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What explains uneven female labor force participation levels and trends in developing countries?

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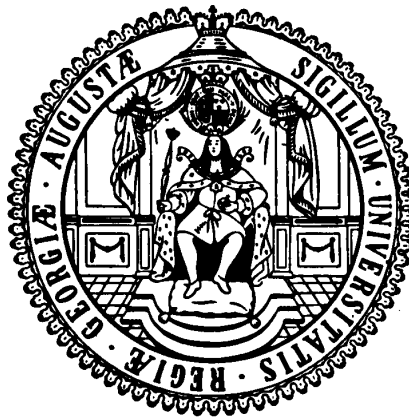
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Georg-August-Universität Göttingen
(founded in 1737)



Discussion Papers

No. 246

What explains uneven Female Labor Force Participation Levels and Trends in Developing Countries?

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February 2018

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What explains uneven Female Labor Force Participation Levels and Trends in Developing Countries?

Stephan Klasen, University of Göttingen

February 5, 2018

Abstract

Rapid fertility decline, a strong expansion of female education, and favorable economic conditions should have promoted female labor force participation in developing countries. Yet trends in female labor force participation (FLFP) have been quite heterogeneous, rising strongly in Latin America, stagnating in many other regions, while improvements were modest in the Middle East and female participation even fell in South Asia. These trends are inconsistent with secular theories such as the Feminization U Hypothesis but point to an interplay of initial conditions, economic structure, structural change, and persistent gender norms and values. We find that differences in levels are heavily affected by long-standing differences in economic structure that circumscribe women's economic opportunities. Shocks can bring about drastic changes with the experience of socialism being the most important shock to women's labor force participation. Trends are heavily affected by how independent women's labor force participation is of household economic conditions, how jobs deemed appropriate for more educated women are growing relative to the supply of more educated women, and how much women are able to break down occupational barriers within the sectors where employed women predominantly work.

Keywords: female labor force participation, gender, developing countries, feminization U

JEL Codes: J22, J16

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1. Introduction

In the last 25 years, several trends in developing countries came together that one would ordinarily associate with sharply rising female labor force participation rates. First, female education expanded very rapidly, leading to a rapid closing in enrolment and attainment gaps at the secondary and tertiary level. As a result, women's qualifications for the labor market rose dramatically. Second, fertility declined dramatically everywhere (with the exception of Sub-Saharan Africa where the pace of decline was slower). This freed women's time from care burdens and sharply reduced the time span in women's life cycles where women were caring for small children. And third, per capita economic growth was generally high in most developing countries since at least the mid-1990s, substantially higher than in rich countries, which ordinarily increases labor demand and should pull women into the labor force.

Despite this confluence of forces ordinarily favorable to rising female labor force participation, the growth of female labor force participation in developing countries has, on average, not been very large. More puzzling is the heterogeneity in regional trends. While in Latin America and the Caribbean these three forces are indeed associated with substantially rising female labor force participation rates, the same forces are associated with a decline (from low levels) in female labor force participation rates in South Asia.

This paper will study these trends and speculate about the determinants of these puzzling regional developments. We suggest that basic labor economics factors, esp. a strong household income effect lowering female participation, play a significant role in explaining stagnation or decline in female participation in some regions. Moreover, we argue that social norms affecting the ability of women to work in general, and to work in particular sectors and occupations, appears to powerfully affect female participation rates. Lastly, the nature of the growth process can also have substantial implications for female employment opportunities.

Studying female labor force participation is not only an intellectual curiosity, but matters strongly for women and the economies they live in. There is strong evidence showing that women's employment and earnings is a powerful factor influencing their bargaining power, with important implications for their well-being and that of their children (e.g. World Bank, 2001; Thomas, 1997; King, Klasen, and Porter, 2009, Majlesi, 2016). Second, without high and rising female participation, countries will miss out on the demographic dividend generated by fertility decline and a temporarily very high share of working age people to the total population (Bloom and Williamson, 1998). Key to the demographic dividend are falling dependency rates during the phase where the share of the working age population is high, the share of young dependents is falling and that of elderly dependents still small. But if few women in working age actually work, dependency rates stay high despite a rising share of working age people, leading to lower savings and investment rates, and reducing economic growth. Currently South Asia, parts of the Middle East, Southern Africa and Central America are in this phase where they could enjoy this demographic dividend.

This paper is organized as follows. The next section discusses measurement issue surrounding female labor force participation, the third section presents trends in female participation and its presumed drivers, while the fourth section discusses the feminization U hypothesis as one important (but empirically not so compelling) hypothesis. The next section discusses other potential drivers of levels and trends before the final section concludes and offers some policy implications.

2. What is female labor force participation?

The definition of (female) labor force participation was a settled matter for a long time. It closely aligned with the System of National Accounts (SNA) and the boundaries between labor force

participation and other activities were aligned. Those who worked for pay or profit for a minimum number of hours in a reference period¹, those who were unemployed but actively looking for such work, and those who produced goods for own consumption were in the labor force. Those who produced services for own use (esp. care and household services) were not considered part of the labor force, nor was their output counted in the SNA (ICLS, 2013).²

There has long been opposition to this boundary as it relegated much work particularly done by women outside of the labor force and excluded it in the SNA and thus GDP (Waring, 1988; UNDP, 1995; OECD, 1994). The push of these critics was to include such care work and housework in both the SNA as well as in the labor force to make it visible. This effort has not been successful to date and these type of activities are still relegated to Satellite Accounts in the latest SNA 2008 (UN, 2008), where they are not included in GDP.

The 19th Conference of Labour Statisticians, convened by the ILO and the leading authority for measurement issues in the field of labour, decided in 2013 to go a different route. On the one hand, it created an expanded definition of *work* that now included, as demanded, own-use production work of services (e.g. care and housework) in this definition (ICLS, 2013).

On the other hand, it created a new definition of the *labor force* which is narrower than previously. In particular, this definition now excludes subsistence farmers, i.e. those who produce products for own use. Since many subsistence farmers end up selling a part of their output, the boundary of the labour force is now the 'intended main use': "'for own final use" is interpreted as production where the intended destination of the output is *mainly* for final use by the producer in the form of capital formation, or final consumption by household members, or by family members living in other households: (i) the intended destination of the output is established in reference to the specific goods produced or services provided, as self-declared (i.e. mainly for own final use); (ii) in the case of agricultural, fishing, hunting or gathering goods intended mainly for own consumption, a part or surplus may nevertheless be sold or bartered.' (ICLS, 2013, 5)

Thus a statement of self-declared intentions is now a crucial boundary between being in and out of the labor force. This is not a minor change. Particularly in Sub Saharan Africa, a substantial share of the population, many of them women, is primarily involved in food production mainly for own use. Depending on how the boundary of intentions is applied in practice, it could lead to a sharp drop in overall and particularly female labor force participation rates in Sub-Saharan Africa.

While the expanded definition of *work* is welcome and regular data in labor force surveys on this expanded definition would allow much useful analysis (which is currently only partly possible with irregular time use surveys), the narrowing of the definition of the *labor force* is deeply problematic for three reasons. First, it is going to be very difficult to generate accurate, consistent, and comparable statistics on this definition of the labor force in poor countries where subsistence production plays an important role. In particular, it will be hard to get consistent data on intentions from farmers. These intentions might change over the year, depend on how crop volumes develop during a season, and are likely to be interpreted differently in different contexts. Making the boundary of the labor force to depend on a subjective (and ill-defined) intention appears deeply problematic.

¹ Including those who are temporarily absent from their job.

² In addition, unpaid trainee work, volunteer work (outside the household) and volunteer work producing goods inside the household is also included in the labor force. A difficulty is that in cases where the output does not have market price (e.g. volunteer work in a homeless shelter), these activities are valued only with the remuneration paid (in cash or kind), thereby undervaluing these activities in the SNA (and thus in GDP). More details can then be included in Satellite Accounts (UN, 2008).

Second, this change will lead to two critical inconsistencies. The first inconsistency concerns labor statistics themselves. As the labor force is now defined more narrowly and no explicit attempt is made in the resolution of the ICLS to continue generating data on the labor force also using the old definition, this will lead to an inevitable break in the series of labor force participation rates, particularly in low-income countries. Depending on the detail of survey instruments, it may be possible to recover the old definition from the micro data in some cases, but this is going to be time-consuming and often inconsistent.³ Moreover, and equally problematic, this narrow definition ends the correspondence with the SNA. The output of subsistence farmers will continue to be included in the SNA and GDP, even though the people producing it are no longer in the labor force. As a result labor productivity statistics overall, and within subsistence agriculture in particular, will suddenly jump up, as measured output is produced by non-measured workers.

Third, it will lead to misleading data on the sectoral distribution of employment. Subsistence farmers, who work mostly on subsistence production but put in a few hours of off-farm work will now be categorized according to their minor off-farm work instead of their main on-farm work.

Fourth, from a gender perspective, this is serious step backward. This narrowing of the labor force has succeeded in rendering a substantial amount of female labor invisible. This is exactly the opposite direction that needed to be taken from a gender lens.

Countries and institutions are slowly starting to grapple with this change. It appears that, to date, labor force surveys are still using the old definitions. Maybe there will be a way to stop this reform from being implemented as it clearly has more drawbacks than advantages. In the following I will rely on the old definition.

Before proceeding it is important to highlight not only problems with the definition of FLFP, but also data reliability and consistency problems more generally. The ILO provides two sets of data on female labor force participation. One is tabulating the results from irregular labor force surveys as they are provided to them. These data show huge gaps in country and time coverage as well as unexplained jumps and discontinuities in series. The second are ILO modeled estimates which are available essentially for all countries and time periods since 1990. The details of how this modeling works is unclear.⁴ To illustrate the problems with both data sets, consider the particularly egregious example of female labor force participation rates for prime-age women (25-54) in Bangladesh (Figure 1). The labor force surveys, as reported by the ILO, show that the rate fell from 66% in 1991 to 37% in 2013. The fall happens mostly between 2000 and 2003 when FLPR tumbles from 62% to 26%, clearly an incredible drop that cannot be due to real changes on the ground. The simulated estimates then present a smooth decline of FLPR from 65% in 1990 to 50% in 2015, disregarding the obvious problem associated with the break in the series. A paper published by the ILO on Bangladesh, based on the *same* labor force surveys, reports that the FLPR of women 15+ went up continuously from 14% in 1990/91 to 36% in 2010, and also participation in the 25-54 bracket went up by 25 percentage points (from about 16% in 1995 to over 40% in 2010, Rahman and Islam, 2013, see Figure 1). The literature on Bangladesh generally also reports rising female participation (see Rahman and Islam, 2013), although such a dramatic increase in such a short period of time appears also highly unusual. Apparently, these glaring inconsistencies are not investigated and corrected in the ILO databases and the modeled estimates do not appear to solve this problem either. Moreover,

³ The resolution also calls for (in later paragraphs) collecting data that ensure consistency over time and with the SNA boundary but it is unclear whether this will be implemented or whether surveys will focus mostly on the new definition of employment.

⁴ See http://laborsta.ilo.org/applv8/data/EAPEP/v6/ILO_EAPEP_methodology_2011.pdf for some limited discussion of the methods used. A new version is currently being produced.

different versions of these modeled estimates have led to substantial revisions of data points for the same country and year (Gaddis and Klasen, 2014). In my descriptive exposition, I will rely mostly on the modeled estimates below but one should note that they should be treated with some caution, esp. regarding individual country experiences.⁵

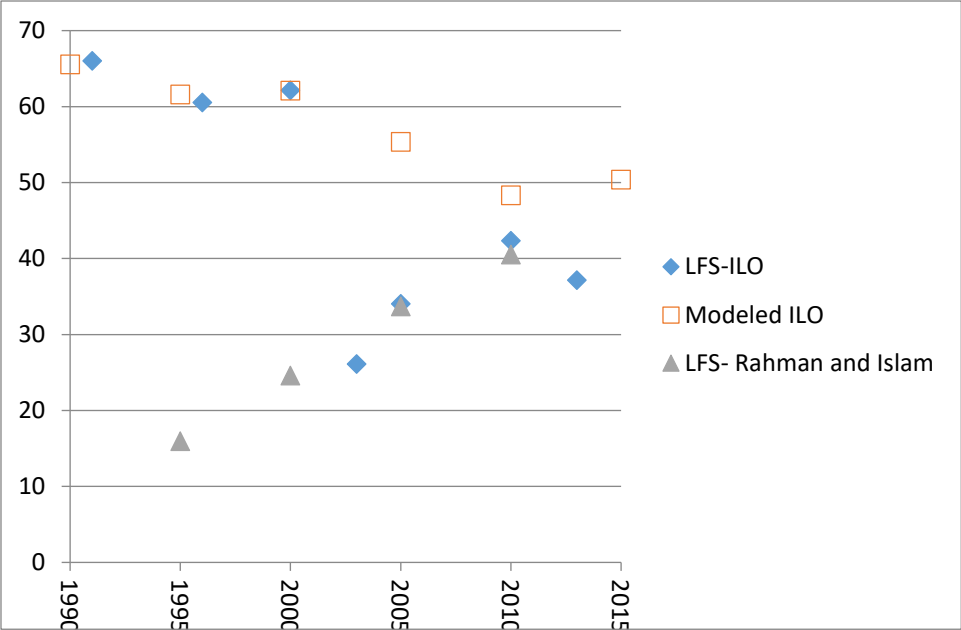
3. Trends in female labor force participation rates and its presumed correlates

Three trends in the past two decades should have promoted female labor force participation in developing countries. First, the developing world witnessed an unprecedented fertility decline. As shown in Figure 2, in all regions except Sub-Saharan Africa fertility declined to levels below 3 per woman by 2010. The recent pace of decline in some regions, most notably the Middle East and North Africa (MENA) and South Asia is astounding, as were earlier reductions in East Asia. This reduction has freed up women's time spent with being pregnant or caring for a small child substantially, enabling greater labor force participation.

Closely related has been a second trend, the closing of gender gaps in education in developing countries. Figure 3 shows the female-male ratio of gross secondary enrolment rates. The ratios have approached unity in all regions, with Sub-Saharan Africa lagging behind a bit. In some regions, including Latin America and East Asia they have reached unity as both female and male rates approached 100%, while in MENA and South Asia they reached parity on enrolment levels of above 80, and 65%, respectively. At the tertiary level, the ratio is above 1 in most developing regions (Klasen, 2017). This expansion of female education surely facilitated fertility decline and thus enabled greater female participation, but it should also have strongly promoted female labor market opportunities directly.

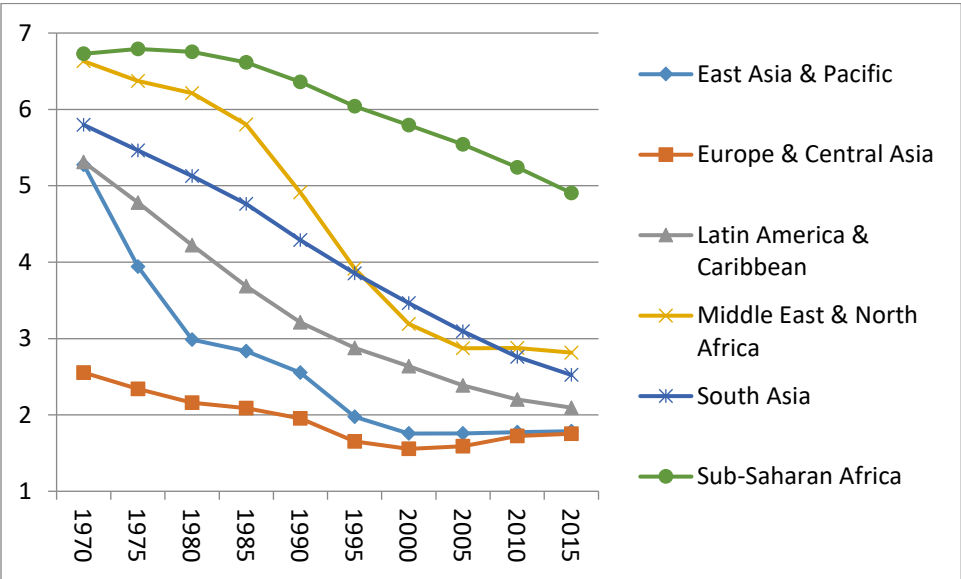
⁵ It appears that the Bangladesh example is a particularly egregious outlier, while a cross-validation of some of the estimates for other countries appear to be much more consistent.

Figure 1: Female labor force participation 25-54 in Bangladesh, three estimates



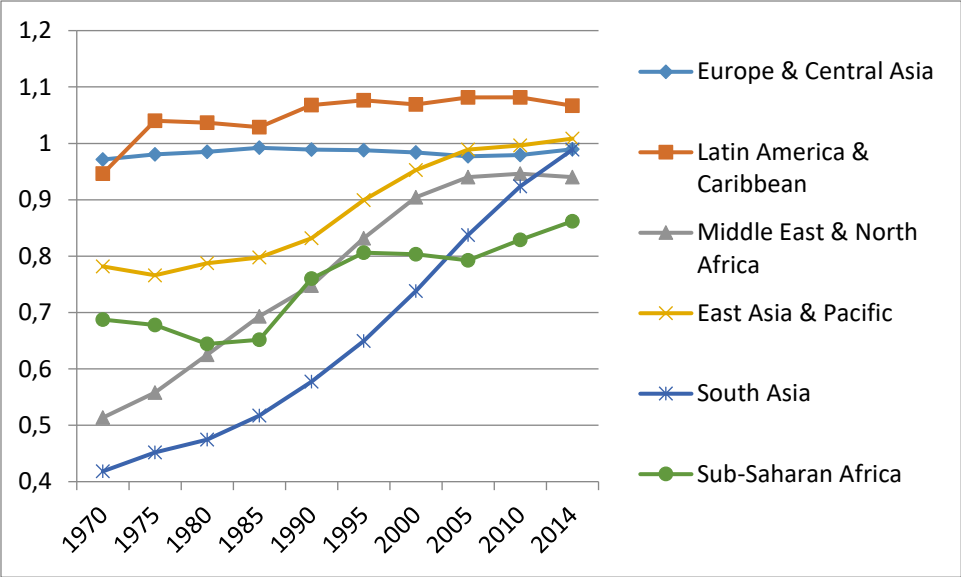
Source: ILO online database and Rahman and Islam (2013).

Figure 2: Total Fertility Rate by Region, 1970-2015



Source: World Development Indicators

Figure 3: Female-male ratio of gross secondary enrolment rates, 1970-2014



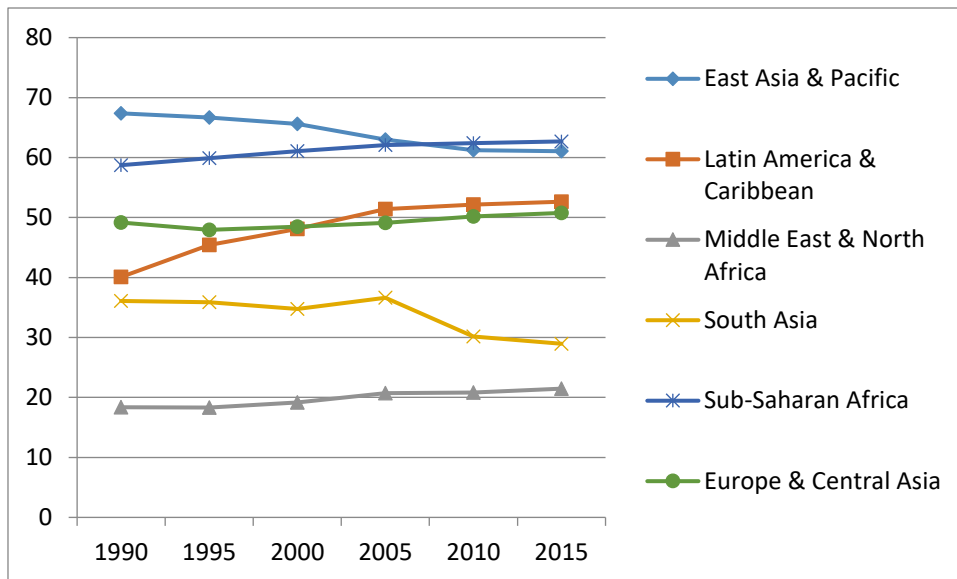
Source: World Development Indicators

The third trend was high per-capita growth rates in developing regions. Since at least the mid-1990s, per capita growth rates in most developing regions were above 2% per year, in some regions, including South and East Asia, higher than 3-4 % in most years and most countries. Such high growth rates should boost labor demand and particularly boost female participation as male participation rates already were very high.

But instead of seeing universally rising trends, the trends in female labor force participation rates are highly heterogeneous. Figure 4 shows FLFP among women 15+. Only Latin America shows a strongly rising trend. It rises particularly strongly until 2005 after which the rate of increase slows down.⁶ Conversely, in East Asia and South Asia, FLFP is falling and in the MENA region is rising very slowly from a very low base.

⁶ See Gasparini and Marchionni (2017) for a detailed assessment of trends and drivers of female participation rates in Latin America which also notes a deceleration in the rate of increase after 2000.

Figure 4: Female labor force participation rates, age 15+



Source: World Development Indicators

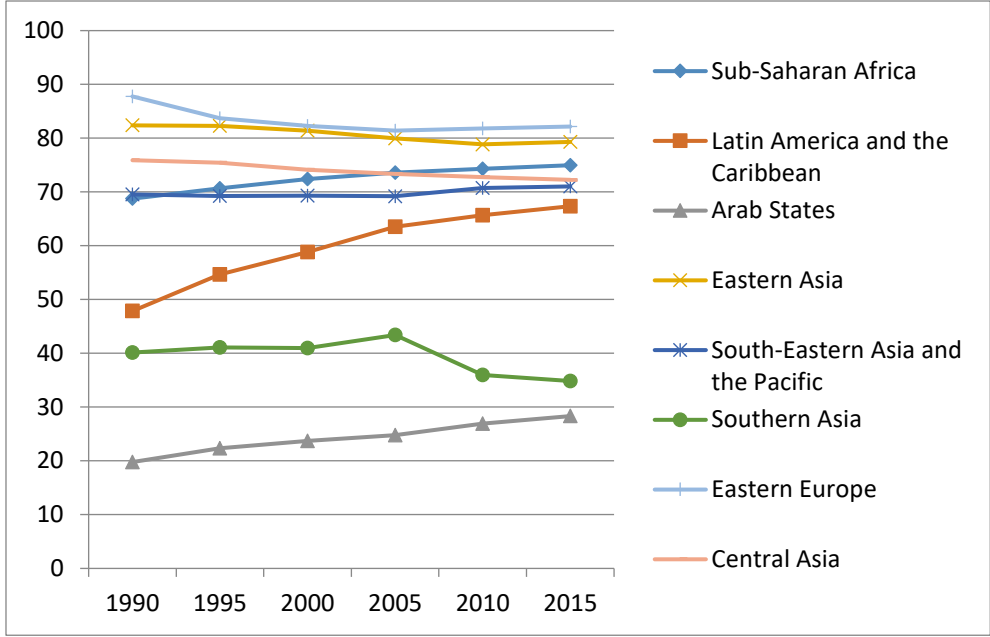
FLFP among women 15+ may be influenced by extensions of education and retirement. Therefore, Figure 5 looks at the prime age working group (25-54). The story is quite similar though. In Latin America and the Caribbean we have a strongly rising trend (again decelerating after 2005), and participation rates are also rising moderately in Arab States (essentially MENA) from a low level and in Sub-Saharan Africa from a high level, while they are stagnating in East and South East Asia and falling (from a high level) in Eastern Europe and Central Asia, and falling from a low level in South Asia. In the same time period, male labor force participation rates in this prime age group were invariably above 90% in all regions, with little discernible trend.⁷ As discussed in the last section, the high rates of participation in Sub Saharan Africa might fall substantially once the new definition of the labor force is implemented; it may also affect levels to a smaller degree in other regions. How it will affect trends is hard to predict.

These trends do not match expectations related to trends in income, fertility, and female education. Only in Latin America and the Caribbean do we see the expected increase. In most regions rates among prime age women seem to converge to a rate between 70-80%, substantially below male rates which are above 90% in this age group in all regions. But more puzzling is the very low response of FLFP in MENA to massive fertility decline and massive expansion of female education. And most surprising is the fall in FLFP rates in South Asia, driven particularly by trends in India, which also occurred alongside falling fertility and rising female education. Clearly, these presumed determinants of FLFP did not play the expected role and we need to study why this might be so.

Apart from these puzzling trends, the substantial differences in levels are also remarkable, and are not closely related to trends in female education, fertility, and income levels. On the one hand, we have high FLFP in Sub-Saharan Africa despite relatively low female education, high fertility, and low incomes. On the other hand, we have rather low FLFP in South Asia and MENA, despite rapid fertility decline. Of note are also the very high participation rates in Eastern Europe and East Asia.

⁷ In broader age groups (e.g. 15-64), male participation rates have been falling due to early retirement, extended education, and slow school-work transitions.

Figure 5: Female labor force participation rate, age 25-54



Source: ILOSTAT

4. A Feminization U?⁸

One of the key hypotheses that has emerged regarding trends in FLFP in developing countries is that there is a U-shaped relationship between female labor force participation and economic development, the latter typically being proxied by GDP per capita. As the economy moves from an agrarian society with close linkages between household and market production to an industrial and services-based formal economy, female labor force participation rates fall. Spurred by structural change as well as increases in education and declining fertility, female economic activity increases again in later stages of development. This hypothesis dates back to the 1960s (Sinha 1967), and has become a ‘stylized fact’ in the development economics literature, often called the feminization U hypothesis.

The theoretical underpinning of the feminization U hypothesis linking development and female labor force participation is the following (Goldin 1990, 1995): Early in the process of economic development, when incomes are very low and much of the population earns a living from agriculture, most women participate in the labor force. Fertility rates are still high; yet most women work on family farms or in household enterprises, which allows them to combine economic activity with child-rearing. This could, for example, explain Sub-Saharan Africa's high female labor force participation rates. As the society becomes richer, the structure of the economy shifts towards industrial production and a formal sector-based economy emerges, which tends to lower women’s participation in the labor market.⁹ Due to low levels of female education and the incompatibility of wage work with child care as well as socio-cultural restrictions on female employment outside of the home, women are not able to benefit from the emerging opportunities in industry and other formal

⁸ This section draws on Gaddis and Klasen (2014).

⁹ At the very early stages of industrialization, young unmarried women (and children) may play a significant role in the nascent industrial sectors, as they did in Britain in the late 18th century. But as industrialization proceeded, women’s employment in these sectors became increasingly rare, replaced by male workers who often were able to get better employment conditions and wages. For a discussion, see Marglin (1974) and Humphries (1991).

sectors; this is especially the case for married women with children so that female employment often terminates after marriage or the birth of a child. This may be re-enforced by social stigma and even formal restrictions against female industrial workers or, more generally, formal employment outside of the home of married women (Boserup 1970; Goldin 1995). This may be particularly relevant in sectors where heavy manual labor is required (such as construction, mining, etc.).¹⁰ In addition, and consistent with basic labor economic theory, the overall increase in productivity and family earnings (earned mostly by the male household head) has a negative income effect on female labor supply.

As the society develops even further, female labor force participation increases once again. The expansion of post-primary education among females and the emergence of a white-collar service sector offer new, attractive employment opportunities for women, which are not subject to stigmatization (or the stigmas and restrictions erode over time). Moreover, the decline in fertility, the increasing availability of part-time jobs and greater access to child care facilities enable women to combine work outside the home with raising children. At this stage of development, the substitution effect linked to much higher potential female wages dominates the income effect, and female labor force participation is positively related to per capita income (Psacharopoulos and Tzannatos 1989; Goldin 1990, 1995; Mammen and Paxson 2000). This could, for example, explain the rising FLFP in Latin America.

While this hypothesis is plausible, and may explain some trends, inspection of levels and trends in Figures 3 and 4 suggest that this cannot possibly be the whole story. First the falling rates, from high levels, in middle-income developing regions such as East Asia, Central Asia, and Eastern Europe is unexpected as these countries should be on the ascending portion of the U. Second, the falling trend in South Asia is taking place while fertility is declining and female education is expanding, both associated with the ascending portion of the U. Lastly, the level differences in FLFP are unlikely to be related to the position of countries along the U. For example, middle-income MENA countries have much lower FLFP than middle-income Asian or Latin American countries. But these empirical issues can be tested formally to which I now turn.

Most of the earlier empirical assessments of the feminization U hypothesis were based on simple cross-sectional correlations between the female labor force participation rate and GDP per capita; the results typically confirmed the U-shaped relationship (e.g. Psacharopoulos and Tzannatos 1989; Clark, York and Anker 2003). Among the most well-known and meticulous analyses in this category is the work by Goldin (1990, 1995), who combines cross-sectional regression analyses based on data from 1980 with a historical case study of the United States. Her results also support the notion of a U-shaped relationship between female labor force participation and economic development. Another study that tests the feminization U hypothesis in a cross-sectional context is the work by Çağatay and Özler (1995). Even though the authors have data for two points in time (1985, 1990) they do not exploit the panel feature of their data but pool observations for both years and regress women's share of the labor force on log GDP per capita, its square, and other independent variables. The results reject the notion of a U-shaped relationship, as the parameter estimate for log GDP per capita turns out to be positive, and the estimate for log GDP squared negative.¹¹ However, the authors mistakenly claim that their findings were in support of the feminization U hypothesis.

¹⁰ Of course, agriculture also includes heavy manual labor. But if men and women share agricultural tasks, this may be no barrier to female participation if men then do the heavy manual labor (e.g. land clearing, plowing with heavy implements, etc.). Outside of the home, such sharing of tasks is generally not feasible.

¹¹ These results point to an inverted U, rather than a U-shaped relationship. Since both parameters are significant, the feminization U hypothesis could be rejected at a conventional significance level.

Thus, similar to early tests of the Kuznets hypothesis, these early articles use cross-sectional data to test a hypothesis for a time-series relationship within a country, thereby implicitly assuming that the only reason for the cross-sectional differences in female labor force participation derives from their different stages of development (rather than different initial conditions). The failure to find a Kuznets curve using trends within countries (or panel fixed effects models) shows the pitfalls of this assumption (see Bruno, Ravallion, and Squire 1996; Deininger and Squire 1998).

Mammen and Paxson (2000) use data for 90 countries from 1970 to 1985 (in five-year intervals) to trace out the relationship between economic development and female labor force participation. First, they re-assess the cross-sectional relationship by means of a non-parametric regression of women's labor force participation on the log of GDP per capita. The results confirm a U-shaped pattern for each of the four time periods presented. Next, they run a parametric regression of female labor force participation on log GDP and its square, with and without a set of country-specific fixed effects. The fixed effect model generates a considerably more muted U-shape than the OLS model, though it still appears to confirm the feminization U hypothesis. However, the paper only uses a relatively short period of data (15 years) and does not use dynamic panel methods, which can address some of the problems inherent to the static model. Moreover, the data base for the panel analysis (the 3rd version of the United Nations' WISTAT database, with labor force estimates until 1985) is by now clearly outdated.

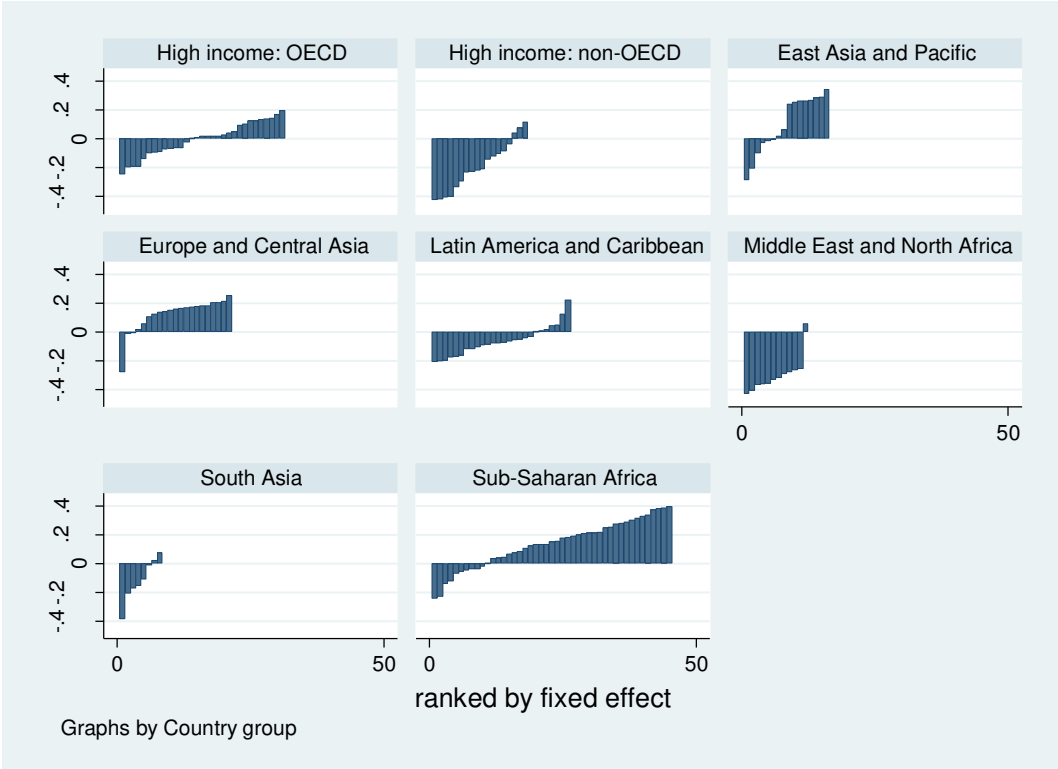
More recently, studies by Luci (2009) and Tam (2011) analyzed the relationship between female labor force participation and development using both static and dynamic panel methods. They argue that the feminization U hypothesis also has support within countries over time; some of the identified turning points appear, however, to be peculiarly low. Similarly problematic is that both authors seem to use labor force participation rates from the 4th or even earlier versions of the International Labour Organization's (ILO) EAPEP database, but do not take into account the more recent revisions of the data (see discussion below). In addition, Tam (2011) uses the 5.5 revision of Penn World Tables from 1993, which is by now clearly outdated. Another shortcoming is that the authors do not discuss the potential endogeneity of GDP, even though the dynamic estimators would allow addressing this issue. In general, the current empirical literature testing the feminization U hypothesis suffers from a lack of sensitivity analyses.

To remedy these short-comings, Gaddis and Klasen (2014) thoroughly analyze the feminization U hypotheses, using different versions of the labor force and income data, and relying on advanced panel models accounting for endogeneity of GDP. They show that empirical support for the feminization U hypothesis hinges on the data used for the assessment. Particularly the periodic updates of international purchasing power parity (PPP) estimates and Penn World Table (PWT) GDP data have a large effect - while there is little support for the feminization U based on PWT 6.3 the U-shape re-emerges under PWT 7.1. The nature of the relationship is also heavily affected by the versions of the ILO database on female labor force participation, where past and present estimates are regularly revised. Moreover, the U-relationship tends to vanish if we use dynamic instead of static panel data methods. Given this dependence of the results on data revisions and methods, they conclude that the evidence for the feminization U as a secular trend of the development process is feeble and not robust. Second, they show that even in the cases where a U is empirically supported, it is so shallow that it cannot explain a substantial share of the differences in levels and trends of female labor force participation rates across the world. Instead they find that initial conditions, factor endowments, and historical contingencies (captured by studying the fixed effects in our regression framework) are much more important determinants of female labor force participation rates across the world than the secular pattern presumed by the U. This can be shown in Figure 5, reproduced from their paper. For example, in MENA, these fixed effects amount to -30 to -40

percentage points, suggesting that FLPR are 30-40 percentage points lower than predicted by the feminization-U. Conversely, in many countries of Eastern Europe, and Central Asia, East Asia, as well as Sub-Saharan Africa, FLPR are more than 20 percentage points higher than predicted by the U.

Third, they argue that the effect of economic development on women’s labor force participation is more complex than it is supposed by much of the existing empirical literature. In fact the feminization U hypothesis is based on the notion of economic development as a process of profound structural change and socio-economic transformation, forces that are not well captured by the level of GDP, not even under a non-linear relationship, and that depend on the country-specific nature of the growth process. Substantively, they hypothesize that particular patterns of structural change are important drivers of female labor force participation and thus could support one of the key mechanisms underlying the feminization U hypothesis. They therefore directly assess the effect of disaggregated sectoral growth on female labor force participation. By exploiting information on sector-specific growth they can allow for various non-linearities and the differential impact of growth on female labor force participation across countries at different stages of the development process without relying on cross-country GDP comparisons. The sectoral perspective advocated for in this section is also much closer to the original idea of the feminization U hypothesis, which emphasized structural change as a key driving factor of women’s economic activity.

Figure 5: Country-Specific Fixed Effects by Country Group, 1980-2005



Notes: Fixed effects regression based on EAPEP 5th revision and PWT 7.1 (1980-2005) – women 25 to 59 years (see table 2). World Bank country classifications as of November 2011

Sourc: Gaddis and Klasen, 2014.

They find that agriculture, mining, manufacturing and services are associated with different dynamics for female labor force participation, but the effects are in most cases quantitatively small and cannot explain the heterogeneous changes in women’s economic activity observed in most developing countries over the past decades. They therefore conclude that there is little empirical support for the feminization U as a secular trend of the development process, although there is some evidence

that patterns of structural change are affecting female participation rates in ways consistent with the hypothesis.

The non-robustness of the feminization U also appears in country studies. Lahoti and Swaminathan (2016) investigate the feminization U hypothesis for the Indian case using a state-level analysis, and find little support for a U shape of female participation there.

The failure of the feminization-U hypothesis to be a robust empirical regularity is not surprising. The mechanisms that might generate a U are playing out with different speeds across countries. In many countries, mechanisms associated with the declining portion (e.g. structural change away from agriculture) co-exist with mechanisms associated with the rising portion (e.g. fertility decline) at the same time. Second, other factors, including policies, macroeconomic conditions, and trade can all have implications for FLPR, interacting with or overwhelming mechanisms associated with the feminization U. Moreover, it is likely that deep historical determinants of female labor force participation exhibit substantial persistence and can help explain the large level differences which appear to dwarf most temporal trends.

Thus the heterogeneous developments in female labor force participation are much more complex than the feminization-U suggests and need to be discussed in some detail, to which we now turn.

5. Drivers of female labor of participation levels and trends

When studying the drivers of female labor force participation, it is first important to discuss the sources of the huge and mostly rather persistent level differences which seem to be the most important driver of differences in female labor force participation in most developing countries.

a) Levels

Four recent studies suggest alternative origins of large differences in female labor force participation rates. These studies take a global perspective, also including industrialized countries in their assessment of level differences in female participation. To begin with, Alesina et al. (2013) revive Boserup's (1970) thesis that the participation of women in pre-industrial agriculture differed significantly between plow-using and plow-free cultivation systems. The plow constituted a gender-biased technology as it required more upper body strength than alternative tools, such as the digging stick or the hoe. As a result, in societies that adopted the plow, women reallocated their time away from farming towards domestic activities. This labor division along gender lines became gradually encultured into enduring norms. Alesina et al. show that the fraction of a country's population whose ancestors practiced pre-industrial plow agriculture is negatively correlated with contemporary female participation in the labor force, (as well as female participation in politics and corporate ownership).

In contrast, Hansen et al. (2015) argue that the transition from humans' original foraging lifestyle to sedentary agriculture as such is the driver of pre-industrial disparities in gender roles, no matter what particular cultivation methods have been used. As these authors suggest, the earlier the transition to sedentary agriculture happened, the more intense the cultivation methods became thereafter. Intense methods of cultivation generate a demand for cheap mass labor, which in turn increases the fertility pressures on women. As a consequence, women reallocate their time from fieldwork to raising children and other indoor activities related to caretaking. Societal beliefs about gender roles then incrementally evolved in support of this labor division. Accordingly, societies with longer histories of agriculture had more time to enculture patriarchal values in their moral systems. Indeed, Hansen et al. show that longer histories of agriculture are negatively correlated with female participation in the labor force, (as well as other gender gaps). The correlation remains significant even after controlling for ancestral plow use, which retains its significance.

The third study by Hazarika et al. (2015) argues that historic resource scarcity shaped cultures of gender discrimination. The authors cite archaeological sources that link resource scarcity to gender inequality in prehistory. These prehistorical differences in resource scarcity gave rise to a culture of gender discrimination. The authors measure historic resource scarcity by limitations of arable land and show that these limitations are negatively correlated with present-day measures of UNDP's gender inequality index, where gender gaps in labor force participation are one component.

All three studies particularly emphasize the difference between the Middle East and North Africa and South Asia on the one hand as areas where conditions were generally unfavorable to women's labor, with Sub Saharan Africa and Europe and North America where conditions were more favorable.

Santos-Silva et al. (2017) emphasize a different deep driver of differences in female labor force participation. They argue that people living in areas characterized by a so-called pre-industrial 'cool water condition' (which combines frosty winters, mild summers, and perennial availability of fresh water) reduced fertility pressure in those regions, leading to late female marriage ages and more egalitarian marriages which helped promote female labor force participation during industrial and post-industrial stages. They show that the 'cool water condition' explains pre-industrial female marriage ages which in turn affect female labor force participation today. These effects retain their significance even after controlling for plough use, agricultural transition, and agricultural suitability. This study particularly emphasizes the advantages for female employment in Europe, North Asia, and North America, compared to the Middle East, tropical and sub-tropical Asia and Africa, where the absence of cool water lead to early and universal marriages with high fertility regimes which severely curtailed women's option, independence, and opportunities.

The argument of these papers is that these deep drivers of the sexual division of labor are transmitted over time through institutions and values and are even travelling with migrants. For example, Alesina et al. (2013) as well as Hansen et al. (2015) show that differences in the background of immigrants to the US shape their values and affect their labor force participation. This relates to work by Fernandez (2007) and Fernandez and Fogli (2009) who show that values of sending countries affect female work participation among immigrants to the US. Similarly, Santos-Silva et al. (2017) emphasize female marriage ages and marriage patterns as key institutional transmission channels.

Apart from these four deep geo-historical drivers of women's economic opportunities, other scholars have emphasized the role of religion, often citing Max Weber's (1905) influential work on the link between Protestantism and capitalism. Feldman (2007) argues that female labor force participation is significantly higher in countries shaped by Protestantism compared to those dominated by other religious convictions. Guiso, Sapienza and Zingales (2003) use the World Value Surveys and show that all religious denominations (in comparison to atheist beliefs) are associated with more conservative attitudes towards women's work, but the effects are strongest for adherents of Islam. However, there is controversy whether low levels of female labor force participation in Middle Eastern and North African countries are primarily related to deep-seated cultural values and religious beliefs (Norris 2010) or the region's economic dependence on oil exports, which influence family earnings and women's bargaining position and crowd out female-intensive tradable sectors (Ross 2008). As the examples of Indonesia and West African countries suggest, Islam is perfectly compatible with high levels of female labor force participation.

The verdict is still out on which of these five deep drivers play a larger role in affecting level differences in female labor force participation rates cross the world, but all of them suggest that these effects are important and persistent. All of them essentially concur on a range of factors militating against female labor force participation in the Middle East and North Africa as well as South Asia. In the Middle East and North Africa, the distortions associated with oil dependence can

be a further barrier. Thus it is not so surprising to see low participation rates there as well a range of cultural and institutional barriers towards female employment. Conversely, most of these theories suggest more favorable conditions for FLFP in Sub-Saharan Africa, Europe, and areas of European settlement. Of course these barriers for female employment should not be seen as insurmountable restrictions, but they can explain low levels and possibly also little change over time.

Apart from these long-lasting determinants, shocks can seriously affect female labor force participation rates. The most important shock with a strong (and lasting) impact on female labor force participation rates has been socialism. As is already clear from Figures 3 and 4, countries that were under socialist rule (e.g. Eastern Europe, Central Asia) have much higher female labor force participation rates. This also shows up econometrically: In Alesina et al. (2013) the conditional effect of a communist legacy is a highly significant 7 percentage point higher FLFP rate aged 15-64 (from a sample mean of 51%), 10 years after the end of communism. This is not only true of former communist states, but of states still ruled by socialist parties, including China, Vietnam, Laos, and Cuba. In fact, many of the high positive fixed effects (esp. in Eastern Europe and Central Asia as well as East Asia) are from current or former Socialist countries (Gaddis and Klasen, 2014). And while Figure 4 suggests that the effect of the socialist shock dissipates after the end of socialist regimes, FLFP rates remain high in former Socialist countries, including the socialist part of Germany. Socialism promoted female employment in two ways. First, it strongly promoted an ideology of gender equality, also reflected by legal changes towards equality, universal schooling, and policies to promote the compatibility of employment with having small children (Klasen, 1993). Second, the persistent labor shortages associated with inefficient production in state-owned enterprises and collective farms necessitated more workers. Drawing more women into the labor force was therefore essential for socialism's extensive growth model (Kornai, 1992).

A second shock often associated with promoting female labor force participation is war. In particular, the experience of war-time labor shortages is said to have permanently increased women's employment opportunities in warring nations, including the US, Britain, France, etc. (Goldin 1991; Fernández, Fogli and Olivetti 2004). Kreibaum and Klasen (2015) find that high male casualties in the Vietnam War boosted female employment significantly. Interestingly, the effect of a longer socialist legacy in North Vietnam outweighed the effect of war, at least in this case.

Given the deep historical drivers as well as the effect of shocks, it is not surprising to see such large level differences in FLFP across the developing world. This also should serve as a warning that quick changes that have to work against strong historical barriers are unlikely. But level differences are only part of the story. We also need to understand trends to which I now turn.

b) Trends

In order to study determinants of trends, we rely mostly on micro studies that have estimated reduced form models of female labor force participation for different years, using labor force and living standards measurement surveys. We have own studies or rely on other studies for India, Bangladesh, Sri Lanka, Vietnam, Brazil, Bolivia, Jordan, South Africa, and Indonesia. They are reduced form in the sense that they tend not to estimate an own wage effect as identification of such an effect is difficult and often not robust to different identification strategies (Klasen and Pieters, 2015). These models typically include own and partner's education, other household income, age, presence of children and other dependents and sometimes local labor market indicators (e.g. unemployment rate or sectoral structure of employment). Of course, such analyses are not available for many countries. Also, such models are hard to estimate for rural areas where it is close to impossible to estimate other household income (as most income is derived from self-employment in agriculture which cannot easily be ascribed to members), and where the distinction between women being

predominantly unpaid family helpers on a farm or being predominantly carer for children can be fluid. As a result, some of the studies focus on urban areas; those that include the entire country have at least to contend with the problem that the own income effect is biased upward as employed women contribute to higher household income. We will not discuss the individual studies, but focus on key findings on common drivers which are also summarized in Table 1.

Finding 1: A considerable share of women work because they must do so due to high poverty of the household; they leave these jobs when they can afford to;

Many women appear to be reluctant participants in the labor force. On the one hand, this can be seen by the link between education and labor force participation which is often U-shaped, with high participation rates at the very low end (women with no or very few years of schooling) as well as the very high end (women with completed tertiary education). In India, Jordan, and Sri Lanka such a U is visible and it tends to remain significant when controlling for covariates (Klasen and Pieters, 2015; Klasen et al. 2017; Sorsa et al. 2015; Seneviratne, 2017, Table 1); it is particularly strong in India and Jordan. As women get from low to medium levels of education, it appears they want to get out of employment they were forced to do to make ends meet. Over time the U has gotten more shallow in India, Sri Lanka, and Jordan; in Sri Lanka it becomes insignificant.

This U can easily explain stagnating or falling trends in female labor force participation. The strong educational expansion we have seen has shifted many women to the levels of education (e.g. some secondary or completed secondary education) associated with the lowest labor force participation rates. This would, of course, imply that further educational expansion will serve to boost FLFP as women move to education levels associated with high participation.

The link between education and labor force participation can also explain some differences in trends between countries and regions. First, countries differ in their educational expansion. In Latin America and the Caribbean and East Asia, the recent educational expansion has strongly increased female university graduates who are much more likely to work (Gasparini and Marchionni 2017). Second, in some countries, female labor force participation is rising uniformly with education so that the education expansion will unambiguously increase female participation. Klasen et al. (2017) find this to be the case in Brazil, South Africa, and Vietnam, and Rahman and Islam (2013) find this to be the case in Bangladesh. Why this relationship can differ so much we will discuss below.

A second piece of evidence pointing to poor women to be reluctantly pushed into the labor force are the effects of other household income on female participation (Table 1). Women reduce their labor market participation if household income (typically earned by males) rises, as the 'need' to work lessens. A negative effect of other household income is, of course, nothing surprising and comes straight out of the basic labor-leisure choice in a labor supply model. But the strength of the effect and its development over time points to women's labor market attachment. In many OECD countries, the income effect has gotten smaller over time, suggesting a stronger women's attachment to the labor market irrespective of their family situation. In India, Sri Lanka, Bangladesh, and Bolivia there is a sizable negative income effect. In India and Sri Lanka, it is falling moderately, while it is stable in Jordan, Vietnam, and Bolivia. Interestingly, in Brazil and South Africa, it is small to begin with and disappears entirely over time; in fact, in Brazil it becomes positive and significant (Table 1). On this evidence we see that at least Brazil and South Africa stand out with a stronger female attachment to the labor force, irrespective of family conditions.

Third, the effect of fertility on female labor force participation is less clear than expected and also points to poor women being compelled to work due to poverty. Here causal evidence by Priebe

(2017)¹² from Indonesia actually shows that fertility decline led to *lower* female labor force participation rates particularly among poorer, rural, and less educated women who now have a lesser need to work to feed their family. Thus fertility decline need not promote female labor force participation if poorer women react by reducing their labor force participation in response to fertility decline. More generally, the correlation between the presence of young children and female labor force participation tends to be negative in developing countries but relatively small and mostly applies to younger children (Table 1). As a result, fertility decline is contributing less than expected to increasing female labor force participation rates; the mechanism identified by Priebe (2017) may be one reason for this.

Fourth, women's labor force participation rates appear to be strongly counter-cyclical and increase substantially in times of crises, receding in better economic times. This has been found in comparable cross-country work (e.g. Bhalotra and Umana-Aponte, 2010, Bhalotra, 2010), but also shows up in Priebe (2017) who shows how FLFP surged during the Asian financial crisis in Indonesia, and fell afterwards. It is also argued in Gasparini and Marchionni (2017) that the slow-down of the rate of increase in female participation in Latin America after 2000 is partly due to the economic boom enjoyed by most Latin American countries.

These findings suggest overall that many women, esp. poorer ones, are reluctant participants in the labor market. They enter when it is necessary, but withdraw when it is affordable. But substantial regional differences exist in this behavior. Taken together, women in Brazil, South Africa, and Vietnam (and maybe in other similar countries in their regions) have a stronger labor market attachment that is less dependent on the family situation. This of course could then explain the much higher and rising female participation there. In the Middle East and North Africa as well as South Asia, women's attachment is generally weaker but also here are important differences. In Bangladesh, there is evidence for greater labor market attachment, followed by Sri Lanka, while in India, labor market attachment, particularly among everyone except the very well-educated, is rather low.

One could interpret these findings primarily as preference-driven labor supply decisions by women. But this might be misleading for several reasons. First, the withdrawal of women who do not absolutely need to work to make ends meet may not be their own decision but may in fact be the result of social pressure brought about by husbands, family members, and members of the community (e.g. Barry, 2016). Having a wife that 'needs to work' was also seen as reflecting poorly on a husband's ability to provide for the family in the West before the 1980s, and led to husbands asking their wives to stop working if this was affordable (Goldin, 1991, 1995). Second, their withdrawal may also be related to the social stigma against women's work, particularly for more educated women to do heavy manual labor which we discuss below. Third, it may be related to the very bad working conditions of these poor women who want to escape them as soon as they can afford to. Lastly, it may be the lack of appropriate employment opportunities for women with some education that is leading them to leave the labor force. These issues will be investigated below.

Finding 2: Social stigma against working women matters, but not everywhere

In several regions, it appears that there are important social barriers against female employment in general, and particular forms of female employment in particular. It is hard to identify the nature and strength of the stigma in different countries, but three pieces of evidence point in this direction. One is the role of husband's education in affecting female labor force participation (see Table 1). In

¹² He uses the sex ratio of the first two children as an instrument for whether couples have a third child. So the evidence is particularly focused on the employment effect of moving from 2 to 3 children.

India, higher husband's education has a strong negative effect on female participation, an effect that is also rather stable over time and rises more or less linearly with education (Klasen and Pieters, 2015; Afridi et al. 2016). This is over and above the effect of household income. Decompositions show that this factor is among the most important explaining the stagnation of female participation in urban areas (Klasen and Pieters, 2015), and by far the most important factor when looking at India as a whole (Afridi et al. 2016). It clearly appears that it is a significant problem for better educated men to have working wives in India. Again the differences to other countries are noteworthy. In Bangladesh in 2010, we see the same effect, but it is quantitatively substantially smaller than in India (Rahman and Islam, 2013). Elsewhere, the issue is much less visible. In Sri Lanka, Jordan, and South Africa, education of the husband has no impact on female participation whatsoever (Seneviratne, 2017, Klasen et al. 2017). In Brazil and Vietnam, the negative effect of husband's education declined significantly between 2002 and 2013 and is now unimportant or insignificant (Klasen et al., 2017, Table 1).

A second piece of evidence relates to the sectoral distribution of women by education levels. Women with secondary education and above concentrate in very few sectors, with typically more than 70-80% of working women in urban areas concentrated in white collar services, comprising health, education, public service, and finance and business services (Klasen and Pieters, 2015; Klasen et al. 2017). In Jordan, over 90% of more educated urban working women work in these sectors. The only sector worth noting outside of white collar services is manufacturing which employs a minority of better-educated women, esp. in countries with a sizable manufacturing sector, including Vietnam, Brazil, and Bangladesh.

Among less educated women, the distribution of employment is much wider. A substantial share of less educated urban women work in other services (much of it domestic service) ranging from 40% in South Africa and Vietnam to about 60% in Brazil and Bolivia, a substantial share of them works in agriculture (at the edges of urban areas), with the remainder split among manufacturing and white collar services. And hardly any of both groups work in construction or mining.

A third piece of evidence are attitudes to female employment. Evidence from the World Values Survey suggests that a large and rather persistent share of respondents agree that when jobs are scarce, men should be given preference. The shares are particularly high in Turkey, Georgia, and India (World Bank, 2011).

These pieces of evidence are consistent with a social stigma against working women, particularly among more educated groups, the strength of which again varies by country. For educated husbands, working wives are considered to be a problem in some countries, possibly reflecting badly on their ability to provide for the family. If more educated women do get to work, jobs outside of white collar services are not deemed to be appropriate for them. This then leads to strong and persistent occupational and sectoral segregation (Borrowman and Klasen, 2017).

For poorly educated women and women with poorly educated husbands, these strictures are much less severe, probably due to the urgent economic needs of these poorer households.

Finding 3: Slow growth in jobs appropriate for women reduce female employment opportunities; growth strategy matters

Closely related to the finding above, the strong limitations on types of employment particularly for educated women puts a squeeze on their employment opportunities. In all the countries studied, the supply of educated women has been growing much faster than the overall working age population, as waves of better educated women enter the labor force. Since the jobs deemed appropriate for such educated women, mostly white collar services in the public sector or linked to

population (e.g. teachers and nurses), tend to grow with the overall population, growth in supply of educated women is outstripping demand growth in those sectors. So unless there is a broadening of economic opportunities for more educated women, their participation rates can stagnate and fall. This is precisely what appears to be happening in India and also in the Middle East (Klasen and Pieters, 2015). There are two possible ways out of this dilemma. One is to open up new opportunities in growing sectors of the economy. In countries with high and rising female participation rates, that has invariably involved a growing manufacturing sector that is heavily reliant on female labor. Especially in East Asia, but also in Bangladesh, growth in manufacturing has been a major driver of high or rising female participation rates (Klasen et al. 2017; Rahman and Islam, 2013). At a much smaller scale, growth in highly skilled services can also promote female opportunities for very well-educated, as one sees in Latin America and also in parts of India (Gasparini and Marchionni, 2017; Klasen and Pieters, 2015).

The second way of lifting the constraint is to allow the preferred female sectors, i.e. white collar services, to become increasingly female-dominated, as has happened over time in Latin America, but can also be seen in places with very high female employment such as Scandinavia where health, education, and the public sector is heavily dominated by women (World Bank, 2011; Borrowman and Klasen, 2017). This ensures that sectoral segregation remains very high, but job opportunities for educated women are there. It appears that this second route has been less available in South Asia and the Middle East where women are making smaller inroads into these sectors and occupations. This might be related to strong occupational segregation within those sectors, or the generally strong competition between men and women for these relatively stable public sector jobs in situations of high unemployment.¹³

Finding 4: Education expansion partly unrelated to labor markets

While economists typically think of education as an investment made by individuals (or their parents) to earn returns in the labor market, it appears that the massive expansion of female education in many developing countries was also due to other factors. In the case of India, for example, it would seem unlikely that changes in the labor market returns to education to women were primarily driving the expansion of female education in the 2000s, as female labor force participation was actually stagnating (or falling) and wages for participants did not rise strongly (Klasen and Pieters, 2015). Clearly other factors also play a role.

For one, there was a strong international push for increasing education in general, and female education in particular. Education for all initiatives (e.g. the 1990 Jomtien Education for all Initiative and the MDGs) focused initially on complete primary education but more recent efforts (e.g. the SDG education goals) have also included secondary education. As far as gender gaps were concerned, already the MDGs called for gender parity in primary and secondary schooling by 2005. Apart from these international initiatives, many national initiatives to expand female education were promoted in many contexts. So some of the expansion of female education is surely related to these policy initiatives which increased access and lowered costs to schooling. Households responded to these improved conditions for female education without necessarily changing their views on a later labor market activity of their daughters.

Second, and related to the first point, expanding female education was often seen as valuable in and of itself, quite apart from the benefits it might generate later on. This view of education as an end in

¹³ As discussed, attitude surveys show that a significant share of the population agrees with preferences for men when jobs are scarce. The shares are particularly high in India and Middle Eastern countries (World Bank, 2011).

itself was not only promoted by human development scholars (e.g. Sen 1998; UNDP, 1990), but also by many governments and public actors in developing countries. This purpose of education as an end in itself is also supported when examining types of education chosen by women, esp. at the post-secondary level. Here males and females differ strongly in the chosen subjects, where engineering, sciences, and agriculture are heavily male-dominated, while education, health and welfare, and humanities being heavily female-dominated (World Bank, 2011). Sahoo and Klasen (2017) find for India that these differences persist even when controlling for test scores and have a sizable impact on later labor market opportunities.

Third, returns to education are seen as wider than labor market returns. In the case of women, returns to education in the marriage market can also play a role. For example, as Klasen and Pieters (2015) show, the required education to attract a high-earning and educated spouse has been increasing in India substantially over the past 30 years. Similarly, Afridi et al. (2016) argue that investments in women's education can also be related to non-market returns to female education such as women's role in promoting education and health of their families.

Table 1: Determinants of female participation based on micro-level regressions ca. 1990-2010

	Education U?	Head Education	Household Income	Children
India	Strong U, more shallow over time	Strong negative effect	Strong negative effects, falling slightly over time	Moderate negative effect 0-4, no effect 5-9
Sri Lanka	Shallow U, insignificant over time	No effect	Strong negative effect, falling slightly over time	Strong negative effect 0-4, small effect 5-9
Bangladesh	No U, linear increase	Small negative effect	(Sizable) ¹⁴	Moderate negative effect 0-4
Jordan	Strong U, more shallow over time	No effect	Small stable negative effect	Moderate stable negative effect 0-4, 5-14
Vietnam	No U, linear increase	No effect	Moderate stable negative effect	Rising negative effect 0-4, no effect 5-14
Brazil	No U, linear increase	Sizable falling negative effect, gone by 2009	Small negative, turning positive by 2013	Sizable effect 0-4, small effect 5-14
Bolivia	No U, small linear increase	Small effect appearing after 2008	Moderate stable negative effect	Sizable effect 0-4, no effect 5-14
South Africa	No U, linear increase	No effect	Small negative, insignificant by 2014	Sizable effect 0-4, small effect 5-14

Sources: Klasen and Pieters (2015), Rahman and Islam (2013), Klasen et al. (2017), and Seneviratne (2017).

c) Accounting for regional trends

¹⁴ The regression does not include household income but number of male earners and assets. Number of male earners has a sizable negative effect, assets a small negative one.

These four findings give some clues on the diverging regional trends. At the risk of generalization, I will speculate briefly on the drivers of those trends. Starting with **Latin America**, it appears that a range of factors have been conducive to greater female participation. They include a female education expansion in post-secondary education typically associated with high labor market attachment, continued fertility decline, increasing independence of women's labor market decision from family circumstances, and less of a female squeeze in few white collar services than elsewhere, due to a strongly growing service sector and a sizable manufacturing sector (in some countries) offering opportunities for women.¹⁵

In **East Asia**, it appears that particularly a growth strategy depending heavily on female labor in manufacturing, strong female labor market attachment irrespective of household conditions (in China and Vietnam also due to the socialist legacy), and low fertility enabled a continued high female labor force participation.

In **Sub Saharan Africa**, agriculture is still the mainstay of total employment, and strong female involvement there leads to high participation rates.¹⁶ In addition, it appears that household conditions do not play a strong role in affecting female participation but also segregation into few sectors and occupations might constrain female participation in the non-agricultural sector, esp. in countries lacking a sizable manufacturing sector.

In **Eastern Europe and Central Asia**, the legacy of socialism that promoted female participation is slowly fading, with women facing increasing difficulties combining children with employment, leading to declines in female participation, esp. in Central Asia (see Klasen, 1993; Klasen and Launov, 2006).

In the **Middle East and North Africa**, a combination of a strong stigma for educated women to work outside of white collar services, remaining legal barriers to types of female employment, and a stagnant or only slowly growing public, health and education sectors has ensured that a strong education expansion as well as fertility decline has only had a rather modest impact on female participation rates (World Bank, 2004). This is particularly the case of resource-rich countries, but prevalent everywhere. In countries where export-oriented manufacturing and tourism play an important role (such as Morocco, Tunisia, Egypt, and Turkey), female employment opportunities and participation are somewhat stronger.

In **South Asia**, female labor force opportunities are generally much more circumscribed. Household conditions matter, the education expansion and economic growth has freed many women from being forced to work to ensure survival of the family, while employment opportunities in favored white collar services have not grown commensurately with the supply of educated women, and while employment in many other sectors are stigmatized for educated women. But within South Asia, there are important differences. In Sri Lanka and Bangladesh, the household constraints on female employment seem weaker than in India (see Table 1). Moreover, the sharply growing textile and garments sector in Bangladesh has enabled educated women to work outside of white collar services, providing substantial economic opportunities. Conversely, in India, the lack of an export-oriented manufacturing sector, combined with falling female employment opportunities in agriculture, has led to a shrinkage of female employment opportunities and participation (Klasen and Pieters, 2017; Klasen, 2017).

¹⁵ As argued by Gasparini and Marchionni (2017), the decline in the rate of growth may be due to the economic boom in the 2000s as well as the spread of cash transfer programs which might have reduced the incentives somewhat to enter the labor market. But the trends remained positive.

¹⁶ There is considerable variation in female labor force participation rates in agriculture in Sub-Saharan Africa; esp. in Sahel countries and parts of West Africa, female rates are lower than elsewhere. This is something that merits closer attention and analysis.

6. Conclusions and Policy Issues

This survey of labor force participation trends has suggested that economic growth, fertility decline, and an expansion of female education need not translate into commensurate increases in female participation. For this to happen the conditions need to be right, as they appear to have been in Latin America in the past 2 decades. These conditions relate to the stage of the female educational expansion, the extent of dependence of female participation on household conditions, the nature of stigmas against particular jobs for educated women, and the growth of employment in jobs educated women favor. Here white-collar services as well as labor-intensive export-oriented manufacturing play a key role. An important closely related conclusion is that the low and falling female participation rates are unlikely to be good for the economic development of a country, but that the welfare assessment for the women concerned is less clear. To the extent they are dropping out of undesirable work due to improved household conditions, they may actually be better off. To the extent they are dropping out due to the lack of appropriate employment opportunities, the welfare assessment is more negative. Lastly, there are powerful forces sustaining large differences in female participation across regions, related to historical gender roles, and different historical trajectories which have a powerful influence still today.

A range of policy issues emanate from these findings. I will focus on five. First, the type of growth strategy matters for female labor force participation. A female-intensive export-oriented appears to be among the most promising ways to open up new labor market opportunities for women. This has worked in East Asia and also works in South Asia (e.g. Bangladesh) and the Middle East and North Africa (e.g. Tunisia and Morocco), i.e. even in areas where there are many societal barriers against female employment. The difference between Bangladesh that follows such a strategy, and India that does not, is striking.

Second, given prevailing stigmas for educated women to work outside of white collar services, one opportunity for female expansion is to allow women to progressively dominate these sectors, including health, education, and public service. Since educated women have so few opportunities outside of these sectors, affirmative action favoring them should be considered even if they are already over-represented there. Also, allowing women to move in greater numbers into these sectors will likely involve removing glass ceilings that limit their advancement into more senior positions and supporting their entry into portions of these sectors still dominated by men in many countries (e.g. medical doctors, lawyers, university professors, etc.).

Third, it is important to increase public discussion and debate about the stigmas associated with female employment in general, and in certain sectors in particular. As long as female employment is seen as a failure of male household heads to adequately provide for their family, and there are strong barriers to female employment in some sectors, it will be hard particularly for educated women, and women in more comfortable economic situations to seek employment. This, of course, is a long process but these discussions are taking place increasingly in regions of low female labor force participation, such as the Middle East and South Asia.

Fourth, in countries where direct restrictions on female employment (and types of work), or indirect restrictions (via taxation penalizing secondary earners or earlier retirement ages for women) still play a role, removing them can help promote female participation. This may particularly play a role in the Middle East and North Africa as well as Central Asia.

Lastly, until norms and values have changed, there may be substantial scope to ease more practical constraints for female employment, such as improved labor market information for women (e.g. Jensen, 2012), improvements in transport to make it safer and more affordable, training programs

for women, and the like. Here there are opportunities for experimentation to see which of such programs have the largest effect.

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