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REG: Economic Analysis for Gender and Development

Synthesis Report:
Female Labor Force Participation in Asia - Constraints and Challenges

Asian Development Bank

Executive Summary

Introduction and Overview

This paper synthesizes insights from a set of five studies: four examining female labor force participation (FLFP) in Pakistan, Republic of Korea (ROK), Indonesia, and People's Republic of China (PRC); and a companion macroeconomic study calibrated using an average Asian economy. We examine FLFP during a period of significant economic change. In the countries under study, low, constant, or even falling FLFP occurs alongside consistently high male labor force participation (MLFP), national income growth, decreased fertility, and increased educational attainment.

We highlight two reasons why raising FLFP is a valid policy goal in and of itself. First, higher FLFP can enable faster economic growth. The macroeconomic model shows that closing gender gaps in education and work could increase economic growth by 30.6% over a generation in a typical Asian economy. Other models in the literature suggest that higher FLFP can reduce misallocation of talent in the labor market and, thereby, further increase economic growth. Second, higher FLFP might lead to increased empowerment for women. Apart from the benefits to the household, there is high intrinsic value in reducing discrimination and enabling better protection of the rights of women.

Across countries, data diagnostics provide four key insights: (1) there is significant within-country variation in FLFP by geography, age, type of job, sector, and level of education; (2) many women not in the labor force are interested in work, and many of them are highly educated; (3) FLFP does not increase linearly with economic growth or education; and (4) social norms and attitudes limit women's mobility and occupation options.

If innate talent is indeed similarly distributed across gender, conditional on preferences and suitability for child care and domestic responsibilities, the policy goal should be to attain similar rates of MLFP and FLFP. As a corollary, skills training and education should be allocated to those best able to use their human capital in the labor market.

What Leads to Low FLFP?

To complement the macroeconomic analysis, we use large-scale micro-level household surveys to present diagnostics on what constrains FLFP. These surveys, combined with our literature review, help us characterize the relevant constraints on female labor supply that lead to lower FLFP and to the misallocation of talent. We note that the diagnostics are informative of likely constraints and we propose that they should form the basis for more rigorous data collection and analysis in order to clearly identify the causal relationship between any particular constraint and FLFP.

Diagnostic Findings by Country

- **Pakistan, Indonesia,** and **People's Republic of China:** FLFP is higher in rural areas than in urban areas, although this is often driven by unpaid family work in agriculture.
- **Pakistan** and **Indonesia:** The relationship between education and FLFP is U-shaped: low- and high-educated women are most likely to be in the labor force and mid-educated women least likely. This relationship may reflect differential quality or type of work open to women at

different levels of education, income effects, and/or social norms. Attitudinal surveys suggest that women often have limited agency and ability to make decisions regarding their time and income.

- **Indonesia** and **Republic of Korea**: Data from both countries reveal female dropout from formal employment upon marriage and childbearing.

- **Pakistan**: Women face numerous barriers to work, with limits on mobility and family responsibilities most often cited as important to the decision not to work. Their job access is limited by social norms restricting how a woman may travel or appear in public.

- **Indonesia**: Women often work in occupations different from those of men and they earn less money despite similar education levels. These results suggest that lack of information about jobs and skills mismatch are among the primary factors constraining FLFP in Indonesia.

- **Republic of Korea**: Women drop out of the labor force in large numbers during their mid-20s, some only to return to the labor force in their forties. This suggests that in the Republic of Korea, domestic responsibilities such as raising children are a primary barrier to raising FLFP.

- **People's Republic of China:** Discrimination against daughters, rather than discrimination against women in the workplace, appears to be the largest obstacle for women. Also indicative of lack of advancement among women is the dearth of female leadership in business and politics.

Likely Major Constraints to FLFP, Based on Diagnostics and Literature Review

- **Domestic responsibilities** such as responsibility for the education and rearing of children, and **norms** around acceptable behavior or appropriate jobs for women may limit willingness to work. Norms may also influence job choice and negotiation by women, depressing female wages and exacerbating gender wage gaps.

- **Discrimination** can prevent women from getting jobs they are best suited for, lowering overall productivity. Discrimination can be statistical—employers have beliefs that women are of lesser ability—or taste-based—employers prefer male workers.

- **Limited information** about job availability and returns result in both failure to find work and failure to acquire the necessary skills and education to obtain high-quality, waged jobs. Women also may suffer from weaker social networks due to migration for marriage, reduced mobility, or having fewer of their peers working.

- **Higher costs of accessing work** can constrain FLFP. In rural areas, FLFP is often higher due to agriculture, but when high-quality, waged jobs are not available nearby, migration or travel to work away from home is socially unacceptable or too expensive to justify working away from home. Even in urban areas, safety concerns, and norms limiting mobility and even laws dictating which hours women are allowed to work can restrict access to jobs.

Policy Solutions and Need for Rigorous Testing of Pilots

Based on the diagnostics and literature review, we propose policies that have high potential to be effective at increasing FLFP. These proposed policies are, in fact, often those that

are already being implemented by the governments of the countries in this study, so there is a particular need to evaluate their effectiveness to ensure that they are achieving their objectives. There are still uncertainties regarding the effectiveness of these policies and how they should be adapted and combined for each unique context, so we suggest an evidence-based approach of running rigorously evaluated pilot interventions before full, large-scale implementation.

Quotas may reduce gender discrimination through at least two channels: (i) by creating examples that alter societal and individual beliefs on female ability, and (ii) by adding non-discriminating individuals to the hiring process. Quotas provide jobs that are easier to access for those traditionally excluded from the labor market; as such, they may also incentivize skills provision and acquisition. In sectors where women already work, quotas may ameliorate gender gaps in managerial positions.

Information provision, in the form of recruitment campaigns or career counseling, may remove some of the frictions caused by lack of information on wages and job availability.

Vocational training and skills provision, when appropriately designed, can remedy the inefficient use of ability arising from misallocation of skills and can open opportunities for good jobs.

Policies that help enable **safe and accessible transport for women** can increase women's mobility outside of the home, allowing them to access additional work opportunities in addition to greater education, skills-building, and networking opportunities. Such policies may also reduce the employer-perceived higher cost of hiring women.

Reducing trade barriers and promoting export-oriented industries may allow women to find work with less discriminatory employers, or may force employers to reduce wage and hiring discrimination so they can be more competitive in the global market. Easing the migration process will also give women access to better jobs in other regions or countries. However, more research is needed in both of these areas.

Easing entry into firms and sectors that have the resources to create safe, desirable, and comfortable work environments for women may make work more attractive to them. Some sectors, such as education, are already more open to women and they can absorb even more female workers. Other sectors may be willing to invest in work environments that allow better utilization of women's skills.

Finally, **legal reform** can improve the likelihood that women will have access to safe jobs, earn equal wages for equal work, or are incentivized to work through variable tax rates. Financial independence for women and FLFP are mutually reinforcing phenomena. Laws allowing for greater financial inclusion through personal bank accounts and the legal right to inherit property are associated with higher educational attainment and female autonomy, both of which can lead to higher FLFP. Other reforms, such as parental leave, comprehensive child care, and tax subsidies for children—depending on the specific country context—may also ease constraints associated with childbearing and childrearing, thus allowing more women to enter the workforce. Although there is a lack of consensus in the literature on whether laws should follow norms or attempt to change them, instituting certain protections for women can lower the social and economic costs of accessing work.

Recommendations: Pilots, Testing, and Improved Data

Our study shows that there is a clear need for more rigorous evaluations of existing and proposed policies to ensure clear and effective channels to increase FLFP in Asia. The inadequacy of data, the multiplicity of factors that influence a woman's labor supply decision, and the very bi-directionality of causality of many of these factors make the process more complicated, but no less necessary. Further research is urgent, as several of these policies are already being considered by regional and national governments. These policies are likely to impose high social and economic costs, but benefits are not known.

There is credible evidence from the four country studies that policy can influence FLFP, and that raising FLFP can substantively increase economic growth and help achieve other important policy objectives for women. We therefore recommend a multi-faceted policy-research agenda to achieve gender parity in labor force participation that, as suggested by the macroeconomic model presented in this study, can fully and efficiently utilize human capital in promoting economic growth. We suggest pilots to test the policies highlighted above, better access to data for researchers, greater harmonization of available data, increased implementation of time-use surveys, more gender-specific questions in these surveys, and questions about leave policies and nonremunerative daily activities.

1 Introduction

1.1 Male vs. Female Labor Force Participation

Female labor force participation (FLFP) around the world is marked by high cross-country variation. Estimates of FLFP are particularly low in the Middle East and North Africa—as low as 13% percent in Syria—and highest in Sub-Saharan Africa and Southeast Asia—and as high as 88% in Tanzania (World Bank 2014). Although some of these differences can be attributed to variations in survey methodology and in the definition of "work," the cross-country experience of women in labor markets stands in stark contrast to that of men. There are clear patterns suggesting that social norms and explicit constraints in particular regions or countries contribute to low rates of labor force participation (LFP) among women across the world.

This paper highlights the findings of four country studies and a companion macroeconomic study calibrated using an average Asian economy. The four selected countries account for almost 28% of the world's population of working-age[1] women: Pakistan, where FLFP is rising but remains very low; Indonesia, where FLFP is relatively high for Asia but is stagnant; PRC, where FLFP has fallen in recent years; and ROK, where FLFP remains low despite high levels of economic growth and per capita income. In the countries covered by the study, FLFP ranges from 25% in Pakistan to 64% in PRC (Table 1). In all of these countries, male labor force participation (MLFP) hovers around 80% for individuals 15 years and older. In ROK, which posted the lowest rate among them, MLFP was 72% in 2013; Indonesia posted the highest at 84%. For males of prime working age (25-54), these figures are all very close to 100%.

Table 1: Measures of Women and Men in the Workplace (Modeled Estimates, percent)

	Gender	Period	PAK	ROK	IDN	PRC	Period	PAK	ROK	IDN	PRC
Employment to population ratio, 15+	**F**	2013	22.3	48.7	47.6	61.5	1991	11.5	46.2	45.9	69.6
	M	2013	79.6	69.7	79.5	74.2	1991	80.7	72	76.9	80.1
Labor participation rate, 15+	**F**	2013	24.6	50.1	51.4	63.9	1990	13.4	47.1	50.2	72.7
	M	2013	82.9	72.1	84.2	78.3	1990	84.6	73.4	81.1	84.8
Ratio of female to male labor force participation rate	**F/M**	2013	29.7	69.5	61.0	81.6	1990	15.8	64.2	61.9	85.7
Labor force participation rate (ages 15-	**F**	2013	21.9	30.2	40.3	53.9	1990	13.2	41.2	42.1	79.0
	M	2013	67.4	24.3	60.2	58.6	1990	71.2	35.3	60.4	77.3
Ratio of female to male youth unemployment rate(ages 15-	**F/M**	2013	158.7	93.7	104.2	69.2	1991	274.1	59.3	110.0	69.8

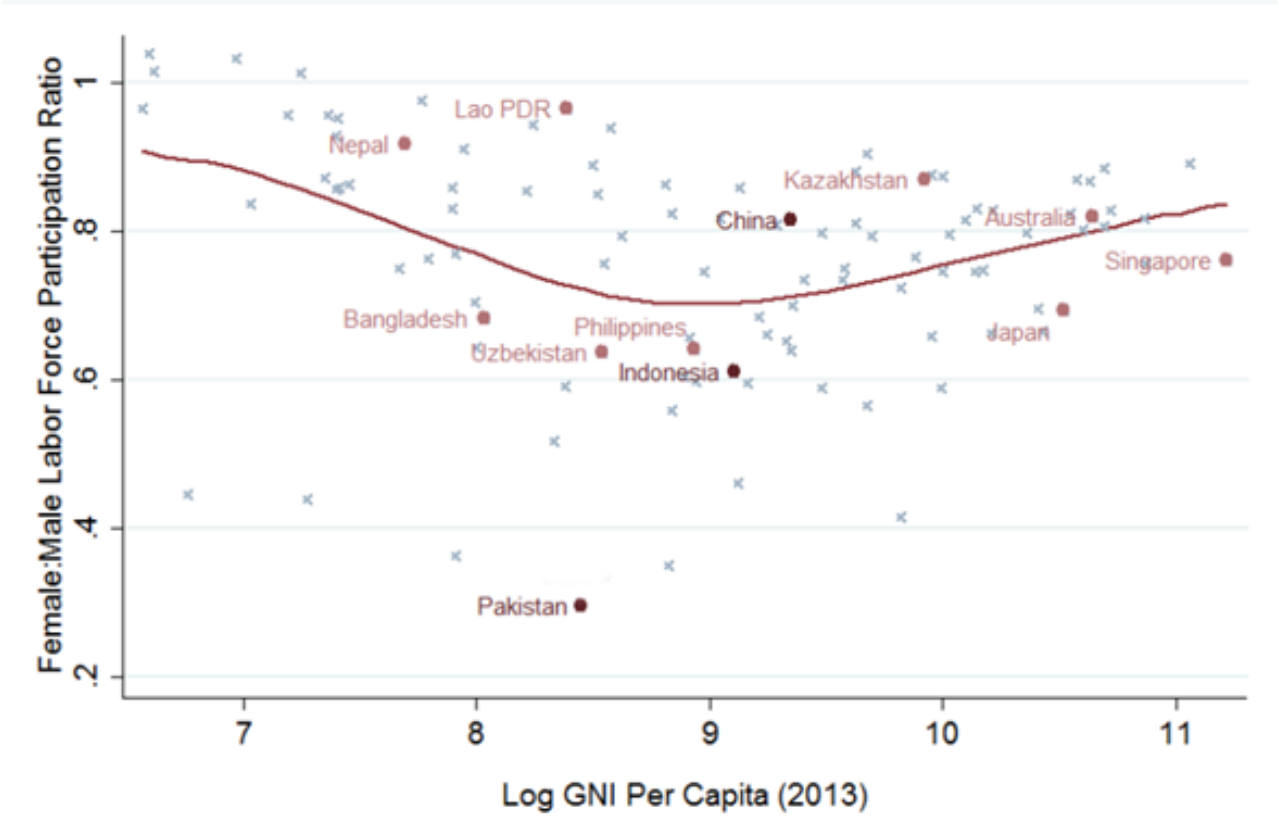
PAK= Pakistan; ROK= Republic of Korea; IDN= Indonesia; PRC= People's Republic of China

The relationship between growth and FLFP is not entirely understood, but it does not appear to be linear when examined across countries. Figure 1 depicts the relationship between the female-to-male labor force participation ratio and the natural log of gross national income (GNI)

[1] Here we refer to women ages 15 to 64.

per capita (in 2011 PPP US dollars).[2] It shows the significant worldwide variation in FLFP and the fitted line suggests a U-shaped relationship between economic development and the ratio of female-to-male labor force participation. This also suggests that increasing national income will not necessarily propel women into the labor force, so a focus on more targeted policies to increase FLFP is warranted.

Figure 1: Female-to-Male Labor Force Participation Ratio and Income for Countries Worldwide



Notes: Ages 15+
Source: World Bank (2013), International Labour Organization (2013). Excludes the Middle East.

1.2 Economic Change and Other Factors Potentially Affecting FLFP

Through this series of research papers, we highlight the constraints to FLFP in our four study countries by focusing on the following questions:

(i) What are the features of labor markets in these countries that may lead to the exclusion of women?
(ii) What characteristics of women and their families limit their participation?
(iii) How do norms and institutions interact to determine women's decisions regarding labor market participation?

[2] Line is fitted using local linear regression.

The answers to these questions are complex. Both supply-side and demand-side factors dictate the individual decision to enter, exit, or reenter the labor market. Thus, finding rigorous evidence to establish causal pathways requires significant resources and is outside the scope of this paper. Instead, we employ a set of diagnostic tools to establish the presence of inefficiencies, review the existing evidence, and outline a research and policy agenda to better understand the constraints.

In Figure 1, we see that the ratio of female-to-male LFP among our study countries ranges from 0.30 in Pakistan to 0.82 in PRC. It is notable that the ratios for three of the four countries under study are low compared to their economic peers.

Other Asian cases provide interesting comparisons. For instance, consider Singapore and Laos. Singapore enjoys high income per capita at $55,182 (2013 PPP, World Bank), and has a relatively high ratio of female-to-male labor force participation (0.76). In contrast, Laos has one of the highest ratios of female-to-male LFP in Asia at 0.97, but very low GDP per capita at $1,646 (2013 PPP, World Bank).

Two of the countries under study, Pakistan and Indonesia, are situated near the bottom of the U. As depicted in Table 2, three of the four have experienced economic growth per capita exceeding the global average over the past 25 years. Since 1990, Indonesia has grown at an average 3.47% per capita per year. Pakistan has maintained relatively steady GNI per capita growth at 1.82% on average, and PRC has experienced large and important gains in economic growth with GNI per capita at an average of 9.27% annually since 1990. In all cases, economic growth has taken place in an era of very high population growth.

Table 2: GNI Per Capita, Education, and Fertility Over Time

	Period	PAK	ROK	IDN	PRC	Period	PAK	ROK	IDN	PRC
GNI per capita, PPP (current international $)	2013	4840	33440	9270	11850	1990	2000	8600	2650	970
GNI (PPP) per capita Annual Growth Rate	2012-2013	2.69	2.41	4.44	6.89	1990-2013	1.82	4.47	3.47	9.27
Population Growth Rate	2012-2013	1.65	0.43	1.21	0.49	1990-2013	2.23	0.71	1.50	0.82
Ratio of female to male primary enrollment (percent)	2012	87.22	98.98	100	99.91	1990	53.31	101	96.2	90.3
Ratio of female to male secondary enrollment (percent)	2012	73.55	98.67	103.2	102.1	1990-1993	41.64	95.4	83.3	73.3
Ratio of female to male tertiary enrollment (percent)	2012	95.47	74.95	103.5	112.6	1990-1994	40.42	47.6	66.4	52.6
Fertility rate, total (births per woman)	2012	3.264	1.297	2.37	1.663	1990	6.024	1.57	3.12	2.51

PAK= Pakistan; ROK= Republic of Korea; IDN= Indonesia; PRC= People's Republic of China

Yet, in Indonesia, FLFP has remained relatively stagnant over the past 20 years. In ROK, FLFP has hovered around 49% since 1995, and in PRC, FLFP has fallen over the past 10 years. In Pakistan, FLFP has risen dramatically, by 167% since 1994, but it remains low at only 24% of all women, the lowest in the set of countries under study here.

FLFP in Asia's medium- to high-income countries shows a distinctly different pattern despite similarly high growth in GDP. In PRC, FLFP was 64% in 2013, down by 12.5% since 1994. In

ROK, FLFP has increased slightly over the past 20 years, from 47% in 1994 to 50% in 2012. In both of these cases, labor force entry is relatively high among young women and the lifecycle effects are obscured by the averages. In PRC, the mandated retirement age is 50 for female workers (55 for civil service workers), resulting in much higher FLFP rates for young women than for older women. The PRC is the only country in our study with a different mandated retirement age for men and women. In ROK, high numbers of women exit the labor force in their early 20s to care for children only to return to work later in life, resulting in an M-shaped curve of FLFP over the lifecycle. The ROK, although unique among the five countries under study in exhibiting a strong M-shaped FLFP curve, strongly resembles in this aspect current-day Japan and the United States in the 1950s (Kawata & Naganuma, 2010; Lee et al., 2013).

Economic growth is not the only significant change these countries have experienced that might lead us to expect higher levels of FLFP; women have been giving birth to fewer children and female educational attainment has been on the rise. In Indonesia, the total fertility rate (TFR) has fallen to 2.4, putting it close to that of the United States at 2.1 children per woman. Of the countries under study, Pakistan has the highest TFR but it is still only 3.3, having fallen from 5.5 20 years ago. In PRC, total fertility has fallen only slightly since 1994, from 1.9 to 1.8 (see Table 2).

The countries under study have seen substantial gains in women's educational attainment. By 2012, each of the four countries had achieved parity or near parity in the female-to-male ratio for primary school enrollments. Only Pakistan, with a female-to-male ratio of 0.87, still exhibits lower enrollment rates among girls. For Pakistan, this ratio represents large gains over the past 20 years. In 1990, Pakistan's ratio was 0.53. The countries under study with higher FLFP today have seen only small changes in the female-to-male ratio in primary enrollment—in 1990, PRC's female-to-male ratio was 0.94, Indonesia's, 0.97, and ROK's, 1.02.

In the remainder of the paper, to highlight the importance of FLFP for growth and empowerment, we present the results of a macroeconomic model designed to estimate the effects of increased FLFP on economic growth, and then examine the literature on the relationship between FLFP, growth, and empowerment. Utilizing a supply-and-demand framework, we identify labor market inefficiencies that may be reducing FLFP. We then summarize diagnostic findings from the accompanying country papers to identify relevant constraints. Finally, we highlight promising policy interventions and suggest how pilot projects and rigorous data can be used to increase our understanding of the dynamics of FLFP and how FLFP can be improved.

2 Why Does It Matter?

There are a number of reasons why increasing female labor participation is a policy objective worth pursuing. First, macroeconomic theory suggests significant possibilities for increased economic growth if the female workforce is fully and efficiently employed. Second, FLFP is a predictor of autonomy, subjective well-being, and other positive outcomes for women and girls. So, the benefits to increasing FLFP should accrue on both the aggregate and individual levels, as well as having the potential for spillovers to all children and female siblings. Removing discrimination and improving women's safety and autonomy also has intrinsic value, of which increased FLFP would be an indicator.

In this section, we first summarize a macroeconomic model describing the impact of FLFP on long-term economic growth in Asia: "A Model of Gender Inequality and Economic Growth" (Kim, Lee & Shin 2015). The full paper accompanies this chapter. We then provide a discussion of how rectifying the misallocation of talent in the labor market, which is a result of gender inequality, may be another channel to increase economic growth. Finally, we examine the existing literature on FLFP in relation to growth and to female empowerment.

2.1 The Effects of Increasing FLFP on Economic Growth

FLFP has a mechanically direct effect on per capita GDP as resources once dedicated to work in the home that are not captured in GDP—e.g., cooking, cleaning and childrearing)—are diverted to market production, which is captured in GDP. In addition there may be gains from improved talent allocation.

Kim, Lee, and Shin (2015) use a macroeconomic model to first examine how FLFP, human capital accumulation, and economic growth are determined. Second, the model quantifies the cost of gender inequality in education and employment opportunities. It takes a typical Asian economy as a benchmark and compares it to a hypothetical economy with gender equality in education and employment opportunities. The macroeconomic companion paper assesses the impacts of gender-based policies on female labor market participation and long-term economic growth. We provide a summary here of the model, then expand on the relationship between gender disparities and the misallocation of talent.

2.1.1 Calibrated Macroeconomic OLG Model

The Model

The model stands on endogenous economic growth with human capital as the engine of growth (Becker, Murphy, & Tamura 1990; Ehrlich & Lui 1991). It explicitly considers the quality-quantity tradeoff in children (Becker & Lewis 1973) and treats gender bias in child education at home and discrimination against women in the labor market as the key sources of gender inequality in society.

In other words, an overlapping generation (OLG) model of economic growth that endogenously accounts for women's time allocation between market and home production has been extended by adding the role of women in childbearing and child education. The model thus considers human capital investment by parents as the source of persistent economic growth. Through this model, the authors investigate the interaction between women's labor force participation, fertility, and economic growth via human capital accumulation.

Home and Market Production

The economy produces two goods, a market good and a home good, at every period. The market good is produced by firms and can be consumed or saved. The saving will be converted to capital and used for production by firms in the next period. The composite home good, including activities such as cooking and cleaning, is produced by households and consumed in the same period.

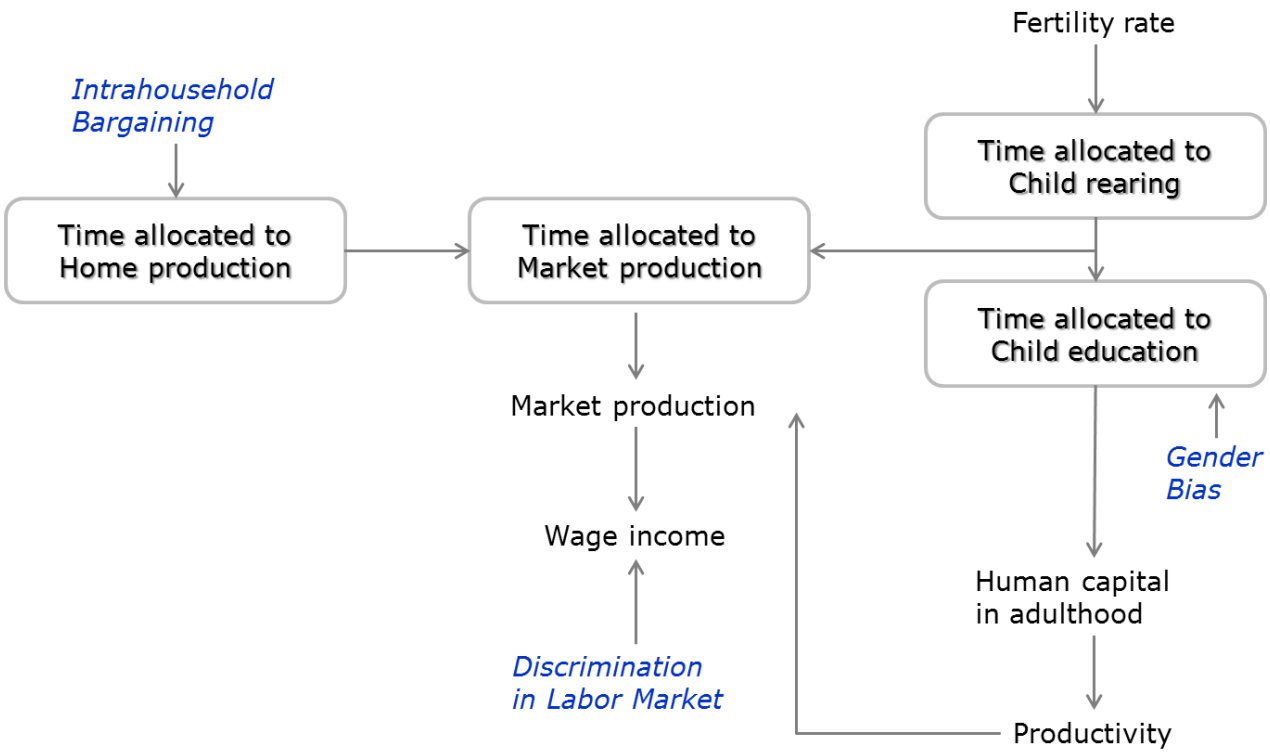
Households

Every individual in this economy lives for three periods: childhood, adulthood, and retirement. Each one is endowed with one unit of time in childhood and adulthood, but no units of time in the period of retirement. At the beginning of the life, gender of every individual is assigned as either male or female. In childhood, he/she allocates all of his/her time to education. In adulthood, each individual randomly matches with another individual of the opposite sex to form a family and a couple gives birth to children. The authors assume half of children are sons and the other half are daughters. In the period of retirement, individuals consume whatever is returned from their savings. They do not leave any assets after death.

In adulthood, individuals participate in the labor market and receive wages, which constitute the only income to the family. A male adult allocates all his time between market production (i.e., working in the official labor market) and home production.

As presented in Figure 2, a female adult allocates her time into home production, market production, child rearing, and child education. One should note that she spends her time devoted to children in two spheres. Time spent on childcare and education increases proportionately to the number of children she has. Although the time spent on education also increases proportionately to the number of children, the time spent on each child's education would be different and depends on a bias in parental preferences toward sons. She divides the amount of the time for education between sons and daughters. By assuming that the time spent on sons is greater than that for daughters, there is a bias in parental preferences toward sons. The bargaining power of a female determines not only her allocation of time on home production, but also the time spent by her husband on home production. Since he spends the rest of time on market production, essentially the male has no decision problem on time allocation.

Figure 2: Women's Time Allocation



Children's Schooling and Human Capital Accumulation

Children's education is determined by three factors: children's time for schooling, mothers' time for education, and government expenditure on education. Children's education partially explains their human capital when they become adults, thus determining their productivity in the labor market.

Firms

Utilizing capital and male and female labor, firms produce a market good. They distribute the marginal product of labor to male adults as wages. But, due to discrimination in the labor market, female workers receive a fraction of their marginal product.

Government

The government budget is balanced every period; the government cannot borrow. It taxes the wage income of male and female workers and spends its expenditure on education. For simplicity, the authors do not consider other distortionary taxes or productive public expenditures in the model.

Calibration and Balanced Growth Path

The solution of the model indicates that in the balanced growth path, the growth of output per capita and capital stock per capita is equal to that of a mother's human capital. Hence, the education of women plays a critical role in persistent economic growth.

The model is calibrated to fit its steady-state values to the observed values from the average values from East and South Asia for the period 2005–2010, as reported in the World Development Indicators by World Bank and in the Barro-Lee (2013) data:

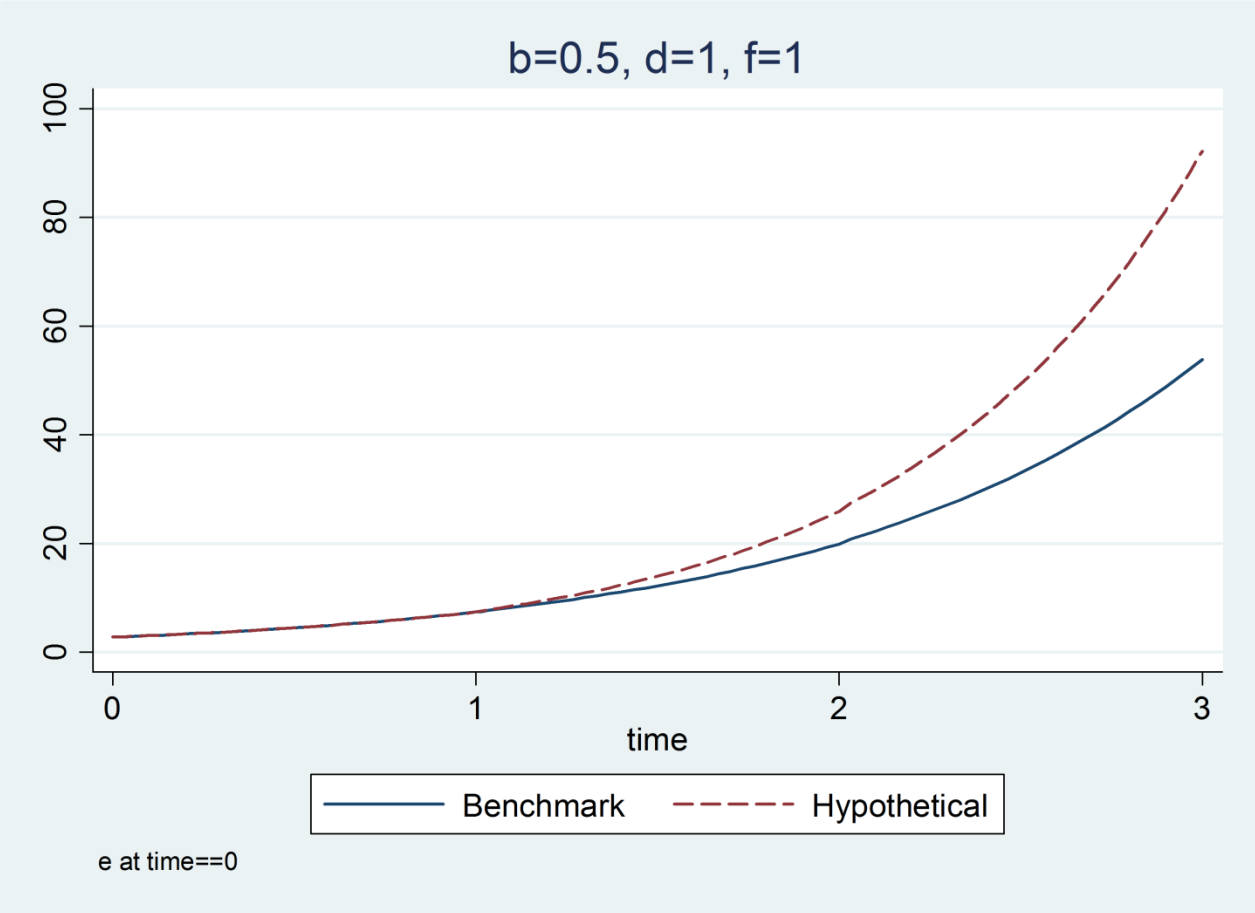
- Fertility: 2.74
- Annual per capita income growth rate: 3.32%
- Net domestic saving rate: 15.83%
- Female and male labor force participation rate: 57.69% and 80.14%
- Total years of schooling for women and men aged 15-64: 6.7 and 8.0

The Output Cost of Gender Inequality

The economic costs of gender inequality can be measured by comparing the performance of the typical Asian economy with the performance of a hypothetical gender-equal economy. In the hypothetical gender-equal economy, males and females have the same opportunities in education and employment and spend equal time on home production.

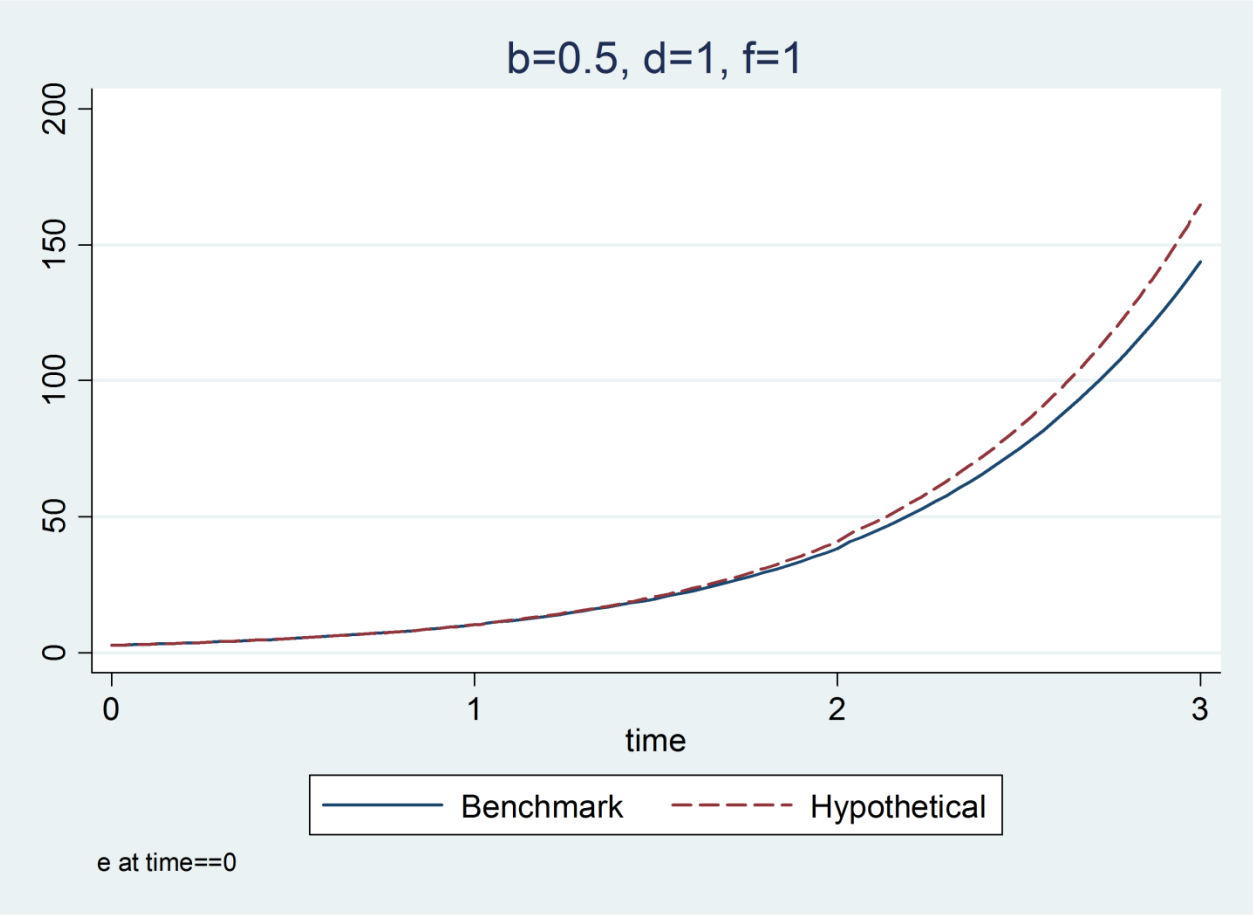
According to the simulation results, the female labor market participation rate in the hypothetical economy becomes 66.2%, higher than the corresponding value of 57.7% in the benchmark economy. Note that in our framework, the labor force participation rate for women increases in the economy with no gender bias both in education and in the labor market, but the gap with males still exists due to the females' time allocation for child rearing and education. In the hypothetical economy, introducing the role of males for child care and education will promote a higher rate of FLFP.

Figure 3: Gender Inequality and Loss of Per Capita Income



Notes: This figure compares per capita income of a typical Asian economy, which is the benchmark, with that of a hypothetical economy where gender equality exists in education and labor market as well as in home production. The benchmark economy is presented by solid lines and the hypothetical economy by dashed lines. The difference demonstrated indicates the percentage point difference in per capita income between these two economies. As the generation passes, the differences get larger.

Figure 4: Gender Inequality and Loss of Aggregate Income



Notes: This figure compares aggregate income of a typical Asian economy, the benchmark, with that of a hypothetical economy with gender equality. See notes to Figure 3.

Figure 3 demonstrates the transition dynamic path of per capita income in two economies. The benchmark economy is represented by solid lines and the hypothetical economy by dashed lines. Per capita income in the hypothetical economy is estimated to be 30.2% higher than that in the benchmark economy after one generation. The gap increases to 71.1% after two generations. Figure 4 shows the case for aggregate income. In this model, the aggregate income in the hypothetical economy is 6.6% and 14.5% higher than that in the benchmark economy after one and two generations, respectively. The gap in aggregate income is smaller compared to that in per capita income. This is because in the hypothetical economy, more active female labor participation lowers fertility rate, resulting in a decline in population growth rate.

These results indicate that, by eliminating the gender inequality, the female labor market participation rate can increase by about 9 percentage point and the annual growth rates of per capita income and aggregate income can be enhanced by approximately 1 percentage point and 0.2 percentage point, respectively. We believe that these growth enhancing effects of gender equality are larger than, or at least comparable, to those of most other types of policies contemplated in developing countries.

The Effects of Gender-based Policies

Using the model, the authors analyze how gender-based policies affect female labor market participation rate and economic growth.

To assess the impacts of gender-based policies, the authors conduct various policy experiments in the context of the above model. They include policies that target a reduction in gender bias in education, a reduction in time cost for child rearing, a reduction in discrimination in the labor market, and an increase in the time spent by a male on home production.

The simulation results show that the female's time allocated to market production, fertility, per capita output growth, and output growth are significantly affected by the gender-based policies. For instance, the policy that reduces discrimination in the labor market encourages females to participate more actively in the labor market and allows women to spend more time on market production. It thereby leads to an increase in the growth rate of per capita output. However, because it lowers the fertility, the policy can have a negative impact on the growth rate of the aggregate output.

The specific gender-equal policies do not necessarily enhance labor market participation for females. For example, decreasing the time cost for child rearing can encourage women to have more children, rather than increasing time allocated to market production, thereby lowering the per capita output growth rate.

Macro Model: Concluding Remarks

The framework at the macro level can (i) explain how human capital accumulation and female labor market participation are determined, and (ii) quantitatively measure the economic cost of gender inequality by comparing a typical Asian economy and a hypothetical economy with gender equality in education and labor market as well as at home.

The results of the comparison show that after one and two generations, the hypothetical gender-equal economy will realize both higher per capita income and aggregate income than the typical Asian economy.

The methodologies introduced in the macro model can be easily employed to estimate the impacts of various country-specific gender equality policies on long-term economic growth in individual Asian economies. The theoretical framework can be readily modified to include country-specific factors related to gender inequality in education and labor market participation, such as the existence of an informal sector or multiple sectors, level of public infrastructure spending, and the male's time allocation for child rearing and education. For analyzing impact, it will be useful to calibrate the model better with micro-level data apart from incorporating country-specific factors.

Further research can focus on adding other important gender-related features like (i) allocation of female entrepreneurial talents, (ii) social norms around gender equality, (iii) mobility of female workers across regions and occupations, (iv) and endogenous determination of labor market discrimination. This will improve the theoretical framework for measuring the economic costs of gender inequality in Asian economies.

2.1.2 Growth and Misallocation of Talent

Models of talent allocation and occupational choice suggest that misallocation of talent in the labor market presents a significant hindrance to economic growth. High-ability women are often found in low-skilled, low-return occupations or are absent from the labor force altogether. Alleviating the misallocation of talent in the labor market may be another channel through which decreased gender inequality may promote economic growth.

At all levels of income, women in developing countries tend to do the majority of housework and childcare (World Bank 2012; Berniell and Sanchez-Paramo 2011), This would be an inefficient allocation of talent if the women engaged in household activities are actually more productive workers than some men in the labor force. In the United States, reduced discrimination in hiring had improved the allocation of talent across gender and race, accounting for 16% to 20% percent of GDP growth from 1960 to 2008 (Hsieh et al., 2013). Specific to the Asian context, Esteve-Volart (2004) shows that in India, a 10% increase in the female-to-male ratio of workers would increase per capita net domestic product by 8%percent. Using a calibrated model, Cuberes and Teignier (2012) estimate that if all women in the world were excluded from entrepreneur positions, output per worker would decrease by 12%, and if all women were excluded from the labor force, the loss in income per capita would be almost 40%. Another calibrated model shows that in a low-income country, the elimination of gender wage discrimination would raise the steady-state growth rate by about 0.5 point per year (Agénor 2012, 2013).[3]

These results suggest that many Asian countries could be leaving a key opportunity for economic growth on the table by maintaining low levels of FLFP.

2.2 Empowerment

Whether a woman is working or has access to income is positively correlated with female empowerment and decision-making. The United Nations Guidelines on Women's Empowerment defines empowerment as a general term including five key criteria: "women's sense of self-worth; their right to have and determine choices; their right to have access to opportunities and resources; their right to have power and control over their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally."

Examples of improved outcomes that reflect increased empowerment are increased schooling (Qian 2008), delayed age of marriage, and delayed age at first childbirth (Sivasankaran 2014). A number of correlational studies also show that women with access to and control over resources such as land feel more freedom of mobility, have children with better nutritional outcomes (Swaminathan et al., 2012), and are less likely to experience violence (Panda 2005). Additionally, in the South Asian context, access to and information regarding female-specific labor market opportunities have been shown to increase female educational attainment and delay age of marriage and childbearing (Heath 2014; Jensen 2012).

In Indonesia, data analysis from the Demographic Health Survey (DHS) reveals that women who are employed in wage-work are more "empowered" than those who are not working, i.e., they have more decision-making power and are less accepting of spousal violence. However,

[3] Cuberes and Teignier (2014) present a full review of this literature.

women who are employed as family workers are less empowered in this sense at each education level (Schaner & Das 2015). A similar relationship between work and education is apparent in Pakistan as well.

One potential path to empowerment through work is the possibility of lower incidence of domestic violence. The relationship between FLFP and domestic violence is not well understood, although there is some empirical evidence indicating a link between an increase in female income and a reduction in domestic violence. In a well-identified study, Aizer (2010) shows that increased female earnings relative to men's decreased the incidence of severe domestic violence resulting in hospitalization. A randomized control trial showed the importance of control of resources by women if not specifically the effects of work: female-specific cash transfers decreased the incidence of domestic violence in Ecuador, although the effects were somewhat heterogeneous and thus difficult to generalize to a wider setting (Hidrobo and Fernald 2013). Another correlative study specific to the Indian context shows that women who worked were less likely to experience violence (Panda 2005). However, the possibility of backlash against women remains and merits careful consideration in designing policies that increase female labor supply where domestic violence is prevalent.

Wherever we can identify positive effects of increasing female employment, the effects are not limited to the women working. There are also important spillovers for female children and female siblings. In China, an increase in female-specific earnings increased the survival rate for female children and educational attainment for all children (Qian 2008). In South Africa, increasing transfers to grandmothers yielded better schooling outcomes for granddaughters (Duflo 2003).

Low FLFP is likewise correlated with low levels of gender equality. Figure 6 shows a linear relationship between FLFP and a gender inequality index constructed using data from the Human Development Index (HDI). Doepke and Tertlit (2014) confirm a robust negative correlation between various rights afforded to women and GDP per capita. The authors suggest that gender inequality is both bad for growth and for women, and that increasing transfers to women may be good for development, particularly when human capital is the most important factor of production (Doepke & Tertlit 2014).

Thus, the literature suggests that increasing the number of women working has the potential to improve both the economy and women's individual well-being.

3 What Constrains FLFP?

3.1 Demand/Supply Framework: Why the U-Shape and the Positions in the U of the Countries Under Study

Our approach to identifying constraints and possible policy solutions is grounded in a demand and supply framework, in which the labor supply decisions of women and the labor demand decisions of firms provide the micro-foundations for the macroeconomic model discussion above. The agglomeration of the many decisions made by workers and employers determines the quantity and quality of jobs and workers available, which, in equilibrium, determines total employment and FLFP. We discuss the basic framework of labor supply and demand to describe both the individual decision of whether to participate in the labor market by women and the opportunities available to the deciding woman.

Here, *labor supply* refers to a woman's choice of how much to work given the labor market opportunities available to her. A basic model of labor supply assumes that a woman has a fixed amount of time and must allocate this time to various activities. In the simplest model, these activities are labor market work, home production (i.e., child care, food preparation, housework, and other home-based productive activities for which women are not explicitly compensated), and leisure (Becker 1985). Any changes in the allocation imply tradeoffs: if a woman decides to spend one extra hour working on the labor market, she must balance the returns to this activity (her wage) against the opportunity cost of foregone home production and leisure, as well as any social costs that she or her family members would incur if she performs work outside the home. Social stigma and norms (e.g., with respect to women's mobility or what types of jobs are "appropriate" for women), are likely to be especially salient in Asia, where the roles of men and women in the home and in society are often sharply differentiated (Kantor 2003). Even in the United States context, Goldin (1995) argues that a key driver of FLFP growth was the expansion of white-collar jobs, which were seen as more socially appropriate for women as compared to blue-collar jobs.

When determining how much to work for pay, women also take into account other household income. When other household income is low, the marginal benefit of additional income is very high and may induce additional labor supply even when wages are low. When other household income is high, there is a less pressing need for women to work to supplement the household budget. When total household incomes rise, as often occurs alongside economic development, this change in marginal benefit of a woman's wages may result in women reducing their labor supply.

This *income effect* is described by Goldin (1994) and Mammen and Paxson (2000) and illustrates one reason why we may see low levels of FLFP in middle-income countries (see Figure 1). The income effect pushing women out of the labor market may dominate the effects of changes over time in educational attainment and total fertility rates that would lead to predicted higher rates of FLFP. Further changes in household labor supply as economies develop are theoretically dominated by a *substitution effect:* as wages rise for women, the opportunity cost of staying home—either for leisure or home production—increases, leading to increased female participation.

For a given labor supply distribution, FLFP will be determined by the intersection of supply with *labor demand*. Here, we use the term "labor demand" to broadly refer to the set of labor market opportunities available to a woman with a given set of demographic characteristics. Demand-side factors influence FLFP as well, with the primary factor being the market wage

available to a woman of a given human capital endowment living in a given area with a given human capital endowment. Where there is gender-based discrimination (e.g., equally skilled women are paid less than their male counterparts) this will, other things remaining equal, depress equilibrium FLFP. FLFP will also be informed by *nonmonetary* demand-side factors. For example, a woman will be less willing to work for a given wage if the jobs available to her make it difficult to balance work with obligations at home (like child care), or if she faces a low-quality work environment (e.g., due to harassment and sexism). Finally, the location of jobs will also play a key role in determining equilibrium FLFP; for example, if jobs are concentrated in urban areas, high commuting costs may keep rural women at home and out of the labor market. Security concerns and attitudes regarding the acceptability of women in public space may further constrain FLFP.

The labor supply-and-demand model, in a sense, provides the micro-foundations for the macroeconomic model discussed above.

3.2 Endogeneity and the Challenge of Identifying Causal Effects

The factors that determine FLFP are numerous and the interactions between supply and demand make it difficult to determine causation. For instance, women may report that the security situation may prompt their families to discourage them from working, but it could be that the small number of women working contributes to isolation and to unsafe or unpalatable working conditions for women. On the demand side, employers may justify gender wage gaps on the grounds that women's skills and education attainment are lower on average than men's, but low wages may encourage parents to pull their female children out of school before acquiring the necessary human capital, ultimately lowering the skill level of the female supply of labor.

In the next section, we provide a brief literature review of high quality empirical studies outlining the importance of relevant constraints on FLFP. We review papers that examine both supply- and demand-side factors influencing FLFP, relying heavily on the historical case of the United States, which has been studied extensively.

3.3 Literature Review

This section reviews papers that use randomized control trials (RCTs), quasi-experimental design, or other convincing methods to isolate causal factors affecting FLFP. We focus on papers reporting causal impacts given their importance in the economic literature.

A first set of papers explores the role of demand in determining FLFP. Temporary demand shocks may cause persistent changes in labor supply. For instance, World War II provided an entry for women into the U.S. labor market that resulted in persistently higher FLFP (Acemoglu, Autor & Lyle 2004). Another study confirms that the increase in overall skill demand in the U.S. over several decades encouraged women to switch to higher skilled jobs and also induced higher FLFP overall (Black & Juhn, 2000).

A second set of papers focus on the role of supply-side constraints such as fertility, marriage, and childcare needs in determining women's decisions to work, analyzing natural and policy-induced variation in the wage and costs associated with working. Researchers have found, for instance, that increasing the opportunity cost of not working through a decrease in the top marginal tax rate increased the labor supply of high-income, married women (Eissa 1995). The influx of low-cost domestic help through immigration was found to increase married women's

labor supply as it freed up time that would otherwise go to childcare and housework (Furtado 2014). The influence of reproductive rights and marriage markets on FLFP has been demonstrated by Goldin and Katz (2002) using variation in the legalization of birth control pills. It is worth noting that despite significant catch-up in FLFP in much of the developed world, gender participation gaps and wage gaps persist in the United States (Blau and Kahn 1997; 2013), which may reflect the effects of flexibility and family leave policies (Blau and Kahn 2013), workplace discrimination, or both.

Finally, the third of the literature argues the importance of social norms and information to women and to FLFP. For instance, the social acceptability of women working outside the home could have profound effects on the labor supply decision. Fernandez (2013) modeled changes in culture or social norms around FLFP, examining the S-shaped change in married women's LFP over time in the U.S. to highlight the self-reinforcing relationship between norms and FLFP. Fernández and Fogli (2006) focused on second-generation immigrants in the US, showing that proxies for cultural beliefs and norms from an individual's country of ancestry around work are predictive of hours worked. Information on, or the visibility of, women working is shown to be important in promoting a virtuous cycle of increased FLFP. In such situations, highly visible female workers transmitted information on the acceptability of working to younger women, increasing FLFP (Fogli and Veldkamp 2011; Jensen 2012).

The intergenerational transmission of norms around work also occurs in non-immigrant families and through other social groups. Fernandez, Fogli and Olivetti (2004) show that in the United States, sons of mothers who worked are more likely to be married to women in the labor force. In India, women residing in areas with higher historical FLFP are more likely to work (Carranza 2014), and the younger sisters of women who work are more likely to delay childbearing and marriage (Sivasanakaran 2014). The increased presence of female leaders and thus of working role models results in higher aspirations for girls to attain more education and to work in India (Beaman et al., 2012).

However, this body of research is just the beginning. The bi-directional causality of many factors with FLFP means that additional well-designed research is needed to identify additional causal effects and, ultimately, inform policy to increase FLFP

4 Diagnostics: Highlighting Evidence of Inefficiencies

To date, there has been very little analysis of FLFP in the four countries under study. Therefore, a diagnostic assessment of FLFP is the primary tool employed in the set of country papers. These papers seek to identify the trends, characteristics of individuals, binding constraints, and other factors affecting FLFP in Pakistan (Field & Vyborny 2015), Indonesia (Schaner & Das 2015), Republic of Korea (Kim 2015), and People's Republic of China (Edlund 2015).

We begin with cross-country diagnostics using multi-country surveys and indices designed to examine the attitudes, beliefs, and social norms around women's work. We then highlight the country-specific trends that point to the relevant policy recommendations in the subsequent section.

The country-specific trends are identified using large-scale micro-level household surveys in each of the study countries. Where possible, we use the most recent data available for both the cross-country and country-specific diagnostics, but the datasets span the last 15 years. For PRC, we use a 1% sample from the 2000 Census. Data for Indonesia, Pakistan and ROK come from a variety of sources that span the last 20 years. For cross-country statistics, we rely on the World Bank, the International Labour Organization, and the World Values Survey. A detailed explanation of the data sets used in each section and for each country is available in the data appendix. The full set of diagnostics is available in the country papers that accompany this synthesis report.

4.1 Gender Equality Indices and FLFP

Worldwide rankings of gender equality merge statistics regarding women's station and empowerment, social norms, household decision-making, and attitudes about women's work. The 2014 World Economic Forum's Global Gender Gap Index (GGGI) combines measures of female political and economic participation, health and survival, and education to evaluate gender disparities with a single number. Of 142 countries included, Pakistan ranks the worst of the four countries considered here on gender equality at 141st, followed by ROK at 117th; Indonesia, 97th; and PRC, 87th (See Table 3). Economic participation and opportunity constitute part of the GGGI and so the index includes measures of labor force participation, remuneration, and career advancement.[4] It is then not surprising but notable that the GGGI appears to be highly correlated with FLFP in the four countries under study. PRC has the highest rate of FLFP among them at 64%, and Pakistan has the lowest at 24%. In between, FLFP is at 51% in Indonesia and 50% in ROK.

The rankings for ROK may seem slightly out step: it ranks lowest of the four countries in the GGGI, but its FLFP is on par with Indonesia's (50% for Korea vs. 51% for Indonesia). The ROK ranks significantly lower in the GGGI than in the other gender indices because the GGGI considers female participation in high-level education and occupations and focuses on within-variable gender variation rather than gender gaps overall. For example, while Indonesia and ROK have similar scores for health and survival and political empowerment, ROK performs poorly in gender wage equality, enrollment in tertiary education, and the participation of women as senior officials, managers, professionals, and technical workers.

The United Nations Development Program's Human Development Index provides a similar

[4] GGGI also includes measures of educational attainment, health and survival, and political empowerment.

ranking called the Gender Inequality Index (GII). The GII takes into account fewer variables, but like the GGGI, it also includes measures of economic and political participation, health and education. Of the 152 countries covered by the GII, the four countries under study ranked as follows from lowest to highest: Pakistan at 127th; Indonesia, 103rd; PRC, 37th; and ROK, 17th. Again, the GII includes a measure of FLFP, so the correlation between GII ranking and FLFP rate is expected.

Table 3: Scores on Gender Equality Indices

	Period	PAK	ROK	IDN	PRC
UNDP Gender Inequality Index: Score (0-1 where 1=inequality), Rank (out of 152	2013	0.563, 127	0.101, 17	0.5, 103	0.202, 37
World Economic Forum Global Gender Gap Index: Score (0-1 where 1=equality), Rank (out of 142 countries)	2014	0.552, 141	0.640, 117	0.672, 97	0.683, 87
OECD Social Institutions and Gender Index: Score (0-1 where 1=inequality)	2014	0.301	N/A	0.153	0.131
Economist Intelligence Unit: Women's Economic Opportunities (EIU-WEO): Score (0-100 where 100=most favorable), Rank (out of 128 countries)	2012	35.5, 116	69.4, 35	47.5, 98	52.3, 68
EIU-WEO Components (Scores):					
1A) LABOUR POLICY	2012	43.3	62.2	60.6	47.8
1.1) Equal pay for equal work; ILO convention 100, policy	2003-2010	25.0	75.0	50.0	50.0
1.2) Non-discrimination; ILO Convention 111, Policy	2003-2010	55.6	66.7	55.6	55.6
1.3) Maternity and paternity leave and	2010	11.1	44.4	22.2	33.3
1.4) Legal restrictions on job types	2010	75.0	25.0	75.0	50.0
1.5) Differential retirement age	2010	50.0	100.0	100.0	50.0
1B) LABOR PRACTICE	2012	31.4	55.2	32.7	39.5
1.6) Equal pay for equal work; ILO convention 100, practice	2003-10	0.0	33.3	0.0	16.7
1.7) Non-discrimination; ILO Convention 111, practice	2003-10	33.3	66.7	16.7	0.0
1.8) De facto discrimination at work	2010	59.0	54.1	80.9	74.6
1.9) Access to childcare	2010	33.3	66.7	33.3	66.7
2) ACCESS TO FINANCE	2012	30.4	71.5	42.8	46.6
3) EDUCATION AND TRAINING	2012	20.1	79.4	52.7	58.0
4) WOMEN'S LEGAL AND SOCIAL STATUS	2012	48.8	71.6	60.6	74.6
5) GENERAL BUSINESS ENVIRONMENT	2012	39.2	76.8	35.7	47.5

PAK= Pakistan; ROK=Korea, Rep. of; IDN=Indonesia; PRC=China, People's Rep. of

To evaluate the correlation between FLFP and other measures of empowerment that typically comprise these indices, we create an index using the elements of the GII excluding FLFP and plot it against FLFP. Figure 5 shows a weak positive relationship between FLFP and the other measures of gender equality, and levels of some gender equality indicators shown in Table 4.[5]

[5] This gender equality index is constructed using principal components analysis on all the factors included in HDI's Gender Inequality Index, excluding FLFP. Variables include: the proportion of female and male population aged 25

Figure 5: FLFP and Gender Equality

Note: Ages 15+. This figure takes the values for each country listed in the Human Development Index's Gender Inequality Index, minus the female labor force participation rate, and applies principal components analysis to make an index. The index value, indicating higher gender equality, is plotted against FLFP.
Source: Human Development Indicators (2013).All countries.

To highlight women's economic opportunities in detail, the Economist Intelligence Unit (EIU) provides several other measures of gender equality using local laws and macro-data from multilateral organizations. Table 3 summarizes these measures on labor laws and practices with respect to maternity leave, child care, and discrimination as well as indicators of gender gaps in access to finance, education, legal and social status, and the business environment. Overall, ROK scored highest, followed by PRC, Indonesia, and then Pakistan. Although Indonesia received higher scores in labor policy, it received lower scores in labor practice. The ROK's scores were particularly high for access to finance, labor practice, and the general business environment, and PRC's scores were particularly high for women's legal and social status.

While each of the above indices is created from different measures of female empowerment, it is clear that non-employment based measures of empowerment are correlated with labor force participation.

and above with at least some secondary education, the share of seats in Parliament held by women, the adolescent birth rate, the maternal mortality ratio, and gross national income.

Table 4: Indicators of Gender Inequality/Female Welfare

		Period	PAK	ROK	IDN	PRC
Gender Wage Gap (World Economic Forum survey)		2014	0.55	0.51	0.69	0.63
Female legislators, senior officials and managers (percent of total) (International Labor Organization)		2005-2010	2.97	9.59	22.10	16.75
Female professional and technical workers (percent of total)(OECD database)		2006	26	40	51	52
Proportion of seats held by women in national parliaments		2014	20.7	15.7	18.6	23.4
Ratio of percent of women to percent of men: Account at a formal financial institution, female (percent age		2011	0.17	1.00	0.96	0.89
Sex ratio at birth (male births per female births) (UNPD)		2012	1.087	1.07	1.05	1.16
Adolescent fertility rate (births per 1,000 women ages 15-19)(UNPD)		2012	27.3	2.2	48.3	8.6
Average age at first marriage, female (United Nations)		2005-2010	22.7	28.8	22.3	24.7
Percentage of women ever-married before age 18 (United		2006-2010	10.8		14.4	2.1
Number of weeks of maternity leave (United Nations)		2009	12	12.86	13.14	12.86
Maternal mortality ratio (modeled estimate, per 100,000 live births)(World Bank)		2013	170	27	190	32
Women who believe a husband is justified in beating his wife when… (percent) (Demographic and Health Surveys)	**she goes out without telling him**	2006-2013	29.6		24	
	she argues with him	2006-2013	33.7		5.7	
	she burns the food	2006-2013	18.4		2.5	
	she neglects the children	2006-2013	31.1		27.3	
	she refuses sex with him	2006-2013	30.6		8.9	

PAK= Pakistan; ROK=Korea, Rep. of; IDN=Indonesia; PRC=People' Republic of China

4.2 Patterns and Variation in FLFP

Below, we summarize the relevant trends in FLFP taking into account lifecycle, education, rural-urban, social norms, and wage and occupation differences. Unless otherwise noted, the country-specific statistics and graphs cited in this section are from the country papers that accompany this study.

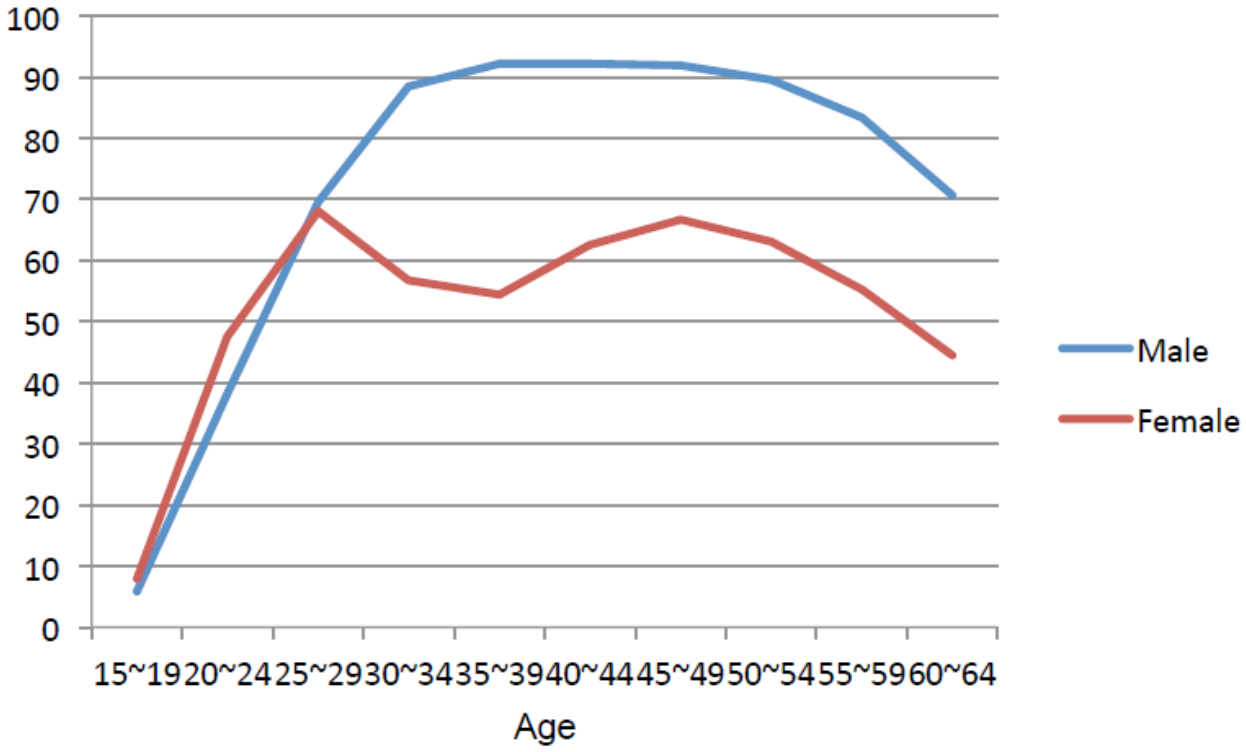
4.2.1 Lifecycle

We first examine FLFP over different age groups in each country. For most of the countries, this analysis is confined to a cross-section and thus may obscure cohort effects. We focus on a few important age groups to address some issues of cohort effects. First, we observe in the diagnostics that FLFP is lower in the 15-24 years age group than in the general population in all of the countries under study. Much of this is likely due to increasing educational attainments, which is evident in the corresponding fall in FLFP among 15–24 year olds from 1990 onwards and in the rise in primary and secondary school enrollments (see Tables 1 and 2).

Overall FLFP in Pakistan at 24% percent is starkly different from MLFP at 83%, and these differences also hold in the 15–24 years age group. We see similar patterns in Indonesia, where entry at young ages is significantly lower for women than for men. This low entry in Pakistan, and Indonesia persists throughout the lifecycle resulting in lower participation overall. These countries exhibit an inverted U-shape relationship between age and LFP for both men and women. Although women have lower rates overall, there is a steep rise in participation from age 15 to 25, a leveling during prime working age years, and then a decline as individuals reach age 50 to 60.

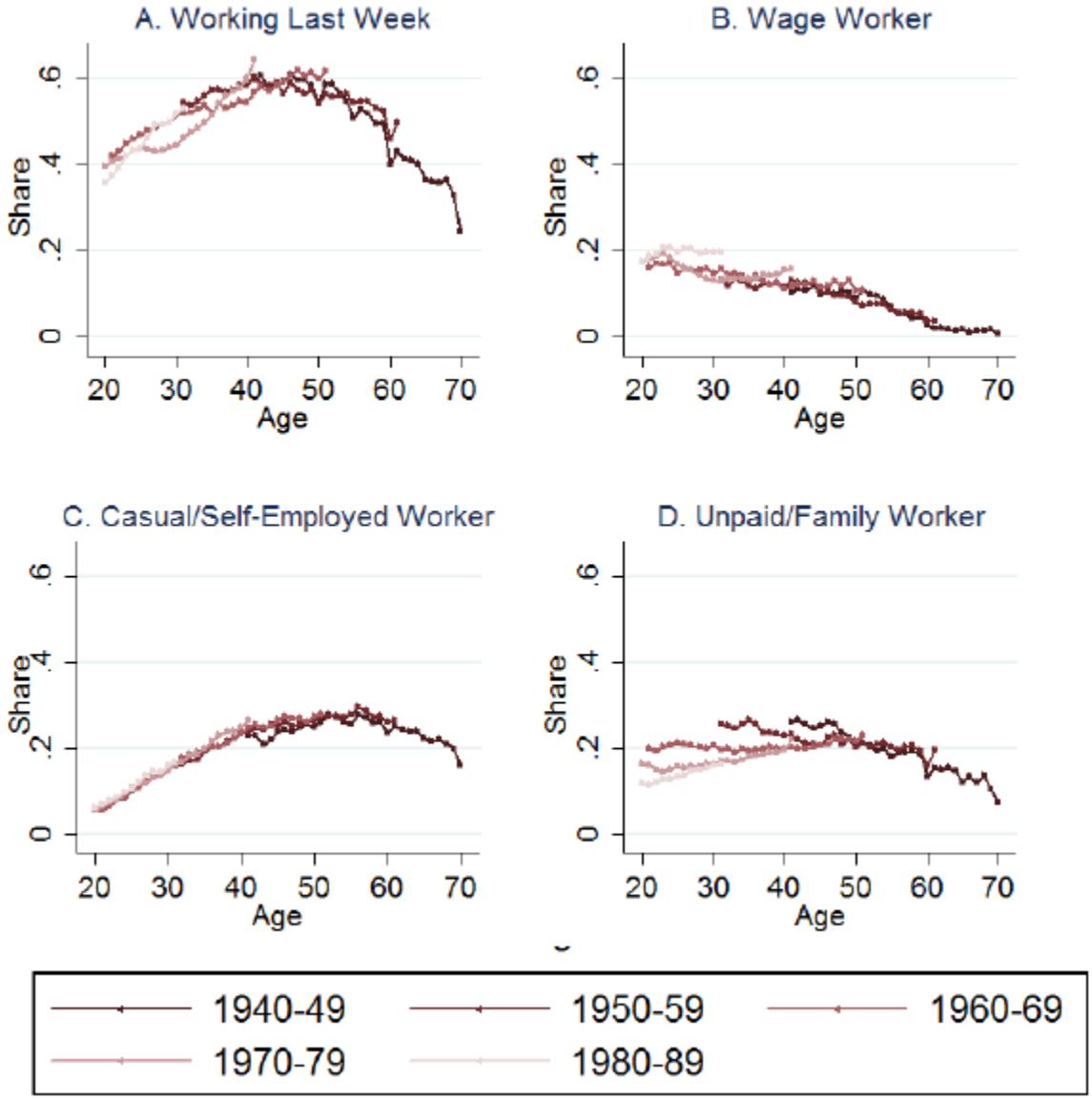
The ROK shows an entirely different trend, with the age of entry into the labor force among young men and women appearing to be approximately equal, but with higher rates of exit among women of childbearing age. In fact, FLFP among those aged 15–24 is actually higher than MLFP at that age range (Table 1). The ROK's FLFP follows an M-shape over the lifecycle (see Figure 6), with women exiting the labor force during childbearing years and reentering later as their children age. This pattern has also been observed in Japan in recent years (Seino, and in the US in the 1960s (Sorrentino 1983).

Figure 6: Cohort Employment Rates, Male and Female, ROK



Source: OECD (http://stats.oecd.org) 2013

Figure 7: Female Labor Force Participation by Age, Work Type and Urban/Rural, Indonesia

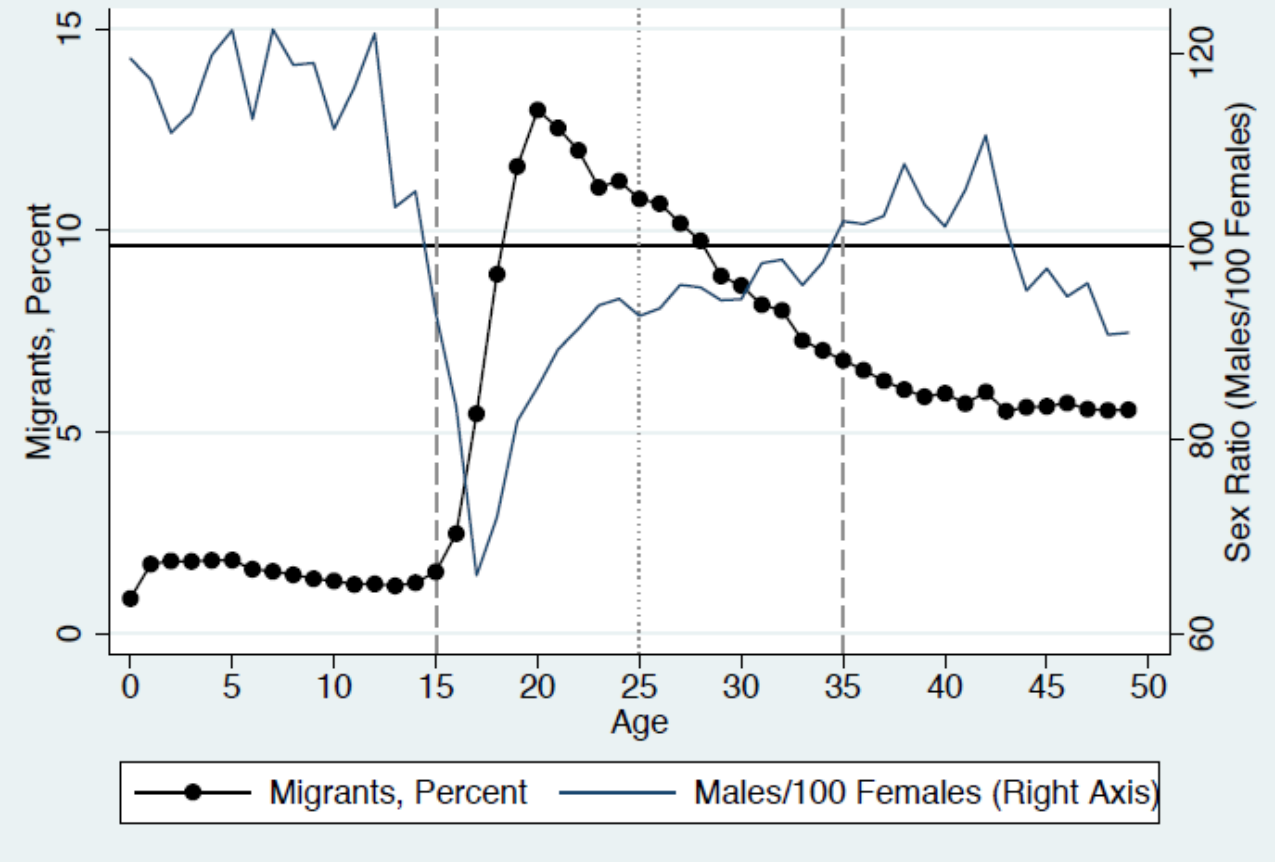


Source: 1990–2011 SAKERNAS

In Indonesia, job-switching from wage work into self-employment or casual work over the lifecycle appears to some extent (see Figure 7). This may be related to a desire for greater flexibility in working hours, but additional research is required to understand the reason for this trend, particularly because wage workers and self-employed workers average a similar number of work hours per week.

In PRC, FLFP is particularly high among young, low-educated, rural women. On average, women in PRC marry around age 25, compared to age 22 in Indonesia. Delay in age at first marriage may contribute to high levels of FLFP for women of all ages in PRC. Thanks to high degrees of autonomy and geographic mobility, these women have been able to gain wage employment in the coastal cities (see Figure 8). Indeed, internal migration sustains high levels of employment for both men and women and eases labor supply bottlenecks (Edlund 2015).

Figure 8: Inter-Provincial Migrants by Age, PRC



Source: Edlund and Li analysis of 1% China Census 2000

At the other end of the age distribution, women in Pakistan, Indonesia, and PRC retire or exit the labor force earlier than men. In PRC, the gender-specific retirement age may drive this pattern at least partially. While women in PRC appear to enter the labor force at young ages at rates similar to men, FLFP drops off more quickly. Female workers can retire at age 50 (age 55 for women in public-sector jobs), much earlier than the retirement age for men at 60. It is unclear to what extent earlier retirement is enforced or whether pensions are sufficiently large to induce earlier retirement, but the laws may reinforce norms that, for instance, dictate that older women are less suited for work. Early retirement may also allow for a second career, so again, its effects are unclear and may only be determined from further research.

4.2.2 Education and Skills

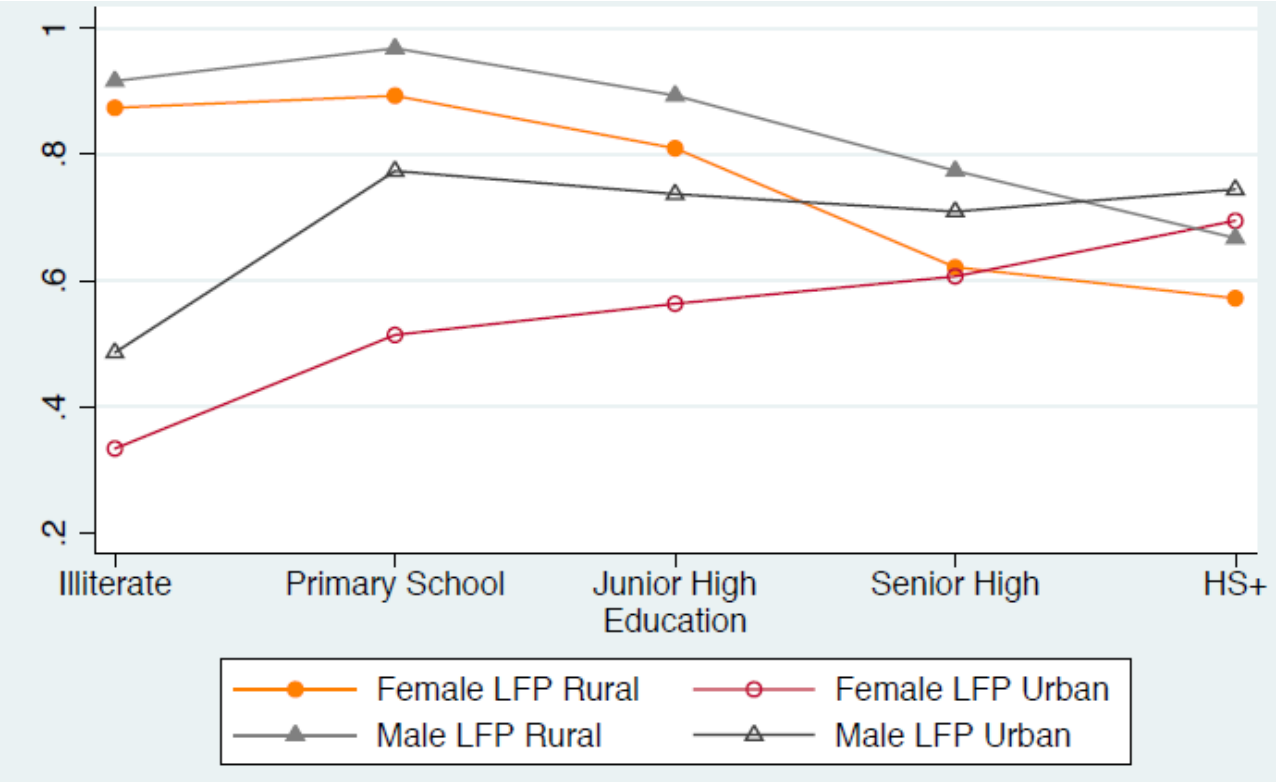
The second pattern that emerges from the country studies is the U-shaped relationship between FLFP and education in Pakistan and Indonesia. Women with very low and very high levels of education are most likely to be working, while women with intermediate levels of education are least likely to be in the labor force. Theoretically, this relationship can be explained by the same income and substitution effects that explain the cross-country U-shaped relationship between economic growth and FLFP (Figure 1): the poorest women with the least education may take jobs out of necessity, while high wages and higher quality jobs induce the most-educated women to work. In between, middle-educated women are not skilled enough to demand high wages, but do not face an urgent need to work (Klasen & Pieters 2013).

Alternatively, women of different educational levels may face additional costs to working (social or economic), or women with intermediate education may face lower quality job options than men of similar backgrounds.

However, we do not have sufficiently rigorous evidence to empirically identify the income and substitution effects. Educational enrollment and attainment among women have been on the rise in the countries under study, but the nonlinear relationship between FLFP and education suggests that increases in education alone may not result in higher FLFP. This is especially true where social stigma may be a primary, binding constraint on women's labor force participation.

In Pakistan, the U-shaped curve with education is apparent in rural areas, but mostly absent in urban areas where 19% of highly educated women are in the labor force and FLFP is only 4% for other education-level groups. In rural areas, FLFP is higher overall, but still those most likely to be working are highly educated women at 24%. Women who matriculated secondary school but did not finish have the lowest participation rates at 8%, while those with primary school education are more likely to be in the labor force at 19%.

Figure 9: Female and Male LFP by Educational Attainment, PRC



Source: 1% Sample, China Census 2000

In PRC, FLFP and education do not have a U-shaped relationship but how they move together is dependent on geography. In rural areas, both male and female LFP decrease with educational attainment, although more steeply for women. In urban areas, LFP rises with educational attainment, particularly for women (Figure 9).

In Indonesia, the diagnostics suggest there is higher demand for educated and skilled female workers, particularly in urban areas. In Indonesia, younger birth cohorts are more likely to participate in the labor market, and this growth appears to be driven to a large extent by wage work as opposed to family or self-employment. These patterns may be indicative of changing social norms or the increased availability in urban areas of high-wage formal sector jobs for skilled women.

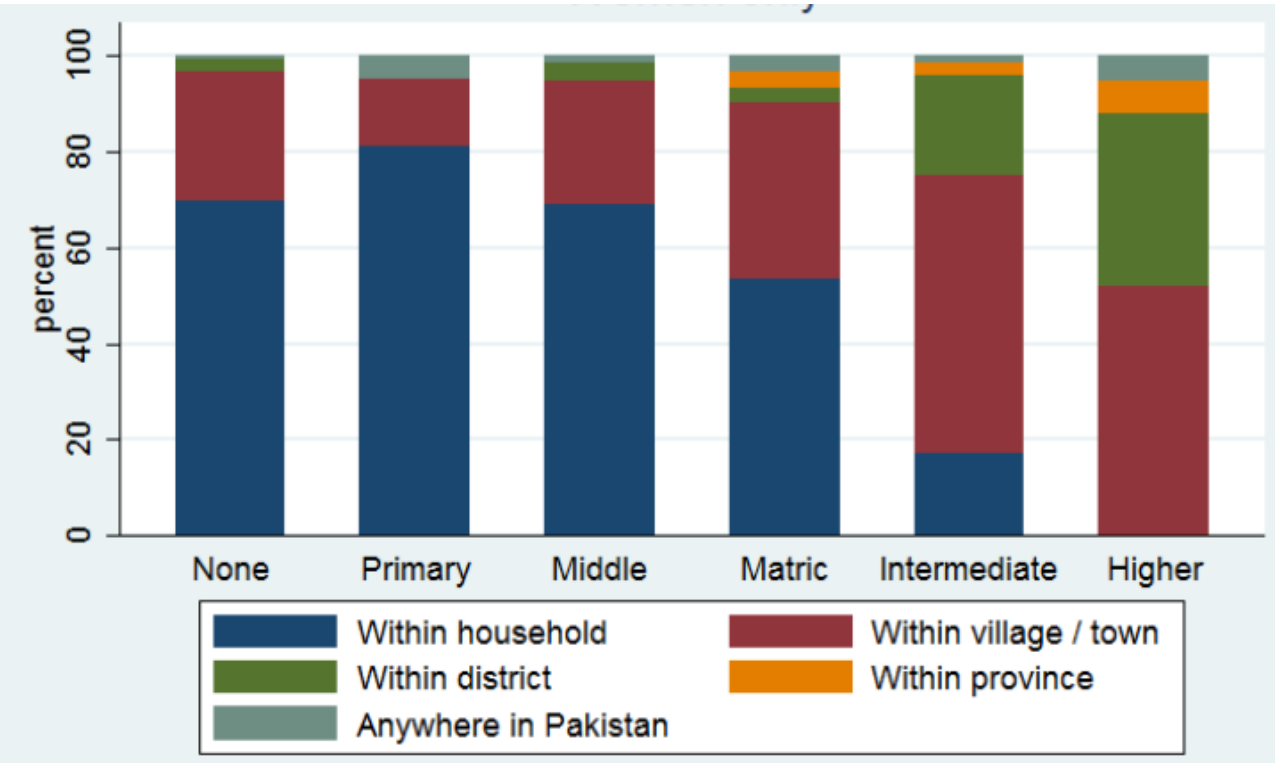
4.2.3 Social Norms and Attitudes

As social norms are dependent on perceptions of communally held beliefs, the reference community determines the salience of social norms; we may see differing FLFP reports by religion and religiosity, geography or other social group. In some regions of Indonesia, social norms regarding female clothing and behavior are codified in law.

Since social norms are individuals' perceptions of the extent to which certain attitudes and behaviors are typical or desirable (Cooper, Paluck & Fletcher 2013), they are often not

measured by surveys. However, surveys of individual attitudes may be aggregated to offer insights into how perceptions of acceptability may influence personal behavior.

Figure 10: Acceptable Locations for Women's Work, Pakistan



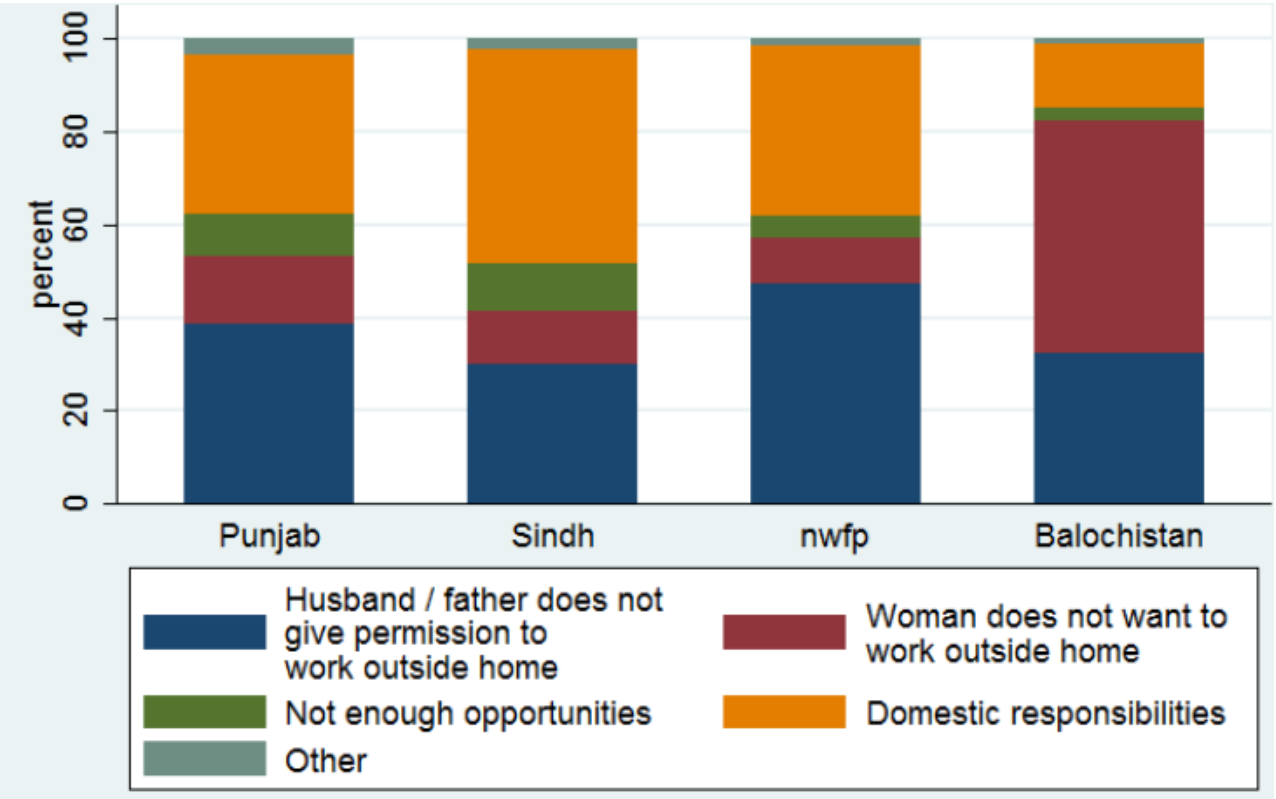
Source: Pakistan Labour Force Surveys 1984–2007.

The Demographic and Health Surveys for Pakistan and Indonesia include questions on whether respondents agreed that a man is justified in beating his wife if she goes out without telling him. In Pakistan, 19.8% of male respondents agreed, as did 11.8% in Indonesia. Agreement was noticeably higher among female respondents: 29.6% in Pakistan, and 24.0% in Indonesia. These responses are indicative of limits to a woman's freedom of mobility, which in turn may limit her ability to pursue work or skill-generating opportunities.

Additional evidence of this constraint on mobility comes from national surveys in Pakistan. Figure 10 shows that acceptable locations for women's work are highly restricted, particularly among low-educated women, most of whom state that the home is the only appropriate venue for work. Further, perceptions of women's safety once they leave the home restrict participation and serve as justification for those who believe women should not travel alone. In cases of already high household income, this constraint may be alleviated by private transportation. Lower income households may find the transportation constraint more likely to affect behavior..

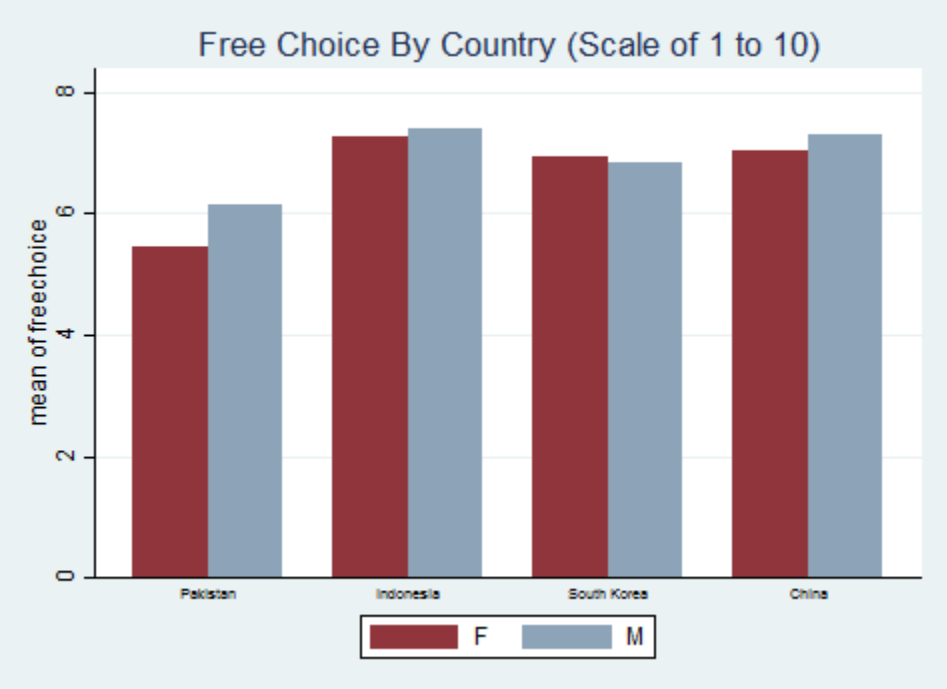
FLFP may also be limited by women's freedom of decision-making or choice. In Pakistan, women report very little autonomy in decision-making regarding their own movement and work (Figure 11). Data from the World Value Survey (WVS) indicate that, with the exception of South Korea, men in the countries under study have greater "freedom of choice and control over their lives" than women. Figure 12 demonstrates that women report more freedom of choice in the countries under study where FLFP is higher.

Figure 11: Reasons for Not Working, Pakistan



Source: PSLM 2005-6

Figure 12: Freedom of Choice



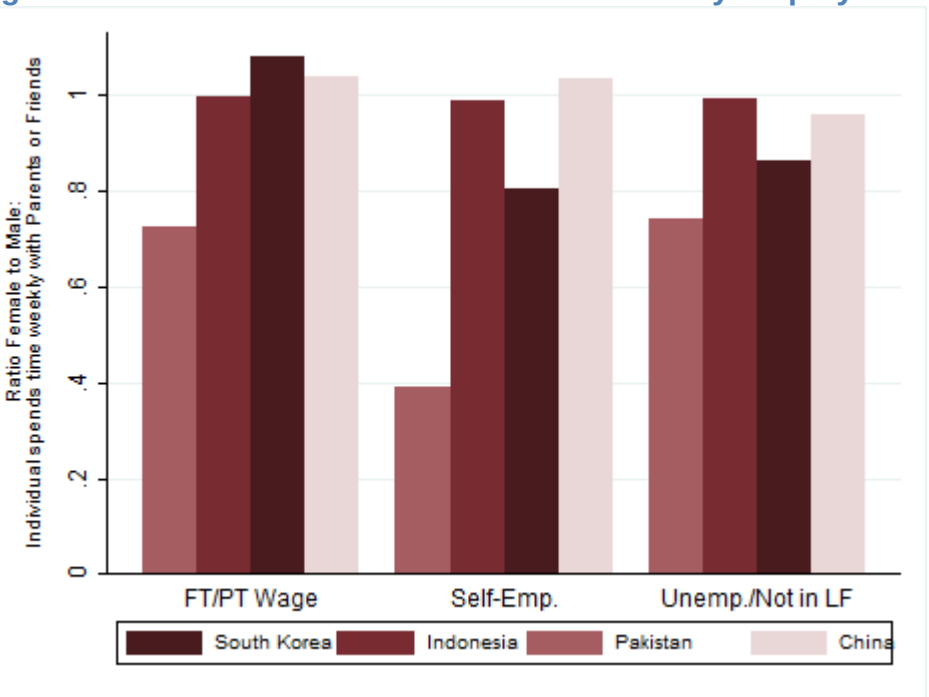
Source: World Values Survey, 2000–2014

In Pakistan and ROK, women engaged in self-employment spend less time with their parents and friends than do both wage-workers and nonworking women. Women in PRC and ROK who work in full-time or part-time jobs enjoy more social time than women who do not work at all (Figure 13). In Indonesia and PRC, which exhibit the highest FLFP of the countries under study, the gender gap in social time is smaller for all employment categories. It is particularly difficult to understand these behavioral differences, as WVS data do not differentiate unpaid/family workers from other employment categories (wage employment, self-employment, not working).

WVS data also reflect a preference for males working in countries under study.[6] Figure 20 shows the responses of individuals from the WVS on a number of questions regarding women in the workplace. The bottom left panel depicts the proportion of male and female respondents from each country who agree or strongly agree that men make better business executives. While men are more likely to agree with the statement in all of the countries, the proportion of respondents agreeing is correlated with FLFP. In Pakistan, the country with the lowest FLFP rate among the countries under study, almost 80% of men agree that men make better executives and over 50% of women agree. The PRC has the lowest rate of agreement although it has the highest FLFP rate. However, among all the four countries and among both genders, the rates of agreement are all above 30%, suggesting strong cultural norms regarding women in leadership positions.

[6] The World Values Survey has much smaller sample sizes than the large-scale representative surveys used in the country diagnostics section and thus may not be fully representative of attitudes in any particular country or subgroup.

Figure 13: Female to Male Ratio of Social Time by Employment Status



Source: World Values Survey, 2000–2014

4.2.4 Discrimination

Women earn between one-half and two-thirds of what men earn for the same work among the countries under study (WEF 2014). These wage gaps are slightly diminished after controlling for education and age, but gaps persist nonetheless. In Indonesia, for example, female teachers in urban areas with tertiary education earn only 79% of the wages of similarly educated male counterparts.

There are several possible explanations for the persisting wage gaps. Occupational and industrial segregation may be driving some of the wage differentials, as may taste-based or statistical discrimination.[7] In Indonesia, women are much more likely than men to be employed as teachers in urban areas and as market salespersons in rural areas. In Pakistan, women are more represented in low-paying occupations such as skilled agriculture and technical work, and are relatively underrepresented in higher paying occupations like management. Industry segregation is much more common, however. Although both men and women are most likely to work in agriculture, women make up a larger share of workers in tobacco-making (a common low-caste occupation), health care, education, and sanitation (mostly waste-pickers).

Women may accept lower wages in return for flexibility or physical security, which may partially explain why self-employment and home-based work are common among women in Pakistan and Indonesia. Alternatively, wages offered in the marketplace may not be high enough to

[7] Taste-based discrimination is when employers have a preference for employing workers of a certain type. They will employ workers of other types at lower wage rates to compensate for their distaste for having the non-preferred type employed. Statistical discrimination occurs when employers have a belief about the productivity of a particular type of worker. When signals regarding ability and productivity are noisy, employers may offer wages based on their beliefs about average productivity, resulting in some types of workers earning lower wages.

induce women to enter the labor market at the same rate as equally skilled men. Wage gaps may also combine with other forms of discrimination or workplace harassment, with strong social norms of female responsibility for household production, or with gender gaps in financial access and inheritance. Thus, wage gaps may partially explain low FLFP rates among middle-educated women.

In PRC, taste-based discrimination in hiring in export-oriented firms has been reduced through competition (Chen et al., 2013). Wage discrimination has also been effectively reduced in manufacturing and other export-related jobs. However, the gender pay gap is still substantial. The first order determinant seems to be women's lower education and skill, a result of parental rather than labor market discrimination (e.g., Rickne 2012). Women are noticeably underrepresented in the higher echelons of businesses, organizations, and politics. In 2002, only 1.7% of employed women were heads of their organization, while that was true of 5.9% of men (*China Statistical Yearbook 2003*). According to the Second National Sample Survey of Women's Social Position in PRC (2001), 6.1% of women employees were managers, whereas this was true of 8% of men (Cooke 2005); and the greater the level of responsibility, the lower the fraction of women. However, and possibly as a result, women have turned to self-employment.

Self-employment is not necessarily lower quality, but in some countries, our diagnostics indicate that own-account work is indeed worse than some waged work. The PRC is a notable exception; in 2011, it had over 29 million female entrepreneurs, or 25% of the national total ("Women entrepreneurs play big role in China's economy: official," *Xinhua*, September 17 2011). China has spawned half of the world's self-made women billionaires (*Forbes*, March 22, 2010), a list otherwise dominated by the United States; PRC is the only one of the four countries under study to sport nationals on the list. Although women continue to face hurdles in PRC, attitudes towards women entrepreneurs are not hostile and perhaps even positive. In a small-scale survey, Bullough (2013) found favorable views of women as leaders of firms by *both* men and women.

4.2.5 Rural-Urban

Rural FLFP exceeds urban FLFP across age groups in PRC, Indonesia, and Pakistan, and the differences decline at higher education levels. In Indonesia, and Pakistan, the differential is primarily accounted for by unpaid or family work in the agriculture industry. Such work may be more widely available or more socially acceptable for female participation as compared to available jobs in urban areas. In PRC, male LFP is also higher in rural than urban areas, indicating that work may be more easily accessible in general. In Pakistan, urban women are less likely to indicate they are available for work than rural women. However, conditional on availability, urban women are more likely to be available for work outside the home, suggesting mobility constraints due to social norms for women in rural areas may be binding.

In Indonesia, conditional on working, urban women are also more likely than rural women to be engaged in own-account work or self-employment. Participation in these two work types, with that for wage work far higher in urban areas, is correlated with higher levels of empowerment.

Social networks may be stronger in rural areas, allowing for greater support for child care and household responsibilities, or finding work. In PRC, marriage is a common reason for migration, but women have been shown to use marriage to overcome barriers to internal migration and to be able to pursue more favorable labor opportunities (Fan & Huang 2004).

4.2.6 Latent Labor Supply and Entry Costs

In the countries under study where FLFP is very low, many women express the desire to work, but are unable to or unwilling to owing to the available wages, returns, or labor conditions; we refer to these women as constituting latent labor supply. They are generally not counted as part of the labor force because they do not meet the strict definition of working or actively searching for work. However, they represent a large potential workforce, and they signal the presence of social norms and discrimination that limit participation. The monetary and nonmonetary costs that prevent these women from working may limit both labor market entry and reentry.

This pool of potential workers is higher in countries with lower levels of FLFP. In Pakistan, which has the lowest FLFP rate, FLFP would effectively double if all of the women who reported they would work if they could find a "suitable job" actually found such a job. In Indonesia, FLFP would rise by 21% if all those expressing the desire to work joined the labor force. Many of these potential workers are highly educated, with 28% of them having a high school education or higher.

5 Policy Options and Recommendations

It is beyond the scope of this paper's research element to provide original causal evidence to support particular policy solutions that could address the labor market inefficiencies and constraints identified by the diagnostics. We therefore provide in its stead a review of the extant literature on policies that have been shown to be effective at increasing FLFP in Asia, or that existing evidence suggests *may* be effective at increasing FLFP in Asia, focusing on the policies to address the identified constraints from the country studies. We then delve into trade policy and legal reform, as they have wide-ranging implications for the region. Next, we focus on each study country and highlight high-potential policy solutions based on our constraints diagnostics, the literature, and ongoing research. Finally, we highlight the need for continued research and improved data collection in order to better understand the dynamics of FLFP and to identify causal effects of various policies.

5.1 Literature Review

The existing literature on various policies and interventions designed to increase female employment directly in the Asian context is scant. We summarize high-quality studies that estimate direct effects on FLFP, as well as papers that estimate effects on related outcomes such as women's empowerment, girls' aspirations, and educational attainment.

5.1.1 Information Provision and Matching

Labor market frictions may adversely increase the unemployment rate due to lack of information about job vacancies (Gronau 1971). A seminal paper analyzing an experiment in India shows that improving access to information regarding job opportunities and labor market returns raises FLFP as well as educational attainment (Jensen 2012). Information may also be transmitted through social and familial channels with the potential to improve outcomes for women.

There is evidence from other countries that job-matching services assist individuals in finding work. Meyer (1995) analyzed data from a series of policy experiments on those receiving unemployment insurance in the United States, and found that job-matching services increased the individual rate of transition to work in a cost-effective way. Using data from a French public employment agency in 1986, Fougere, Pradel & Roger (2005) found that job-matching services raised transitions to employment by about five percentage points in comparison to private job search methods. A review of studies in OECD countries found that job assistance was the most effective and lowest cost labor market policy reviewed at the time (Fay 1996); and costs could be lower now due to current technology.

5.1.2 Skills

In Indonesia, women with skills-training are more likely to be in waged jobs (Figure 13). In particular, 27% of women who have attended senior vocational school obtain wage jobs, in contrast to 19% of women who have attended senior regular school. Almost 60% of those who have attended senior vocational school participate in the labor force compared to 50% of those who have attended senior regular school. However, in both cases, participation in wage jobs is lower, underscoring the fact that the precise effects of vocational training on improved outcomes requires further study.

Evidence exists from other developing country contexts that vocational training improves labor market outcomes. In Colombia, in a randomized controlled trial of a program that provided three months of in-classroom training and three months of on-the-job training, Attanasio (2011) found that the program raised the probability of paid employment for women by .068 and raised women's earnings by 19.6% at a low cost. In Indonesia, Newhouse et al. (2011) estimate that attending vocational school is associated with lower unemployment rates among women with low test scores. For women whose father's highest level of education was junior secondary or below, attending public vocational school was associated with increased likelihood of labor force participation, and attending private general school was correlated with significantly reduced likelihood of joining formal employment.

Expanding skills and vocational training programs could have the additional benefit of alleviating inefficiencies arising from misallocation of talent and from job-matching difficulty. Evidence from Bangladesh has shown that easing demand-side constraints can improve FLFP and aspirations for younger women (Jensen 2012; Heath and Mobarak 2014). A policy of expanded skills training should also carefully consider demand for skills that will allow women to enter higher quality, higher wage jobs in areas where women have not been historically present.

5.1.3 Mobility

Mobility, including ease of migration and transport to workplaces, is an important factor in determining whether and how much to work outside the home. In PRC, the ability to migrate to large industrial centers has eased labor force entry for women. The PRC study shows that this migration is facilitated by the legal status of women as well as by social norms that do not dictate the home as women's sole domain (Edlund 2015). While women in the other focus countries often have de jure rights to determine their own marriage partners, open bank accounts, take jobs, and be in public, survey data shows that these rights may be limited by social norms and cultural expectations regarding a woman's place. Availability and cost of public transport is also linked to women working and reflects an important constraint to FLFP that should be further explored by researchers.

A number of recent studies on social and economic issues that do not specifically focus on women's labor force participation nevertheless have shed a revealing light on the importance of transport. In their study of caste and clan effects on education in Pakistan, Jacoby et al. (2011) find that parents, particularly low-caste parents, are much less likely to send their girls to school if the school is located across caste boundaries within a village. They present qualitative evidence suggesting that security is a particular issue for girls. These results have two implications for FLFP. First, these constraints result in lower achieved education for women, thus reducing their options in the labor market later on. Second, the same issues that apply to older women's security in getting to work activities outside their homes and immediate neighborhood, are likely to be also faced by these girls later in life if they remain in the same home location.

In Pakistan, FLFP is positively associated with vehicle ownership in the household but other household durables are negatively associated (Ejaz 2007). Although the author of the Pakistan study cannot causally identify a mobility effect, this finding is suggestive that transport is a key constraint. It is empirically challenging to establish the causal effect of increased safety and mobility in improving FLFP. This is because women who work are more likely to commute, and there is a greater demand for public transportation in areas where more women work. This

creates a certain correlation between FLFP and transportation availability, but the degree of correlation is difficult to establish because social norms may also play a role in determining both low female mobility and low FLFP.

Andrabi et al. (2013) find that in areas where government rules in Punjab allocated a public girls' secondary schools earlier, low-price private schools are more likely to open. They show that women who have received a secondary education but who are limited for social reasons to seek work in their own villages, find work in these schools. This has positive and negative implications: government investments in secondary education exert a kind of multiplier effect. However, this study again serves to demonstrate the limitations that geography and mobility impose on FLFP.

Cheema et al. (2012) find that many households were willing to nominate female members for vocational training, but transport to the trainings has been an important constraint for uptake. Putting in place female-specific transportation or otherwise easing entry for women into sectors where working is acceptable may constitute an important policy for increasing FLFP in Pakistan, which is being tested in ongoing research.

5.2 Lessons from Other Parts of the World

In this section, we highlight other areas of research and policy that have been shown in the literature to have an effect on FLFP. While these topics are only moderately addressed in the country papers, if at all, they present important questions for future research.

5.2.1 Trade/Openness

Theoretical Background

The idea that trade or openness could reduce gender inequality and increase FLFP is rooted in theories of discrimination and competitiveness. From a theoretical standpoint, competitive firms cannot afford to engage in taste-based discrimination; firms must employ labor efficiently to remain competitive (Becker 1971).[8] The lowering of trade barriers opens firms up to competition from firms with lower costs, and some research shows that liberalization will have broad-based effects on levels of general welfare (e.g., Bhagwati 2004). The subsequent reduction of protections on firms, which may have allowed for taste-based discrimination, generates employment opportunities for women and minorities who were excluded before the trade liberalization. Evidence from non-export-oriented firms like banking, suggests that regulation may favor male workers; decreasing regulation therefore may encourage the sharing of rents with a wider set of actors (Black & Strahan 2001).

However, there is competing literature theorizing that open borders could actually increase gender inequality through a race for lower wages. In this scenario, firms may seek to locate in countries in which wages are the lowest. When an export-oriented sector is female-specific, for instance, any rise in the wage could induce the firm to relocate to a country with lower female wages, thus eliminating job opportunities for women (Seguino 2000). Other barriers to female employment, like restrictions on working hours or differential skill levels, may also alter the effects of trade on female employment. In India, reductions in trade barriers actually reduced female employment (Gupta 2014). However, the balance of the evidence suggests that fostering trade and export-oriented industries may improve job prospects for women by reducing discrimination in hiring and in wages and by creating new areas for job growth. What

[8] See Section 4.2.4 for a full discussion of taste-based discrimination

follows is a review of the empirical literature on this.

Empirical Evidence from Export-Oriented Firms

The World Bank World Development Report 2012 unequivocally states: "…trade openness and the diffusion of information and communication technologies have translated into more jobs for women" (Rasavi 2012, p.254). The channels for improvements in FLFP and in female empowerment come through access to better opportunities (Heath and Mobarak 2014), exposure to other cultures (Jensen and Oster 2010), and increasing the costs of gender inequality (Chen 2013). Alongside, continuing low levels of female skill and education as well as discrimination that result in low wages make women a source of cheap labor for export-oriented economies. When capital is mobile, firms seek out cheap labor, thus increasing FLFP in areas where wages are lowest (Seguino 2005).

Despite the World Bank's strong statement, the evidence on the effects of trade is mixed. While some research shows definite increases in FLFP due to trade liberalization, other research shows heterogeneous effects on FLFP and also decrements on other measures of female empowerment.

In some developing countries, there is strong evidence that FLFP grows when export-oriented firms with female-specific jobs are located where women were previously not employed. This is particularly true in manufacturing, where wages may be low enough for women, but not low enough to induce men to work in the sector. For example, Mammen and Paxson (2000) highlight how export-oriented growth has resulted in the expansion of low-skill manufacturing jobs all over the world, and Edlund (2015) suggests that China's export-led growth has been partially fueled by increased FLFP. Indeed, female employment share is 13% higher in China's exporting firms (Chen et al., 2013). Gaddis and Pieters (2012) is one of the few papers with a strong causal identification strategy to assert positive effects of openness of FLFP; in Brazil, they report that implementing tariff reductions saw an increase in FLFP, but only after two years. Heath and Mobarak (2014), also employing a plausible causal identification strategy, show that FLFP increased by up to 15 percentage points in villages close to where garment factories are located in Bangladesh. In Mexico, women who entered manufacturing were more likely to be working later in life (Atkin 2009).

Openness may also affect FLFP through price convergence. On the consumption margin, the reduction in the price of labor-saving devices due to trade liberalization is shown to account for 10% to 15% of the rise in FLFP in Britain (Cavalcanti and Tavares 2008). Although the links between FLFP and female empowerment itself are tenuous, trade liberalization may curtail gender-based wage and hiring discrimination, and increase female empowerment even if FLFP does not change. Chen et al. (2013) show that in China, taste-based wage discrimination is lower in export-oriented sectors than non-export sectors due to competition for better workers. Their findings echo other work on the United States by Black and Brainerd (2004). Several papers show that in Mexico, gender wage equality improved even as FLFP rose under NAFTA, suggesting increased demand for female labor (Juhn, Uchelhyi and Villegas-Sanchez 2013; Aguayo-Tellez 2010). Less well-identified cross-country research shows that despite increases in FLFP associated with economic integration, other measures of female empowerment are not necessarily correlated (e.g., Bussmann 2009).

Some studies suggest that under very specific conditions, openness may reduce FLFP. Effects may be dependent on overall levels of income or skill, the time period, the structure of the economy, and restrictions on women's movements. In India, a reduction in the share of female workers occurred following trade liberalization. Although the exact channels are not known,

Gupta (2014) suggests that legal restrictions on precisely when women can work or India's relatively lower female education and skill levels may have inhibited hiring as firms expanded. Thus, openness may lead to a decline in FLFP or to heterogeneous effects depending on the age cohort (e.g., Cooray, Gaddis, and Wacker 2012), but most of these papers rely on cross-country analysis and cannot claim robust causal relationships. In a theoretical model by Suaré and Zoabi (2014), where female-intensive sectors are also capital- intensive and growth is in the female-intensive sector, men move into the expanding sectors and push women out, which results in lower FLFP. This competition among women and between male and female workers may also hold down women's wages (Seguino 2000; 2005).

Rigorous identification of the effects of trade policies is difficult; endogenous choice of trade policies matters. However, the existing evidence suggests that trade and open economies may contribute to increased FLFP and increased empowerment through reductions in taste-based discrimination. For these reasons, freer trade represents a potential policy to increase FLFP, but we need to better understand the impacts of such policies.

Empirical Evidence from Mobility and Migration

The above papers primarily reference trade in goods, but open borders for migration could also have significant effects on FLFP. There is robust literature on the effects of immigration on employment and wages in receiving countries, which we will not summarize here.[9] Rather, we focus on the particular evidence regarding FLFP.

Opening up borders to immigrants may allow women to pursue opportunities for work that are unavailable due to wage discrimination, social norms about acceptable work, lack of growth in female-specific fields, high unemployment, and more. Migration for work has strong implications for poverty and inequality due to remittances from workers abroad (e.g. Lokshin 2010). While the effects of migration on source community FLFP are not well studied, there is some evidence that remittances have a small negative effect on female labor supply (Amuedo-Dorantes and Pozo 2006).

5.2.2 Legal Reform

In order to counter constraints to FLFP, several countries have enacted legal reforms to improve women's rights to property, free choice, and support. Here we will focus on the literature, laws, and practices surrounding marriage, equal compensation, parental leave and tax subsidies, and their ultimate effects on FLFP.

Individual Consent for Marriage and the Legal Age for Marriage

Several Asian countries require parental consent for marriage, which is often intertwined with social norms limiting women's choice and freedom of movement. However, PRC partially attributes its high FLFP to individual consent to marriage. In the country study on China, Edlund (2015) describes how individual consent in marriage was key to increasing FLFP. In 1950, PRC introduced a new marriage law modeled on Western family law under which the right to contract someone in marriage was given to the individual in question instead of his/her father. An important part of this law was that it was not only codified but also put into wide practice. While individual consent for marriage is also the law in Pakistan, arranged marriage is common, and violators often face social consequences.

In PRC, Indonesia, and Pakistan, the minimum legal age of marriage for women is 20, 16, and 18, respectively, with the age for men two to three years higher. The ROK is the only country in

[9] See Borjas (1994), Card (1989), and Card and DiNardo (2000) for a sample of the debate.

the study with equal minimum marriage ages for men and women. In Indonesia, as the country study suggests, participation in wage work falls significantly with marriage, making low and differential ages for marriage an important consideration for FLFP. Legal reform may have large and lasting effects on FLFP when implemented in a manner that also alters norms.

Equal Access to Jobs and Equal Pay for Equal Work

Policies that mandate nondiscrimination in hiring and wages merit more research. That women suffer from differential promotion standards is evidenced by the fact that women occupy lower-paid positions and fewer managerial positions. In PRC, although trade has reduced wage and hiring discrimination in export-oriented sectors, there are remaining gaps that may be alleviated through legal reform regarding wage and hiring discrimination. In the United States, this gap has narrowed and the economy has grown as women have entered traditionally male occupations (Blau and Khan 2000; Hsieh 2013). In Indonesia, the increase in the minimum wage has reduced this gap considering women are more likely to occupy low-wage positions (Alatas and Cameron 2003).

Parental Leave and Child Care

Child-care and parental-leave policies may also overcome constraints on women's time, both directly and indirectly, by providing incentives to men to commit to domestic responsibilities through "father-only" leave. Paid maternity leave may improve infant health outcomes (Ruhm 2000) and increase female job retention and tenure, and working hours, thus improving the likelihood of women's matching to higher paying jobs (Waldfogel 1998; Zveglich & Van der Meulen Rodgers 2003). Where public policy can decrease the costs of having children through child care and parental leave without disincentivizing work, countries may enjoy both high FLFP and high fertility (TFR) (Sundström & Stafford 1992). European countries offering higher leave and public provision of childcare, also had (i) more equitable distribution of domestic responsibilities across genders and (ii) a smaller share of women who were not working or only working part time because of child-care responsibilities (Bettio 1996). However, maternity leave will only increase FLFP if substitution effects dominate, and if income sufficiently exceeds child-care costs (Goodpaster 2010).

In the developing world, free child care has been associated with increased FLFP. In Chile, women randomly selected for a free after-school child-care program were more likely to be engaged in waged work, although effects were heterogeneous depending on child age and other factors (Martinez & Perticara 2014).

Immigration policy may also decrease (increase) the price of child care through increased (decreased) supply of domestic workers, which may then increase (decrease) female labor supply, particularly among high-wage earners. Empirical analysis confirms the theory: in Hong Kong, an increased supply of affordable domestic help lead to higher FLFP (Cortes and Tessada 2013). Since having live-in domestic help is out of reach for much of the population of the countries under study, further analysis of the effects of child-care subsidies or other ways of reducing the cost of child care is important to crafting relevant and effective policies. As a corollary, at least one of the countries under study, Indonesia, has often been on the sending end of such international domestic worker arrangements. Thus, a relaxation of immigration policy to allow for more workers may have an effect on FLFP in both sending and receiving countries. Drafting of such policies should also take care to ensure that migration is safe.

When not fully publicly financed, mandatory maternity leave also can discourage employers from hiring women. The PRC requires social insurance-funded maternity leave, but in Indonesia and Pakistan, mandatory maternity leave is employer-funded. The PRC offers a

mixed funding structure for maternity leave. Of the countries under study, with the exception of ROK, the maternity law covers less than one-third of working women (Addati 2014).

Property and Inheritance Laws

Women's access to land, their ability to open bank accounts in their own names, and their right to inherit property remain restricted in many countries in the world. These restrictions are correlated with lower FLFP (Gonzalez et al., 2015) and there is some evidence that lifting such restrictions may improve female outcomes. Although our diagnostics suggest that increasing education per se will not necessarily increase FLFP, more education could make women more employable in the future.

Tax Subsidies

By increasing the effective wage, tax subsidies for women reentering the labor market after childbearing could induce higher labor supply. Tax subsidies or tax reductions for secondary earners may be particularly effective since women's labor force participation appears to be more sensitive than men's LFP to taxes (IMF 2012d), but more research is needed on this topic.

5.3 Country-Specific Policy Suggestions for Piloting and Testing

This section highlights one or two key binding constraints to FLFP in each of the countries under study. Based on the diagnostics and literature review, we have identified these areas as of high importance. We believe the highlighted areas have high potential to affect opportunities for women if addressed by well-designed policy interventions. We recommend rigorous research on a corresponding potential policy solution to address the highlighted constraints. More research is needed before we can confidently recommend the best way forward, hence the need for testing each in a rigorously evaluated pilot. In some cases, randomized evaluations are underway to evaluate the effectiveness of these solutions. We indicate where such research is already in progress or where there are clear avenues for researchers to evaluate these policies.

5.3.1 Pakistan

Mobility

Restrictions on women's mobility appear to be a major factor contributing to gender disparities in economic outcomes. Women at higher levels of education who work outside the home earn more than twice as much as those who work at home. Of course, many more may not even be able to find any home-based paid employment, thus they earn nothing. While women's education is rising, its benefits can only be fully realized if women are able to work in jobs that fully utilize their skills. Women's mobility outside the home is a function of a number of interconnected factors: (i) social, cultural, and religious norms; (ii) perceptions of safety and crime; and (iii) the quality of available transport services. Since a woman's low mobility may also be self-perpetuating, policies that make travel for women easier may increase the acceptability of women's travel to work outside the home.

In an ongoing randomized control trial, the authors of the accompanying Pakistan country study, along with Gulam Abbas and Anjum Altaf, are examining the impact of women's-only transportation in Lahore. This "pink" transportation has been implemented successfully in a number of countries, including on the Delhi metro in India. Women's organizations in Pakistan are lobbying for the service. The quantitative impact of this kind of women's-only transportation option has been estimated only on women's mobility; its impact on labor force participation

and empowerment has not been studied yet. Further research is needed to determine how effectively large-scale efforts to improve transport infrastructure will improve FLFP.

Hadia Majid, Ammar Malik, Anjum Altaf, and Kate Vyborny are also carrying out a quasi-experimental analysis of labor market and higher education impacts of high quality transport in Lahore. The study will incorporate a focus on gender. The project will introduce women's-only vehicles on randomly selected routes in Lahore, and test whether this can increase women's labor market participation and empowerment.

Easing Entry into Particular Sectors

Considering the restrictions on female mobility and the influence of social norms that emphasize the role of women in the home, a relevant policy goal for Pakistan may be to ease entry for women into sectors that are already female-friendly. The literature shows that fields like education already provide socially acceptable jobs for women, in part because of the prevalence of single-sex schools at the post-primary level; if allowed to expand, these schools could help bring about higher FLFP. By easing entry into the education sector, such as through increasing school enrollments and encouraging the creation of private schools, Pakistan could further grow its FLFP.

Alternatively, the relatively high proportion of educated women who are not working suggests that white-collar jobs may be another entry point. Firms that hire for these jobs are more likely to have the resources to provide comfortable environments for women. Unlike a sector like sales or construction, firms with white collar-jobs can control the workplace environment and limit contact with clients or persons outside the company. However, creating a female-friendly environment or reforming company culture to include and respect female workers may impose direct costs on firms. Further research is therefore needed to determine not only the benefits of creating more female-friendly workspaces to the companies but also their ultimate effect on FLFP.

5.3.2 Republic of Korea

Maternity Leave and Tax Subsidies

In ROK, the M-shape curve of FLFP over the lifecycle suggests that constraints pertaining to maternity and childrearing are most binding. In this case, policies specifically designed to keep women in the workforce during their childbearing years, or to encourage reentry after childbearing, are most applicable to increasing FLFP. They may include formulating maternity leave policies or tax subsidies for women who are reentering the labor force. Both of these policies effectively increase wages. Paid maternity leave reduces hours without changing pay (or with only modest decrements in pay) and may induce increased FLFP if substitution effects dominate. Similarly, tax subsidies for women reentering the labor market after childbearing would increase the effective wage and could induce higher female labor supply. There is some theoretical and empirical support for these policies (see the Republic of Korea country study), but further research is needed to rigorously test whether these policies would in fact increase or decrease labor supply. Importantly for the East Asian context, Zveglich and Van der Meulen Rodgers (2003) show that provision of maternity leave benefits in Taiwan actually increased both female work hours and employment.

5.3.3 Indonesia

Job Matching and Information Provision

In Indonesia, the diagnostic assessment indicates that wage jobs appear to be, in many ways, "better" jobs. Participation in wage labor is strongly associated with better education and greater empowerment, even though this is not the case with overall FLFP. Although the direction of causality is not clear, there is a possibility that engaging more women in wage labor could create a virtuous cycle. When women receive regular income, they invest in their children and increase expected earnings of younger cohorts. Thus, women are motivated to achieve higher education levels and as a result they find more waged labor opportunities. Policies that support job-matching or information provision on opportunities for waged work could increase FLFP and empowerment.

Skills

Job-matching programs could alleviate constraints where there are information asymmetries, but job-matching alone will not necessarily ensure that the skills present in the workforce will match the skills needed by industry. For this reason, a job-matching program combined with expanded skills and vocational training may prove to be a potent policy combination for addressing FLFP in Indonesia. Skills training may also have the added benefit of increasing the size and quality of women's job networks, which has been shown to be important for entrepreneurship and formal employment opportunities.

5.3.4 People's Republic of China

Facilitating permanent or whole-family migration

The participation of women in labor markets in PRC, supported by high rates of internal migration and low fertility, has been a key component in supplying cheap labor to fuel export-led growth. Migration has eased local bottlenecks and allowed for the productive employment of labor that would otherwise be unemployed or under-employed. However, permanent migration is somewhat limited by the *hukou* system, which assigns health and retirement benefits based on residence. This designation is very difficult to change, so the system has likely reduced some of the drawbacks of urbanization experienced by countries at a similar stage of economic development (e.g., urban slums). It also has exacted a high personal cost to the migrants and their families, as migration of adults has resulted in millions of children being left behind with aging relatives. Indeed, the care and education of these children pose a challenge for PRC. The proposed dismantling of the *hukou* system could allow children to accompany their parents when they migrate for work. Enabling more permanent migration and easing transitions to new cities by keeping family networks intact could increase women's attachment to the labor force, allowing for longer work tenures and thus greater investment by employers in female employees.

5.4 Data Needs

Identification of the constraints on FLFP, and subsequent paths to loosening these constraints, are highly dependent on the data available to diagnose issues. Thus, an important policy goal for the Asian Development Bank (ADB) and other multilateral organizations is to improve the quality of FLFP data and the access to them. In this section, we highlight some of the areas where available data have been particularly helpful in identifying barriers to FLFP, and then suggest areas where improvements in data collection and harmonization could be used to better inform policy.

5.4.1 Gender-Specific Questions and Time Use Surveys

A common criticism of household surveys is that they undercount women in the labor force due to a lack of probing on questions regarding work. Even where data sources are regular and fully encompass the various productive activities of women, there remain gaps with respect to several issues that differentially affect women. These gaps include, but are not limited to, employer-provided benefits, working conditions, harassment, discrimination, the type of work, and sharing of profits. For example, a large proportion of women in Indonesia, and Pakistan work in unpaid family work and self-employment, yet it is unclear whether or how these women benefit from labor participation as there are limited parallel data on profit-sharing, financial access, and decision-making. Such data could shed light on the conditions under which FLFP translates into female empowerment and equality.

Further, self-reports of issues like rape and family violence are extremely low, which suggests the potential presence of reporting bias. It should be acknowledged that such questions represent an important but mostly unknown factor in determining FLFP, and as such require careful survey design and specialized training of enumerators. To improve the accuracy of official figures and household surveys, there is also a need for better training of police in identifying and assisting victims of gender-based violence.

Family responsibilities and housework present a binding constraint on FLFP. In Pakistan, for instance, 75% of women cite home responsibilities as the reason they are not available to work. One criticism of labor force surveys is that women who self-report as housewives may actually be engaged in economic activity, resulting in a vast undercounting of both the size of the female labor force and of national incomes. Whether this work is remunerated, and consequently whether it should be counted in GDP, is admittedly a discussion that falls outside the scope of this paper. However, the classification of these women and their work activities is an important dimension to understanding the role of women and the potential impact of policies intended to encourage more women to work. Time-use surveys are one of the few instruments that allow for an accounting of the various productive and nonproductive activities in the household that are performed most often by women. Expanding household surveys to include time-use questions and household activities would also improve our understanding of the activities of women.

A few time-use surveys have been undertaken or have been proposed in the countries under study, but they are underutilized. For instance, analysis of Pakistan's 2007 Time Use survey, discussed in the Pakistan country paper, reveals that women who are not in the labor force spend as much time on productive activities as men who are in the labor force. The PRC's first large-scale time-use survey, conducted in 2008, documented the gender dimension of paid and unpaid work (Dong and An 2012) and provided the necessary data to examine intra-household bargaining dynamics in the face of high male-to-female sex ratios (Edlund, et al., 2013). In Indonesia, the last time use survey was conducted in 1999, but more recent data are required to understand dynamics in household gender roles.

5.4.2 Data Harmonization

Each of the countries under study has at least one high-quality data source with information on employment, and many studies have made use of several available sources. However, data management difficulties impede analysis of these data sources. In some cases, coding and question labels are inconsistent. In Indonesia, in particular, English survey translations with specific definitions are not available for some survey years. Changes in political structure

over time make analysis by geography difficult. When data are difficult to access, harmonize, or understand, they are less likely to be used by researchers. This could be one reason for few high-quality studies of FLFP using the sources employed in the diagnostic. The ADB and other organizations could provide a valuable service by making resources available to support improved documentation of existing government datasets, facilitating the sharing and creation of clean data that are harmonized across survey rounds and countries, and encouraging the collection of more data.

The Demographic Health Surveys (DHS) is an excellent model for how to harmonize over time and geography. With similar surveys conducted around the world, the surveys are comparable across countries. In addition, DHS collects GPS information of respondents, allowing for more precise analysis of location and political boundary effects, even if divisions change.

5.4.3 Access to Survey Data

In the case of PRC, in particular, lack of access to large-scale survey data severely inhibits our understanding of labor markets. The data used in the PRC country study and in this paper are based on analysis by Edlund and Li (2013) from the 1% sample of the 2000 Chinese Census. A sample from the 2010 Census would allow for greater understanding of more recent trends in PRC with regard to FLFP, particularly the decline in FLFP that has been noted in ILO estimates since 2000.

Access to data in the other focus countries is difficult without a government or university affiliation. The ADB and other multilateral organizations could encourage research by promoting public access to data through a national or joint repository.

5.5 Final Recommendations

This synthesis paper outlines some important constraints on FLFP in four countries in Asia, namely Pakistan, Republic of Korea, Indonesia, and People's Republic of China, and then presents a theory for understanding the effect those constraints have on FLFP and identifies a number of policy solutions to address persistently low or falling FLFP, or both, in the countries under study. We analyze how low entry, education, social norms, domestic responsibilities, discrimination, and other factors influence labor supply and demand. We note the challenge for researchers and policymakers in identifying causal pathways to increasing FLFP given the multiple factors affecting FLFP, their simultaneous influence on each other, and the additional influence from FLFP itself through peer effects. Although the evidence from existing impact evaluations is valuable for identifying promising policy tools, even high quality studies are context-specific. Therefore, the insights must be applied with careful consideration of the enabling environment, the particular target group, and existing cultural norms.

Several of these policy goals have already been targeted by the respective governments of the countries under study. The PRC is gradually removing limits on migration through modifications to the *hukou* system. Indonesia is actively trying to increase the ratio of women enrolled in vocational education to those in general education. The ROK has expanded its parental leave and child-care programs of the past decade. Pakistan is exploring expanded public transport and creating safer options for women in large cities. These policies involve significant economic and social costs, and the ability of these policies to change FLFP in the face of social norms is unknown.

For these reasons, the policy solutions that we recommend should be rigorously tested through pilot programs before being implemented at scale. Active government and multilateral investment should be supported with the best evidence. These pilots will be most effectively implemented by researchers working in partnership with governments or multilateral organizations, which will have the ability to provide the legal and financial incentives to ensure that policies are fully enacted and carefully evaluated. We recommend that the ADB and other organizations promote such partnerships in order to fully exploit the capabilities of both researchers and institutions in identifying effective policies to increase FLFP in Asia.

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