Women and Work in an Underdeveloped State (Odisha): The Impact of Urbanisation

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Abstract

This paper looks at urbanisation, economic growth and poverty on the one hand and on the other, the work force participation rate (WFPR) of women. It also visits the relationship between participation and productivity. Urbanisation and women work participation based on district level data show a negative association both in the rural and urban areas though urbanisation is expected to raise work opportunities. Women from poor households due to compulsions seem to be working more, translating into a positive relationship between poverty and female work participation rate. Also, economic growth and WFPR are negatively associated. This is indicative of either a backward sloping supply curve of women at higher levels of per capita income or growth being non-inclusive and unable to create work opportunities, which in turn lead to the phenomenon of 'discouraged dropouts'. Policy interventions to counter such distortions are essential so that women access higher levels of skill and education and subsequently participate in the job market instead of withdrawing. Moreover, there is no evidence in favour of a statistically significant and adverse effect of participation on productivity.

Keywords: workforce participation, urbanisation, poverty, growth

JEL: J16, J21, R10

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1.   Introduction

The paper proposes to focus on the work participation rate of women in Odisha. How it is changing in the context of urban growth and economic growth is an important consideration. Which types of rural transformations are in progress and whether they allow women to participate in the labour market more explicitly is a pertinent question. Similarly in the urban context, whether economic growth is ushering in opportunities for women to participate in remunerative activities is a key issue. On the whole, the paper looks at urbanisation, economic growth and poverty on the one hand and the changing role of women in this dynamic context on the other.

Among various supply and demand side factors, which impinge on women workforce participation rate (WFPR), economic growth and urbanisation are said to be strong determinants (see Mathur, 1994; Agarwal, 1985; Durand, 1975; Sinha, 1965): initially growth is found to have a negative impact on WFPR but at higher levels of growth WFPR tends to increase, thus, giving rise to a U-shaped relationship. Cagatay and Ozler (1995) also suggest the possibility of a U-shaped relationship between the long-term development and women's share in the labour force. Even the historical record of the developed countries indicates such a relationship between economic development and women's labour force participation rate (Goldin, 1994).[2]

With urbanization and industrialization female-dominated home-based production is expected to decline as it would be largely replaced by male-dominated factory production (Boserup, 1970). This falling part of the U-shape curve corroborates Boserup's analysis of women's contribution to home based production. However, with further economic development, women's labour force participation rate is expected to increase as enhanced urbanisation and industrialization, more education for women, commodification of domestic labour, and falling fertility rates help women workers participate in the labour market more explicitly (Oppenheimer, 1970 and Boserup, 1970). Also, as per the neoclassical approach, with economic growth, gender

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[2] Goldin (1994) found this association for women aged 45 to 59 years for cross-sections of countries using GDP per capita as an index of development.

inequalities in terms of access to employment opportunities, work conditions, nature of work, and earnings tend to decline (Forsythe, Korzeniewicz and Durrant, 2000). This implies an increase in women's work participation rate since discouraged dropouts tend to decline: with improved and equal status in the job market women get encouraged to participate in the labour market (Mitra, 2005).

Some of the recent evidences also suggest that even higher human development index (HDI), let alone growth, does not necessarily ensure gender equality in terms of gender development index (GDI): in the Asia-Pacific context, Japan and Korea have the highest HDI-GDI gap while Thailand and China whose HDI and GDI are both lower in absolute terms than Japan and Korea, demonstrate lower gender gaps (Murayama, 2005). Gender norms and systems vary widely across cultures but they shape people's lives and interactions in all societies (Hayase, 2005). In general, as women's educational level improves, gender inequality declines (UN, 2001). In other words, with improved levels of education, labour market participation of women in high income jobs is expected to rise (Murayama, 2005; Pradhan, Singh and Mitra, 2015); though in India many educated women remain outside the labour market implying that the education level of women non-workers is more than that of women workers. Keeping in view a long term perspective, the "Gender Kuznets Curve" and the U-shaped relationship between women's work participation rate and development are mutually consistent.

A variety of factors have been considered as determinants of female labour force participation rate. These include opportunities for informal employment which tend to decline with development (Bharadwaj, 1989), technological and structural change, spouse's income (Sen, 1981),[3] the conflict between housework (including childcare) and earning opportunities in the labour market, etc. Among various socio-economic factors, fertility, cross-regional cultural norms, attitude towards manual work, the relative incidence of low caste and tribal population, size of the agricultural sector, cultivation techniques, crop patterns, poverty and technology are some of the

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[3] Sen (1981) in the case of Indian agriculture showed that women withdraw from the labour market as male income increases.

determinants of female work participation rate (see Agarwal, 1988). Also, there can be a positive association between work participation rate and the percentage of workers engaged in the tertiary sector as activities in this sector provide greater employment opportunities for women and teenage workers. However, low productivity activities are mostly concentrated in the tertiary sector, and hence, as the share of the tertiary sector in total employment increases, dropouts from the labour market are expected to be high, thus reducing the work participation rate (Nord, 1989).

In the backdrop of this framework we analyse women's work participation rate in Odisha using the district level data. In section 2 we compare the work participation rate, urbanisation level and per capita income in Odisha in relation to other states and all-India average. Section 3 presents the results of the factor analysis carried out on the basis of district level data from Odisha on a number of variables including work participation rate, poverty, consumption expenditure per capita, inequality, urbanisation level, incidence of low caste population, literacy, employment structure and other demographic variables. Section 4 examines the relationship between female work participation rate and labour productivity using the state level data. Finally, section 5 summarises the major findings.

2.   Growth, Urbanisation and WFPR

Economic Growth in India in the post-crisis period (between 2009-10 and 2011-12) was around 6 per cent per annum while in Odisa it was barely 3.6 per cent per annum. Even some of the states like Bihar, Jharkhand, Madhya Pradesh and Rajasthan at comparable level of income experienced much faster rates of growth. In terms of urbanisation again Jharkhand, Madhya Pradesh and Rajasthan are at a much higher level as compared to Odisha. However, when it comes to female work participation rate (worker-population ratio) Odisha is at par with the all-India average in the rural areas and slightly higher in the urban areas. States like Assam, Bihar, Jharkhand and Uttar Pradesh are well below the Odisha figures and interestingly the urban-specific estimates for Odisha are quite close to those of the high income states of Maharashtra and well above the figures corresponding to Delhi and Gujarat. Women work

participation issue is the most complex one and it has been thoroughly researched, highlighting the importance of economic, social, demographic and cultural factors. Besides, there are issues related to backward supply curve, i.e., women withdrawing from the labour market at higher levels of income. Hence, it is unlikely that a linear relationship in terms of income or urbanisation can be perceived as far as women work participation rate is concerned. The received theory on urbanisation and women labour force participation rate, however, suggests that urbanisation not only brings in economic transformation creating productive opportunities, but also social changes which motivate women to enhance their skill levels and participate in the job market. Of course, the social dimension of transformation can be sluggish, particularly in the context of the developing or less developed regions. Hence, there could be situations in which economic opportunities may outpace the social backwardness, but the latter suppresses the women labour market participation. Nevertheless, in the context of Odisha two important features seem to be prominent. One, the presence of the tribal dominated districts raised the average figure corresponding to the rural areas since among the tribal population women contribute substantially to livelihood creation. Also, in general, Odisha being a poor state, women in the rural areas are forced to participate in the labour market as the struggle of the poor households to access livelihood opportunities cannot afford to have a high dependency ratio observed from the theoretical literature (Mitra, 2005). Two, Odisha at a comparably low level of urbanisation shows a sizeably higher work participation rate. It may again be an outcome of a higher incidence of tribal population who migrated to some of the cities and towns. Besides, a high incidence of poverty compels most of the adult members of the households to explore earning possibilities. Often, women take recourse to multiple sources of livelihood given the responsibility of the domestic chores which do not allow them to accept regular jobs. The present paper makes an attempt to explore the effect of urbanisation on both rural and urban work participation of women in order to capture some of the intricate issues.

Table 1: Per capita NSDP, Urbanisation and Female WFPR

States/Union Territories	NSDP per capita 2009-10	NSDP per capita 2011-12	Rate of Growth % p.a.	URBAN (%) 2011	FWFPR: NSS (R) 2011-12	FWFPR: NSS (U) 2011-12
Andaman & Nicobar Islands	61411	68356	5.36	35.67	26.1	20.0
Andhra Pradesh	35677	38556	3.88	33.49	44.5	17.0
Arunachal Pradesh	33893	35527	2.35	22.67	27.8	12.7
Assam	20406	21741	3.17	14.08	12.2	9.0
Bihar	10635	13149	10.61	11.30	5.3	4.5
Chhattisgarh	24189	27163	5.80	23.24	41.5	24.0
Delhi	97525	110780	6.37	97.5	14.6	10.4
Goa	95320	129397	15.28	62.17	21.0	15.7
Gujarat	49168	56634	7.07	42.58	27.8	13.3
Haryana	55044	61716	5.72	34.79	16.2	9.7
Himachal Pradesh	43492	49203	6.17	10.04	52.4	21.2
Jammu & Kashmir	26518	28833	4.18	27.21	25.5	11.7
Jharkhand	21534	25265	7.99	24.05	19.8	6.6
Karnataka	37294	41492	5.33	38.57	28.7	16.3
Kerala	47360	52808	5.44	47.72	22.1	19.1
Madhya Pradesh	20959	23272	5.23	27.63	23.9	11.5
Maharashtra	54246	61468	6.25	45.23	38.8	16.6
Manipur	21810	22169	0.82	30.21	26.2	18.2
Meghalaya	29306	34232	7.77	20.08	39.1	20.2
Mizoram	34699	37921	4.44	51.51	39.4	24.9
Nagaland	40590	46340	6.62	28.97	31.2	14.4

Odisha	22846	24542	3.58	16.68	24.6	15.5
Puducherry	80363	80517	0.10	68.31	22.1	14.7
Punjab	42831	46340	3.94	37.49	23.4	13.6
Rajasthan	24304	29612	9.88	24.89	34.7	14.1
Sikkim	60774	73704	9.64	24.97	48.7	27.3
Tamil Nadu	47394	57093	9.31	48.45	37.8	20.1
Tripura	34544	39608	6.84	26.18	22.8	11.3
Uttar Pradesh	16390	18014	4.72	22.28	17.7	10.2
Uttarakhand	44557	52606	8.30	30.55	30.8	8.6
West Bengal	29799	32164	3.82	31.89	18.9	17.4
All India	33901	38048	5.77	31.16	24.8	14.7

Note: WFPR is worker (usual principal-cum-subsidiary status) to population ratio. NSDP per capita is in 2004-05 prices.
Source: National Sample Survey (2011-12), Population Census (2011), Central Statistical Organisation

The effect of urbanisation on the rural areas is important. With the exhaustion of further scope for expansion of the existing large cities, the nearby areas tend to get urbanized to some extent and operate as satellite towns conducting activities by and large similar to what the large centres do. Towns emerging as mediums of a transformation process in the rural areas are indeed an important aspect of urbanization in India. Population growth and diversification of activities in the rural areas are an endemic part of this transformation process. However, there is ample evidence to suggest that a large component of the rural non-farm sector activities is not induced by demand side factors. Agricultural stagnation and the lack of scope to enhance productive employment opportunities in the agriculture sector are some of the possible factors responsible for a residual absorption of labour in low productivity non-farm activities. The lack of rural industrialization seems to have aggravated the 'employment problem'.

From another angle, along with urbanization the rural (economic) growth is expected to rise as urbanization is a concomitant of expansion in economic activities. Agglomeration benefits associated with urbanization are likely to

result in enhanced productivity growth (Mitra, 1999) which can also get reflected in rural per capita income and consumption expenditure through the rural-urban inter-sectoral linkages. The increased work participation rate in the rural areas, change in the occupational structure away from farm towards non-farm prompted by rural diversification and reduction in rural poverty are some of the expected outcomes. Based on the village level data and country wide NSS data, Himanshu et al. (2013) observed the growing importance and influence of non-farm sector on the rural economy between the early 1980s and late 2000s. Besides, this non-farm diversification, although being quite a sluggish process, has been pro-poor in terms of distributional incidence. Further, they noted that the non-farm sector is not only increasing incomes and reducing poverty, but also it tends to be breaking down barriers to mobility among the poorest segments of the rural society. This is again likely to raise urbanization through migration. Himanshu et al. (2011) also noted a close association between urban poverty reduction and rural non-farm growth (and accompanying rural poverty reduction). Both through an increase in rural non-farm employment and wages the beneficial effects were realized. Lanjouw and Murgai (2010) brought out a clear-cut link between urban poverty decline and rural poverty decline in India which was not seen in the studies based on data for the pre-reform period. The association between urban development on the one hand and improvement in rural livelihoods on the other was envisaged through the impact of urban development on the rural non-farm diversification. So, in their conceptualization the causality runs from urbanization to rural poverty decline. One may further hypothesise that the demographic variables such as household size and child-woman ratio also decline with urbanization, which may be allowing women to participate in the labour market more explicitly.

Similarly, the effect of urbanisation on women's labour market participation in the urban areas is expected to be positive. As urbanisation goes up labour demand may increase, and thus, the extra demand may be met by the female labour supplies. Also, urbanisation helps women access education and job market information more intensely. The general awareness improves which helps women overcome the social and cultural barriers that hinder women's

participation in the labour market though education may delay the labour market participation of the younger ones. Secondly, with urbanisation, if growth shoots up with an increase in wages for the male workers, female may drop out from the labour market explaining the backward sloping curve of the labour market. These standard textbook understandings of the link between urbanization and women's labour market participation based on industrial countries have been subjected to intense scrutiny by scholars. It may be interesting to state what have been the experience of late industrializing countries and how these understandings have contributed to re-examining the received theories. Often, it is seen that the employers prefer female workers as they have a lesser bargaining strength and also female wages are substantially lower than the male wages with a false belief that female workers are less productive. This has resulted in feminisation in the labour market. In a number of activities the female to male worker ratio has steadily gone up over time (Banerjee, 1997). In fact, like contractualisation feminisation is an arrangement pursued to reduce labour cost sizeably. The other new change which is perceived in the recent years is the practice of subcontracting from the formal to the informal sector. Though it creates work opportunities in the informal sector, the business contractors follow the payment practice based on piece rate, reducing the remuneration of the workers. As many of the home based workers are women, they are the ones who are worst hit (Patrick, 2001).

Keeping in view some of these interesting patterns, the analysis in this paper is pursued at the district level. Most of the variables included in our analysis are for the year 2011 (taken from population census) and only poverty, inequality and monthly per capita consumption expenditure are for the year 2011-12 (taken from NSS).

The variables considered in the factor analysis include the following: HHSZ: household size; CHILD-WOM: proportion of children to women; WFPR: main workforce participation rate; LIT: literacy; SC: percentage of scheduled caste population; OTHERACT: percentage of workers engaged in non-household manufacturing and services; CUL: percentage of workforce engaged as cultivators; AGLAB: percentage of workforce engaged as agricultural labourers; MFGHH: percentage of workers in household

industries; F/M: female-male ratio in the population, BPL: percentage of households below the poverty line; AVMPCE: average monthly per capita consumption expenditure; INEQ: inequality in terms of the difference between the minimum and maximum value of the consumption expenditure. In addition to the rural specific variables, we have considered URBN which is the percentage of population in the urban areas in the district.

Empirical evidence however goes mostly against the view that urbanisation would raise female work participation rate (factor 1 from Table 2). Though male work participation rate increases with urbanisation, female participation declines in the rural areas. Several studies have confirmed that urbanisation is highly unequal in India in the sense that a very large percentage of the total urban population reside in a couple of very large cities (Bhagat, 2011). Moreover, these cities are expanding further into the rural hinterland. Several new towns (census towns) have emerged between 2001 and 2011. This transformation process helps urban activities to spill out to the rural areas without really benefitting the rural population in terms of accessing productive work opportunities. Rural women in particular are worst affected as the skill mismatch is serious in their case (Mitra, 2013).

From our results literacy is seen to reduce work participation suggesting that women may be pursuing higher education and thus participation of young women in the labour market may have declined. Micro level studies exploring this phenomenon also suggest that young educated but married women are forced to withdraw for various social and cultural reasons (Jalan, 2000).

Poverty and women participation in the labour market are positively associated while growth reduces poverty and female work participation, both. Again, cultivation raises women work participation while other non-farm activities reduce it. This tends to suggest that in agriculture-dependent households there is a need for women to contribute in terms of their labour while the rural non-farm activities are not productive enough to attract women sizeably or these activities are not geared to absorbing women on a large scale. Rise in rural female-male ratio again tends to reduce women work participation rate which is in fact quite against the popular views. On the other

hand, a higher child-woman ratio raises the work participation implying that women from households with more children are rather forced to join the labour market in order to meet the minimum consumption requirements.

However, in factor 2 urbanisation and rural women work participation rate and in factor 4, which is also a statistically significant one (though much less significant than factor 1), urbanisation, economic growth and rural work participation rate of women all show a positive association. Increased fertility (a higher child-woman ratio) and a large household size reduce participation (factor 4). These contrasting findings emerging from factor 1 and factor 4 can be ratiolnalised on the ground that what factor 1 reveals is a much stronger and largely noticed phenomenon. But at the same time, the findings from factor 4 reveal that certain new features at par with theoretical underpinnings are emerging simultaneously though not so prevalently.

Table 2: Results from Factor Analysis (District: Rural)

Variables	Factor 1	Factor 2	Factor 3	Factor 4
RHHSZ	0.236	0.006	0.25	-0.29
RCHILD-WOM	-0.80	-0.26	0.03	-0.18
RWFPRM	0.16	0.47	0.05	0.17
RWFPRF	-0.51	-0.23	-0.05	0.43
RLITM	0.74	0.36	0.02	0.12
RLITF	0.75	0.35	0.04	0.08
RSCM	0.13	0.98	0.01	0.002
RSCF	0.18	0.97	0.01	0.004
ROTHERACTM	0.90	-0.05	0.31	0.05
ROTHERACTF	0.75	0.15	0.08	-0.21
RMFGHHM	0.28	0.22	-0.08	0.26
RMFGHHF	0.20	0.04	0.002	0.94
RCULM	-0.91	0.03	0.26	-0.09
RCULF	-0.84	-0.05	0.38	-0.10
RAGLABM	0.09	-0.02	-0.98	0.01

RAGLABF	-0.34	-0.18	-0.47	-0.11
RF/M	-0.59	-0.27	-0.02	-0.15
RBPL	-0.78	-0.31	-0.21	0.09
URBN	0.42	-0.18	0.35	0.24
RAVMPCE	0.76	0.27	0.07	0.32
RINEQ	0.10	-0.19	0.01	0.33
Eigen Value	9.25	2.85	2.41	1.85
Explained Variation	0.47	0.15	0.12	0.10

Note: No. of Observation - 30

R represents rural areas, HHSZ: household size; CHILD-WOM: proportion of children to women; WFPR: main workforce participation rate; LIT: literacy; SC: percentage of scheduled caste population; OTHERACT: percentage of workers engaged in non-household manufacturing and services; CUL: percentage of workforce engaged as cultivators; AGLAB: percentage of work force engaged as agricultural labourers; MFGHH: percentage of workers in household manufacturing; F/M: female-male ratio in the population, BPL: percentage of households below the poverty line; URBN: percentage of population in the urban areas; AVMPCE: average monthly per capita consumption expenditure; INEQ: inequality in terms of the difference between the minimum and maximum value of the consumption expenditure. The variables are for 2011 or 2011-12 or 2010-11.
Source: Author's calculations

In the urban areas again the higher level of urbanisation reduces female work participation rate while economic growth reduces and poverty raises participation respectively (Table 3). With respect to child-woman ratio female work participation rises as well falls in factor 3 and 4 respectively, indicating that two groups of districts are present in Odisha with two different behavioural patterns. Possibly, in the poorer and tribal districts higher child-woman ratio compel women to participate in the job market while in relatively higher income districts higher fertility reduces participation, as the theory would suggest. Higher female-male ratio shows a positive association with female participation in factor 3 whereas the association is negative in factor 4, indicating again the presence of two types of districts following two different types of patterns. Other activities including non-household manufacturing and services reduce the women work participation rate possibly because these activities are non-productive enough to motivate women to join the labour market. However, the inverse relationship between urbanisation and poverty tends to suggest that the beneficial effects of urbanisation reduce the

compulsion-driven component of women's work participation. However, the positive effect of urbanisation in raising women work participation is not distinct in the urban areas. Possibly, the cultural barriers are still so strong that the positive effects of urbanisation (in terms of enhanced level of urbanisation) are not reaped. Literacy is seen to reduce participation while the presence of lower castes raises it.

The skill mismatch, in the case of women workers particularly, is a serious issue. Most of the economic activities being concentrated in very large cities, the medium sized and small towns do not create much work opportunities. Hence, women in particular do not benefit and the urbanisation level and women work participation rate do not show a positive relationship. Also, migration of women from rural to urban areas in India is mostly prompted by social factors such as marriage (Mitra and Murayama, 2008). Since these women not necessarily participate in the urban labour market, urbanisation and a reduced participation rate of women does not come as a surprise. A mere increase in literacy is not able to counter the cultural practices and the social backwardness, perceiving women participation in the labour market as a low-status phenomenon. Even among the educated lot this mindset is prevalently wide, forcing many educated and married women to withdraw from the job market (Jalan, 2000; Schultz, 1990). Also, household activities and domestic responsibilities involving children and the elderly are given higher priority over participation (Hirway, 2010). The disadvantaged classes, however, have different social norms: economic compulsions historically seem to have raised the participation of women in the job market alongside the males.

Table 3: Results from Factor Analysis (District: Urban)

Variables	Factor 1	Factor 2	Factor 3	Factor 4
UHHSZ	0.13	0.03	-0.23	0.02
UCHILD-WOM	-0.87	-0.12	0.23	0.20
UWFPRM	0.12	0.06	0.05	0.13
UWFPRF	-0.08	0.02	0.35	-0.52
ULITM	0.94	0.15	-0.06	0.23

ULITF	0.89	0.03	-0.25	0.22
USCM	-0.19	0.26	0.93	-0.07
USCF	-0.22	0.22	0.93	-0.07
UOTHERACTM	0.15	-0.67	-0.11	0.10
UOTHERACTF	0.06	-0.73	-0.24	0.38
UMFGHHM	0.26	0.90	0.16	0.05
UMFGHHF	0.13	0.93	0.23	0.01
UF/M	-0.22	0.07	0.07	-0.86
UBPL	-0.36	0.23	0.24	-0.16
URBN	0.13	-0.09	-0.33	0.23
UAVMPCE	0.24	-0.12	-0.23	0.38
UINEQ	0.08	-0.11	0.12	0.04
Eigen Value	5.46	3.22	2.08	1.67
Explained Variation	0.36	0.21	0.14	0.11

Note: No. of Observation: 30.

U represents urban areas; HHSZ: household size; CHILD-WOM: proportion of children to women; WFPR: main work force participation rate; LIT: literacy; SC: percentage of scheduled caste population; OTHERACT: percentage of workers engaged in non-household manufacturing and services; MFGHH: percentage of workers in household manufacturing; F/M: female-male ratio in the population, BPL: percentage of households below the poverty line; URBN: percentage of population in the urban areas; AVMPCE: average monthly per capita consumption expenditure; INEQ: inequality in terms of the difference between the minimum and maximum value of the consumption expenditure.
The variables are for 2011 or 2011-12 or 2010-11.
Source: Author's calculations.

3. Productivity and Female Participation

In this section based on the state level data, we assess if female labour participation raises labour productivity or otherwise. On a priori basis the relationship between the variables can go in either direction – positive or negative. In ageing societies as labour supply shrinks, the shortages can be mitigated by raising the female labour force participation. Also, given the fact that female labour is docile and sincere, labour productivity can actually rise with increased participation of women in the labour market. Besides, female wages being lower than the male wages the substitution of female labour for male labour can reduce the wage share (or labour cost) in value added. In

other words, wage to labour productivity ratio can decline which means increased efficiency of the unit from the point of view of the employer. This can then contribute to overall growth.

However, from another angle, particularly in a typical neoclassical frame, female wages are lower because female productivity is believed to be lower than male productivity: the rationalisation is derived from the proposition that each of the factors of production gets paid according to its marginal productivity under perfect competition. This postulation has led to the concern that increased participation of females in the labour market can actually reduce labour productivity and growth.

Further, as we say low productivity means low wages which in turn raise labour demand, there is a possibility of a causal relationship running from productivity to participation as well. Or to put in plainly lower productivity would mean more manpower to complete the job. So the bi-directionality issue is quite important. In addition, productivity cannot be measured as a function of participation only. Other relevant variables representing technology, skill, production structure, to cite a few, need to be controlled for. However, given the paucity of information and the lack of possibility of carrying out a rigorous quantitative exercise, we simply take overall labour productivity as a function of certain variables on which information are readily available. This is pursued basically to address the importance of certain policy options. For example, economic necessity may compel women to participate in the labour market and without adequate education and skill they may pursue petty activities. This sort of a situation will lead to increased participation but with low levels of productivity. On the other hand, with higher levels of education and skill when women participate in the labour market their productivity can be much higher. But with higher levels of education women not necessarily can participate in the labour market as the social factors may pose major hindrances. Hence, based on the observed association between productivity and participation certain broad inferences can only be drawn regarding the quality of jobs that women get absorbed into and accordingly suggestions can be made in favour of strategies which can help attain the twin objectives of productivity growth and increased participation.

There are certain practical difficulties in assessing the relationship between female labour force participation rate and labour productivity. A highly capital intensive technology which reduces the pace of labour absorption without reducing value added would mean higher labour productivity. Hence, there is difficulty in assessing the impact of labour force participation rate on labour productivity as lower employment levels would always mean higher labour productivity. So, this needs to be interpreted very carefully. Secondly, labour productivity is defined as value added per labour. But no information is available on how much of value added is contributed by the male and female workers separately. Hence, it becomes difficult to assess the association between female labour force participation and female labour productivity. Again, the information on rural and urban labour productivity is missing because value added figures are given sector-wise. So, what is doable is as follows. We can only investigate whether there is a positive relationship between female labour force participation and overall labour productivity.

When we take labour productivity as a function of participation rate, the endogeneity problem arises because participation itself is an endogenous outcome which is determined in terms of certain variables. We have, therefore, presented two sets of results below (Table 4). One set gives the OLS results while the other corrects for endogeneity by considering an appropriate instrument for participation. The instrument is generated by estimating the participation equation first and then considering its predicted value. The results tend to indicate that the female participation rate is statistically insignificant in most of the equations with labour productivity as the dependent variable. It has a negative sign but it can be primarily because many women workers are engaged in petty activities in the informal sector, both in rural as well as urban areas.

Variables	Dep var: Lab Prod	Dep var: Lab Prod	Dep var: WORK	Dep var: WORK	Dep var: LFPR	Dep var: LFPR	Dep var: Lab Prod	Dep var: Lab Prod

	(OLS)	(OLS)	(F,R) (OLS)	(F,U) (OLS)	(F,R) (OLS)	(F,U) (OSLS)	(2SLS)	(2SLS)
WORK(F.R)	-9474.98 (-0.21)						-26709.8 (-0.26)	
WORK(F,U)	-185178.5 (-1.84)						-385561.6 (-1.35)	
LFPR(F,R)		-185115.6 (0-.57)						-103884.6 (-2.0)
LFPR(F,U)		-0.36783.7 (-0.76)						-190538.2 (-1.84)
SERDP	75500.8 (1.82)	80466.8 (1.71)					68489.8 (1.54)	64334.9 (1.55)
URBAN	78042.7 (3.43)*	62162.9 (2.52)*					100857 (3.14)*	92146.9 (3.59)*
ROAD		150.1 (0.16)	0.013 (3.99)*	0.005 (2.96)*	0.017 (2.71)*	0.009 (2.05)	1817.1 (1.23)	3335.0 (2.05)*
CR-DP			0.180 (3.95)*	0.05 (2.26)*	0.19 (2.13)*	-0.02 (-0.35)		
ENROL of girls	44694.7 (2.57)*	40649.1 (2.07)*	0.136 (2.30)*	0.107 (3.61)*	0.389 (3.46)*	0.26 (3.52)*	59537 (2.31)*	109144.9 (3.21)*
IMR(F)				-0.12 (-2.62)*		0.28 (-2.47)*		
F/M			32.33 (1.78)		77.59 (2.24)*			
Constant	-8386365 (-2.89)*	-8751124 (-2.65)*	-43.35 (-2.42)*	0.51 (0.13)	96.22 (-2.81)*	2.58 (0.27)	-8347673 (-2.69)*	-1.10+e07 (-3.56)*
Adj R2	0.64	0.66	0.55	0.48	0.47	0.50	0.59	0.64
N	32	32	35	35	35	35	32	32

Table 4: Effect of Female Participation on Labour Productivity

Note: R within parenthesis represents rural, U urban and F female.

WFPR and LFPR: work and labour force participation rate respectively; SERDP: percentage of services in total gross state domestic product; ROAD: state wise road length (in km.) in relation to 100,000 population; URBAN: percentage urban; CR-DP: credit-deposit ratio of scheduled commercial banks; IMR: infant mortality rate among girls, ENROL: gross enrolment rate in classes 1 to 8 among girls; F/M: female to male population and LAB PROD: labour productivity.

What is striking from Table 4 is that, given participation, women's education (captured through enrolment), urbanisation and infrastructure availability are some of the most important determinants of productivity. Also, the social infrastructure covering health and education specific variables, and physical and financial infrastructure impact women's participation in the labour market significantly. Poor health conditions measured in terms of higher infant mortality rate reduce the participation. The panel data analysis also confirms

that poor health reduces women participation. These findings are important from policy point of view because different infrastructure variables are seen to improve both women participation and labour productivity. Infrastructure (social, physical and financial) can to a certain extent help break the social and cultural barriers and help women participate in the labour market thereby making productive contribution. For voicing the women's needs, overcoming the social constraints and enhancing their bargaining power their physical presence is essential as indicated by a positive association between female-male ratio and women participation, particularly in the rural areas where social barriers are strong.

We also noted in the previous section the beneficial effect of female labour force participation rate (from the panel data analysis) on infant mortality of girls as well as boys after controlling for growth indicator which also has a very strong effect on infant mortality rate. Access of mothers to resources through labour market participation improves the health status of the children as their nutritional status also improves. Also, greater volume of resources is required for enhancing the provision of healthcare facilities which can be met through higher levels of growth.

Elsewhere it has been shown based on data from a number of Asia Pacific countries that decline in gender inequality in labour market through improvement in female labour force participation reduces inequality in many other spheres and eventually leads to greater participation of women in the decision making process, both within the households and at macro level (Mitra, 2009). Particularly when it comes to fertility decisions the working women are able to voice their preference better as compared to housewives. Similarly, the working women could vouch for gender budgeting and participate in the political process as well. Refuting the view that increased participation of females in the labour market would reduce growth, the study also casted evidence in favour of economic growth responding positively to a rise in female participation. Poor levels of skills resulting from gender discrimination, limited scope to undergo on-the-job training, information asymmetry aggravated by the inadequate access of women to job market information, inability to pursue job search on full-time basis due to domestic

responsibilities, unavailability of productive jobs with flexi-hours and weak bargaining power result in lower wages for women workers than their male counterparts. And this wage discrepancy has sent a wrong message about women being less productive.

4.   Conclusion

Urbanisation and women work participation based on district level data show a negative association. Districts with higher level of urbanisation show a lower participation of women, both in rural and urban areas. Women from poor households seem to be working more as poverty and female work participation rate are positively associated.

Growth and urbanisation are however positively associated while growth and poverty are inversely related. Also, growth and WFPR are negatively associated. This is indicative of either a backward sloping supply curve of women at higher levels of per capita income or growth being unable to create work opportunities, which in turn lead to the phenomenon of discouraged dropouts, i.e., withdrawal of women from the labour market due to unavailability of jobs of desirable status. On the whole, the positive role of urbanisation in removing the social and cultural barriers so as to release more women into the job market or to create more work opportunities for women in the growth process by removing productivity differentials across sexes is rather limited. Odisha at a comparatively lower level of urbanisation registered a higher work participation rate for women but across districts the positive association between urbanisation and work participation is not strongly evident, particularly in the urban areas though in the rural areas there is a subtle positive association lying beneath a predominantly negative association. In other words, the positive impact of urbanisation on rural women and their participation in the job market is on the rise though the urban areas would still have to wait for urbanisation to pick up further to experience an increased participation of women. The growth effect on women's work participation in the urban areas is mostly negative which did not possibly contribute to turn the relationship between urbanisation and women's work participation into a positive one. Or we can say, the employment opportunities emerging in the

process of economic growth in the urban areas seem to have a gender bias. The new jobs in the high productivity segment are both technology and skill intensive. Either women do not possess the requisite skills to access these jobs or at times the social norms view women's participation in the job market as a low status phenomenon despite the fact that educated women are likely to get absorbed in white collar jobs, and not blue collar jobs. From demand side, again, business firms tend to prefer male workers, viewing women workers as an expensive category (because of maternity benefits and leave etc.).

Policy interventions to counter such distortions are essential so that women access higher levels of skill and education and subsequently participate in the job market instead of withdrawing from it. In the rural areas diversification is important for women's absorption in productive activities if the low equilibrium situation of continuing in marginal activities in the agricultural sector is to be broken. The factors which constrain women's migration to urban areas to take advantage of better opportunities are mostly social and cultural but it is important to counteract them by improving the human resource component and the economic freedom of women. Biases against hiring women can partly be removed with gender sensitization programmes. Biases in favour of employing women so that labour cost can be reduced by offering them lower wages need to be checked through strict legislations. Skill development and vocational training programmes, particularly in the urban areas, need to be implemented on a large scale and with the provision of flexi hours so that the relationship between urbanisation and women work participation can be made positive.

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