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Women and Work in India: Descriptive Evidence and a Review of Potential Policies

ABSTRACT Sustained high economic growth since the early 1990s has brought significant change to the lives of Indian women. Yet female labor force participation has stagnated at under 30 percent, and recent labor surveys even suggest some decline since 2005. Using the 2011–12 National Sample Survey, we lay out five facts about female labor force participation in India. First, there is significant demand for jobs by women currently not in the labor force. Second, female non-workers have difficulty matching to jobs. Third, women are more likely to be working in sectors where the gender wage gap and unexplained wage gap, commonly attributed to discrimination, is higher. Fourth, vocational training is correlated with a higher likelihood of working among women. Finally, female-friendly employment policies, including job quotas, are correlated with higher female participation in some key sectors. Combining these facts with a review of the literature, we map out important areas for future investigation and highlight how policies such as employment quotas and government initiatives focused on skilling and manufacturing could be leveraged to increase women’s economic activity.

Keywords: Female Labor Force Participation, Jobs, India

JEL Classification: J16, J20, J48, O14, O15

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1. Introduction

Over the past four decades, India has experienced rapid population and economic growth, urbanization, and demographic change. Between 1990 and 2013, GDP growth averaged 6.4 percent (Figure 1); the share of agriculture in GDP roughly halved (from 33 to 18 percent), while that of services increased from 24 to 31 percent. Alongside, urbanization increased from 26 to 32 percent (World Bank 2018). At the same time, women’s education and childbearing patterns have changed: over the same period, total fertility fell from 4.0 to 2.5 children per woman (World Bank 2014a). Girls’ primary school enrollment has reached parity with that of boys, and universal enrollment\(^1\) was achieved in 2015 (Neff et al. 2012; UNESCO 2015). Between 1994 and 2010, the fraction of women aged 15–24 attending any educational institution more than doubled from 16.1 to 36 percent (Kapsos et al. 2014).

However, despite this rapid economic growth, educational gains, and fertility decline, India’s women remain conspicuously absent from the

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**Figure 1. GDP per capita and Female Labor Force Participation in India over Time**

![Diagram showing GDP per capita and Female Labor Force Participation in India over time.](image)

Source: World Bank World Development Indicators.

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\(^1\) As a fraction of the school-age population.
labor force. Female labor force participation (FLFP)\(^2\) rates remain low and have even fallen in the recent years.\(^3\) This perceived decline persists even when we account for increased schooling, which delays entry into the labor force (Klasen and Pieters 2015). Figure 2 shows that FLFP in India is well below its economic peers, and the mismatch between economic growth and FLFP rates in India presents a puzzle. In this paper, we examine possible constraints on participation and potential policy interventions that could increase it, highlighting five descriptive facts relating to patterns of FLFP in India and incorporating a literature review of policy evaluations to identify promising policies worth further investigation.

2. We calculate the LFP rate by dividing the number of individuals in the working-age population (ages 15–70) employed in wage labor, own-account work, casual labor, unpaid labor, self-employment, or as an employer, plus those unemployed and seeking work, by the entire working-age population (15–70) not currently enrolled in school.

3. Although estimates based on household surveys vary, from a low of 24 percent using the National Sample Survey (NSS; for 2011–12) to a high of 31 percent using the Indian Human Development Survey (for 2004), it is widely acknowledged that FLFP growth has been stagnant, and that some earlier gains have been reversed.
Implementing effective, evidence-based policy to increase FLFP and increase women’s economic activity could have a large impact on economic growth. Recent evidence from the USA suggests that misallocation of talent in the labor market, whereby high-ability women are in low-skilled, low-return occupations, presents a significant hindrance to growth (Hsieh et al. 2013). Specifically, in the Indian context, Esteve-Volart (2004) shows that a 10 percent increase in the female-to-male ratio of workers, a proxy for discrimination-based differential access to labor markets, would increase per capita net domestic product by 8 percent.

From an individual woman’s perspective, participation in wage work delays age of marriage and age at first childbirth (Sivasankaran 2014), increases her decision-making power in the household, and increases child schooling (Qian, 2008). Figure 3, on the basis of India’s most recent


![Empowerment/Decision-Making Index by Education Levels](image)

Notes: Includes ever-married women aged 15–49.

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5. Several observational studies find that women with more control over resources such as land report greater mobility, have children with better nutritional outcomes (Swaminathan et al. 2012), and are less likely to experience violence (Panda and Agarwal 2005). In addition, access to and information regarding female-specific labor market opportunities improves female educational attainment and delays age of marriage and childbearing (Heath and Mobarak 2015; Jensen 2012).
National Family Health Survey (NFHS), shows that women who work, regardless of education level, have more say in household decisions. Women’s work also has positive spillovers: Sivasankaran (2014) shows that sisters of women with longer work tenures marry later, and villages that are exposed to more female leaders show lower rates of sex selection (Kalsi 2017).

The recent trends in India’s FLFP, combined with their already low levels of participation, are increasingly seen as a challenge that requires policy intervention to ensure that these changes do not result in deterioration in women’s well-being and already low levels of empowerment. Although the justification for a policy focus on FLFP is clear, the fact that observed FLFP levels reflect both supply and demand factors makes determining causation, and thus the range of appropriate policy responses, difficult. To better understand these potential factors, we use household surveys to document key descriptive facts highlighting both the role of social and economic factors that affect labor supply, demand, and outcomes. Given our use of one cross-sectional survey, we primarily focus on the low level of FLFP, rather than the recent decline in rural FLFP. Then we discuss the implications for further investigation tied to existing high-profile policies and government programs.

On the supply side, Indian households often require that women prioritize housework and may even explicitly constrain work by married women (Bose and Das 2018; Sudarshan 2014; Sudarshan and Bhattacharya 2009). Societal expectations of a woman’s role as caregiver and caretaker of the household often mean that women who seek work encounter opposition from their peers and families, leading to lower participation. Women frequently internalize these views and may therefore suppress labor supply even in the absence of explicit constraints. Rustagi (2010) provides evidence that these norms per se have not significantly changed over the last two decades. There is also evidence that these norms are more binding among wealthier, upper-caste households, suggesting that economic growth alone may not alter their influence. Low urban FLFP is consistent with this possibility.

6. Figure 3 was made using questions from the 2015–16 NFHS data on women’s roles in household decision-making and women’s views on whether beating is not justified in each of a given set of situations. Using these questions, we create an “empowerment” or decision-making index through principal components analysis, standardized to be equal to zero with a standard deviation of one.

7. Here and elsewhere, we define social norms to be a set of beliefs or perceptions of what one’s community holds to be true or acceptable (Ball Cooper, Paluck, and Fletcher 2012).
On the demand side, women face legal, normative, and economic constraints to work. Indian women are still subject to laws governing when (i.e., which shifts) and in which industries they can work. These rules may disproportionately affect women even as the economy grows: for example, 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 factory laws (Gupta 2014). Though these laws may change soon, employers still may be less apt to hire a woman over an equally qualified man. As long as there exist norms against women’s market engagement, we expect to see gender-based discrimination in hiring, legal or otherwise, and gender wage gaps persist that cannot be explained by common sources of observable market variation in wages. Demand for labor of rural Indian women engaged in agriculture is also particularly vulnerable to seasonal and local labor market fluctuations, leading women who count themselves as workers to withdraw into domestic activities when other work is not available (Bardhan 1984).

Overall, high, sustained economic growth in India has not necessarily brought more jobs (Bhalotra 1998; Chowdhury 2011; Kannan and Raveendran 2009; Papola and Sahu 2012). Jobless growth in sectors that employ more women or seem friendlier to women necessarily limits growth in FLFP. In the 1980s, jobless growth was evident in manufacturing (Bhalotra 1998), and there is some reason to believe women may have suffered from this relatively more acutely than males. Recent work highlights the lack of jobs to absorb women transitioning out of agriculture, which may further depress demand for potential female labor (Chatterjee, Murgai, and Rama 2015).

Norms around women and work clearly affect both supply of, and demand for, female labor. Data from the World Values Survey (WVS) give insight into how norms in India may constrain women’s labor force outcomes, while also highlighting that norms alone can only partially explain India’s low FLFP. Figure 4 shows responses that highlight the prominence of gender-biased views on women’s roles in the economic and political landscape in countries comparable to India. These statistics suggest that views against women holding an equal footing in the classroom and market still persist in India and elsewhere, even among women (albeit to a more limited extent than in males). Interestingly, although India’s FLFP looks most similar to Pakistan, its norms-related responses look more in line with countries that have a significantly higher FLFP, suggesting variation in these views on women and work cannot fully explain India’s lagging FLFP.
FIGURE 4. FLFP and World Values Survey Attitudes on Women and Work

Views of Women in the Workplace and FLFP

Working Women Do Not Have as Good Relations with Children vs. Stay-at-home Mothers

Country

% who agree

Pakistan  India  Bangladesh  Indonesia

Men Should Have Preference for Jobs

Country

% who agree

Pakistan  India  Bangladesh  Indonesia

Men Make Better Business Executives

Country

% who agree

Pakistan  India  Bangladesh  Indonesia

Source: Attitudes from most recent World Values Survey for each country. Female-to-Male LFP ratios are 2016 ILO estimates.
Our descriptive analysis, focused on the 68th Round of NSS data, highlights five features of Indian women’s market engagement important for understanding the constraints to higher FLFP and potential policy solutions. First, a large proportion of Indian women express willingness to take on work despite being counted outside of the labor force. There is a strong rural–urban divide in this statistic, as others have noted (Kapsos et al. 2014). Second, women have more trouble matching to jobs than men. They report seeking or being available for jobs longer than men when unemployed, and women who did work reported spending more time unemployed than males. Third, wage gaps and unexplained wage gaps—typically interpreted as at least partially reflecting gender-based discrimination in the labor market—are relatively higher in fields with greater female representation. Fourth, at all levels of education, women with vocational training are more likely to work than those without training. Finally, women are doing relatively well in terms of representation in specific jobs, namely, education and work provided by the government’s job guarantee program, the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA); factors potentially driving this success should be investigated further.

Alongside these descriptive features, we examine evidence from recent high-quality academic research that seeks to provide causal estimates of policies and other factors affecting FLFP in India. The review of this evidence again underscores the importance of access to jobs, networks, social norms, and the potential importance of policy interventions in women’s labor force decisions. Taken together, the descriptive analysis and evidence review suggest several key areas on which to focus research inquiry, some of which converge with the Government of India’s policy priorities.

The government has already put in place programs and policies to increase women’s access to labor market opportunities, namely, increased funding to skills and vocational training programs and gender-based employment quotas. There is some diagnostic evidence and literature that support the implementation of these policies, but the immediate pressing need is for more rigorous research to better understand the causal mechanisms for how these policies might affect female employment. Rigorous testing would also allow for better targeting of policies, both in who is most affected and how they are applied to different groups.

An area requiring urgent attention is that of improving data and evidence to better understand the constraints and solutions to India’s low FLFP. We outline specific steps related to data collection that can raise women’s visibility in the labor force and serve as a potential impetus for important dialogue and initiatives aimed at engaging them more effectively in the economy.
2. Data and Diagnostics Methodology

2.1. Data

Our primary data source is the employment module of the Indian NSS for 2011–12 (68th Round). Our analysis sample consists of 136,465 women and 131,542 men aged 15–70 who are not currently enrolled in school. We define and examine labor force participation (LFP) using the survey question on usual principal activity of each household member who meets our inclusion criteria, unless otherwise noted. The LFP rate is calculated using the sum of all individuals employed in wage labor, own-account work, casual labor, unpaid labor, self-employment, or as an employer, plus those who are unemployed and seeking work, divided by the working-age population (15–70) not currently enrolled in school.

2.2. Descriptive Summary of FLFP in India

The variation in FLFP across India is striking—at the state level, FLFP rates vary from below 20 percent of the male LFP rate to nearly 80 percent—and its cross-sectional relationship with income does not align with the standard economic development story. Figure 5 examines the relationship between the natural log of net state per capita domestic production, a proxy for per capita income, and the ratio of female-to-male LFP, for comparison to the cross-country estimates presented in Figure 2. Although Indian FLFP is low from a cross-country perspective (below the U-shape), Indian states do not follow any sort of U-shape themselves in the cross-section; instead, FLFP is generally flat, with outliers on the higher end where some states at middle and higher relative incomes are associated with higher FLFP.

What explains the differences in FLFP across India’s states? Figure 6 shows the level of FLFP by state, on the left, and the unexplained

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8. This nationwide survey includes 459,784 individuals from 100,957 households. We drop individuals who do not report marital status or employment type and weight the survey as instructed, unless otherwise indicated.

9. We use the question on “principal usual activity status” from Block 5.2 of NSS Schedule 10.

10. Own-account workers are self-employed individuals operating their own enterprises, largely without hiring labor. Self-employment generally refers to persons who work in their own enterprises, often with the help of hired labor or employees. Unpaid refers to unpaid family workers. Regular employees receive salary or wages on a regular basis. Casual workers receive a wage according to the terms of a daily or periodic work contract.

11. Though some analyses of LFP in India include secondary activity statuses (e.g., Kapsos et al. 2014), we limit the definition of LFP to usual principal activity.
FIGURE 5. Indian States’ FLFP Is Relatively Flat across Income Levels

State Per Capita Income and Relative Female Labor Force Participation

Source: State Net Domestic Product per Capita from MoSPI for 2011–12; Ratio of female-to-male labor force participation rates computed using NSS Round 68 from 2011–12.
FIGURE 6. Some States Have Higher FLFP than Others, after Controlling for Income and Education

Female Labor Force Participation Rate by State

Unexplained Variation in FLFP by State

Source: NSS 68th Round.
component of each state’s FLFP after controlling for the state’s mean income and (dummied) education levels in cross-state regressions on NSS data. Strikingly, some states have both high FLFP and a large component that is not explained by their income or education levels. A key question for policy, then, is: What are the features of these states, such as Himachal Pradesh or Chhattisgarh, from which other states can learn? One potential explanation here is the more progressive gender norms typically thought to characterize these two states.

Beyond the state-level differences, descriptive statistics on FLFP show a significant difference in how men and women interact with the labor market, as well as regional and inter-caste differences among women. Male LFP averages 96 percent, while FLFP averages only 27 percent, and, as documented elsewhere (Klasen and Pieters 2015), FLFP is lower in urban areas relative to rural areas. Further, 76 percent of women in urban areas report their primary activity as domestic duties compared to 67 percent in rural areas. Women in rural areas are more likely than their urban counterparts to work in unpaid family labor. Rates of wage work and self-employment for women are similar, but low, in rural and urban areas. Table 1 provides basic summary statistics related to FLFP in India, and Figure 7 highlights the diversity in district-level FLFP patterns.

These urban–rural differences in FLFP are important, given the much higher education levels among urban women: over 60 percent of women in rural areas have at best a primary education, while this is only true for 30 percent of urban women. Yet higher education does not predict higher FLFP rates linearly. Instead, we observe a U-shaped relationship between education and FLFP (Figure 8), much like the cross-country relationship between income and FLFP (Figure 2). Women at very low levels of education are more likely to be in the labor force, with 20 percent of low-educated women in the labor force in urban areas and 28 percent in rural areas. Women with some secondary education have the lowest levels of participation (around 22 percent) and highly educated women again post higher levels of FLFP. The U-shaped relationship is the clearest for urban women and likely reflects an income effect, whereby women opt out of the workforce and into greater household production and leisure as household incomes rise, and then opt back into market work as the opportunity cost of remaining out of the labor force increases. This U-shaped relationship between education and work for women stands in contrast to male LFP, which increases with education and is nearly universal, excluding those currently enrolled.

Figure 9 shows that the age profile for FLFP differs across rural and urban areas. Young urban and rural women are similarly likely to enter the
### TABLE 1. Summary Statistics

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<td>(0.491)</td>
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<td>(0.328)</td>
<td>(0.331)</td>
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(Table 1 Continued)
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Source: NSS, 2011–12.
Notes: Standard errors in parentheses. Sample restricted to individuals aged 15 to 70 years not currently enrolled in school.
labor market, but FLFP rates across rural and urban areas for women in their mid-20s and older diverge; the higher rural FLFP primarily reflects these women’s participation in agricultural activities. The cross-section does not allow us to separate cohort and secular trends, limiting the conclusions that can be drawn, but the relatively low FLFP among both rural and urban young women is particularly disturbing since these young women are not enrolled in school. It is also suggestive of a lack of opportunities (or acceptable opportunities) for young women in rural areas, in comparison to less educated older rural women, in general.
FIGURE 8. Educational Profile of Labor Force Participation for Men and Women

Source: NSS, 2011–12.
Note: Includes individuals aged 15–70 not enrolled in school.

FIGURE 9. Age Profile of Labor Force Participation among Women by Geographic Location

Source: NSS, 2011–12.
Note: Includes women aged 15–70 not enrolled in school.
Social norms surrounding female work are an important constraint on FLFP in India, as they may dictate that women are primarily caregivers and thus belong in the home. Although we do not observe a sharp M-shaped relationship between age and FLFP—exit at childbearing and re-entry as children get older—as in Japan or Korea (Kawata and Naganuma 2010; Lee et al. 2013), FLFP does show a drop-off among women in their early to mid-20s in urban areas, suggesting that marriage and family-related responsibilities may specifically limit women’s LFP. Household surveys show that 13 percent and 50 percent of women are not allowed to visit village markets or stores alone, respectively, so imagining that women face constraints on working outside the home is not a large jump. These social norms are linked to the caste system; upper-caste women are more likely to face restrictive norms (Field et al. 2013).12

Figure 10, using the NSS, shows FLFP age profiles by whether the household is identified as Scheduled Caste (SC), Scheduled Tribe (ST), Other Backward Class (OBC), or other Hindus and Muslims. Those identified as SCs are the most likely to be working at all ages. All other social groups are much less likely to be working, but particularly for the youngest cohorts. High-caste Hindus and Muslims post the lowest rates of FLFP at all ages, consistent with other research.

Household responsibilities and childrearing duties are often cited as key constraints to women’s participation in the labor force. Figure 11 illustrates how FLFP varies for married and unmarried women with and without children in the household over the cross-sectional age profile. The biggest takeaway from this figure is that women who marry have low LFP across all

12. Social norms may also affect whether survey questions can adequately measure the full extent of female participation in the labor market. If women identify strongly with a non-labor market role, such as caregiver or mother, or feel they are expected to identify with that role, they may designate that as their primary activity, even if they spend time in remunerated activities. Other nationally representative datasets from India also show slightly different levels of overall FLFP. The first round of the IHDS, a survey undertaken in 2004–05, estimated overall FLFP in India at 31 percent (14.6 percent in urban areas and 39 percent in rural areas), compared to 35 percent as reported by the ILO for 2004 (World Bank 2014b). The difference in overall levels of participation may reflect that women do not necessarily identify with work as their primary activity, and the use of more probing questions and time-use data would result in more available information on the productive and even income-generating activities of women.

Further analysis of the IHDS shows similar patterns to the NSS in the relationships between key variables such as age, urban/rural location, and social group, even while the levels of participation for these sub-groups tend to be higher in the IHDS. Trends over time shown in the NSS data and statistics collected by the ILO and World Bank are likely real, even if we are concerned that the actual level of participation is obscured by reporting biases.
**Figure 10.** Labor Force Participation by Age, Disaggregated by Social Group

![Graph showing labor force participation by age and social group](image)

Source: NSS, 2011–12.
Note: Includes individuals aged 15–70 not enrolled in school.

**Figure 11.** FLFP by Marital Status and Presence of Children in the Household

![Graph showing proportion of women in labor force by marital status and presence of children in household](image)

Note: hh = Household.
ages, suggesting that older cohorts have not entered the labor force even as children grow up. A second insight is that the largest differences in LFP are reflected in marital status rather than the presence of children in the household, particularly during prime working ages. As approximately 95 percent of Indian women aged 25 and older are married (or formerly married), lower FLFP dominates.

Below we highlight additional key descriptive facts about India’s FLFP to build on some of these more well-established features.

1. A significant portion of out-of-labor-force women express willingness to work: although socially constrained labor supply may explain part of low FLFP, women do express willingness or desire to work. Among both rural and urban women, particularly of certain demographic groups, a significant portion would be willing to take on work if it were offered. More than 30 percent of the group of women engaged primarily in domestic activities—and counted outside the labor force—would like to work and thus constitute a potential addition to the labor force or latent labor supply. If all these women who stated they would take work actually did, we would see a 21-percentage point (78 percent) rise in the FLFP rate, substantial given the low rates of participation overall.

Women currently out of the labor force who are willing to take a job tend to be more educated, slightly more likely to live in rural areas, and not belonging to the SCs or STs. Figure 12 summarizes how education, geography, and social group (SC, ST, OBCs, and general categories) correlate with willingness to work. The percentage willing to work is slightly higher in rural areas (32 percent of respondents) than in urban areas (28 percent). Among rural women, latent labor supply is generally higher among those with more education. Almost 45 percent of rural, highly educated women who report their primary activity as domestic duties also report that they would accept work.

Inter-caste differences in reported willingness to take on work point to the importance of norms in latent labor supply, particularly in urban areas, as suggested by Klasen and Pieters (2015). Figure 12 shows that women from “Other” and “OBC” categories consistently express lower willingness to work than SC and ST women of the same education levels and geographic sector. Among urban women in the OBC/Other categories, willingness to work does not increase with education. In contrast, urban

13. While only 815 males in the entire NSS were categorized as belonging to the domestic worker category and were asked this same question, a similar percentage (35 percent) report being willing to take on work.
SC and ST women have a relatively U-shaped expressed willingness to work, reflecting the typical income and substitution effects. Rural women’s willingness to work, in contrast, generally increases within caste as education increases, pointing again to the lack of jobs for women at higher education levels in rural areas.

Unsurprisingly, among women who did not work, over 90 percent were primarily occupied with domestic duties in the previous year; 92 percent of these women said domestic duties were their principal activity in the previous year because they were required (needed) to perform these activities, with 60 percent of these women reporting that there was no other household member available to carry out these tasks. Only 15 percent reported social or religious constraints as the predominant reason they were required to spend their time focused on domestic duties.

2. Job matching is more difficult for females than males: Analysis of available data on job-seeking suggests that women experience greater difficulty matching to jobs that suit them than men. If women have preferences
for non-agricultural jobs in rural and peri-urban areas, the lack of non-agricultural jobs for women may explain low FLFP, in general, and the decline in rural women’s LFP specifically (Chatterjee et al. 2015).

The types of jobs women report wanting vary by age, but are primarily of a part-time nature, reflecting the demands of other household responsibilities, particularly in the context of marriage and childbearing. While 73 percent of women willing to take a job prefer regular, part-time work, 22 percent want regular, full-time work; the remaining 5 percent want a mixture of only occasional full or part-time work. The youngest women are most likely to report wanting a full-time job, while those in the middle age ranges are most likely to prefer regular part-time work (Figure 13).

Yet preferences of those outside the labor force do not align with jobs women have. Figure 14 compares the type of work undertaken by female workers to the type of work preferred by women out of the labor force who report being willing to take on a job. Of women who work, just under 17 percent report working part-time, over six times the rate that males report but less than a quarter the rate expressed as preferred by willing women workers—again pointing to a potential lack of jobs that may suit women’s

**Figure 13.** Type of Work Women Counted Out of the Labor Force Would Accept by Age

![Graph showing the type of work women would accept by age.](image)

Source: NSS, 2011–12.

Note: Includes individuals aged 15–55 not enrolled in school. Excludes those in the labor force.
preferences or obligations. Although only 5 percent of women out of the labor force who report being willing to take on work say they would prefer occasional work, 16 percent of women who did work were not working regularly, nearly twice the rate reported by males. Although women who work may prefer different types of work than those that remain at home occupied with domestic duties, the fact that employed women are overwhelmingly situated in full-time work while those who would like to enter the labor force prefer part-time work points to important supply–demand mismatches relevant to low FLFP rates.

Finally, the process of job search itself is gendered: among those counted in the labor force, women who did not work the entire previous year spent more time seeking a job or being available for a job than men. Women who did work report being without work slightly longer than men as well. And even a sub-set of women reporting they were solely occupied

<table>
<thead>
<tr>
<th>Actual Employment, Women in Labor Force</th>
<th>Preferred Type of Employment, Women out of Labor Force Who Report they Would Take on Work</th>
</tr>
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<tbody>
<tr>
<td>Regular Full–time</td>
<td>Occasional full–time</td>
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</table>

Source: NSS, 2011–12.
Note: Includes women aged 15–45 not enrolled in school. Women asked question for the graph on the right are those occupied with domestic duties and counted out of the labor force but say they would take on work made available to their household.
with domestic duties report this was because there was no work available for them. Consistent with the possibility that labor market conditions constrain women’s market activities, those women counted in the labor force in the NSS Round we use also report significant differences in time spent in work and domestic activities in the previous week based on the month in which they were surveyed. Taken together, these statistics point to a market less closely aligned with female job-seekers than males.

However, despite their stated willingness to work, women reported searching for jobs with less intensity than men. One-third of women report not seeking a job when they were unemployed, compared to 18 percent of men. It is difficult to disentangle the reasons for this differential search. Social desirability bias, whereby respondents are unable or unwilling to report true answers on sensitive subjects due to their perception of what is right or acceptable for women’s work, may lead to under-reporting of women’s willingness to take a job or—probably more consequentially—actual activities undertaken in a job search (Fisher 1993). Lower expected success in job searches may also result in women searching for jobs with less intensity than men, and, again, norms may constrain labor supply even when women prefer to work.

3. Wage gaps and unexplained wage gaps are higher in fields with greater female representation: How do women tend to fare in sectors in which they are most likely to work? We examine this question looking at the first (primary) activity women report undertaking in the previous week and the daily wages they report for this activity. Activities are classified using India’s National Industrial Classification (NIC) codes from 2008. The graph on the left-hand side of Figure 15 highlights how economic activities

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14. The NSS question covering latent labor supply reads, “In spite of your preoccupation in domestic duties, are you willing to accept work if work is made available at your household?” It is asked of individuals who say they are primarily occupied with domestic duties only or domestic duties and the free collection of goods.

15. We utilize the NSS current weekly activity status to regress time spent on work, and time spent on domestic duties on the month of the survey for women counted in the labor force, similar to the approach used by Bardhan (1984) for rural West Bengal.

16. Of the 8 percent of women primarily occupied with domestic duties who said they were not required to be occupied with these tasks, just under 20 percent reported they continued working on domestic activities because there was no other work available to them.

17. NIC codes, produced by the Central Statistical Organisation in India, classify economic activities at the group, class, and sub-class level. We collapse the two-digit numeric codes, known as divisions, further among similar types of activities without fully condensing to the much broader section categorization. A detailed mapping of the NIC codes to the collapsed codes is available in Table A.1.
FIGURE 15. Gender Wage Gaps, and Unexplained Wage Gaps across Types of Work

Source: NSS, 2011–12.

Note: Daily wages have been calculated on the basis of pay for main activity reported in the previous week. The Y-axis on the right-hand graph shows the unexplained component of the male–female wage gap after controlling for worker marital status, age, social group, education (secondary, tertiary), and state using Oaxaca–Blinder decomposition for each NIC sector of work.
in which women represent a larger proportion of the workforce are also those in which gender wage gaps are larger, as measured by the female wage as the proportion of male wages.

Overall, women tend to be less represented in the service sector, and manufacturing industry is an important employer of women. In other work, we have shown how the gender gap in LFP in the services sector is 19 percent in favor of men, but 1 percent in favor of women in manufacturing, and women’s relative representation in manufacturing grew from 15 percent to 25 percent between 2010 and 2012 (Prillaman and Moore 2016). These facts alone raise important questions about the future of female employment, given the often-cited narrative on the role of service sector jobs in women’s increased employment, particularly as countries continue to develop economically (Goldin 1995).

Wage gaps alone, however, may simply reflect differences in the labor force composition across genders on the basis of easily observable characteristics, such as education. Oaxaca–Blinder decompositions can highlight the extent to which the gender wage gap is driven by these observable differences across genders (Blinder 1973; Oaxaca 1973). The right-hand side graph in Figure 15 plots the unexplained wage gap that remains within each NIC category after netting out observable differences in marital status, age, social group (SC, ST, OBC, Other), education (secondary and tertiary education), and state-fixed effects across workers by gender on the natural log of wages by gender. Importantly, the unexplained component of the wage gap also tends to be larger for sectors in which females represent a larger proportion of all employed in that sector.

Stated differently, the sectors in which females tend to fare relatively better in terms of wage gaps are often those in which they are least represented. Sectors with the lowest unexplained wage gap tend to be in the service sector, although a good number of service sector jobs also perform relatively poorly on this measure.

4. Women with vocational training are more likely to work at all levels of education: Conditional on reporting they were willing to accept a job, the NSS asked a sample of women whether they have the requisite skills to take on the type of work they preferred. More than half of these out-of-labor-force women who were primarily occupied with domestic duties and stated they were willing to take on work said they did not have the skills required to undertake work in their desired fields (Figure 16).

Interestingly, women who have attended skills or vocational training, whether formal or informal, are more likely to be working. Women who
have participated in skills (vocational) training have higher levels of FLFP, regardless of educational levels (Figure 17), though the U-shaped relationship between education and FLFP persists. Although noteworthy, skills trainees are likely positively selected on a variety of dimensions and this relationship should, therefore, simply draw attention to the need for additional investigation and testing.

5. Fields with female-friendly policies have higher female representation: Despite their overall low LFP, certain fields and occupations employ many women and, in some cases, more women than men. Figure 18 highlights fields with high numbers of women employed by rural/urban status. As expected, agriculture is the most common employer of working women, with approximately 55.6 million women working in agriculture in rural areas alone. The next most common is manufacturing of textiles, food, and other products, which is a significant employer of women in both rural and urban areas. Women are also frequently employed in construction across both geographies. Other common fields employing women across urban and rural areas in the service sector include education, retail trade, and home-based services.
Fields with the highest proportion of female workers are not necessarily those with the highest numbers of female workers, and only a few fields exceed 50 percent representation. These fields include domestic workers in both rural and urban areas and some limited manufacturing in rural areas. Notably, female representation and overall employment numbers are relatively high in education, some manufacturing, and limited services across both rural and urban areas.

The Government of India has worked to implement gender-sensitive policies in certain industries and occupations to increase gender parity. Primarily, these have worked through quotas, which we discuss further in the policy section, but here highlight the sectors in which there are quotas and women have relatively high participation.

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) provides up to 100 days of paid unskilled work per rural household annually. In contrast to the national labor market, which is comprised of only 22 percent women overall, 54 percent of MGNREGS person-days

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**FIGURE 17. Labor Force Participation by Educational Attainment of Respondents on the Basis of Participation in Skills Training**

![Bar chart](Image)

Source: NSS, 2011–12.

Notes: Includes women aged 15–70 not enrolled in school.
FIGURE 18. Number of Females Employed by Type of Work

Fields with Highest Number of Female Employees

Note: The type of employment is that listed as first activity in the weekly time-use module for the sector.
were completed by women in fiscal year 2018–19. MGNREGS uses a gender quota, requiring that at least one-third of person-days are worked by females, but the 33 percent requirement is clearly exceeded, and, therefore, cannot fully explain such high levels of female participation. Other potential reasons why MGNREGS attracts women include its wage parity policy, which may be particularly appealing for unskilled rural women accustomed to large gender wage gaps, and because it provides work for women near their households.

The education sector is also a large employer of women in both rural and urban areas, as mentioned earlier, and the share of female teachers has risen over the past four decades (Chin 2005). One possible explanation for this rise is the implementation of Operation Blackboard in 1990, a government initiative to increase educational attainments, which included a de jure quota for the proportion of female teachers at 50 percent. This quota has not been rigorously analyzed, and female representation continues to fall short of the 50 percent mark. However, the fact that education is an important sector for female employment suggests that gender-sensitive policies directed at the education sector may be features relevant to women’s relatively high participation.

3. Evidence Review

Against the background of descriptive facts, we review recent academic literature to identify potential policy levers for increasing FLFP. India has been host to a number of rigorous academic studies that seek to tackle causality concerns; several of these exploit the varied conditions and policies in India’s states. We perform a selective review of rigorous papers with a strong causal identification strategy (i.e., quasi-experimental, Randomized Controlled Trial (RCT), experimental) from a list of top academic journals and working paper series over the years 2004 to 2017 from India, with select papers of particularly high relevance included from other countries in the region. The review methodology and included papers are summarized in Appendix (Table A.2).

The literature confirms findings from the descriptive evidence above that women have limited access to the labor force. Norms, declining FLFP in rural areas due to a lack of access to part-time work and work outside of agriculture, job mismatch, and more are important constraints that we
**FIGURE 19.** Fields of Work with Highest Representation of Females

**Fields with Highest Proportion of Female Employees** (Excludes Agriculture)

*Source: NSS, 2011–12.*

*Note: Numbers above bars show percentage employees in the sector that are female. Type of employment is that listed as first activity in time use module for sector. Excludes agriculture.*
examine in more detail in this section. Randomized and quasi-experimental evaluations show that there are proven methods to alleviate these constraints and encourage more women to join the labor force, also described further.

3.1. Information

Women often lack information about returns to work and access to adequate job opportunities. When coupled with restrictive social norms, lack of information may depress how and when a woman may work, but research shows that these norms are not immutable. Information, obtained via active recruitment or through family ties, can affect women’s work and family outcomes. Active recruitment of women by the business processing outsourcing sector increased FLFP in that sector and by 2.4 percentage points overall (Jensen 2012) and sisters of factory workers were more likely to delay marriage and childbearing (Sivasankaran 2014). In the Philippines, women who were encouraged to attend a job fair were more likely to be in formal and informal employment, though less likely to be self-employed (Beam 2016).

3.2. Job Location

Where travel is difficult, costly, or constrained due to norms linked to mobility, proximity to jobs is an important constraint. Although evidence on importance of job proximity in India is low, in nearby Bangladesh, factory placement is predictive of who works. Women living in close proximity to garment factories were 6.5 to 15.4 percentage points more likely to be employed than women far away from them (Heath and Mobarak 2015). In Pakistan, the presence of a government school was associated with more private schools, which increased female employment as women primarily staff such schools (Andrabi et al. 2013).

3.3. Peer Effects

Like information, role model or peer effects can have an impact on women’s participation. In areas where jobs that women prefer are not available, self-employment may provide opportunity and flexibility for women to enter the labor market, and having contacts and role models can lead women to take steps to grow their businesses. Business training on its own increases the likelihood that women will take out loans for self-employment (Field et al. 2013; 2016), but inviting a friend to business training has a positive differential impact in encouraging women to take out loans over and above business training itself, particularly for women most constrained by norms (Field et al. 2016).
3.4. Economic Returns and Norms Formation

Environmental and institutional features can shape FLFP and have lasting effects. Comparing districts with soils in need of significant hard labor to areas with soil that is more easily worked, Carranza (2014) shows that high FLFP is persistent across time; a 10-percentage point higher fraction of loamy to clayey soils (proxies for areas in which females would be less likely to provide agricultural labor) is associated with a 5.1 percent decrease in FLFP in India. Similarly, plough use, which is associated with soil type, is connected to historical FLFP in agriculture, which contributed to the formation of norms around women’s work (Alesina et al. 2013).

3.5. Discriminatory Laws

Legal barriers to female employment—restrictions on working hours or differential skill levels—are key to understanding how a discriminatory policy may affect overall participation. These restrictions interact with other policies. Notably, Gupta (2014) shows that reductions in trade barriers in India actually reduced female employment. Though the author cannot show that these effects are directly linked to discriminatory policies, the factory laws, which prohibit women from working certain shifts, are a likely culprit.

3.6. Targeted Policies

Equality-enhancing laws may also exert effects on FLFP. Note that traditional economic levers, such as tax policies and incentives, which have been shown to be important contributors to women’s labor supply decisions in developed countries, are likely not a major determinant of FLFP in India, where 10 percent of the population is part of the formal labor force. The Hindu Succession Act, which granted women in parts of India equal inheritance rights, differentially affected geographic, religious, and ethnic groups. Heath and Tan (2014) exploit this natural experiment to show that women in the affected groups were 9.7 percentage points more likely to be working and 5 percentage points more likely to be working outside the home.

Cash and asset transfers to female-headed households where recipients often survive on less than two dollars per day have also been shown to increase welfare for women. Banerjee et al. (2011) show that productive

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19. As estimated from NSS 68th Round data for the population ages 15–70 not in school. A respondent is considered to be part of the formal labor force if they have a written contract for a job they hold, thus providing a lower bound on population participation in a job where income taxes would be relevant to the household.
asset transfers (namely, livestock) to very poor women in West Bengal, when paired with training and savings, resulted in increased consumption, at least in part through increases in small business activity as well as an increase in labor supply on the intensive margin. Other findings from Bandiera et al. (2009) show that such asset transfers led to increased business skills and increased time spent working. These intensive margin effects on LFP could improve outcomes for self-employed women by increasing self-employment income or profits. In nearby Sri Lanka, business training plus cash grants were more effective at increasing profitability of female-owned businesses (De Mel et al. 2014).

Finally, research also shows how transfers of MGNREGS wages into a woman’s own bank account, rather than that of the household head, in an RCT in Madhya Pradesh, increased women’s work under MGNREGS. Beyond this expected impact, the intervention also highlighted the potential importance of gender-specific norms related to women’s work in the household: women who were granted access to their workfare wages also worked more in the private sector and undertook more economic activities overall. The authors attribute these changes to increases in women’s intra-household bargaining power that induced them to work despite the social costs incurred to men whose wives worked. Survey data collected three years after the intervention began point to the role of this policy in changing views on women and work: women viewed women’s work outside the home more favorably, and husbands thought the social cost paid when their wives were working was lower (Field et al. 2019). The study points both to the role that social norms can play in restricting women’s work and the potential of targeted policies to help overcome these constraints.

3.7. Quotas

India has a long history of implementing quotas. Since 1982, a certain percentage of public sector jobs has been reserved for SCs and STs. Starting in 1987, Operation Blackboard required that 50 percent of teachers be women. Further quotas have been proposed; the Women’s Reservation Bill would reserve 33 percent of seats in India’s lower house of Parliament for women, but has been awaiting passage in the Lok Sabha since 2010. Few of these gender-based quotas have been rigorously evaluated, but perhaps the greatest wealth of knowledge we have on causal evidence to increase FLFP comes from the Indian Government’s experiment with quotas for female leadership at the local level.

A 1993 law mandated that one-third of seats on village councils (gram panchayats) be reserved for women. In many Indian states, the choice of
which councils would be reserved was in effect random, which allowed for
a rigorous examination of the effects of quotas on various outcomes. Quotas
were implemented on a village-by-village basis and a village reserved for a
female head in one election was not reserved in the next.

Several papers exploit the as-good-as-random variation in the rotating
system of implementation to show the effects of gender-based electoral quo-
tas on female participation in politics. Bhavnani (2009) shows that wards in
Maharashtra that had been reserved for female heads once saw a 120 percent
increase in the average number of female candidates in the subsequent elec-
tion. In West Bengal, women living in villages that were twice reserved were
2.8 to 3.2 percentage points more likely to stand for office and 4.5 to 5.5
percentage points more likely to win (Beaman et al. 2009).

The electoral program quotas exerted effects on FLFP, female time use,
and entrepreneurship, in addition to their direct participation in politics.
Women in areas with female leaders were 39 to 52 percent more likely
to start businesses than those in areas without leaders (Ghani et al. 2014).
Beaman et al. (2009) showed that the gender gap in career aspirations of
adolescents closed by 32 percent in villages that had been reserved for two
election cycles. The gender gap in adolescent educational attainment was
completely erased in villages with a reserved female head, while girls spent
less time on household chores. Female participation in the MGNREGS
national workfare program increased following the election of female lead-
ers. Female person-days worked in the program were higher by 6 percent in
areas that were exposed to quotas (Bose and Das 2018).

4. High-Potential Research Areas

Given the descriptive evidence and existing research, and in light of India’s
current policy priorities, what are the most important avenues for investi-
gation and testing to increase FLFP? We highlight several important areas
that merit additional investigation, building on our core characterizations
of FLFP in India, further.

4.1. Access to Suitable Jobs

As shown earlier, there is a significant mismatch in the composition of
female jobs and the job preferences of out-of-labor force women who are
willing to work. In addition, out-of-labor force women express a willingness
to participate in market work, but women spend a longer time searching
for jobs. The types of jobs women are willing to take are likely correlated
with their life stage (married or not), geographic location, and education, but the general need to identify ways for them to access jobs they will take prevails. Overall, women (especially married women) prefer regular work—particularly regular part-time work—but few women working are in part-time jobs. Several areas of research could shed light on how to help women access jobs they are willing to undertake.

First, job search costs are likely higher for women than for men, but more research is needed to understand the dimensions of that search. The literature suggests that access to information about jobs is a constraint and social norms often dictate that women spend much of their time engaged in domestic duties rather than looking for work. Norms may also restrict network size for women. More efficient search could be achieved through increased information about job opportunities. Further research should focus on understanding how to ensure women have information about jobs that helps them more efficiently match to jobs.

Second, women out of the labor force who want work overwhelmingly say they would prefer regular part-time work. More research is needed to understand how policies or market forces that increase the availability of part-time or flexible work arrangements could incentivize greater female participation. More work is needed to connect the desire for part-time work to women’s time use, and subsequently how to promote socially acceptable, flexible childcare arrangements for working women to allow for labor market participation. Support for women’s self-employment, whether through more appropriate financing or training, would also likely suit many women, given the demands on their time in the household. An obvious policy linkage here is to the government’s National Rural Livelihoods Mission, which supports self-help groups (SHGs) and aims to eventually connect women’s groups to flexible work opportunities convenient to the groups. Other major initiatives, such as the Self Employed Women’s Association (SEWA), already support similar initiatives, with success.

Again, women’s demographic characteristics matter: age and marital status are important predictors of labor force attachment. Our analysis suggests that marriage is a more significant correlate of women’s lower LFP than childbearing, and younger, out-of-labor force women with expressed willingness to work are more likely to prefer full-time work. Work opportunities have been shown to delay marriage, but there is little evidence on how to incentivize labor market attachment to persist post-marriage. Incentivizing full-time opportunities for younger, unmarried women is one testable solution; further research should explore how pre-marriage career experience affects post-marriage labor market decisions.
While women may prefer part-time work in an unconstrained environment, it is also possible that particular technologies or costs restrict the choice set upon which they optimize. For example, women may state a preference for part-time work because their household duties require they spend hours cooking each day, searching for firewood, or even retrieving water. Technology relevant to household production has been relevant to increasing women’s employment in other settings (e.g., Dinkelman [2011] for electrification in South Africa). Additional research on how technologies can reduce time burdens on women in India may be useful. The extent to which environmental degradation may contribute to time poverty relevant to women’s labor force decisions is also an important area for study.

A similarly important example relates to women’s actual and perceived safety: women may report preferring jobs close to home not simply because they enjoy short commutes but also because they and family members are concerned about their safety if they venture far from home. Recent work has highlighted that young women in India are willing to incur higher costs (and lower education gains) for higher safety (Borker 2018). Rigorous studies diving further into these issues are all likely going to be important in the coming years.


The Government of India has recently committed to increased investments in skills training, to promoting manufacturing employment, and to additional gender-based quotas in areas from police forces to corporate boards. These commitments, combined with our diagnostics and literature review, suggest they are fruitful areas for rigorous pilots and evaluations to better understand how they can support women’s economic activities.

The scope for improving skills and vocational training is significant. Many skills and vocational programs have been shown to be relatively ineffective (Blattman and Ralston 2015; McKenzie 2017); in India, some of us found that only one-fifth of trainees are employed one year after training in a major skills scheme in India (Prillaman et al. 2017). That said, the potential for such programs to support women, in particular, is high: many government-funded programs have gender quotas, and some programs incentivize placement and retention in a first job after training, which could serve as a crucial linkage connecting women to jobs. Our diagnostics show that women with skills training are more likely to be employed. Given concerns over
selection into training, research that examines the causal impact of training on labor market outcomes, as well as studies focused on how programs can help women overcome search frictions may be useful. A desire for more training by out-of-labor force women also suggests that supporting training for women seeking non-traditional (part-time, and potentially home-based) work is an important area for further study.

In addition, manufacturing employment for women has grown over the past ten years despite its generally slow overall employment growth (Nayyar 2009; Prillaman and Moore 2016), with women occupying 25 percent of manufacturing positions by 2012. An expansion of manufacturing employment may be particularly important in rural areas. As employment in agriculture is declining and an increasingly educated workforce lacks access to jobs, sector-specific investments to improve job quality and availability could benefit women. Here, research to better understand the factors driving wage gaps, and potential ways to level the playing field, are warranted.

Although the literature on quotas provides solid evidence on how increasing women’s political representation can benefit women and girls, questions remain on whether and how employment quotas can help women. For instance, should they be applied universally or only to certain fields, are there associated negative externalities, and are quotas strictly better than other policies aimed to increase FLFP? We suggest better evaluation of gender-based employment quotas that are already in place, such as those associated with the national welfare scheme, MGNREGS, and Operation Blackboard as well as more rigorous comparisons to alternate policies. Finally, since discrimination may also play a significant role in FLFP—both in discouraging women from applying for jobs, and from obtaining jobs they apply to—quotas have the potential to put more women in visible positions and possibly change social norms around women and work.

There may also be important opportunities for the government itself to provide more women, particularly those with relatively higher levels of education, with access to suitable jobs in their own communities while conferring the additional benefit of improved service delivery (Muralidharan

20. To our knowledge, there has only been one evaluation of Operation Blackboard’s policies, but it did not specifically address the quota. Chin (2005) shows that primary school completion rates improved for girls under Operation Blackboard, despite no significant changes in class size or number of teachers. Although we cannot attribute the effect on schooling directly to the quota and Chin offers no estimation of effects on female employment, we can take this as prima facie evidence that the program—including the quota—was important and should be evaluated in more depth.
2016). Frontline public sector workers in health and nutrition, for example, are overwhelmingly women, and yet evidence suggests these workers are overburdened and generally understaffed (Kapur et al. 2017; Muralidharan 2016). Hiring more frontline workers in health, nutrition, education, and other important community services may be an important way to legitimize women’s work and increase FLFP. Beyond this, expanding public childcare seems an important avenue to increase women’s employment while providing other women with greater flexibility to participate in income-generating opportunities.

A final area that has seen increasing attention is that of income transfers from the government to citizens, most recently in the form of a Minimum Income Guarantee or Universal Basic Income. The impacts of such a benefit directed to women are theoretically ambiguous. For example, although a transfer directed to women could compensate them for unpaid work in the household, it could also lead working women to decrease their labor supply (due to the income effect) or drop out of the labor force entirely. On the other hand, if women want to work outside the home, directly paying them in ways that allow them to access and control these funds may increase their intra-household bargaining power and help them negotiate within households to enter the labor force. The income could also be useful to investing in training or capital that likely deter women from self-employment or other economic activities. Making the transfers conditional on earning less than a certain amount of income, however, would likely suppress their labor supply. All this suggests that any direct transfers, whether directly for women or to their households, should be carefully designed and tested to understand their impact on women’s labor supply (on this, also see Field et al. 2019).

4.3. Data Collection and Transparency

A major limiting factor to better understand the reasons for India’s low FLFP is lack of up-to-date data. Additional data collection through more regular employment surveys would be particularly valuable. More regular surveys, as are now undertaken in the Periodic Labour Force Survey, will help policymakers adjust programs and policies quickly in response to economic shocks. They can also help increase understanding of anomalies in the data, such as the uptick in India’s FLFP in 2004 and its subsequent decline, the cause for which remains unresolved in the literature.

In addition, time-use surveys would identify how India’s 200 million women engaged primarily in domestic activities spend their days and clarify the extent to which they may already be involved in labor market activities.
They would also help reconcile large discrepancies in FLFP as measured by different household surveys and would prove constructive to analysis of gender dynamics in household activities, if collected for several members of the same household. India is positioned to collect quality time-use data due to the lessons from a 1998 pilot of six Indian states and recent announcements by the government to implement such exercises.

States and the Central Government can also play a role in coordinating data collection by trainers and employers involved in major employment-oriented initiatives mentioned earlier. Ensuring both requisite technological infrastructure, as well as appropriate incentives, are in place to collect high-quality data is an important step toward better understanding FLFP and how women can fit into the “Skill India” and “Make in India” programs.

The government can also do more to systematically collect and track both short-term economic migration and contract labor, both of which involve women (and possibly increasingly so), but around which data collection is extremely limited, particularly in terms of gender disaggregation. Finally, in cases when data are collected—through both surveys and administrative data systems—promoting and incentivizing data sharing and transparency will facilitate a study of these important topics.

5. Conclusion

Despite increases in education, declines in fertility, and strong economic growth, India’s FLFP has declined over the recent years and overall is quite low for India’s income levels, suggesting that action is necessary to increase women’s labor market participation and attachment. The micro and macroeconomic implications of India’s low and declining FLFP are at once adverse and consequential, and must be better understood and addressed.

Our simple descriptive analysis of NSS data points to significant constraints on FLFP driven by both social and economic factors on the supply and demand side. Many women counted out of the labor force and primarily occupied with domestic duties say they want not simply to work, but to work in a regular job. Further evidence suggests women search less, or less efficiently, for jobs even as they face greater discrimination in the marketplace. Many women additionally lack the skills required to undertake work they would like. Although skills training may be able to address this constraint, more research is needed to better understand how women can best benefit from the government’s current investments in skilling.
Indian women also tend to opt out of the labor market at marriage, losing high-potential early career earnings and experience that may be important for their socioeconomic trajectories. Once in jobs, women are also often at a disadvantage: in fields where women enjoy higher relative representation, pay is less equitable across men and women. Yet some fields with important female-friendly measures, including quotas, equal pay, and work close to women’s homes, have successfully attracted female workers. The specific features driving this relative success in FLFP need to be better understood.

In addition to undertaking research focused on the challenges outlined here, a key step to improve our understanding of how to increase women’s economic engagement is to increase the frequency of data collected about Indian women’s economic activities and time use, to improve data collected relevant to government initiatives that can influence FLFP, and to ensure that data are released regularly and transparently. Over the past several years, a growing set of researchers have turned their attention to India’s low, and apparently declining, FLFP. This trend is promising, but much more needs to be done to spur rigorous innovations in both the public and private sectors to increase women’s economic engagement.

Finally, although this paper focuses on constraints and potential strategies to increase FLFP in India, it goes without saying that the goal of increasing this outcome is to improve women’s welfare overall. Women’s perceived welfare reflects a variety of factors, of which economic engagement is one factor among many. Any policies that aim to increase women’s economic engagement should aim to measure changes beyond simply LFP, to better understand their implications for welfare of women and their household members.

References


## Appendix

**TABLE A.1.** This table maps the original NIC codes to the condensed codes used in this paper.

<table>
<thead>
<tr>
<th>Condensed version</th>
<th>Original NIC code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation</td>
<td>Accommodation</td>
</tr>
<tr>
<td>Advertising, market research</td>
<td>Advertising &amp; market research</td>
</tr>
<tr>
<td>Agriculture</td>
<td>Crop &amp; animal prod., hunting &amp; related service activities</td>
</tr>
<tr>
<td></td>
<td>Creative arts &amp; entertainment activities</td>
</tr>
<tr>
<td>Chemical/biological/metal manufacturing</td>
<td>Manufacture of other non-metallic mineral products</td>
</tr>
<tr>
<td></td>
<td>Manufacture of coke &amp; refined petroleum products</td>
</tr>
<tr>
<td></td>
<td>Manufacture of pharmaceuticals, medicinal, chemical, &amp; botanical products</td>
</tr>
<tr>
<td></td>
<td>Manufacture of rubber &amp; plastic products</td>
</tr>
<tr>
<td></td>
<td>Manufacture of chemical &amp; chemical products</td>
</tr>
<tr>
<td></td>
<td>Manufacture of basic metals</td>
</tr>
<tr>
<td></td>
<td>Manufacture of paper &amp; paper products</td>
</tr>
<tr>
<td></td>
<td>Manufacture of metal products, except machinery &amp; equipment</td>
</tr>
<tr>
<td>Civil engineering, architecture, tech testing, analysis</td>
<td>Architecture &amp; engineering act., tech. testing &amp; analysis</td>
</tr>
<tr>
<td></td>
<td>Civil engineering</td>
</tr>
<tr>
<td>Computer programming</td>
<td>Computer prog., consultancy &amp; related act.</td>
</tr>
<tr>
<td>Construction</td>
<td>Specialized const. activities</td>
</tr>
<tr>
<td></td>
<td>Construction of buildings</td>
</tr>
<tr>
<td>Consulting</td>
<td>Act. of head offices mgt. Consultancy act.</td>
</tr>
<tr>
<td>Domestic personnel/household use</td>
<td>Act. of households as employers of domestic personnel education</td>
</tr>
<tr>
<td>Education</td>
<td>Electricity, gas, steam, &amp; air condition supply</td>
</tr>
<tr>
<td></td>
<td>Manufacture of computers, electronic &amp; optical products</td>
</tr>
<tr>
<td></td>
<td>Manufacture of electrical equipment</td>
</tr>
<tr>
<td>Employment acts/office support</td>
<td>Employment activities</td>
</tr>
<tr>
<td></td>
<td>Office administrative, office support &amp; other business support act.</td>
</tr>
<tr>
<td>Equipment repair</td>
<td>Repair &amp; installation of machinery equipment</td>
</tr>
<tr>
<td>Equipment/vehicle manufacturing</td>
<td>Manufacture of motor vehicles, trailers, &amp; semi-trailers</td>
</tr>
<tr>
<td></td>
<td>Manufacturing of other transport equipment</td>
</tr>
<tr>
<td></td>
<td>Manufacture of machinery &amp; equipment N.E.C.</td>
</tr>
<tr>
<td>Financial/info services</td>
<td>Other financial activities</td>
</tr>
<tr>
<td></td>
<td>Information service activities</td>
</tr>
<tr>
<td></td>
<td>Financial service act. except insurance &amp; pension funding</td>
</tr>
<tr>
<td>Food manufacturing</td>
<td>Manufacture of food products</td>
</tr>
<tr>
<td></td>
<td>Manufacture of beverages</td>
</tr>
<tr>
<td></td>
<td>Manufacture of tobacco products</td>
</tr>
<tr>
<td>Food service</td>
<td>Food &amp; beverage service activities</td>
</tr>
<tr>
<td>Forestry/fishing</td>
<td>Fishing &amp; aquaculture</td>
</tr>
<tr>
<td></td>
<td>Forestry &amp; logging</td>
</tr>
<tr>
<td>Gambling</td>
<td>Gambling &amp; betting act.</td>
</tr>
<tr>
<td>Human health activities</td>
<td>Human health act.</td>
</tr>
<tr>
<td>Insurance, pensions</td>
<td>Insurance, reinsurance, &amp; pension funding except compulsory social security</td>
</tr>
<tr>
<td>Legal, accounting</td>
<td>Legal &amp; accounting activities</td>
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</table>

(Table A.1. Continued)
<table>
<thead>
<tr>
<th>Condensed version</th>
<th>Original NIC code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Libraries</td>
<td>Libraries, archives museums, &amp; other cultural act.</td>
</tr>
<tr>
<td>Media production</td>
<td>Printing &amp; reproduction of recorded media</td>
</tr>
<tr>
<td>Mining</td>
<td>Mining of coal &amp; lignite</td>
</tr>
<tr>
<td></td>
<td>Mining of metal ores</td>
</tr>
<tr>
<td></td>
<td>Extraction of crude petrol. &amp; natural gas</td>
</tr>
<tr>
<td></td>
<td>Other mining &amp; quarrying</td>
</tr>
<tr>
<td></td>
<td>Mining support service activities</td>
</tr>
<tr>
<td>Other</td>
<td>Act. of extra territorial org. &amp; bodies</td>
</tr>
<tr>
<td>Other home repair/services</td>
<td>Activities of membership org.</td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>Other personal service act.</td>
</tr>
<tr>
<td>Other science/tech</td>
<td>Repair of computers &amp; personal &amp; household goods</td>
</tr>
<tr>
<td>Postal/courier</td>
<td>Other manufacturing</td>
</tr>
<tr>
<td>Public administration/defense</td>
<td>Other prof. scientific &amp; tech. activities</td>
</tr>
<tr>
<td>Publishing/media</td>
<td>Postal &amp; courier activities</td>
</tr>
<tr>
<td></td>
<td>Public admin. &amp; defense, compulsory social security</td>
</tr>
<tr>
<td></td>
<td>Program &amp; broadcasting activities</td>
</tr>
<tr>
<td></td>
<td>Publishing activities</td>
</tr>
<tr>
<td></td>
<td>Motion picture/video &amp; TV prog. prod and related activities</td>
</tr>
<tr>
<td>Real estate</td>
<td>Real estate act.</td>
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<td>Research</td>
<td>Scientific research development</td>
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<tr>
<td>Residential care, social work</td>
<td>Residential care activities</td>
</tr>
<tr>
<td></td>
<td>Social work act. without accommodation</td>
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<tr>
<td>Retail trade</td>
<td>Retail trade, except of motor vehicles &amp; motorcycles</td>
</tr>
<tr>
<td>Security/building services</td>
<td>Services to buildings &amp; landscape act.</td>
</tr>
<tr>
<td></td>
<td>Security &amp; investigation activities</td>
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<tr>
<td>Telecoms</td>
<td>Telecommunications</td>
</tr>
<tr>
<td>Textile manufacturing</td>
<td>Tanning &amp; dressing of leather and manufacturing of related stuffs</td>
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<td></td>
<td>Manufacture of wearing apparel</td>
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<tr>
<td></td>
<td>Manufacture of textiles</td>
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<tr>
<td>Trade/repair vehicles</td>
<td>Wholesale &amp; retail trade, repair of motor vehicles &amp; motorcycles</td>
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<td>Transport</td>
<td>Air transport</td>
</tr>
<tr>
<td></td>
<td>Land transport &amp; transport via pipelines</td>
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<tr>
<td></td>
<td>Warehousing &amp; support activities for transportation</td>
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<tr>
<td>Travel/tours</td>
<td>Travel agency, tour operator, &amp; other reservation service act.</td>
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<td>Veterinary</td>
<td>Veterinary act.</td>
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<tr>
<td>Waste management</td>
<td>Remediation act. &amp; other waste management services</td>
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<tr>
<td></td>
<td>Waste collection, treatment &amp; disposal act. material recovery</td>
</tr>
<tr>
<td>Sewerage</td>
<td></td>
</tr>
<tr>
<td>Water collection/supply/treatment</td>
<td>Water collection, treatment, and supply</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>Wholesale trade, except of motor vehicles &amp; motorcycles</td>
</tr>
<tr>
<td>Wood manufacturing</td>
<td>Manufacturing and prod. of wood except furniture and other related items</td>
</tr>
<tr>
<td></td>
<td>Manufacturing of furniture</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paper</th>
<th>Area of Study</th>
<th>Context</th>
<th>Strategy for Assessing Impact</th>
<th>LFP Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Information and Job Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jensen (2012)</td>
<td>North India (Haryana)</td>
<td>Information provision on job opportunities</td>
<td>RCT: Compare FLFP in villages exposed to recruiters for business process outsourcing jobs.</td>
<td>Women in villages visited by recruiters were 4.6 percentage points more likely to be employed in the BPO sector and 2.4 percentage points higher overall.</td>
</tr>
<tr>
<td>Heath and Mobarak (2015)</td>
<td>Bangladesh</td>
<td>Location of textile manufacturing firms</td>
<td>Natural experiment: Compare women on the basis of proximity to garment factories.</td>
<td>Women in close proximity to garment factories were 6.5 to 15.4 percentage points more likely to be employed.</td>
</tr>
<tr>
<td>Sivasankaran (2014)</td>
<td>South India (Tamil Nadu)</td>
<td>The role of longer duration-work contracts</td>
<td>Natural experiment: Compare outcomes on the basis of exposure to wage and contract policies.</td>
<td>An additional month of contract length increased length of employment by 0.5 months.</td>
</tr>
<tr>
<td>Andrabi et al. (2013)</td>
<td>Pakistan</td>
<td>The role of primary and secondary education in determining skill profiles</td>
<td>Natural experiment: Compare teacher jobs in areas where schools were built to, where they were not built to see effects on job opportunities for women.</td>
<td>Areas with government schools were 20 to 27 percentage points more likely to have a private school, which employs, on average, four women.</td>
</tr>
<tr>
<td>Afridi et al. (2018)</td>
<td>India</td>
<td>Increasing education level in rural areas</td>
<td>Parametric and nonparametric decomposition using Blinder (1973) and Oaxaca’s (1973) technique to decompose the change in employment rates of women over time on the basis of the data from employment and unemployment rounds of India’s NSS in 1987–88, 1999–2000 and 2009–10.</td>
<td>Changes in women’s education over time explain about 21.8% of the total decline in FLFP. Women’s own education and that of the men in their household accounts for between 87% and 95% of the overall decline in FLFP in 1987–99. In the 1999–2009 decade, they explain 25–37% of the total decline in women’s LFPR. In both decades, education is the largest contributor to the decline in women’s LFPR.</td>
</tr>
</tbody>
</table>

(Table A.2. Continued)
(Table A.2. Continued)

<table>
<thead>
<tr>
<th>Paper</th>
<th>Area of Study</th>
<th>Context</th>
<th>Strategy for Assessing Impact</th>
<th>LFP Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam (2016) Philippines (Sorsogon Province)</td>
<td>Job fair</td>
<td>Randomized encouragement design: Measure the impact of attending a job fair on employment outcomes.</td>
<td>Attending the job fair causes a 10.6-percentage point increase in being employed in the formal sector (pooled men and women). Attending the job fair increases likelihood of female being employed in informal sector by 11.4 percentage points and decreases likelihood of female being self-employed by 16.0 percentage points.</td>
<td></td>
</tr>
</tbody>
</table>

B. Information via Quotas

<table>
<thead>
<tr>
<th>Authors</th>
<th>Area of Study</th>
<th>Context</th>
<th>Strategy for Assessing Impact</th>
<th>LFP Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaman et al. (2009) East India (West Bengal)</td>
<td>Gender electoral quotas</td>
<td>Natural experiment: Compare number of women in elected positions in villages exposed to female leader quotas.</td>
<td>Women in villages that were twice reserved were 2.8–3.2 percentage points more more likely to stand for office and 4.5–5.5 percentage points more likely to win.</td>
<td></td>
</tr>
<tr>
<td>Bhavnani (2009) West India (Mumbai)</td>
<td>Gender electoral quotas</td>
<td>Natural experiment: Compare number of women in elected positions in villages exposed to female leader quotas.</td>
<td>Number of women standing for election was 120% (0.5 candidates to 1.1 candidates) higher inward that were once reserved compared to never reserved.</td>
<td></td>
</tr>
<tr>
<td>Ghani et al. (2014) India</td>
<td>Gender electoral quotas</td>
<td>Natural experiment: Compare number of women owned small enterprises in states exposed to female leader quotas at different times.</td>
<td>Women in exposed states were 39–52% more likely to start own businesses.</td>
<td></td>
</tr>
<tr>
<td>Bose and Das (2018) Northern Indian (Uttar Pradesh)</td>
<td>Workfare program gender quotas</td>
<td>Natural experiment: Compare women’s employment in areas with political positions reserved for female leaders.</td>
<td>Number of female person-days worked under NGREGA was 6% higher in administrative units with female leaders.</td>
<td></td>
</tr>
<tr>
<td>Deininger et al. (2016) India</td>
<td>Workfare program gender quotas</td>
<td>Panel data analysis: 4,000 panel households in 232 villages from 17 Indian states.</td>
<td>Program increases wages both for male and female participants and also brings a shift from farm to non-farm and salaried employment in female labor supply.</td>
<td></td>
</tr>
</tbody>
</table>
### C. Control of Resources and the Ultra-Poor

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Context</th>
<th>Methodology</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heath and Tan (2014)</td>
<td>India</td>
<td>Property and lifetime unearned income</td>
<td>Natural experiment: Rollout of Hindu Succession Act varied exposure to female control of assets by state and time.</td>
<td>Women in treated group (Hindu and affected by HSA) were 9.7-percentage points more likely to be working, 5 percentage points more likely to work outside the home.</td>
</tr>
<tr>
<td>Banerjee et al. (2011)</td>
<td>East India</td>
<td>Asset transfers and small enterprise activity</td>
<td>RCT: Compare small enterprise activity in households given productive asset transfers-to those not receiving transfers.</td>
<td>Recipient households increased work by one hour per day.</td>
</tr>
<tr>
<td>Bandiera et al. (2009)</td>
<td>Bangladesh</td>
<td>Asset transfers to ultra-poor</td>
<td>RCT: Compare labor force activity by women given asset transfers to those not receiving transfers.</td>
<td>Increase in self-employment and quality of jobs among those women receiving transfers; 1% increase in hours worked.</td>
</tr>
</tbody>
</table>

### D. Peer Effects

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Context</th>
<th>Methodology</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field et al. (2013)</td>
<td>Western India (Ahmedabad)</td>
<td>Business training and microcredit</td>
<td>RCT: Evaluate interaction between randomized business training and social norms.</td>
<td>Women who received business training were 13-percentage points more likely to take out loans.</td>
</tr>
<tr>
<td>Field et al. (2016)</td>
<td>Western India (Ahmedabad)</td>
<td>Business training, microcredit, peer networks</td>
<td>RCT: Evaluate effectiveness of business training when combined with existing social networks.</td>
<td>Women who received business training with a friend increased working hours by 17% and were 5.3 percentage points more likely to take out a loan from SEWA.</td>
</tr>
<tr>
<td>Carranza (2014)</td>
<td>India</td>
<td>Soil type</td>
<td>Natural experiment: soil types vary by district.</td>
<td>Women in areas with a 10-percentage point higher fraction of loamy to clayey soils is associated with a 5.1% decrease in FLFP as agricultural workers (1.5 percentage points of rural FLFP average).</td>
</tr>
</tbody>
</table>

(Table A.2. Continued)
<table>
<thead>
<tr>
<th>Paper</th>
<th>Area of Study</th>
<th>Context</th>
<th>Strategy for Assessing Impact</th>
<th>LFP Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Mel et al.</td>
<td>Sri Lanka</td>
<td>Business training versus business training + cash grant</td>
<td>RCT: Evaluate the impact of business training solely and business training coupled with cash grant on existing business female owners and potential start-ups.</td>
<td>(a) Existing business owners: Management practices improved in both interventions but slightly higher in training + cash. Training only doesn’t improve business outcomes but training + cash increases capital stock by ₹10,000 and profits temporarily; (b) Potential start-ups: Training only increases business ownership rate by 12 percentage points and training + cash increases it by 29 percentage points in the short run, both have no long-term impact. Training only increases work income by ₹1,494 (significant) and training + cash increases it by ₹697 (not significant).</td>
</tr>
</tbody>
</table>

Note: Refer to Carranza (2014). The FLFP percentage estimate is determined by taking the percentage change in FLFP and dividing by the total FLFP in rural areas from the NSS.
In general, I agree with most of the points made in this paper about the characteristics and trends described and policy issues raised. My comments and suggestions below therefore are mainly supplementary and rather piecemeal.

- The paper simultaneously discusses both low and declining female labor force participation (FLFP)—the two aspects should be separated more clearly for analysis. The factors explaining them can be different. For example, gender norms or social expectations which may explain low FLFP may not be used as easily in explaining declining FLFP, even when those norms and expectations are not immutable.

- Across countries, it is still not clear to me why India and Pakistan have such low FLFP, even as compared to their poorer South Asian neighbors such as Nepal and Bangladesh. Hindu or Muslim cultural norms in general are not enough to explain why India and Pakistan are so much of an outlier.

- For the participation rate, NSS usual status data are used in the paper, but given the fragmentary and part-time nature of a great deal of women’s work, one should also make full use of the NSS current status data, where the reference period is the previous week. Detailed time disposition data are available for such current activities.

  - A statistical analysis of the number of days in work in the reference week (not just the number of women in work) can yield some valuable insights. For example, in my old work on a statistical analysis of the NSS household level data for rural West Bengal—reported in my book *Land, Labor and Rural Poverty* (1984)—I found the following demand side factors significant in explaining variations in the number of days in work:
a. Rainfall pattern in the area, with better rainfall areas having higher FLFP;
b. Lean or busy season (even though imperfectly captured in the NSS sub-round variations), with women entering the current labor force in the busy season and withdrawing in the lean season; and
c. A “discouraged, dropout” effect in seeking work, controlling for other factors, seen in households with more male members unemployed, where the number of days of female work participation was lower.

- For examining the puzzle of the declining FLFP in NSS data in the face of education gains and fertility reduction, one should try to cross-check with the (scanty) panel data available, for example, IHDS data for 2004–05 and 2011–12.
- Some additional explanations for the decline in FLFP worth examining are as follows:
  - With environmental degradation, collection activities mainly done by women, for example, of water and firewood, may take up increasing amounts of time in the day, leaving less time for “gainful” work.
  - With income and education improving, the same oppressive, dead-end, low-status jobs which women have been working on for generations are now less acceptable (this is an example of how declining FLFP can be welfare-improving).
  - In many lines of activity, with possibly worsening job prospects for the men in the family, the discouraged dropout effect on women may get stronger.
  - Mechanization of agricultural operations, particularly in female labor-intensive tasks such as harvesting, threshing, and food processing, among others, may be impacting the FLFP.
  - Perception of the increasing lack of safety for women in public places may be reducing FLFP.
- On ecological factors like soil quality discussed in Section 3.4 in the paper, a related issue may be the particular crop grown. For example, cultivation and post-harvest operations for rice are more female labor-intensive than for, say, wheat.
- On the adverse impact of trade liberalization on female employment discussed in Section 3.5, it may be less due to factory laws, and more due to the wiping out of low-productivity informal enterprises—which have more women workers—as a result of foreign competition (Nataraj 2011).
- Regarding the explanation of why the gender wage gap is distinctly higher in sectors where more women are represented (see Figure 15 in
the conference paper), could it be that in industries such as garments or bidi-making, where the majority of workers are women, men mostly do the supervisory–managerial work, and the gender wage gap partly reflects the wage gap between production and managerial work?

- Here are a few brief suggestions on some additional policy issues:
  - The paper points to the latent female labor supply: large numbers of women currently in domestic work express willingness to work, but mostly for part-time work. As the NSS question on this suggests (see Footnote 14 in the conference paper), such part-time work has to be dovetailed with domestic work. Often the work, such as sewing, tailoring, animal husbandry, food processing, basket-making, and other handicrafts, may have to be brought home. There are special policy issues here involving credit, provision of supplies, marketing and transportation, organization of cooperatives and self-help groups, among others.
  - The idea of community kitchens (such as “amma canteens” in Tamil Nadu and “Indira canteens” in Karnataka) and community day-care centers needs to be tried on an all-India scale. An important special effect of this is not just on an adult woman’s outside work participation but also on the schooling of her elder daughter.
  - Extension services, specially oriented to women, located in nearby community centers or panchayat offices, is imperative, not just with respect to new production technology but also on information relating to job search.

References


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There has been a dramatic increase in women’s labor supply in the US and Europe since the beginning of the 20th century (Goldin 2006). Research has underlined the importance of increasing levels of education of women and falling fertility accompanied by more favorable gender wage ratios in raising
women’s workforce participation. In contrast to the Western experience, female labor force participation (FLFP) in India has been low and either falling or stagnant for the last few decades, despite a decline in gender gaps in education, falling fertility, and high economic growth (Afridi et al. 2018). By some estimates, raising women’s participation in the economy to the same levels as men’s can raise GDP by as much as 27 percent (Lagarde and Solberg 2018). The paper by Fletcher, Pande, and Moore in this volume of the India Policy Forum is, therefore, not only timely but also imperative for finding policy solutions to address this issue.

The authors provide an excellent and thorough summary of the issues surrounding FLFP in India. My comments focus primarily on the exposition of the observed levels and trends in FLFP in India with the objective of highlighting the policy measures that would be effective in addressing this issue. I, therefore, classify my comments and suggestions into two broad groups: (a) describing FLFP in India, and (b) policy recommendations emerging from the data analysis in the paper.

1. Describing FLFP in India

1.1 Distinction between Levels and Trends in FLFP

The authors have used NSS survey data to describe the status of women’s work in India quite exhaustively. However, the paper’s data description tends to oscillate between the discussion of levels and trends in FLFP. I suggest that the authors distinguish between the two up front and clearly, since the policy prescriptions for addressing low levels and declining trends in FLFP may be quite different. To elaborate, FLFP in India has been historically low (Figure 1), lower in urban areas as opposed to rural areas. However, it is well documented now that while FLFP has declined in the recent decades in rural areas, in the urban areas, it has been mostly stagnant (Figure 1). While low levels of FLFP may be due to patriarchy and cultural factors that prevent women from working, the trends that suggest a decline may be related to the structural changes, or lack thereof, in the Indian economy. I elaborate on these points further, but the essential point is that the authors should clarify how their policy suggestions aim to address levels or trends, or both, while clearly distinguishing between the two.

1.2. Spatial and Sectoral Variation in FLFP

The reasons for the significant difference in FLFP in rural and urban India are likely to vary spatially and so then would the policy prescriptions.
In rural areas, on average, FLFP is higher perhaps due to relatively greater destitution, which leads to higher willingness or need for women to work. In urban areas, there is less destitution, as a result of which social norms or stigmas against women’s work are likely to become more binding (a la Goldin). Moreover, the majority of the women in rural areas classify themselves as self-employed in agriculture (Figure 2), followed by those engaged
in casual work. The predominant role of agriculture in employing women in rural areas, hence, cannot be ignored.

Furthermore, we see that the decline in FLFP is almost completely due to a reduction in self-employment (Figure 3). Thus, any policy prescription for addressing FLFP should be conducted in the backdrop of the spatial and sectoral variations in both the levels and trends in women’s workforce participation in the country.

1.3. Women’s Demographic Characteristics

In 2011, only 20 percent of rural, married women in the age group of 15–60 years were in the labor force, 30 percentage points lower than for unmarried women. While workforce participation rates among urban unmarried women went up by 11 percentage points between 1999 and 2011, the rate has remained stagnant for married women at 20 percent for the past 30 years (NSS, various years). I suggest that the authors distinguish between workforce participation by marital status as there is a large marriage penalty on women’s work in India (discussed further). I would also urge the authors to update the analysis to the 2014–15 NFHS to allow access to the latest data available on this issue, given that the last NSS survey data are available only until 2011.
To summarize, I suggest that the authors clearly distinguish the spatial and demographic variation in the observed levels and trends in women’s workforce participation over the last few decades in India. While their existing exposition is exhaustive, a more organized structure of the data descriptions would be easier for the reader to follow, and, more importantly, make it possible to distinguish between policy measures that target these constraints.

2. Policy Recommendations

I suggest that the authors classify the policy recommendations into two broad categories—those that address supply side or household factors and those that could loosen demand constraints to address economic and structural factors.

2.1. Supply Side Constraints

- **Emphasizing the role of cultural and social norms**: Cultural norms underlying the traditional role of men and women in Indian households manifest themselves in the significantly greater time spent by women...
in home production than men, irrespective of their level of education and thereby potential wage earnings. This leads to a higher elasticity of labor supply for women relative to men, and low substitutability of female labor with male labor in home production.

Using the only detailed time-use data available for India (NSS, Time Use Survey, 1998), Afridi, Bishnu, and Mahajan (2018) find that across education levels, women spend significantly less time at work than men (Figure 4). On average, 15–60 year-old married women in urban India spend a mere 9.36 hours at work per week, while their male counterparts spend 58.71 hours. As women go from being illiterate to completing higher secondary schooling, work hours show a declining trend and then jump up at the “graduate and above” level. Despite the rise in the time spent at work by women at the highest education level, the average weekly hours only reach 13.32.

In contrast, across education levels, women spend significantly more time on domestic work than men (Figure 5). On average, 15–60 year old married women in urban India spend 51.85 hours on domestic work per week, while their male counterparts spend 4.18 hours. The average weekly hours of domestic work increase for women—although at a declining rate—up to the higher secondary schooling level and then fall by 14.25 percent at the “graduate and above” level but still remain at 47 hours per week. The domestic work hours of men do not vary significantly by education.

While men and women spend comparable time on leisure, across education levels women spend significantly more time on childcare than men. When there are children below five years of age in the household, married women in urban India spend an average of 12.68 hours per week on childcare. The corresponding figure for men is 2 hours (Figure 6). When there are children below 14 years of age in the household, the figures are 9.91 and 1.73 for women and men, respectively (Figure 7). The gender gap in childcare hours does not vary significantly across levels of education in both cases. While the figures here are for urban areas, these conclusions hold for rural India as well.

To summarize, women disproportionately bear the burden of domestic work in the household and hence face time scarcity. It appears that childcare, which is a large component of domestic work, is a key constraint on the FLFP, even for educated women. Therefore, to enhance the FLFP, increasing women’s education is perhaps not
FIGURE 4. Time Spent on Work by Urban, Married Women and Men Aged 15–60 Years

Figure 5: Time Spent on Domestic Work by Urban, Married Women and Men Aged 15–60 Years

FIGURE 6. Time Spent on Childcare in Households with Under-5 Children, by Urban, Married Women and Men Aged 15–60 Years

FIGURE 7. Time Spent on Childcare in Households with Under-14 Children, by Urban, Married Women and Men Aged 15–60 Years

sufficient. Policy should focus on the provision of reliable and accessible childcare arrangements for working women. Further, flexible working conditions for women can enable them to balance work and home better while we simultaneously chip away at social norms that are very sticky and less responsive to policy. In addition, there are several policy initiatives that are more broadly aimed at poverty reduction, but which can also free women’s time from home production. For instance, technological changes that reduce women’s time in household chores (e.g., subsidized LPG, and improved and universal access to electricity) have been shown to release women’s time from home production (Dinkelman 2011). Such policies should be encouraged and emphasized from the perspective of women’s time scarcity.

- **Restrictions on women’s mobility:** While the authors acknowledge the concerns regarding women’s safety, I would suggest they also emphasize the role of providing basic infrastructure to improve women’s access to and safety in public spaces. For instance, improvements in the frequency and quality of public transportation, street lighting and regular safety audits could significantly improve women’s mobility and thereby their workforce participation.

**2.2. Demand Side Constraints**

In the current version of the paper, the authors have not elaborated on the possible demand side constraints that may have been a factor in the low level and declining trend in FLFP in India. I would encourage the authors to do so in their revised draft and consider the policy recommendations as follows.

- **Create more good jobs:** India needs policies that create good (read formal sector) jobs which women, even with relatively low levels of education, can engage in (e.g., in agriculture and manufacturing). This is linked to the issue of lack of jobs in general in India, and also to a special focus on the greater disadvantage women face in accessing formal sector jobs. Policies that aim at improving farmers’ access to new technology, credit and markets in agriculture, and fostering the growth of manufacturing are measures that are on the policy radar, but lack a gender lens.

- **Encourage flexible work hours and piece rate work for women:** Several surveys suggest that women prefer work that allows them to balance household and work for pay. Encouraging employers to provide flexible work hours and/or piece rate work to women in the
manufacturing sector would be one such measure that could increase women’s workforce participation.

- **Provide home-based work:** Policies that bring work closer to women’s homes would address both their time poverty as well as safety concerns. Programs such as the NREGA in rural areas have been shown to increase FLFP wherever it has functioned well. In the manufacturing sector, contractors often provide factory-based work to women in residential units around the industrial towns. However, women are typically exploited in these transactions in terms of extremely poor remuneration for the work they do.

- **Reduce gender gap in wages and earnings:** Gender gaps in wage earnings in India are well documented and typically higher than in developed countries. Along with lack of decent jobs, a prime factor in the perceived low returns to FLFP in India is the lower wages women receive for the same kind of work they do as men. Legal provisions that make gender discrimination untenable, and their effective enforcement, would be essential for long-run improvements in the perceived returns to women’s work.

Finally, I would suggest the authors exercise caution on the following:

- The authors interpret the response to the question on “willingness to work if made available at household” in the NSS as an unconditional statement of women’s willingness to work. In my opinion, since this question is conditional on availability of work close to home, it highlights the point I made previously about the constraints women face due to the gendered division of labor within the home.

- The authors tend to interpret the observed relationship between vocational training and FLFP as causal. I would caution against this interpretation because women who chose to take up vocational training may already be predisposed to working. It is not obvious that vocational training per se improves their LFP.

- The authors fleetingly suggest extending political quotas for women to jobs in the public sector. While political quotas at the local government level have had, unarguably, a benign effect on women’s political participation, it is neither clear that there are enough public sector jobs to go around for gender quotas nor is it certain that it would lead to a significant increase in FLFP given the supply side constraints discussed earlier.
References


General Discussion

In response to Pranab Bardhan’s comment that it is hard to understand the trends in labor force participation (LFP) on the basis of norms, Dilip Mookherjee pointed to the stigma underlying males or in-laws in the family preferring the women not to work, but allowing them to do so if the household was very poor. But as the household’s earning or wealth improves, there is an income effect with the women pulling out of the labor force, which can lead to a declining labor force participation rate (LFPR). He also referred to his experiment in West Bengal giving loans to low-income households, which had led to women withdrawing from the labor market. But the time allocation data showed that the women were not spending more time in leisure or on household chores, but were running self-employed businesses. Was this income effect empowering women? The women said they preferred to be self-employed at home and to socialize with other women during work. However, it is possible that the norm effect was also kicking in, with the family dissuading the women from working outside the home, but not minding their running a business from home. It is hard to separate the two effects, and difficult to make welfare judgments about female empowerment by looking just at female labor force participation (FLFP).

Devesh Kapur agreed with Pranab Bardhan and Farzana Afridi that the role of technology was under-emphasized in the paper, especially
technological change that is displacing women from agriculture or construction and easing workloads through more readily available cooking fuels and kitchen implements. This should be empowering for women.

Surjit Bhalla suggested that India had undergone a large expansion in female education, catching up with men in education, and the implication of that should be an increase in the female labor force participation rate (FLFPR). In his earlier work on the emerging middle class, he had also found a backward bending supply curve for women, possibly because of status or cultural reasons, since India and Pakistan are the outliers also in this IPF paper. He also suggested that over the next 20 years, the picture in the world would be about declining male labor force participation rates (MLFPRs).

Abhijit Banerjee highlighted the need to be careful in using LFP as a welfare outcome for women: it is important to also consider who is making the choice to participate or not, and how that choice is being affected by policy interventions, for which there is usually no clear theory. Microcredit may often directly contribute to women being made to start a business to serve some particular goal of their husbands. He then referred to a RCT done in Mirzapur, Uttar Pradesh, which looked at self-improvement interventions for women. When women say that they want to work at home, are they also speaking about particular things they feel they can do, pointing to a lack of self-belief that they cannot go out and work, say, in a factory? Once the RCT self-efficacy treatments were done, women could be convinced that they could go out and participate in the labor force.

Mihir Desai noted that the paper had missed the opportunity to use the district-level variation in the FLFP, which cannot be fully explained by the urban–rural gap, as done in the paper. He thought that MLFPR was not nearly as variable at the district level. This presented an opportunity.

Rohini Somanathan cautioned against getting hung up on LFPRs and jumping to issues of efficiency and welfare without thinking them through. She contended that if women’s wages were doubled, we could certainly get to much higher FLFPRs, but it is not clear at all if that would improve efficiency. Thinking this through requires consideration of which markets don’t work, why we may be in a bad equilibrium, and what the source of inefficiency is. For example, corresponding to the figure of 30 percent of women saying that they wanted to work as cited by the authors, she noted that it would be useful to know that number for men as well. Finally, she said that policy interventions may work for women at certain ages to increase participation and welfare, but women might be better off out of the labor force at other ages.
Ratna Sudarshan praised the paper for its emphasis on women’s part-time work, noting that it was perhaps the first time she was seeing this emphasis. But she cautioned against this leading to gender-conflictive situations where existing work is merely being re-allocated. Instead, the imperative is to expand work and job opportunities for women, and upgrading work that is already being done. Among younger, more educated women, there is actually a search for newer, different types of part-time work. Second, she stressed the importance of developing a more realistic narrative in the paper about women’s work in India, one that brings family and marriage also into the picture and helps develop a sense of identity and purpose in women’s work. Part-time work is very central to that narrative, so the paper could develop that further.

Renuka Sané maintained that safety is a very big issue when it comes to FLFP, but is not discussed enough. She related this issue with the comment on how and why women prefer to work closer to home. She advised caution in interpreting a policy recommendation out of that statement, remarking that instead of recommending bringing work closer to home for women, we should perhaps focus on making it safer for women to travel to work.

Anushree Sinha noted that government policies like UJALA that promote electrification and infrastructure, in part to save women time for care work, may actually be reinforcing traditional gender roles. The argument is made that women now have facilities to save time for care work, which is their role anyway, and they can do market work in whatever residual time is saved. It is important to devise ways to facilitate sharing of both care work, outside work, and unpaid work between men and women, and to take into account more the choices that women actually want to make.

Premila Nazareth shared work she had done for the International Finance Corporation on women’s participation in the Indian mining sector. Mining firms were keen to use women more at all levels, but for mining engineers there was a law that women were not permitted to work in underground mines. Furthermore, the website of the Ministry of Labour and Employment mentioned that women were not allowed to work at night on the shop floor in factories. So these two laws that were supposed to protect women actually were holding them back from participating in a fuller way in a key growth sector. The long-term result was that women who had trained in mining were instead going into IT, so that the top CEO-type jobs were going to men in mining and manufacturing. On a more individual level, there is a need to change the narrative of how we think about women’s work, which in India involves not only childbearing and child-rearing but also looking after the
elderly. She appealed to economists to usher a change in the way we think about this and to bring women into the workforce.

Rajnish Mehra was surprised that India’s and Pakistan’s FLFPR were so different from others, including neighboring countries. He asked if similar studies have been done on Bangladesh and Nepal, particularly studies comparing FLFP on two sides of the border. He also noted that India exhibited a lot of variation across states in fertility, agricultural productivity, education levels, and health outcomes. He wondered if this could be exploited to examine any systematic relationships about LFP.