FEMALE LABOUR FORCE PARTICIPATION IN SOUTH ASIA: A COMPARATIVE STUDY OF BANGLADESH, INDIA, PAKISTAN AND SRI LANKA

Rabia Siddiqi

Lahore School of Economics

This dissertation is submitted for the degree of

M.Phil Development

Studies 2015

Supervised by:
Dr. Fareeha Zafar
Co- Supervised by:
Dr. Ahmed Nawaz

ABSTRACT

The purpose of this research was to study the trend observed of some of the determinants namely literacy rates/educational levels, fertility rates, dependency, urbanization and income inequality on female labour force participation of Bangladesh, India, Pakistan and Sri Lanka for a period of 1990 to 2011 by analyzing data from World Development Indicators. The selected variables are also tested empirically by employing Fixed and Random effects model and find that improved educational levels, dependency rate, urban growth and income inequality raise the female labour force participation whereas fertility rate decelerate it in general. As a contribution to the existing literature this study also analyses the impact of aforementioned variables on female employment at different sectoral level i.e. agriculture, industry and services. The results find that tertiary level of education significantly contributes female employment in agriculture and industry whereas employment in services is driven by secondary education. Age dependency contributes to employment along all sectors. Fertility contributes significantly only in agriculture sector. Income inequality increases women participation in agriculture and industry. We propose certain policy implications based on the findings.

ACKNOWLEDGEMENTS

LIST OF TABLES

LIST OF FIGURES

TABLE OF CONTENTS

INTRODUCTION

The labour force of any country is the main ingredient of its development. A skilled labour force can pave the way for the development of a country. Evidence shows that countries with higher rates of development have a skilled labour force as in the case of China, India, Taiwan, Korea, Hong Kong and Malaysia.

Development is marked by the movement of workers from agriculture to manufacturing (and more recently services) and rural to urban migration accompanied with rising levels of education, declining fertility rates, and shifts in other socio-economic drivers of labor force participation as witnessed during the Industrial Revolution and more recently in Southeast Asia. Such changes redefine the role of women, especially in the labor market (Verick, 2014).

Female labor supply can be viewed as a driver and an outcome of development. Economic development increases female participation in labour market however this is much more intricate at the country level. Economies develop rapidly due to higher labour inputs as women participation increases, simultaneously improving women's capabilities as social constraints weaken providing a greater freedom to women to participate in labour market. Labor force participation is the outcome supply-side factors (which include rising household incomes, preference for male employees, husband's education, stigmas against educated women engaging in menial work) but also of the demand (educational attainment, fertility rates, social norms, and other factors) for labor. The relationship between female labor force participation and these factors is complex. The U-shaped hypothesis is the most readily studied phenomena

to explain the relationship between economic development and women's labor force participation. According to this hypothesis poor countries have highest female participation in labour force forming majority of subsistence work-force, and fall in middle-income countries because of the transition of (mainly) men to industrial jobs. However, women participation increases as the education levels improve and fertility rates fall to fill in the gap created in the service sector.

The relationship show varying socio-economic and demographic factors affect women participate in labour market is complex. Usually the decision to work is mainly driven by poverty (as evident in low-income countries) and by better job-opportunities available due to women's increasing educational attainment. Moreover women take up (typically informal) employment to supplement household income during periods of financial crisis.

Women's labour force participation has remained stable from 1990 to 2010, at approximately 52 per cent globally (ILO, 2014). But globally gender gap in labour force participation rates (LFPR here onwards) remained constant, between 2002 and 2012, with an equal fall in both sexes' LFPR because of education for younger age cohorts, aging, and a "discouraged worker[1]" effect. Gender disparity is highest in South Asian countries notably Afghanistan, Pakistan and India, and lowest in Nepal (the exception for South Asia) in labour force participation rates. (Chaudhary & Sher, 2014).

It is crucial to look at the type of jobs women take up. Generally, women are paid less and employed in low-productivity jobs (Verick, 2014). Economic indicators of job quality, such as gender gaps in vulnerability and occupational segregation show

significant gaps in 2012. More women (50.4%) are present in vulnerable employment, which consists contributing family workers and own account workers (as opposed to wage and salaried workers). Asia and Africa have high vulnerability gaps (ILO, 2012).

Women have limited choice when it comes to employment opportunities across various sectors. Women are moving out of agricultural sector into industry in the developing countries and into services from industry in developing nations (ILO, 2012).

Women's employment is seen to be empowering or "status enhancing", giving them control over income and resources and a greater say in family decision-making. If women are equally represented in the labour market the overall economic efficiency of a country will improve (ILO, 2012). Women's equal and active involvement in the labour market can increase growth and productivity of country. Previous literature suggests even though the educational conditions of women have improved in past years their participation in economic activities is still low.

1.1 Relevance and Justification of the Study

"Women are the real drives of economy as proven from studies conducted by United Nations, World Bank, Deloitte, Ernst & Young—as business leaders, employees, consumers and entrepreneurs." Women account 49.6 per cent of the total global population, of which only 40.8 per cent is in the formal sector (World Bank).High female labor force participation rates (FLFPR here onwards) in developing countries are reflective of poverty. Improved educational levels raise the reservation wage[2] and expectations of women which needs to be matched by job creation.

The under representation of women in measured economic activity has macroeconomic consequences. FLFP has remained lower than male participation, with most women involved in unpaid work, and even when women are employed in paid work, they are usually in the informal sector (Woytek, et al., 2013).

Investing in women can yield a significant "gender dividend," according to a 2011 Deloitte. Reaping maximum benefits from the gender-dividend not only requires a change in discriminatory laws and policies against women but a strategic approach to integrate women's experiences, perspectives, and voices in the fabric of an organization. Increasing women's labour force participation rates relative to men's contributes to the pace of economic growth and progress in social development.

Moreover, as mentioned earlier given the limited choice women have to participate across various sectors and pervasive occupational segregation coupled with the large gender disparity intrinsic of South Asia it is worthy to investigate factors affecting female sectoral segregation to give a more realistic view of female participation in selected countries of South Asia.

1.2 Rationale for Selecting Countries of South Asia

According to the World Bank, over the past twenty years, South Asia witnessed substantial economic growth, averaging 6 per cent a year, resulting in a decline in poverty and improvements in human development. As mentioned in the January 2013 Global Economic Prospects, growth in South Asia weakened to an estimated 5.4 per cent in 2012 from 7.4 per cent in 2011, mainly as a result of a slowdown in India. South Asia has the world's largest working-age population (World Bank). The share of women in total waged employment is marginally above that for Sub-Saharan

Africa (ILO, 2012). The rate of female labour force participation in South Asia is 30.5 per cent (2014) as compared to 80.6 per cent for males according to ILO estimates. Compared to the global average, the FLFPR in South Asia is much lower at 50.3 per cent (WDI).

The sample countries are all in their intermediate stage of development, share common borders and have somewhat similar cultures but have quite varying female labour force participation rate. South Asian countries present an enigma with regard to FLFPR, with India showing falling rates despite robust economic growth over the past twenty years while rapidly declining fertility rates and improved educational attainment (Bhalla and Kaur, 2011). Contrary to India, female participation rates in Bangladesh and to a lesser degree in Pakistan have improved, while women's participation has been rather static in Sri Lanka despite high levels of human development and economic growth (Chaudhary & Verick, 2014).

1.3 Research Objectives

The objectives of this research are to:

1. To review the literature of overall female labour force participation and at sectoral level (agriculture, industry and services) of Bangladesh, India, Pakistan and Sri Lanka from 1990-2011 and identifying the major determinants of female labour force participation.

2. To empirically investigate the impact of major determinants of female labour force participation namely educational level, literacy rate, dependency ratio, urban population growth, fertility rate and GINI Index on females

participation in different sectors (agriculture, industry and services) of labor market.

1.4 Research Questions

Based on the above objectives, following research questions have been framed:

1- What are the major determinants of female labour force participation in Bangladesh, India, Pakistan and Sri Lanka?

2- What is the impact of literacy rate, educational levels, fertility rate, dependency ratio, income inequality and urbanization on female labor force participation?

3- What are the differences in female labour force participation at the sectoral level in the four countries?

The study is organized as follows: The introduction is followed by a review of literature including various studies related to female labour force participation. In Chapter three general trends of female labour participation in the selected countries are discussed. Chapter 4 discusses the operational methodology, followed by a descriptive analysis of selected variables in Chapter 5. Empirical analysis and discussion is presented in Chapter 6. The final chapter presents some policy implications.

A Review of Literature

The literature on FLFPR can be reviewed theoretical predictions as well as empirical findings. There is extensive literature on the various determinants of female labour force participation (such as individual and household characteristics, fertility rates, cultural attitudes, levels of education, societal norms and urbanization) and on the relationship between economic development and female labour force participation. This chapter reviews both comparative and country-specific studies.

Hafeez & Ahmed (2002) investigated various factors affecting the decision of educated married women to participate in the labour force in Punjab. Better educated women tend to participate in the labour market more. Females living in large and joint families are more employed as compared to the women belonging small and nuclear families. Financial background also determines women's choice to work. Low income and few financial assets put economic pressure on women to work. Economic factors rather than socio-economic factors substantially influence women labor force participation decision.

Ejaz (2007) verifies the findings of the previous study that education is the major factor determinant of women's participation in the labour force by utilizing PSLM (Pakistan Social and Living Standard Measurement Survey 2004-05) data. But in the case of Bangladesh with lower literacy rates compared to Pakistan its FLFP is highest in South Asia which suggests that there might be some other reasons that affect the decision of females to work. This study identifies major determinants of FLFP with reference to rural and urban areas. Results suggest that age, educational attainment and marital status have significant and positive effects on FLFP and women

belonging to the nuclear family in procession of cars with higher chance of working: whereas, having many off springs and household appliances decreases FLFP, implying that reducing the child care burden on females and facilitating educational attainment would lead to a higher labor force participation rate for females in Pakistan.

Faridi, Malik, & Basit (2009) research on the impact of education on FLFP in district Bahawalpur shows that the age of females affects FLFP positively and their LFP increases as education increases. Husband's education has a positive and significant effect on wives' employment. Shahid (2009) explores the attitudes of men on girl's education and female labour force participation in district Lahore, Pakistan using a case study approach. Men living in urban areas of Lahore constitute the "Focus Group" whereas the men living in rural areas of district Jhang are the "Reference Group" in order to compare attitudinal difference in the rural/urban context. To understand the attitudes towards boys and girls education a survey of school children (age 12-17) and school teachers was also conducted. The majority of males have shown positive attitudes on the education of girls. In stark contrast are their strong reservations on women's paid work. Women contribute a lot in production and reproductive activities and usually work longer hours than males yet their activities often go uncounted and unrewarded. Women have limited opportunities in the formal sector owing to socio-cultural constraints and their work is underrated in informal sector.

Bhalla & Kaur (2011) discuss the reasons behind low FLFR trends in India despite falling fertility rates, rising incomes and more job opportunities for educated labour

by analysing National Sample Survey (NSS) household level data for the last 25 years. India has one of the lowest FLFP for urban women. They find that female education has a postive effect on labour force participation rate but male education has a negative effect since women married to higly educated males are less likely to participate in the labour market. The presence of the emerging middle class along with male education, is slowing down LFPR. Mianuddin (2012) studies the work participation rate (WPR) of women in Indian states based on the census conducted in 2001. The paper is based on the hypothesis of an increasing women's WPR with higher educational development. Women working ratio does not show an increase despite improved educational levels and always below male rates in all states. However rural female participation rates are always higher than of males. He concludes that the low mobility of women from villages, due to religious and social restrictions as the determining factor.

A more recent study by Klasen & Pieters (2013) study the low level and relatively stale FLFPR in urban India between 1987 and 2009 by using five large cross-sectional micro surveys, and find that a combination of supply and demand factors have contributed to this stagnation rate of 18 per cent despite rising growth, decling fertility, rising wages and education levels. Rising household incomes, stigmas against educated women engaging in menial work and husband's education are some of the supply side factors.

Isran & Isran (2012) state women become empowered and their bargaining position improves within the household as their representation increases in the labour market. They find that, female employment is also constrained either due to the non-

availability of self-employment opportunities or the existence of cultural inhibitions in finding low waged employment outside the household.

Aboohamidi & Chidmi (2013) in their study use the main determinants mentioned in previous literature to measure their effects on labor force participation in four different countries including three MENA (Middle East and North Africa) countries (Egypt, Morocco and Turkey) and Pakistan. All are Muslim majority countries with similar FLFP rates despite different socio-economic environments. Turkey despite being a member of Organization for Economic Co-operation and Development (OECD) has one of the lowest FLFP rates. Morocco and Egypt are geographically close but with varied difference in their FLFP rates. Tunisia and Morocco are the only MENA countries that do not have low FLFP rates. Pakistan is included in the study because it shares similar low FLFPR. The results show that literacy and urbanization rates have a positive and significant effect on FLFPR; whereas fertility rate and per capita GDP have a negative and significant effect on FLFPR; with no significant effect of female education enrollment and trade openness.

Gunatilaka (2013) found important differences in the factors that appear to enable and constrain married and single women, and female heads of household, from participating in the labour market in Sri Lanka. Wage is not a good predictor of FLFP but remittances from abroad seemed to define the financial need to work. The drivers for single women are: all levels of education above primary level; the presence of another adult woman at the house; higher share of employed females in the district, relative to the males in the same education category; and whether they are living on estates. Factors associated with the participation of female head of housholds in the

labour market are: age, university education, a large informal sector in the district, and whether they are living on estates. The drivers for married women's participation are: age, education, higher per capita household consumption, avilabilty of domestic help and children.

Women in Bangladesh are under reported in official statistics because of exclusion of women from paid work. Mahmud & Tasneem (2011) explore issues official statistics fail to enumerate the entirety of women's economic activity in Bangladesh. For this purpose FLFPR is estimated using a number of different definitions of economic activity, including the Bangladesh Bureau of Statistics (BBS) definition. Variations in the FLFPR emerge on the basis of what activities are excluded/included for women aged 15 and above in 69 villages of eight districts of Bangladesh. The FLFP rates increase by 3-16 folds if market work inside the home is taken into account along with the paid work.

The determinants of patterns of labor market participation in Bangladesh has been investigated by Kabeer (2015). Despite more than a decade of strong growth rates, Bangladesh, in common with much of South Asia, continues to report relatively low rates of female labor force participation, with the majority of working women concentrated in unpaid family labor and home-based self-employment. Kabeer finds that employment choices of women are affected by the interplay between structural constraints (location of work), include social norms and values (*purdah* and patriarchy), and individual choice.

Mead, Rokeya, & Nahar (1979) look in detail at the the consequences of purdah and patriarchy on rural women in Bangladesh. They find that the social norms dictate

women participation in labour market curbing opportunities for independent income generation. However with increasing poverty and inability of males to provide for their women is forcing women out of home who must fend for themselves. There is a dearth of literature on factors affecting FLFP in different sectors of economy (agriculture, industry and services) as stated by Aboohamidi & Chidmi (2013) in their research; for which reason the present study will look at the how different factors effect women participation in various sectors.

LABOUR MARKET SITUATION OF SAMPLE COUNTRIES: EXPLAINING THE LOW RATES OF FEMALE PARTICIPATION

ILO estimates for female labour force participation rate[3] over a period of 23 years from 1990-2013 for Bangladesh, India, Pakistan and Sri Lanka are shown in the table below.
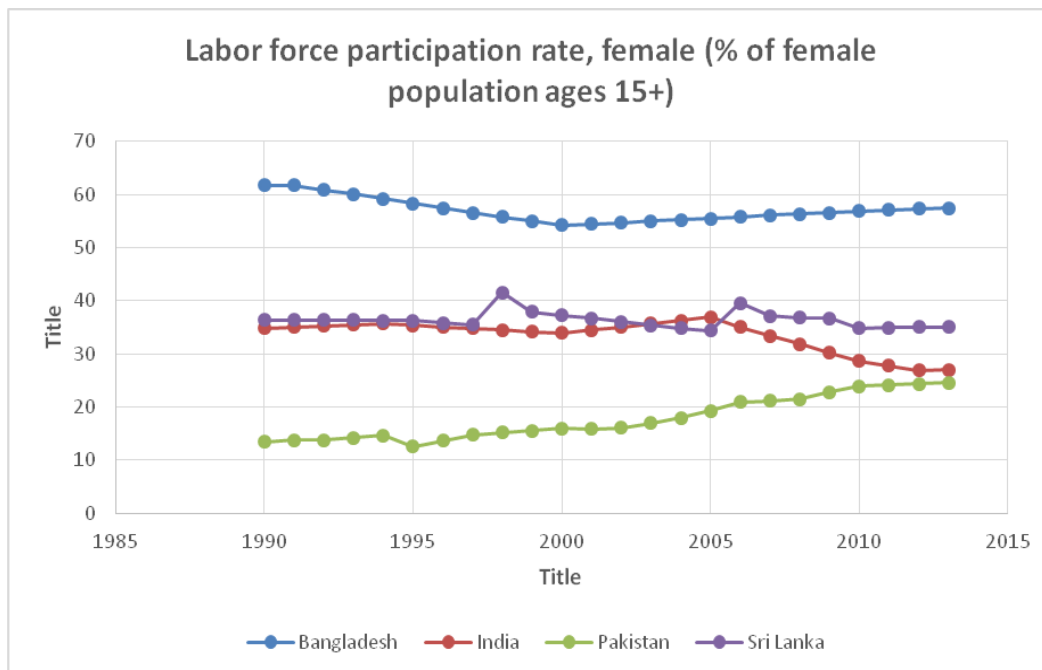
Figure 1: Female Labour Force Participation Rate (% of female population ages 15+) (ILO estimates) 1990-2013
Source: Based on Data taken from World Development Indicators

From the above graph (figure 1) it is quite evident that the highest female labour force participation rate for all years is of Bangladesh with a value of 57.4 per cent for 2013, with Pakistan having the lowest rate of 24.6. Bangladesh has increased its participation due to the growth of ready-made garment industry and increase in rural female employment. However, even though Pakistan's FLFPR has remained lowest for the selected time period it is slowly increasing compared to the rest of the countries. Most notable is the Indian female labour force participation rate which shows a steep decline and has reached a low value of 27 (2013) despite strong

economic growth. Sri Lanka on the other hand shows a stable FLPR since 1990 despite the robust economic growth in recent years. Gender gap is persistent in all countries in labour force participation rates, with males almost having twice as much rate as compared to females (see figure2). Participation of males is highest in Bangladesh just like that of females however the rate is falling steadily over the years. India's male participation rate is drastically falling since 2005, as opposed to Pakistan's rate which has stayed fairly stable; Pakistan also has to second highest rates for male participation in the selected countries as opposed to female rates which are lowest in the sample. Sri Lanka's male participation rate is lowest in the sample countries and shows fluctuations over the years. Interestingly, despite male rates being much higher than females, the rates of males are falling as opposed to females which are rising except that of India.
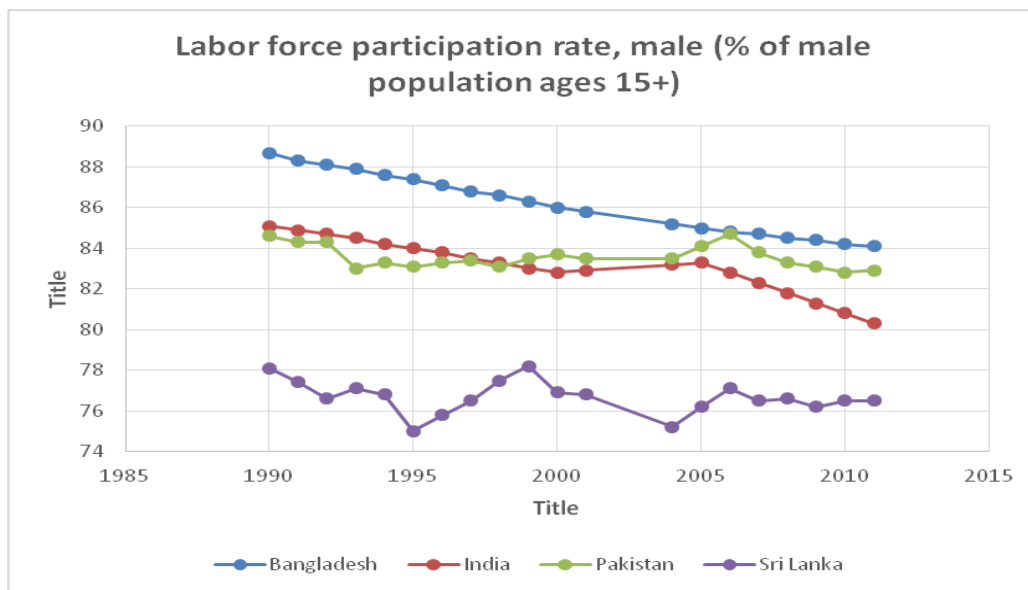
Figure 2: Labour Force Participation Rate, Male (% of male population ages 15+)
Source: Based on Data taken from World Development Indicators

Skill development plays an integral part in sustainable and long-term economic growth. However, if half the population is deprived of this, growth and sustainability

14

will be compromised. Gender discrimination is high in the selected countries apparent from official statistics on education, employment, health and political participation. With drastic mechanization of industrial processes, the dynamics of labour market are also shifting resulting increasing gender gaps in some industries as the jobs women previously held become obsolete, while creating new opportunities in different sectors.

Table 1 shows the 2015 index and sub-index rankings of the four selected countries from all the 145 countries. The rankings of the Global Gender Gap 2015 report show similar trends as seen in the labour force participation rate over the years with Bangladesh performing better than the rest and Pakistan being at the bottom of the group.

Table 1: Global Gender Gap Index 2015 rankings

Global Gender Gap Index 2015 Rankings										
	Global Index		Economic Participation and Opportunity		Educational Attainment		Health and Survival		Political Empowerment	
Country	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Bangladesh	64	0.704	130	0.462	109	0.948	95	0.971	8	0.433
Sri Lanka	84	0.686	120	0.577	57	0.995	1	0.980	59	0.193
India	108	0.664	139	0.383	125	0.896	143	0.942	9	0.433
Pakistan	144	0.559	143	0.330	135	0.813	125	0.967	87	0.127

Source: Global Gender Gap Report 2015

An overview of the female labour market in each of the selected countries is given below.

3.1 Bangladesh

Bangladesh is a lower-middle income country with a large population of 159.1 million (2014), with women forming 49.50 per cent of the total population. Women make up 40.32 per cent of the total labour force. 31.5 per cent (2010) of its population lives below poverty line which is the largest amongst the selected countries. Bangladesh's HDI value for 2015 is 0.57 ranking it 142 from 187 countries, the adult literacy rate is 58.8 per cent (UNDP 2015).

Bangladesh is lacking in natural resources, therefore the development of the country depends on harnessing the skills of labour. A skilled labour force can contribute to development internally and through remittances. In recent years, remittances are the highest source of foreign exchange earning of Bangladesh. The economic status of women in Bangladesh is low making difficulty to achieve gender equity. The Global Gender Gap Report (2015) shows that Bangladesh (ranked 64) moved up four places from 2014 to 2015, with improvement across all sub-indexes except "'Economic Participation and Opportunity'".

3.1.1 Labour force participation, employment and unemployment

Rahman & Otobe, (2005) point to the existence of gender gaps in the labour market in Bangladesh as women are not seen as primary players or participants in the economy mainly because of the traditional beliefs regarding the role of women. The underestimation or omission of women in national data thus ignores the fact that women participate in the formal and informal sector as well as unpaid household workers. The LFS of Bangladesh is beset with problems of choice of criterion for

inclusion in the labour force which should to be taken into account while making cross country comparisons.

Persistent poverty and the gradual erosion of familial support have led to a change in women's roles, responsibilities and mobility (Rahman K.M. 2013). Gender gaps in labour force are shrinking due to increased share of women in LFPR.

Between 1991 and 2000, the female LFPR increased by 8.7 percentage points showing that more women are entering the labour force (Rahman & Otobe 2005). Rahman & Islam (2013) show that female LFPR went through a continuous rise from 1991 to 2010 while male LFPR decreased from 87.4 per cent to 82.5 per cent. From 2006 to 2010, female LFPR increased by 10 percentage points. The recent rise in the female LFPR (2006 to 2010) stands in contrast to the Indian labour market scenario.

Although the empirical evidence hypothesizes a U-shaped relationship between economic growth and women's employment, implying a decline in female labour force participation rate during the early stage of growth, the evidence from Bangladesh does not support this hypothesis. In fact, there has been an increase in female labour force participation alongside the acceleration in economic growth since the 1990s. In contrast to India, there has also been no decline in female labour force participation in agriculture. Bangladesh has witnessed a substantial increase in female employment in labour-intensive export-oriented industries in urban areas, namely the readymade garment sector. Rahman & Islam (2013) find that women's participation has also increased in poultry and livestock and a variety of rural non-farm activities, thanks mainly to the spread of microcredit. However, despite such growth, the rate of female labour force participation in Bangladesh (36% during 2006-10) has remained

much lower than in countries of East Asia (67% in 2010). Women's employment in urban areas is overly dependent on a single industry. Moreover, issues relating to the level of and gender differential in wages, and other aspects of compliance with labour standards remain.

Employment opportunities especially for women in Bangladesh are limited. Whereas the labour force data provides an overall scenario of the number of persons working as well as looking for a job, employment data is more specific as it refers to the actual number of persons employed. Rahman K. M., (2013) notes a progress in the number of employed population[4] over the years. The employed female population increased with a rate of 10.51 per cent per annum from the year 2000 to 2010, as opposed to males which also increased but at a much lower rate. It is suggested that this improvement in employment status of women might be related to the progress of other social indicators like education in recent years.

Despite improvement in the percentage of employed population, the unemployed population[5] has also showed a rise over the years. The number of unemployed females has increased to 1 million in 2010 from 0.7 million in 1999-00 owing to inadequate job opportunities, socio-cultural and institutional barriers, especially for women.

3.1.2 Sectoral segregation of women in Bangladesh
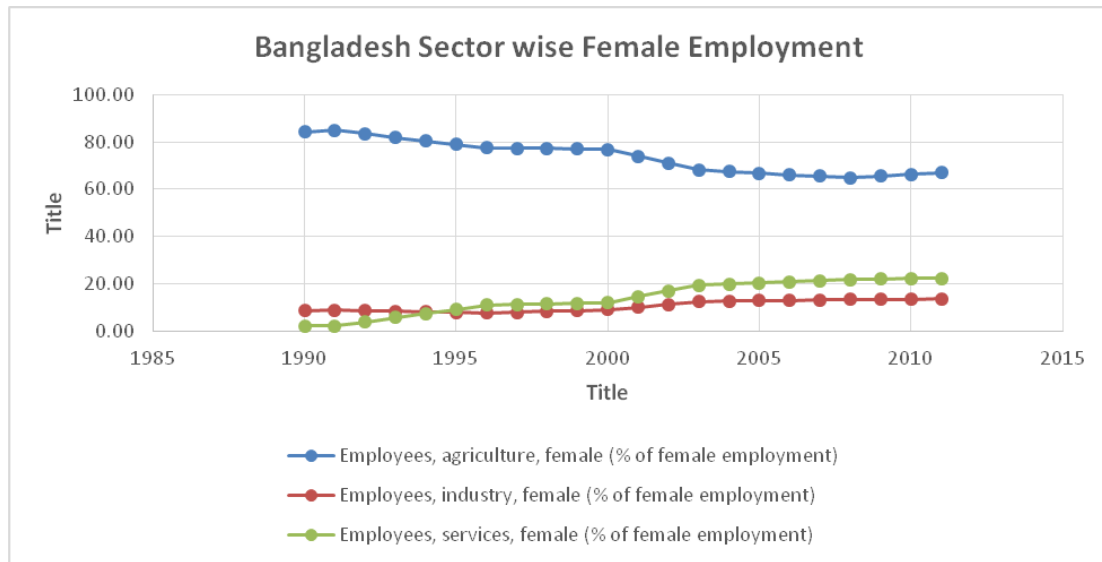
Figure 3: Bangladesh Sector wise Female Employment
Source: Based on Data taken from World Development Indicators

Much of the female labour force was employed in the agriculture sector, with women making up almost 85per cent of the agricultural labour force in the 1990s; however, this has declined to 68 per cent in 2013 (see Figure 3). But overall, even today women are mostly employed in agricultural activities. There has been a significant increase in the industry and services sector as most women are shifting to these sectors which are better paid than agriculture reflecting structural shifts intrinsic to economic development. Distinctive sectoral shifts are witnessed in the structure of female LFP when positive growth was seen in manufacturing especially in ready-made garments in 1990s (Rahman & Otobe 2005).

Women mainly work in unpaid sector and in subsistence activities. With the increase in poverty, weakening of social restrictions and the demand for labour generated by some sectors has led to an increase in FLFP with changes in the nature of jobs and opportunities for women. Males are concentrated in "agricultural occupations" whereas females are in household work. Over the years, there is a decrease in

19

household work between 2001 and 2010 while there is an enormous increase in the female proportion in the agricultural sector as shown by Rahman K. M. (2013). This indicates that women are more likely to come out from their traditional work in the desire to earn an income from other work like agriculture, manufacturing, transport & communication and business. Moreover, it could be infered that sectoral growth and supply push factors have increased the participation of women from home-based to market-oriented activities.

Rahman & Islam (2013) find that the share of the male labour force in agriculture went through a slight decline conforming to the U-shaped hypothesis. It was 52.3 per cent in 1990-91, 51.8 per cent in 1999-2000 and 49.8 per cent in 2002-2003. In 2006 and 2010 the shares were 41.8 and 40.2 per cent. Thus, during 1996 to 2003, the change was somewhat slow. The decline of the share of male labour force in agriculture was much larger during 2003 to 2010. However, female labour force instead of declining as expected during early years of development showed an increase from 27.8 per cent in 1996 to 46.9 per cent in 2000 and 64.8 per cent in 2010. The rising share of employment in agriculture stands somewhat contrary to expectations, especially in view of the declining share of agriculture's contribution to GDP. Rahman & Islam (2013) explain the possible rise to better enumeration and changes in definition and sex disaggregated data availability in recent years. A large percentage of women is engaged in the livestock sub-sector (35 % females and <1% males). The inclusion of unpaid women involved in livestock and poultry rising, in the agricultural labour force has raised the FLFP figures quite significantly.

Female employment growth rate during 2006 to 2010 was 8.4 per cent in agriculture, 9.6 per cent in manufacturing, 12.0 per cent in community services and 23.4 per cent in wholesale and retail trade and is higher as compared to males in all categories.

Despite a positive policy employment FLFP in Bangladesh remains rather low. Even after a reasonably respectable growth of per capita incomes since the 1990s, the industry and occupational segregation has not changed substantially. Other than the RMG industry, no other manufacturing industry employs women in significant numbers. In the urban areas, educated women are increasingly moving into service sectors like finance, telecommunication, etc. But it cannot yet be said that the industry and occupational segregation has been dismantled.

3.2 India

India is also a lower-middle income country with a population of 1.295 billion (World Bank, 2014) making it the world's largest democracy. Women make up 48.15 per cent (2013) of the total population but form only 24 per cent of the total labour force. Women hold 12 per cent of the total seats of National Parliament. India's ranking in the Global Gender Gap Index 2015 has moved up six positions from 2014 (current ranking 108) with more than double the percentage of women in ministerial positions (from 9% to 22%) making it the most improved country on the Political Empowerment sub index in the Asia-Pacific region.

According to UNDP in India has showed growth and improvement in human development recently. But this high growth has been accompanied by persistent poverty (poverty rate of 21%) and inequality. The sharp declines in FLFPR occurred at a time when India witnesses GDP growth of around 8 per cent (World Bank, 2012). It is expected that high rate of annual growth over a sustained period would create many new job opportunities and reduce the incidence of poverty, this does not hold true for India. According to the Global Gender Gap report, 'Economic Participation and Opportunity' has declined due to a decrease in wage equality for similar work and less female labour force participation.

In terms of human development, India is ranked at 130 (2015) with an adult literacy rate of 62.8 (2015). Women show minimal representation in employment and decision making as compared to their male counterparts. This low representation is translated in many indicators, particularly, the low sex ratio. According to World Bank, country literacy rates have quadrupled since independence. However, learning

outcomes remain low despite universal primary education with less than 10 percent of the working-age population has completing secondary education.

3.2.1 Labour force participation, employment and unemployment

The overall FLFPR in India has been consistently low compared with other countries of the world (Kapso, Silberman, & Bourmpoula, 2014). Its ranking in terms of the FLFPR has fallen from 68 (out of 83 countries) in 1994 to 84 (out of 87 countries) in 2012.

Between 1994 and 2010, the Indian FLFPR declined steeply from 42.7per cent to 32.6per cent. Kapsos, Bourmpoula, & Silberman, (2014) examine the possible causes of low and declining female participation in India proposing the fall to measurement methods used in surveys as it is difficult to differentiate between domestic duties and contributing family work. But the lack of employment opportunities for Indian women due to occupational segregation remains the main issue. Persistent informality and slow growth in wage and salaried employment are limiting employment prospects of both women and men in the labour market. But India's women have additional disadvantages stemming from social norms, including gender-based discrimination and occupational segregation.

The female worker population ratio (WPR; also known as the employment–population ratio) is estimated to be 20.9 per cent at All India level under the "Usual Principal Status (UPS)[6]" approach for the year 2013 and 23.8 per cent for 2014. Since the 1980s, there has been a near consistent decline in the workforce participation rate (WPR) of women. The Employment and Unemployment Survey (EUS) (2009–10) revealed sluggish growth in employment and a steep fall in FLFPR between 2004–05

and 2009–10. The recently released EUS (2011–12) result indicates a return to stronger employment growth but a continuation in the decline of women working in rural areas.

Unemployment rate is 4.7 per cent in India according to The Report on Employment and Unemployment 2012-2013 (2013). The overall rural unemployment rate is less than urban rate. Unemployment rate is significantly higher among females as compared to males. At all India level, the female unemployment rate is estimated to be 7.2 per cent with 12.8 per for urban females. Overall, the unemployment rate has remained relatively stable.

3.2.2 Sectoral segregation of women in India
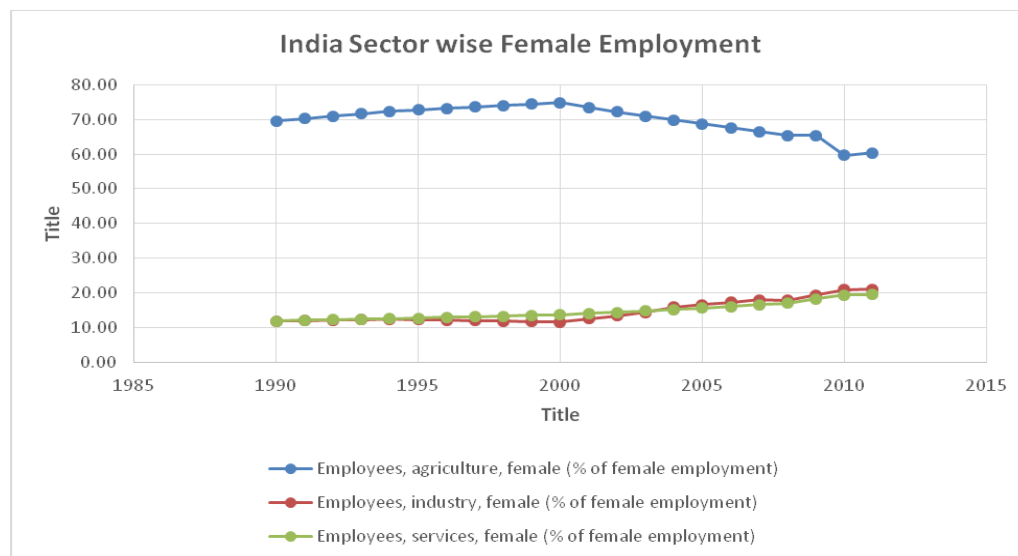
Figure 4: India Sector wise Female Employment
Source: Based on Date taken from World Development Indicators

Figure 4 shows that most of the females are concentrated in the agriculture sector with a peak rise observed in year 2000, thereafter there is a gradual decline. The participation rates in industry and services have similiar growth patterns with participation rates rising consistently from 2000 onwards. According to Das (2006) in India, social norms tend to attribute males as primarily responsible for securing

24

household income through employment, whereas women are expected to devote their time to domestic care. This leads to gender differences in employment outcomes, such as sectoral and occupational segregation, and to differences in factors of participation for men and women. Women are less skilled and less educated compared to men. Rani & Unni (2009) also find that women have less access to land, credit and financial capital, which may restrict their ability to find paid work. Empirical evidence shows that women are predominantly engaged in work that can be regarded as an extension of their domestic responsibilities (e.g. maids, tailors, teachers, and nurses). In addition, most women prefer to participate in home-based work, which could be easily combined with domestic care responsibilities. This creates ambiguities in measuring women economic activities.

Based on evidence from the national Employment and Unemployment Survey (2011-2012) for the first time, the share of the primary sector in employment dipped below the half mark with a noteworthy increase in secondary and services sector compared to earlier years (Chaudhry & Verick 2014). The occupational structure of female work participation shows that a larger share of women workers is still engaged in the primary sector in India, which is characterized by low productivity activities and a significant share of urban women are in the service sector as domestic workers.

Kapsos, Silberman, & Bourmpoula (2014) argue that available employment opportunities for women in India have declined possibly as a result of the rise in the working-age population, increased competition with men for limited jobs and an increasing reluctance of women to take up informal (and poorly-remunerated) work. A related possibility is that industrial and occupational segregation may be hindering

an increase in female employment. In their view the paradoxical decline of FLFP in India despite economic development could be explained by the structural barriers such as norms that curtail women's labour market options in conjunction with a consistent decline in agricultural employment also visible in Figure 4.

Occupational segregation limits women participation as women are mostly involved in agriculture, sales, and handicraft manufacturing which have not shown much growth therefore limiting women participation further (Chaudhary & Verick, 2014). Female employment in India grew by 8.7 million between 1994 and 2010, but estimates suggest that it could have increased more than three times that figure if women could equally avail employment opportunities in same industries and occupations as males (Kapsos et al., 2014).

3.3 Pakistan

Pakistan is the sixth most populous country in the world with an estimated population of 184.35 million in 2012-2013 of which 48.62 per cent is female. It has the lowest female labour force participation rate of 24.60 (2013) amongst the selected countries. 21 per cent of the total population lives below the poverty line and the adult literacy rate is 54.7 per cent. Women's political participation has improved due to legal reforms and allocation of reserved seats in parliament. Pakistan HDI value (2015) places it in the low human development category ranking it 147 out of 187 countries.

Pakistan has been in a whirlwind of social, political and economic crisis that have adversely affected the economy and growth of the country. As a result employment growth has remained low.

3.3.1 Labour force participation, employment and unemployment

In Pakistan female participation in the labour market is lower than that of men and generally lower than other countries owing to a host of reasons. Women have to face more constraints then men in accessing the labour market even though the disparity between the employments of two sexes is gradually decreasing. Factors effecting female participation are educational attainment, age of marriage, fertility rates and long working hours for women with children to name a few. FLFPR of Pakistan is ranked tenth lowest out of the 189 countries in the world. Even though the economic conditions of Pakistan have not been supportive of job creation lately, overall labour force participation rates in the last ten years, have improved. The employment to population ratio has steadily increased over the last ten years from 46.8% in 1999-2000 to 50.4 per cent in 2010-2011; this is especially applicable in case of women

increasing from 13.7 per cent in 1999 – 2000 to 22.2 per cent in 2010 – 2011; but, men. 41.2 per cent men had share of wage and salaried job was as compared to 21.6 per cent for females in 2011.

Women account household duties and lack of education as the main reasons for their non-participation in the labour force (World Development Report 2013).

For women the situation is even more unfavorable in terms of access to better jobs in the growing sectors. This is apparent from the sectoral distribution of workers. Six out of ten employed people in Pakistan are considered to be vulnerable, meaning "at risk of lacking decent work." with 78.3 percent of women employed in vulnerable employment. Moreover, the majority of women are involved in labour activities that do not fulfill the decent work criteria and are forced to work in precarious working conditions where they are underpaid and over worked.

The number of employed increased from 56.01 million in 2012-13 to 56.52 million in 2013-14 (Labour Force Survey 2013-14, 2013). Of the total employed population, 23 per cent are women with 85 per cent of this share employed in rural areas. The total unemployment rate is 6.2 per cent; however, the unemployment rate among men is 5.4 per cent, while it is 9 per cent among women. The total unemployment rate for urban areas (8.8 %) is more than rural areas (5.1 %) for the year 2012-13 and follows similar trend for the previous years too. Moreover, in Pakistan unemployment rate is increasing in both rural and urban areas in absolute as well as in percentage terms. Mechanization of agriculture, rural-urban migration, and slow industrialization process are cited as being the key factors behind this trend (Pakistan Economic Survey 2012-2013).

3.3.2 Sectoral segregation of women in Pakistan
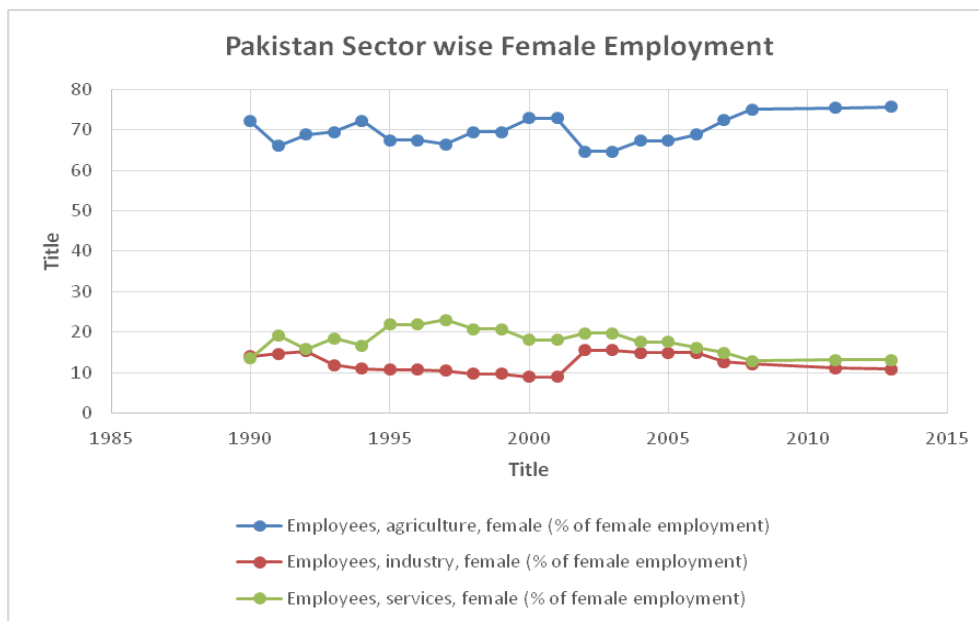
Figure 5: Pakistan sector wise Female Employment
Source: Based on Data taken from World Development Indicators

Figure 5 represents the WDI values for the sectoral distribution of women in employment with agricultural participation being highest followed by services and industry. The rates show vivid fluctuations for all sectors. The agricultural rate seems to be rising from 2006. 3 in 4 women are employed in agriculture compared to 1 in 3 jobs for men in 2010-11 (ILO, 2013).

As Pakistan is an agrarian country the agricultural sector accounts for 43.7 per cent of the total labour force of which 75.7 per cent are females (Pakistan Economic Survey 2013-14 (2014)). This indicates that many women do not fall under the category of decent work and the working conditions are poor for women. The total employment share of agriculture however has declined from 45 per cent in 2009-10 to the current value owing to mechanization of sector and natural calamities which led to reduction in income levels thereby reducing participation in the agricultural sector. Majority of

workers are still in the informal sector due to absence of any structural transformation. Women are most concentrated in "skilled agricultural activities, forestry & fishery forming 62.4 per cent of the total occupational groups (Labour Force Survey 2013-14).

3.4 Sri Lanka

Sri Lanka has a population of 20.64 million (2014). Even though Sri Lanka is a fore-runner in many human development dimensions and aspects of gender equality amongst the South Asian countries, it is similar to other South Asian countries when it comes to women's participation in economic activities. Female labor force participation has not changed much in recent decades and remains stagnant at a rate around 30 to 35 percent of working age women; where women comprise more than half of the total population (51.66 percent, 2013). This rate is much lower than one would expect given the educational attainment of the female population. Women form 33.40 per cent of the total labour force. Sri Lanka has surpassed most of the Millennium Development Goal (MDG) targets set for 2015, outperforming nearby countries on most MDGs. However, women's political participation remains low with only 5 per cent of MPs being women. According to the Global Gender Gap Report 2015, Sri Lanka (ranked 84) has dropped five positions on the pretext of less wage equality for similar work and fewer female legislators, senior officials and managers. Sri Lanka HDI value is 0.757 (high human development) and is ranked 73 on the index. The adult literacy rate is 91.2 (UNDP Human Development Report 2015).

3.4.1 Labour force, employment and unemployment

According to the 1992 Sri Lanka Labor Force Survey, 48.2 percent of the working age population, age 10 and over, was in the labour force (64.3% men and 31.3% women). This increased to 50.3 per cent (67.9% males) in 2002, of which 67.4 were employed. Among working age women, only 33.6 per cent were in the labour force of which 32.6 per cent were employed. However, in 2011, although the LFPR was the

same as in 1992 the employment rate rose substantially to 97.3 percent for males and 93.2 per cent for females.

Given that Sri Lanka is at a transitional stage of economic development with a shrinking agricultural and expanding service sector, female labor force participation is expected to rise assuming the country will follow the traditional U-shaped female employment growth path. In order to encourage women's participation in economic activities, the first condition is to understand what is keeping them out of the labour market. Chowdhury (2013) finds that unemployment rates are the highest amongst younger cohorts and in estates even though they have the highest rates of participation. In general, the female unemployment rates increase with level of education in Sri Lanka. Labor force participation rates are also high amongst women without marital or familial support. Married women especially with children and women with some secondary education and those residing in larger households or urban locations are the ones who are more likely to stay out of labor force. The constraints that women face are multifaceted and come from all different spheres such as private, public, individual, household, community as well as state level. The common supply side barriers that women generally face are related to time unavailability due to child-bearing and caring responsibilities, lack of skills, and lack of access to opportunity and information, capital, and information constraints. On the demand side, discrimination may play a critical role. Existing norms and culture regarding women's status and role in the society shape both of these demand and supply side constraints. Women without marital/familial support – separated, divorced or widowed have higher participation rates, more than 45 percent, compared

32

to those who are currently married (Chowdhury 2013). Never married women who tend to be younger also have comparatively high participation rates (45%); however, they also experience the highest unemployment rate (20%). Currently married women have lower employment and unemployment rates as more than 60 percent of them are engaged in housework.

The total unemployment rate in 1993 was 13.8 and declined to 4.2 in 2011. The unemployment rate for women was more (6.3%) than men (2.7%) for the year 2011 according to the national estimates. Female unemployment rate has declined from 21.7 per cent (1993) to 6.3 per cent (2011), indicative of increased female participation though it is still more than males. In 2011, out of total unemployed population 57 per cent were females. Unemployment declined more and faster for women in Sri Lanka. The age groups that showed the most falls for female unemployment are 15-24 and 25-29 (Byiers, Krätke, Jayawardena, Takeuchi, & Wijesinha, 2015).

For 2011, the national data analysis shows unemployment rates of females are higher than those of males for all ages. 15 - 24 years males and females had highest unemployment rates whereas the 40 years had lowest rates. The unemployment rate among the educated group (G.C.E(A/L) and above) is reported to be 9 per cent (5.4% males and 13.1% females). This reveals that the problem of unemployment is more acute in the case of educated females than males. The declining trend of unemployment rate is continuous from 1995 to year 2011. The Sri Lanka Labour Force Survey Annual Report 2010 finds that within the economically inactive population, 52 percent of women were engaged in housework compared with mere 4

percent of men. Men were more likely to be inactive (60%) compared with women (27%).

3.4.2 Sectoral Segregation of women in Sri Lanka
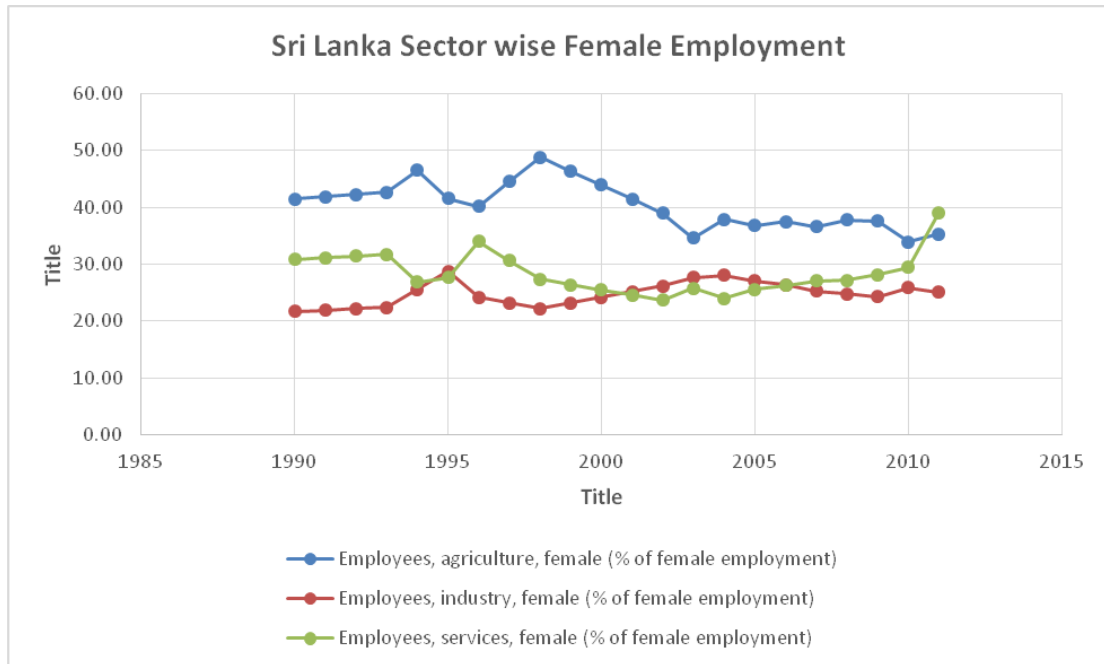
Figure 6: Sri Lanka Sector wise Female Employment
Source: Based on Data taken from World Development Indicators

Figure 6 shows fluctuating trends over the years for all sectors. The major participation of women in Sri Lanka had been in agriculture sector over the past decades but after 2010 services has overtaken it. Most women are employed in the services and the least in industry. Not only is the pool of employed women relatively small – close to half the size of employed men – the composition of the pool is very different along a number of dimensions such as employment, occupation, and job status.

Analysis of general trends in employment by main industry group from year 1990 to 2011 from Sri Lanka's national labour force survey, show a gradual increase of employment in industry and service sector and a decreasing trend in agriculture sector

from 1993 to 2005. Recent trend (2005–2011) in agricultural employment shows a marginal increase, compared to other two sectors. 'Services' sector (42.3%) has the highest employed people, whereas the lowest are in "Industries" sector (24.8%). It is also estimated that, 32.9 percent of the total employed persons belonged to the "Agriculture" sector for the year 2011.

Chowdhury (2013) also finds that the service sector is the major as well as the fastest growing source of employment for both women and men both in rural and urban locations. In urban locations, more than two third of workers are employed in this sector. Thirty-eight percent of working women were employed in the service sector in 2009. The greatest expansion of female employment is also happening here. In 1992, 31 percent of employed females were working in this sector. On the other hand, in terms of employment, agricultural sector is shrinking over time, even in rural locations, agriculture is not the major job providing sector anymore; and in urban locations, only 2 percent workers are employed in this sector. In 1992, the agricultural sector was the dominant one regarding female employment with 45 percent of working women employed in this sector. By 2009, this proportion came down to 37 percent. The industrial sector, where the number of workers employed increases annually at 2.2 percentage rate, accounts for only a quarter of employment individually for both men and women.

Figure 6 shows a similar trend in percentage of female employment by major sectors over the twenty-one year period. The graph shows that women are concentrated in the agricultural sector mostly but the rate shows a downward trend as 38.5 per cent are employed in agriculture in 2011 compared to 42.6 in 1993. (World Development

Indicators estimates). The share in industry is rising over this period however; share in services shows a slight decline from 1993. According to the graph the participation rates are falling for agriculture and rising for industry and services.

According to Sri Lanka LFS 2011, 72.3 per cent of the employed women work as contributing family workers which means "they make their contribution to the economic activities carried out by their own household, without wages/salaries"- as opposed to only 27.7 per cent for males. Data on occupational profiles of women and men also shows differences. Women dominate in certain occupations and 25.3 percent of them are employed in "Skilled Agricultural and Fishery Workers" occupation. Differences between male and female employment are small in occupations such as craft and related work, sale and service work, technical and associate professionals. However, there are some occupations where gender segregation is striking. One such occupational category is 'professional'- 11.1 percent of females work in "Professional" occupation compared with 3.7 percent of males. Data showing the contribution of females to the total employment by each occupational group, shows that 60.3 percent of professionals are women - teachers, nurses etc. In contrast to that, another such segregated category that is dominated by men is working as a 'plant and machine operator and assembler." The share of women in high-end occupations or jobs with high status such as "senior officials and managers, professionals, technical and associate professionals, proprietors and mangers of enterprises" has increased over time during the period 2002 to 2011 or has stayed stable (Chowdhury, 2013).

International migration is cited as the major contributor of female employment. Sri Lankan labor migration started to flourish in the mid-1980s with encouraging government policies and increasing demand for migrant labor. In the early stages, it was the male workers who dominated international migration; however with increase in female migration that pattern has changed between 1988 and 2007. Female migrant workers' earnings play a significant role in the economy development, remittance being the second largest source of foreign earning after garments and plantation crops. While there is no gender gap in participation, there are significant gender differences in the types of work. About 86 percent female migrant workers are employed as housemaids who earn the lowest compared to migrant men and women employed in other sectors. The majority of male migrants are employed as professionals or middle level, clerical and related skilled workers. However, women often complain about unsafe work environment.

OPERATIONAL METHODOLOGY

4.1 Research Methodology

This research aims to study the co-relation and impact of factors like literacy rates/educational policies, dependency ratio, income inequality, rate of urbanization and fertility rates on FLFPR.

The analysis is divided into two parts. The first part consists of trend analysis to see the co-relation of the above mentioned determinants on female labor force participation trends in Bangladesh, India, Sri Lanka and Pakistan. This consists of a review of the World Development Indicators values of the variables, supported by review of findings published in secondary data which includes ILO reports, World Bank Reports and national labour force and economic surveys of sample countries to comprehensively explain reasons behind the observed trend for a particular variable. To ensure comparability across countries and over time to avoid the inconsistencies mentioned resulting from data source, definition, reference period, coverage, and age group, ILO estimates of Key Indicators of the Labour Market database will be used.

The second part consists of regressions to empirically measure the impact of the variables that are studied in Chapter 5 to see if the results conform to the finding in descriptive analysis. For my contribution to the existing literature, this study will look at the rate of FLFP in different sectors of the economy (agriculture, industry and services). This will help to see variations observed across sectors and factors that determine these variations.

4.2 The Empirical Framework

Panel data procedure is followed to study the effect of factors, such as educational levels, literacy rates, dependency ratio, income inequality, rate of urbanization and fertility rate on the rate of female labor participation..

The basic model tested was:

$$FLFPR_{it} = \alpha + \beta_1 FLIT_{it} + \beta_2 GEP_{it} + \beta_3 GES_{it} + \beta_4 GET_{it} + \beta_5 AgD_{it} + \beta_6 UrPopG_{it} + \beta_7 Fert_{it} + \beta_8 GINI_{it} + \beta_9 GINI2_{it} + \beta_{10} GDP_{it} + \beta_{11} Ban_{it} + \beta_{12} Ind_{it} + \beta_{13} Pak_{it} + \beta_{14} Sri_{it} + \in$$

Where FLFPR is Female Labour Force Participation which is the dependent variable

The independent variables used in the regressions are as follows:

FLIT – Female Literacy rate

GEP – Gross Enrollment Rate at Primary Level

GES – Gross Enrollment Rate at Secondary Level

GET – Gross Enrollment Rate at Tertiary Level

AgD –Age Dependency Ratio

UrPopG –Urban Population Growth

Fert- Fertility rate

GINI- GINI Index

GINI2- GINI Index Squared

GDP- "GDP per capita, PPP (constant 2011 international $)"

$\in$ is the error term. The subscript t represents the year t= 1990….2011, and the subscript i represents the country; i= Bangladesh, India, Pakistan and Sri Lanka. Country effects have also been investigated.

The second model considered

$$EAGRI_{it} = \alpha + \beta_1 FLIT_{it} + \beta_2 GEP_{it} + \beta_3 GES_{it} + \beta_4 GET_{it} + \beta_5 AgD_{it} + \beta_6 UrPopG_{it} + \beta_7 Fert_{it} + \beta_8 GINI_{it} + \beta_9 GINI2_{it} + \beta_{10} GDP_{it} + \in$$

Where the dependent variable EAGRI is Employment in Agriculture

The third model

$$EIND_{it} = \alpha + \beta_1 FLIT_{it} + \beta_2 GEP_{it} + \beta_3 GES_{it} + \beta_4 GET_{it} + \beta_5 AgD_{it} + \beta_6 UrPopG_{it} + \beta_7 Fert_{it} + \beta_8 GINI_{it} + \beta_9 GINI2_{it} + \beta_{10} GDP_{it} + \in$$

Where the dependent variable EIND is Employment in Industry

The fourth model

$$ESER_{it} = \alpha + \beta_1 FLIT_{it} + \beta_2 GEP_{it} + \beta_3 GES_{it} + \beta_4 GET_{it} + \beta_5 AgD_{it} + \beta_6 UrPopG_{it} + \beta_7 Fert_{it} + \beta_8 GINI_{it} + \beta_9 GINI2_{it} + \beta_{10} GDP_{it} + \in$$

Where the dependent variable ESER is Employment in Services.

4.3 Data

Data from World Bank from 1990-2011 has been used. Values for very few years for some variables were missing which were duly interpolated.

The analysis explains the effect of explanatory variables on the FLFP rate in the selected countries and whether the significance of the impact is substantial or minimum. The dependent variable is FLFPR defined by World Bank as "the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period." The other aim of the study is too measure the impact of the explanatory variables at the sectoral level which is on female employment in agriculture, industry and

services. "Employment is defined as persons of working age who were engaged in any activity to produce goods or provide services for pay or profit, whether at work during the reference period or not at work due to temporary absence from a job, or to working-time arrangement." The agriculture sector consists of "activities in agriculture, hunting, forestry and fishing." The industry sector consists of "mining and quarrying, manufacturing, construction, and public utilities (electricity, gas, and water)." The services sector consists of "wholesale and retail trade and restaurants and hotels; transport, storage, and communications; financing, insurance, real estate, and business services; and community, social, and personal services."

"The literacy rate gives the percentage of females age 15 and above who can, with understanding, read and write a short, simple statement on their everyday life, over the population in that age group. Generally, literacy also encompasses "numeracy", the ability to make simple arithmetic calculations." "Functionally, female education can be defined in many with school enrolment ratios capturing progress more adequately than school attainment-measures (Saith & White, 1999)." Henceforth, the functional definition of education is the primary, secondary, and tertiary school enrollment rates of female using gross ratio (defined by the World Bank).

For the dependency ratio variable, defined "as the ratio of dependents-people younger than 15 or older than 64-to the working-age population-those ages 15-64. Data are shown as the proportion of dependents per 100 working-age population."

GINI Index is a proxy of income inequality which measures "the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal

41

distribution. Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality." To check non-linear relationship between inequality and female labour force participation, squared term of inequality has been used.

In recent studies of FLFP, urbanization process has been used and considered as a significant factor of low FLFP in some countries. "Urban population growth is used as a proxy for urbanization. Urban population refers to "people living in urban areas as defined by national statistical offices."

"Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with current age-specific fertility rates."

GDP per capita, PPP is used as control variable.

DESCRIPTIVE ANALYSIS

5.1 Literacy Rate/ Educational levels

This section analyses the relationship between education/ literacy rate levels and FLFPR. Female labour supply is based on the quality and levels of women's skills and education as well as by the gender differences present in terms of these qualifications. To understand the dynamics of the labour market, in particular the supply side, it is important to understand the quality of the current labour force and access to education and skills development, which will determine the quality of the future labour force.

The Education Policy and Data Center in their Global Education Briefer predict that educational attainment is on the rise. It is expected that the proportion of adults over 15 years of age with at least some secondary education will rise to 71 per cent in 2025 from 60 per cent (2005). Tertiary education attainment will also improve with the number of highly educated adults rising fastest in Asia.

The higher the education level, it is less likely that a young adult (age 15-24) is working as they are likely to spend that time in secondary school/university. But the unemployment rates of young people with only primary school attainment are higher as compared to those with no schooling at all. FLFPR are persistently low in most countries despite gains in education. Low female labor force participation rates imply that there is a significant under-utilization of female talent (Ingram, et al., 2009).
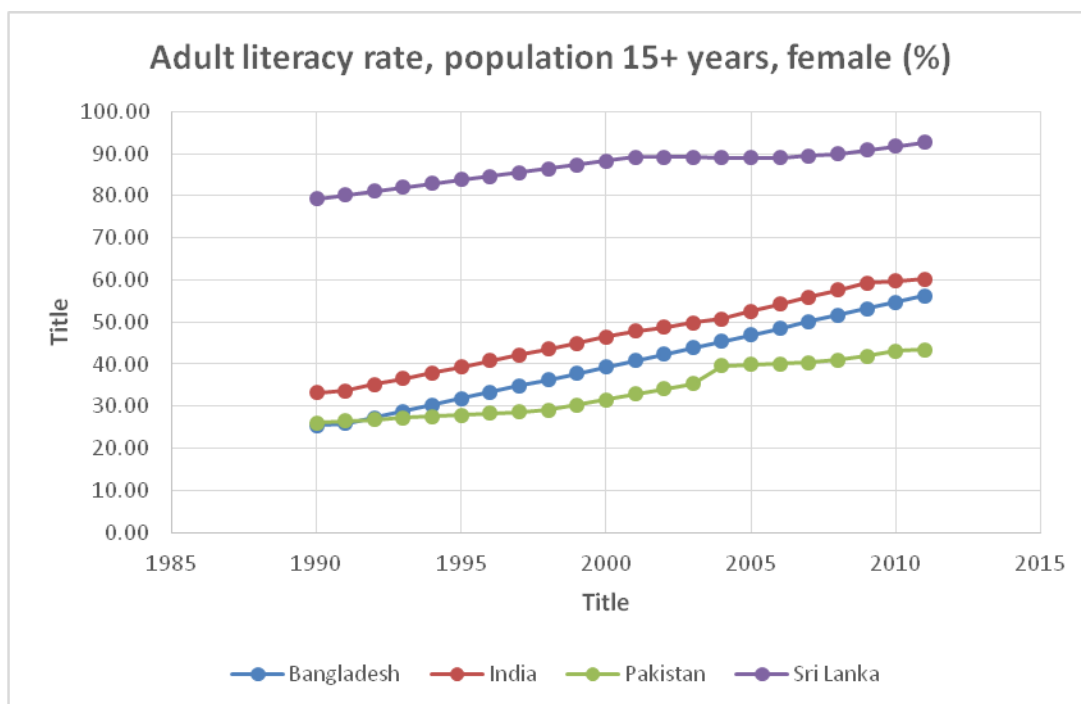
Figure 7: Literacy rate, Adult Female (% of females ages 15 and above)
Source: Based on Data taken from World Development Indicators

Among the selected countries, Sri Lanka has the highest literacy rate for the period 1990-2012 followed by India, Bangladesh and Pakistan (Figure 7). However, Sri Lanka's FLFPR has been persistently low whereas Bangladesh which has the highest FLFPR has literacy rate lower than Sri Lanka. It could be inferred that female labour force participation is not strictly dependent on adult female literacy rates. Similar conclusions can be reached from Table 5.1 in the Global Gender Gap Report 2015.

Table 2: Educational Attainment and Female Labour Force Participation

Educational Attainment (female) 2013					
Country	Labour force participation rate	Literacy Rate	Enrolment in primary Education	Enrollment in secondary Education	Enrollment in Tertiary Education
Bangladesh	60	58	93	51	11
India	29	61	84	46	24
Pakistan	26	46	67	32	10
Sri Lanka	39	92	94	87	23

Source: Global Gender Gap Report 2015

Rahman & Otobe (2005) have argued that the LFPR is not directly related to education since people with no or little education have a higher rate usually because such people belong to poor social class and therefore have to work from early on to supplement household income. Their study on Bangladesh shows that as the level of education increases, there is a decline in the LFPR. This drop continues up to secondary/higher-secondary level, after which it rises again. However, LFPR for educated women remains low in absolute terms as usually it is young women from richer households who complete higher secondary education, they are more likely to be discouraged by their families in looking for work. Thus, the unemployment rate of educated women is high. SSC/HSC educated women showed quite an increase during 1996-2000, owing to the incentives (in the form of scholarships) given to girls to continue with secondary education. However, this stance was not congruent with more job opportunities resulting a rise in unemployment rates. Their findings, based on on the national data for the year 1999-2000, show that the female-to-male ratio of the labour force is lowest at degree level reflective of less women persuing higher education and also of the lower labour force participation ratio of educated women. In 1995-96, women made up 12 per cent of the total educated labour force which was 14.3 pre cent in 2000 showing a slow progress.

A comparison of the literacy rates of men and women in the labour force shows that men are more literate. Data shows an improvement in the adult literacy rate for males and females. The progress has, however, occurred at a slower rate since 2001. Bangladesh is at second position in South Asia. Government has been implementing different projects and programmes targeting girls and marginalized children.

(Bangladesh Economic Review 2014, 2015). Bangladeshs' Educational Attainment score of Global Gender Gap Index continues to rise; due to higher literacy rates and enrolment in tertiary education since 2006 (first time the index was introduced). There is an increasing trend in the enrolment of female students in primary schools. In 1990, the male-female ratio among students was 55.37:44.73. Currently, the ratio is about 49.9:50.1 (Bangladesh Economic Review 2014, 2015). But the quality of labour market cannot solely be explained by increased school enrolment (World Bank 2002).

Rahman & Islam (2013) are of the view that school enrolment alone cannot explain the differences in LFPR of male and female LFPR in Bangladesh. National data of LFPR for male and female from 1995 to 2010 shows that enrollment rates increased for both sexes at equal rates but women LFPR increased for all age groups especially the young cohorts in contrast to male LFPR which declined for the same years. They believe that participation of educated women in the labour force is expected to depend on both supply and demand side factors. With most women employed in the RMG sector, primary education is sufficient as per employers views and a higher level of education would raise the demand for higher wages which is not affordable for the employers as many factories are not compliant yet and thus receive a lower price for their products. Thus, educating girls till secondary level would be a waste of resources if sufficient employment opportunities are not created.

Kapsos, Silberman, & Bourmpoula (2014) also suggest that the overall decline in participation for both men and women has been due to an increase in young adults attending educational institutions in India. While this may have depressed the most

recent participation rates, it is expected that an increase in educational attainment leads to improved job prospects and higher labour market attachment in the future. The authors analyze female labour trends from 1993 to 2012, and find steeply declining rates in of FLFPR of the young age group (15-24 years old), falling from 35.8 per cent in 1994 to 22.2 per cent in 2010 and further down to 20.2 per cent in 2012; most likely due to increased attendance in education. However, this explanation partially explains the recent decline in female participation as women in the 25-34 and the 35-54 age groups also experienced declines in participation. Male LFPR show similar trends. The Indian relationship between female labour force participation and educational attainment follows a U-curve with women with secondary education having lowest participation rates in both urban and rural areas for all years. Despite considerable progress in raising female literacy, the proportion of illiterate women working remained very high in 2010 for both rural and urban areas; however this share dropped in 2012 meaning that less illiterate women were in labour force in 2012 as compared to 2010. The percentage of working-age women with secondary education and above rose from mere 11 percent in 1994 to 25.7 per cent in 2012, although still low, accounts for changes in participation rates. Between 2005 and 2010 the largest increase was among women with secondary-level education, followed by women with primary-level education. This could explain the decline in FLFPR as these two groups have the lowest shares of economically active women.

In India the proportion of women aged 15-24 acquiring education (and not participating in the labour market) has increased dramatically from only 16.1 per cent (1194) to 36.7 per cent (2012). This has corresponded with a decline in the overall

youth female labour force participation rate. The authors in this study run a series of scenario analysis to find out the degree of effect on the declining female LFPR in India. Their estimates indicate that the magnitude of the effect of increased attendance in educational institutions has been fairly modest in most periods, particularly between the 2005 and 2010 survey rounds, which come as a surprise. The results also confirm that having no schooling increases the probability of participating as compared to other education levels except the tertiary education level, indicating a U-curve relationship between education and participation in rural areas. For urban areas the results state that only well-educated women have a higher probability to participate in the labour market than women with no education. Thus, economic development in urban areas creates opportunities for highly educated women.

Chaudhary & Verick (2014) in their study of India based on National Sample Survey (NSS) also state that the probability of being employed increases manifold with the rise in level of education both in rural and urban areas and that illerate women are more likely to be involved in the labour market. Their econometric analysis revelas that higher education is critical if women are to access regular wage and salaried jobs. However, in the case of Sri Lanka the relatively low female labor force participation rate is enigmatic given that the country enjoys low fertility rates and high levels of female schooling (Chowdhury 2013). Lack of schooling amongst women does not explain this gap since there is no significant discrepancy in educational attainment especially between younger men and women. Female labor force participation has not changed much in recent decades and remained stagnant at a rate around 30 to 35 percent of working age women. Labor force participation rates in relation to

48

education presents a U curve. Based on the Sri Lanka Household Income and Economic Survey 2006-07, Chowdhry (2013) finds that women with no schooling or less than primary education have higher labor force participation rates, 47 percent and 42 percent respectively, than those who attended secondary school. For those who completed at least higher secondary school or A/levels, the labor force participation rate is 56 percent and it becomes close to 90 percent for those who have at least 15 years of schooling. In the report analysis shows there is not much of an educational gap regarding average years of schooling with respect to location (urban/rural) and wealth status between male and female labor force participants especially among the younger cohorts. However, among the female labor force participants, close to one-third have tertiary degree in contrast to male workers among whom less than one-fifth have attained tertiary degree. Except for tertiary degree, a higher proportion of male workers have attained either primary or secondary education than female workers. And this supports the previous discussion that women with some primary or lower or higher secondary education are more likely to stay out of the labor force.

Chowdhury also finds that the unemployment rate increases with education reflecting a possible supply side impediment and higher reservation wage. Highly educated women participate in the labor force as they view it as career not just a source of income. They not only have access to better quality and better paid jobs but for them the opportunity cost of not participating in the labour force is higher. For better educated women to work is a matter of preference rather than need contrary to women from lower education levels who belong to poorer economic background. For the middle level group i.e. secondary education the need is less along with the fact

that their opportunity cost of staying home is much less than working outside since they do not have access to better jobs due to their low human capital.

The major difference between men and women regarding skill formation and supply emerged due to the substantial differences that exist between them in technical skills (Chowdhry 2013). Even though in general more men attained vocational training, women with bachelors or higher degree have the highest participation rate with 43 percent of them enrolled in vocational education. For men with bachelors or higher degree this participation rate is 34 percent. Compared to women, unemployment rate is higher among men with vocational training, 19 vs 43 percent in Sri Lanka.

In Pakistan Article 25 A ensures that the state shall provide free and compulsory education to all children of five to sixteen years as determined by law. However, Pakistan spent 2% of its GDP on education in 2012-13, ranking the lowest in South Asia for its budget allocation to education (Pakistan Millennium Development Goals Report 2013, 2013). On the "Education Development Index which combine all educational access measures", Pakistan lies at the bottom with Bangladesh and considerably below in comparison with Sri Lanka in the region. Pakistan performance is weak compared to India, Bangladesh and Sri Lanka on education as mentioned in The Global Competitiveness Index (GCI). A similar picture is painted by the gross enrollment ratios that combine all education sectors and by the adult literacy rate measures (Pakistan Education Statistics 2013-2014, 2015). 64.9 per cent of the total adult illiterate population belonged to female in 2009 which was 59.9 per cent in 1998 which means that female illiteracy in Pakistan is rising over the years (Adult and Youth Literacy National Regional and Global Trends 1985-2015, 2013).

Pakistan is off track on MDG 2 which is "Achieve Universal Primary Education" and MDG 3 which is "Promote Gender Equality and Empower Women" (UNDP 2015). Rates of net primary enrolment and completion increased up to the mid-2000s but slowed and fluctuated afterwards showing that many students fail to complete thaie primary schooling. MDG3 "aims to eliminate gender disparity in primary and secondary education by 2005, and in all levels of education by 2015." Gender parity in education has improved –for primary education, secondary education and youth literacy (Gender Development Report).

Women with higher level of education are more likely to participate in labour market. According to probit estimates by Hafeez & Ahmed (2002) probability of women with intermediate level of education is higher than for a woman with metric level of education, similarly bachelors degree have greater probability then metric in Punjab. Like wise Ejaz (2007) using PSLM (Pakistan Social and Living Standards Measurement Survey 2004-05) finds that as the years of schooling increases the probability of women participation in work aslo increases. They also find that women having techinal education like medicine, engineering, computer sciences have a positive and significant effect on women particpation in the urban areas because of the availabilty of technical jobs however, technical education has no effect on FLFPR in rural areas. Faridi, Malik, & Basit (2009) conclude that female participation increases with higher levels of education in Pakistan.

Evidence from all the studies suggests that the educational levels are rising for all the countries. A U-Shaped relationship between education and labour force participation rates is visible meaning that with increasing education, labour force participation rates

declines first and then pick up among highly educated women because of higher paying white collar jobs (Das, Chandra, Kochhar, & Kumar, 2015). For all the countries women with low or no education have higher participation rates which serves as a coping mechanism against the economic shocks arising at household levels. The proportion of illiterate women in labour force is high as compared to educated ones in all countries. However, given the educational rates are improving for both sexes with not much progress seen in the women participation rates only means that there are some supply side barriers like absence of labour market flexibility.

5.2 Fertility Rates

Higher levels of education promote lower fertility rates, which results in a decreased population growth which reduces demand on education and other resources. Raising educational levels to promote awareness of lower fertility benefits could be an effective strategy in countries with very high population growth and thus reduce pressure on limited resources. In low fertility countries, the issue plays out differently (Ingram, et al., 2009). Bearing children and looking after children hinders women participation in labour market.
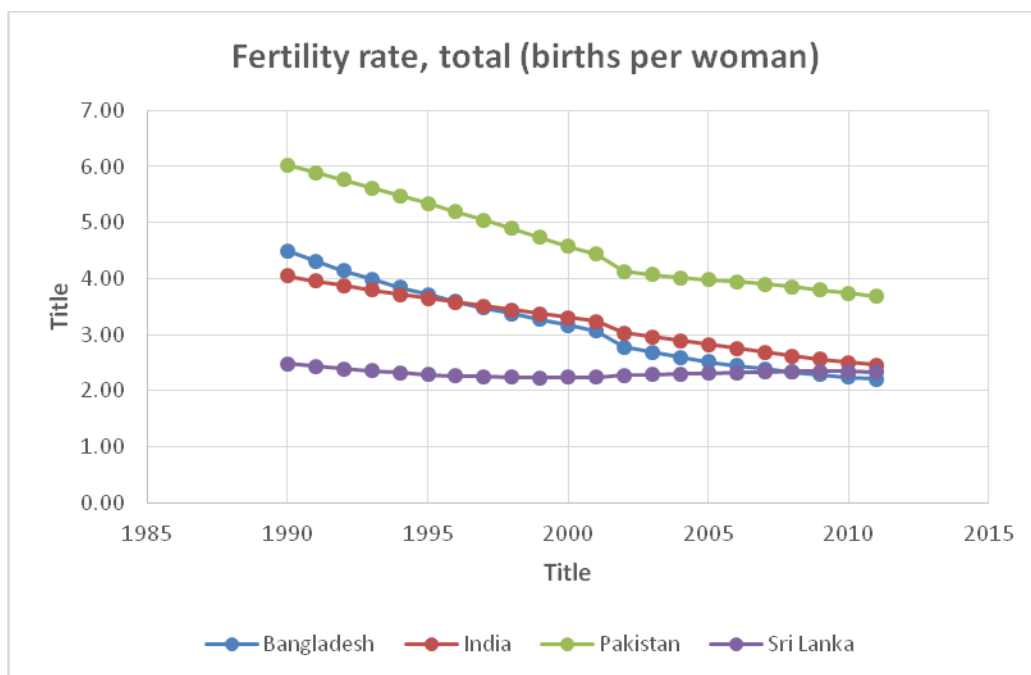
Figure 8: Fertility rate, total (births per woman)
Source: Based on Data taken from World Development Indicators

Figure 8 show that Sri Lanka has the lowest and static fertility rate amongst the sample countries. Pakistan has had the highest fertility rate for the selected time period, even though the rate has fallen over the years it is currently still the highest in the sample of selected countries. Pakistan has the highest birth and total fertility rate

among the developing South Asian countries. Bangladesh's fertility rate has also fallen over time and is in line with that of Sri Lanka. Thus, over the years fertility rates have been falling for all the countries with the exception of Sri Lanka which has had a stable and low rate since 1990.

Much of the empirical evidence supports that there exists an inverse relation between fertility and FLFP. Fertility rates have considerably decreased in India and Bangladesh over the years as opposed to Pakistan where it is still very high (Ejaz, 2007). Ejaz states that if the number of infants and children per female is small, female participation increases. Evidence shows that Sri Lankan married women are the ones more likely to be out of labour force; moreover, the probability is much higher for women who have even one child aged less than 10 years and is higher in urban areas as compared to rural areas (Chowdhury 2013). The same holds true for Pakistan where rural fertility rates, as evident in various Pakistan Demographic and Health Surveys, are much higher as compared to urban rates for every age group yet rural female labour force participation rates are almost double of urban areas.

In their study of Pakistan, Egypt, Morocco and Turkey (Aboohamidi & Chidmi, 2013) empirically find that fertility rates have a negative and significant effect on female labour force participation in these countries. In developing and most developed countries, women's involvement and choices made about economic opportunities are shaped and driven by the existing deep-rooted norm of women being responsible for care-giving and housework.

5.3 Dependency Ratio

In traditional societies like of the selected countries women role is strictly domestic and women activities are governed by strong patriarchal customary system. Such kind of system defines a rigid division of labour that controls the mobility, roles and responsibility of women. The main role of a woman is considered to look after her family.
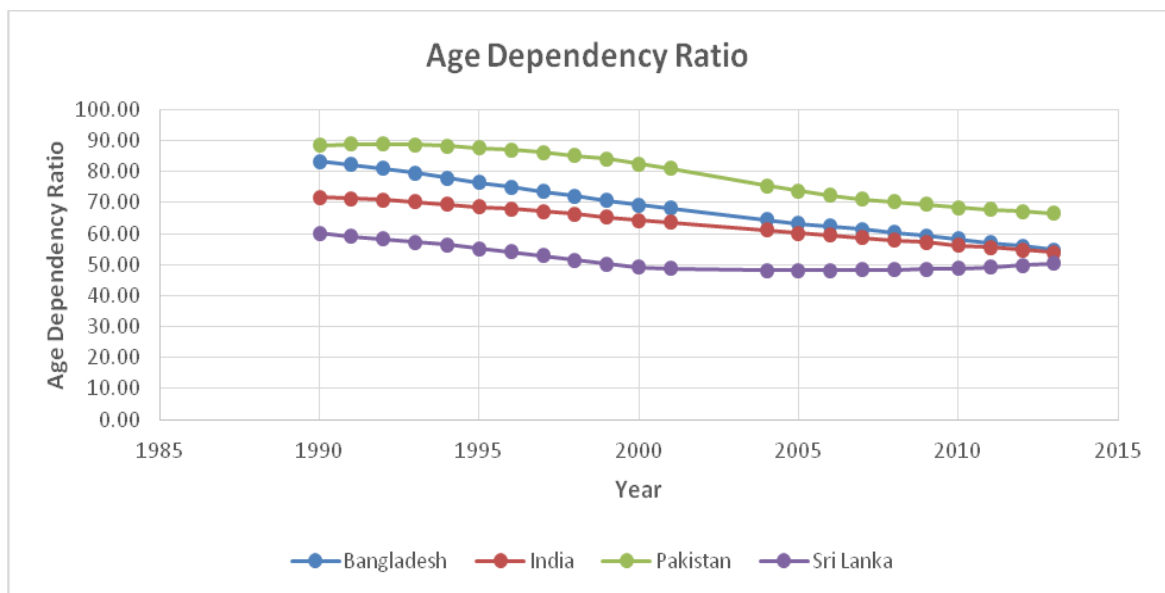
Figure 9: Age Dependency ratio (% of working-age population)
Source: Based on Data taken from World Development Indicators

Given that in selected countries women's role is more domestic and they are the ones to look after the young and old we can assume that if the dependency ratio is high; that is the people aged below 15 and above 64 are more, women are more likely to tend to them thus reducing their likelihood of participation in the labour market. From the figure 9, we can conclude that Sri Lanka has the lowest age dependency ratio which could be because the country is enjoying the demographic dividend of a large working age population. The demographic bonus with this large working age population and lower dependency ratio started in 1991 and is projected to last until

end of 2017 (Chowdhury 2013). Sri Lanka also has the lowest fertility rates amongst the selected country sample. Pakistan has the highest age dependency ratio which could be co-related to the highest fertility rates of the country, followed by Bangladesh and India respectively. Overall dependency seems to have been on decline due to rising proportion of working age population compared to dependent population (Compendium on Gender Statistics of Pakistan 2014, 2014). The dependency ratios trend line in Figure 9 is congruent to the fertility rates discussed in previous section (see figure 8). However, the dependency ratios for all the countries are gradually falling. Figure 10 depicts the relation between dependency ratio and FLFPR for the 2011, showing that the countries do not conform to any fixed pattern. Pakistan having the highest dependency ratio has the least participation rate showcasing that women are needed at home to look after the dependents but this theory does not hold true for Sri Lanka which has the least dependency ratio but does not show favorable female participation. India and Bangladesh have somewhat similar dependency ratios yet wide differences between the FLFP; a possible reason could be that in Bangladesh women may work out of poverty constraints given it has the highest value for the poverty headcount ratio[7] for the year 2011 (see figure 18). Therefore a strong relation could not be made to age-dependency ratio independently which means that a number of other factors may be at play for the varying FLFPR. Mixed evidence exists in the existing literature; however, the economic literature maintains that there exist a strong relationship between FLFPR and the fertility rate. Chowdhury (2013) finds women without marital/familial support – separated, divorced or widowed have higher participation rates, more than 45 percent, compared

to those who are currently married in Sri Lanka. Married women are less likely to be in the labour force in India and women with young children are less likely to be in the labour force (Kapso, Silberman, & Bourmpoula, 2014; Das, Chandra, Kochhar, & Kumar, 2015). Ejaz, (2007) also find similar results for women in Pakistan reducing the probability to enter labour force if married and having a large number of children also reduces the chances to participate in the labour market. However, Faridi, Malik, & Basit, (2009) find that FLFPR in Pakistan is high among married women, because of mass poverty, low household income and high inflation.

The household size and type of household has a strong and positive relation with FLFPR because there is more pressure on the financial resources in bigger households which forces educated women to earn money (Hafeez & Ahmed 2002). Women from joint family system have more independence in participating in work as compared to those living in nuclear family due to a sharing of household chores. However, Ejaz (2007) found family size and joint family structure to be negatively related to FLFPR as larger number of individuals mean more time spent managing household related work as well as care giving. Chowdhury (2013) finds that the presence of a domestic servant reduces the probability of staying out of labor force - suggesting if women can share housework responsibility they are more likely to share income earning responsibility as well. Otherwise, working women are the ones who share the burden of work disproportionally and that does not provide any incentive to become active in income-earning activities in Sri Lanka.
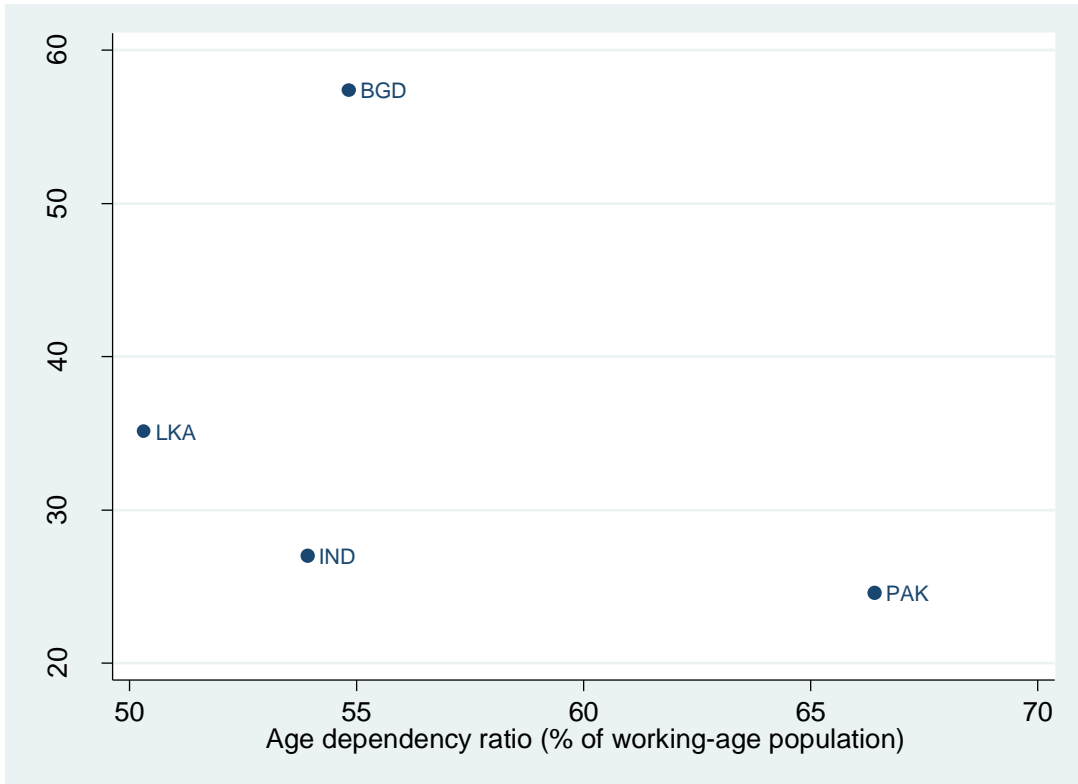
Figure 10: Relation between Female Labour Force Participation and Age dependency ratio (2011)
Source: Based on Data taken from World Development Indicators

5.4 Urbanization

Nowadays, population growth is synonymous to urban population growth. Cities represent vistas of new job opportunities. Urbanization and economic growth have a strong relationship. The extent to which an area is urbanized is another important potential determinant of the female labour force participation rate. Apart from regular and salaried jobs, cities offer greater opportunities for social mobilization and women's empowerment. Young women migrate to urban areas to escape shackles of patriarchal system, where there is much better access to education and health services. Increased social awareness in urban areas contributes to reduced fertility rates. "Urbanization process is particularly pronounced in Africa and Asia, where much of the world's population growth is taking place (UNFPA United Nations Population Fund, 2015)."
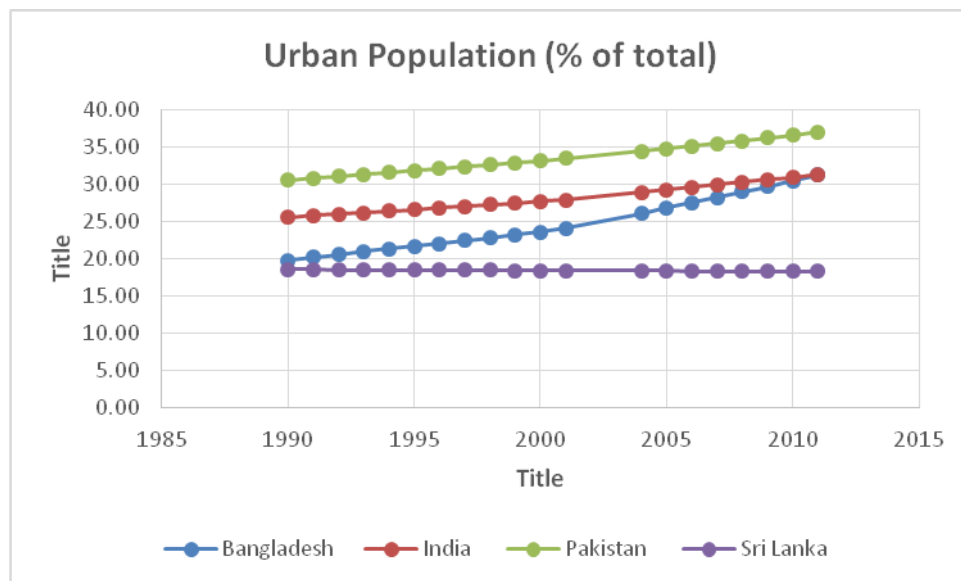
Figure 11: Urban Population (% of total)
Source: Based on Data taken from World Development Indicators

From figure 11 it is quite apparent that for all the countries much of the population lives in rural areas. However, the urban population is rising in all countries except Sri

Lanka where the rural population shows a slight increase. Sri Lanka witnessed negative urban and rural growth rates for the year 2001 and 2010. Of the selected countries Pakistan has the highest proportion of population living in urban areas. Bangladesh follows suit where a sudden rise can be seen from 2006 onwards possibly due to rapid rural-urban migration resulting from the growth of the readymade garments industry. Bangladesh and India meet at the same point for the year 2011 and both show a steady increase in urban growth rate. Positive urban growth rates and negative rural growth rates are reflective of an industrialization process resulting in new job opportunities for the rural migrants.
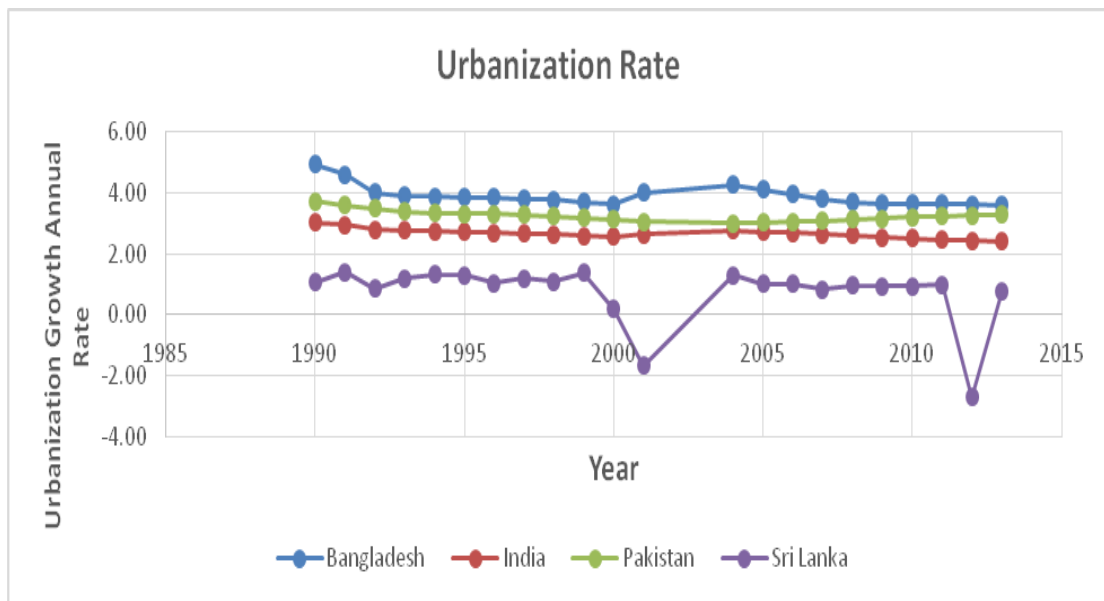
Figure 12: Urban population growth (annual %)
Source: Based on Data taken from World Development Indicators
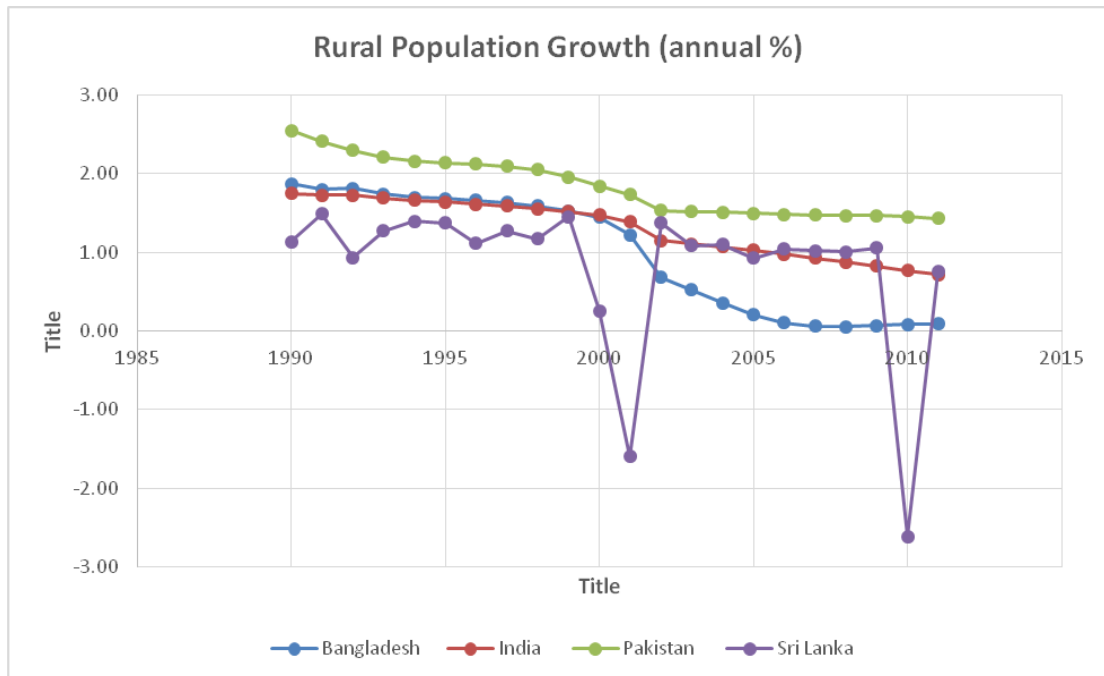
Figure 13: Rural population growth (annual %)
Source: Based on Data taken from World Development Indicators

The disaggregated picture of rural and urban LFPR can help understand linkages between LFPR and growth of urbanization. The pace of urbanization or growth of either the rural or the urban economy is an important reason behind changes of LFPR of women.

Chowdhury (2013) in her study of Sri Lanka, based on the national data analysis of the year 2006-2007, finds that urban women are more likely to be out of labor force than their rural counterparts. Location plays a critical role for women in Sri Lanka, with more employed in rural areas. Interaction between education and location matters for women employment too. Employment rates are high in both areas amongst women who have at least A-level education. However, in estates unemployment rate for educated women is higher where education is not a requirement where plantation is the main job. Women with lesser education are more engaged in household work in rural and urban areas but not in estates. Unmarried

61

women in rural areas have a higher employment rate than the ones in urban areas. Amongst married women with or without a child, rural women have higher participation in earning activities as opposed to urban women. However, probability of economic participation decreases on having a child in both locations. Analysis of the national figures of labour force participation rate by residential sector shows a decline in rural and urban FLFPR.

Contrary to Sri Lanka, in the study of Bangladesh by (Rahman & Islam, 2013) the female LFPR in both rural and urban areas has risen during 1996 to 2010. Urban and rural FLFPR are quite close and both have risen over the last 15 years. During the recent years FLFPR is higher in rural areas than in urban areas. During the earlier years the pattern was the reverse. The proportion of women engaged in agriculture actually increased over time specifically with a sharp increase since the mid-1990s which was associated with a rise in the growth of output in agriculture. Thus, the early rise in female labour force growth in Bangladesh appears to have been triggered by a rise in the growth of agriculture (which consists of crop production, forestry, fishery and livestock) and increasing participation of women in that sector. It is only livestock (including poultry) where women participation rose greatly because it was facilitated by micro-credit scheme. In urban areas the growth is associated with labour-intensive industry that is ready-made garments which grew rapidly since the mid 1980s where women make up two-third of the total employment. RMG has changed the dynamics of urban employment by increasing the share of female employment as poor women with little education are ready to work for low wages.

In Pakistan like Bangladesh, both rural and urban rates are increasing with a more pronounced increase visible in the rural areas and somewhat fluctuating urban levels. Of the total population, 36.9 per cent lives in urban areas; 17.8 per cent of which are females and 19.1 per cent males (2011) (Compendium on Gender Statistics of Pakistan 2014, 2014). Though the urban population rates for both the sexes are congruent, the labour force participation rates in urban areas for the same year are highly skewed- 66.4 per cent for male and mere 10.7 percent for females. The Refined Activity participation rate[8] for females in Pakistan from various labour force surveys, show the labour force participation of female at national levels fluctuates from 1990 to 1995, from where onwards it rises yearly. Huge disparities are visible in rural-urban female participation with a much higher rural participation rate. According to Pakistan Labour Force Survey men are savvier to go to urban areas as compared to females. Marriage and moving with spouse are the single biggest reason for women to migrate from rural to urban areas and not economic reasons. Even though urban population growth is rising of Pakistan, 70 per cent of population still lives in rural areas which could account for the higher rural participation rates for women. Moreover, employment figures by major industry divisions show that almost 75 percent women (LFS, 2011), are employed in agriculture, forestry, hunting and fishing. The major occupational group for both males and females is "Skilled agricultural and fishery workers" with women having double the share then men.

Women in both urban and rural areas are involved in informal work (71.1% in 2011) with high concentration in the manufacturing division. In a study exploring the factors which cause some educated women to participate in economic actives, Hafeez

63

& Ahmed, (2002), conclude that women belonging to rural areas are less likely to participate in formal sector jobs like teaching and health as these opportunities are not available for women. This also indicates that the majority of female labour force might be illiterate or has lower educational levels since most of them are involved in agricultural activities, which does not require higher educational levels

In India the FLFPR in rural areas is decreasing even though in absolute terms it is much higher than the urban FLFPR (Chaudhry & Verick 2014; Das et al 2015). Based on the most recent National Sample Survey (NSS) round (2011-12), Kapsos, Silberman, & Bourmpoula (2014) find that, around 70 per cent of the Indian labour force resides in rural areas, where most households are engaged in agricultural activities. Drawing on an analysis of the latest five rounds (covering period from 1993 to 2012) of Employment and Unemployment surveys of India they find that there is a decline in female participation rates across all age groups for rural areas while the urban rates increased. This indicates that even if women in rural areas are working they are more likely to be in subsidiary employment. Moreover, as the enrollment rates in school increases of women belonging to working-age population and also as household income rises women participation falls. Other potential causes include measurement issues and a general decline of employment opportunities for women (Kapsos et al., 2014). Women working in rural areas are self-employed or engaged in casual labour, while working women in urban areas are more likely to be in regular wage and salaried jobs since in urban areas women with tertiary education are able to find good employment opportunities (Klasen and Pieters, 2012). However, despite women taking part in urban areas increasing, there is also a growing gap

64

between male and female labour force participation rates; with wider gaps in urban areas than in rural areas (Das S. , Chandra, Kochhar, & Kumar, 2015).

To sum up, in all the countries women are more employed in the rural economy. Rural and urban FLFP is rising in Pakistan and Bangladesh whereas it is declining in Sri Lanka and in India rural FLFP is falling while participation of women in the labour force is rising in urban areas.

5.5 Income Inequality

Economic growth is imperative for poverty reduction - but it is not the sole instrument, productive employment plays a key role in transmitting the benefits of economic growth into poverty reduction (Islam, 2006). To achieve that, women's employment can play an important role.

The literature on long-run changes in female labour supply states that there is a U-shaped relationship between national income and female labour force participation. One of the explanations for this relationship is that an increase in household income first leads to a decline in participation through household income effects. That is, as households become wealthier, increasing numbers of women move out of low-productivity, often subsistence employment, and become economically inactive. This often coincides with higher female enrolment in education, as households can afford to send girls and young women to school. Only later in the development process, when more jobs that are acceptable to women become available, do women increase their labour market participation (Kapsos, Silberman, & Bourmpoula, 2014).

"The simplest but a popular way to understand income inequalities is dividing the population into income quintiles and analyzing the proportions of income calculated at each quintile from poorest to richest. The highest or the fifth quintile holds the richest 20% households whereas the first is for the poorest 20%. Middle income group consist of the households, which belong to second, third and fourth quintiles (Household Income and Expenditure Survey 2012/13 Final Report, 2015)." Figure 14 show that the richest 20 percent share, as compared to 1990 value has increased for all countries except for Pakistan. For 2011, Sri Lanka has the largest proportion of

highest 20 percent share followed by India, Bangladesh and Pakistan. Moreover, the share of income of the bottom 20 per cent of the population declined for all countries except for Pakistan which means that relative to other countries inequality decreased in Pakistan.
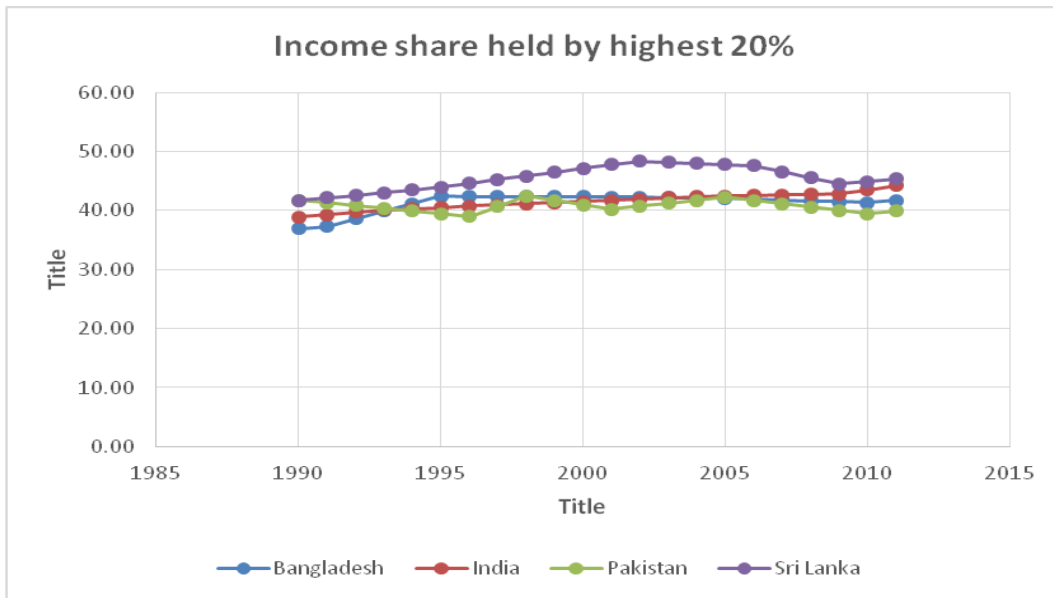
Figure 14: Income Share held by Highest 20%
Source: Based on Data taken from World Development Indicators
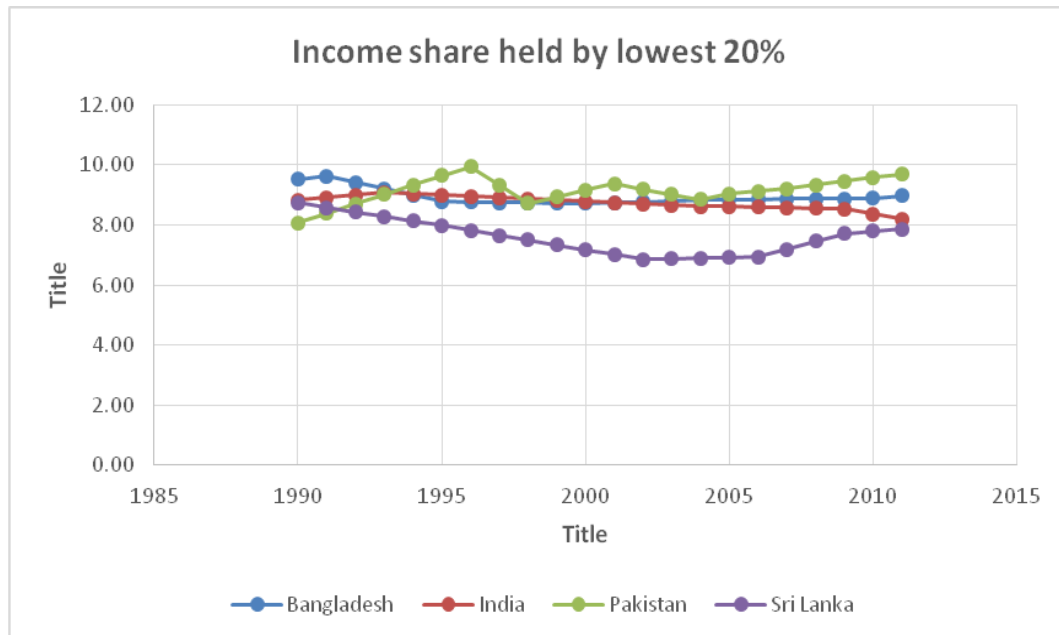
Figure 15: Income share held by lowest 20%
Source: Based on Data taken from World Development Indicators

The economy of Bangladesh has witnessed an acceleration since the early 1990s. The incidence of absolute poverty (based on the national poverty line[9]) declined from 45 per cent in 1990 to 31.9 per cent in 2011. However, despite the impressive performance in the areas of growth and poverty reduction, concerns remain about the quality of growth. First, the degree of inequality in the distribution has worsened over time as is indicated by a rise in the Gini coefficient[10] from 0.27 in 1990 to 0.33 in 2011. Moreover, the share of income of the bottom 20 per cent of the population declined from 9.53 per cent in 1990 to 8.98 per cent in 2011. In contrast, the share of the top 10 per cent increased from 23.02 per cent in 1990 to 27.08 per cent in 2011. The GINI Index values show that there is an increase in the value for the taken time period for all except Pakistan where it seems to have fallen from 0.33 in 1990 to 0.30 in 2011. Bangladesh has the highest proportion of people living below the poverty line (see figure 18). However, the number of poor seems to be declining in the sample countries. Currently Sri Lanka has the least percentage of people living below poverty line. But the distribution of inequality seems to have worsened the share of income of the bottom 20 per cent of the population which declined from 8.74 per cent in 1990 to 7.87 per cent in 2011. In contrast, the share of the top 10 per cent increased from 27.49 per cent in 1990 to 30.31 per cent in 2011.
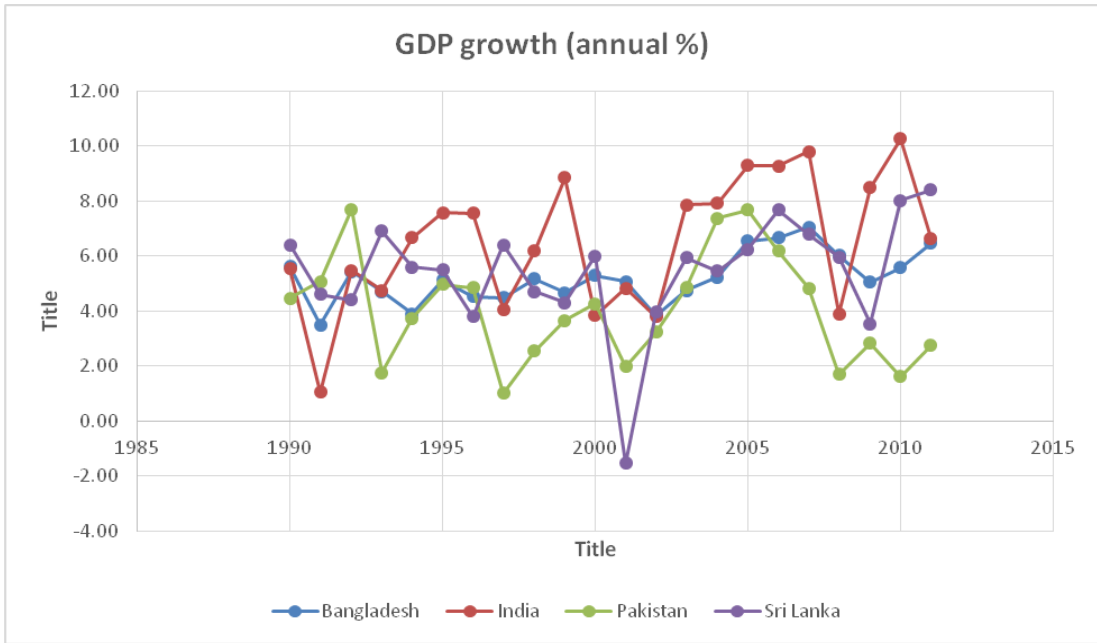
Figure 16: GDP Growth (annual %)
Source: Based on Data taken from World Development Indicators
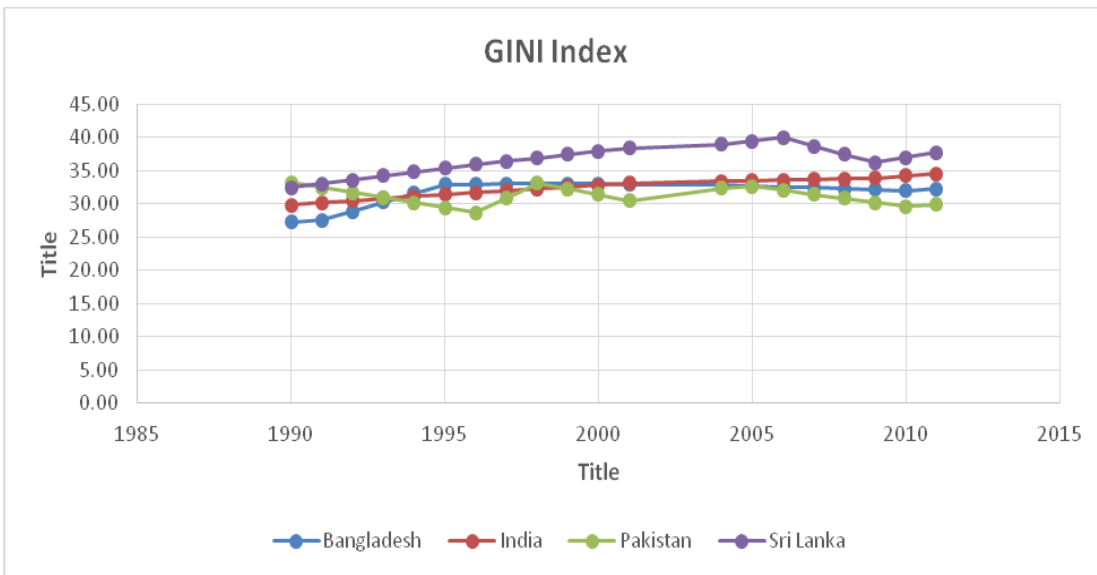
Figure 17: GINI Index
Source: Based on Data taken from World Development Indicators
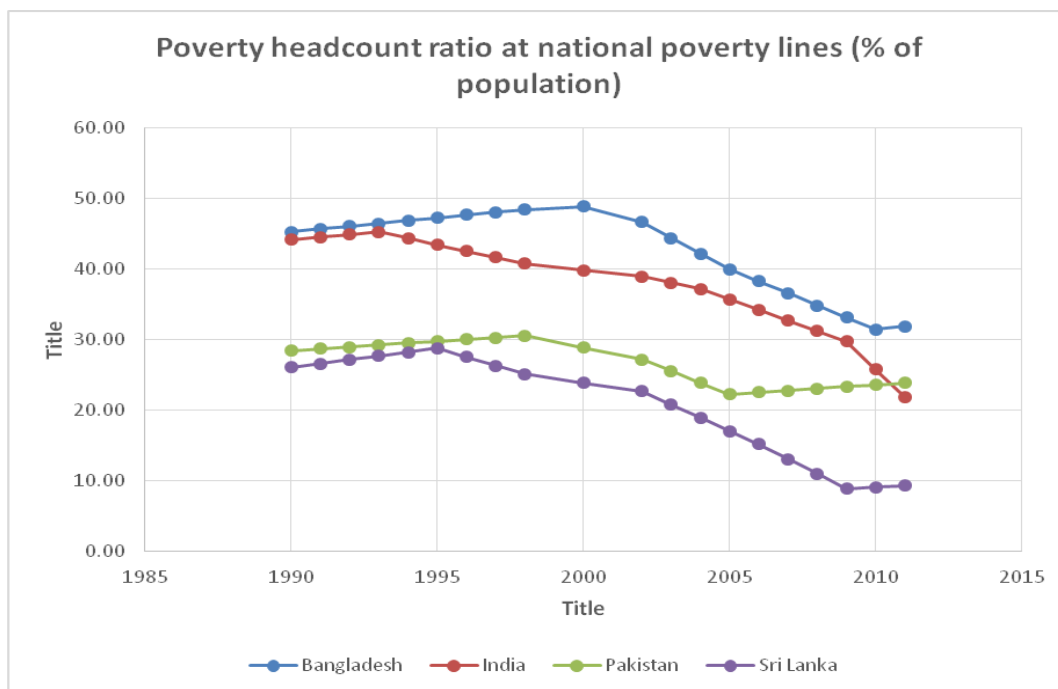
Figure 18: Poverty Headcount Ratio at National Poverty Lines (% of population)
Source: Based on Data taken from World Development Indicators

While promotion of productive employment should be amongst the major goals of policy in its own right, it assumes particular significance in the context of the persistence of poverty at a high level and the observed increase in income inequality. For poor, being involved in paid economic activity is the sole means of earning money, productive employment and a rise in the returns to employment can play a major role in achieving a faster rate of poverty reduction and decelerating inequality. Women working from low income households can generate additional incomes and help achieve above target. Not surprisingly, raising female participation in the labour force is a declared policy goal in Bangladesh (Rahman & Islam, 2013).

Bridges et al. (2011) analyze various factors influencing female LFPR in Bangladesh, highlighting the positive link between severity of poverty and the probability of women's LFP. In addition they look at the influence of poverty and other factors on type/sector of employment and conclude:

70

(a)Women from extreme poor households have a significantly higher probability of participation compared to non-poor. The differences between moderate poor and non-poor are insignificant.

(b)Poorer women are more likely to participate in low paid wage employment whereas the non-poor participate in self-employment.

(c)Presence of young children has a positive effect on self-employment and a negative effect on wage employment.

(d)Being married has a negative effect. This result may have been influenced by the fact that paid employment dominated by the RMG sector requires long hours of work. The study finds that there is a growing acceptance of outside employment among young unmarried workers.

The above findings are similar to those of Klasen and Pieters (2012) who found that in India urban women with lower education are usually engaged in low paid wage employment. However the conclusions of Bridges et al. (2011) have some shortcomings because of the analytical problems related to the methods of analysis and interpretation of data of the Household Income and Expenditure Survey (HIES) which underestimates female employment especially self/family employment of women. India's rapid economic development (see figure 16) in recent years has led to increased household incomes, which, in turn, may have reduced female labour force participation, as women in wealthier households tend to have lower participation rates than women in poorer households. In their study Kapsos, Silberman, & Bourmpoula (2014), based on National Employment and Unemployment Survey 1994-2012, observe that the shift in the distribution toward higher household consumption levels

71

also had a negative impact on overall participation rates in India for the time-period studied. They ran a series of estimates exercise to measure the degree of impact of various variables on FLFPR and found that higher household consumption levels accounted for around 9 per cent of the total decline in female participation between 2005 and 2010. They further estimated that the effects of increased education and higher levels of household consumption together account for around 18 per cent of the total decline in female participation over this period.

Their econometric analysis also reveal that in rural areas in India, a woman in a household with low consumption expenditure is more likely to be economically active compared to a woman from higher levels of household expenditure. These results confirm that women belonging to households that derive their primary income from agricultural activities are most likely to participate in the labour market. Thus, the decline in agricultural activity associated with economic development is likely to have had an important impact on rural female labour force participation in India. (Das S. , Chandra, Kochhar, & Kumar, 2015) also support these finding that female participation rates are higher among low-income households due to economic necessity. As the household incomes increase women participation rates decline.

Wage differentials also affect FLFPR. The share of wage and salaried employment indicates the extent and prevalence of stable job opportunities. Gender disparity is rampant with respect to the quality and nature of jobs, with women more likely to be in vulnerable employment[11]. South Asia has glaring gender inequality in wages, with only 21.5 per cent women being a part of all waged jobs (Global Wage Report 2014/15 Asia and the Pacific Supplement, 2014). This gender gap is due to less over

all participation of women in labour market and secondly because women even if they do become a part are more likely to be in self-employment. For women who are able to find waged employment, they are paid less than their male counterparts. Real wage growth witnessed an increase in the year 2007 and 2008 for the South Asian region.

Despite slow down, real wages for agricultural and rural labour in India are rising sharply since 2007-08 often attributed to the "Mahatma Gandhi National Rural Employment Guarantee Act 2006 (MGNREGA)" which provides employment for a maximum of 100 days (one-third of working days are reserved for women) in a year to some 45 million households in rural India. Moreover, rural wages are rising due to the labour demand by the booming construction sector. In Sri Lanka, real minimum wages have grown strongly since the end of the civil war in 2009 but minimum wages are still among the lowest in Asia. Wages in Bangladesh have slowly risen but purchasing power has not increased much due to rising consumer prices. Relatively wage growth in Pakistan has low (Global Wage Report 2014/15 Asia and the Pacific Supplement, 2014). In Pakistan for the year 2001-2013, only two-fifth of the total employment accounts for wage and salaried employment. There seems to be a mildly declining trend with the share of males on the rise while that of females declining. Share of males are higher as compared to the corresponding share of females (Compendium on Gener Statistics of Pakistan 2014, 2014). According to the ILO's "Global Wage Report 2014/15" this gender pay gap is particularly pronounced in Pakistan where women earn 38.5 per cent less than men. Women in formal jobs earn four times more than woman in non-formal jobs according to the NSS (India) survey.

Gender wage gap persists in formal and informal sectors, with male counterparts having greater pay in both sectors as compared to women (Das S., Chandra, Kochhar, & Kumar, 2015). Occupational segregation determines the difference in pays between males and females with majority of women employed in menial jobs. For instance, one in thirteen female wage workers in Asia and the Pacific is a domestic worker – an occupation where wages are generally low (ILO, 2015). India as opposed to Pakistan has falling female participation rates a possible reason that Pakistan is not experiencing a "discouraged-worker effect" would be because a greater proportion of population of Pakistan lives below poverty line as compared to India (Figure 18) where the real wages have witnessed growth in recent years in contrast to Pakistan where wages fell. Therefore extreme poverty conditions in Pakistan keep the women participation rate higher relative to that of India for economic reasons.

Much of the proportion of women of the sample countries are employed as unpaid family workers and own-account workers as a percentage of total employment. In figure 19, we see that a large percentage of women are in vulnerable employment in India, Pakistan and Bangladesh. There is a sharp decline in vulnerability in 2009 for Bangladesh which remains steady. This plummet is congruent to an increase in the share of women in wage and salaried workers (see figure 20) However, given that there is no increase for the said year in "share of women in wage employment in the non-agricultural sector" (refer to figure 21) means that the participation increased in agricultural sector. The growth of agriculture especially of poultry and livestock is the result of the rapid expansion of micro finance in rural areas (Rahman & Islam, 2013). Vulnerable employment falls if women have access to better quality jobs. Share of

vulnerability in Sri Lanka has remained steady since 1990s. As Figure 19 shows, the share of vulnerable employment even increased for women, from 32.46% in 1990 to 47.0% in 2011, indicating that the increased access to employment for women has been accompanied by an increase in vulnerable female employment signifying poor-quality employment creation. Nevertheless, Sri Lanka has lowest share of female employed in vulnerable employment of all South Asian countries. In Sri Lanka, there is a drastic reduction in unemployment (See figure 22) from 1990 onwards particularly because of outward labour migration, and better working conditions for women, accompanied by structural shift from agriculture towards manufacturing and services. Although Sri Lanka's unemployment rate remains higher than that of India and Bangladesh it is the only country that showed a fall in unemployment rates over the given period whilst it had been in the mid of civil war; whereas Pakistan and Bangladesh saw rising unemployment rates for the same time period. This fall in the unemployment rate surpasses the fall in economically active population caused by migration (Byiers, et al, 2015). The poverty headcount ratio declined from 26.1% of the population in 1990 to 9.34% in 2011 (see figure 18), pointing again to the aforementioned benefits of progress made during the period under analysis in Sri Lanka. Summarizing, better incomes in Sri Lanka have simultaneously lead to a fall in unemployment from 1992 to 2012, particularly for women. Even though majority falls into vulnerable employment, but at a much lower level than elsewhere in the South Asia region (Byiers et al, 2015).
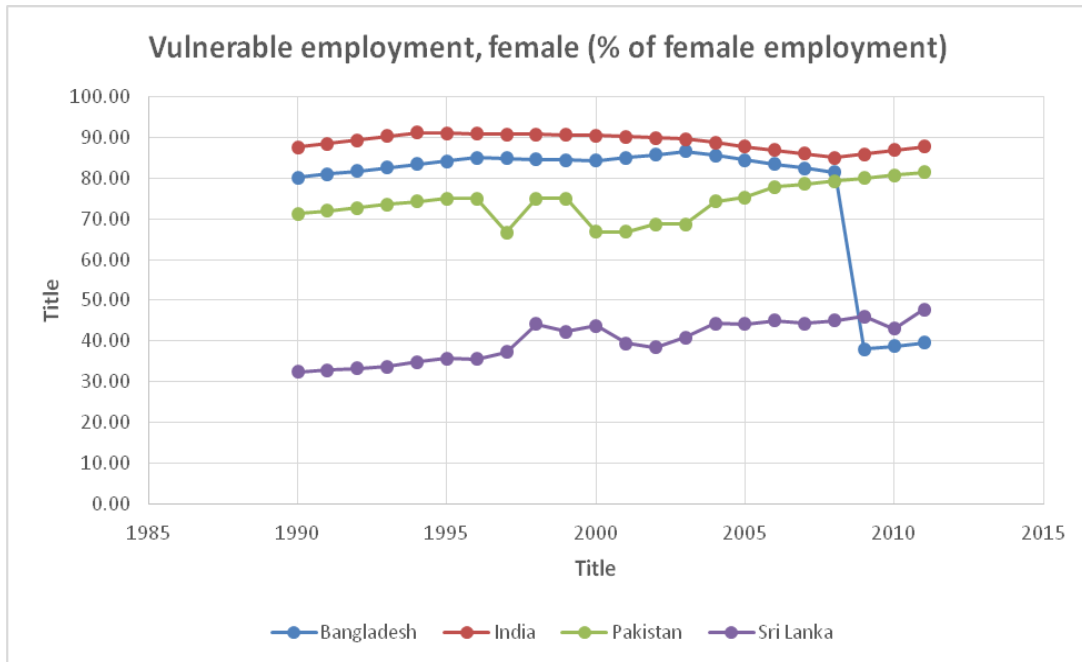
Figure 19: Vulnerable Employment, Female (% of female employment)
Source: Based on Data taken from World Development Indicators
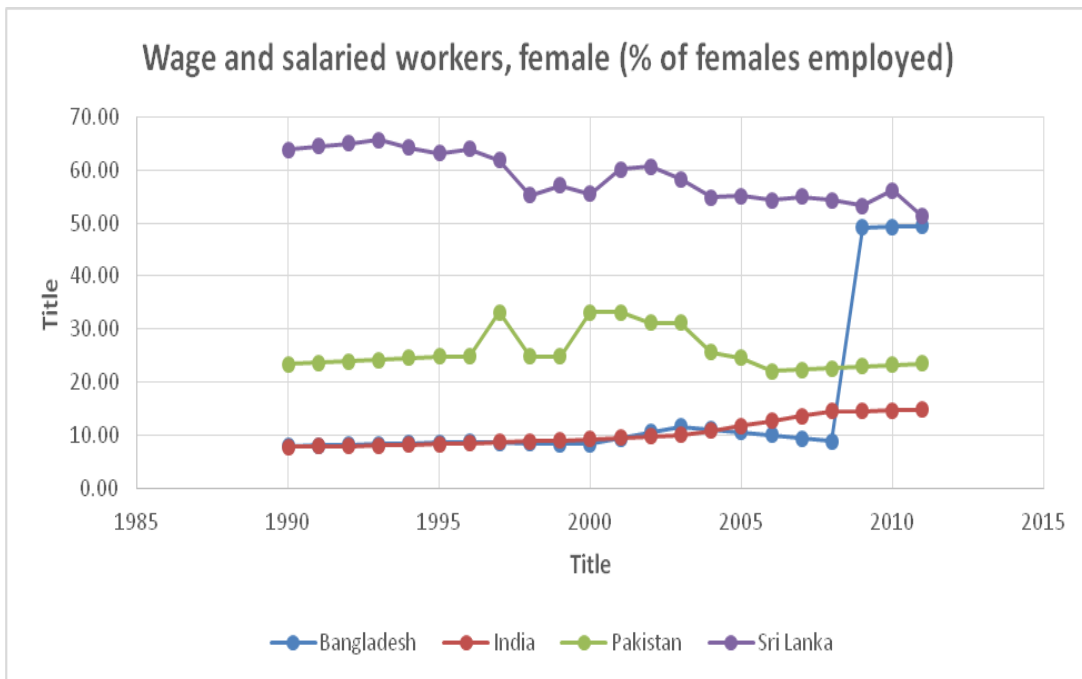
Figure 20: Wage and Salaried Workers, Female (% of female employed)
Source: Based on Data taken from World Development Indicators
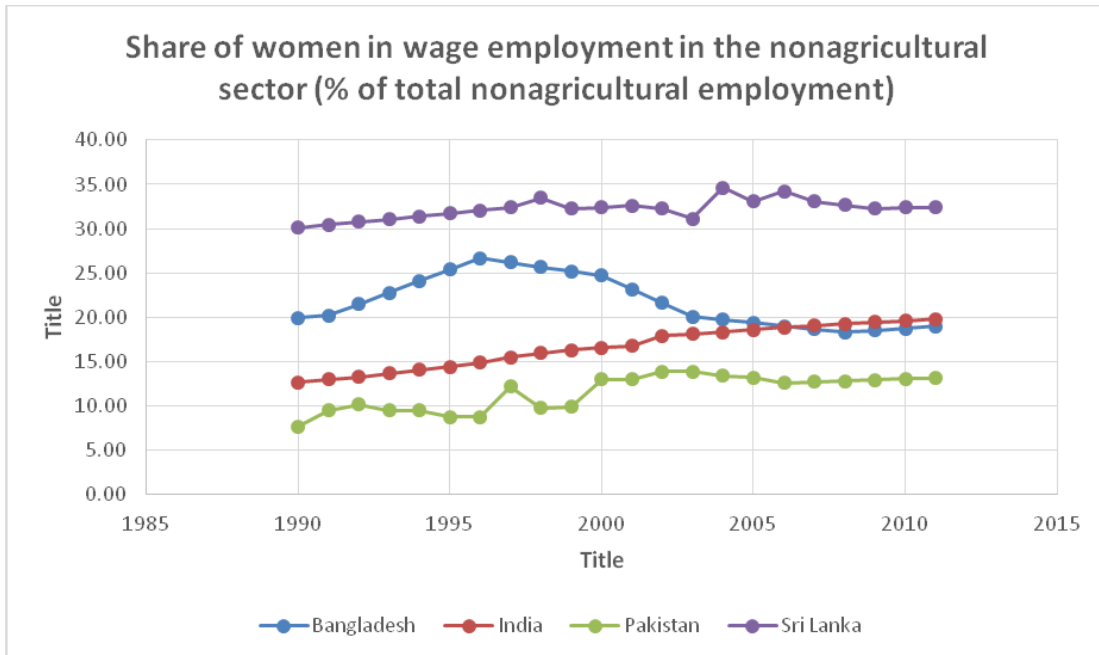
Figure 21: Share of Women in Wage Employment in the Non Agricultural Sector (% of total non agricultural employment)
Source: Based on Data taken from World Development Indicators
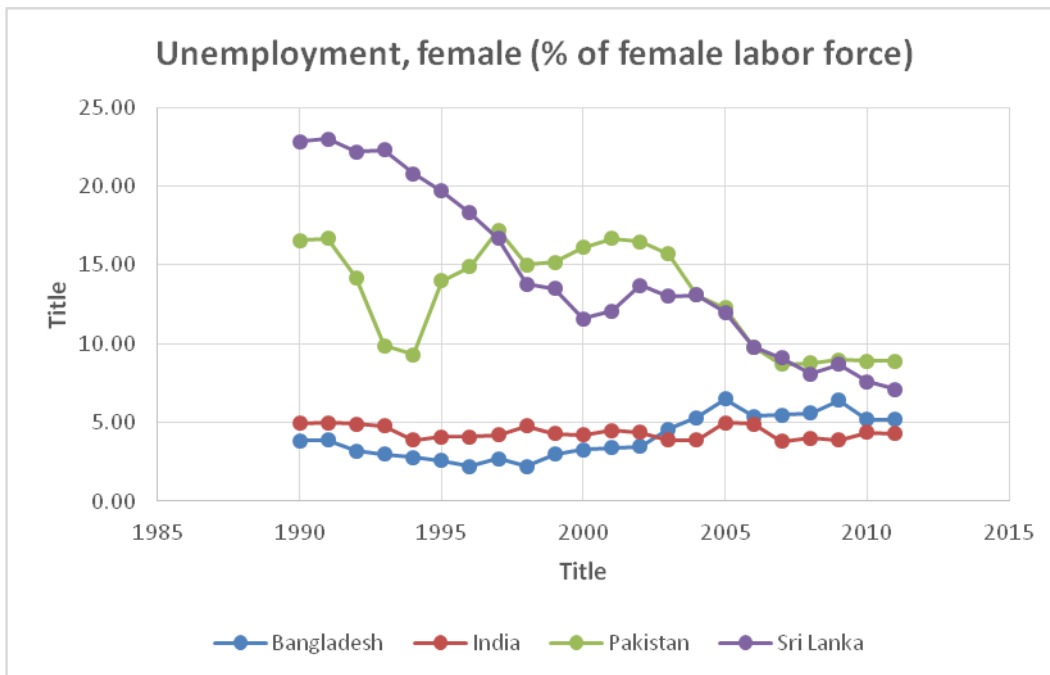
Figure 22: Unemployment, Female (% of female labour force)
Source: Based on Data taken from World Development Indicators

EMPIRICAL ANALYSIS AND DISCUSSION

The impact of the determinants on female labour force participation, in general are presented in Table 3. The variables have been dropped one by one from equations 1-10 to check the robustness of the result. Fixed and random effects linear models are tested on the dataset, while applying Hausman test on both of them to see which of the two is more suited to be interpreted. The effect of these variables is also measured on female employment in agriculture, industry and service, the results of which are tabulated below (Table 4, 5 and 6). Country effects are also incorporated in first equation of each model.

Equation 1 (Table 3) measures the impact of all the variables on female labour force participation, with each variable dropped in subsequent equations. Over all the results show some support of literacy on the overall female labour force participation rate unlike generally. The theory states that a rise in literacy rate leads to an increase in female labour force participation rate, therefore caution warrant in interpreting the results since the literacy definition is very basic which only takes into account "females above 15 years of age who can read and write a short statement". Hence, female labour force participation is not strictly dependent on literacy rates but also on the levels of education. Therefore, the overall effect of literacy could be misleading and a deeper investigation is required to measure the true impact of education on female labour force participation for which I am taking gross enrollment rates in Primary, Secondary and Tertiary level of education. Overall, the results are in line with the theory suggesting that higher educational attainment levels contribute to higher female labour force participation (Hafeez and Ahmed, 2002; Ejaz 2007; Faridi,

Malik, & Basit 2009; Chowdhury 2013). The gross enrollment in primary level has found to have a negative impact on female labour force participation. Because female labour force participation rate takes into account the formal jobs which require a certain threshold level of qualification and secondary/tertiary level of education is the minimum requirement to be a part of formal sector. Further secondary education level has the most significant and positive impact on female labour force participation. Thus based on findings, the female labour force participation rises with levels of education.

The results further provide strong evidence of positive impact of urbanization on female labour force participation. The reason for this might be since the female labour force participation rate of WDI documents only the females involved in formal work whereas the work performed in household and domestic activities goes unreported, this could explain why urbanization has a positive relationship with female labour force participation. Thus urbanization leads to economic growth for women and hence increasing their participation rate. Although Asia still has more rural then urban dwellers, it has a very large and rapidly growing urban population. Asia alone has close to half of the world's urban population and more than half of this is within just two countries, China and India. More than one-third of the total global population resides in urban areas in low and middle-income countries where most of the economic activities take place (Desai & Potter, 2007).

In line with the existing empirical literature, generally in developing countries and particularly in the sample countries fertility rates tend to be high. The results for fertility show significant and negative impact on FLFPR (Ejaz, 2007;Chowdhury,

2013; Aboohamidi & Chidmi, 2013). In developing countries such as the sample countries, fertility rates tend to be high owing to a number of reasons. Offsprings are generally a subsitute for various missing institutions, notably the institution of social secuirty in old age. Aside from being "consumption-good" children are also an "investment-good"; that is a source of support to the family in old age, and more generally as a form of insurace. Markets like social security fund, employer–subsidized retirement plan, various forms of life insurances are either completely missing or available to only those who work in the formal sector. In the developing countries like the selected ones, large sections of the population are employed in either the rural areas or in informal sector, where employment is largely casual and wages are abysmally low and there is a little incentive to develop such social secuirty markets thus influencing the fertility decisions. Moreover, in such socities wages for women's work are low as well. This brings down the opportunity cost[12] of children and keep the birth rates high (Ray, 1998). Moreover given the fact all the selected countries have patriarchial social bakcground where women wages are low, it is persumed that that women must allocate the bulk of their time in the upbringing of children pushing the fertility rate upwards. Similarly, if there are high rates of unemployment, the opportuiny costs of children comes down further increasing the fertility rate. Hence due to all the abovementioned reasons we find a negative and significant relationship of fertility with female participation in labour market.

Empirical results related to dependency confirm positive impact on female labour force participation in line with previous literature (Hafeez & Ahmed, 2002; Faridi, Malik, & Basit, 2009). Few studies found a negative impact of dependency on

female participation (Ejaz, 2007). Thus, overall literature finds mixed evidence. Caution should be taken in interpreting these results; since in this research, over all age dependency is taken, which includes children below 15 years of age and dependents over the age of 64, and not just young dependency ratio which could have a negative impact on women participation. Women hold the greater majority of total poor population of the world. In the poorest communities of the developing countries, women and children consist of the most deprived section. Their inability to earn equally to their male counterparts and their limited control over their spouses' income contribute to their downtrodden condition. Their plight is exacerbated with limited or no access to education, any form of formal sector employment and social security. These facts contribute to ensure that poor women's financial resources are meager and unstable relative to those of men. The households in many of LDC's are headed by women because of the absence of male wage earners. Since women earn less than males they are more likely to be remain poor. In general, women in female headed households have less education and lower incomes. Furthermore, the larger household, the greater strain on the single parent and the lower the per capita food expenditure (Todaro & Smith, 2013).

Further interesting evidence has been found regarding inequality FLFP nexus, where the squared term for inequality has been added to investigate the non-linearity of the relationship. The results confirm the convex nature of the relationship where the female participation decreases with an increase in inequality and it reaches a minimum, and further it starts increasing with increase in inequality. This result is robust for all the equations though the squared term is added only in equation 2.

However, the equations without the squared inequality term, evidence has been found that overall FLFP increases with the inequality. In highly unequal societies, female labour force participation tends to be high because the very few people own and control the majority of resources. Further, wage rates and income levels tend to be low which leads to abundant supply of labour willing to work at lower wages thus increasing the female participation rate. The historical experience of many developing economies reveal that the level of inequality in the distribution of income increases in the initial phase of development reaches a maximum and then starts to fall. Initially, in a society people have much tolerance for the inequality resulting from an improvement in others' economic status described as "Tunnel Effect" by Hirschman and Rothschild (1973) which means people are eager to work on lower wages believing that their wages/income would rise too in near future in line with those around them. Whereas the convex nature of relationship depicts that the positive change in the FLFP with inequality is more than the offset the negative change in inequality with FLFP. Which highlights that the initial stage with inequality resources are unequally distributed and most of the population is marginalized and thus the female labor force participation decreases but after some certain level of development and in the wake of sectoral shifts in employment, the female participation rates start increasing.

6.1 Empirical Evidence: Sectoral Level

6.1.1 Agriculture

In the overall regression in Table 3 we find little evidence of literacy supporting female labour force participation. Likewise, literacy has negative and significant

effect on female employment in agriculture. Literacy definition is very basic which only takes into account females above 15 years of age who can read and write a short statement which may account to negative impact of literacy on employment in agriculture. The true impact of education will be investigated once we bifurcate education at primary, secondary and tertiary level. Once we bifurcate into different levels, Tertiary level education contributes to female labour force participation in agricultural level, whereas for secondary education only little support has been found. The reason Tertiary education contributes female participation in agriculture could likely be related to the fact that the economies are in intermediate stage of development and a drastic mechanization is taking place of various sectors which require a higher educational level to operate sophisticated machinery. Unlike, the previous overall regression in Table 3, Gross Enrollment at Primary level has no significant effect on female employment in agriculture.

In line with the overall results in Table 3, the Dependency ratio contributes to female labour force participation in agriculture sector. As much of the agricultural activities are confined to rural areas where woman perform multiple tasks ranging from household chores to working on farms. In wake of the low literacy levels in rural areas and high fertility rates, higher dependency ratio compels women to work for earning extra money.

Unlike the previous overall finding, urbanization has no significant impact on female employment in agriculture because female labour force participation in agriculture is confined to rural areas and agriculture is a rural phenomenon therefore urbanization is found to be insignificant.

Further the evidence of the significant and negative impact of fertility rates on female employment in agriculture has been found. However, once we drop the dependency variable its co-efficient becomes insignificant in equation 4 (Table 4).

Furthermore, like the overall evidence, some evidence, some evidence of the positive impact of inequality on female labour force participation in agriculture has been found. Because, higher inequality and lower income population mainly resides in rural areas therefore the employment in agriculture is increased with higher inequality. The results of the nonlinearity of FLFP in agriculture show that FLFP increases with inequality, reaches a maximum and then falls as inequality increases further. This may be because of the rural to urban migration culminated to the fall in female employment in the agricultural sector. This result is robust for all the equations though the squared term is added only in equation 2. Female employment in agriculture is higher in India, Pakistan and Sri Lanka as compared to Bangladesh.

6.1.2 Industry

Table 5presents the results by taking female employment in industrial sector. Relative to Bangladesh, unlike Pakistan, India and Sri Lanka have less employment in industrial sector. Unlike the previous findings in agriculture sector, the literacy rate contributes towards female labour force participation in industrial sector. Further, in the breakdown of education level, the tertiary education contributes significantly to female participation in industry.

Age dependency too contributes towards female employment in industrial sector just as in agricultural sector.

84

Surprisingly, the fertility rates have insignificant impact in industrial sector unlike the previous findings in agricultural sector where a negative impact has been found. The reason is because the most of the industry is based in urban areas and female labour force participation in industrial sector is relatively better educated and empowered therefore fertility rates do not undermine the labour force participation in industrial sector.

On the same premise, the inequality contributes towards the female employment in industrial sector. The nonlinear relationship shows, that in industry as inequality increases female labour force participation increases with it; and reaches a maximum after which it starts falling with increasing inequality, this could be due to a movement of female workers from industry to services with rising inequality for better remunerated job opportunities. This result is robust for all the equations though the squared term is added only in equation 2.

6.1.3 Services

Table 6 presents results for service sector. Unlike the results for industry, the variable for literacy rate only comes out significant in one equation. (Equation 3, Table 6). In one equation literacy significantly contributes to female employment in services. Considering the educational levels, employment in services is driven by secondary education, however, surprisingly the tertiary level education undermines the female employment in services observed in three regressions. This may be because of the fact that women from high socio-economic background do not work because of economic reasons but by choice and relative to the overall female labour force very few are employed in services sector.

Dependency like previous evidence increases participation with increasing dependency. However, once we control for fertility rates the co-efficient becomes insignificant.

Urbanization impact, like the previous evidence, on female employment in service is insignificant.

We do find little evidence of that high fertility rate undermine employment in services. Over all the variable of fertility rate has insignificant impact on employment in services and only in one equation it significantly undermines the female employment in services.

Unlike the evidence for the industry, in services sector inequality contributes to employment in services only in one equation. Like results found for previous sectors, the robust nonlinear relationship of inequality shows that female labour force participation increases with increasing levels of inequality until it reaches a maximum point after which it starts to decline with further increase in inequality.

Table 3: Dependent Variable Female Labour Force Participation Rate (FLFPR)

Independent Variables	Equation 1	Equation 2	Equation 3	Equation 4	Equation 5	Equation 6	Equation 7	Equation 8	Equation 9	Equation 10
Constant	147.417*** (6.01)	684.77*** (6.93)	135.146* (2.22)	65.567 (1.32)	14.517 (0.34)	181.807*** (3.83)	-0.005* (1.69)	34.174 (0.55)	49.429 (1.20)	130.862* (2.20)
Literacy Rate	-.551*** (-5.41)	-0.878*** (-3.04)	-0.733* (-1.96)	-	-0.675*** (-2.47)	-1.028*** (-3.60)	-0.243 (-0.79)	-0.460 (-1.36)	-0.080 (-0.27)	-0.640** (-2.26)
Gross Enrollment Primary	0.108*** (3.05)	-0.401** (-2.35)	-0.624*** (-2.88)	-0.400** (-2.14)	-	-0.647*** (-2.99)	-0.414** (-2.15)	0.091 (0.52)	-0.353** (-2.02)	-0.650*** (-3.19)
Gross Enrollment Secondary	-0.411*** (-8.13)	0.121 (0.55)	0.017 (0.06)	0.392*** (2.55)	-	0.1043 (0.37)	0.421* (1.68)	0.984*** (3.96)	0.387* (1.76)	0.044 (0.16)
Gross Enrollment Tertiary	0.004 (0.03)	-0.649 (-1.41)	0.051 (0.09)	0.763** (2.24)	-	-0.393 (-0.87)	0.778 (1.56)	-0.292 (-0.57)	0.625 (1.28)	0.157 (0.31)
Dependency	-0.782*** (-7.31)	0.736 (1.61)	0.721 (1.21)	1.468*** (3.63)	0.988** (2.10)	-	1.553*** (3.13)	-0.059 (-0.13)	1.450*** (3.06)	0.819 (1.54)
Urban Population Growth (Urbanization)	-0.103 (-0.33)	3.694** (2.19)	5.289*** (2.45)	3.458*** (2.34)	6.251*** (2.93)	6.338*** (3.19)	-	5.215*** (3.17)	3.397** (2.26)	4.813*** (2.73)
Fertility Rate	0.050 (0.04)	-36.800*** (-6.89)	-41.732*** (-6.09)	-26.915*** (-5.00)	-31.880*** (-6.89)	-39.112*** (-5.99)	-29.647** (-5.38)	-	-26.594** (-4.79)	-41.021** (-6.26)
GINI Index	-0.546 (-0.35)	-33.285*** (-5.89)	2.021* (1.88)	-0.483 (-0.63)	2.079*** (2.51)	2.016* (1.87)	-0.600 (-0.75)	-0.679 (-0.77)	-	1.913* (1.85)
GINI Index Squared	0.006 (0.29)	0.544*** (6.32)	-	-	-	-	-	-	-	-
GDP per capita	0.001*** (3.81)	0.000 (-0.33)	0.001 (0.39)	-0.005*** (-3.89)	0.003 (1.50)	2.016 (1.00)	-0.005*** (-3.27)	-0.004** (-2.56)	-0.004*** (-3.03)	-
_Icountry_2 (India)	-24.250*** (-30.68)	-	-	-	-	-	-	-	-	-
_Icountry_3 (Pakistan)	-41.305*** (-31.78)	-	-	-	-	-	-	-	-	-
_Icountry_4 (Sri Lanka)	3.972 (1.12)	-	-	-	-	-	-	-	-	-
F (9, 57)	-	F (10, 56) 42.54	25.46	-	F (6, 60) 33.75	F (8,58) 28.23	-	-	-	F(8,58) 29.05
Prob> F	0.0000	0.0000	0.0000	-	0.0000	0.0000	-	-	-	0.0000
No. of observation	88	88	88	88	88	88	88	88	88	88
R Square	0.9923	0.7277	0.5577	0.734	0.507	0.5003	0.718	0.658	0.7337	0.5918
Wald Chi2(8)	9484.35	-	-	218.82	-	-	201.62	152.52	217.61	-
Prob> chi2	0.0000	-	-	0.0000	-	-	0.0000	0.0000	0.0000	-
RE vs. FE	RE	FE	FE	RE	FE	FE	RE	RE	RE	FE

***, **, and * significant at 1%, 5% and 10% respectively
For FE t values in parenthesis and for RE z values in parenthesis
Omitted variable category Bangladesh
Source: Author's calculations

Table 4: Dependent Variable Employment In Agriculture

Independent Variables	Equation 1	Equation 2	Equation 3	Equation 4	Equation 5	Equation 6	Equation 7	Equation 8	Equation 9	Equation 10
Constant	-120.438 (-0.74)	-281.245* (-1.75)	-22.038 (-0.28)	-76.032 (-1.12)	-41.864 (-1.09)	97.606 (1.55)	-21.551 (-0.28)	-39.995 (-0.56)	14.283 (0.20)	-9.003 (-0.12)
Literacy Rate	2.699*** (4.43)	-0.594 (-1.27)	-0.662 (-1.39)	-	-0.788*** (-3.78)	-1.417*** (-3.75)	-0.683 (-1.46)	-0.763** (-1.94)	-0.579 (-1.22)	-0.947*** (-2.60)
Gross Enrollment Primary	-0.373 (-1.58)	-0.123 (0.44)	-0.017 (-0.06)	-0.023 (-0.08)		-0.077 (-0.27)	-0.001 (-0.01)	-0.017 (-0.08)	-0.039 (-0.14)	0.063 (0.24)
Gross Enrollment Secondary	-0.349 (-1.22)	-0.059 (-0.17)	-0.011 (-0.03)	-0.203 (-0.60)		0.211 (0.57)	-0.028 (-0.08)	0.555** (1.92)	0.229 (0.72)	-0.093 (-0.26)
Gross Enrollment Tertiary	1.269 (1.54)	2.90*** (3.87)	2.571*** (3.46)	3.286** (6.11)		1.432** (2.38)	2.527*** (3.49)	1.017* (1.72)	2.806*** (3.88)	2.246*** (3.44)
Dependency	0.730 (0.85)	1.843*** (2.48)	1.850*** (2.44)	2.534*** (4.36)	1.002** (2.08)	-	1.751*** (2.54)	0.809 (1.59)	1.847*** (2.42)	1.552** (2.26)
Urban Population Growth (Urbanization)	0.449 (0.21)	-0.150 (-0.06)	-0.902 (-0.33)	-1.420 (-0.52)	-2.305 (-1.13)	1.788 (0.68)	-	-1.933 (-1.01)	-1.223 (-0.44)	0.543 (0.24)
Fertility Rate	-23.797** (-2.37)	-21.830*** (-2.52)	-19.504** (-2.23)	-18.877** (-2.14)	-11.954** (-2.25)	-12.785 (-1.48)	-19.339* (-2.23)	-	-15.810* (-1.90)	-21.669** (-2.57)
GINI Index	8.471 (0.90)	18.430** (2.01)	1.799 (1.29)	1.522 (1.11)	4.173*** (4.91)	1.766 (1.23)	1.819 (1.34)	2.701*** (2.63)	-	2.107 (1.59)
GINI Index Squared	-0.145 (-0.99)	-0.256* (-1.84)	-	-	-	-	-	-	-	-
GDP per capita	0.016*** (3.38)	-0.002 (-0.69)	-0.003 (-0.93)	-0.007** (-2.37)	-0.004*** (-3.14)	0.000 (0.12)	-0.002 (-0.90)	-0.008*** (-4.18)	-0.004 (-1.30)	-
_Icountry_2 (India)	-36.852*** (-3.63)	-	-	-	-	-	-	-	-	-
_Icountry_3 (Pakistan)	-18.148** (-1.94)	-	-	-	-	-	-	-	-	-
_Icountry_4 (Sri Lanka)	-216.149*** (-5.31)	-	-	-	-	-	-	-	-	-
F (9, 57)	F(13, 53) 25.28	F (10, 56) 16.23	16.95	F(8,58) 18.53		F (8,58) 16.89	F (8,58) 19.36		F (8,58) 18.65	F (8,58) 19.01
Prob> F	0.0000	0.0000	0.0000	0.0000	-	0.0000	0.0000	-	0.0000	0.0000
No. of observations	88	88	88	88	88	88	88	88	88	88
R Square	0.0102	0.357	0.4458	0.5314	0.668	0.2719	0.406	0.6987	0.449	0.295
Wald Chi2(8)	-	-	-	-	163.55	-	-	183.21	-	-
Prob> chi2	-	-	-	-	0.0000	-	-	0.0000	-	-
RE vs. FE	FE	FE	FE	FE	RE	FE	FE	RE	FE	FE

***, **, and * significant at 1%, 5% and 10% respectively

For FE t values in parenthesis and for RE z values in parenthesis

Omitted variable category Bangladesh

Source: Author's calculations

Table 5: Dependent Variable Employment In Industry (EIND)

Independent Variables	Equation 1	Equation 2	Equation 3	Equation 4	Equation 5	Equation 6	Equation 7	Equation 8	Equation 9	Equation 10
Constant	-52.650 (-1.14)	-140.785*** (-3.71)	-54.170** (-2.86)	-23.333 (-1.32)	-33.627** (-2.45)	-28.930* (-1.91)	-53.680 (-.282)	-50.5005*** (-2.75)	-42.924** (-2.40)	-47.506** (-2.49)
Literacy Rate	0.611*** (3.19)	0.401*** (3.62)	0.378*** (3.26)	-	0.152* (1.73)	0.219** (2.41)	0.357*** (3.08)	0.373*** (3.23)	0.404*** (3.46)	0.232*** (2.57)
Gross Enrollment Primary	-.022 (-0.34)	-0.014 (-0.22)	0.020 (0.31)	0.023 (0.33)	-	0.007 (0.12)	0.036 (0.55)	-0.0076 (-0.13)	0.014 (0.21)	0.062 (0.95)
Gross Enrollment Secondary	0.110 (1.16)	0.038 (0.46)	0.055 (0.62)	0.165** (1.86)	-	0.101 (1.15)	0.037 (0.42)	0.012 (0.18)	0.129* (1.67)	0.012 (0.15)
Gross Enrollment Tertiary	-0.207 (-0.92)	0.671*** (3.79)	0.560*** (3.11)	0.152 (1.08)	-	0.320** (2.22)	0.516*** (2.89)	0.592*** (3.36)	0.633*** (3.57)	0.394*** (2.42)
Dependency	0.387** (1.93)	0.388** (2.21)	0.390** (2.12)	-0.000 (-0.00)	0.014 (0.10)	-	0.290* (1.71)	0.439** (2.51)	0.389** (2.08)	0.237 (1.39)
Urban Population Growth	.616 (1.03)	-0.655 (-1.01)	-0.907 (-1.35)	-0.611 (-0.85)	-0.342 (-0.50)	-0.339 (-0.54)	-	-0.939 (-1.41)	-1.006 (-1.49)	-0.167 (-0.30)
Fertility Rate	2.24 (0.98)	1.010 (0.49)	1.788 (0.84)	1.429 (0.62)	0.249 (0.17)	3.205 (1.54)	1.953 (0.91)	-	2.932 (1.44)	0.681 (0.32)
GINI Index	-0.512 (-0.18)	6.114*** (2.82)	0.550* (1.65)	0.697** (1.95)	1.188*** (4.45)	0.548 (1.59)	0.591* (1.76)	0.642** (2.04)	-	0.718** (2.17)
GINI Index Squared	0.017 (0.40)	-140.78*** (-3.71)	-	-	-	-	-	-	-	-
GDP per capita	-0.0000 (-0.11)	-0.001* (-1.68)	-0.001** (-1.94)	0.000 (0.19)	0.000 (0.14)	-0.000 (-1.12)	-0.001 (-1.42)	-0.001* (-1.79)	-0.002*** (-2.42)	-
_Icountry_2 (India)	2.568 (1.73)	-	-	-	-	-	-	-	-	-
_Icountry_3 (Pakistan)	-2.111 (-0.86)	-	-	-	-	-	-	-	-	-
_Icountry_4 (Sri Lanka)	-10.659 (-1.59)	-	-	-	-	-	-	-	-	-
F (9, 57)	-	F(10, 56) 63.31	63.25	F(8,58) 59.88	F(6,60) 78.73	F(8,58) 66.61	F(8,58) 69.93	F(8,58) 71.43	F(8,58) 68.79	F(8,58) 67.45
Prob> F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
No. of observations	88	88	88	88	88	88	88	88	88	88
R Square	0.8761	0.8234	0.8394	0.7865	0.8122	0.8289	0.822	0.832	0.8245	0.7802
Wald Chi2(8)	523.27	-	-	-	-	-	-	-	-	-
Prob> chi2	0.0000	-	-	-	-	-	-	-	-	-
RE vs. FE	RE	FE	FE	FE	FE	FE	FE	FE	FE	FE

***, **, and * significant at 1%, 5% and 10% respectively
For FE t values in parenthesis and for RE z values in parenthesis
Omitted variable category Bangladesh
Source: Author's calculations

Table 6: Dependent Variable Employment in Services (ESER)

Independent Variables	Equation 1	Equation 2	Equation 3	Equation 4	Equation 5	Equation 6	Equation 7	Equation 8	Equation 9	Equation 10
Constant	-37.312 (-0.61)	-297.070*** (-4.83)	-21.031 (-0.64)	-8.389 (-0.28)	-72.901*** (-4.34)	14.738 (0.55)	-19.612 (-0.61)	-28.131 (-0.86)	-6.306 (-0.26)	-20.423 (-0.63)
Literacy Rate	1.785*** (7.78)	0.309** (1.91)	0.164 (0.90)	-	0.419*** (4.58)	-0.026 (-0.17)	0.1551 (0.87)	0.102 (0.57)	0.146 (0.81)	0.207 (1.35)
Gross Enrollment Primary	-0.662*** (-7.44)	-0.272*** (2.70)	-0.1333 (-1.20)	-0.130 (-1.17)	-	-0.157 (-1.40)	-0.134 (-1.21)	-0.046 (-0.49)	-0.160 (-1.55)	-0.152 (-1.49)
Gross Enrollment Secondary	0.487*** (4.52)	0.240** (1.89)	0.240* (1.65)	0.342*** (3.74)	-	0.377** (2.96)	0.237* (1.64)	0.333** (2.54)	0.283** (2.81)	0.228 (1.60)
Gross Enrollment Tertiary	-0.605** (-1.95)	0.036 (0.14)	-0.240 (-0.82)	-0.427** (-2.10)	-	-0.559** (-2.35)	-0.229 (-0.80)	-0.404 (-1.51)	-0.232 (-0.80)	-0.143 (-0.74)
Dependency	1.006*** (3.11)	0.580** (2.29)	0.538* (1.85)	0391* (1.63)	0.876*** (4.14)	-	0.551** (1.93)	0.284 (1.23)	0.489* (1.74)	0.558** (1.95)
Urban Population Growth (urbanization)	-0.187 (-0.23)	0.394 (0.51)	0.231 (0.26)	0.074 (0.09)	0.126 (0.14)	0.512 (0.57)	-	0.562 (0.65)	0.204 (0.23)	0.185 (0.21)
Fertility Rate	-19.235*** (-5.09)	-5.670** (-1.97)	-4.704 (-1.43)	-3.996 (-1.25)	-4.981** (-2.14)	-0.966 (-0.36)	-4.925 (-1.55)	-	-4.611 (-1.40)	-4.760 (-1.45)
GINI Index	1.106 (0.31)	17.657*** (5.13)	0.313 (0.68)	0.253 (0.55)	0.806** (2.16)	0.100 (0.22)	0.307 (0.67)	0.2854 (0.61)	-	0.289 (-0.63)
GINI Index Squared	-0.023 (-0.42)	-0.266*** (-5.07)	-	-	-	-	-	-	-	-
GDP per capita	0.003** (1.93)	0.000 (0.02)	0.000 (0.44)	0.000 (1.10)	0.000 (0.50)	0.000 (0.73)	0.000 (0.42)	0.000 (0.49)	0.000 (0.37)	-
_Icountry_2 (India)	-7.256** (-1.90)	-	-	-	-	-	-	-	-	-
_Icountry_3 (Pakistan)	9.609*** (2.73)	-	-	-	-	-	-	-	-	-
_Icountry_4 (Sri Lanka)	-94.883** (-6.19)	-	-	-	-	-	-	-	-	-
F (9, 57)	48.65	-	-	-	-	-	-	-	-	-
Prob> F	0.0000	-	-	-	-	-	-	-	-	-
No. of observations	88	88	88	88	88	88	88	88	88	88
R Square	0.3050	0.7779	0.7037	0.7006	0.6874	0.6907	0.703	0.6959	0.7019	0.7029
Wald Chi2(8)	-	269.65	Wald Chi2 (9) 185.21	Wald Chi2 (8) 184.85	Wald Chi2 (6) 178.13	176.38	187.36	180.82	186.03	186.92
Prob> chi2	-	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
RE vs. FE	FE	RE	RE	RE	RE	RE	RE	RE	RE	RE

***, **, and * significant at 1%, 5% and 10% respectively
For FE t values in parenthesis and for RE z values in parenthesis
Omitted variable category Bangladesh
Source: Author's calculations

POLICY IMPLICATIONS AND CONCLUSION

In general the objective of this study is to investigate empirically the determinants of female labour force participation in Bangladesh, India, Pakistan and Sri Lanka and particularly in agriculture, industry and services sector. Data is taken from World Development Indicators for the years 1990 to 2011. A Random and Fixed effect model have been employed to carry out the empirical analysis.

Overall unlike the literacy rate variable, the results confirm that the higher levels of education have a positive impact on female labour force participation rate unlike the literacy rates. This also holds true once we bifurcate the analysis at sectoral level. Further the high fertility rates decrease women participation in the labour market and at sectoral level this result is significant in agriculture sector. Not surprisingly, the variable of dependency comes out to be a strong determinant of female participation for all the sectors. Furthermore, mixed evidence has been found for the effect of inequality on labour force participation however, for industrial sector inequality contributes towards female labour force participation. The urbanization variable contributes to female labour force participation but this relationship is insignificant at sectoral level.

The above findings draw various policy implications. Government has to direct resources to higher levels of education as it contributes to female labour force participation, particularly the secondary education thus reducing the gender gap in education and employment. With the drastic mechanization of industrial processes, the dynamics of labour market are also shifting increasing gender gaps in some industries since those become obsolete and new ones are created leaving women

unemployed. Therefore, in order to overcome this impediment, women should be trained in whole new domains. Informal-sector employment where the majority of the female labour force is employed should be legalized. As confirmed by our results dependency is a strong determinant of female labour force participation and this warrants the role of the State in the provision of missing institutions of social security highly imperative which may contribute towards further increasing female labour force. Family-friendly policies that encourage a more equitable sharing of domestic duties between males and females should be implemented. Policies that enable more flexible work arrangement such as part-time work and work that can be done online need to be implemented. Thirdly, policy makers can provide incentives for setting up well-monitored crèches for young children and day-care centers for elderly which can, in turn, provide more job opportunities for women. In line with the existing evidence fertility rate has a negative impact this effects on part of state has to focus on lowering the fertility rates to allow more female participation in labour market. Governments should make family planning services readily available and awareness about the importance of these services must be increased amongst people to sensitize them to use such services. As with the passage of increasing rural to urban migration, more employment opportunities have to be created in urban as well as rural areas.

Overall the complex nature of inequality and female labour force participation is evident from complicated relationship at overall and sectoral level. On the overall level, female labour force participation rate initially fall reaches a minimum and then increases, which could be misleading since at sectoral level female labour force participation increases, reaches a maximum and then starts decreasing with increasing

inequality. Special attention has to be given to increase in female labour force participation as evident at all sectoral levels female labor force participation decreases with increasing inequality. Considering the fact there is widespread income inequality in the selected countries more participation of the female labour force particularly in industrial sector is desirable. Steps should be taken to ensure that women have equal access to government resources provided through schooling, services, and employment and social security programs.

The present study has its limitations. Future research could be conducted with enhanced data set by including more countries. Further research could also use Test scores method instead of literacy to measure the impact on female participation as literacy definition is very vague. The inhibiting factors that limit female labour force participation could be controlled for future research.

BIBLIOGRAPHY

(n.d.). Retrieved May Tuesday, 2015, from International Union for the Scientific Study of Population: http://iussp.org/sites/default/files/event_call_for_papers/IUSSP-Exten-abs2-pdf.pdf

Aboohamidi, A., & Chidmi, B. (2013). Female labour Force Participation in Pakistan and Some MENA Countries. *Souther Agricultural Economics Association.* Lubbock.

(2013). *Adult and Youth Literacy National Regional and Global Trends 1985-2015.* Montreal: UNESCO Institute for Statistics.

(2015). *Bangladesh Economic Review 2014.* Dhaka: Economic Adviser's Wing, Finance Division, Ministry of Finance Government of the People's Republic of Bangladesh.

Bhalla, S. S., & Kaur, R. (2011). *Labour Force Participation of Women in India: Some facts, some queries.* London: LSE Asia Research Centre.

Byiers, B., Krätke, F., Jayawardena, P., Takeuchi, L. R., & Wijesinha, A. (2015). *Manufacturing Progress? Employment creation in Sri Lanka.* London: Eurpoean Centre for Development Policy Management ECDPM.

Chaudhary, R., & Verick, S. (2014). *Female labour force participation in India and beyond.* New Delhi: International Labour Organization, ILO DWT for South Asia .

Chowdhury, A. R. (2013). *Low Female Labor-Force Participation in Sri Lanka: Contributory Factors, Challanges and Policy Implications .* South Asian Human Development Sector, The World Bank.

(2014). *Compendium on Gender Statistics of Pakistan 2014.* Islamabad: Pakistan Bureau of Statistics.

Das, M. (2006). Do Traditional Axes of Exclusion Affect Labor Market Outcomes in India? *Social Development Papers, South Asia Series Paper No. 97 .*

Das, S., Chandra, S. D., Kochhar, K., & Kumar, N. (2015). *Women workers in India: Why so Few among So Many?* International Monetary Fund.

Desai, V., & Potter, R. B. (2007). *The Companion to Develoopment Studies.* Hodder Education An Hachette UK Company.

Ejaz, M. (2007). Determinant of Female Labour Force Participation in Pakistan An Emperical Analysis of PSLM (2004-05) Micro Data. *The Lahore Journal of Economics .*

Ejaz, M. (2007). *Determinants of Female Labour Force Participation in Pakistan An Emperial Analysis of PSLM (2004-05) Micro Data.* The Lahore Journal of Economics .

Faridi, M. Z., Malik, S., & Basit, A. B. (2009). Impact of Education on Female Labour Force Participation in Pakistan: Emperical Evidence from Primary Data Analysis. *Pakistan Journal of Social Science* , 127-140.

Finance, M. O. (2013). *Pakistan Economic Survey 2012-2013.* Ministry Of Finance, Government of Pakistan.

Fullerton, J. H. (1999, December). Labor force participation: 75 years of change, 1950-98 and 1998-2025 . *Monthly Labour Review* .

(2012). *Global Employment Trends for Women.* Geneva: International Labour Organization.

(2014). *Global Wage Report 2014/15 Asia and the Pacific Supplement.* International Labour Organization.

Goldin, C. (2006, January). The Quiet Revolution that Transformed Women's Employment, Education, and Family. *National Bureau of Economic Research* .

Gunatilaka, R. (2013). *Women's Participation in Sri Lanka's Labour Force: Treds, Drivers and Constraints.* International Labour Organization Publication.

Hafeez, A., & Ahmed, E. (2002). *Factors Determining the Labour Force Participation Decision of the Educated Married Women in a District of Punjab.* Islamabad: Sustainable Development Policy Institute.

 (2015). *Household Income and Expenditure Survey 2012/13 Final Report.* Colombo: Department of Census and Statisitcs, Sri Lanka.

http://www.worldbank.org/en/country/bangladesh/overview. (n.d.). Retrieved December 2015, from www.worldbak.org: http://www.worldbank.org/en/country/bangladesh/overview

Ingram, G., Wils, A., Chaluda, A., Sylla, B., Kim, H. J., Goodfriend, J., et al. (2009). *Global Educational Trends 1970-2025 A Brief Review on Data on Ten Key Issues.* Education and Policy Data Center.

Islam, R. (2006). *The Nexus of Economic Growth, Employment and Poverty Reduction: An Emperical Analysis in Islam.* Geneva: International Labour Organization.

Isran, S., & Isran, M. A. (2012). Low Female Labour Participation in Pakistan: Causes and Consequences . *Pakistan Journal of Social Sciences (PJSS)* , 453-468.

Jangua, H. M. (2014). *Female labour force participation in Pakistan.* The Daily Times.

Kabeer, N. (2015). Culture, Economics and Women's Engagement with the Labor Market: Preliminary Findings from Bangladesh. *A Gender and Development Seminar Series Event.* Washington, DC: The World Bank.

Kapso, S., Silberman, A., & Bourmpoula, E. (2014). *Why is Female Labour Force Participation declining so sharply in India?* Geneva: International Labour Organization.

 (2011). *Key Indicator of Labor Market, Seventh Edition.* International Labor Organization .

Klasen, S., & Pieters, J. (2013). *What Explains the Stagnation of Female.* Bonn: IZA.

(2013). *Labour Force Survey 2013-14.* Islamabad: Pakistan Bureau of Statistics .

Mahmud, S., & Tasneem, S. (2011). *The Under Reporting of Women's Economic Activity in Bangladesh: An Examination of Official Statistics.* Dhaka: BRAC Development Institute.

Mianuddin, M. (2012). Education and women's participation in Indian economy: A regional analysis. *Journal of Geography and Regional Planning* , 36-50.

(2013). *Pakistan Economic Survey 2011-12.* Mininstry of Finance, Government of Pakistan.

(2015). *Pakistan Education Statistics 2013-2014.* Ministry of Federal Education and Professional Training, Government of Pakistan.

(2013). *Pakistan Millennium Development Goals Report 2013.* Islamabad: Ministry of Planning, Development and Reform, Government of Pakistan.

Pakistan, I. C. (2013). *Pakistan Labour Market Update.* International Labour Organization.

Rahman, I. R., & Islam, R. (2013). *Female Labour force participation in Bangladesh: trends, drivers and barriers.* India: International Labour Organization.

Rahman, R. I., & Islma, R. (2013). *Female labour force participation in Bangladesh: trends, drivers and barriers.* New Delhi: International Labour Organization, ILO DWT for South Asia and Country Office for India.

Rahman, R. I., & Otobe, N. (2005). *The dynamics of the labour market and employment in Bangladesh: A focus on gender dimension.* Geneva: International Labour Organization .

Rani, U., & Unni, J. (2009). Do Economic Reforms Influence Home-Based Work? Evidence from India. *Feminist Economics* , 191-225.

Ray, D. (1998). *Development Economics.* Princeton University Press.

(2013). *Report on Employment and Unemploymemt 2012-2013.* Chandigarh: Government of India, Ministry of Labour and Emmploymnet, Labour Bureau.

Saith, R., & White, B. H. (1999). The gender sensitivity of well-being indicators. *Development and change* , 465-479.

Shahid, G. S. (2009). Do Male Attitudes Obstruct Female Participation? The Case of Education and Labor Force Participation in District Lahore, Pakistan.

(2010). *Sri Lanka Labour Force Survey Annual Report 2010.* Colombo: Department of Census and Statistics, Ministry of Finance.

Todaro, M. P., & Smith, S. C. (2013). *Economic Development.* Pearson Education Limited.

UNFPA United Nations Population Fund. (2015, January Saturday). Retrieved January Saturday, 2015, from Urbanization | United Nations Population Fund: http://www.unfpa.org/urbanization

Verick, S. (2014). *Female labor force participation in developing countries.* IZA World of Labour.

(2014). *Women in Labor Force: A databook.* U.S. Bureau of Labor Statistics.

Woytek, K. E., Newiak, M., Kochhar, K., Fabrizio, S., Kpodar, K., Wingender, P., et al. (2013). *Women, Work, and the Economy:Macroeconomic Gains From Gender Equity.* International Monetary Fund.

(n.d.). Retrieved May Tuesday, 2015, from International Union for the Scientific Study of Population: http://iussp.org/sites/default/files/event_call_for_papers/IUSSP-Exten-abs2-pdf.pdf

Aboohamidi, A., & Chidmi, B. (2013). Female labour Force Participation in Pakistan and Some MENA Countries. *Souther Agricultural Economics Association.* Lubbock.

(2013). *Adult and Youth Literacy National Regional and Global Trends 1985-2015.* Montreal: UNESCO Institute for Statistics.

(2015). *Bangladesh Economic Review 2014.* Dhaka: Economic Adviser's Wing, Finance Division, Ministry of Finance Government of the People's Republic of Bangladesh.

Bhalla, S. S., & Kaur, R. (2011). *Labour Force Participation of Women in India: Some facts, some queries.* London: LSE Asia Research Centre.

Byiers, B., Krätke, F., Jayawardena, P., Takeuchi, L. R., & Wijesinha, A. (2015). *Manufacturing Progress? Employment creation in Sri Lanka.* London: Eurpoean Centre for Development Policy Management ECDPM.

Chaudhary, R., & Verick, S. (2014). *Female labour force participation in India and beyond.* New Delhi: International Labour Organization, ILO DWT for South Asia .

Chowdhury, A. R. (2013). *Low Female Labor-Force Participation in Sri Lanka: Contributory Factors, Challanges and Policy Implications* . South Asian Human Development Sector, The World Bank.

 (2014). *Compendium on Gender Statistics of Pakistan 2014.* Islamabad: Pakistan Bureau of Statistics.

Das, M. (2006). Do Traditional Axes of Exclusion Affect Labor Market Outcomes in India? *Social Development Papers, South Asia Series Paper No. 97* .

Das, S., Chandra, S. D., Kochhar, K., & Kumar, N. (2015). *Women workers in India: Why so Few among So Many?* International Monetary Fund.

Desai, V., & Potter, R. B. (2007). *The Companion to Develoopment Studies.* Hodder Education An Hachette UK Company.

Ejaz, M. (2007). Determinant of Female Labour Force Participation in Pakistan An Emperical Analysis of PSLM (2004-05) Micro Data. *The Lahore Journal of Economics* .

Ejaz, M. (2007). *Determinants of Female Labour Force Participation in Pakistan An Emperial Analysis of PSLM (2004-05) Micro Data.* The Lahore Journal of Economics .

Faridi, M. Z., Malik, S., & Basit, A. B. (2009). Impact of Education on Female Labour Force Participation in Pakistan: Emperical Evidence from Primary Data Analysis. *Pakistan Journal of Social Science* , 127-140.

Finance, M. O. (2013). *Pakistan Economic Survey 2012-2013.* Ministry Of Finance, Government of Pakistan.

Fullerton, J. H. (1999, December). Labor force participation: 75 years of change, 1950-98 and 1998-2025 . *Monthly Labour Review* .

(2012). *Global Employment Trends for Women.* Geneva: International Labour Organization.

(2014). *Global Wage Report 2014/15 Asia and the Pacific Supplement.* International Labour Organization.

Goldin, C. (2006, January). The Quiet Revolution that Transformed Women's Employment, Education, and Family. *National Bureau of Economic Research* .

Gunatilaka, R. (2013). *Women's Participation in Sri Lanka's Labour Force: Treds, Drivers and Constraints.* International Labour Organization Publication.

Hafeez, A., & Ahmed, E. (2002). *Factors Determining the Labour Force Participation Decision of the Educated Married Women in a District of Punjab.* Islamabad: Sustainable Development Policy Institute.

 (2015). *Household Income and Expenditure Survey 2012/13 Final Report.* Colombo: Department of Census and Statisitcs, Sri Lanka.

http://www.worldbank.org/en/country/bangladesh/overview. (n.d.). Retrieved December 2015, from www.worldbak.org: http://www.worldbank.org/en/country/bangladesh/overview

Ingram, G., Wils, A., Chaluda, A., Sylla, B., Kim, H. J., Goodfriend, J., et al. (2009). *Global Educational Trends 1970-2025 A Brief Review on Data on Ten Key Issues.* Education and Policy Data Center.

Islam, R. (2006). *The Nexus of Economic Growth, Employment and Poverty Reduction: An Emperical Analysis in Islam.* Geneva: International Labour Organization.

Isran, S., & Isran, M. A. (2012). Low Female Labour Participation in Pakistan: Causes and Consequences . *Pakistan Journal of Social Sciences (PJSS)* , 453-468.

Jangua, H. M. (2014). *Female labour force participation in Pakistan.* The Daily Times.

Kabeer, N. (2015). Culture, Economics and Women's Engagement with the Labor Market: Preliminary Findings from Bangladesh. *A Gender and Development Seminar Series Event.* Washington, DC: The World Bank.

Kapso, S., Silberman, A., & Bourmpoula, E. (2014). *Why is Female Labour Force Participation declining so sharply in India?* Geneva: International Labour Organization.

 (2011). *Key Indicator of Labor Market, Seventh Edition.* International Labor Organization .

Klasen, S., & Pieters, J. (2013). *What Explains the Stagnation of Female.* Bonn: IZA.

(2013). *Labour Force Survey 2013-14.* Islamabad: Pakistan Bureau of Statistics .

Mahmud, S., & Tasneem, S. (2011). *The Under Reporting of Women's Economic Activity in Bangladesh: An Examination of Official Statistics.* Dhaka: BRAC Development Institute.

Mianuddin, M. (2012). Education and women's participation in Indian economy: A regional analysis. *Journal of Geography and Regional Planning* , 36-50.

(2013). *Pakistan Economic Survey 2011-12.* Mininstry of Finance, Government of Pakistan.

(2015). *Pakistan Education Statistics 2013-2014.* Ministry of Federal Education and Professional Training, Government of Pakistan.

(2013). *Pakistan Millennium Development Goals Report 2013.* Islamabad: Ministry of Planning, Development and Reform, Government of Pakistan.

Pakistan, I. C. (2013). *Pakistan Labour Market Update.* International Labour Organization.

Rahman, I. R., & Islam, R. (2013). *Female Labour force participation in Bangladesh: trends, drivers and barriers.* India: International Labour Organization.

Rahman, R. I., & Islma, R. (2013). *Female labour force participation in Bangladesh: trends, drivers and barriers.* New Delhi: International Labour Organization, ILO DWT for South Asia and Country Office for India.

Rahman, R. I., & Otobe, N. (2005). *The dynamics of the labour market and employment in Bangladesh: A focus on gender dimension.* Geneva: International Labour Organization .

Rani, U., & Unni, J. (2009). Do Economic Reforms Influence Home-Based Work? Evidence from India. *Feminist Economics* , 191-225.

Ray, D. (1998). *Development Economics.* Princeton University Press.

(2013). *Report on Employment and Unemploymemt 2012-2013.* Chandigarh: Government of India, Ministry of Labour and Emmploymnet, Labour Bureau.

Saith, R., & White, B. H. (1999). The gender sensitivity of well-being indicators. *Development and change* , 465-479.

Shahid, G. S. (2009). Do Male Attitudes Obstruct Female Participation? The Case of Education and Labor Force Participation in District Lahore, Pakistan.

(2010). *Sri Lanka Labour Force Survey Annual Report 2010.* Colombo: Department of Census and Statistics, Ministry of Finance.

Todaro, M. P., & Smith, S. C. (2013). *Economic Development.* Pearson Education Limited.

UNFPA United Nations Population Fund. (2015, January Saturday). Retrieved January Saturday, 2015, from Urbanization | United Nations Population Fund: http://www.unfpa.org/urbanization

Verick, S. (2014). *Female labor force participation in developing countries.* IZA World of Labour.

(2014). *Women in Labor Force: A databook.* U.S. Bureau of Labor Statistics.

Woytek, K. E., Newiak, M., Kochhar, K., Fabrizio, S., Kpodar, K., Wingender, P., et al. (2013). *Women, Work, and the Economy:Macroeconomic Gains From Gender Equity.* International Monetary Fund.
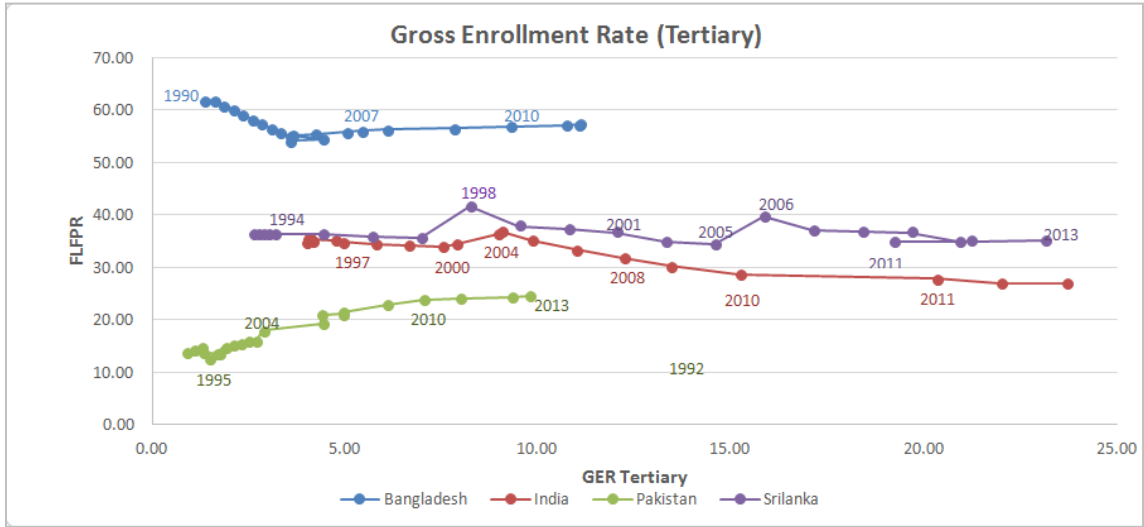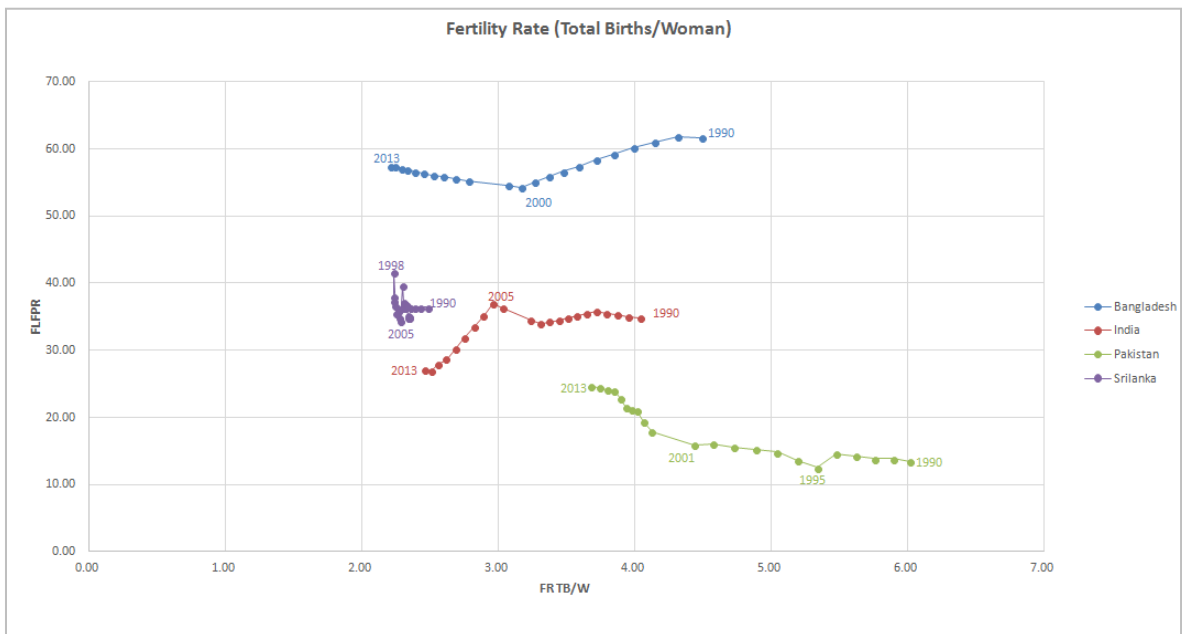
APPENDICES
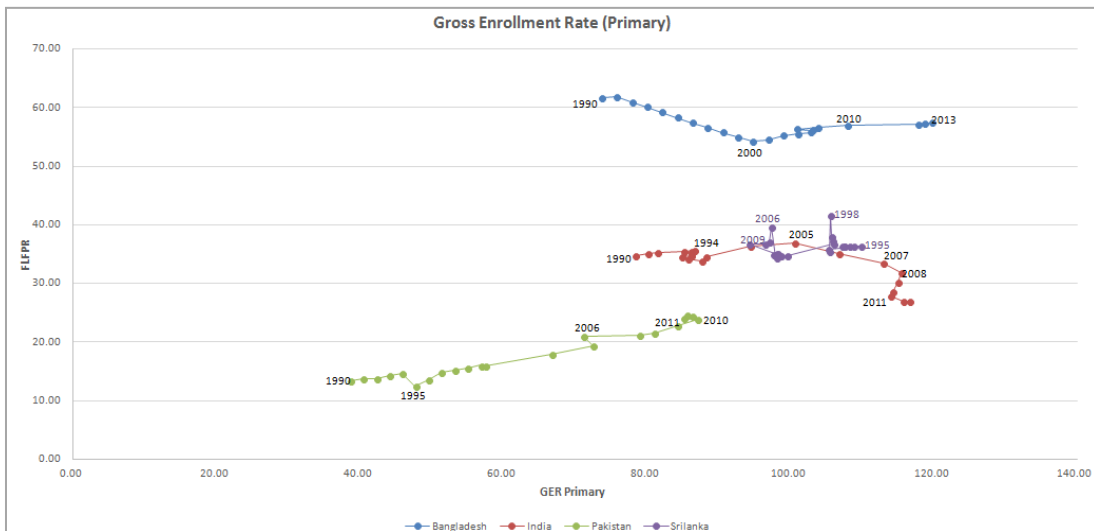
Relationship of Gross Enrollment Rate Primary (female) with Female Labour Force Participation
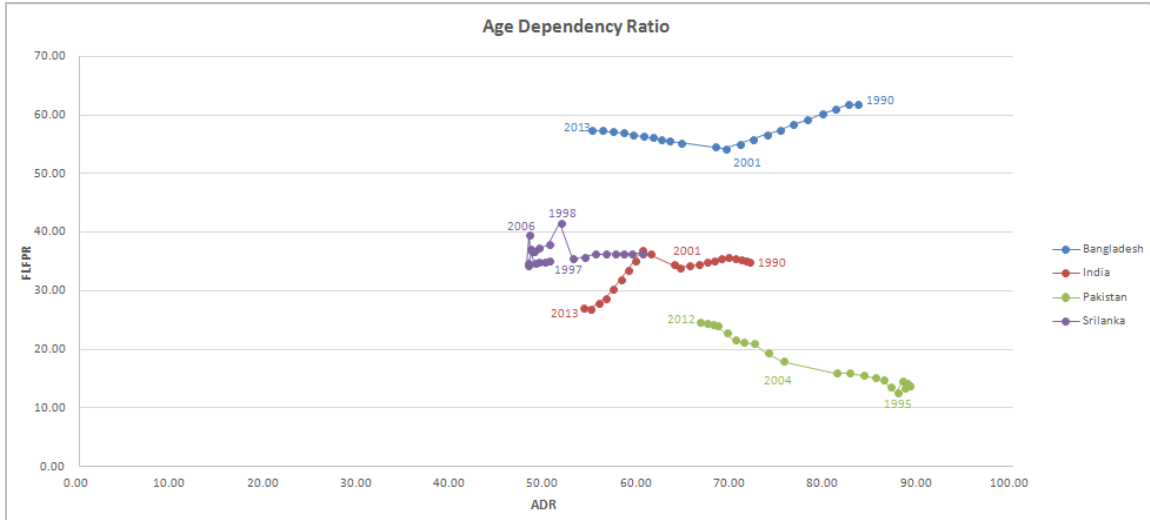Data Taken From World Development Indicators 1990-2013
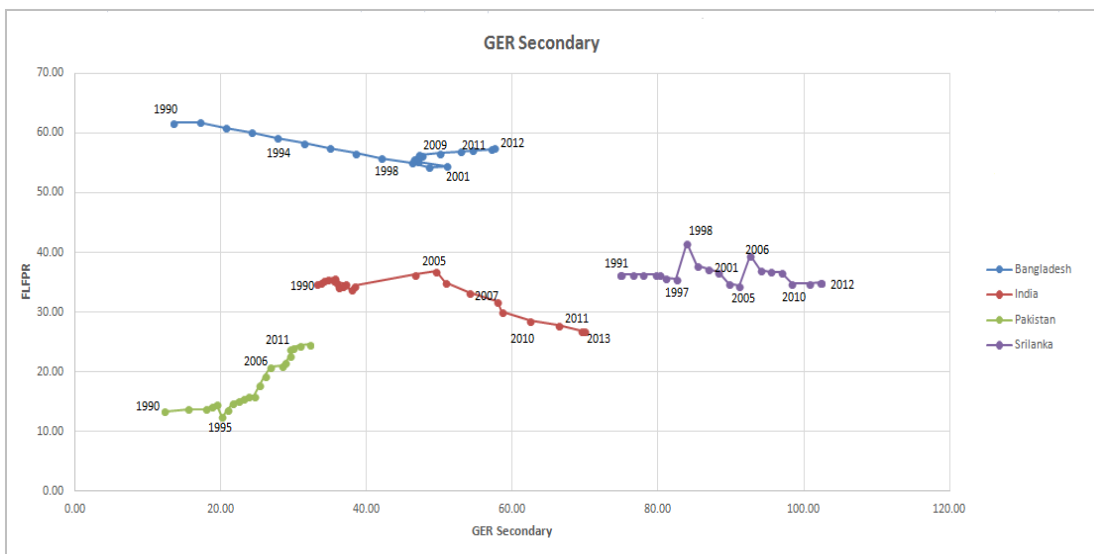
Relationship of Gross Enrollment Rate Secondary (female) with Female Labour Force Participation
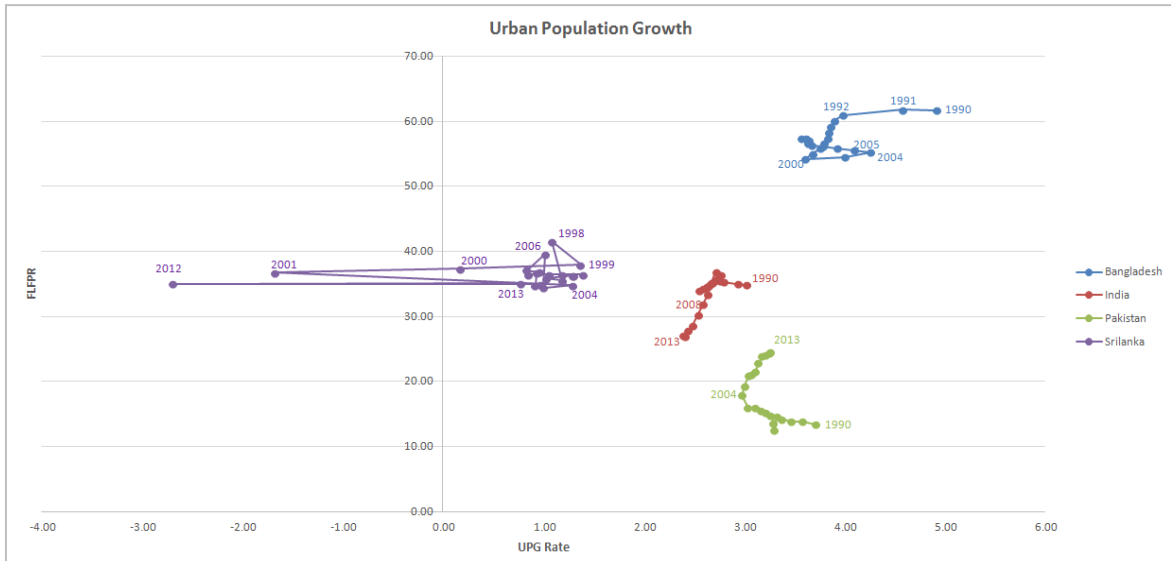Date Taken From World Development Indicators 1990-2013

Relationship of Gross Enrollment Rate Tertiary (female) with Female Labour Force Participation
Data Taken From World Development Indicators 1990-2013

Relationship of Fertility Rates with Female Labour Force Participation
Data Taken From World Development Indicators 1990-2013

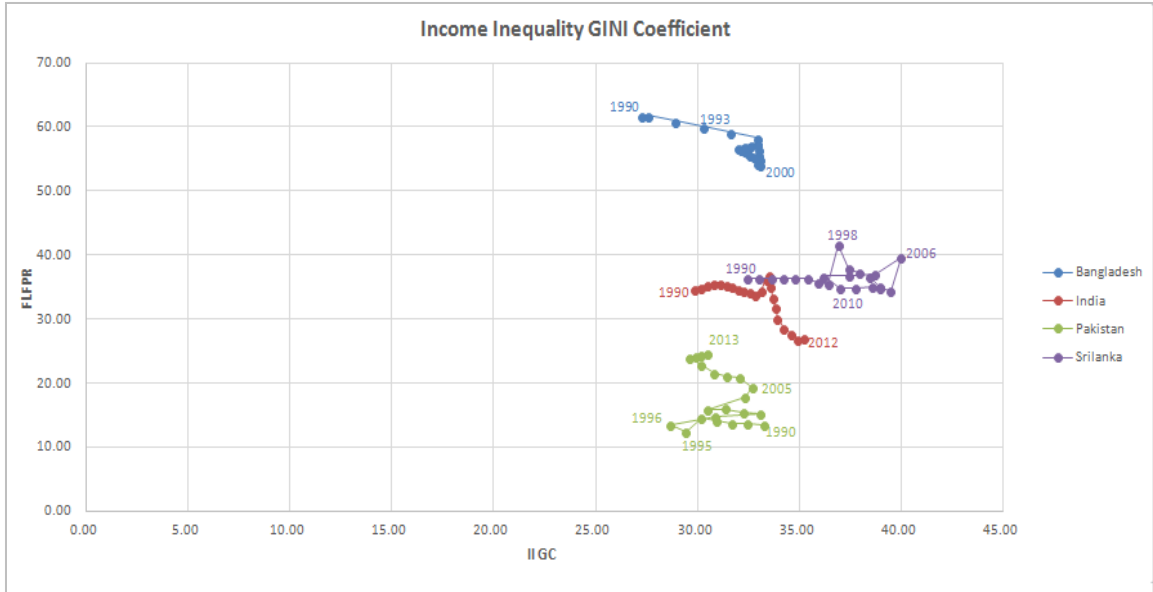Relationship of Dependency Ratio with Female Labour Force Participation
Data Taken From World Development Indicators 1990-2013

Relationship of Urban Population Growth with Female Labour Force Participation
Date Taken From World Development Indicators 1990-2013

Relationship of Income Inequality (GINI Index) with Female Labour Force Participation
Date Taken From World Development Indicators 1990-2013

Table Correlation

	Female Labour force Participation Rate (FLFPR)	Employment in Agriculture (EAGRI)	Employment in Industry (EIND)	Employment in Services (ESER)	Adult Literacy Rate, female (FLIT)	Gross Enrollment Primary (GEP)	Gross Enrollment Secondary (GES)	Gross Enrollment Tertiary (GET)	Age Dependency (AgD)	Urban Population Growth (UrPopG)	Fertility (Fert)	GINI Index (GINI)	GDP per capita, PPP (constant 2011 international $)	GINI Index Squared
Female Labour force Participation Rate (FLFPR)	1.0000													
Employment in Agriculture (EAGRI)	0.2469	1.0000												
Employment in Industry (EIND)	-0.0533	-0.3974*	1.0000											
Employment in Services (ESER)	0.1093	-0.3536*	0.8275*	1.0000										
Adult Literacy Rate, female (FLIT)	0.0813	-0.6714*	0.8802*	0.7557*	1.0000									
Gross Enrollment Primary (GEP)	0.5294*	-0.2977*	0.4575*	0.3210*	0.6527*	1.0000								
Gross Enrollment Secondary (GES)	0.1834	-0.5864*	0.8673*	0.7422*	0.9748*	0.7131*	1.0000							
Gross Enrollment Tertiary (GET)	-0.0049	-0.4724*	0.5748*	0.3714*	0.6638*	0.5699*	0.7292*	1.0000						
Age Dependency (AgD)	-0.2750*	0.5484*	-0.7154*	-0.5455*	-0.8907*	-0.8745*	-0.9134*	-0.7633*	1.0000					
Urban Population Growth (UrPopG)	0.2108	0.6156*	-0.8071*	-0.6761*	-0.8573*	-0.3707*	-0.8097*	-0.5598*	0.6758*	1.0000				
Fertility (Fert)	-0.4936*	0.4026*	-0.6074*	-0.5016*	-0.8041*	-0.9481*	-0.8507*	-0.6253*	0.9506*	0.5305*	1.0000			
GINI Index (GINI)	0.0314	-0.4672*	0.8486*	0.7013*	0.8640*	0.4962*	0.8867*	0.6880*	-0.7766*	-0.7742*	-0.6675*	1.0000		
GDP per capita, PPP (constant 2011 international $)	-0.3513*	-0.7192*	0.7023*	0.6044*	0.7669*	0.2216	0.7354*	0.7583*	-0.5932*	-0.7855*	-0.3944*	0.7383*	1.0000	
GINI Index Squared	0.0316	-0.4797*	0.8513*	0.6947*	0.8682*	0.4842*	0.8884*	0.6929*	-0.7734*	-0.7815*	-0.6597*	0.9986*	0.7520*	1.0000

* signifies significant at 1%

END NOTES

---

[1] A person who is eligible for employment and is able to work, but is currently unemployed and has not attempted to find employment in the last four weeks. Discouraged workers have usually given up on searching for a job because they found no suitable employment options and/or were met with lack of success when applying.

[2] In labor economics, the reservation wage is the lowest wage rate at which a worker would be willing to accept a particular type of job. A job offer involving the same type of work and the same working conditions, but at a lower wage rate, would be rejected by the worker.

[3] Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period.

[4] The employed population is made up of persons above a specified age who furnish the supply of labour for the production of goods and services. When measured for a short reference period (of one week or one day), it refers to all persons who worked for pay, profit or family gain during that period. It also includes all persons who had a job or enterprise but were absent from that job or enterprise during that period on a temporary basis: persons who during the reference period were sick, on vacation, maternity leave, strike or were temporarily laid off.

[5] The unemployed population is made up of persons above a specified age who are available to, but did not furnish the supply of labour for the production of goods and services. When measured for a short reference period, it relates to all persons not in employment who would have accepted a suitable job or started an enterprise during the reference period if the opportunity arose, and who had actively looked for ways to obtain a job or start an enterprise in the near past.

[6] In India Labour force related parameters are derived by four different approaches based on different reference periods. In the Usual Principal Status (UPS) Approach, the major time criterion based on the 365 days is used to determine the activity pursued by a person. Source: (Report on Employment and Unemploymemt 2012-2013, 2013)

[7] National poverty headcount ratio is the percentage of the population living below the national poverty lines. National estimates are based on population-weighted subgroup estimates from household surveys.

[8] Refined activity rate is the currently active population expressed as a percentage of the population 10 years and above. This rate enables international comparison by factoring in the effect of age composition. Source: Labour Force Survey, Pakistan Bureau of Statistics

[9] National poverty headcount ratio is the percentage of the population living below the national poverty lines. National estimates are based on population-weighted subgroup estimates from household surveys. Source World Bank

[10] Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents

perfect equality, while an index of 100 implies perfect inequality. Source World Bank

[11] Vulnerable employment is unpaid family workers and own-account workers as a percentage of total employment.

[12] The indirect or the opportunity cost of children is measured by the amount of income foregone in the process of bringing up the child. Time spent at home with the child is time not spent earning income, so the opportunity cost of children is roughly proportional to the going wage and multiplied by the number of hours spent in parenting. In societies where this opportunity cost is low, fertility rates tend to be high.