as discussed in Domowitz (1995) and Di Noia (2006). This would mean consolidation of the trading function involving execution of transactions which entails significant economies of scale. The second function involving market regulation, listing of securities and monitoring of trading and listed companies does not seem to entail economies of scale; it may continue to be handled at the regional exchange level. Recommendation of the Asian Development Bank (ADB 2007) is also to "strengthen linkages between exchanges to achieve a unified national market system in securities" as a more realist option. The Second Generation of Capital Market Reform Programme envisions a unified national market system to be created through systematic exchange of information between various trading platforms, which will allow public exposure of customer orders for the purchase and sale of shares.

We should note a similarity here with the developments in the U.S. in the 1970s. In 1975 the Securities Exchange Act of 1934 was amended which made it a U.S. policy to develop a national market system for the trading of securities. Subsequently, the SEC encouraged the establishment of several electronic systems to integrate the domestic stock exchanges. Development of the electronic linking systems was also intended to preserve the regional exchanges as competitive forces to the NYSE. A proposal to integrate the markets further by establishing a consolidated limited order book was also considered but rejected which would have allowed the market orders to be executed against the best bid or ask prices posted from all exchanges.[3] Blume and Goldstein (1997) note that, "full integration through a consolidated limit order book would eliminate the competition among markets that now exists. As mentioned above, maintaining such competition is one of the goals of the national market system - a goal that is arguably inconsistent with full integration. … But, in repetition and as a word of caution, there has been little theoretical or empirical

work to show that an overriding goal of public policy should be a complete integration of the markets for the trading of NYSE-listed stocks."

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Notes

[1] The Federal Cabinet approved the Stock Exchanges (Corporatization, Demutualization and Integration) Ordinance on January 22, 2008. The National Assembly approved the Ordinance on October 9, 2009.

[2] For a thorough coverage of demutualization issues and case studies, see Akhtar and Karmel (2003).

[3] "The Commission believes that the liquidity needs of individual and institutional investors can best be provided by policies fostering the development of competition among dealers who are specialists, market-makers and block positioners. Such competition will mitigate the very difficult problem which now exists of developing and enforcing rules designed . . . to prevent specialists from abusing their privileged position": Statement of the Securities and Exchange Commission on the future structure of the securities markets quoted in Blume and Goldstein (1997).

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