



Why is the Labour Force Participation of Women Declining in India?

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Summary. — This paper explores the recent fall in female labour force participation and its socio-economic determinants in India. The major contribution of this paper is: to explore both micro- and macro-level factors which determine female labour force participation rate (LFPR); to examine the “U shape” female LFPR, by examining the likely income and substitution effects of the real wage increase, to identify the sub-sectors within manufacturing and service sectors that could create jobs for new female job aspirants and those older women displaced from agriculture in recent years; and thus to understand the conditions under which female LFPR could be raised. Using both macro-level and household survey (NSS) data, we find that the recent fall in the process of structural transformation has pushed a large number of females out of agriculture. The growing mechanization in agriculture and rising capital intensity in manufacturing sectors together have limited the opportunity for females because of their low education and skill and due to other cultural constraints. We also found that the rise in real wages in rural areas and the consequent improvement in the standard of living has produced a strong negative income effect which outweighs the positive substitution effect and as a result female LFPR has declined substantially. However, with the massive increase in female enrollment in secondary and higher levels of education, it could be expected that the substitution effect of the increase in real wage would become stronger if appropriate measures are taken by the government, which are suggested.

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1. INTRODUCTION

India has experienced a decline in female labor force participation over the last three decades. A sharp decline in the female labor force participation rate (LFPR) during periods of high economic growth for low-income countries is partly natural, but partly a cause of concern that requires special policy attention of the government. While exploring the pattern of female LFPR, studies like Goldin (1994), Mammen and Paxson (2000), Fatima and Sultana (2009), Tam (2011), Gaddis and Klasen (2014), and Chaudhary and Verick (2014) claim that the female labor force participation rate follows a “U shape” i.e., (i) for countries with a relatively low per capita income female LFPR is very high, (ii) for countries with relatively high per capita income it is also quite high, whereas (iii) the countries that belong to the middle-income category (on the basis of per capita GDP on PPP) have a relatively low female LFPR.

This paper focuses on trends in female LFPR for India. The Indian economy is experiencing rapid economic growth,¹ and made a transition from a low-income to a low-middle-income country in 2007.² India’s per capita Gross National Income (GNI) was about \$306.21 (at US\$ 2010) in 1960, which increased to \$534.85 and to \$762.26 during 1990–2000 respectively, but by 2007 it became 1125.34 (at US\$ 2010). It is expected that with rising income and increasing structural transformation the female LFPR would begin to rise. The major contribution of this paper is: (i) to explore both micro- and macro-level factors (social and economic) which simultaneously determine female labor force participation in India, which is a more complex phenomenon than it appears; (ii) to carry forward the discussion on “U shape” female LFPR by examining the likely *income* and *substitution effects* of the real wage increase in India, an important aspect which is not discussed in existing empirical studies; (iii) to identify the sub-sectors within manufacturing and service sectors that could create jobs for new female job aspirants as well as for

those who lack skill and have been displaced from agriculture in recent years; (iv) and thus to understand the conditions under which female LFPR could be raised, and suggest policy measures accordingly.

The process of structural transformation got a fillip in recent years (after 2004–05) with an absolute fall in agriculture employment and a corresponding rise in construction, manufacturing (particularly in the labor intensive units) and service sector employment. Durig 2004–05 and 2011–12, of a total 37 million decline in agricultural employment (see Mehrotra, Parida, Sinha, & Gandhi, 2014) about 31 million were female workers (see Table 1), or about 84% of the total decline. Although about 9 million female workers joined the non-agricultural sectors (5.5 million in non-manufacturing,³ 0.3 million in manufacturing and 3 million in service sectors) with diverse levels of skills, a large number of females have withdrawn from the labor force to participate in education and in domestic duties.⁴ The sharp decline in poverty (see Chauhan, Mohanty, Subramanian, Parida, & Padhi, 2016) and an improvement in household standard of living in the post 2004–05 period might have caused a behavioral change among women with respect to their participation in the labor force. However, lack of appropriate education and skills among female workers often restricts a large number of females from taking advantage of processes of structural transformation. Furthermore, unavailability of semi-skilled and relatively skilled jobs within the vicinity of female workers (given the cultural constraints on moving on their own, as single women), and lack of appropriate safety measures in the context of rising criminal activities⁵ against women might have restricted many new young female entrants from partic-

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Table 1. *Female labour force (in million) by socio-economic groups in India, 1983–2012*

Age groups	Size of Female Labour Force (UPSS) in million				
	1993	1999–2000	2004–05	2009–10	2011–12
<i>Age groups</i>					
Less than 15 years	6.1	4.9	4.0	2.0	1.5
15–29 years	44.0	43.2	49.1	37.8	36.3
30–59 years	66.7	72.1	91.1	81.0	84.3
60 years and above	6.2	6.6	8.6	8.5	8.8
15–59 years	110.6	115.3	140.2	118.8	120.7
<i>Level of education</i>					
Illiterate	91.4	88.1	94.4	68.4	66.6
Primary	28.1	33.9	49.7	50.4	51.4
Secondary	1.3	1.8	4.3	4.5	5.5
Graduate and above	2.1	2.9	4.3	6.0	7.5
<i>Marital status</i>					
Un-married	17.2	16.6	20.0	15.2	14.8
Married	91.0	95.8	115.6	96.8	99.6
Widow	0.0	12.5	15.3	15.9	15.1
Divorced/separated	1.4	1.9	1.9	1.4	1.4
<i>Social groups</i>					
ST	17.0	13.8	20.0	17.2	18.0
SC	25.8	21.4	32.4	28.5	27.3
OBC	NA	35.4	65.6	56.1	56.9
Others	80.1	24.3	34.8	27.5	28.8
<i>Economic groups</i>					
MPCE Quintile 1	37.8	46.1	54.6	34.2	34.6
MPCE Quintile 2	29.7	29.7	36.7	29.9	29.9
MPCE Quintile 3	23.7	23.9	26.3	27.1	27.3
MPCE Quintile 4	17.9	17.1	19.9	22.6	22.6
MPCE Quintile 5	12.7	10.1	15.2	15.4	16.6
Total	121.8	126.8	152.7	129.2	131.0

Source: Authors' estimates from the NSS Unit-level data, various rounds.

icipating in the labor market. Since the Indian economy is experiencing rising per capita income as well as a quickening of the pace of structural transformation, it is important to know whether female LFPR in India would continue to decrease, if so why and for how long? What are the socio-economic factors that restrict females from participating in the labor market, and undertake more household responsibilities by doing more and more domestic duties? Is there any possibility that the female LFPR would start rising given the fact that more young girls are participating in secondary and higher levels of education? And what could be appropriate policy measures that might help female LFPR to start rising? This paper tries to answer these questions by exploring the recent trends and patterns of female employment, and understanding the determinants (both at micro and macro levels) of female labor force participation in India.

The paper is organized in six sections. Section two provides a brief review of the theories and cross-country empirical studies on female labor force participation. Section three provides some stylized facts including recent trends and changing patterns of female employment and labor force participation in India. In section four we explain the methodology for our study based on nationally representative sample surveys. It presents the data and econometric methodology used in the empirical estimation of female labor force participation functions. Section five explores both micro- and macro-level determinants of female labor force participation in India based on probit and IV-probit regression estimates, and also discusses

the “U shape” pattern of female LFPR. Section six outlines policy measures for improving female LFPR in India.

2. A BRIEF REVIEW OF LITERATURE

There are mainly two views on what determines female labor force participation. The first strand of literature argues that females participate in the labor market either to maximize their own utility function or to maximize their households' total welfare (see Becker, 1965; Bardhan, 1979; Franz & Kawasaki, 1981; Goldin, 1983a, 1983b; Heckman & McCurdy, 1980; Renaud & Siegers, 1984; Kooreman & Kapteyn, 1984). The second strand of literature explains how structural factors determine the female LFPR at macro level, leading to a “U shape” female labor force participation curve in the course of economic development (see Durand, 1975; Pampel & Tanaka, 1986; Psacharopoulos & Tzannatos, 1989; Schultz, 1990; Schultz, 1991; Kottis, 1990; Goldin, 1994; Horton, 1996; Tansel, 2001; Mammen & Paxson, 2000; Fatima & Sultana, 2009; Luci, 2009; Tam, 2011; Klasen & Pieters, 2012; Bhalla & Kaur, 2011; Fatima & Sultana 2009; Gaddis & Klasen, 2014; Chaudhary & Verick, 2014).

According to the first view, a set of micro-level factors including individual characteristics (age, level of education and experience), household income, and the expected market wage play an important role in determining female labor force

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