Urbanisation and Female Labour Force Participation rate in India.

Tshering Chombay Lama

IES Officer Trainee 2021

Supervisor: Prof. Arup Mitra and Dr Oindrila De (IEG)

Abstract: The process of Urbanisation is deeply entwined with economic development and in its progression, it perpetuates socio-economic changes within the societal fold. It is a driving force of modernisation spreading its influence on the peripheries and bringing the rural population under its ambit. In this light, we propose to analyse the impact of urbanisation on female labour force participation in India during 2017-18 and 2019-20. We have used panel regression techniques to assess the impact of urbanisation on FLPR rate. We find urbanisation to have a significant effect on female labour force participation with varying impact on urban and rural areas.

Introduction:

Theoretically, the backward bending labour supply curve which shows women withdrawing from the labour force at higher levels of income suggests that urbanisation and female labour force participation have a non-linear relationship. In addition, culture and custom strongly impinge on the capacity of the women to engage with the labour market. Nonetheless, it is expected that urbanisation would result in greater opportunities for productive employment and also social change whereby women are pushed to pursue education and participate in remunerative activities. However, the sluggishness of social change can offset the opportunities for productive employment. Urbanisation also provides impetus for rural to urban migration. Several growth theories, such as Lewis and Harris-Todaro model have considered urbanisation to be very critical for structural change and economic growth. Thus, the process of urbanisation has the capacity to impact female labour force participation in both the rural and urban regions. It must also be noted that agglomeration economies associated with urbanisation contributes to the overall productivity growth of an economy.

Trends in Female Labour Force Participation rate and Urbanisation levels in India:

The female labour force participation rate is astonishingly low in India. Even after the reforms of 1990-91 it has remained stagnant with only a marginal increase. On the global level, for close to three decades, the female labour participation rate in India has remained significantly lower than the average global rate, it is in-fact lower than most middle- and low-income countries as elucidated in the graph below. Moreover, since 2005 it has exhibited a secular downward trend.
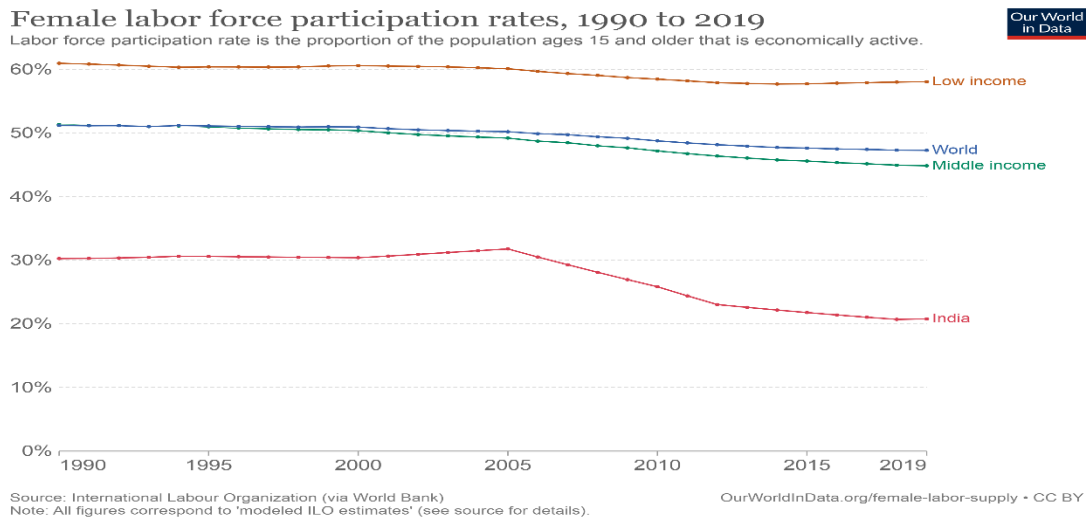
Figure 1 – Source: ILO

The figures are very disconcerting and are a reflection of the underutilised and untapped human capital potential in India which consequently has major effects on the growth prospects of the country.

A disaggregated analysis of the female labour force participation shows that there is a significant gap between the rural and urban female labour force participation rates and rural female participation has always remained higher than the urban female participation rate as shown in graph below.
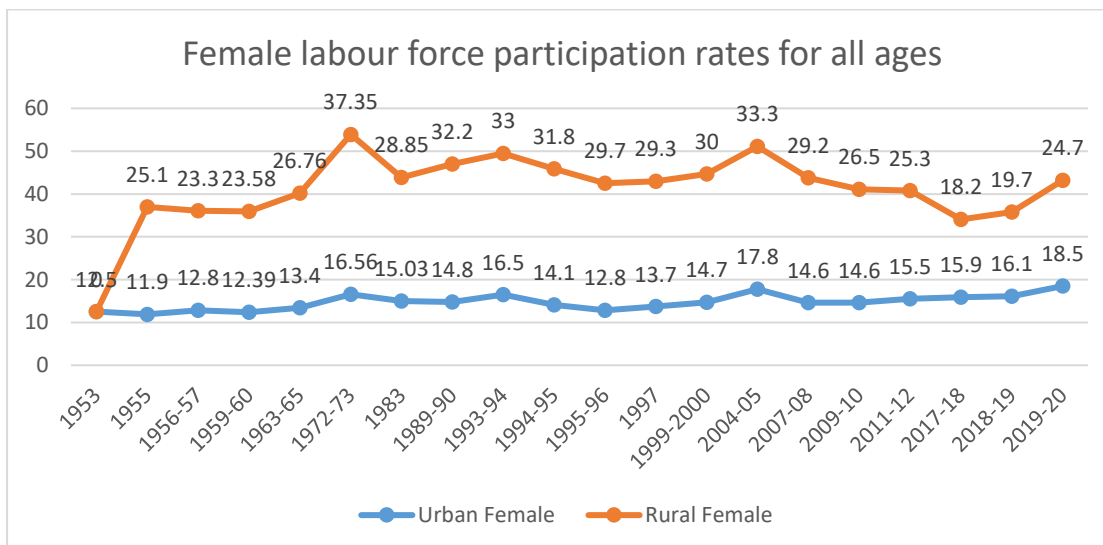

Figure 2 - Source: NSSO's employment and unemployment survey and periodic labour force survey.

The low and stagnant urban female labour force participation rate is worrying and also a reflection of the dominance of barriers that are gendered. Moreover, the fact that the rate continues to be low despite improved female education, increased GDP growth rate and high urbanisation levels in the last three decades makes it a greater cause of concern. However, on an optimistic note, the female labour force participation rate has exhibited an upward trend in the last two years as shown in the graph above.

The rate of urbanisation has seen a steady increase over the years as illustrated in the graph below, however, it continues to be much lower than the levels prevalent in developed countries and lower than world average rate of urbanisation. It is in fact disconcertingly similar to the levels seen in the least developed countries despite India being one of the fastest growing economies of the world.
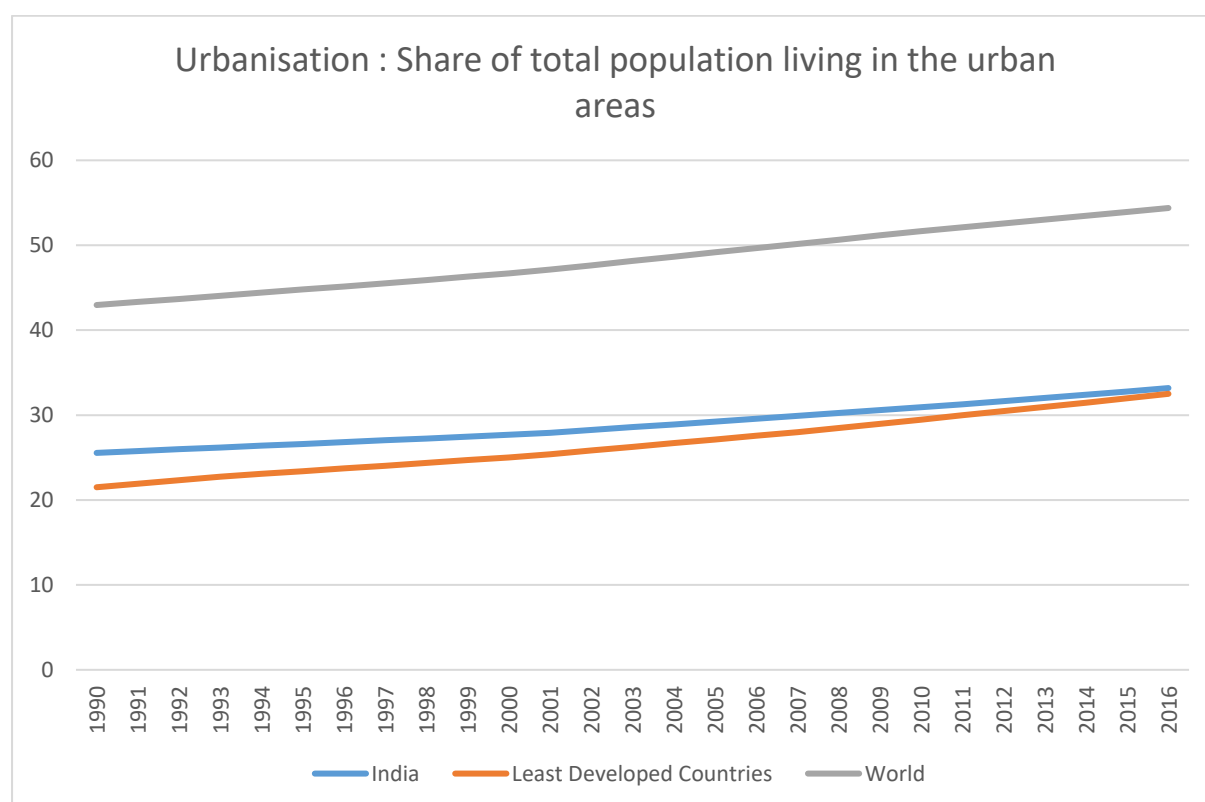

Figure 3 - Source: UN World Urbanization Prospects 2018

Literature Review:

Goldin's (1994) U-shaped curve hypothesis on female work participation and economic development forms the basic crux of the literature on the impact of urbanisation on female labour force participation rate. As per this hypothesis, economic development initially has a negative impact on female's employment and after attaining a certain threshold level women's participation in labour markets increases proportional to the levels of development. This hypothesis was based on the cross-sectional study of more than 100 countries. Thus, historical development trajectory of developed countries suggests a U-shaped relationship between women's participation in the market and economic development. A cross-sectional study of 306 districts in India by Mathur (1994) finds that female labour force participation has a strong association with economic growth and urbanisation. The neo-classical framework also states that with increased economic growth and the development of markets, fertility rate declines, women's education and skill level get enhanced and mechanisation of household work increases, thereby, facilitating greater participation of women in the labour market. However, most studies (Das and Desai, 2003; Mitra, 2019; Rao et al., 2010) highlight that such U-shaped hypothesis does not hold in India. Lahoti et al. (2013) in their extensive analysis of state level panel data from 1983 to 2010 also find the negation of the U-shaped hypothesis. The fact remains that in spite of spectacular and sustained growth in GDP coupled with higher urbanisation levels in the last three decades, women's labour force participation has declined in India.

A rigorous analysis by Mitra (2019) has found that urbanisation in particular had a negative impact on female labour force participation in both the rural and urban areas of Odhisa. This study was based on the cross-sectional study of the districts of Odhisa using the principal component analysis for the time period 2011-12. However, Chatterjee et al. (2015) find that the negative impact of urbanisation is overstated and argues "that the jobs around where you

live and not where you live per se matter for labour force participation of women". This conclusion was drawn based on the study of 61st (2004-05) and 68th (2011-12) rounds of the NSS employment and unemployment surveys for India as a whole. Thus, it would not be an over optimism to say that India has had a prolonged stay at the bottom of the U-shaped curve and India will turn the corner soon, provided growth and urbanisation is are made more gender inclusive. Thus, the factors that contributed to this puzzling phenomenon of high growth and low female labour participation need further exploration.

Most studies have attributed this to the supply-side factors arguing that rising household income induces women to voluntarily withdraw from the labour force (Rangarajan et.al. 2011; Himanshu, 2011) and this argument is supported by other studies (Chowdhury, 2011; Olsen, 2016) which argue that social and cultural barriers prevent women from working outside the household. Thus, only if necessitated by poverty women enter into the labour market and once the household income increases beyond a threshold limit, they withdraw from it. Secondly, increasing access to education is also deemed to be very significant behind the low labour force participation of women in India (Kaur, 2021). However, labour force participation is low for women in not just the age bracket of 15 to 30 years but across all groups as well. Moreover, attributing the low labour force participation of women to a voluntary withdrawal negates the idea that economic empowerment is essential for women.

From the demand side perspective, it is explained by the fact that gender segregation of occupation and sector exists in India and lack of growth in the demand for labour in sectors dominated by women have resulted in low participation (Kapos et al., 2014). Thus, it entails that both the number of jobs and type of jobs matter. (Das and Desai, 2003) Furthermore, employment in sectors appropriate for or preferred by educated women grew less than the supply of educated workers, leading many women to withdraw from the labour force (Klasen et al., 2015). Also, the fact that our economic structure is dominated by high skilled service

sector instead of labour-intensive manufacturing sector entails that the overall labour demand is relatively low and majority of the women do not possess the high skills demanded by this driving sector.

Apart from these standard demand and supply side perspectives, there are ~~also~~ additional studies which argue that the women in India are "time poor" due to the burden of unpaid household and care work. This has played a crucial role in discouraging them to participate in the labour market. (Ghosh, 2021) It is a matter of fact that the asymmetric power relations at the household level have led to gendered division of labour whereby women spend most of the time engaged in reproductive activities and men engage in productive activities. Another reason for low and declining female labour force participation rates in India is the conflation between work and employment in our statistical system. What gets counted as work are only those work which have monetary reward. However, employment is just a subset of work and there exists a plethora of work that women engage in, but do not get remunerated monetarily. (Kapos et al. 2014, Ghosh 2021). Thus, a significant portion of the female "missing labour force" is not really missing or withdrawing. Hence, the limitations of the statistical system to measure the unpaid family work has resulted in the perception of "women not working". However, Ghosh 2021 argues that if we include all kinds of work, whether paid or unpaid, captured by NSSO surveys then women's work participation rate in 2011-12 was 86.2% compared to 79.8% for men.

From the above discussion it can be inferred that the most of the studies have taken per capita GDP growth as a proxy for economic development and the study of impact of urbanisation on the female labour force participation is limited. It is also focused on the pre 2011 time period. Hence, this study focuses on the most recent time period i.e., 2017-18 to 2019-2020, when female labour force participation has exhibited an upward trend, and also provides a disaggregated analysis of the impact.

Methodology and Results:

In this section we will look at the data sources and methodology for assessing the impact of urbanisation on female labour participation rate in India. We have combined two cross sectional data sets at different time points to form a panel data which we used for our analysis. After eliminating the cross-sectional units with missing data, we were left with panel data covering all the 30 states for the two time periods of 2017-18 and 2019-2020. The main variables used in this study are female labour force participation rate, fertility rate, female literacy rate, male working population ratio, average household size, sex ratio and dependency ratio. All the data on these variables, except fertility rate 2019-20 and urbanisation rate, was taken from NSSO's Periodic Labour Force Survey. The data on fertility rate for 2019-20 was taken from the National Family Health Survey (2019-21) and the data on urbanisation rate from the "Report of Technical group on Population Projection" presented by the National Commission on Population, 2020. Moreover, the data on these variables except urbanisation rate are available for both rural and urban areas of each state and as well as for the state as a whole. The urbanisation variable is aggregative in nature, i.e. for the state as a whole, and for the time periods 2016 and 2018, respectively. We deliberately took a different time period for analysis keeping in mind that the effect of urbanisation on female labour force participation rate would figure out only with a lag.

Most of the variables taken are self-explanatory but few require some elaboration. For example, the male working population ratio basically tells us about the proportion of the male working age population that is employed/working. This has been taken as a proxy for average incomes of male as the data on it is unavailable and also because it has been argued that male income levels has an inverse effect on the female labour force participation rate (Rangarajan

et al. 2011). In other words, as the income of men/husband increases then more women/wives drop out of labour force and vice versa. Secondly, sex ratio i.e., female to male ratio is taken as a large presence of women in a region is likely to enhance their participation in economic activities through the channels of demonstration effect and solidarity (Mitra, 2019). The dependency ratio, which is basically the proportion of dependent population i.e., children below 15 years of age and people above 60 years of age to working age population i.e., people in the age bracket of 15 to 60 years, is expected to have a negative impact on female labour force participation rate as a higher dependency ratio implies a higher burden of household and care work for the women and hence lower time availability to engage in remunerative work. Finally, average household size is also an important determinant of female labour force participation rate since it influences the quantum of unpaid household work women have to perform and also because the custom of joint family is still prevalent in large parts of India.

We estimated the following fixed effect regression model to carry our analysis:

$$FLPR_{it} = \beta_{0t} + \beta_1 UR_{it} + \beta_2 FR_{it} + \beta_3 AHS_{it} + \beta_4 LR_{it} + \beta_5 DR_{it} + \beta_6 SR_{it}$$
$$+ \beta_7 MWPR_{it} + \delta_i + \gamma_t + e_{it}$$

Where FLPR is the female labour force participation rate taken alternatively for total, urban and rural, UR is the urbanisation rate, FR is the fertility rate, AHS is the average household size, LR is the literacy rate, DR is the dependency ratio, SR is the sex ratio and MWPR is the male working population ratio. 'i' denotes states and 't' denotes the time which in our case is 2017-18 and 2019-20. δ_i and γ_t represents the state and time fixed effects, respectively. The above model has been estimated thrice separately for total, urban and rural and all independent variables are adjusted to reflect the relevant variables in each regression.

Empirical Results:

In this section, the results of our study will be discussed. Table 1 reports the descriptive statistics of our main variables of interest. Mean value of FLPR rate is 29 percent (for rural it is 32 percent and for urban it is 22 percent) and urbanization rate is 36 percent. Table 2 presents the correlation matrix of our variables of interest. It shows a negative correlation between urbanization and FLPR rate. Similarly, fertility rate, dependency ratio and average household size also have a negative association with the FLPR rate. Rest of the variables have a positive association. Figure 4 plots the scatter plot of urbanization against the female labour force participation rate. It shows that there is a negative relationship between the two, though the intensity of negative association is low and is driven by two extremes. The figure 5 plots the scatter diagram of urbanisation against female labour force participation rate across regions and it shows a negative relationship exists between urbanisation and female labour force participation rates in those states of the north and north- west India. The same negative relationship holds for the states of South India. However, a positive association is found in the north eastern states.

The regression result of our study is present in Table 3. The results are presented in three columns. Column 1 reports regression results when data is taken at aggregate level (rural + urban), column 2 reports results for urban FLPR Rate and column 3 for rural FLPR Rate. We have introduced the relevant independent variables in each regression. The first column shows that urbanisation has a significant and positive effect on the overall female labour force participation rate. The result is significant at 5 percent level. This result is consistent with the view that as development takes place female labour force participation rate increases. Similarly, we find that urbanization is having a positive impact on rural female labour force participation rate and results are significant at 5 percent level. However, none of

the control variables used in the study have a significant effect on the rural female labour force participation rate. Hence, the plausible explanation for the feminisation of rural workforce can be the migration of men to the urban areas for work in response to the increased demand for labour facilitated by the process of urbanisation.

Table 1: Descriptive Statistics

Variables	ob	Mean	Std. Dev.	Min	Max
Dependencyratio(DR)	60	44.068	7.342	30.3	62.7
DRurban	60	40.093	5.299	24	54.7
DRrural	60	46.03	8.737	32	68
Sexratio(SR)	60	961.01	64.184	822	1132
SRrural	60	958.28	80.027	686	1170
SRurban	60	962.53	75.989	782	1133
Totalfertilityrate(TFR)	52	1.937	.45	1.1	3.2
TFRurban	52	1.615	.32	.7	2.4
TFRrural	52	2.069	.49	1.3	3.3
FemaleLaborFPR	60	29.607	13.078	4.1	65
FLFPrural	60	32.032	15.56	3.1	68.2
FLFPurban	60	22.937	7.738	6.4	41.2
FemaleLiteracyRate(FLR)	60	76.192	10.631	58	99.8
FLRurban	60	84.682	6.908	72	99.8
FLRrural	60	72.537	12.349	47.6	99.8
Maleworkingpopratio	60	70.758	4.96	52.9	78.9
MWPrrural	60	69.897	5.564	52.1	78.3
MWPrurban	60	70.053	5.714	52.5	80.5
Avghouseholdsize	60	4.11	.465	3.2	4.9
Ahsurban	60	3.898	.486	2.7	4.8
Ahsrural	60	4.205	.483	3.2	5
Urbanisation	60	36.006	18.108	10.14	98.94

Table 2: Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) flprru	1.000							
(2) totalfertility~e	-0.358	1.000						
(3) sexratio	0.345	-0.101	1.000					
(4) dep	-0.263	0.792	0.113	1.000				
(5) flr	0.125	-0.320	0.200	-0.385	1.000			
(6) maleworkingpop~o	0.392	-0.139	0.117	-0.068	-0.247	1.000		
(7) avghouseholdsize	-0.352	0.645	-0.358	0.658	-0.193	-0.243	1.000	
(8) urbanization	-0.121	-0.453	-0.078	-0.487	0.332	-0.233	-0.345	1.000

Figure 4: Urbanisation and FLPR
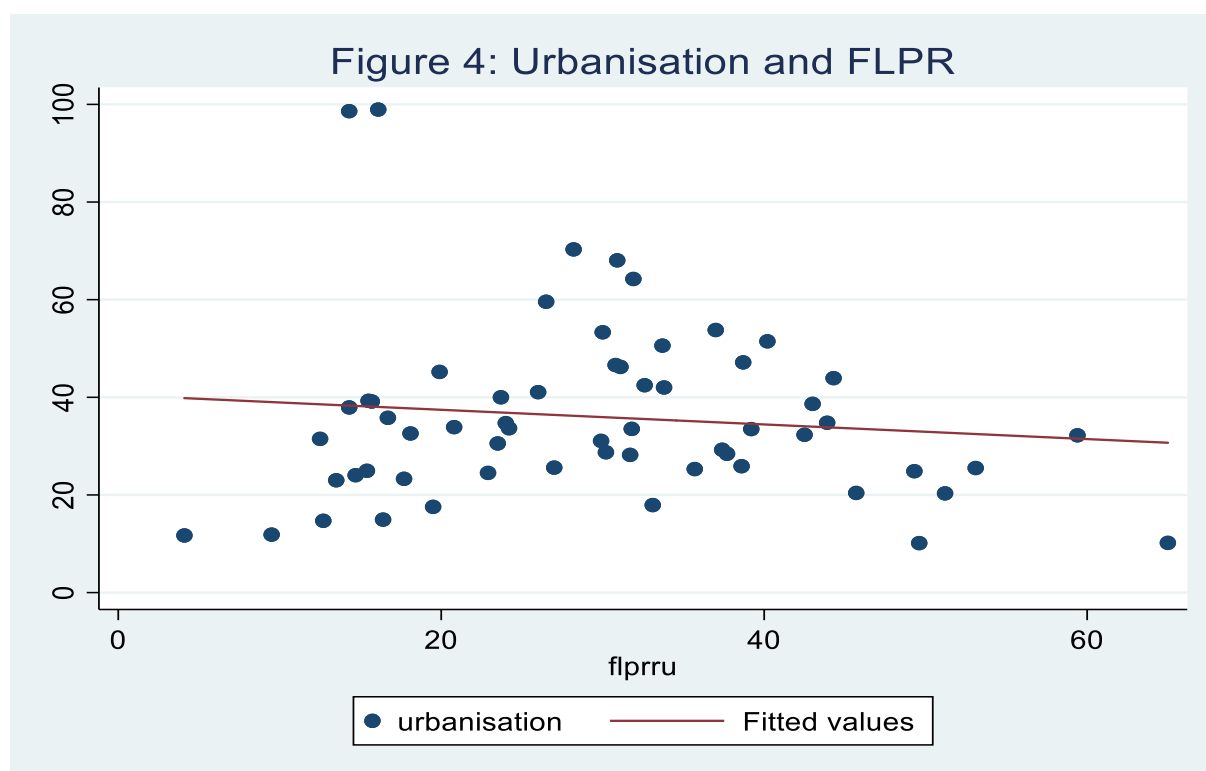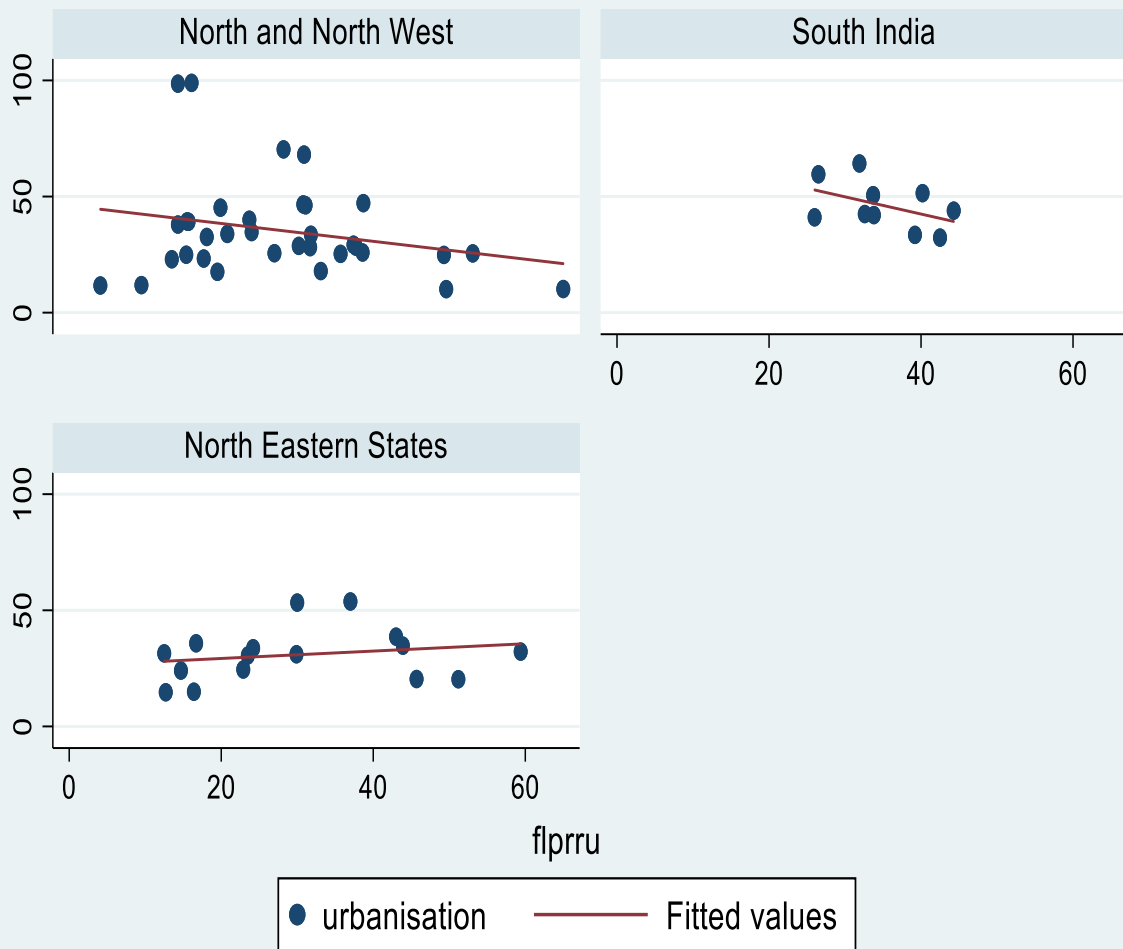
Figure 5 : Relationship between urbanization and FLFP Rate across regions

As urbanisation in India has been accompanied by significant increases in the construction activities in the metropolitan cities and as well as the tier- II cities, men from hinterland have migrated to the cities to work in construction sectors. Rural-urban migration is a well-established phenomenon in India which gained more visibility during the covid-19 induced lockdown in March, 2020. Moreover, the construction sector in India accounts for a second largest source of employment within the non-farm sector. Thus, the pull of urbanisation and the consequent migration of men to the urban spaces for work have opened up opportunities

for women to work in the rural areas and thereby increased their participation in remunerative activities.

Table 3: Impact of Urbanisation on FLPF Rate

	(1) flprru	(2) flprurban	(3) flprrural
Urbanization	2.576*	-0.879**	3.697*
	(2.08)	(-3.18)	(2.16)
Totalfertilityrate(U2/R3)	-5.385	5.099	-1.137
	(-1.25)	(1.55)	(-0.17)
Sexratio(U2/R3)	-0.0907	0.0134	0.139
	(-0.99)	(0.84)	(1.58)
Dep(U2/R3)	1.085	0.367	-0.118
	(1.18)	(1.30)	(-0.14)
Flr(U2/R3)	0.742	-0.886**	-0.459
	(1.62)	(-3.62)	(-0.40)
Malewkpoprat(U2/R3)	2.682***	0.230	-0.369
	(5.04)	(1.19)	(-0.46)
Avghouseholdsize(U2/R3)	9.580	-7.048**	-11.59
	(0.94)	(-3.11)	(-0.78)
_cons	-299.5*	101.2**	-118.5
	(-2.59)	(3.48)	(-0.88)
N	52	52	52
R^2	0.702	0.796	0.500
adj. R^2	0.655	0.759	0.421

t statistics in parentheses

$^*p< 0.05$, $^{**}p< 0.01$, $^{***}p< 0.001$

When it comes to the urban context, the result of the analysis show that urbanisation has a significant but a negative effect on urban female labour force participation. The analysis also highlights that urban female literacy rate has a negative significant effect on urban female labor force participation rate. Hence, it can be inferred that as a result of women pursuing higher and university level education their entry into the labour market is delayed and as a result low FLPR rate. Secondly, even the average household size has a significant and

negative impact on the urban female labour force participation rate. This implies that larger the household size in urban areas lower is the female labour force participation rate as women devote significant amount of their time in household and care work leaving them with little time to participate in labour market. This can also be corroborated from the fact that India tops the list when it comes unpaid household activities done by the women.

Furthermore, the fact that our urbanisation has generated bulk of the employment opportunities in the construction sector and as well as platform economy jobs like uber drivers and swiggy and zomato delivery drivers which are basically male dominated can also explain the low urban female labour force participation. In other words, there is a divergence between the skills of the women and the structure of the job market that the urbanisation process is creating in India.

Finally, the low urban female participation rate can be explained by the hypothesis of the tragedy of urban middle class women. At the time of marriage there is a high preference for educated daughter in law. In fact, the rising marriage market returns to women's education have pushed many women to pursue higher education. However, the stigma attached to women working post marriage does not allow them to work. This gets aggravated due to the lack of jobs of desirable status. Particularly for educated women if jobs of desirable status are not available, they withdraw from the labour market. Persistent unemployment prompts them to remain outside the labour market. This is popularly known as the phenomenon of "discouraged drop-outs." Hence, the negative association between female labour force participation rate and urbanisation can also be attributed to the lack of adequate labour demand in relation to supply at a specific level of educational attainment.

Conclusion:

Therefore, in order to encourage more women participation in the labour market it is important that the policymakers address the barriers that are gendered. Also supply of jobs which are usually preferred by women will have to be augmented. Besides, flexibility in working hours, facilities at the work place, gender sensitization initiatives are important for raising the female labour force participation rate. A non-gender inclusive urbanisation process will seriously hurt our future growth prospects and will perpetuate more inequality.

Bibliography

Chatterjee, Urmila and Murgai, Rinku and Rama, Martin, Job Opportunities Along the Rural-Urban Gradation and Female Labor Force Participation in India (September 15, 2015). World Bank Policy Research Working Paper No. 7412

Chowdhury, Subhanil (2011). "Employment in India: What Does the Latest Data Show? Economic and Political Weekly.

Das, M.B., and S. Desai. "Why are educated women less likely to be employed in India?:Testing competing hypotheses." Social Protection Unit Human Development Network, The World Bank, 2003

Ghosh J. The Interlinkages Between Paid and Unpaid Labour: A Homage to Krishna Bharadwaj. The Indian Economic Journal. 2021;69(2):338-351.

Goldin, C. (1994). The U-shaped female labour force function in economic development and economic history (NBER Working Paper No. 4707). Cambridge, MA: National Bureau of Economic Research.

Himanshu Lanjouw, P., Mukhopadhyay, A., Murgai, R. (2011). Non-farm diversification and rural poverty decline: A perspective from Indian sample survey and village study data (Asia Research Centre Working Paper No.44). London: LSE.

Kapsos, Steven. & Bourmpoula, Evangelia. & Silberman, Andrea, 2014. "Why is female labour force participation declining so sharply in India?," ILO Working Papers

Kaur, Ravinder. (2021). Labour Force Participation of Women in India: Some facts, some queries Labour Force Participation of Women in India: Some facts, some queries.

Lahoti, R.; Swaminathan, H. 2013. Economic growth and female labour force participation in India, Working Paper No. 414 (Bangalore, Indian Institute of Management)

Mitra A. Women's Work in Response to Urbanization: Evidence from Odisha. ANTYAJAA: Indian Journal of Women and Social Change. 2019;4(1):92-106.

Olsen, Wendy (2006). "A Pluralist Account of Labour Participation in India," Economics Series Working Papers, University of Oxford, Department of Economics, GPRG-WPS-042.

Rangarajan, C, Padma Iyer Kaul, Seema (2011). "Where Is the Missing Labor Force?" Economic and Political Weekly. September.