

# Unpaid Work and Work Participation of Women: Insights from India's Time Use Data

Author: Surajit Deb  
(University of Delhi)

Presenter: Sabrina Wulff Pabilonia  
(U.S. Bureau of Labor Statistics)

IARIW 2021 General Conference  
August 24, 2021



# Motivation and Background

- Indian women's labor force participation rate is low (22% in 2018-19)
  - ▶ Lack of job growth in formal sectors, especially in rural areas
  - ▶ Social norms
  - ▶ A gender gap in education
  - ▶ Lack of safety
  - ▶ Family and caregiving responsibilities

# Paper Goals

- Use time use data to highlight the paid and unpaid work of men and women across India's states (SNA/non-SNA work)
  - ▶ Rural/urban differences
- Test whether unpaid work crowds out paid work for women
- Test whether the Periodic Labor Force Survey captures paid work activities using time diary data



# 2019 Time Use Survey

- First full-scale time use survey across India's 30 states
  - ▶ 1998-99 time use survey covered only 6 states
- January – December
- 138,799 households and 447,250 persons
  - ▶ Time diaries for all household members aged 6+
  - ▶ This project uses diaries for persons aged 15–59
- Time diary covers a 24-hour-period beginning at 4:00 A.M. on the day before the interview and ending at 4:00 A.M. on the day of the interview. (short recall)
- Asked about primary and secondary activities for 9 different time use categories

# Time Use Categories

(Based on International Classification of Activities for Time Use Statistics 2016)

- 1) Employment and related activities
- 2) Production of goods for own final use
- 3) Unpaid domestic services for household members
- 4) Unpaid caregiving services for household members
- 5) Unpaid volunteer, trainee and other unpaid work
- 6) Learning
- 7) Socializing and communication, community participation and religious practice
- 8) Culture, leisure, mass-media and sports practices
- 9) Self-care and maintenance



# Method

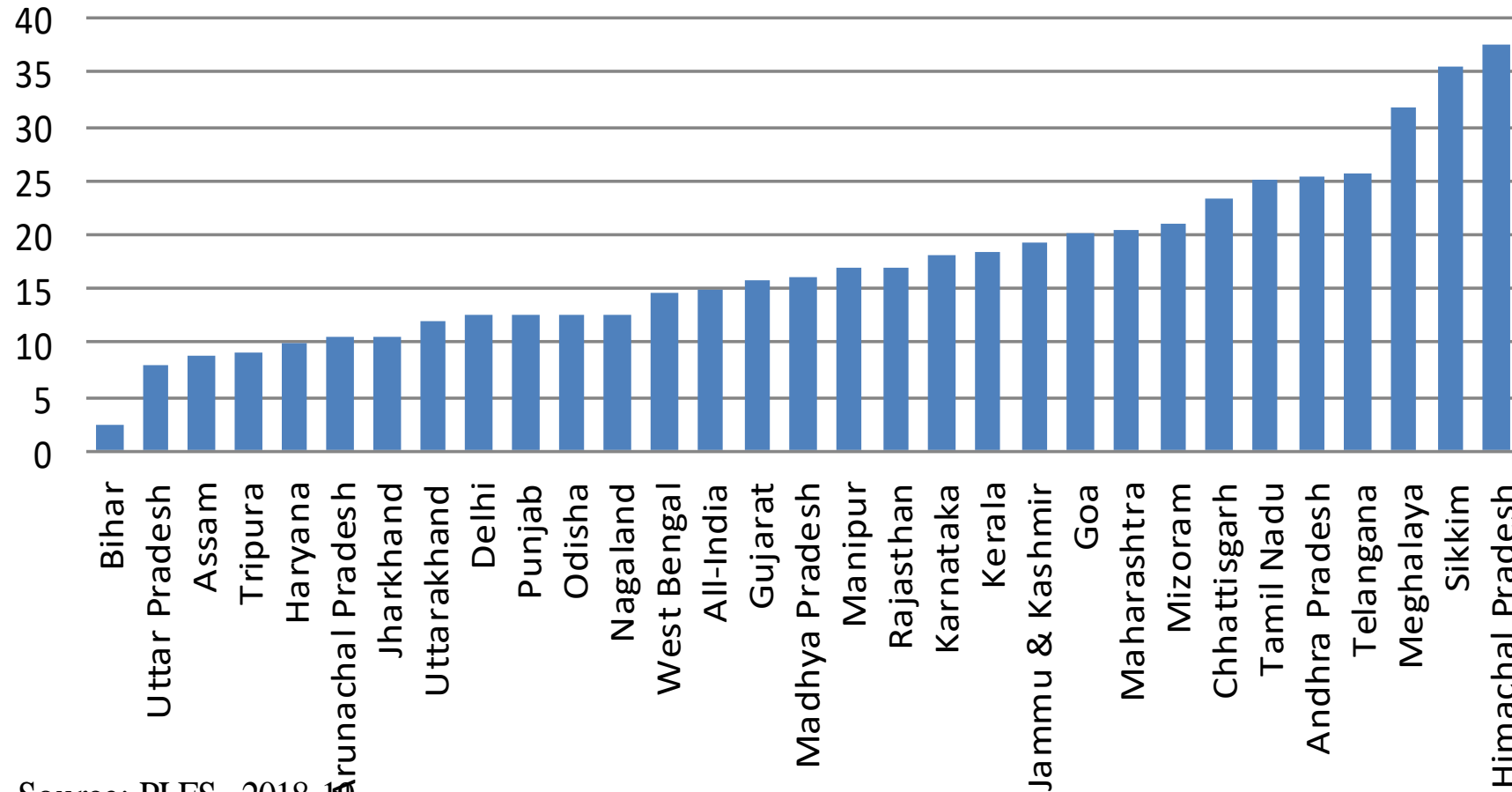
- Calculate female-male differences in the worker-population ratio from the Periodic Labor Force Survey and time use participation from Time Use Survey across Indian States

$$\frac{\textit{Female worker–population ratio}}{\textit{Male worker–population ratio}}$$

$$\frac{\% \textit{ Female participating in primary and secondary unpaid work activities}}{\% \textit{ Male participating in primary and secondary unpaid work activities}}$$

- Rank states for each ratio
- Calculate Spearman correlation coefficient (correlation in ranks)

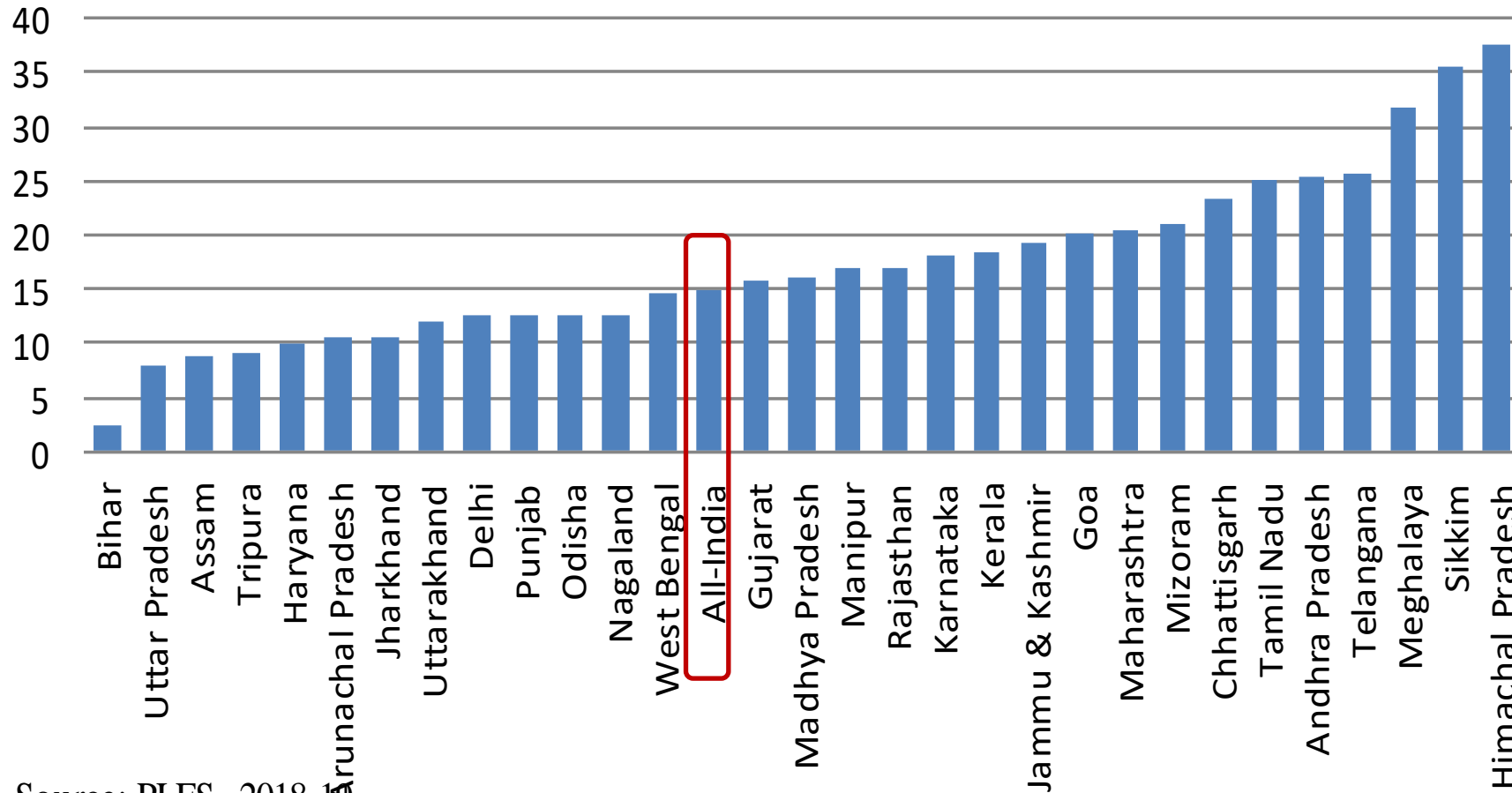
Figure 1: State Level Female Worker Population Ratio  
(Rural+Urban) in India, 2018-19.



Source: PLFS, 2018-19.



Figure 1: State Level Female Worker Population Ratio  
(Rural+Urban) in India, 2018-19.

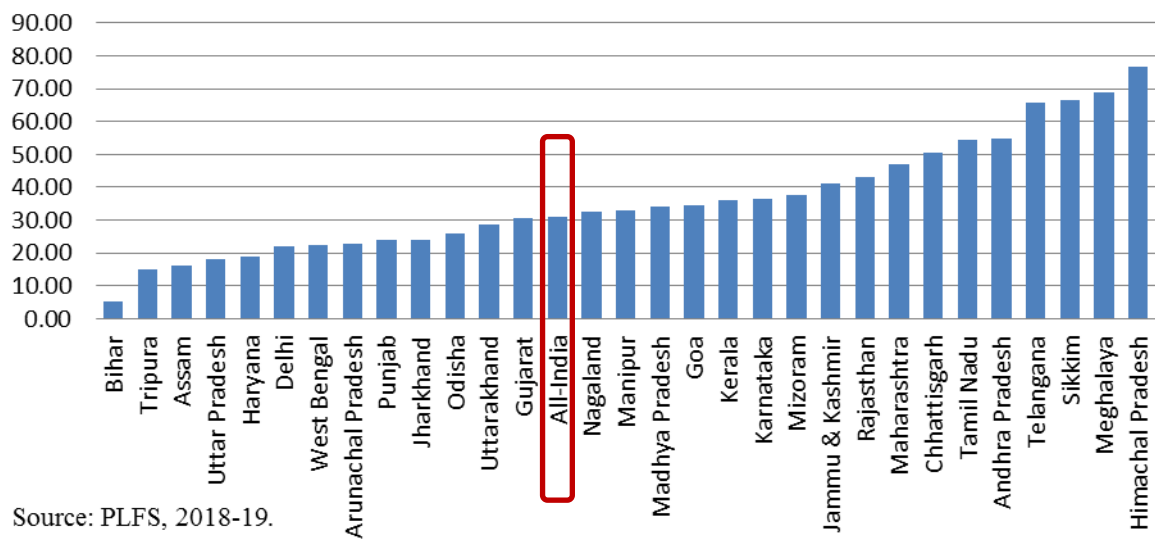


Source: PLFS, 2018-19.



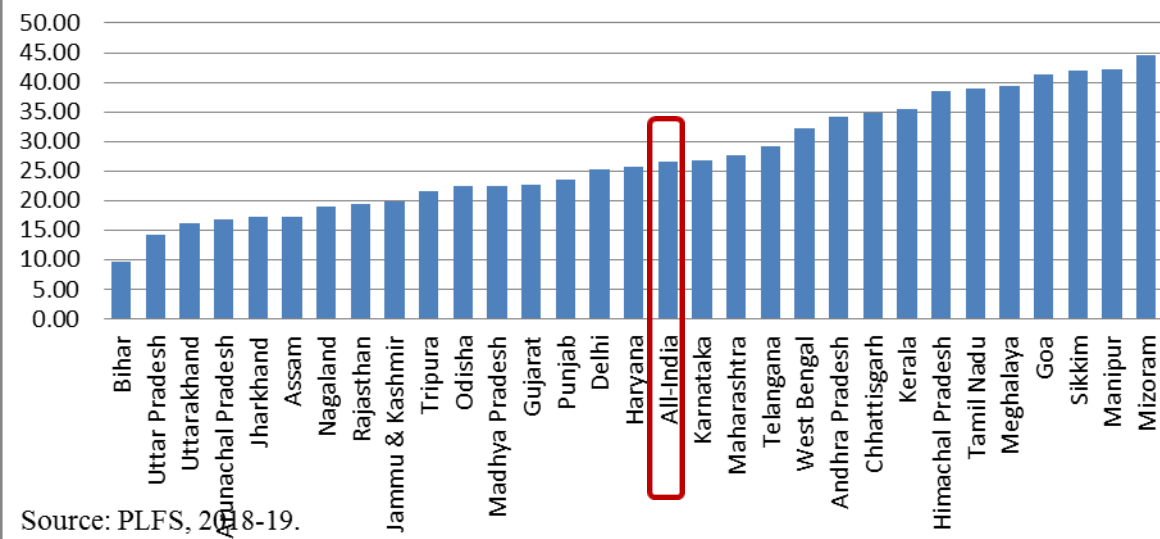


Figure 2: Disparity in Female-Male Work Participation Ratio, Rural.



Source: PLFS, 2018-19.

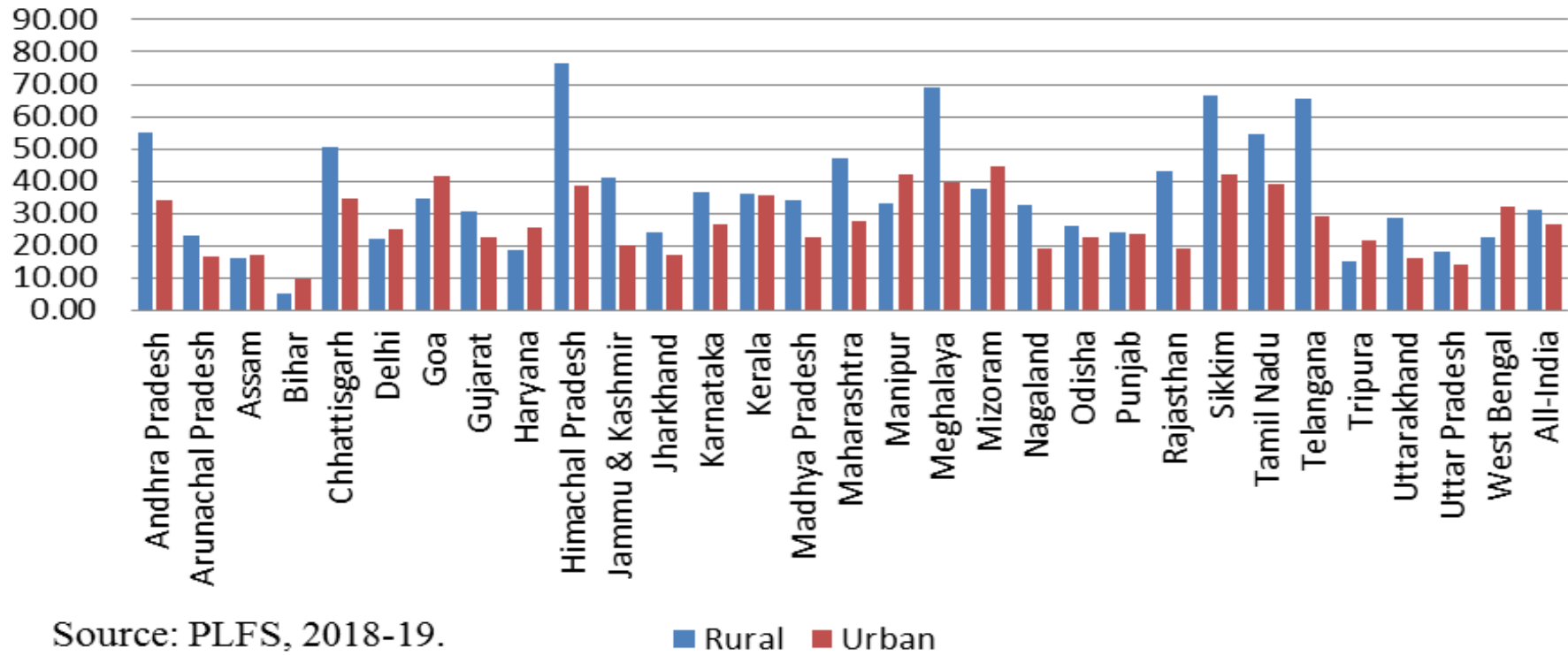
Figure 3: Disparity in Female-Male Work Participation Ratio, Urban.



Source: PLFS, 2018-19.



Figure 4: Disparity in Female-Male Work Participation Ratio.



# Paid and Unpaid Work Participation

## ■ Paid work

- ▶ Self-employment
- ▶ Wage and salary work
- ▶ Casual labor

## ■ Unpaid work

- ▶ Care for persons in own households
- ▶ Production for own consumption
- ▶ Voluntary work for production of goods and services in households
- ▶ Voluntary work for production of goods and service in market/non-market units
- ▶ Unpaid trainee work/Other unpaid work



Figure 5: Ratio of Paid to Unpaid Work Participation of Male & Female, Rural.

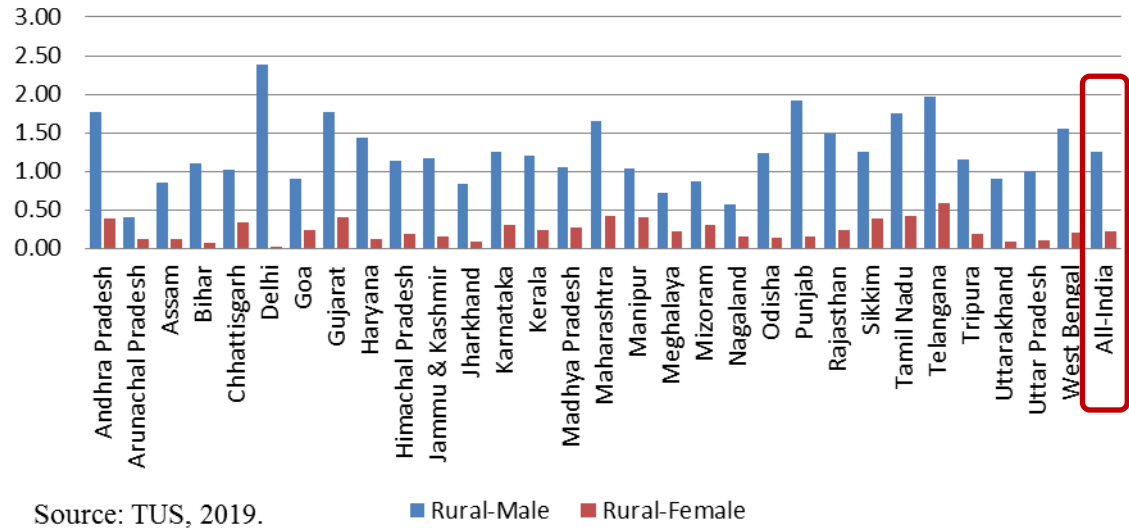
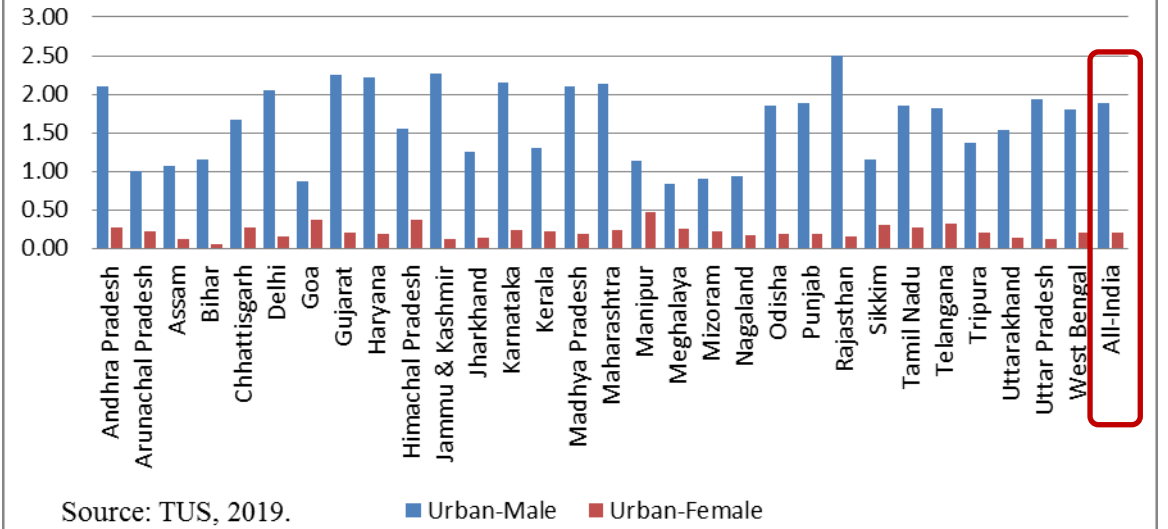


Figure 6: Ratio of Paid to Unpaid Work Participation of Male and Female, Urban.



## SNA production activities:

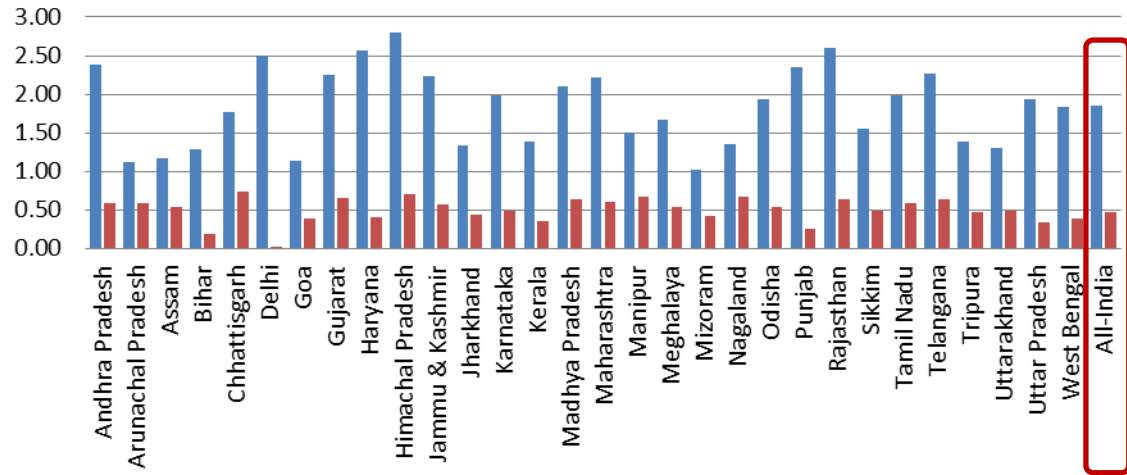
- Employment in corporations, government and non-profit institutions
- Production of goods for own final use
- Employment in household enterprises to produce goods
- Employment in household enterprises to provide services
- Ancillary activities and breaks related to employment
- Training and studies in relation to employment
- Employment-related travel
- Unpaid trainee work and related activities
- Unpaid direct volunteering for other households for production of goods or for production of goods/services for market/non-market units
- Unpaid community- and organization-based volunteering for production of goods or for production of goods/services for market/non-market units
- Other unpaid work activities (other than those which are already covered in SNA or covered in non-SNA production)

## Non-SNA production:

- Unpaid domestic services for household members
- Unpaid caregiving services for household members
- Unpaid direct volunteering for other households for production of services for the households
- Unpaid community- and organization-based volunteering for production of services for the households



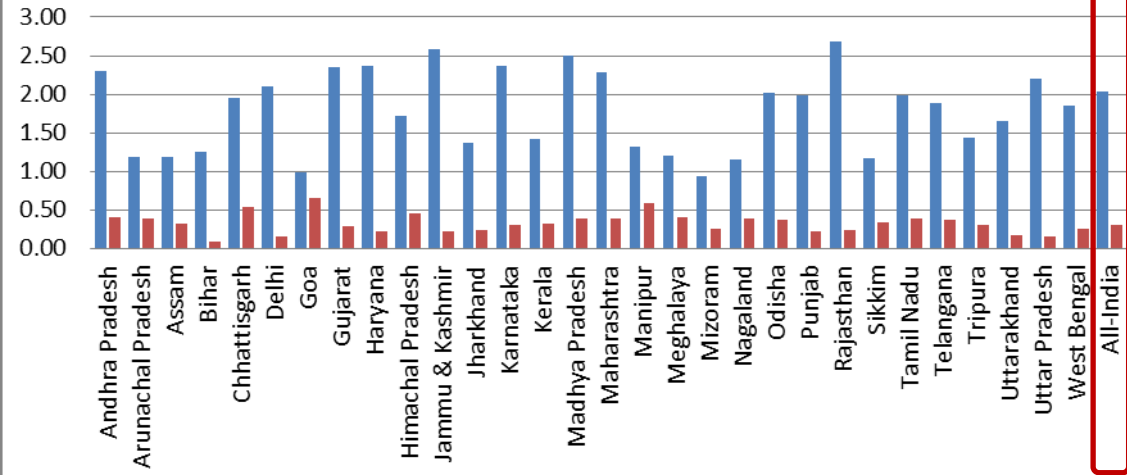
Figure 7: Ratio of SNA to Non-SNA Work Participation of Male & Female, Rural.



Source: TUS, 2019.

■ Rural-Male ■ Rural-Female

Figure 8: Ratio of SNA to Non-SNA Work Participation of Male & Female, Urban.

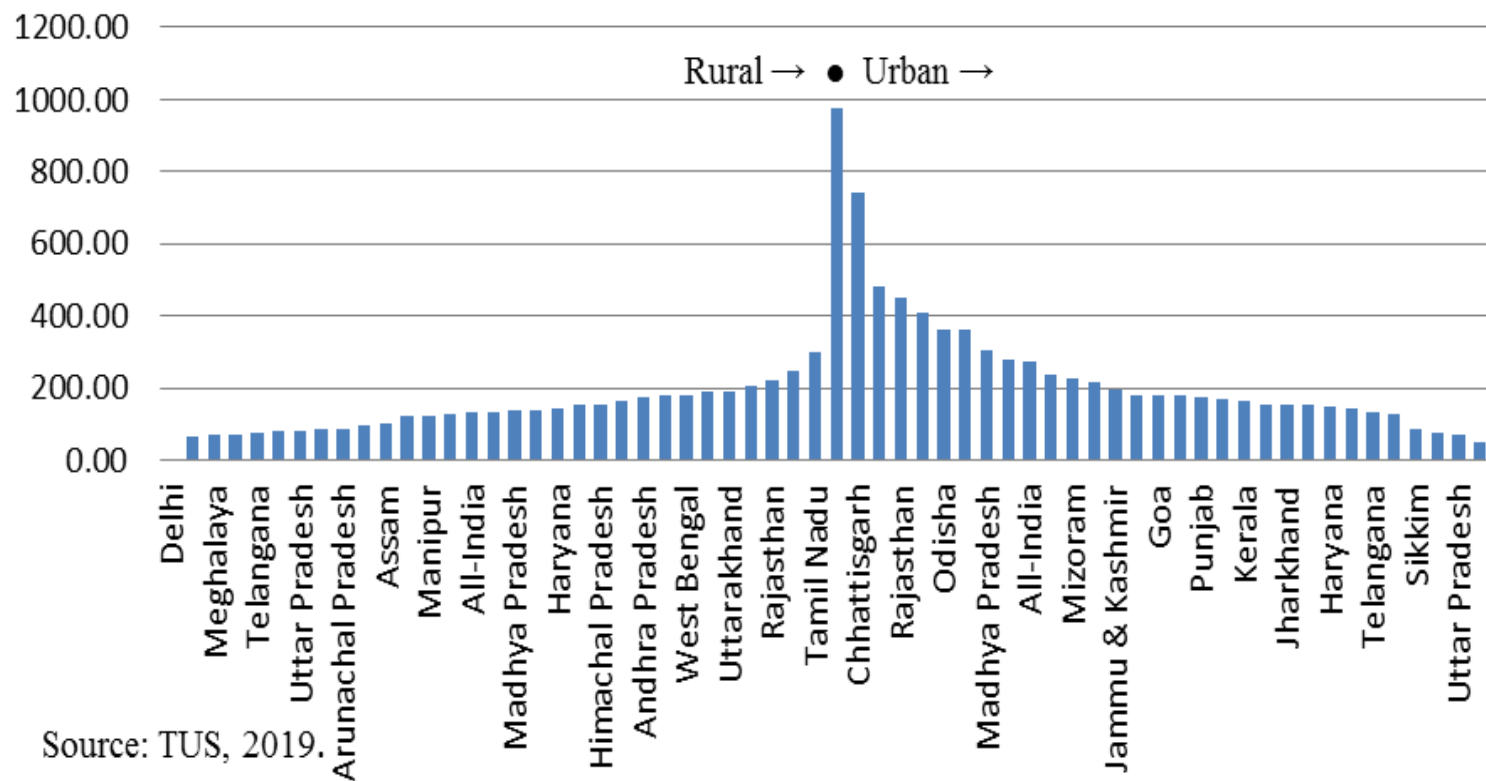


Source: TUS, 2019.

■ Urban-Male ■ Urban-Female



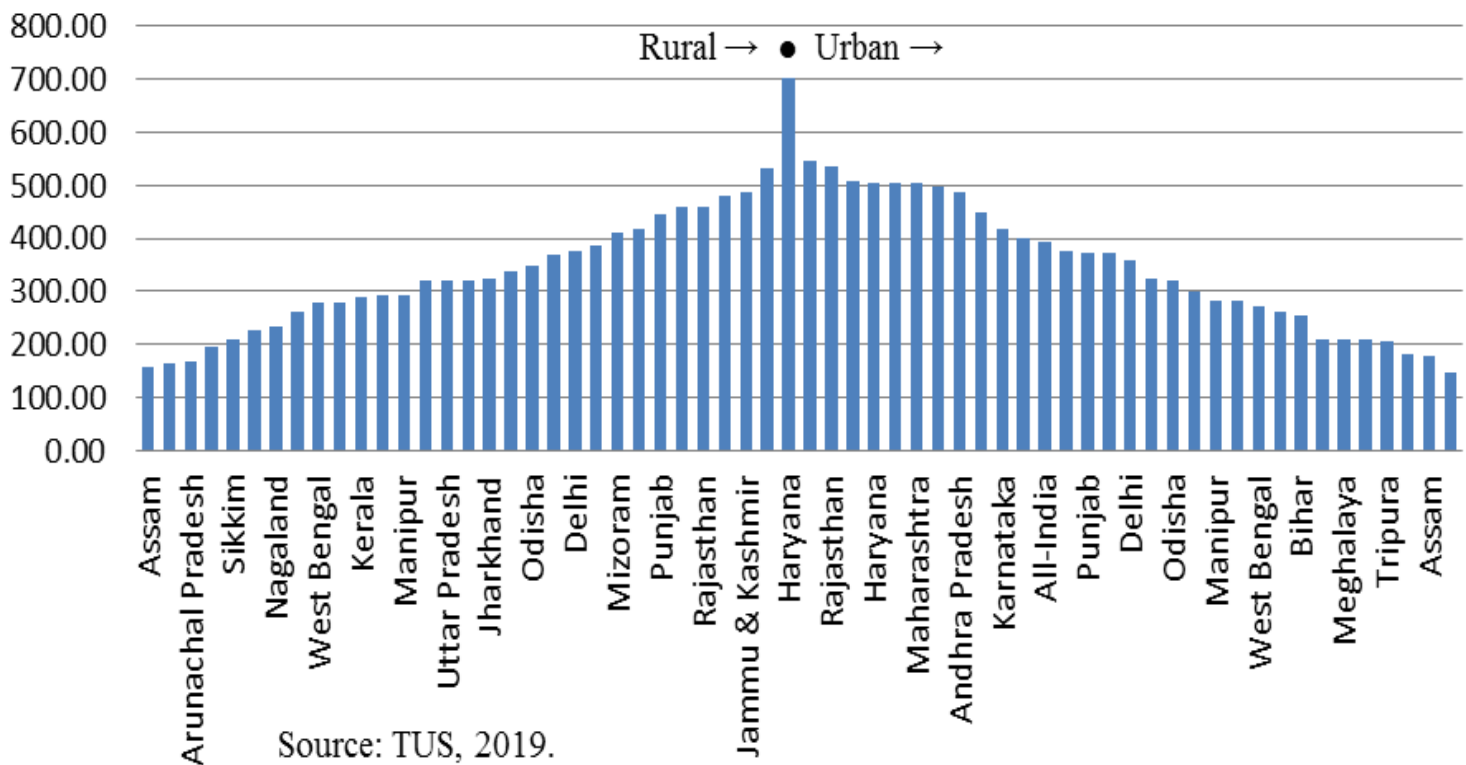
Figure 9: Disparity Ratio in Female-Male Participation in Production of Goods for Own Final Use.



Source: TUS, 2019.



Figure 10: Diaparity Ratio in Female-Male Participation in Unpaid Domestic Services for Household Members.





**Table 1: Spearman’s Rank Correlation Coefficient of Female-Male Disparity Ratio in Worker Population Ratio and Participation in Different Time-Use Activities**

Correlation of Disparity in Female-Male Worker Population Ratio with:	Disparity in Female Male Participation in Employment and Related Activities	Disparity in Female Male Participation in Production of Goods for Own Final Use	Disparity in Female Male Participation in Unpaid Domestic Services for Households
Rural	0.70	0.06	0.32
Urban	0.81	0.12	-0.04
Total	0.76	0.11	0.27

The formula used for Spearman’s Rank Correlation is  $r = [1 - (6\sum d^2/n^3 - n)]$ .



# Conclusion

- There is huge variation in female-male paid work (especially in urban areas) and unpaid work activities across Indian states.
- Correlations between the state rankings in the Female-Male Worker Population Ratio and participation in employment activities are high, suggesting the surveys are capturing similar disparities in paid work.
- No evidence of a tradeoff between labor force participation and unpaid activities, at least in terms of participation.



# Next Steps

- Calculate correlation coefficient between paid and unpaid activities in time use survey to look at the trade-off (same 24-hour reference period)
- Define participation as positive if do the work activity for at least one hour (ILO, “Resolution on Statistics on Work, Employment, and Labour Underutilization” 2013, #21)
- Add more details about the time use survey to the paper

# Next Steps

- Instead of participation, calculate the average time spent in major activities for all persons
  - ▶ What is the total daily work burden (“time poverty”) for women across states?
  - ▶ Are there differences in leisure time across states?
- Informal sector
  - ▶ Does the time use survey pick up work in this sector that is not picked up in the Periodic Labor Force Survey?
  - ▶ More context in text for the prevalence of this sector by state and by urbanicity
  - ▶ Can women easily combine paid and unpaid activities (multitasking)?

# Contact Information

**Sabrina Wulff Pabilonia**

Office of Productivity and Technology

Bureau of Labor Statistics

[www.bls.gov/dpr](http://www.bls.gov/dpr)

202-691-5614

[Pabilonia.Sabrina@bls.gov](mailto:Pabilonia.Sabrina@bls.gov)

