DISCUSSION PAPER SERIES

Analyzing Female Employment Trends in South Asia

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ABSTRACT

Analyzing Female Employment Trends in South Asia[1]

This paper studies employment patterns and trends in South Asia to shed light on determinants of extremely low female employment rates in the region. After a comprehensive literature review, we use employment data from about one hundred censuses and surveys from Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka to compare employment trends across countries over time. We work through data inconsistencies to standardize definitions of variables to compare demographic and labor market determinants: age, sector, contract type, location, and education. We find that (i) overall since 2001, women's employment participation across South Asian countries has been low and broadly unchanged; (ii) the gender employment gap emerges more clearly in middle age brackets; (iii) rural female employment is higher than urban; (iv) agriculture is the economic sector accounting for the greatest share of female employment, although this is slowly changing in some countries, and; (v) women with mid-level education tend to have lower employment rates than those with both lower and higher education.

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Introduction

South Asia has been undergoing rapid economic transformation, but despite high economic growth, most countries in the region are under pressure to quickly create more and better jobs to cope with fast-growing populations and to sustain growth. Furthermore, women are being excluded from labor markets—as evidenced by low female labor force participation rates, persistent gender disparity in male and female employment rates, and greater likelihood of women being engaged in unpaid employment. Therefore, expanding productive employment for women and lowering barriers for their entry into the labor market are necessary for inclusive growth in South Asia.

Female engagement in market work is desirable for a variety of reasons. In addition to economic returns, female employment has positive development spillover effects: households invest more in the health and education of their children as female earnings increase, and women being paid for work gives them greater "voice" at home and stronger engagement in society. For example, female employment in Bangladesh's garment industry is associated with reduced fertility, increased age at marriage, and higher educational attainment (Heath and Mobarak, 2015). In India, employment in the business processing sector is associated with increased household investment in girls' education and health (Jensen, 2012). Similarly, outside of South Asia, increased demand for labor in the female-intensive manufacturing sector in Mexico is associated with increased household decision-making power for women and improved health of their children[2].

Rigorously assessing trends in female employment in South Asia is difficult due to data limitations. Agreeing on what represents a "job" is challenging as many forms of work fall in the gray areas between employment, unemployment, and inactivity. But available comparisons show that employment rates for women generally lag what we might credibly expect given South Asia's development level. This is in contrast to male employment rates, which are as high as those in other developing countries, as shown in Figure 1.

Figure 1 raises an important question: *why* are female employment rates in South Asia—particularly in Sri Lanka, Pakistan, India, and Bangladesh—far below average given their GDP per capita? This paper works towards answering this question by:

(i)   Charting trends and patterns in female employment rates across countries over time to investigate whether they have always been low.

(ii)   Using a variety of censuses, labor force surveys, and household surveys, which is complicated because definitions of "employed work" differ (explained below), to look at female employment in South Asia from a broad perspective.

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[2]Majlesi (2016) uses the Mexican Family Life Survey, which asks the household decision maker respondents questions related to twelve different categories. Hence, they construct a direct measure of decision-making power for each spouse within households.

(iii)   Studying female employment rates for key subpopulations—by location, age categories, employment sector, contract type, household characteristics, among others—to identify factors driving these trends.

Figure 1. Female employment rates are generally low in South Asia
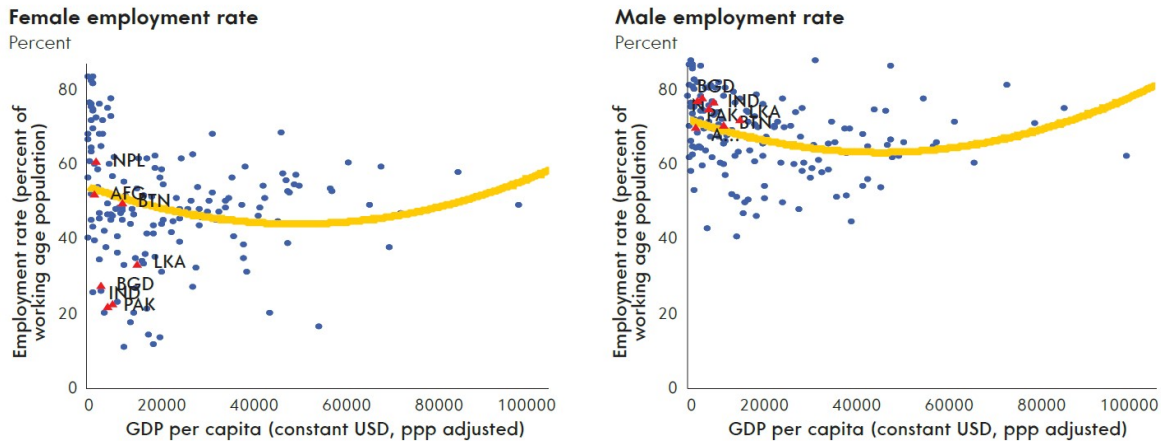
Source: South Asia Economic Focus, *Jobless Growth?* Fall 2018.

In years where multiple sources of data are available, estimates for female employment rates can differ markedly. Some of these differences are due to how employment is defined, such as whether domestic work is included or not; on what reference period the questions on employment are based (over the reference week, month, or year); or the gender of the survey respondent. For instance, Chatterjee, Murgai, and Rama (2015) found that the definition of unemployment used in surveys can affect female labor force participation estimates in India[3]; and in Bangladesh, India, Sri Lanka, and Nepal, female employment rate reported by men differed significantly by almost three percentage points from the one reported by women (Table 1). This paper attempts to "standardize" definitions—that is, use common definitions—for employment-related variables as much as possible to make reasonable comparisons.

Our approach intends to analyze female employment trends. Instead of trying to disentangle factors driving supply and demand for female labor, we look at the equilibrium points and try to learn from what we can observe directly in the data. Simply put, we cannot conclude whether low female employment rates are, for instance, because there are not enough available jobs for women or because

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[3]Chatterjee, Murgai and Rama (2015) found that female labor force participation in India was underestimated due to the excessively stringent definition of unemployment used by their NSS. Under this survey, a person is not considered part of the labor force if they have not been seeking a job for at least six months during the survey year. As a result, many people registered with a placement agency or who sought work from public works programs were not counted as part of the labor force. Had these people been included, female labor force participation would increase by 5 percentage points in urban areas and 3 percentage points in rural areas. They posit that due to this underestimation jobs are actually scarcer than thought, and therefore not all decline in female labor force participation was voluntary.

women are not willing to work in the prevailing conditions. Hence, we limit ourselves to describe over time and across countries the multiple dimensions of female employment.

The paper is structured as follows: Section 2 reviews the literature on a wide range of factors affecting female employment in South Asia, including cultural norms, female labor demand, conflict, and migration. Section 3 discusses data sources and definitions, followed by Section 4 where we discuss results both at national and sub-national levels. Section 5 concludes and lays out some knowledge gaps for future work.

1. **Relevant Literature**

Several studies have documented a "U-shaped" relationship between female labor force participation rates and the level of development, measured by GDP per capita; that is, low-income countries and high-income countries have higher participation rates than countries in the middle of the distribution (see Figure 1). One explanation for this is that since female employment in developing countries is mostly concentrated in agriculture, when these countries transition out of agriculture employment opportunities for women do not emerge immediately (Goldin, 1995).

Chatterjee, Murgai, and Rama (2015) support this narrative, finding that insufficient job opportunities for women accounted for eight percentage points of the 12 to14 percentage point drop in rural female labor force participation rate in India between 2004-05 and 2010-11, possibly due to a rapid fall in farming jobs.

Chatterjee, Desai, and Venneman (2018) discuss demand-side factors to explain another paradoxical "U-shaped" relationship between female education and labor force participation in India—lesser educated and higher educated women are significantly more likely to be employed. They posit that exclusion of women from white collar clerical and retail sales jobs—major employment sectors for moderately educated workers, and typically female in the rest of the world—is the real problem. Similarly, Klasen, and Pieters (2013) argue that falling labor force participation rates among educated women in urban India is linked to their limited participation in sectors suitable for educated women, such as white-collar services, while the proportion of graduates in the overall working-age population has nearly doubled.

Some evidence suggests that when labor market opportunities become available to women as countries transition out of agriculture, women respond by taking advantage of them. For example, the rise of Bangladesh's export-oriented garment industry has increased female employment, as documented in villages outside of Dhaka (Heath and Mobarak, 2015)[4]. In Bangladesh, direct and indirect contemporaneous exposure to international trade led to large increases in formal employment for women, and this effect is persistent over time (Goutam et al., 2017). In India, The World Bank (2017)

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[4] Some of these proposed interventions may also have adverse side effects. For example, employment can increase the risk of domestic violence, as documented for Bangladeshi women with low education or who married at young ages; that is, for those women with initially low bargaining power within the household (Heath 2014).

predicts that if all women engaged in domestic duties who are willing to work had a job, the female labor force participation rate would increase by about 20 percentage points.

However, solving the problem of low female labor force participation is more nuanced than simply expanding employment opportunities for women; factors such as cultural norms and labor regulations affect both supply and demand for female labor. Gender norms in both public and private spheres are closely entwined with the status of women in a region, religion, or caste. As a result, significant differences in female labor force participation exist by region, ethnicity, religion, and social status (Das, 2006)[5]. In India, Bernhardt et. al (2018) show that a husband's preference and perceptions of community attitudes are linked to his wife's work outcomes (status and wages). In particular, they find that where males perceive that the community thinks badly of a husband whose wife works, the likelihood of wives working falls significantly. Evidence from Bangladesh and Pakistan also reflects the influence of traditional gender norms and cultural practices on female employment-related preferences and outcomes (see Heintz, Kabeer, and Mahmud, 2017; Bridges, Lawson, and Begum, 2011; and Luci, Jütting, and Morrisson, 2012).

Field et. al. (2016) elaborates on the importance of incorporating these social norms in female labor supply models. They show that, in contrast to the traditional model of household behavior—in which work decisions depend on own-preferences for leisure and wages—greater bargaining power is important for increasing women's work in India, even if this does not increase their wages. The effect of increased bargaining power was found to concentrate among women who had not worked and those whose husbands disapproved of women working. This highlights the role of gender norms in limiting women's participation in the labor market.

Legal barriers to female employment, such as restrictions on working hours, are key to understanding how a discriminatory policy may affect overall female participation in the labor market. South Asian women are still subject to laws governing when and in which industries they can work (see Table 2). These rules continue to disproportionately affect women even as the economy grows: for example, Indian female participation in export-oriented manufacturing jobs fell despite increased trade and reduced trade barriers during the 1990s, likely due to legal constraints on women's working hours through the factory laws (Gupta, 2014).

Other factors affecting labor market opportunities for women in the region include information asymmetries, technological advancements, foreign direct investment (FDI), skills, and migration and conflict, among others. Maqsood (2014) found that female labor force participation positively correlates with FDI and urbanization, while negatively correlates with trade openness across South Asian Association of Regional Cooperation (SAARC) countries. Jaffri et. al. (2015) found that openness to trade reduces gender-based labor force participation in Pakistan, while FDI improves female labor force

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[5] For example, women's labor force participation rates tend to be relatively lower in north India and Pakistan compared to southern India. The practice of *purdah*, which is prevalent in Muslim societies and in some Hindu areas, constrains women's freedom of movement and is related to the ethos of seclusion across the region (excluding Sri Lanka and several South Indian states). These norms are less stringent among women belonging to scheduled castes and tribes, but there is a tendency for upwardly mobile "lower" castes to adopt the cultural and religious norms of the "upper" castes, which include restrictions on women's mobility and their activities. For details see Das (2006).

participation rates in non-services sector. Another comprehensive study by Pradhan (2005) found that trade has promoted women's employment in India's manufacturing sector, but the overall effect of technology—encompassing factors such as R&D spending, foreign technology imports, and capital-intensity—has been negative for female employment.

Timely flow of information and raising awareness could encourage women to work. In villages outside Delhi, India, for example, providing information to women and recruiting them for employment in business processing increased their employment in that sector and their wage employment in general. The intervention also increased women's likelihood of expressing interest in working throughout their lives, even after marriage and child birth (Jensen, 2012).

Investing in education and skills development for women could increase female employment. Mehrotra and Parida (2017) postulate that women are not able to compete for jobs in the manufacturing sector, where demand for skilled labor is increasing, as they have lower education levels.

Male migration could also affect female employment, earnings, and empowerment, as observed in Nepal and India. Shrestha (2017) finds that large-scale male emigration increased female wages in Nepal indirectly through reduction of male labor supply. Increased male emigration between 2001 and 2011 increased average women's wages by 14 percent, agricultural wages by 15 percent, and casual wages by 12 percent. On the other hand, Loshkin and Glinskaya (2009) find that male household members' migration reduced women's labor force participation in Nepal by 5.3 percentage points. In terms of empowerment, Desai and Banerji (2008) concluded that husbands' absence did not imply less influence on wives' decisions as men who migrate tend to leave their wives and children in the care of male relatives. Phadera (2016) also found that male emigration in Nepal either increases women's workload, potentially overburdening them, or forces them to realign their priorities and fill home production and family farm roles vacated by the men. Overall, male migration increases both household and community responsibilities for women.

Many South Asian countries are either experiencing conflict or are in post-conflict situations, calling for special focus on how conflict affects women's workforce participation. Conflict can either cause women to seek employment or discourage them from working: that is, women may enter the labor force to augment household income—the "added-worker "effect—or they may withdraw from the labor force because of the unsafe environment. Whether the added-worker or the security effect dominates is unclear based on the literature. Kuhnt and Pasha (2017) found that conflict imparts a short-lived negative impact on women's employment in Pakistan based on temporary fear created by violence. Berrebi and Ostwald (2014), using a global panel dataset of 165 countries and terrorism data from 1980 to 2007, found that terrorist attacks decreased female labor force participation. In contrast, Menon and Rodgers (2011) found evidence of increased likelihood of women's employment associated with civil conflict in Nepal.

2. **Data and Methodological Challenges**

We construct employment-related indicators directly from primary data sources, including population censuses, labor force surveys, and household surveys from 2001 to 2017. We use about one hundred censuses and surveys containing representative data on employment status (summarized in Table 3[6]). The targets of the exercise are individuals aged 15 to 64—that is, the working-age population. However, the results do not differ significantly if considering all individuals above 15, as the elderly constitute a minor share of total population in South Asia. First, we categorize respondents into employed, unemployed, and inactive, taking into account survey-specific differences (details below). Then, we further classify employed individuals by age categories (15-24, 25-54, 55-64), type of employment contract (regular, casual, self-employed, and unpaid), sector of activity (agriculture, manufacturing, services, construction, and mining), location (rural or urban), and educational attainment (illiterate, primary, high school, more than high-school).

As shown in Table 3, Sri Lanka and Pakistan have the most frequent and easily accessible households and labor force surveys. Sri Lanka conducts its national Labor Force Survey (LFS) annually and a national Household Income and Expenditure Survey (HIES) every three years. Similarly, Pakistan has carried out the Pakistan Integrated Household Survey (PIHS)/Pakistan Social and Living Standards Measurement (PSLM) survey and the Household Integrated Economic Survey roughly every alternate year since 2001[7]. For 2015/16, Pakistan's Bureau of Statistics launched the Household Integrated Income and Consumption Survey (HIICS) containing employment data. In addition, Pakistan has conducted its LFS almost every year during the study period considered for this paper.

Data was far less frequent for Nepal and Bhutan, for which we only had three surveys. We used data from the Nepal Living Standards Survey (NLSS). Although the NLSS has three rounds, only the last two were post-2000. Nepal conducts its LFS sporadically, with the latest available from 2008. For Bhutan, we used three waves of the Living Standards Survey (LSS) covering employment characteristics in detail.

In India, the National Sample Survey (NSS) collects labor market information by using a separate employment-unemployment module (Schedule 10) every five years. In the intervening years, the government gathers basic employment information, along with the household consumer expenditure module. The quinquennial surveys have large samples and are referred to as "thick rounds", whereas intervening surveys are known as "thin rounds" because of their relatively smaller sample size. Overall, data is less frequent in India, and the most recent data point is the "thick round" NSS conducted in 2011-12. The annual Periodic Labor Force Survey (PLFS), first conducted in 2017, aims to fill this gap by providing frequent, timely, nationally and regionally-representative labor market data.

In Afghanistan we used the 2007-08 and 2011-12 waves of the National Risk and Vulnerability Assessment (NRVA) surveys and its successor Afghanistan Living Conditions Survey (ALCS) of 2013-14.

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[6]Note that all the data used in this paper are identical to those used for employment rate estimates *in Jobless Growth, 2018*. This was done to obtain consistent estimates for aggregate female employment rates. In addition, definitions for employment status (employed, unemployed, inactive), employment type (regular, casual, unpaid, self-employed or employer), sector of activity (agriculture, manufacturing, services, mining and construction), ownership structure (private or public) and location (rural or urban) are consistent with those used in *Jobless Growth, 2018*.

[7]The PIHS was renamed PSLM in 2004.

These surveys are the country's core instrument to collect household level data, and capturing development indicators in areas such as poverty, food security, labor market performance, demography, education, health, gender equality, housing, and agriculture.

Finally, in Bangladesh we complement data from the Household Income and Expenditure Survey (HIES, rounds 2005, 2010, and 2016) and the Quarterly Labour Force Survey (QLFS, rounds 2002, 2003, 2005, 2006, 2010, 2013, 2015, and 2016). The QLFS is a standard labor survey focused on labor market indicators such as employment, participation rates, wages, while the HIES focuses on socio-economic household characteristics.

Careful examination of these surveys and censuses questionnaires shows that labor indicators differ in subtle but important ways, including differing definitions of "employment". The implications of these inconsistencies increase in economies where self-employment and casual work are pervasive: it is easy to recognize a standard "nine-to-five" job with a written contract and benefits attached to it, but relatively few jobs match this description in South Asia. Therefore, it is often difficult to tell whether people are working, unemployed, or inactive, and survey answers vary depending on the statistical instrument. The difficulty of measuring employment for women is exacerbated by the fact that women tend to engage more than men in activities falling in the grey areas between work, unemployment, and inactivity.

One way the definition of employment differs across statistical instruments is what constitutes the main activity of the individual. In the Bangladesh HIES, for example, each respondent lists a number of activities he or she was engaged in, and only the activity accounting for the most time determines the person's job type, sector of activity, or institutional sector. The Indian NSS makes distinction between "usual" status and "principal" status, and only retains the "usual" status. And in the Nepal Living Standards Survey (LSS), household activities—such as fetching water, collecting firewood and dung, and making mats—are counted as work; but to remain consistent with other data sources, we did not include such types of "extended work "as employment. We categorized each respondent as employed, unemployed, or out of the labor force based on standard definitions, matched as closely as possible to the questionnaire of each census or survey.

Another key definitional difference between statistical instruments is the reference or recall period to which the questions pertain. For example, the Pakistan LFS uses a recall period of "one week" as well as "one year" when asking respondents whether they are employed, but the HIES in the same country has a recall period of "one month" in some years and "one week" in others. In Sri Lanka, the HIES in earlier years did not specify a concrete recall period when inquiring about employment, instead asking whether the respondent is "usually" engaged in an economic activity. The LFS in Sri Lanka, on the other hand, focuses on a "one week" reference period. The Indian NSS considers a weekly and a yearly status: the first one is constructed based on questions about time use over-half days; the second one is identified based on a specific question to the respondent.

Because of these differences, comparing employment figures across sources without standardizing them can be misleading, and relying on published data alone is potentially confusing. Therefore, we aimed to

standardize labor indicators to allow for valid comparisons. Given the breadth of data available, we use varying reference periods of one week, month, or year to demonstrate sensitivity of employment indicators to this factor.

3. **Trends**

Figures 2 to 9 illustrate trends and patterns in male and female employment in South Asia. We used multiple surveys in the aggregate graphs to look at employment rate sensitivity to recall periods. For the disaggregated graphs, we only used the weekly recall period to determine employment status and restricted ourselves to surveys in which pertinent information was available. All estimates use individual sample weights.

Aggregate

As shown in Figure 2, the female employment rate—the number of employed women as a share of the working-age population—remained stable since 2001 in Sri Lanka, Pakistan, and Bangladesh, regardless of survey instrument or recall period. Also, there is a persistent gap of approximately 42 and 55 percentage points between male and female employment rates in Sri Lanka and Pakistan, respectively.

In Nepal, India, and Bhutan, however, we observe greater sensitivity in employment indicators. As expected, yearly reference periods yield higher employment rates compared to when respondents are

asked about activities only in the last week. For Nepal, a clear trend does not emerge; using the NLSS, the female employment rate declines based on yearly recall (95 to 75 percent between 2003 and 2010) but slightly increases when considering weekly recall. The category "extended economic activities" is not included in this estimate to remain consistent with employment definitions in other surveys. In India, we observe a consistent pattern of falling female employment rates across surveys.

In Bhutan, women are about 9 to 15 percentage points less likely to be employed than men (depending on the year) when respondents recalled activities in the past week rather than the last year. However, women's employment clearly declined from 69-78 percent in 2003 to 50 percent in 2012, a sharper decline for women than for men.

In Afghanistan, the male employment rate is similar to other countries, and male employment also experienced a relative decline towards 2013. On the other hand, female employment is high relative to the region, with rates around 50 percent, except for a sharp fall in 2011 when using a weekly recall period.

Age

Employment rates differences between men and women are not as large for the youngest bracket as they are for older ones. According to Figure 3, male employment rates are similar across countries in the two oldest age brackets, while female employment rates vary significantly between countries. For instance, the employment rate for women between 25 to 54 years-old varied by 50 percentage points

Figure 2: Comparing employment rates computed from different surveys and recall periods
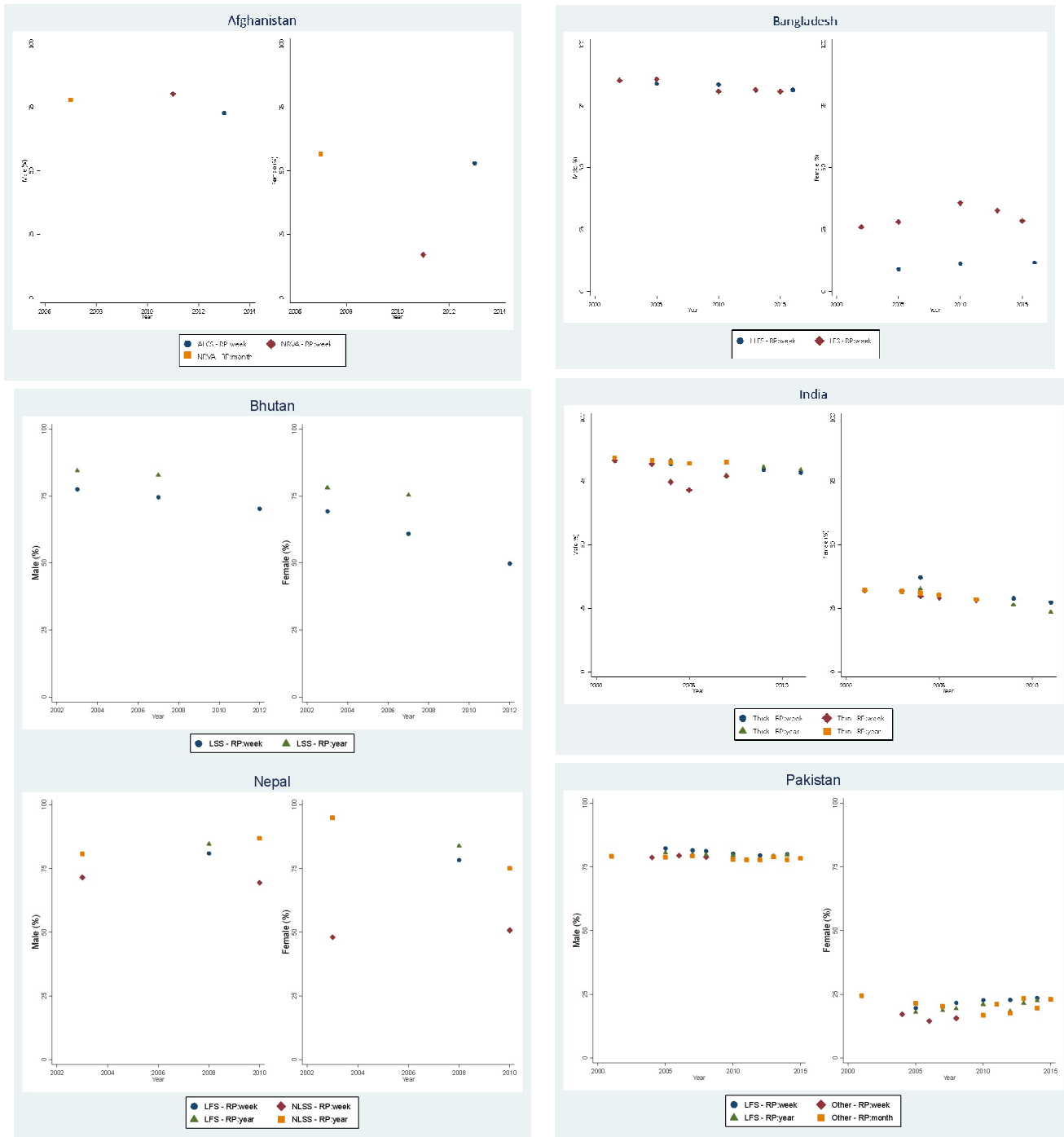
Sources: LFS: Labor Force Survey; HIES: Household Income and Expenditure Survey; PIHS: Pakistan Integrated Household Survey; PSLM: Pakistan Social and Living Standards Measurement; HIICS: Household Integrated Income and Consumption Survey; NLSS: Nepal Living Standards Survey; LSS: Living Standards Survey. *Notes:* RP: recall period. "Other" in the Pakistan graph refers to the PIHS, PSLM, HIES, or HICCS Depending on the year and availability (see Table 3 for details). Employment rate defined as share of male/female working age population (15 to 64 years) that is categorized as 'employed'.

Figure 2(continued): Comparing employment rates computed from different surveys and recall periods

Sri Lanka
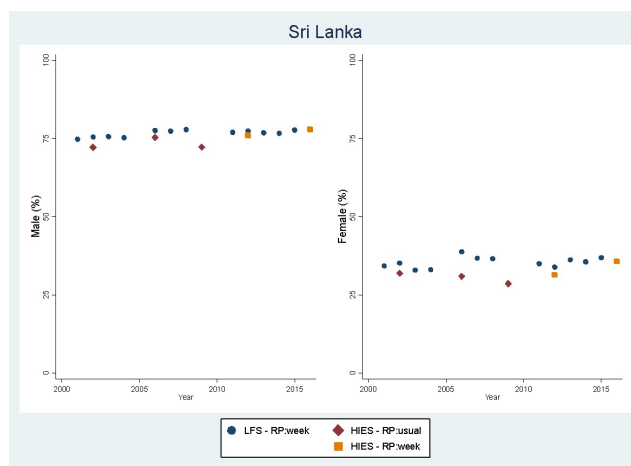
Sources: LFS: Labor Force Survey; HIES: Household Income and Expenditure Survey; ALCS: Afghanistan living conditions survey; NRVA: National Risk and Vulnerability Assessment.
Notes: RP: recall period. Employment rate defined as share of male/female working age population (15 to 64 years) that is categorized as 'employed'.

gap between Bhutan and Pakistan in 2007; while for males the same age, the employment rate remained around 90 percent for all countries and years.

We observe the largest changes over time in women's employment in Bhutan, across all age categories. The sharpest decline between 2003 and 2012 is for girls of school or college-going age (between 15 to 24 years-old) from 59 to 29 percent. We observe a decrease, though smaller, within this age category for men as well. There is also a drop of 15 percentage points for women between 25 and 54 years-old, who are likely to be married and have children; and of 12 percentage points for women between 55 and 64-years-old.

Between 2000 and 2015, female employment changed moderately in Sri Lanka and Nepal, while there were no substantial changes for any age category in Pakistan. A decrease of 4 percentage points in the 15 to 24 year-old category in Sri Lanka was accompanied by an increase in the 55 to 64 years-old group. In Nepal, we observe a slight increase in 25 to 64 year-old women.

In India, both male and female employment rates fell for all age categories between 2004 and 2012, although most of the decrease occurs between 2004 and 2010. The youngest cohorts fell the most: 13 and 11 percentage points for male and females, respectively.

In Bangladesh, the female employment rate is volatile for all age brackets, which is not the case for males. The 15-to-24 age bracket fluctuates between 20 to 34 percent throughout the period, whereas for men we observe a steady downwards trend.

Interestingly, in Sri Lanka and Pakistan—the two countries with the greatest gap between male and female employment rates—we find that the difference across gender is lowest in the 15-to-24 age category and widens as women reach the 25-to-54 years age bracket, regardless of survey year.

. **Figure 3: Employment rate by age categories**
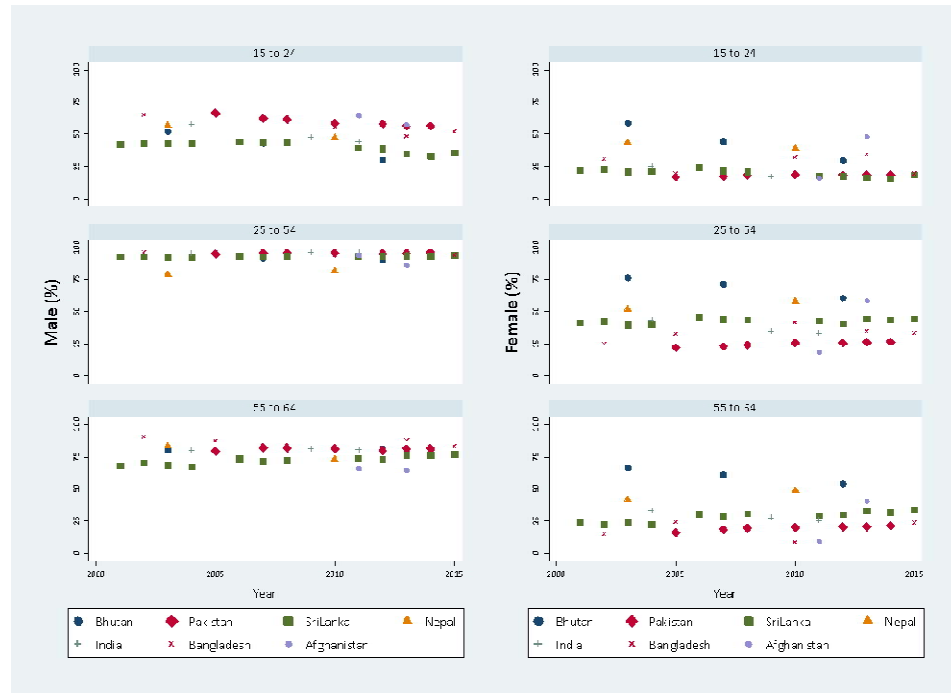
Sources: Estimates based on LFS for Bangladesh, Pakistan and Sri Lanka, NLSS for Nepal, NSS for India, LSS for Bhutan and NRVA/ALCS for Afghanistan. *Notes:* Employment status determined using weekly recall period. Employment rate defined as share of male/female population in age categories (15 to 24, 25 to 54, or 55 to 64 years) that are 'employed'.

*Sector of activity and institutional sector*

Concentration of female employment in the agricultural sector, and concentration of male employment in the services sectors, a pattern prevalent across countries, seems to be slowly changing (Figure 4).We observe an overall shift in female employment from agriculture to services in a number of countries. In Bhutan, the female share of employment in agriculture fell from 88 to 72 percent between 2003 and 2012, accompanied by an increase in the services sector from 8 to 23 percent. A similar trend is observed in Nepal, India, and Bangladesh. In Nepal, the proportion of women working in agriculture fell by 15 percentage points between 2003 and 2010 and grew by 9 percentage points in the services sector, similar to changes observed in male employment. In India, agricultural employment fell almost 7 percentage points for males and 10 percentage points for females. And in Bangladesh, we observe a 13 percentage point decline in female agricultural employment accompanied by a 4 percentage points increase in female services employment.

In Sri Lanka, on the other hand, shares of male and female employment by sector remained stagnant between 2001 and 2015, although share of total jobs in agriculture is the lowest of the countries in the region and share of jobs in services the highest. Finally, in Afghanistan female employment increased in agriculture while decreasing in services and manufacturing between 2011 and 2013.

These patterns pose an interesting question for future research: Since the agricultural sector employs unskilled labor and the services sector relatively more skilled labor, is growth in services and decline in agricultural female employment, respectively, due to the increasing supply of skilled female employment?

Looking at employment by institutional sector, Figure 5 shows that the private sector accounts for the largest share of employment for both men and women across nearly all countries (excluding Nepal[8]). Women's employment share in the public sector is highest in Sri Lanka compared to other countries, and roughly six percentage points lower than that of Sri Lankan men in 2015. The large and increasing share of female employment in the private sector in Bangladesh is also worth highlighting.

Figure 4: Share of employment by sector
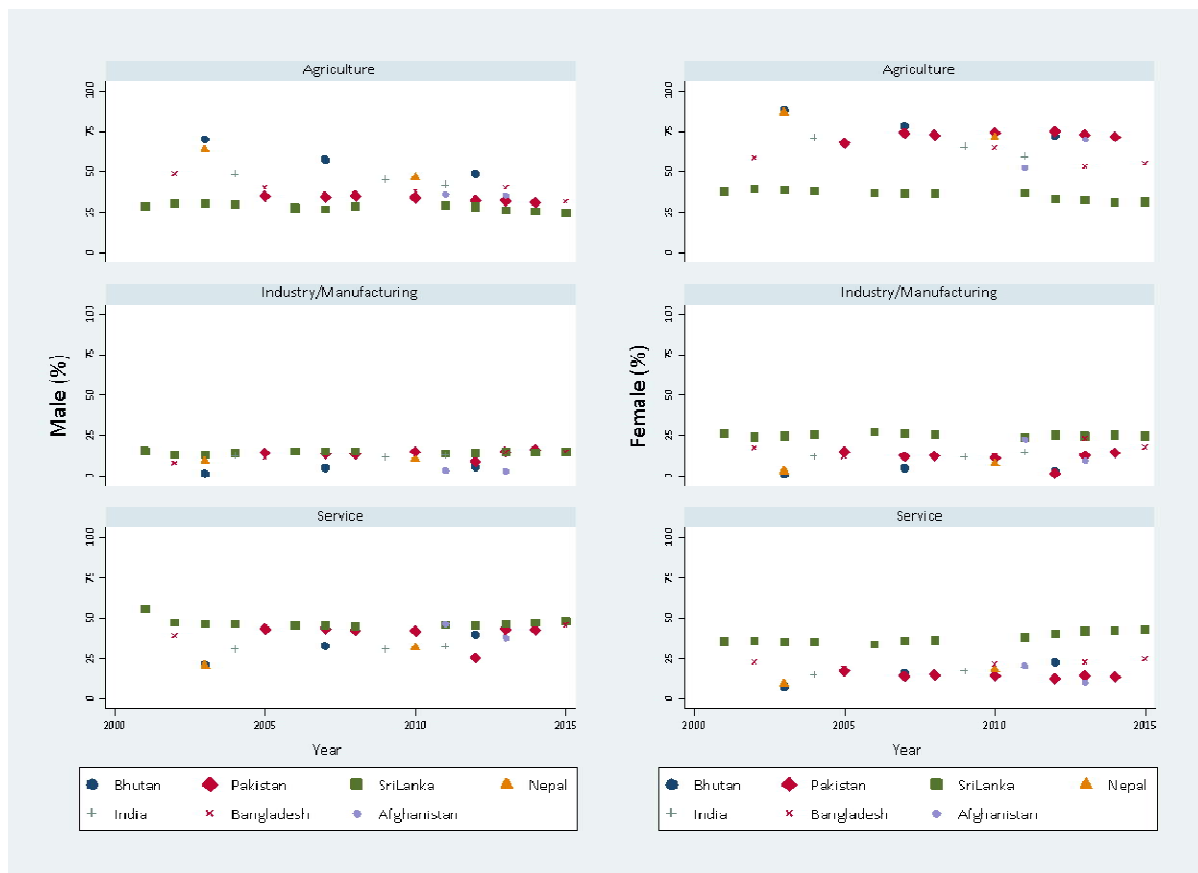
Sources: Estimates based on LFS for Bangladesh, Pakistan and Sri Lanka, NLSS for Nepal, NSS for India, LSS for Bhutan and NRVA/ALCS for Afghanistan. *Notes:* Share of employment accounted for by construction and mining omitted since they were low and lacked variation across time and countries. Employment status determined using weekly recall period.

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[8] Nepal excluded due to poor data quality for this variable.

Contract type

Figure 6 depicts share of employment by type of contract. We observe that for all countries, and throughout the whole period 2001 to 2015, most women work in unpaid occupations and/or in categories usually associated with informality, such as in casual and self-employment jobs. These trends and patterns are not homogeneous across all countries, however.

Figure 5: Share of employment by institutional structure

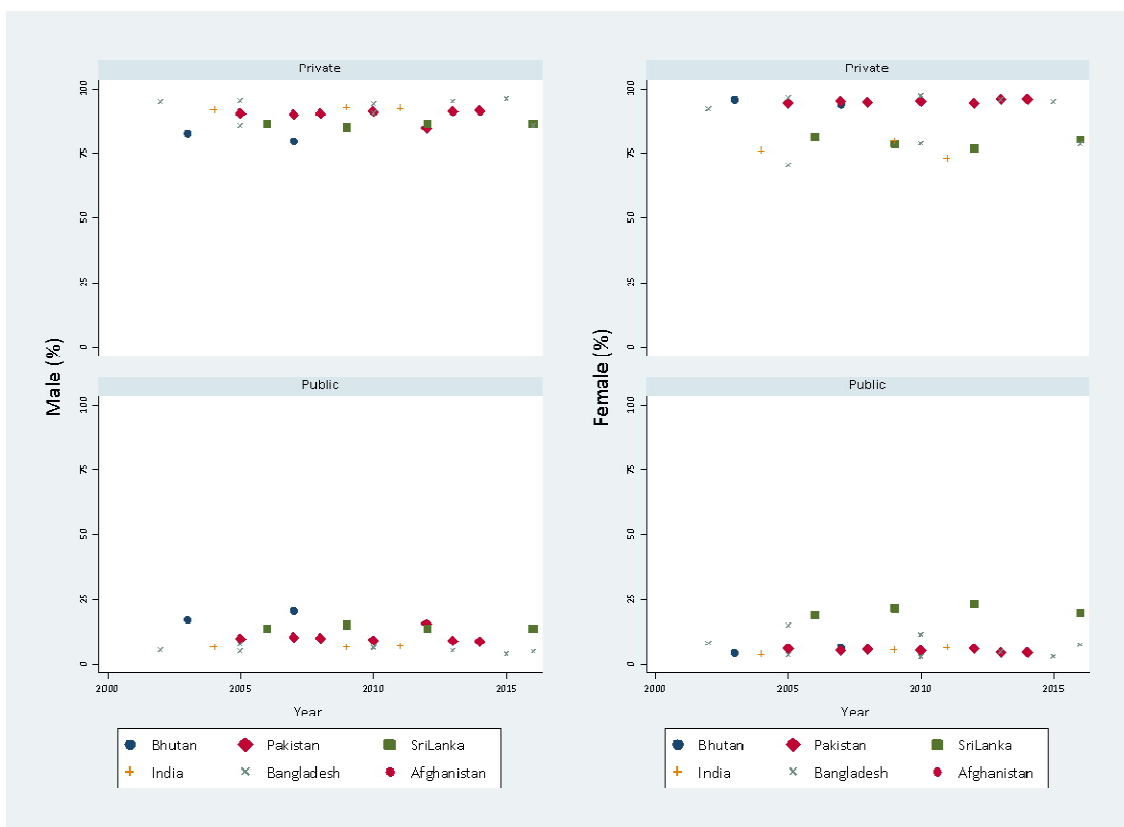*Sources:* Estimates based on LFS for Bangladesh, Pakistan and Sri Lanka, NSS for India, LSS for Bhutan and NRVA/ALCS for Afghanistan. *Notes:* Employment status determined based on weekly recall. Nepal excluded from this analysis due to high share (~ 90 percent) of missing values for this indicator

In Sri Lanka between 2001 and 2015, the share of female employment in regular paid work declined significantly from 45 percent to 32 percent, accompanied by an increase in casual work and self-employment of 9 and 6 percentage points, respectively. Share of women in self-employment also increased in Pakistan, with no change across other contract types. On the other hand, in Bhutan we observe a small increase in share of female employment in regular employment, and a decline in self-employment as well as unpaid economic activities. In India, both male and female self-employment remained stable between 2004 and 2012, although the female unpaid category dropped almost 10 percentage points between 2004 and 2010 before stabilizing.

In Nepal, we find the highest prevalence of self-employment, accounting for around 70 percent of total employment between 2003 and 2011. By gender, in 2010-2011 the share of males in informal occupations was 57 percent versus 80 percent for women.

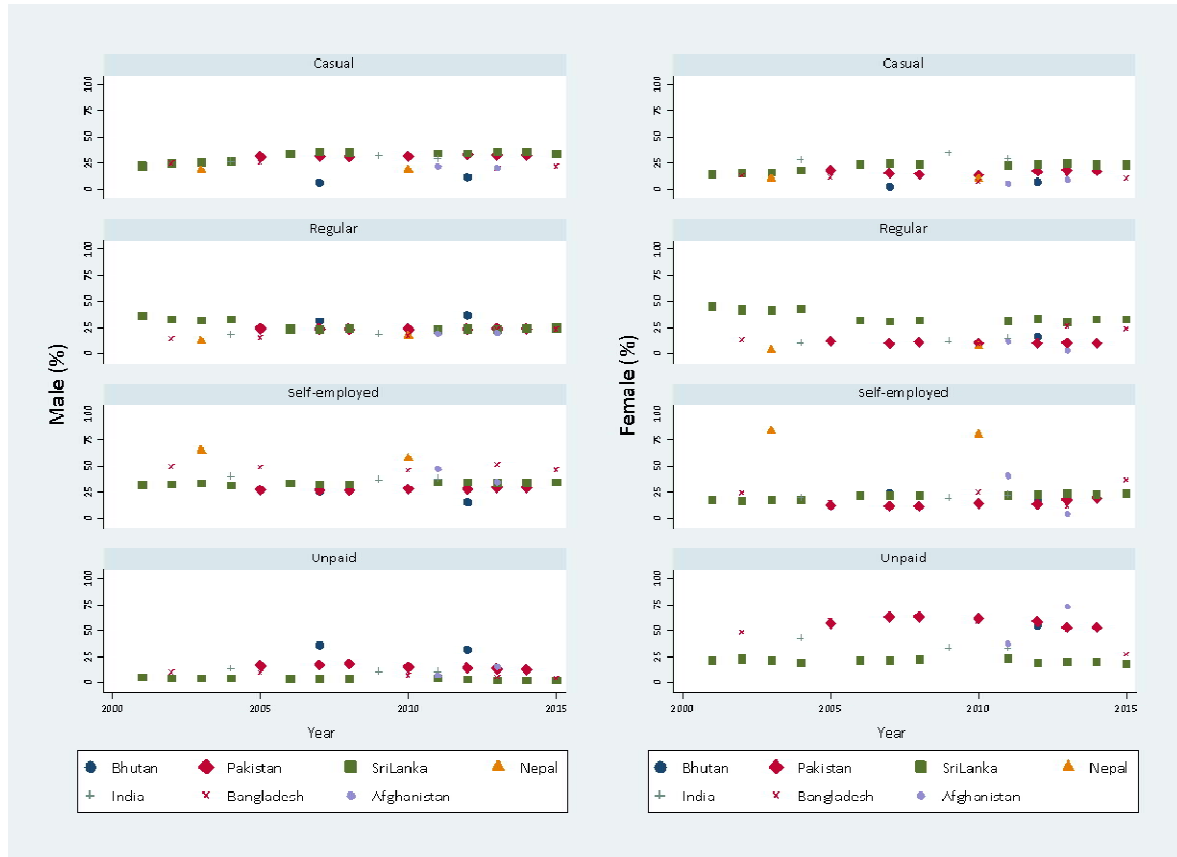**Figure 6: Share of employment by type of contract**

Sources: Estimates based on LFS for Bangladesh, Pakistan and Sri Lanka, NLSS for Nepal, NSS for India, LSS for Bhutan and NRVA/ALCS for Afghanistan. *Notes:* Employment status determined using weekly recall period.

Unpaid work has been the leading category of employment for Pakistani women since 2005, although it has fallen steadily from 62 percent in 2005 to 53 percent in 2010. Although an improvement in the women's employment situation in Pakistan, we must take into account that the overall female employment rate is the lowest in the region. Moreover, if these women are instead considered not employed, the female employment rate in Pakistan would average an extremely low 9.6 percent (Figure 7).

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Location

Figure 8 shows employment rates in urban versus rural areas. While male employment remained around 75 percent in both rural and urban locations in all countries between 2001 and 2016, female employment has been higher in rural areas throughout the same period.

Figure 7: Employment rate after excluding unpaid workers, Pakistan
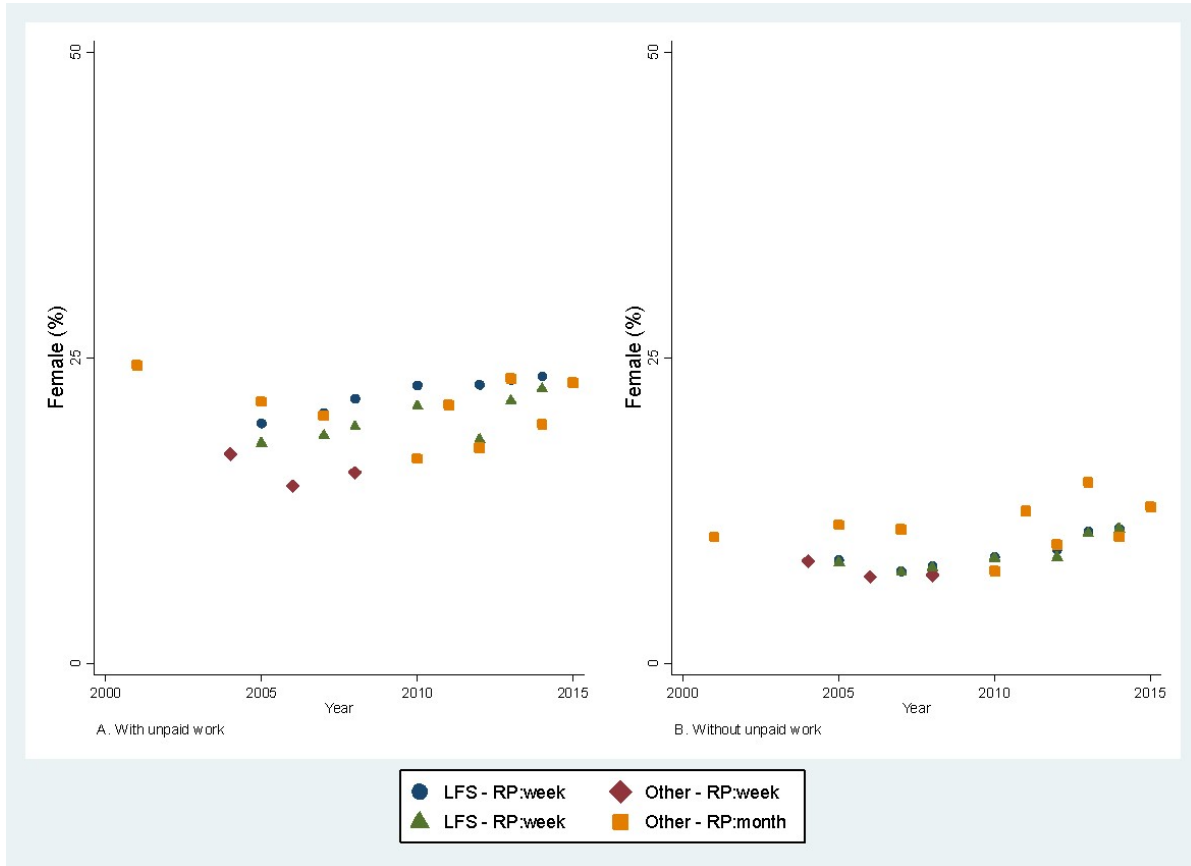
Sources: HIES: Household Income and Expenditure Survey; PIHS: Pakistan Integrated Household Survey; PSLM: Pakistan Social and Living Standards Measurement; HIICS: Household Integrated Income and Consumption Survey.

Notes: "Other" in the Pakistan graph refers to the PIHS, PSLM, HIES, or HICCS depending on the year and availability (see Table 3 for details). RP: recall period. Graph A categorized unpaid workers are employed, and Graph B assumes them to be not employed.

For example, in Bhutan the female employment rate declined from 77 to 59 percent in rural areas between 2003 and 2012, while it increased from 21 to 28.6 percent in rural Pakistan between 2004 and 2016. On the other hand, female employment rates in Nepal and Sri Lanka increased 10 and 6 percentage points in urban areas from 2003-2010 and from 2001-2016, respectively, with no significant change in rural areas.

This greater prevalence of female employment in rural areas is in line with the fact most of women work in the agriculture sector, which offers more informal employment arrangements and, as shown in the next subsection, is intensive in low-skilled labor.

Education

This subsection explores the relation between female employment and educational attainment. As investing in human capital involves costs, we expect that women willing to make these investments do so because they expect better employment opportunities.

Figure 8: Employment rate by rural or urban location
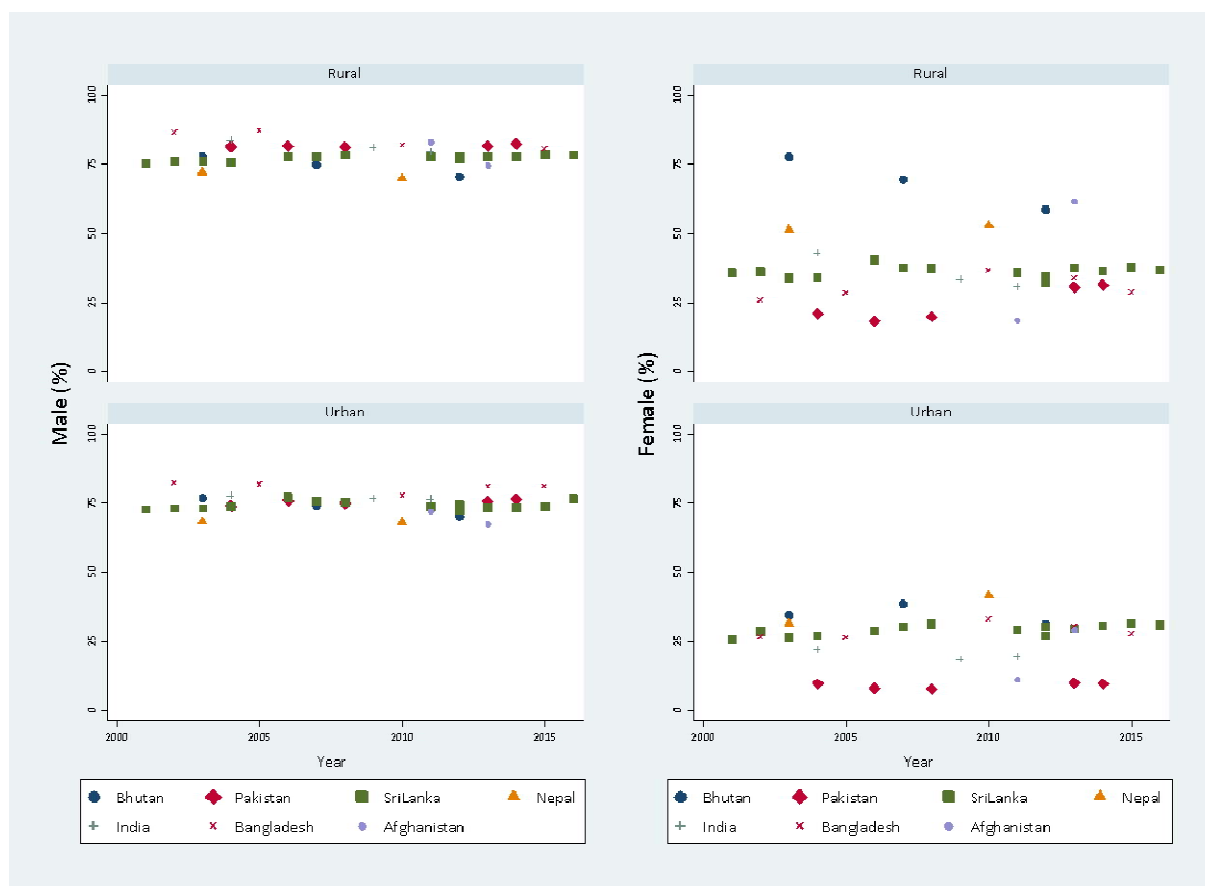
Sources: LFS for Sri Lanka and Bangladesh. NSS for India. LSS for Bhutan and NLSS for Nepal. Used HIES (2004-05, 2006-07, 2008-09) and LFS (2013-14, 2014-15) for Pakistan. NRVA/ALCS for Afghanistan.

Notes: Employment status determined using weekly recall. Employment rate defined as share of male/female population in rural/urban areas that are 'employed'.

However, Chatterjee, Desai, and Venneman (2018) report observing a paradoxical "U-shaped" relationship between female education and labor force participation in India; that is, moderately educated women are least likely to be part of the labor force compared to either low or highly-educated

Figure 9: Employment rates within education categories
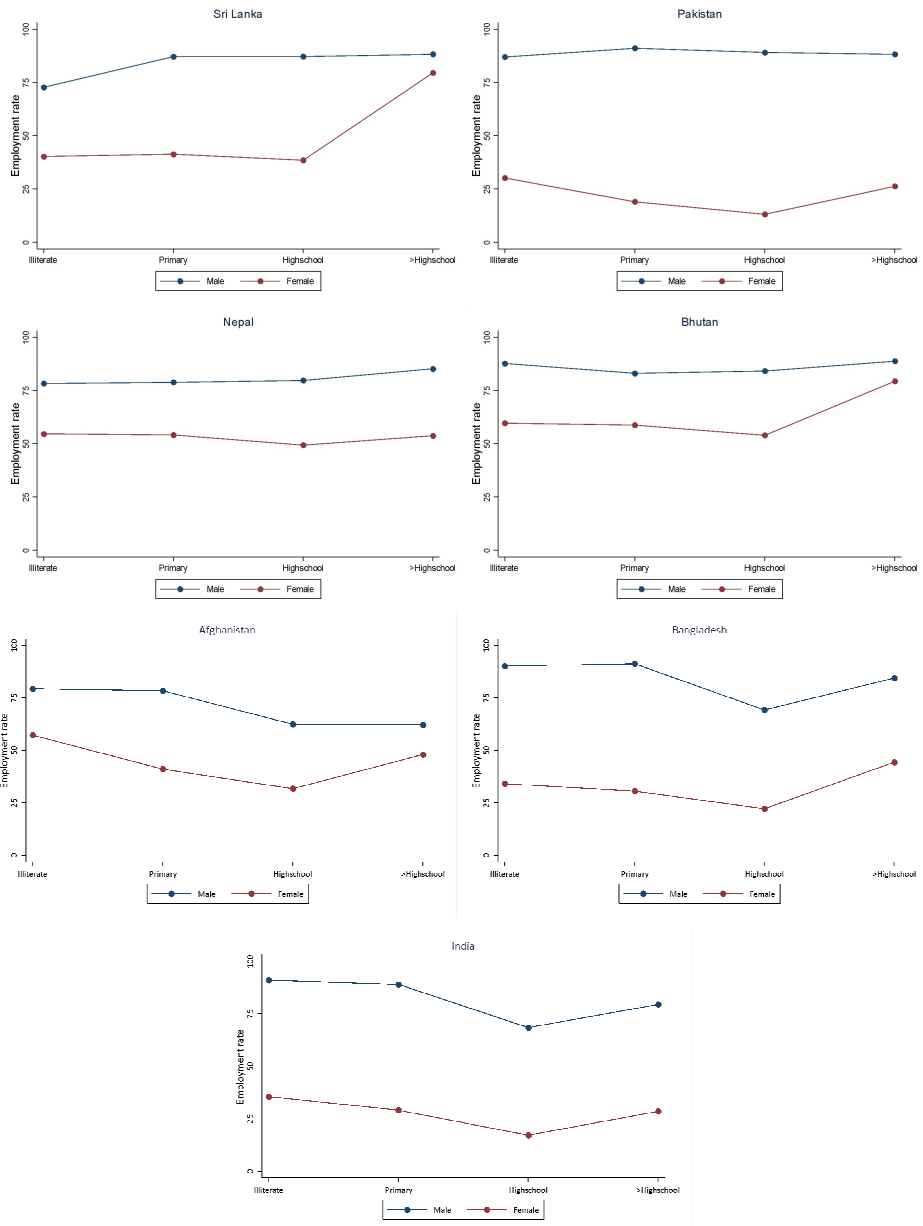
Sources: Calculated from LSS for Bhutan (2012), LFS for Pakistan (2014-15) and Sri Lanka (2015), and NLSS for Nepal (2010-11). *Notes:* Illiterate refers to no schooling or pre-primary education only; Primary refers to respondents who have completed more than pre-primary education until primary school completion (grade 1-5); High school refers to attainment of more than primary education until high school completion (grades 6-12); >High school refers to completion of a diploma, degree, vocational training after high school. Employment rate defined as share of male/female population in these four education categories that are "employed".

women. To test whether this pattern holds across South Asian countries, we first constructed a comparable indicator for education attainment[9]. We determined four education categories: little or no schooling (Illiterate), some completion of grades 1 to 5 (Primary), some completion of grades 6 to 12/ A levels (High School), and completion of higher education such as college, vocational training, or graduate school (Above High School).

In Figure 9, we observe that likelihood of male employment remains roughly constant across all education categories in most countries (the exceptions are Bangladesh and India). In Pakistan, we find a "U-shaped" relationship between female education attainment and employment rate: the share of women with little or no schooling employed in 2015 was 30.2 percent, which drops to 13.1 percent for women with at least some secondary level education and then increases again to 26.3 percent for those with some tertiary education. Even for women in the highest education category, the employment rate is 62 percentage points lower than that of male counterparts.

In Sri Lanka and Bhutan, women's employment likelihood is almost the same for those with low or moderate education, but increases sharply for women with tertiary education. The disparity between male and female employment rates falls significantly with higher levels of education, from around 30 percentage points for the lowest education category to 9 percentage points for those with the most education.

In Afghanistan, Bangladesh, and India, the U-shaped pattern seems to hold, although in these last two countries the same pattern holds for males, while in Afghanistan the male employment rate falls with education.

4. **Conclusions**

This paper analyzes employment across South Asian countries to shed light on the high gender employment gap in the region. After standardizing definitions of labor-related variables across different survey instruments, we compare employment by gender across countries and time by looking at different population age groups, economic sectors, location (urban or rural), type of employment contract, and institutional structure to explore factors that could explain the gap.

The aggregate figures show that since 2011 employment rates have been relatively stable in all countries except for Bangladesh, where the gap between men and women's employment has widened. In fact, in Sri Lanka and Pakistan the different recall periods used in different surveys do not significantly affect employment rates between men and women. In Bhutan, on the other hand, using a yearly recall period rather than a weekly one does generate a difference of up to 20 percentage points, depending on the specific year. In Nepal, Afghanistan, and India, our results do not lead to definite conclusions.

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[9] While the surveys for Sri Lanka, Bhutan, and Nepal had more precise data on education attainment (completion of each individual grade from 1 to 12), the data for Pakistan was not as detailed and contained fewer categories (primary, secondary, etc.) instead having completion of individual grades). Therefore, the education indicators in other countries were adapted to be comparable to those in the Pakistan survey.

When examining patterns of employment by age, the overall gender employment gap is small in the youngest age category, 15 to 24 years of age, but widens in the 25 to 54 range before decreasing somewhat in the oldest category of 55 to 64. Around 90 percent of middle-aged men are employed throughout the whole period to 2001 to 2015 in all countries, but stable differences between countries arise through time for the 15-to-24 and 55-to-64 male age brackets. Sri Lanka experienced the lowest male employment rates of around 42 and 70 percent respectively for the two groups, depending on the year, and Bangladesh the highest at 65 and 90 percent respectively for the two age groups.

Female employment, however, varies considerably across countries based on age. For any given year, female employment ranges between 25 and 65 percent depending on the country and age bracket. Interestingly, this variance between countries has been shrinking over time.

Most women in all countries and years, with the exception of Sri Lanka, are employed in agriculture; but since 2008 female employment in the tertiary sector has grown, a trend accompanied by a decline in the share of female employment in agriculture.

The rural-urban spatial dimension is also important. Once again, while male employment remains roughly stable across time, countries, and location, both rural and urban female employment varies considerably across countries. Urban female employment has not significantly evolved over time for any country, but rural female employment has decreased to different extents in Bhutan, India, and Bangladesh.

Finally, we present some cross-country evidence about the "U-shape" relation between employment and education. While this dimension of gender and employment deserves further study, our results suggest that mid-level educated females are less likely to be employed compared to both less-educated and highly-educated counterparts in all countries considered. In India and Bangladesh, men also exhibit this pattern, implying that drivers of this phenomenon are not solely attributable to gender differences.

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TABLES

Table 1. Female employment rate by respondent gender

	Respondent	
	Female	**Male**
Bangladesh	12.7	11.7
India	33.8	30.0
Nepal	85.0	82.6
Sri Lanka	44.4	39.6

Source: Bangladesh (BGD): HIES (2016); India (IND): NSS Thick Rounds (2011-12); Nepal (NPL): NLSS (2010-11) and Sri Lanka (LKA): HIES (2016).

Table 2: Can women do the same work as men?

Economy	Work the same night hours?	Work in mining?	Work in factories?	Work in construction?	Work in agriculture?	Work in water sector?	Work in transport?	Work in metal-working?
Afghanistan	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Bangladesh	Yes	No	No	Yes	Yes	No	Yes	Yes
Bhutan	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
India	No	No	No	Yes	Yes	Yes	Yes	No
Maldives	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nepal	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pakistan	No	No	No	Yes	Yes	Yes	Yes	Yes
Sri Lanka	No	No	No	Yes	Yes	Yes	Yes	Yes

Source: Women, Business and The Law database, World Bank (2018).

Table 3. Household censuses and surveys containing employment information in 2001-17.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Afghanistan			NRVA		NRVA		**NRVA**				**NRVA**		**ALCS**			ALCS	
Bangladesh					HIES					HIES						**HIES**	
	Census										Census						
			LFS		LFS					LFS			LFS		LFS		
Bhutan			**BLSS**				**BLSS**					**BLSS**					BLSS
					Census												Census
	LFS	LFS	LFS	LFS		LFS			LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	
India					**NSS-thick**					**NSS-thick**		**NSS-thick**					
	NSS-thin		NSS-thin	**NSS-thin**	**NSS-thin**		**NSS-thin**										
	Census										**Census**						
										EUS		EUS		**EUS**		EUS	
Nepal			**NLSS**								NLSS						
	Census										Census						
								LFS									
Pakistan					**PSLM**		**PSLM**		**PSLM**		**PSLM**		**PSLM**		**PSLM**		
		PIHS			**HIES**		**HIES**				**HIES**		**HIES**			**HICS**	
						HIES					HIES						
		LFS		LFS		**LFS**		**LFS**		LFS			**LFS**		**LFS**		Census
							LFS		LFS		LFS		LFS				
Sri Lanka		**HIES**				HIES	**HIES**			**HIES**			HIES			HIES	
	Census										Census						
	LFS	**LFS**	**LFS**	**LFS**	**LFS**	**LFS**	**LFS**	**LFS**	LFS	LFS	**LFS**	LFS	LFS	LFS	LFS	LFS	LFS

Notes: ALCS: Afghanistan Living Conditions Survey, EUS: Employment Unemployment Survey, HIES: Household Income and Expenditure Survey, HIES (for Pakistan): Household Integrated Economic Survey, HIICS: Household Integrated Income and Consumption Survey, LFS: Labor Force Survey, NRVA: National Risk and Vulnerability Assessment, NSS: National Sample Survey, PIHS: Pakistan Integrated Household Survey, PSLM: Pakistan Social and Living Standards Measurement. Access to primary data is indicated in **bold**. Surveys placed in between two years were collected in both years, for example, in Afghanistan the NRVA was collected in 2007-08.