

Paper title:

**Visualising the Invisible: Re-examining Women's Labour Force Participation in India**

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## TUS estimates.

The aim was to get a TUS measure of SNA activity rates, ie active in the labour force. It includes volunteering but omits being unemployed.

Our method is to take any of the three slots per half-hour in the TUS 2019 of India, and examine whether any of a person's activities constitute 'SNA activities'; if any does, then that person is 'active in the labour force' in that 30 minute slot.

Taking the maximum value of the binary 0/1's for 'Active in the Labour Force' over all time slots, we have the personal status as SNA Active or not. Thus we have aggregated to the person level. The headcount is the weighted count of the cases in any group, e.g. male and female groups, who had a 1 (Yes) for active in the labour-force.

The stata code is shown in a separate file.

## PLFS Estimates.

Broadly speaking, the method was described fully in the paper. We omitted children but included adults in the stated age groups in each round (see Tables 1 and 2 of the paper).

The method is consistent with the Round-wise NSSO reports.

Those who have trouble replicating these counts can contact the authors for support.

## Simulation of PLFS revised for ILO concepts.

The PLFS was tweaked to allow for changes in all the labour-force active and inactive status of individuals, as follows.

Table A1. Indian Labour Statuses: PLFS 2021-2022

PLFS	Male	Female	Total
Employers	3.6	0.2	
Independent workers without employees	33.9	11	
Employees	40.3	13.9	
Contributing family workers	7.3	14.8	
Unemployed	2.8	1.2	

Inactive	12.1	58.8	
<b>Labour Force Size</b>	87.9	41.1	

Source: PLFS 2021-22

Note: For the age group 18 to 67 using usual status (ps+ss)

The first amendment is to remove an estimated number of goods-producing informal home-based, unpaid workers from the inactive group, keeping services workers there. Thus CFW is split up into two. Among men, more of the CFW are limited in their ability to work, due to ill health, especially those over age 55. Among women, there is more of a tendency to produce goods on own-farm but declare domestic work as primary status, compared with men. Therefore, suppose that among men, one-third of labour-force inactive men do produce peanut, sugar, cloth, rugs or other goods; and among women, one-tenth of the inactive women do so. The result is that one-third of the inactive men move to the employees group, and one-tenth of the inactive women move to the employees group.

The resulting proportions are shown in Table A2.

Table A2: Indian Labour Statuses: PLFS 2021-2022 With Unpaid Goods Producers Moved to Employee Group

	Male	Female	Total
Employers	3.6	0.2	
Independent workers without employees	33.9	11	
Employees	44.3	19.8	
Contributing family workers	7.3	14.8	
Unemployed	2.8	1.2	
Inactive	8.0	52.9	
<b>Labour Force Size</b>	91.893	46.98	

Next, note that PLFS has not asked whether you have influence on decisions in the business or economic activity. Yet among women who are CFW, about 15% could be considered independent workers without employees; these may be contributing to family work in rug-making, farming, trade, making dung or bricks, etc. Among men, there are sons, brothers, and fathers, who also are considered by PLFS to be in CFW, but who might be IWWE if they had influence on decisions about producing those same goods or also silk-making, alcohol production, gur, fishing or prawn production, and so on. The ones who switch to labour-force active are likely to be non-household heads and located in larger than average households. We suppose about one-fifth of the male CFW are thus IWWE, calculating it after the Step 1 results.

Table A3: Indian Labour Statuses: PLFS 2021-2022 With Unpaid Goods Production and Informal Household Decision-makers as Employees & IWWE

	Male	Female	
Employers	3.6	0.2	
Independent workers without employees	35.4	13.2	
Employees	43.3	19.7	
Contributing family workers	5.8	12.7	
Unemployed	2.8	1.2	
Inactive	8.0	52.9	

Labour Force Size      90.9      47.0

Thirdly, two alterations would deal with cottage industries and gig economy.

First (3c-1) suppose the cottage industrial workers declared their dependence upon a trader or middleperson, or an "app" or company. For example, sewing and carpet out-workers, jewellery out-workers, sari-weaving out-workers. This could affect 12% of men workers, and 12% of women workers, who currently appear as independent workers without employees (IWWE). They should be moved to a new sub-category of the employees, Dependent Contractors.

And (3c-2) in addition, those who are in gig work, depending upon the trader, middleperson, an "App" or a company, would also move. Here we have Uber drivers, other taxi and licensed vehicle services, unlicensed food deliveries, lunch pickup services, other on-demand supply services such as washing & ironing services. We consider these may comprise 8% of women and 8% of men, of whom half are currently categorised as IWWE and half as employees. We thus move 4% of workers from IWWE to DC, and 4% of workers from employee to DC. This is most likely understating the current size of the dependent contractor group, since it can include not only formal dependent contracting but also informal dependent contracting, such as brick-laying, street-sweeping, water-carrying, loan of bullock cart or tractor, and many other seasonal & flexible tasks. We consider equal men and women are better described as dependent contractors (a point which, like the others, needs more data to make a better estimate).

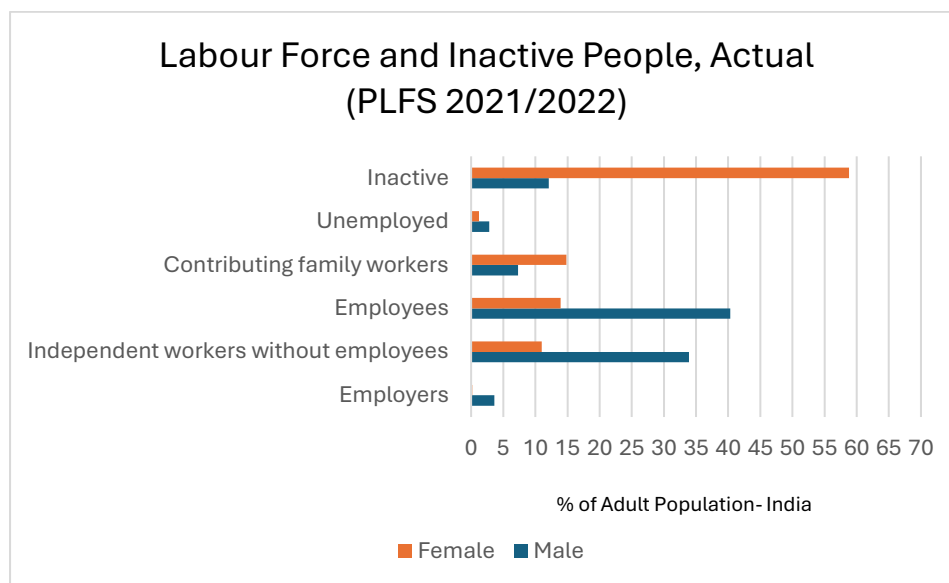
Table A4: Indian Labour Statuses: PLFS 2021-2022 With Unpaid Goods Production and Informal Household Decision-makers as Employees & IWWE, and Separating Dependent Contractors

	Male	Female	
Employers	3.6	0.2	
Independent workers without employees	29.9	11.2	
Employees	41.6	18.9	
Dependent Contractors	5.2	2.1	

Contributing family workers	5.8	12.7	
Unemployed	2.8	1.2	
Inactive	8.0	52.9	
Labour Force Size	88.9	46.2	

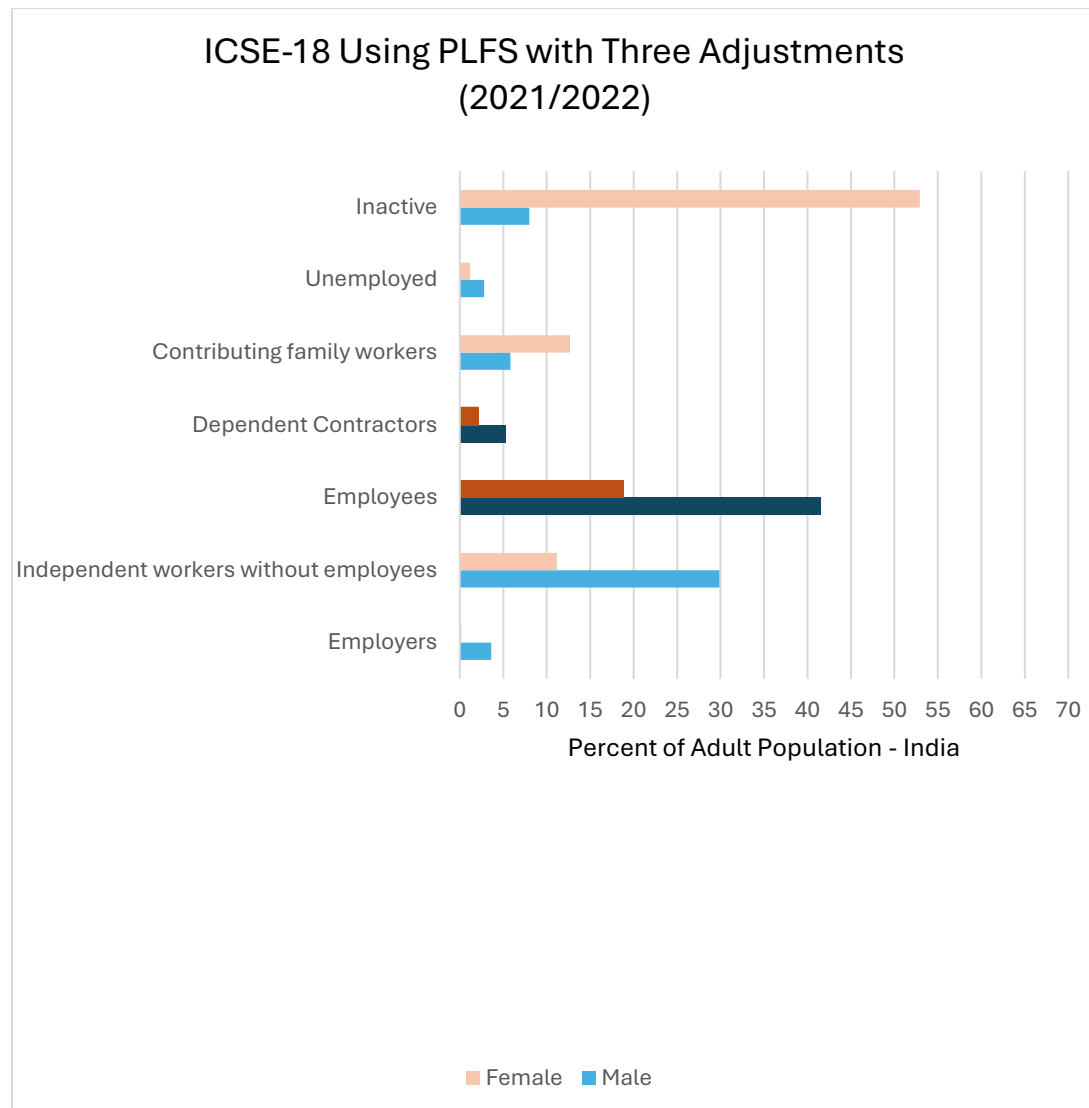
KEY: The yellow colour shows step 1. Grey shows step 2. Green shows step 3. They build up cumulatively. The net result is shown in Figure A2.

Figure A1: India Labour Force Using PLFS 2021/2022



Source: Periodic Labour Force Survey, India, MOSPI, 2021/2022. The adults are age 18-67.

Figure A2: Indian Labour Force Estimates After Three Steps of Simulating Improved Information



Source: Periodic Labour Force Survey, India, MOSPI, 2021/2022. The adults are age 18-67.