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(In)Visibility, Care and Cultural Barriers:
The Size and Shape of Women's Work in India

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(In)Visibility, Care and Cultural Barriers: The Size and Shape of Women's Work in India

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Abstract

Based on primary data from a large household survey in seven districts in West Bengal in India, this paper analyses the reasons underlying low labor force participation of women. In particular, we try to disentangle the intertwined strands of choice, constraints posed by domestic work and care responsibilities, and the predominant understanding of cultural norms as factors explaining the low labor force participation as measured by involvement in paid work. We document the fuzziness of the boundary between domestic work and unpaid (and therefore invisible) economic work that leads to mis-measurement of women's work and suggest methods to improve measurement. We find that being primarily responsible for domestic chores lower the probability of "working", after accounting for all the conventional factors. We also document how, for women, being out of paid work is not synonymous with care or domestic work, as they are involved in expenditure saving activities. We also find that religion and visible markers such as veiling are not significant determinants of the probability of working. Our data shows substantial unmet demand for work. Given that women are primarily responsible for domestic chores, we also document that women express a demand for work that would be compatible with household chores.

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1. Introduction

India has among the lowest female labor force participation rates (LFPRs) in the world. Indeed, despite high rates of economic growth and rapid structural change, female participation rates have been declining. The official periodic labor force survey on employment and unemployment by the National Sample Survey Organization (NSSO) for 2011-12 estimated LFPR to be roughly 25 percent for women between 16-60 years, down from 30 percent in 1999-2000[2]. The corresponding figures for men are roughly 82 and 80 respectively. There are thus two separate questions that the literature on women's labor force participation in India has focused on: its historically low rates and its recent decline.

This paper seeks to address the first question drawing on a purposively designed survey of women's labor force behavior in seven districts, both urban and rural, in the state of West Bengal in 2017. Given the cross-sectional nature of our data we cannot throw much light on why the female rates have declined in West Bengal, as they have in much of India. Instead the primary objective of the paper is to discuss the different explanations put forward in the literature for India's stubbornly low rates of female labor force participation, and explore the extent to which they help to make sense of the story coming out of our West Bengal data.

2. Alternative explanations for low FLPRs in India

These explanations can be divided into three broad categories. The first category focuses on the issue of measurement. Most studies of the labor force participation in India rely on the NSSO household surveys. While the definition of economic activity in the NSSO is broadly in line with internationally accepted definitions, the distinction between unpaid family workers and those exclusively engaged in domestic duties is not always consistently applied. As a result, economically active individuals may be erroneously classified as inactive (Hirway and Jose, 2011; Sudarshan 2014). Since it is largely women who dominate in these activities, it has been suggested that low rates of female participation reflect the failure of official statistics to correctly conceptualize and measure women's contribution to the economy.

The second category draws on the economic literature. Demand-side explanations have focused on the lack of demand for labor in the occupations and activities in which women are concentrated. Education is one factor that determines how employable women are. Various studies have noted the U-shaped relationship between women's educational attainment and their labor force participation (Kingdon and Unni, 2001; Chatterjee et al. 2015). The highest rates of participation are found among illiterate women at one end of the educational spectrum, and among women with tertiary at the other end. This would suggest that the dearth of demand explanation applies most strongly to jobs suitable for women with primary and secondary education. Women with no education take up poorly paid and unskilled wage labor which is unappealing to women with some education while participation rates rise again among those with higher levels of education who can access better paid white collar jobs (Kingdon and Unni 2001).

On the supply side, explanations focus on the household's economic status and child care responsibilities. They point out that poverty appears to be a major factor behind women's economic activity. It is generally women from the poorest households who report the highest rates of economic activity - and continue to do so, despite the fact that they have reported the greatest decline in recent years (Olsen and Mehta, 2006; Srivastava and Srivastava 2010). As household per capita income rises, an 'income' effect appears to come into play, leading women to withdraw from withdraw from the labor force so that participation rates decline with rising income (Kapsos et al 2014; Srivastava and Srivastava, 2010).

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[2] These are figures based on the usual principal activity status (UPAS) which captures the work status for the majority time in the 12 months preceding the survey.

A third category of explanations draws on the sociological literature. It points to the powerful social norms, cutting across religious groups, which tie the honor and status of households with their ability to keep female family members within the home, leading to strict controls over women's mobility in the public domain (Bardhan, 1985). It is only very poor and illiterate women who cannot afford to abide by norms of female seclusion who take up paid work. Sociological explanations have interpreted the withdrawal of women from the labor force with rising income or education as a 'sanskritization' effect as households seek to signal improvements in their status by emulating the behavior of higher caste or higher status households (Kingdon and Unni, 2001). The upward sloping part of the U-shaped relationship between education and women's work is interpreted as the effects of 'modernization' and rising aspirations.

Cultural restrictions on women's mobility tend to be particularly severe for married women leading to a 'marriage effect' within the female labor force (Sudarshan and Bhattacharya 2009). This diverges from the 'motherhood penalty' found in the OECD literature (Hegewisch and Gornick 2011) where it is childcare responsibilities, rather than marriage per se that interrupts women's ability to participate in the labour market (Chatterjee et al. 2015; Chaudhuri and Verick. 2014). The relevance of marital status for women's labor force participation can also been seen in the lower rates of participation by married women compared to divorced/widowed/separated women but here economic factors are also at play since the latter category tend to be poorer and less able to afford the status of staying at home.

Other forms of social identity feature strongly in sociological explanations of women's labor market behavior although these also tend to be bound up with economic explanations since social groups correspond significantly with income/wealth groups. In particular, women from the lowest ranked Scheduled Tribes (ST) and Scheduled Castes (SC) groups[3] who have the highest participation rates of all social group also come from the poorest households. Religion also features. Islam is generally associated with stricter controls over women's public mobility than other religions and Muslim women have been found to have lower participation rates than women from the majority Hindu religion (Neff et al, 2012; Srivastava and Srivastava, 2010).

2.1 The Primary Objectives and Main Results of This Paper

Our paper goes beyond revisiting an older discussion on women's labour force participation and makes the following new contributions. First, it notes low rates of FLFP in India and points to three sets of explanations: 1) mis-measurement 2) economic determinants and 3) cultural norms. But if mis-measurement is the problem, then analysis of the determinants of FLFP have been working with an inaccurate dependent variable. So we ask, what exactly do women do, what would more accurately measured estimates of labour force participation look like and how would the standard explanations look like with this more accurately measured variable.

Second, we reference the larger literature, and note various areas of women's work that do not enter Indian measures. We use these to, first of all, arrive at a more inclusive definition of 'conventional' labour force participation than captured by Indian NSS (working for pay or doing work that saves household money); secondly an estimate of those doing 'expenditure saving' work; thirdly, those out of the labour force. In addition, we have measures of those with primary responsibility for activities that are explicitly excluded by labour force definitions, but that feminists have highlighted as part of women's unpaid domestic and care responsibilities.

Third, given that our conventional measure of female labour force participation is more inclusive than that estimated by NSS, our estimates show the determinants of women's productive contributions to the household economy/labour market when it is measured accurately. Finally, we ask very explicitly how the excluded activities of domestic/care work affect women's ability to participate in conventional work participation and in expenditure saving activities. The fact that

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[3] See Footnote 6 for details of these categories.

we are do it for both conventional labour force activity and for expenditure-saving makes our analysis particularly interesting and unique.

Our main findings are that women being primarily responsible for routine domestic tasks such as cooking, cleaning and household maintenance, over and above the standard explanations in the literature (age, location, education and so on) as well as care responsibilities, lowers their probability of working. Factors traditionally viewed as cultural norms that constrain women's participation in paid work, such as the practice of veiling or adherence to Islam, are insignificant in our analysis after the conventional variables have been accounted for. Given that the primary responsibility of domestic chores falls on the woman, we argue that the conventional definition of cultural norms needs to be revised, and shifted to focus on the real culprit, viz, the cultural norm that places the burden of domestic chores almost exclusively on women.

3. Conceptualizing women's work: alternative perspectives

Our paper explores the relevance of these various explanations for the West Bengal context. We begin by considering the measurement issue, and some of the problems that have been highlighted in the international literature with regard to this. One body of this literature relates to mainstream policy efforts to conceptualize the value created in an economy. The definitions used in the UN System of National Accounts, which are used to compute the GNP of a country, and those used by the ILO to measure the labor force of a country on the basis of its contribution to the GNP, both revolve around the production of market value (Waring, 1988). The SNA initially confined itself to estimating the value of marketed goods and services while the ILO defined labor force activity as 'work done for pay or profit'. However, as Kuznets noted as early as 1947, 'subsistence production', viz. production carried out for own use and consumption by households, constituted a significant share of value produced in the less monetized economies of the world and ought to be included within the production boundaries of the SNA on the grounds that it was potentially marketable (cited in Beneria et al., 2016)

The UN SNA production boundary was gradually extended to include primary production in agriculture, fishing, mining and forestry, the processing of these products to make cheese, butter, flour and so on, as well as the production of other commodities which were consumed or sold in the market (Waring, 1988). These could be valued at the price at which they were sold or, if not sold, at the prices at which similar products were sold.

The ILO's definition of the labor force was also gradually extended so that by 1993, it included all persons of either sex who provided labor for the production of 'economic goods and services'. The earlier definition was extended to include all production and processing of primary products, whether for the market, for barter or for own consumption. However, as Anker et al (1988) pointed out, many of the subsistence activities in which women were engaged in developing country contexts *should* have been included in estimates of the labor force by this definition, but were frequently not. Conventional practice at national levels frequently included certain categories of subsistence activities (such as crop production for self-consumption), but excluded others (free gathering of wood and fruit, processing crops to store or tending and milking animals for family use). As they observed, "it is almost as if the criteria have been made on the basis of existing knowledge on male and female activity patterns" (p.8). In addition, what continued to be explicitly excluded from ILO definitions were cooking, cleaning and caring for household members. This was, of course, the domestic work that was largely carried by women within the household on an unpaid basis.

The second body of literature relevant to this paper relates to feminist efforts to challenge the exclusion of these predominantly female unpaid activities from estimates of the labor force as well as the GNP, an exclusion which devalued such work and rendered it invisible to policymakers. Feminists have sought to distinguish between the instrumentally valued production of goods and services for markets (exchange value) and the intrinsically valued production of

goods and services for the social reproduction of labor on a daily and generational basis (use value) (Beneria, 1981). They point out that many aspects of the unpaid work of social reproduction *could* be carried out as a market exchange so the decision to treat such work falling outside the sphere of the economy is completely arbitrary.

With the spread of market relations and the emergence of domestic technologies[4], the time that women spend in unpaid reproductive work in affluent countries has shrunk considerably and is now largely focused on 'care' activities, housework and looking after the family (Beneria, 1981). Women's continued responsibility for this form of unpaid work has led to a predominance of part time work among those with young children and the 'motherhood penalty' we noted earlier in the wage distribution. There has therefore been a great deal of attention to the question of care within the feminist economic literature, and to the elaboration of the idea of the care economy (Himmelweit, 1995; Folbre, 2006). However, the growing dominance of the language of care to describe women's domestic responsibilities has tended to overshadow the range of additional subsistence activities through which poorer women in the Global South continue to contribute to social reproduction of their families and communities.

These different categories of work – market-oriented, subsistence-oriented and care-oriented – are the focus of this study. We are interested in their interactions in explaining women's labor force behavior in the Indian context where women are responsible for both care and subsistence work, but where neither is counted, or not counted very well, by the Indian labor force surveys. This means that many of the generalizations made about women's labor market behavior, including the explanations given for their low rates of engagement with the market, are based on incomplete data without little reference to these two important demands on women's time that are likely to affect their ability to participate in more recognized forms of economic activity.

Given that our survey was purposively designed to measure women's labor force participation, as defined by the ILO, we were able to collect data on all three categories of work. We formulated our question on conventional labor force activity to ensure that women reported on forms of work that are included in the ILO definition. We asked a separate series of questions on forms of subsistence work that *should* be included in labor force estimates, but that tend to get under-reported by women themselves and overlooked by surveyors and census enumerators. And finally, we collected data on women's household and care responsibilities. In the light of the rich and more carefully collected information on different aspects of women's work yielded by our survey, we elaborate a bit further on the earlier objective outlined for this paper. Our objective is to explore the relevance of economic and sociological explanations for women's engagement in the labor force, both in 'conventional' labor force activity and in subsistence activity, when some of the problems associated with measurement have been addressed. In addition, we estimate the effect of women's unpaid domestic responsibilities on their participation in these different categories of labor force activity, over and above the standard explanations used in the literature (age, education, location etc.).

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[4] Greenwood et al (2005), for instance, track how progress in labor-saving consumer durables in the United States since 1900 led to a steady decline in hours spent in housework from 58 to 14 hours in 2011. This was accompanied by a steady rise in the labor force participation of married women. See also https://ourworldindata.org/women-in-the-labor-force-determinants, accessed April 24, 2019

4. Data collection and definitions of labor force activity

The data for this study were collected through a primary survey conducted in the state of West Bengal between July and September 2017 (WBLFS, 2017, hereafter)[5]. The sampling procedure was as follows. Our first-stage sampling units (FSUs) were districts. For the selection of FSUs, we used data on district per capita income compiled by the West Bengal government, and data from the national Census 2011 for the rural-urban and demographic composition of the districts. The criteria guiding the selection of FSUs were percentage of Muslims and per capita income, and in both dimensions, we wanted districts representing both the top and the bottom ends of the distribution. By capturing the richest districts, we also purposively oversampled urban and peri-urban residents in order to obtain a deeper understanding of urban women than is possible from secondary data (which is predominantly rural representing the underlying population distribution).

Based on these criteria, the following seven districts were chosen: Murshidabad (highest proportion of Muslims); Howrah, North 24 Paraganas and South 24 Paraganas (in the top eight for Muslim share, as well as for per capita income); Bankura (one of the bottom three in per capita income); Purulia (one of the bottom three for income, as well as the one of the bottom two for Muslim share); Kolkata (richest district, fully urban). Originally, Darjeeling, a hill district, was also chosen to understand the hills versus plains differentiation, but the area was plagued with disturbances just during the time of our survey, because of which we had to drop that entire district.

The second-stage units (SSUs) were villages/urban blocks. The SSUs were randomly chosen based on the sampling frame of the full list of villages/urban blocks from Census 2011 data. In order to avoid clustering, forty households per village/urban block were chosen randomly, covering all the hamlets within each village. One woman per household was interviewed; and from roughly half the households, a man (not necessarily the woman's husband) was interviewed. The final sample consisted of 3701 women and 1817 men.

Close to 57 percent of our sample households lived in villages and 43 percent in towns. By design, our sample has a greater proportion of urban women, compared, for instance with the 2011-12 NSS EUS, which is 27 percent urban. Roughly 9 percent of the respondents were from Bankura, 16 percent from Howrah, 16.7 percent from Kolkata, 15 percent from Murshidabad, 25 percent from North 24-Parganas, 9.7 percent from Purulia and 7.5 percent from South 24-Parganas.

We paid particular attention in our questionnaire to questions relating to women's work, given the widespread criticism levelled at the official estimates of this work. The problem of measuring women's work in the Indian context has both practical and conceptual dimensions. On the practical side, there is the problem of under-reporting. Both interviewers and respondents in the large-scale surveys used to gather information on labor force activity tend to discount many aspects of women's work. In particular, they tend to view work that is unpaid and carried out within the domestic domain as an extension of housework (Jain, 1996, Deshpande, 2002 and 2017, Chaudhary and Verick, 2014). In view of this, we laid particular emphasis on the training of our field workers and enumerators in order to sensitize them to these multiple issues related to measurement of women's work.

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[5] One concern could be that by focusing on one state in a diverse and heterogenous country, we could be presenting a story that is not representative of India as a whole. Table A1 in the Appendix shows female labor force participation rates in West Bengal in a comparative perspective. We see that West Bengal is below the all-India average of women who report themselves to be working according to their usual principal activity status (UPAS), but is not the lowest. This validates our choice, as we would like to analyze a state with low FLFPR, but one which is not an outlier. We should also note that six of the states reporting high proportions of "working" women are predominantly tribal states, with communities that have historically had high labor force participation of women. If we exclude these states (Sikkim, Meghalaya, Sikkim, Mizoram, Chhatisgarh, Arunachal Pradesh, Uttaranchal), the relative rank of West Bengal (in terms of women who report themselves to be working) improves, while it remains below the national average.

However, the problem is not simply one of under-reporting, it also relates to the definition of labor force activity used in official statistics. The NSS obtains the work status from Block 5 of the Employment-Unemployment Survey (EUS) in which work details of each individual household members are listed. The head of the household typically answers this, which makes it a highly likely source of under-reporting. Block 5.1 of the NSS EUS is essentially a household roster, where the respondent (typically the head of household) is asked to provide details about the "usual principal activity status" of each member of the household. This is the activity status of the person in the 365 days preceding the survey based on the "majority time criterion", i.e. the activity on which the person spent a "relatively long time". However, before this question is asked, the NSS surveyors make a dichotomous classification between "those in the labor force" (working or not working) and those not in the labor force. The latter are classified as out of the labor force, and all follow up questions about the usual principal activity status are asked only to those who are classified as "in the labor force" (p. A-6, NSS, 2011-12). Thus, if women are more likely to be classified as out of the labor force because their work is either home-based or unpaid or both, then no follow up questions about the nature of their involvement in productive work will be sought.

We decided to use the NSS definition, but to extend it to capture the ILO definition and to include additional questions in order to ensure more accurate estimates of women's labor force activities. We also asked the questions of the woman herself, rather than the head of household or any other male respondent, and finally, given the interrupted and seasonal nature of women's work, we did not restrict the number of days they were involved in an activity for it to count as labor force participation. Our question is, therefore, an improvement over the standard question in household surveys because of these three reasons.

The first question was dichotomous one, which asked women whether they had engaged in any economic activity in the past 12 months, either earning an income *or doing work that had saved household money*. While the latter category falls into expenditure-saving activity of the kind that falls within the SNA boundary, it is excluded from NSS questionnaires. Those who answered "yes" to this question were classified as economically active by *conventional* criteria.

Secondly, to those who answered "no" to this question, we asked a series of questions about different kinds of work that are likely to be considered part of their domestic duties, but which fall within the SNA production boundary. These questions are analogous to the NSS EUS Block 7 questions that are administered to all those who have been classified as 'attended to domestic duties' or 'attended domestic duties and engaged in free collection of goods for household use', NSS codes 92 and 93 to which we will return in Section 6. In the NSS data, these two categories are made up almost exclusively of women.

Specifically, we asked about the following activities: working on kitchen gardens/orchards, rearing poultry, free collection of fish, small game, wild fruit, vegetables for household consumption, husking paddy, preparing jaggery (*gur*), preservation of meat or fish, weaving baskets/mats, making cowdung cakes for fuel, tailoring/weaving and tutoring of own or other children free of charge.

The NSS questions ask women to answer "yes" or "no" to each of these questions. Again, we tweaked this format slightly. We asked about each activity separately in a set of two questions: first, whether they were involved in that activity, and second, if they did the activity not just for own use/consumption but to support family's income generating work.

We classified those who answered "yes" to the second question, i.e. those who did these activities as income support as economically active. If women had answered "no" to the first question, as well as to the series of follow-up questions, but their households possessed agricultural land or

livestock, we classified them as "economically active" because of the evidence that women who belong to such households contribute to household economic activity as a part of their domestic duties. Several women reported doing multiple activities; we count all women who do at least one activity in this definition (i.e. additional activities are not double counted).

We counted these women as economically active according to expenditure saving criteria. It is worth noting that this extended definition does not include care work and domestic chores, but only those unpaid activities that fall within the conventional boundary, frequently treated by women themselves as part of their routine domestic duties.

Finally, we classified all remaining women, those were not classified as economically active by either conventional or expenditure-saving criteria, as *out of the labor force* (OLF). These are women who do at least one of the activities counted in the extended definition of production for home use. In our data, we find 63 percent of these women do at least one of the activities; 15 percent do three. Given that these are expenditure saving economic activities, the demarcation between doing them exclusively for home use versus for economic help is fuzzy. Thus, the line dividing women who are included in the expanded definition of economic activity, and those classified as unpaid/OLF is a blurred one. We should note that all women do at least one economic activity, either for home use or as unpaid labor in household economic activities.

One point to bear in mind is that although our study is based on a single cross-sectional survey and hence cannot contribute to debates about the decline of female labor force participation in recent decades, we are examining the results of this decline at a particular point in time[6].

5. **Variations in female participation in conventional work and expenditure saving activity**

Table 1 allows us to compare the estimates provided by our three labor force categories in the districts covered by our survey. It also includes estimates from the 68th round of the National Sample Survey (NSS), Employment-Unemployment Survey (EUS) conducted in 2011-12.

Table 1 somewhere here.

Using the conventional definition, our estimate of FLFPR is 27.85 percent. This is significantly higher than the 16 percent for the entire state of West Bengal from the 68th round of NSS EUS of 2011-12, which is the closest survey for which data are publicly available. Apart from the gap of six years between our survey and that of the NSS, another reason that would account for the divergence between these two figures is that our sample is from seven districts, whereas the NSS estimate is based on the entire state. Adding both conventional economic and expenditure-saving activity, we get a female labor force participation rate of 52 percent.

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[6] Without going into the substantial literature that investigates the decline, we note that the issue of decline is related to the changing nature of work availability, especially for rural and less educated women. There is important work which questions the "decline": Desai (2017); Desai et al (2018), Chatterjee et al (2015). This work shows that the proportion of economically active women has not declined, but the number of days they work has, which shows up as a decline in the labour force participation rates. In India over the last three decades, there has been a massive decline in agricultural jobs, and this has not necessarily been accompanied by an increase in manufacturing jobs, and/or wage employment. There has been movement out of agriculture into informal and casual jobs, where the work is sporadic, and often less than 30 days at a stretch. The new modern sector opportunities mostly accruing to men. Gupta (2017) investigates the effect of trade liberalisation in India (post-1991) on women's employment, and finds that establishments exposed to larger tariff reductions reduced their share of female workers.

Again, here a concern might be that our higher estimates reflect that we selectively chose districts with higher female LFPRs compared to the other districts in the state. Table A2 in the Appendix shows the distribution of women's work status according to the NSS EUS 2011-12. This reveals that the sample districts lie both above and below the state average.

Table 1 also reveals that the district-level variations in participation rates is not neatly associated either with proportion of Muslims in the district, typically associated with greater social conservatism with regard to women's work, or with the economic status of the district. Murshidabad, which has the highest proportion of Muslims in the state, has the third highest participation rates. And while Kolkata, the richest district in our survey, has the highest participation rates, it is followed by Bankura, one of the poorest. Prima facie, it appears that simple explanations based on income or religious/cultural differences do not contribute a great deal to understanding inter-district variations.

Table 2 presents key summary statistics by our three labor force categories: conventional economic activity; expenditure-saving activity; and out of the labor force.

Table 2 somewhere here

These include statistics on age, education, marital status, religion, caste[7], monthly per capita income, ownership of livestock and poultry and female headship. Along with religion, we included a variable on whether women veiled or not, an indicator of cultural norms. This took the form of asking women if they covered their heads sometimes, always, or never, using either a *burqa*, *hijab*, *niqab* (varieties of ways that Muslim women cover their heads or faces) or *ghunghat* or veil (typical ways that Hindu women might cover their heads). We created a dummy variable called "veiling", which took the value 1 if they covered their heads sometimes or always, and 0 if they never covered their heads. We see that the proportions of women who covered their heads was higher for those in expenditure saving activities, but similar for working women and the OLF category.

The questionnaire had data on both productive and consumption assets. The former comprised of physical assets[8], livestock[9], retail shops (where readymade items are directly sold to consumers, and not to middlemen), and workshops (e.g. garage, pottery, tailoring etc, where household may or may not manufacture items and sell to both customers and middlemen). Consumption assets comprised of simple household items[10]. Using Principal Component Analysis, we combined the production and consumer assets into two separate indices, one for each category of assets. The former can be seen as a rough proxy for wealth. The distribution of women across quartiles of both the consumer asset index and wealth index is not reported in Table 2, but available with the authors upon request.

Finally, we collected information on women's unpaid domestic responsibilities which are explicitly excluded from definitions of economic activity. These included childcare, care of the elderly and five domestic tasks: cooking, cleaning the house, washing clothes, household

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[7] We divided the sample into five broad caste categories: Scheduled Caste (SC), Scheduled Tribe (ST), Other Backward Classes (OBC), Upper castes (UC), which are the non-Brahmin upper castes, and Brahmins. SC, ST and OBC are administrative categories formed for the purpose of reservation or affirmative action. Typically, most data sets have four categories, with "Others" being the residual category. We have data for the jati affiliation of respondents and are able to disaggregate the "Others" into the topmost ranked Brahmins and other upper castes. For details about jati classifications and administrative categories, see Deshpande (2017).

[8] Plough, harrow, pump/motor sets, bullock carts, tractor, spray pump, power tiller, borewell, drip irrigation sprinkler, hand tools (e.g. sickle, shovel, axe)

[9] Cows, bulls, buffaloes, goats, sheep, poultry, pigs

[10] Sewing machine, refrigerator, almirah, kerosene stove, gas stove, bicycle, two-wheeler, car/jeep/tempo/mini-truck, telephone, mobile phone, television, VCR/CD/DVD player, electric fan, computer/laptop, pressure cooker, cooler, radio.

maintenance and fetching water. This can be seen as constituting the local equivalent of 'care' work, although they are generally more time consuming than equivalent activities in the global North. Fetching water, for instance, can be from the household tap, or from a water source some distance away from the household. Cooking too may involve using a gas stove or having to walk miles in search of fuel.

As far as household tasks are concerned, women reported an average of four tasks. In addition, 53 percent of women reported themselves to be solely responsible for childcare, and close to 71 percent for elderly care. The proportion responsible for elderly care was higher in the OLF categories, compared to economic active ones. The proportions solely responsible for childcare was lower among women in conventional economic activity.

The literature on female labor force participation has noted the importance of education and income. Before we move to the full-fledged analysis of determinants of female LFPR, we can check the nature of correlations between FLFPR and these variables.

Figure 1 somewhere here.

Figure 1 shows the distribution of women by the three LF categories within the four broad educational categories. We see that as compared to illiterate women, proportions of working women with primary and secondary education are lower, but this proportion increases for women with post-secondary education, indicating a rough U shape. For women who are economically active in ES activities, we see a rough inverse-U, indicating that there may not be sufficient work opportunities for women with primary and secondary levels of education.

Figure 2 somewhere here.

Similarly, Figure 2 displays distribution of women in the three LF categories across wealth as measured by quartiles of the productive asset index. We see that women from wealthier households are more likely to be working and less likely to be in expenditure saving activities.

Finally, Figure 3 plots the distribution of women in the three LF categories across four quartiles of MPCE, which shows a similar pattern as in Figure 2. The proportion of working women in the lowest quartile is the same as that in the highest quartile.

Figure 3 somewhere here.

Of course, the underlying causality in the relationship between women's work on the one hand, and household wealth and MPCE on the other, would be bi-directional: households where the women are working are likely to be wealthier. We should note that of the two, the productive asset index is less likely to be affected women's incomes, especially for women earning low wages, given the items that appear in the productive asset index. Thus, it has the lowest problem of endogeneity or reverse causality. It is interesting that prima facie, there is no evidence of a wealth or income effect in the West Bengal data, i.e. women from wealthier families displaying lower LFPRs compared to women from less wealthy families.

5. Estimating women's labor force participation

5.1 Determinants of LFPR

In this section we explore the main determinants of women's economic activity. To that end, we estimated a multinomial logit model to estimate the probability of women being in conventional economic activity, expenditure-saving activity and out of the labor force. The probability of individual *i* being in the LF category *j* is

$$\pi_{ij} = log \frac{\pi_{ij}}{\pi_{iJ}} = \alpha_j + X_i'\beta_j$$

where, α_j is a constant, and β_j is a vector of regression coefficients for j=1, 2, …J-1. The number of equations is one less than the number of outcomes, because one of the outcomes is arbitrarily set to zero so that the system is identified and we get unique solutions. X_i' is a vector of covariates that predict the probability of being in a given labor force category. Therefore, the individual βs measure the effect of individual covariates of being in a given outcome category, relative to the base outcome category, conditional on other covariates. Depending on the which category of the outcome variable is chosen as the base, the interpretation of the coefficients will change, but the predicted probabilities for the outcome variables will remain the same. We show the predicted probabilities below.

Our estimation equation is the following:

$$Pr (LF_i) = \alpha_j + \beta_1 * veiling + \beta_2 * religion + \beta_3 * dom\_tasks + \beta_4 * childcare + \beta_5 * elderlycare + X\beta_j + errorterm$$

Where i= working or expenditure saving, relative to OLF

where the X vector includes the standard variables used in the literature: age, age squared, rural/urban residence, educational categories, marital status, and household size and religion[11]. The contribution of our study is seen in the inclusion of covariates that are typically not included in quantitative analysis. One set of these new covariates captures the effect of domestic constraints, measured by three variables: whether the respondent is primarily responsible for child care; whether she is primarily responsible for elderly care; and the number of domestic chores she has to do. The second set attempts to capture the effect of cultural norms. Along with religion, which does feature in the wider literature, we have included our measure for veiling practices, also taken as an indicator of conservative social norms. This is a dummy variable 'veiling' which takes the value 1 if the woman covers her face sometimes or always. Standard errors are clustered at the village level.

The coefficients of interest are β_1 to β_5, as these capture the effects of cultural norms and care/unpaid work.

We have not included wealth quartiles (as proxied by productive assets) because of the reverse causality mentioned above. However, Table A3 in the Appendix shows the results of this regression with additional controls for wealth quartiles, which indicates the direction and strength of the correlation between women's work status and their household's position in wealth

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[11] We have an alternative specification with caste instead of religion which show that the average marginal effect of caste is not significant (available with the authors upon request).

distribution. It also shows the strength and direction of the correlation between women's work status and other co-variates when household wealth is controlled for.

Figure 4 presents the average marginal effects (AMEs) of all the covariates for the two LF categories, working (conventional definition) and expenditure-saving activity (extended definition) respectively. AMEs are useful because they reflect the average of the marginal effects calculated at every value of the covariate, and therefore, convey information about the influence of each covariate on the outcome variable.

As Figure 4 shows, in our sample the probability of working for urban women is higher than that for rural. We should note that our sample includes Kolkata and Howrah, two important economic locations in the state of West Bengal where jobs are more likely to be available than in other locations. The relationship between age and "working" follows a fairly standard pattern, with activity rates increasing with age and then declining.

Figure 4: Determinants of LFPR
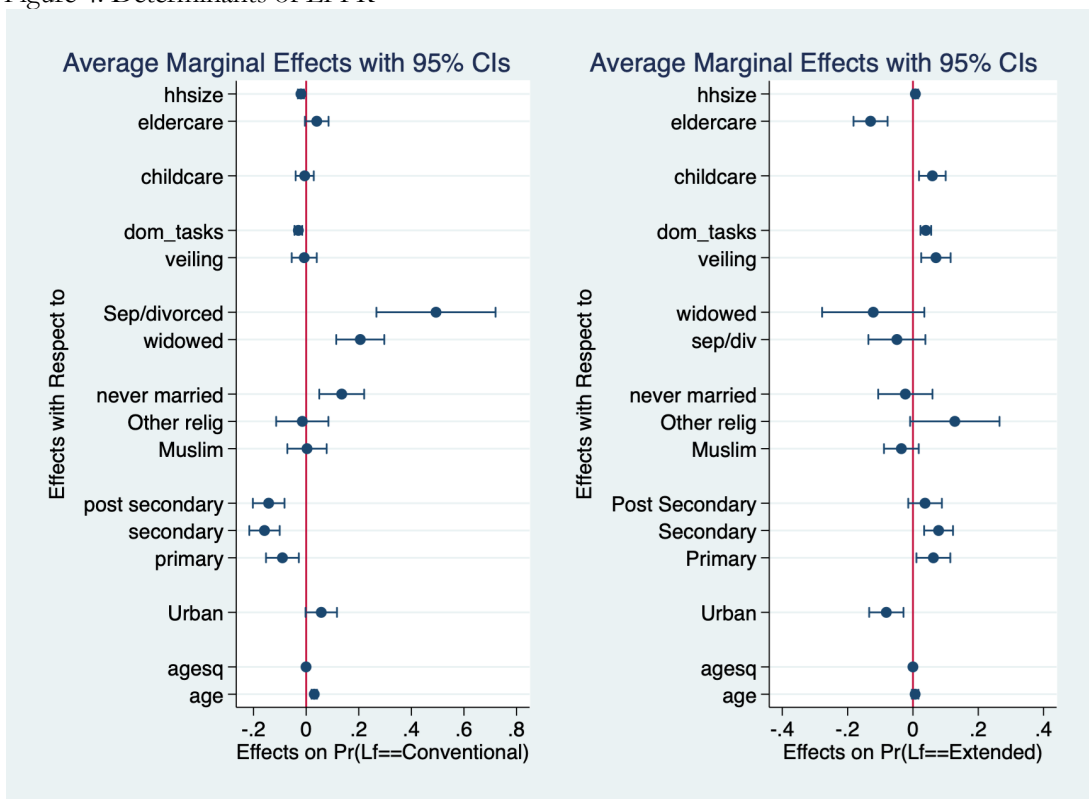
Relative to illiterate women, all other women are less likely to be working, thus in the conditional estimates, the U-shaped we had earlier observed in the descriptive statistics disappears. Relative to currently married women, all other categories of women (never married, widowed and divorced) are more likely to be working, reflecting the 'marriage effect' we noted earlier.

The story of cultural norms and religious differences is not supported by our sample. Women who veil have the same probability of working as women who never veil, and Muslim women have the same probability of working as Hindu women.

Very few women in our sample had children under five, but other variables capture their 'care responsibilities'. We find that each additional domestic chore for which the woman is primarily responsible -- out of the five for which we collected data (cooking, cleaning, household maintenance, washing clothes and collecting water) – lowers the probability of conventional economic activity. This is over and above the effect of household size, which has a similar effect.

Primary responsibility for child care has no effect on the probability of "working", but interestingly, primary responsibility for elder care increases it.

Turning to the results on expenditure-saving activity, we find that urban women are less likely to be in expenditure saving work relative to rural. If we revisit the activities that make up expenditure-saving work, it is clear that they are harder to carry out in the built-up environment of urban areas. Relative to illiterate women, women with primary and secondary education are more likely to be in ES work. Cultural norms also seem to matter. Compared to women from Hindu households, women from Muslim households are less likely, while women from other religions are more likely, to be engaged in ES work. Women who veil are more likely to be in ES than those who don't.

Every additional domestic task increases the probability of being in ES work. This is consistent with the finding that every additional domestic task lowers the probability of being in conventional economic activity. While child care did not appear to have any effect on whether women 'worked' or not, it does increase the probability of being in ES work while elderly care decreases this probability.

Finally, Table A3 which estimates the same regressions, but includes wealth quartiles suggests that wealth is not a significant predictor of women's participation in either conventional labor force activity or in expenditure-saving work, over and above other predictors.

5.2 Domestic Work and Labor Saving Devices

A number of the findings that emerge from our analysis can be explored in greater depth using information from our survey. One of these is the constraining effect of women's primary responsibility for domestic chores on their ability to participate in conventionally defined work, leading many to engage in expenditure saving work. We noted earlier the importance of labor-saving consumer durables in reducing the amount of time spent in housework in earlier-industrialized countries like the US. We explore whether this factor is relevant in the West Bengal context. From the data collected on household assets, we identified five simple gadgets – refrigerator, mixer, gas, washing machine and pressure cooker – that could be termed labor-saving devices. A simple regression of whether the woman is primarily responsible for domestic chores on the number of these five labor saving devices shows that an increase in the number of these gadgets reduces the likelihood of woman being primarily responsible for the five domestic chores (Table 3).

Table 3 somewhere here

This is a simple correlation. It is likely to be the case that working women are likely to have more gadgets, compared to women who are not working. But a plausible interpretation of Table 3 is that the presence of labor-saving gadgets reduces the demands of domestic chores for working women, perhaps enabling them to take up conventional economic activity or at least allows these chores to be shared with other household members (generally other female members) so that they no longer have primary responsibility.

5.3 Is there an unmet demand for work?

The literature reviewed earlier suggested the possibility of an unmet demand for paid work. We explore the evidence for this in our survey. We asked women who were classified as OLF if they would accept paid work if it was made available at or near their homes. 73.5 percent said "yes". Figure 5 shows the average marginal effects of the logistic estimation of the demand for work, measured as a yes response to this question.

Figure 5: Factors Affecting Demand for Work
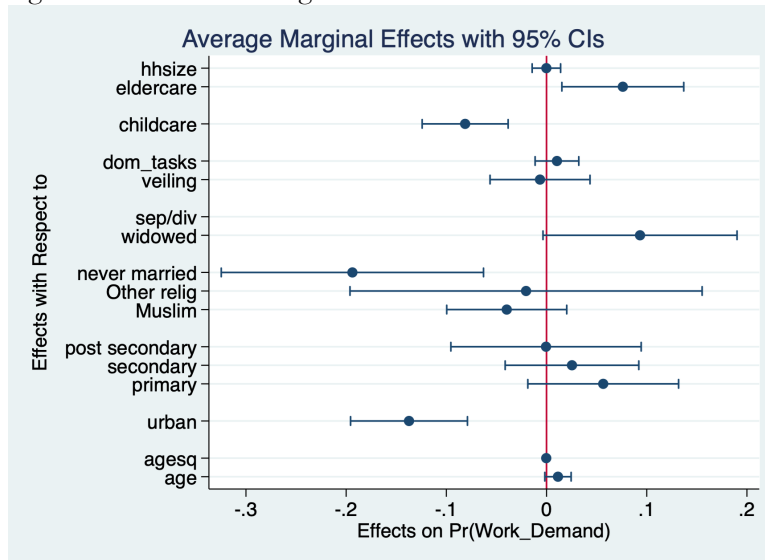
We find that among the OLF category, urban women have a lower demand for paid work compared to rural; never married women have a lower demand and widowed women have a higher demand for such work than those who are currently married; women primarily responsible for childcare have a lower demand for work, but those with elderly care have a higher demand as do, to a lesser extent, those responsible for domestic tasks. Veiling, education and religious differences are not significant.

When questioned further, 18.7 percent expressed a preference for regular full-time, 7.8 percent for regular part-time; 67.8 percent for occasional full time and 5.78 percent for occasional part time. It would appear that there was indeed a major unmet demand for paid work, whether regular or occasional, full time or part time as long as the work in question was compatible with their domestic responsibilities. Based on this, we would suggest that being out of the labor force is less a matter of choice for large numbers of women and more a reflection of the demands of unpaid domestic responsibilities.

5.4 The relevance of cultural norms

We also considered the influence of cultural constraints on women's labor force participation. These did not appear to have much significance in the West Bengal context. Religious differences appeared largely irrelevant in determining whether women participated in conventional work. They do differentiate involvement in expenditure saving work, with Muslim women less likely, and women from other religious groups more likely, than Hindu women to be in such work rather than out of the labor force. The practice of 'veiling' was also insignificant in determining whether women were engaged in conventional work but increased the likelihood that they were in expenditure saving work rather than OLF. So the preoccupation with Islam and with adherence to cultural norms, at least in dress, as explanations of women's labor force activity may be misplaced in the context of West Bengal.

Of greater significance in our findings are the cultural norms governing the gender division of unpaid domestic and care work and the disproportionate responsibility assigned to women for this work. In fact, primary responsibility for domestic work emerges as more important than responsibility for care in constraining women's ability to participate in the conventional labor force. While Figure 4 suggests that women with primary responsibility for elderly care increases the probability of conventional work, this may reflect the costs of taking care of the elderly. This

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is supported by the fact that those out of work in this group are more likely to express a demand for paid work at or near the home. However, according to Table A3, once wealth is controlled for, the effect on participation in conventional work disappears, women are less likely to engage in expenditure-saving activities and more likely to be out of the labor force. Primary responsibility for child care has no significant impact on the likelihood that women participate in conventional work, with or without controls for wealth. While this is not surprising, given that the average age of women in our sample is 36, it is also in line with findings from other studies. Those out of work in this group are less likely than others to express a demand for paid work, suggesting that, for the time being at least, these women prefer to remain out of the labor force.

Primary responsibility for domestic chores, on the other hand, significantly reduces the likelihood of participation in conventional work and increases the likelihood of expenditure saving activity. Controlling for wealth does not make no difference to these results. In addition, those primarily responsibility for domestic chores who are not in the labor force are likely to express a desire for paid work – suggesting an unmet need for work among this group.

The impact of domestic chores relative to care responsibilities on women's labor force participation resonates with other evidence. For instance, in a study by Chopra et al based in India, Nepal, Rwanda and Tanzania, it was found that in both nuclear and extended families, the proportions of women solely responsible for housework/domestic chores were much higher than proportions for women solely responsible for childcare (Chopra et al, 2017).

If domestic chores emerge as an important determinant of women's labor force participation, after controlling for the standard explanatory factors, the question thus arises is this: to what extent do the low LFPRs found in India in particular, but in South Asia and MENA countries more broadly, reflect international differences in women's involvement in housework? There is some indicative evidence that indeed, in these regions, women spend more time on unpaid care work, broadly defined (i.e. including care of persons, housework or other voluntary care work), relative to a range of other developing and developed countries in the world. As Figure 6 shows, in 2014, the female to male ratio of time devoted to unpaid care work was 10.25 and 9.83 in Pakistan and India respectively – the two countries with the lowest female LFPRs within South Asia -- compared to 1.85 in UK and 1.61 in the US.

Figure 6 somewhere here.

6   Concluding Comments

Based on primary data from a large household survey in seven districts in West Bengal in India, this paper analyzes the reasons underlying low rates of labor force participation of women. In particular, it has tried to disentangle the intertwined strands of constraints, opportunities and norms in explaining these rates. We designed our survey to capture women's engagement in the conventional labor force more accurately than is the case in the official surveys. While this gave us higher estimates of women's conventional work participation than the official statistics, they were still fairly low (28%), with 23% of women engaged in expenditure saving activities and 48% out of the labor force. In this concluding section, we summarize how the findings based on our more inclusive estimate of women's labor force participation differ from those reported by studies that rely on the more narrow estimates to be found in the official data. In addition, we discuss the specific contributions of our study.

We find that some of the effects of the standard variables used in our analysis converged with those found in the wider Indian literature: age and age squared, marital status and education. Religion, on the other hand, was not significant in our study nor was veiling, two indicators of social norms. Participation rates were found to be higher in urban areas than in rural, contrary to what studies using national data have found. Note that the insignificance of religion is not an

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artefact of our study; a similar regression using national level NSS EUS data also finds religious difference in work participation to be largely insignificant[12].

6.1 Not "Working"?

However, an important insight that our analysis contributes to the general literature is the finding that many of the women who were not conventional forms of labor force activity were not necessarily outside the labor force. Rather many of them were involved in expenditure saving activities. So we find that while women with education, married women and women with primary responsibility for child care and domestic chores were less likely than illiterate women, divorced, separated, widowed and unmarried women to be in the conventional labor force, they were at the same time more likely to be in expenditure saving activities rather than outside the labor force.

This result highlights the larger question of what is it that women do when they are not working outside in the home in paid activities. The 32nd round of the NSS EUS, conducted in 1977-78 marked the first attempt in the Indian official LF statistics to understand women's work. As Sen and Sen (1985) argue, in "partly commodified rural economies, the dividing line between domestic work and economic activity is fuzzy (p. WS-49). Jain (1996) also emphasizes that unpaid work by women should not necessarily be seen as household care work.

The NSS introduced questions with Code 92 and 93 to capture women's domestic work, especially domestic work that combined home-based economic activity. Sen and Sen (1985) find a strong negative correlation between women's LFPR and the economic components of code 93, which capture resource-based activities around the home, when such resources are available. Thus, women from the poorest households, where the need for cash incomes is the strongest and there is a paucity of owned resources, tend to display high LFPRs, as our study confirms. Women in the middle part of the income/wealth distribution might not be seen in work outside the home, but they are engaged in expenditure saving work, i.e. they substitute work outside the home with a range of economic activities in and around the home, and not purely non-economic domestic work alone.

The other important insight offered by our study relates to the effects of women's unpaid domestic responsibilities, variables not typically included in other labor force surveys, on other aspects of their work. Our results support the findings of other studies that it is marriage rather than motherhood that is the main constraint on women's participation in conventional work. Primary responsibility for child care is not a significant constraint on women's ability to participation in conventional work, but primary responsibility for domestic chores is, regardless of marital status. This is an important finding and testifies to the heavy burden that domestic work can represent in contexts where labor-saving infrastructure, utilities and technologies are not widespread.

So while we were interested in the effects of cultural norms relating to religion and veiling on women's labor force behavior, our study suggests that in the West Bengal context at least, neither religion nor the practice of veiling appeared to constrain women's participation in conventional work. Indeed, religion is largely insignificant even in the NSS data. Instead, the cultural norms relating to the gender division of unpaid labor appeared to have much greater significance. Not only were women's unpaid domestic responsibilities far more significant in constraining conventional labor force participation, but we found substantial unmet need for paid work among women outside the labor force but on terms that would allow them to manage their household responsibilities. The resilience of cultural norms governing the gender division of unpaid labor is relevant beyond West Bengal. As Figure 6 showed, gender asymmetries in

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[12] Results available with authors upon request.

responsibility for unpaid care work can be found in a range of developed and developing economies but as the figure also showed, India and Pakistan have far more marked gender asymmetries than the other countries on which data is reported.

Based on the results of this paper, we would argue that the definition of cultural norms needs to be rearticulated or shifted to reflect unequal sharing of domestic, unpaid care work, from its current focus on religious differences, especially the spotlight on Islam or veiling as a constraint to labour force participation.

Acknowledgements

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Table 1: Female Labour Force Participation Rates, WBLFS 2017 and NSS (2011-12)

Principal Actiivity Status of Women, WBLFS, 2017								
% of women 16-60 yrs								
	Howrah	Murshidabad	Kolkata	North 24	Bankura	Purulia	South 24	Total Sample
Conventional	28.31	30.78	37.74	22.92	33.04	21.47	19.2	28
N	*169*	*169*	*214*	*212*	*111*	*76*	*53*	*1,004*
Extended	24.46	31.33	16.23	17.08	27.38	29.38	34.78	23.86
N	*146*	*172*	*92*	*158*	*92*	*104*	*96*	*860*
OLF	47.24	37.89	46.03	60	39.58	49.15	46.01	48.28
N	*282*	*208*	*261*	*555*	*133*	*174*	*127*	*1,740*
Total	100	100	100	100	100	100	100	100
N	*597*	*549*	*567*	*925*	*336*	*354*	*276*	*3,604*
UPAS of Women, NSS 68th Round, Unemployment-Unemployment Survey, 2011-12								
% of women 16-60 yrs								West Bengal
Working	13.15	22.07	14.56	19.75	10.69	19.08	19.12	15.99
Invol Unemp	3.5	0.94	1.12	0.61	0.2	0.74	1.38	1.07
Domestic	74.41	64.61	75.94	71.12	77.15	65.98	72.42	73.6
OLF	8.94	12.39	8.38	8.53	11.95	14.2	7.08	9.34
Total	100	100	100	100	100	100	100	100

Notes: In the NSS figures, "Working" refers to all women with upas codes 11 to 51. Involuntary unemployment refers to upas code 81 (did not work, but was seeking and/or available for work), domestic refers to upas codes 92 and 93 (women engaged in domestic duties, as well as in unpaid economic activities free collection of goods, as well as sewing, tutoring, weaving etc. for household use), and OLF refers to all remaining women who are out of the labour force for various reasons.

Source: Authors' Calculations.

Table 2: Summary Statistics by LF Categories

	Conventional	Expenditure Saving	OLF	ALL
	mean	mean	mean	mean
age	36.29	34.27	35.89	35.62
SC	0.27	0.25	0.27	0.26
ST	0.06	0.08	0.05	0.06
OBC	0.13	0.13	0.13	0.13
Brahmin	0.04	0.02	0.04	0.04
UC	0.49	0.51	0.49	0.49
hindu	0.69	0.65	0.67	0.67
muslim	0.29	0.31	0.31	0.31
Rural	0.52	0.67	0.55	0.57
Urban	0.48	0.33	0.45	0.43
illit	0.31	0.22	0.22	0.24
primary	0.18	0.21	0.17	0.18
secondary	0.28	0.45	0.40	0.38
postsec	0.19	0.12	0.20	0.18
nev_married	0.07	0.03	0.05	0.05
married	0.84	0.94	0.92	0.90
widow	0.07	0.03	0.03	0.04
sep_div	0.02	0.00	0.00	0.01
under5 children:				
0	81.97	71.28	76.44	76.75
1	14.64	23.26	19.83	19.20
2	2.69	5.12	3.33	3.58
fhh	0.11	0.05	0.04	0.06
mpce	9392.95	6757.11	8810.42	8474.53
cattle	0.12	0.19	0.17	0.16
goat	0.09	0.11	0.09	0.09
chicken	0.08	0.08	0.09	0.09
veiling	0.58	0.70	0.59	0.61
dom_tasks	3.48	4.04	3.65	3.70
childcare	0.49	0.62	0.52	0.53
eldercare	0.69	0.66	0.73	0.71
N	1004	860	1740	3604

Source: Authors' Calculations based on WBLFS, 2017.

Table 3: OLS estimation of domestic tasks

	(1) dom_tasks
N_labsaving	-0.419***
	(-7.87)
_cons	4.208***
	(96.90)
N	3604

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1

LF Categories by Educational Attainment

Figure 2

LF categories by Quartiles of Prod Asset Index

mean of flfpr_conv   mean of flfpr_es
mean of olf
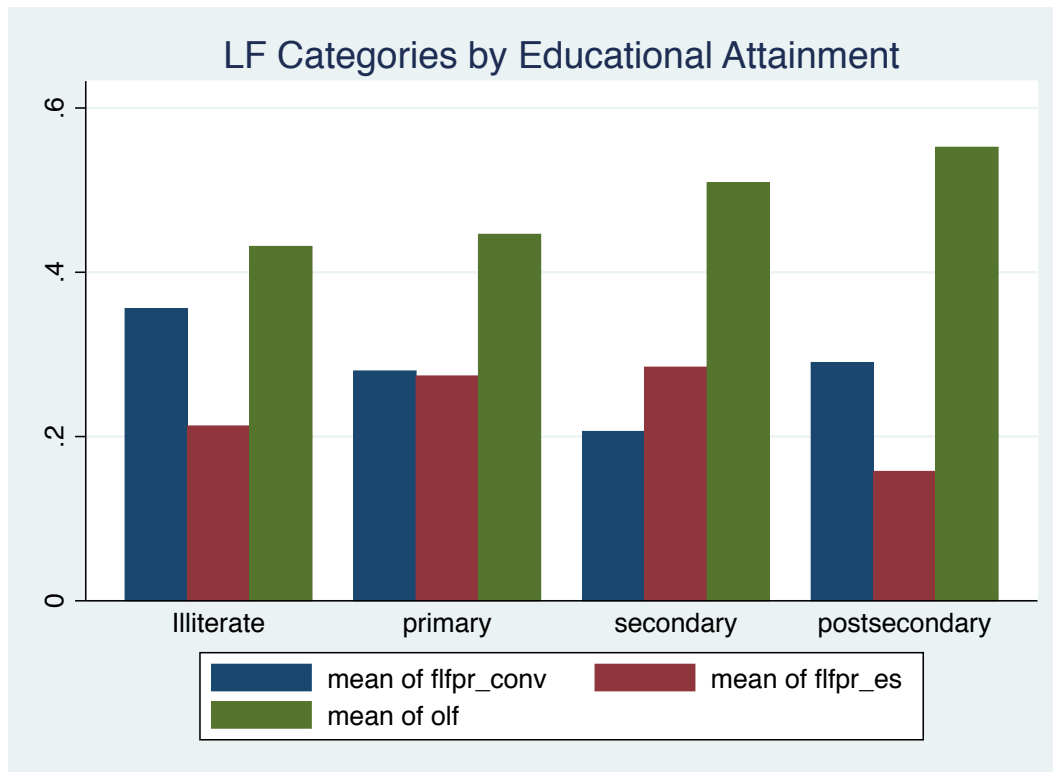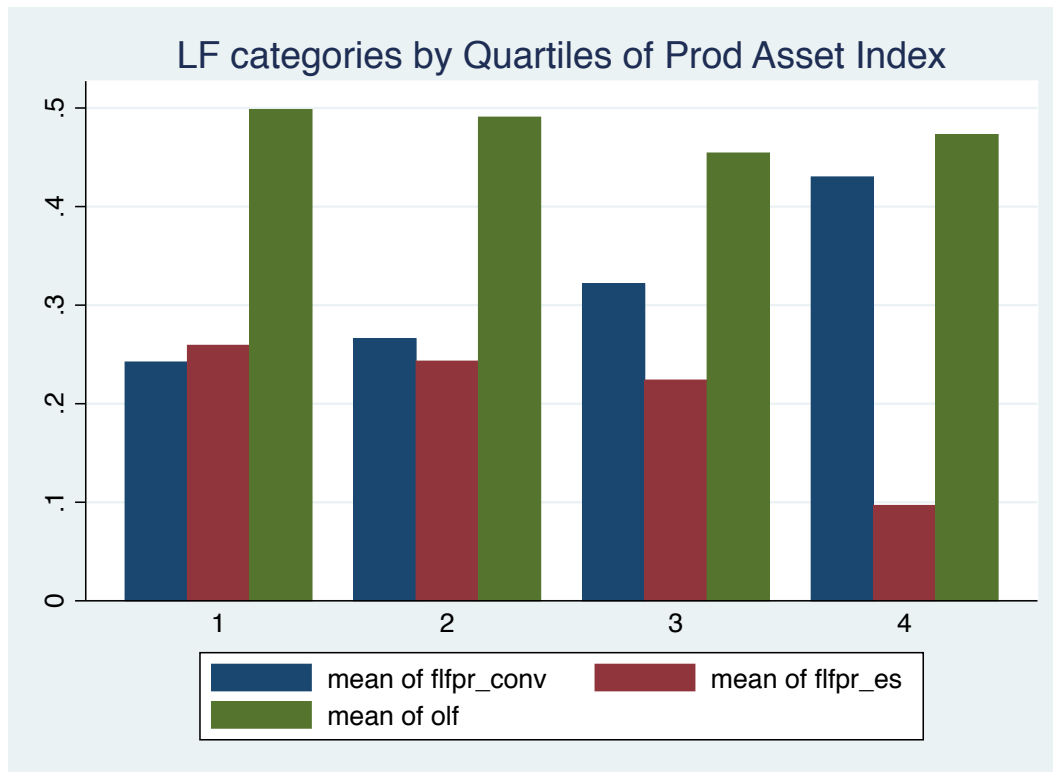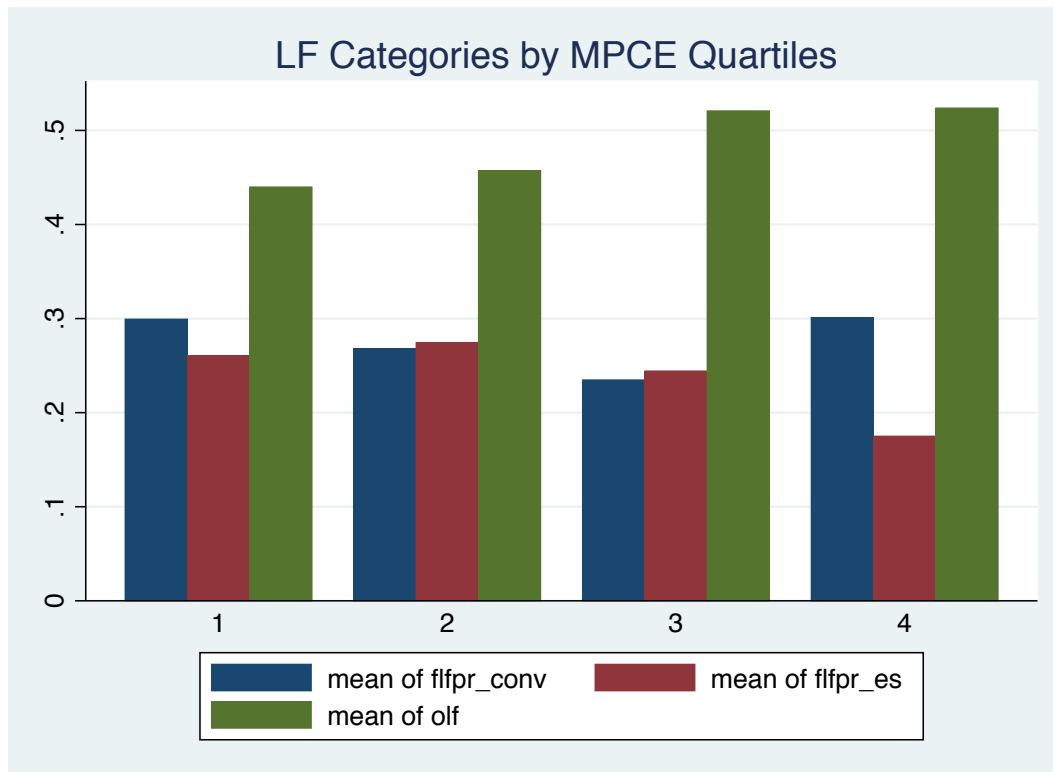
Figure 3

Figure 5

Female-to-male ratio of time devoted to unpaid care work, 2014

Female to male ratio of time devoted to unpaid care work. Unpaid care work refers to all unpaid services provided within a household for its members, including care of persons, housework and voluntary community work.
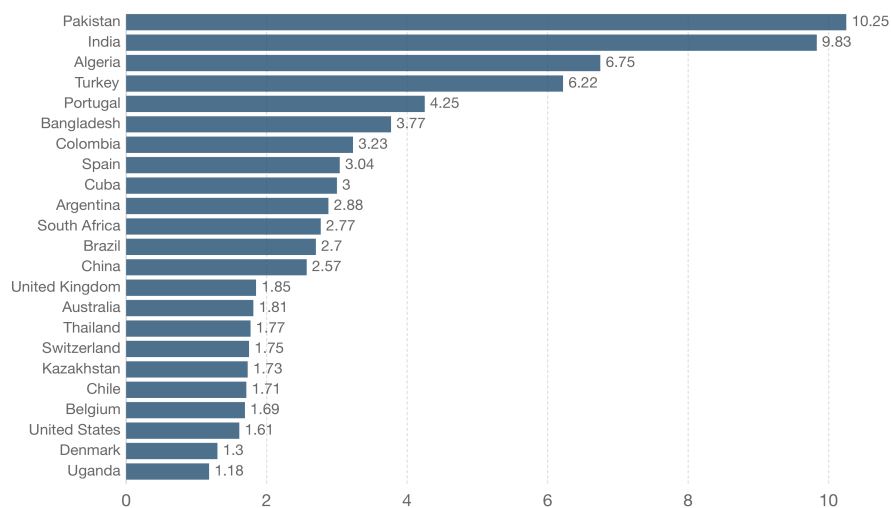
Source: OECD Gender, Institutions and Development Database (2014)   OurWorldInData.org/women-in-the-labor-force-determinants/ • CC BY

Source: https://ourworldindata.org/female-labor-force-participation-key-facts, accessed 24 April 2019

Appendix

Table A1: Distribution of Usual Principal Activity Status (UPAS) of Women, age 16-60, Major States, 2011-12

	Working	Invol Unemp	Domestic	OLF	Total
Sikkim	65.54	0.62	19.42	14.42	100
Himachal	59.52	1.46	23.6	15.42	100
Meghalaya	54.22	0.49	24.82	20.47	100
Chattisgarh	51.09	0.68	38.13	10.11	100
ndhra Prades	45.89	1.04	42.74	10.33	100
Mizoram	44.42	2.48	40.69	12.41	100
unachal Prade	38.93	0.99	43.09	16.99	100
Tamil Nadu	34.96	1.73	52.06	11.25	100
Karnataka	33.63	0.59	55.11	10.67	100
Maharashtra	33.37	0.57	54.34	11.72	100
Rajasthan	31.18	0.3	57.5	11.02	100
Uttaranchal	26.86	2.2	56.88	14.05	100
ladhya Prades	26.27	0.2	63.95	9.59	100
Goa	26.07	1.32	59.95	12.66	100
Gujarat	24.79	0.18	66.8	8.22	100
India	**24.24**	**0.97**	**64.22**	**10.57**	**100**
Kerala	23.3	6.92	57.34	12.44	100
Manipur	22.45	1.92	61.6	14.04	100
Orissa	20.38	0.73	72.68	6.22	100
Nagaland	19.31	12.14	46.71	21.84	100
Tripura	17.14	10.74	63.75	8.37	100
West Bengal	15.99	1.07	73.6	9.34	100
Delhi	15.19	0.69	69.3	14.82	100
Uttar Pradesh	13.51	0.3	75.26	10.93	100
Jharkhand	13.49	1.03	74.42	11.06	100
Assam	12.12	1.17	77.27	9.44	100
Haryana	10.4	0.53	76.11	12.95	100
Punjab	9.34	0.59	77.47	12.6	100
J&K	7.91	1.94	72.67	17.48	100
Bihar	5.11	0.62	85.86	8.41	100

Notes: "Working" refers to all women with upas codes 11 to 51. Involuntary unemployment refers to upas code 81 (did not work, but was seeking and/or available for work), domestic refers to upas codes 92 and 93 (women engaged in domestic duties, as well as in unpaid economic activities free collection of goods, as well as sewing, tutoring, weaving etc. for household use), and OLF refers to all remaining women who are out of the labour force for various reasons.

Source: authors' calculations based on NSS 68th Round, EUS, 2011-12

Table A2: Women's LFPR by district, West Bengal, 2011-12

	Working	Invol Unemp	Domestic	OLF	Total
Darjiling	15.28	3.68	67.29	13.75	100
Jalpaiguri	20.16	0.08	68.44	11.32	100
Koch Bihar	14.41	0.41	76.78	8.4	100
Uttar Dinajpur	19.47	0.09	72.11	8.33	100
Dakshin Dinajpur	9.09	0.47	77.7	12.73	100
Maldah	18.14	0	73.79	8.06	100
Murshidabad	**22.07**	**0.94**	**64.61**	**12.39**	**100**
Birbhum	13.75	0.06	78.95	7.24	100
Nadia	18.27	0.26	74.43	7.05	100
North 24-Parganas	**19.75**	**0.61**	**71.12**	**8.53**	**100**
Kolkata	**14.56**	**1.12**	**75.94**	**8.38**	**100**
South 24-Parganas	**19.12**	**1.38**	**72.42**	**7.08**	**100**
Barddhaman	16	0.29	71.82	11.89	100
Hugli	8.92	0	83.97	7.11	100
Howrah	**13.15**	**3.5**	**74.41**	**8.94**	**100**
Bankura	**10.69**	**0.2**	**77.15**	**11.95**	**100**
Puruliya	**19.08**	**0.74**	**65.98**	**14.2**	**100**
Paschim Midnapur	15.87	1.28	75.07	7.78	100
Purba Midnapur	8.29	3.31	80.4	8	100
West Bengal	**15.99**	**1.07**	**73.6**	**9.34**	**100**

Source: Authors' calculation based on NSS EUS, 2011-12. The districts highlighted in bold are included in our sample.

Table A3: Probability of LF categories: AMEs of with added controls for wealth quartiles

	AME		AME
age		**Muslim**	
working	0.0302***	working	0.000923
	-5.63		-0.02
ES	0.00675	ES	-0.0352
	-1.29		(-1.29)
OLF	-0.0369***	OLF	0.0343
	(-6.56)		-0.99
agesq		**Other relig**	
working	-0.000430***	working	-0.0167
	(-6.07)		(-0.33)
ES	-0.0000905	ES	0.125
	(-1.30)		-1.8
OLF	0.000520***	OLF	-0.108
	-7.04		(-1.40)
Urban		**veiling**	
working	0.0369	working	-0.00641
	-1.09		(-0.26)
ES	-0.0919**	ES	0.0703**
	(-3.27)		-3.02
OLF	0.055	OLF	-0.0639*
	-1.61		(-2.39)
primary ed		**dom_tasks**	
working	-0.0910**	working	-0.0278***
	(-2.86)		(-3.81)
ES	0.0620*	ES	0.0391***
	-2.34		-4.57
OLF	0.029	OLF	-0.0113
	-0.97		(-1.35)
sec ed		**childcare**	
working	-0.160***	working	-0.0105
	(-5.43)		(-0.60)
ES	0.0777***	ES	0.0562**
	-3.46		-2.6
OLF	0.0818**	OLF	-0.0457*
	-2.98		(-2.01)
post sec ed		**eldercare**	
working	-0.148***	working	0.0378
	(-4.85)		-1.66
ES	0.0328	ES	-0.128***
	-1.28		(-4.85)
OLF	0.115***	OLF	0.0905***
	-3.44		-3.82
never marr		**2 wealth quar**	
working	0.135**	working	0.0136
	-3.02		-0.66
ES	-0.0261	ES	0.00312
	(-0.61)		-0.16
OLF	-0.109**	OLF	-0.0168
	(-2.71)		(-0.74)
widowed		**3 wealth quart**	
working	0.201***	working	0.0463
	-4.31		-1.54
ES	-0.0504	ES	0.0395
	(-1.14)		-1.47
OLF	-0.150***	OLF	-0.0858**
	(-3.66)		(-2.83)
sep/div		**4 wealth quart**	
working	0.495***	working	0.124
	-4.23		-1.69
ES	-0.123	ES	-0.0461
	(-1.56)		(-0.80)
OLF	-0.372***	OLF	-0.0774
	(-5.03)		(-1.37)
hhsize		*N*	3522
working	-0.0188**		
	(-3.20)		
ES	0.00794		
	-1.79		
OLF	0.0108		
	-1.8		

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

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