

Gendered Labour in India

Diversified or Confined?

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The processes of economic restructuring during the last two decades have witnessed a massive spurt of opportunities in the labour market which have, withholding the periodic shifts, facilitated women's workforce participation. Although the relationship between economic restructuring and occupational/ industrial diversities is fraught with ambiguities, it may generally be hypothesised that such enhanced openings would contribute towards the reduction in the often observed gendered segregation of labour in industries. Based on the unit level National Sample Survey Office data for various rounds, this study attempts to identify the industries in which women have stereotypically been bunched, and traces whether any changes have come about therein. The study also examines the role of education in diversification of industries in terms of men-women workforce composition. Even as the horizon of the labour market widens, it has not been able to provide women with expanded economic spaces.

We acknowledge the comments of an anonymous reviewer which helped us modify and fine-tune some of our arguments. The usual disclaimers apply.

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1 Introduction

Despite a few ambiguities and breaks, the recent decades have, in general, witnessed an increase in the workforce participation rates for women. And yet, answers to many questions continue to dodge us as to whether the nature of work itself has changed for women; what opportunities have been associated with the new wave of globalising work for them; whether they have been able to carve out non-conventional spaces in the world of work or the workspaces continue to offer them limited avenues and remain stoically masculine? More importantly, one may anticipate that with the process of economic restructuring, women's workspaces would become more diversified with time. To what extent this proposition holds true is the central concern that engages us. That is to say, whether women's location in workplaces continues to be defined by stereotypical bunching in specific "feminine" industries or the emerging opportunities widen the choices significantly.

The spatiality of women's work has been a matter of discussion and it is well-documented that their work in the public domain is regionally circumscribed with a clearly and continually visible divide between the states located in the north and the south whereby the north is characterised by not only relatively lower work participation by women than in the south (Raju 2013), but also a greater degree of bunching; the latter phenomenon has remained rather largely unexplored. We attempt to bring forth this dimension by looking at the state-level pattern.

Scholars studying education and women's work participation highlight the interlinkages between differential education and bunching possibilities (Borghans and Groot 1999). They argue that the lowly educated women, who are also a pool of cheap labour, tend to concentrate in the menial industries. Given the situation, it would be interesting to explore whether educated women in the high-end industries are able to rupture the traditional concentration of women in the engendered labour market outcomes. For this, we investigate the interface between the educational profiles and the nature of work for employed women. This section, however, is of an exploratory nature in order to derive a few leads into the nature of work done by them.

The paper is divided into six sections. After this introductory first section, the second section puts forth the database and methods. The third section deals with the gender segregation of industries in post-1991 India which marks the beginning of the

neo-liberal regime; the fourth section attempts to ascertain the specific industries which are women-centric. The fifth section delves with the interface of education with occupational diversification. The concluding section sums up the important findings.

2 Data and Methods

The paper draws upon the unit level data from the National Sample Survey for the 50th, 55th, 61st, 64th and 66th rounds.¹ It follows the National Industrial Classification (NIC) to analyse the employment segregation of workers. It needs to be pointed out that the 50th round is based on the NIC of 1987; 55th and 61st rounds are based on the NIC of 1998 while the employment data for the 64th and 66th rounds are in accordance with the NIC of 2004. The present analysis takes into consideration the NIC 1998 and the employment data for the remaining rounds are matched in concordance with it. Further, the NIC has been used up to the three digits for obtaining a more detailed picture.

Industrial segregation is said to exist when women and men are distributed across industries in a manner which is disproportionate to their overall workforce participation rates (WPR) (Preston 1999: 612). This segregation is statistically captured through the Duncan Index of Dissimilarity (DI). This index uses the following formula: $D = 1/2 \sum | (W_i/W) - (M_i/M) | * 100$; where, W_i is the number of women in a particular industry, W is the total number of women workers, M_i is the number of men in a particular industry, M is the total number of male workers. The value of D ranges between zero and 100 with zero implying a perfectly even distribution and 100 representing complete segregation. The index represents the sum of the minimum proportion of women plus the minimum proportion of men who would have to be shifted across industries in order for the proportion of women to be identical in all industries (Anker 1998). That is, the index indicates the horizontal movements of workers across different industries. If there is no temporal change in the dissimilarity index, it would suggest that gender segregation in industries is being sustained.

It may be mentioned at this juncture that several scholars have pointed out the shortcomings in the Duncan index of dissimilarity and have used other measures of occupational segregation (Charles 1992; Jacobs and Lim 1992; Rawlston and Spriggs 2002; and Bridges 2003 cited in Swanson 2005).² Withholding the critical observations of the Duncan index of dissimilarity, we use it essentially because of its clear-cut interpretative power and its generality/widespread use in measuring segregation (Anker 1998; Swanson 2005).

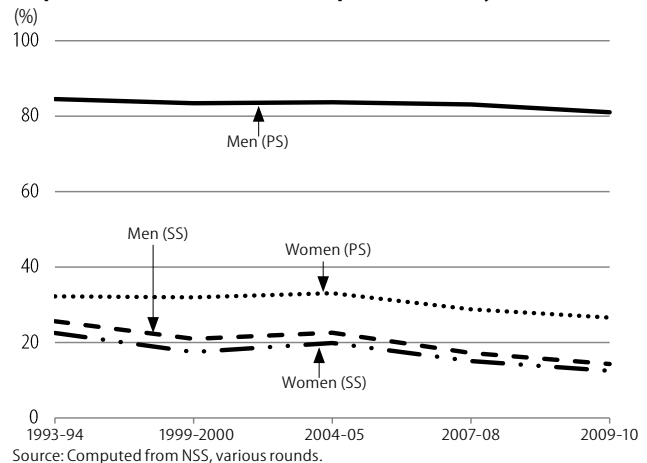
It can be assumed that under conditions of free choice and preferences, combined with equal access to resources, men and women would be distributed equally across the industries. However, these "equal" distributions will have to be within a range from the mean. The "fixing" of such range has been done in this study by allowing for about five percentage point plus/minus deviation from the mean.³ An industry is thus considered to be "feminine" in which women's share of employment exceeds their overall WPR by plus/minus five or more

percentage points. An "integrated" industry is defined as the one in which women's share is between plus/minus five percentage points from their average share in the workforce (Beller 1982). Thus, engendering of industries has been ascertained by comparing the proportion of workers (men and women in the age cohort of 15-59 years) in each industry category vis-à-vis their overall workforce participation rates.

3 Trends in Industrial Segregation in India

Graph 1 shows that in India women's work participation rate⁴ in principal status remained rather unchanged between 1993-94 and 1999-2000 with a slight increase in 2004-05. The subsequent years, i.e., between 2004-05 and 2009-10, however, show a decline. On the other hand, men's work participation rates have decreased since 2007-08. As far as the subsidiary status is concerned, the workforce participation of both men and women has continually decreased since 1993-94 except a slight increase in 2004-05. The declining trend in WPRs with the exception of slight increase in the years 2004-05 is almost secular.

Graph 1: Workers (15-59 Years) in Principal and Subsidiary Status



Although a detailed account of the workforce decline is out of the scope of this discussion, it can be noted in passing that the increase in the WPRs in 2004-05 has been variously attributed and explained. Himanshu (2011) regards the agrarian crisis between 1999-2000 and 2004-05, characterised by deceleration in the growth rates of outputs and wage rates, as the prime reason for an increase in women's WPR. Mazumdar and Neetha (2011: 4) attribute it to the mounting crisis of paid employment and family incomes. They argue that the increase in the women's WPR during this period was mainly due to a rise in self-employment which may be interpreted as "desperate attempts by women to prop up crisis ridden family based production through unpaid labour and/or to garner a scabby living through intermittent piece rated home based work". They also contend that the stated substitution of paid work with unpaid labour of women could be explicated through the insufficiency of family incomes in meeting petty production and related consumption costs, particularly in agriculture. Further, the decline in 2009-10 has also been explicated by suggesting an increase in the enrolment of girls/women in educational institutes (Mehrotra et al 2012). However, the latter position

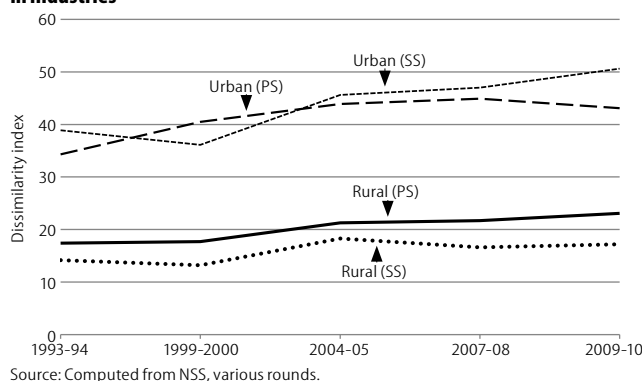
has been countered on the ground that the decline in their workforce participation is not in the age-cohorts that can possibly be enrolled in educational institutes (Kannan and Raveendran 2012).

The calculation of the dissimilarity index, to recall, is based on the three digit NIC for both principal and subsidiary status workers. This index had declined initially between 1993-94 and 1999-2000,⁵ but had increased steadily since then being the maximum between the years 1999-2000 and 2004-05. The trend suggests low level of segregation in principal status work in the early years of reform followed by a progressive increase in recent years. The same index for subsidiary status is much lower than the principal status workers implying less segregated men and women workers therein as compared to the latter. The reason behind such a pattern could possibly be due to the initial (enthusiastic) reaction to enhanced opportunities in the labour market responded to by both, men and women. However, as the initial trigger lost its sheen, the gender segregation of workers in industries may have resumed with renewed vigour: the increase being the most drastic between 1999-2000 and 2004-05 followed by 2004-05 and 2007-08 when once again the gender segregation in both principal and subsidiary status of work increased, albeit at somewhat slower pace (Graph 2).

Table 1: Share of Women Workers in Top Five Industries – Rural Principal Status

2009-10	
Growing of crops; market gardening; horticulture	73.1
Building of complete constructions or parts thereof	4.4
Farming of animals	4.4
Manufacture of tobacco products	2.4
Primary education	2.0
Total	86.3
2007-08	
Growing of crops; market gardening; horticulture	75.6
Farming of animals	4.7
Building of complete constructions or parts thereof	2.4
Manufacture of tobacco products	2.0
Primary education	1.9
Total	86.7
2004-05	
Growing of crops; market gardening; horticulture	74.5
Farming of animals	5.7
Manufacture of tobacco products	2.4
Building of complete constructions or parts thereof	1.8
Primary education	1.6
Total	86.0
1998-99	
Growing of crops; market gardening; horticulture	78.9
Farming of animals	3.3
Manufacture of tobacco products	2.3
Other service activities	1.6
Building of complete constructions or parts thereof	1.3
Total	87.5
1993-94	
Growing of crops; market gardening; horticulture	83.0
Farming of animals	4.9
Site preparation; building of complete constructions or parts thereof	1.6
Retail sale of food, beverages and tobacco in specialised stores	1.2
Manufacture of tobacco products	1.0
Total	91.6

Graph 2: Dissimilarity Index of Workforce Participation Rates (15-59 Years) in Industries



At the disaggregated level, the dissimilarity index of both principal and subsidiary status work in the urban areas is much higher than in the rural areas and has increased since 1999-2000. However, in the urban areas, the index for principal status has registered a marginal decline between 2007-08 and 2009-10 while that for subsidiary status has remarkably increased since 1999-2000.

These observations implicate interesting dynamics operating in the labour market. The much lower segregation between

Table 2: Share of Women Workers in Top Five Industries – Urban Principal Status

2009-10	
Growing of crops; market gardening; horticulture	9.2
Activities of private households as employers of domestic staff	7.1
Primary education	7.1
Manufacture of wearing apparel, except fur apparel	6.6
Other service activities	5.5
Total	35.6
2007-08	
Growing of crops; market gardening; horticulture	9.88
Activities of private households as employers of domestic staff	8.37
Manufacture of wearing apparel	6.11
Other service activities	6.10
Primary education	6.07
Total	36.5
2004-05	
Private households with employed persons	12.0
Growing of crops; market gardening; horticulture	11.6
Primary education	6.6
Manufacture of wearing apparel, except fur apparel	5.4
Retail sale of food, beverages and tobacco in specialised stores	4.5
Total	40.2
1998-99	
Growing of crops; market gardening; horticulture	12.5
Retail sale of food, beverages and tobacco in specialised stores	8.4
Other service activities	7.0
Primary education	6.7
Building of complete constructions or parts thereof	5.3
Total	40.0
1993-94	
Growing of crops; market gardening; horticulture	35.8
Construction activities	8.9
Farming of animals	6.5
Secondary education	5.5
Retail sale of food, beverages and tobacco in specialised stores	4.6
Total	61.2

Table 3: Share of Women Workers in Top Five Industries – Rural Subsidiary Status

2009-10	
Growing of crops; market gardening; horticulture	52.0
Farming of animals	19.4
Building of complete constructions or parts thereof	17.6
Manufacture of tobacco products	2.1
Other mining and quarrying	1.5
Total	92.5
2007-08	
Growing of crops; market gardening; horticulture	63.8
Farming of animals	22.3
Building of complete constructions or parts thereof	3.6
Manufacture of tobacco products	1.6
Manufacture of wearing apparel, except fur apparel	0.8
Total	92.1
2004-05	
Growing of crops; market gardening; horticulture	62.2
Farming of animals	24.9
Building of complete constructions or parts thereof	2.0
Forestry, logging and related service activities	1.3
Manufacture of wearing apparel, except fur apparel	1.2
Total	91.6
1998-99	
Growing of crops; market gardening; horticulture	66.2
Farming of animals	21.8
Forestry, logging and related service activities	2.1
Manufacture of tobacco products	1.4
Building of complete constructions or parts thereof	1.3
Total	92.8
1993-94	
Extraction and agglomeration of peat	68.0
Rearing of bees, production of honey, wax	21.8
Manufacture of man-made fibres	0.3
Manufacture of domestic appliances	0.0
Private households with employed persons	0.9
Total	91.1

rural men and women workers is essentially because in agriculture, the mainstay of rural economy, the gendered boundaries of work are often blurred as the activities are carried out in shared environs – the work is also of informal nature. The level of gendered segregation is still lower in the subsidiary status. It seems that as part-timers, rural women's activity spaces enlarge far more even as the work they carry may be of petty nature.⁶ It is somewhat ironical that despite offering potentially diversified employment opportunities, the urban labour market constricts the subsidiary avenues where women can participate without bounds – an observation substantiated by the higher levels of segregation through the years. In the urban areas, the level of segregation in subsidiary status exceeds that in the principal status since 2004-05. The probable reason behind a higher segregation in urban subsidiary status workers as compared to that in the principal status would be returned to, a little later in the discussion.

It is evident from Graph 2 that the principal status and subsidiary status work in rural areas follow disconnected trajectories while in the urban areas, principal and subsidiary status work are mutually interdependent. This can be crudely substantiated by the fact that much of the formal work in urban areas is now being carried out informally which can largely be home-based.

Table 4: Share of Women Workers in Top Five Industries – Urban Subsidiary Status

2009-10	
Growing of crops; market gardening; horticulture	16.2
Farming of animals	12.0
Manufacture of wearing apparel, except fur apparel	12.5
Other education	5.8
Spinning, weaving and finishing of textiles	5.7
Total	52.2
2007-08	
Growing of crops; market gardening; horticulture	17.2
Farming of animals	13.0
Manufacture of wearing apparel, except fur apparel	11.0
Manufacture of other textiles	7.9
Retail sale of food, beverages and tobacco in specialised stores	5.6
Total	54.7
2004-05	
Growing of crops; market gardening; horticulture	20.8
Farming of animals	14.9
Manufacture of wearing apparel, except fur apparel	10.3
Manufacture of other textiles	8.9
Adult and other education	5.8
Total	60.7
1998-99	
Growing of crops; market gardening; horticulture	19.9
Retail sale of food, beverages and tobacco in specialised stores	16.2
Farming of animals	15.5
Other service activities	4.0
Manufacture of tobacco products	4.0
Total	59.7
1993-94	
Growing of crops; market gardening; horticulture	30.2
Farming of animals	17.7
Manufacture of wearing apparel, except fur apparel	8.2
Private households with employed persons	5.0
Retail sale of food, beverages and tobacco in specialised stores	4.3
Total	65.4

It also indicates that there are fewer industries where the subsidiary women workers are getting progressively confined.

That said, an attempt has been made to identify the top five industries in principal and subsidiary statuses in both rural and urban areas. Results are presented in Tables 1-4. It may be noted that the top five industries account for more than 85% of women workers in rural areas in both principal and subsidiary status. In the urban areas, women's share in principal status in the top five industries in 1993-94 was as high as 61% and it declined to about 36% in 2009-10. This indicates that in rural areas, women are predominantly confined to fewer industries, whereas the options are relatively more in urban areas.

Home-Based Work and Industrial Segregation

Table 5 shows that in the urban areas, more than half the women in subsidiary status were engaged in home-based work in 2004-05 which registered a substantial increase in 2009-10 by more than five percentage points. The proportion of women as home-based principal status workers was much lower compared to

Table 5: Home-Based Work in Urban Areas (15-59 years)

	Urban Principal Status		Urban Subsidiary Status	
	2004-05	2009-10	2004-05	2009-10
Men	8.0	9.2	17.1	18.7
Women	22.5	23.8	54.9	60.3

Source: Computed from NSS unit level data, various rounds.

their status as subsidiary workers and increased by only 1.3 percentage points between 2004-05 and 2009-10. It must be pointed out that the recent increase could partly be a function of definitional changes of home-based work between 2004-05 and 2009-10. As Raju (2013) notes, in 2004-2005, “own dwelling unit” was the location of workplace for identifying home-based workers while in 2009-2010, the location of the home-based workers was expanded to include “own dwelling unit, structure attached to own dwelling unit, open area adjacent to own dwelling unit, detached structure adjacent to own dwelling unit”.

Nonetheless, the sharp increase in the proportion of home-based women workers was not accompanied by a corresponding diversification of employment opportunities as reflected through increase in the dissimilarity index over the period (Table 6).

It seems that women’s confinement to fewer occupational avenues extends to their subsidiary work as well. The increase in the dissimilarity index for the urban subsidiary status work has been particularly conspicuous compared to that of the urban principal status work. It implies that while the avenues for home-based employment for urban principal status work are rather limited, women in the subsidiary status home-based work are also getting increasingly concentrated in fewer industries. This observation also helps us to explicate the trend noted in Graph 2 whereby the level of segregation in overall subsidiary status exceeds that in the principal status in the urban areas since 2004-05.

A cursory look into the types of industries would further help to corroborate the point. Table 7 enlists the industries which together employ more than 90% of the women workers among those who are home-based for each status of work. It shows that the women are primarily engaged in work related to animal farming, tobacco products, apparels and textiles, food and beverages, etc. Within the service sectors, women are engaged in retail activities in specialised and non-specialised stores; restaurants, bars and canteens; adult and other education and other service activities.

Thus, even though the proportion of women in home-based work has increased, the avenues for them continue to remain restricted to a fewer industries and services. Apart from the fact that women’s primary identity hinges upon archetypal constructs of domesticity and the doing of unpaid housework, their overall educational and skill attainments are such that the possibilities of diversifying and moving up in the occupational hierarchy remain bleak (Raju 2013), a point taken up later in the discussion.

Industrial Segregation: The Spatial Articulation

Work in the public domain is regionally circumscribed with a clearly and continually visible divide between the states located in the north and the south (Raju 2013). It is well-known that these two broad regions are differentiated in terms of

Table 7: Common Industries Employing Home-Based Women Workers
(15-59 years) in 2004-05 and 2009-10)

Rural PS	
Agriculture	
Farming of animals	(33.0)
Manufacturing	
Manufacture of tobacco products	(20.4)
Spinning, weaving and finishing of textiles	(3.6)
Manufacture of wearing apparel, except fur	(8.9)
Manufacture of products of wood, cork, straw and plaiting materials	(4.2)
Manufacture of non-metallic minerals products nec*	(1.5)
Services	
Retail sale of food, beverages and tobacco in specialised stores	(7.4)
Restaurants, bars and canteen	(2.6)
Other service activities	(3.1)
Rural SS	
Agriculture	
Farming of animals	(73.5)
Manufacturing	
Manufacture of tobacco products	(7.8)
Manufacture of other textiles	(2.6)
Manufacture of wearing apparel, except fur	(3.6)
Urban PS	
Agriculture	
Farming of animals	(6.9)
Manufacturing	
Manufacture of other food product; manufacture of tobacco products	(2.0)
Spinning, weaving and finishing of textiles	(9.1)
Manufacture of other textiles	(7.4)
Manufacture of wearing apparel, except fur apparel	(20.5)
Manufacture of products of wood, cork, straw and plaiting materials	(1.5)
Manufacture of other chemical products	(2.4)
Manufacturing nec;	(4.00)
Services	
Non-specialised retail trade in stores	(1.2)
Retail sale of food, beverages and tobacco in specialised stores	(7.7)
Other retail trade of new goods in specialised stores	(3.5)
Restaurants, bars and canteen	(2.9)
Other education	(3.5)
Other service activities	(3.8)
Urban SS	
Agriculture	
Farming of animals	(18.2)
Manufacturing	
Manufacture of other food product	
Spinning, weaving and finishing of textiles	(8.6)
Manufacture of other textiles	(7.5)
Manufacture of wearing apparel, except fur apparel	(19.7)
Manufacture of paper and paper products	(1.8)
Manufacturing nec	(6.3)
Services	
Retail sale of food, beverages and tobacco in specialised stores	(2.6)
Other retail trade of new goods in specialised stores	(3.0)
Restaurants, bars and canteen	(2.4)
Other education	(7.9)
Other service activities	(2.0)

Figures in parentheses indicate proportion of women employed in the industry in 2009-10.
*nec = not elsewhere classified.

Source: Computed from NSS unit level data, various rounds.

distinctly marked gendered spheres. These characteristics are reflected in the distribution of a dissimilarity index. The 2009-10 data do indicate that there exists highly gender-segregated regime of work for principal status workers in both rural and

Table 8: Regional Distribution of Dissimilarity Index (2009-10)

	High	Medium	Low
Rural usual status	Punjab, Delhi, Haryana, Himachal Pradesh, Uttarakhand, Bihar Kerala, West Bengal	Jharkhand, Uttar Pradesh,	Andhra Pradesh, Maharashtra, Tamil Nadu, Rajasthan, Gujarat, Odisha, Karnataka, Chhattisgarh, Madhya Pradesh
Urban usual status	Punjab, Delhi, Haryana, Rajasthan, Bihar, West Bengal, Uttarakhand, Chhattisgarh	Himachal Pradesh, Gujarat, Karnataka, Kerala, Odisha, Uttar Pradesh	Madhya Pradesh, Jharkhand, Tamil Nadu, Maharashtra, Andhra Pradesh

Source: Computed from NSS, various rounds.

urban areas of Punjab, Haryana, Himachal Pradesh, Delhi and Rajasthan and to a certain extent in Bihar (Table 8 and Graph 3).

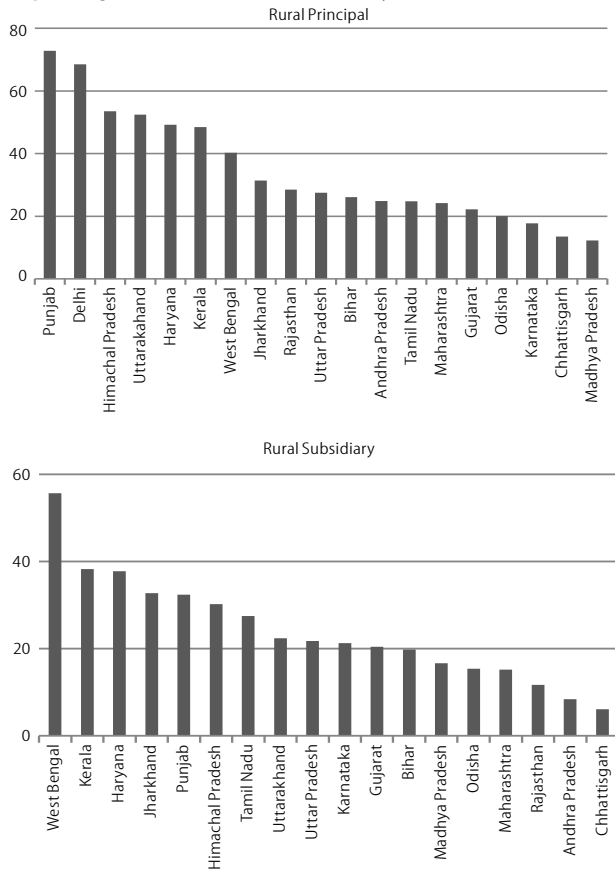
Uttar Pradesh occupies the medium rank in terms of gender segregation in principal and subsidiary statuses of work in rural as well as urban areas. Madhya Pradesh and Chhattisgarh are low across all statuses of work in both rural and urban areas. Among the south Indian states, Kerala is an outlier in that it exhibits high gender segregation, particularly in both rural and urban subsidiary status of work. The remaining south Indian states occupy medium to low rank in this regard.

A brief interlude is in order to comment on Kerala. According to Raju (2013), subcontracting and prevalence of home-based work is common in those industrial states which are in the process of being linked with global production system through export-oriented manufacturing activities such as food processing, textile, garment and related trades. Given that

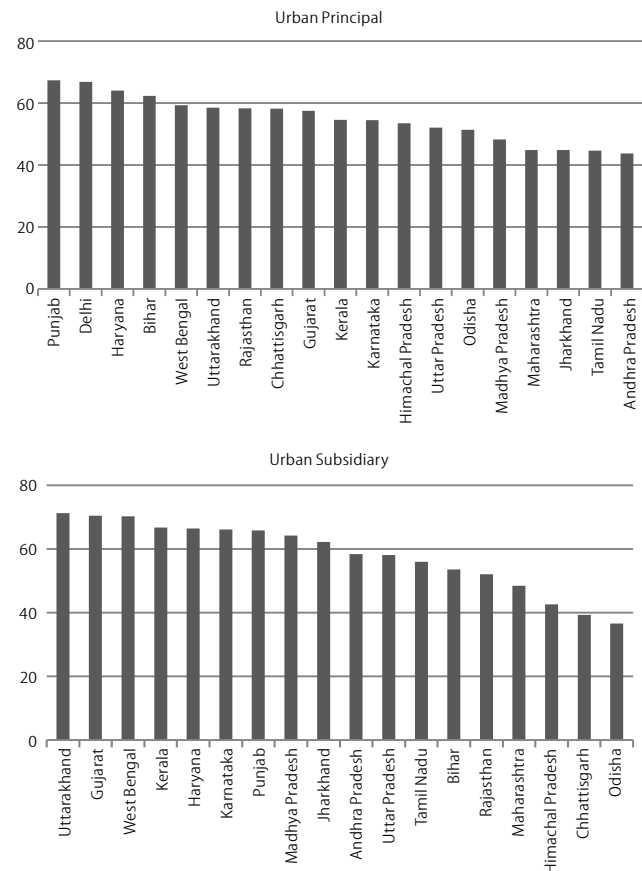
home-based work itself is getting confined to fewer industries, the prevalence of medium to high levels of segregation in Kerala can be explained in terms of the changes in the economic structure in the state which has not only resulted in a decline in demand for women labour, but also in their labour utilisation. In Kerala, women labour activities are mainly confined to cultivation of food crops in the primary sector, in particular paddy. Their domination in tasks such as transplanting, weeding and post-harvest activities such as threshing has sex-typed these occupations. In the secondary sector, mobility into modern industries has been rather slow. Thus in the state, there has been no significant expansion in “new” industries and the magnitude of employment in them has not been substantial enough to absorb the large numbers displaced as a result of decline of traditional industries. Further most of the increase in the women workforce has been in the categories of professionals such as teachers and medical personnel comprising the educated (Raju 2010b). Kumar (1994) thus points out how in Kerala, on one hand, diverse socio-economic developments have encouraged women to participate in the labour market while on the other hand, the structural changes brought about by the growth process have imposed severe limits on the prospects of women engaging with different types of jobs.

The gendered nature of the northern region of India with its intractable patriarchal overtones and “social and cultural structures, through selective appropriation of customary practices and norms, create dominant gendered discourses within

Graph 3: Regional Distribution of Dissimilarity Index (2009-10)



Source: Computed from NSS 66th Round (2009-10).



a broader framework of dominance and subordination” (ibid: 35), the constrained avenues of market-oriented work being one of the reflections. However, it is crucial to note that such regressive regime does not operate monolithically and the broader regional structures get interspaced with local specificities and social differences (Raju 2011). Kerala’s departure from the behaviour of the other southern states may thus be seen as a case of contextual anomaly.

4 Industrial Profiling: Masculine and Feminine

Let us now see which are the masculine and feminine industries? It has already been pointed out that a “feminine” industry is construed as one in which women’s share of employment exceeds their average work participation rate by five or more percentage points whereas an integrated industry is defined as one in which the percentage of women workers in a particular industry lies in the range between five percentage points higher and lower than the average women work participation rates. Table 9 provides an overview of masculine, feminine and integrated industries. Few observations that emerge from Table 9 are listed below.

Table 9: Share of Gender-Typed Industries to Total Industries (%)

Gender-Typed Industries	Rural		Urban		Total	
	PS	SS	PS	SS	PS	SS
1993-94						
Masculine	90.3	57.6	65.7	21.5	85.9	52.4
Feminine	6.2	32.3	20.0	69.2	8.5	38.5
Integrated	3.5	10.1	14.3	9.3	5.6	9.1
Total	100	100	100	100	100	100
1999-2000						
Masculine	85.7	63.2	61.8	46.8	82.5	50.4
Feminine	7.5	26.3	17.2	38	7.8	39.1
Integrated	6.8	10.5	21	15.2	9.7	10.5
Total	100	100	100	100	100	100
2004-05						
Masculine	88	58.7	67.5	44.5	83.9	48.1
Feminine	6.7	31.4	16.6	42.2	7.5	39.7
Integrated	5.3	9.9	15.9	13.3	8.7	12.2
Total	100	100	100	100	100.1	100
2007-08						
Masculine	85.8	58.8	65.1	37.8	84.7	42
Feminine	8.4	31.5	21.1	47.6	8.3	46.5
Integrated	5.8	9.7	13.8	14.6	7	11.5
Total	100	100	100	100	100	100
2009-10						
Masculine	80.8	53.2	64.1	43.2	80.8	44.5
Feminine	7.3	42.1	18.6	51.1	11.5	48.4
Integrated	11.9	4.7	17.3	5.7	7.7	7.1
Total	100	100	100	100	100	100

Source: Computed from NSS, various rounds.

At the outset, industries are essentially masculine in nature as they constitute more than 80% of the total number of industries in the rural and about 60% in the urban areas in the principal status. However, in the rural areas, the percentage of masculine industries has marginally declined. The percentage of male dominated industries in subsidiary status is lower as compared to the principal status in both rural and urban areas – this is not surprising as most of the subsidiary workers happen to be women. As far as the percentage of

women-dominated industries in principal status is concerned, it varies from less than 10% in rural to about 20% in urban areas. Urban areas, thus, have higher percentage of feminine industries in both principle and subsidiary statuses of work and there has been a marginal increase therein between 1993-94 and 2009-10.

An important point to take note of is the initial spurt of integrated industries in which men and women workers had a rather balanced distribution during the years 1993-94 and 1999-2000. There has been a decline in such industries ever since, particularly in urban areas in the principal status of work. In contrast, the percentage of integrated industries in the principal status work in rural India has increased whereas that in the subsidiary status shows a decline.

These observations reiterate the inference drawn in the earlier section that in the principal status, women have much less avenues to work especially in the rural areas. In the urban areas, women seem to have more opportunities compared to their rural counterparts although most urban industries continue to be dominated by men. There has not been much change in these trends between 1993-94 and 2009-10. Further, the participation of urban women in the workforce has increased in few industries primarily in the subsidiary statuses. That the subsidiary status work is overwhelmingly constituted by women-dominated industries is rather clear; the opportunities that women have as full-time workers are also limited.

Confined and Integrated Industries

Although we have carried out a detailed study of the feminine and integrated industries, for the sake of brevity, only those industries which consistently emerge as dominated by women over the considered periods have been presented in Table 10 (p 204). For this, the feminine industries are further classified into (a) in which proportion of women exceed the overall workforce participation rates by 5 to 15 percentage, (b) 15 to 25 percentage, and (c) more than 25 percentage points.

In the primary sector in both the rural and urban areas, women consistently dominate agriculture, forestry, logging and related service activities, mining of coal and lignite, extraction of peat and mining of metal ores as well as crude petroleum and natural gas across the last two decades. In addition to these, fishing, operation of fish hatcheries, fish farms and service activities incidental to fishing are also dominated by women in the urban areas in principal status work across the period under consideration. In the secondary sector in both rural and urban areas, the industries dominated by women across the years are manufacturers of food products and beverages, tobacco products, textiles; wearing apparel, dressing and dyeing of fur; wood and of products of wood and cork, except furniture; articles of straw and plating materials; paper and paper products; publishing, printing and reproduction of recorded media; chemicals and chemical products; manufacturing not classified elsewhere. Additionally, in the urban areas, women also dominate in the manufacturing of other non-metallic mineral products; basic

Table 10: Industries Consistently Dominated by Women from 1993-94 to 2009-2010 (Up to NIC 3 Digit)

Status	Percentage of Women Exceeding Total WFPFR	Industries
Rural principal	>25%	Manufacture of tobacco products; social work activities
	>15- 25%	Manufacture of other chemical products; private households with employed persons
Urban principal	>25%	Farming of animals; manufacture of man-made fibres; private households with employed persons; manufacture of tobacco products; social work activities
	15-25%	Secondary/ senior secondary education; human health activities; other education (tuition, coaching, correspondence and distance learning media); dressing and dyeing of fur; manufacture of articles of fur
	5- 15%	Sewage and refuse disposal, sanitation and similar activities; manufacture of other textiles; manufacture of other chemical products; higher education; manufacture of other food products
Rural subsidiary	>25%	Farming of animals; manufacture of tobacco products; spinning, weaving and finishing of textiles; finishing of textiles; manufacture of knitted and crocheted fabrics and articles; manufacture of wearing apparel, except fur apparel; manufacture of products of wood, cork, straw and plaiting materials; social work activities; private households with employed persons
	15-25%	Manufacture of other food products; manufacturing nec; growing of crops, market gardening, horticulture
	5-15%	Manufacture of grain mill products, starches and starch products, and prepared animal feeds
Urban subsidiary	>25%	Growing of crops; market gardening; horticulture; farming of animals; agricultural and animal husbandry service activities, except veterinary activities; forestry, logging and related service activities; mining and quarrying nec* Manufacture of other food products; tobacco products; grain mill products, starches and starch products, and prepared animal feeds; beverages; other textiles; knitted and crocheted fabrics and articles; wearing apparel, except fur apparel; articles of fur; products of wood, cork, straw and plaiting materials; paper and paper product; other chemical products; plastic products; glass and glass products; other fabricated metal products, rubber, plastic products, footwear, luggage handbags, saddlery and harness; non-metallic mineral products nec; manufacturing nec; non-specialised retail trade in stores; Tanning and dressing of leather, dressing and dyeing of fur; hotels; camping sites and other provision of short-stay accommodation; restaurants, bars and canteens; primary education; other education; other service activities; private households with employed persons; sewage and refuse disposal, sanitation and similar activities; social work activities; human health activities; other retail trade of new goods in specialised stores;
	15-25%	Insurance and pension funding, except compulsory social security; building of complete constructions or parts thereof; civil engineering; business activities nec

* nec = not elsewhere classified.

This analysis takes into account the NIC of industries up to three digit for the five NSS rounds mentioned earlier. If only those three-digit industries which occur in all the five rounds were considered, it would not be possible to capture all such industries which might have not occurred for one or two rounds but have consistently appeared in all other rounds. Hence, those industries which occur in at least three or more rounds have been presented in the table for a more comprehensive account. It may be recalled that masculine and feminine industries have been defined in terms of female WPR in that particular year. Thus all those industries in which the percentage of women working exceeds the general female WPR by plus/minus 5 percentage points.

Source: Computed from NSS, various rounds.

metals and metal products etc. Further, the manufacture of machineries and electronic equipments emerged as a feminine industry in the subsidiary status in urban areas since 1999-2000. In the subsidiary status, construction emerges as an industry in which urban women dominated from 1993-94 to 1999-2000.

In the tertiary sector in both rural and urban areas, women are mostly concentrated in those services which require little education and skill, a point which would be discussed at length in the following section. Even with considerable educational levels, women mainly work in the primary, secondary and other forms of educational services such as tuition, coaching, correspondence and distance learning. Besides, women are also found in health-related services and social work; activities of private households as employers of domestic staff; sewage and refuse disposal, sanitation and similar activities in principal status across all the years. Needless to say, these services are located at the lower ends of the service sector. However, a somewhat positive thing to note is the emergence of research and development as feminine services in 2009-10. Also, retail trade (except for motor vehicles and motorcycles); repair of personal and household goods; hotels and restaurants; post and telecommunications; financial intermediation (except insurance and pension funding) have come to be dominated by women in subsidiary status in both rural and urban areas in 2009-10. Additionally, trade, renting, other

business activities; public administration and defence; compulsory social security, extra territorial organisations and bodies emerged as feminine industries in principal status work in the urban areas since 1999-2000.

A cursory look at the integrated industries indicate that the range of industries in which women are employed in a rather balanced way vis-à-vis their overall work participation rate has not increased. Interpreted otherwise, there are specific types of industries which employ women either in overwhelming or moderate numbers vis-à-vis men and there is no indication of diversification of economic opportunities for women. Given the fact that women have neither replaced men in the industries in which men have typically dominated nor have they been able to significantly appropriate the new jobs that are being created, it would not be erroneous to conjecture that feminisation of the workforce in the last two decades has not really taken place. While new avenues for work may have been added in the last two decades, women appear to be getting work only in those locations and operations where they have typically participated (Banerjee 1997). Although it is not possible to systematically interlink the private and the public that is the home and the market, it seems that much of the work women engage in the public domain is an extension of the work they do at home like social work, care, teaching, etc. Alternatively, majority of them are usually placed at the bottom of the occupational

hierarchy, engaged in petty jobs even as they may belong to non-conventional fields.

In sum, the preceding discussion reveals that since 1993-94, certain specific industries and services are dominated by women and with time, the diversification in the types of such industries and services has declined especially in the urban areas. Thus, work has not been able to provide women with expanding spaces and choices. An analysis of educational profile of the workers employed in these industries and services would enable a better understanding of the quality of work done by them. The following section attempts to look into the nature of work at the cross-section of education, being done in the industries that emerge as either feminine or integrated.

5 Education and Employment

The interlinkages between education and employment are nuanced and require an independent enquiry to comprehend the complexities in details. This section can thus be seen as more of an exploratory nature into the educational specificities of the workers, both men and women in order to have a few leads into the nature of work done by them. The highest proportions of workers in both principal and subsidiary statuses are either illiterate or poorly educated with only elementary education with women's share overriding that of male workers. The distribution of workers across the educational levels suggests their predominant placement in low-level petty jobs; overall those with graduate and above educational qualifications occupy relatively much smaller niche (Kundu and Mohanan 2010) although male counterparts have a slight edge over women workers in this regard.

Table 11 indicates that in the principal status, the share of illiterate women workers declined after 1992-93. This was accompanied by an increase in the WPR of women with education levels up to secondary and higher secondary. Further the work participation rates of women with education level graduate and above initially declined between 1992-93 and 1999-2000 and has increased since then. This perhaps implies that gradually the opportunities available in the labour market prerequisite some elementary levels of knowledge and skills (Kundu and Mohanan 2010). That said, it cannot be dispensed that the share of graduate and above women workers continues to be the lowest even in 2009-10. The illiterate component of women workers far exceeds that of the men workers in the principal status of work. Further the shares of men workers across all education levels have increased except illiterates and graduates. As Raju (2010a: 57-58) points out, "globalising India is experiencing an expanded labour market, the jobs that are being created are mostly for lower level support services. Alternatively, it is possible to suggest that a very small section of privileged workers are in a position to appropriate the high-end employment opportunities".

Table 11 also shows that the share of illiterate male workers in the subsidiary status has declined considerably followed by sharp increase in their work participation across all educational levels, particularly in the elementary, secondary and higher secondary levels. Among the women, there is an increase in the share of workers with informal or no education between 1993-94 and 2009-10 accompanied by a simultaneous decline in women's WPR in all other education levels. Intriguingly, the share of women workers in the subsidiary status with higher levels of education far exceeded that of the men in 1993-94, but it drastically dropped in the subsequent rounds (Table 11). It appears that the nature of jobs appropriated by men require some form of skill and education while women are increasingly being absorbed in such jobs which require little or no skill and education. Further, given that the last two decades have seen a remarkable rise in the share of illiterate women workers and those with below primary levels of education, it may be inferred that the prevailing economic scenario has given impetus to distress induced workforce participation whereby poor and illiterate women appropriate whatever work is available in subsidiary status.

In the earlier sections, this study has pointed out that the proportion of feminine industries in both the principal and

Table 11: Education Specific WPR (15-59 Years) in Principal and Subsidiary Status

Education Level	Men				Women			
	1993-94	1999-2000	2004-05	2009-10	1993-94	1999-2000	2004-05	2009-10
Principal status								
Illiterate	36.3	33.9	26.9	21.5	74.4	70.7	61.4	50.5
Informal and below primary	1.3	13.2	12.1	10.0	1.0	8.1	9.0	10.1
Elementary education	27.1	33.0	34.9	35.2	13.9	14.7	18.9	24.2
Secondary and higher secondary	15.1	12.7	16.9	22.2	4.4	3.7	6.0	8.5
Graduation and above	20.2	7.2	9.3	11.0	6.3	2.9	4.7	6.7
Subsidiary status								
Illiterate	76.6	41.3	34.4	28.2	43.6	72.8	64.5	58.1
Informal and below primary	1.0	14.7	12.4	11.2	1.4	7.9	7.8	9.1
Elementary education	13.8	31.7	34.2	38.4	27.2	15.4	20.6	23.3
Secondary and higher secondary	5.3	9.0	13.9	17.1	14.1	3.3	5.6	7.7
Graduation and above	3.3	3.2	5.1	5.0	13.7	0.7	1.5	1.8

Source: Computed from NSS, various rounds

subsidiary status, although very small, registered the maximum increase between 2004-05 and 2009-10. Analysis of the education level of the workers engaged in the newly added feminine as well as integrated industries in both work statuses reveal that except for scheduled air transport, research and experimental development on natural sciences and engineering, architectural engineering and other technical activities, all other feminine industries are dominated by women who had elementary education. Among the gender-integrated industries in the principal status, share of women with education graduation and above is the highest in teaching, financial intermediation and computer-related activities. In the subsidiary status, post and courier activities, monetary intermediation, insurance and pension funding and higher education are the industries which constitute women attaining graduation and above. Besides, administration of the state and economic and social policy of the community, publishing, news agency activities, library archives, museums and other

cultural activities have newly emerged as the industries with rather integrated men-women work participation in the principal status and extra territorial organisations and bodies (including the activities of international organisations such as the United Nations and its agencies, regional bodies,

etc, International Monetary Fund (IMF), World Bank, European Commission, OPEC, etc) in the subsidiary status.

The present analysis does not allow for commenting upon the social rank or status associated with these jobs because it is about industries, not occupations. However, disaggregation by

Table 12: Education Specific Work Participation Rates in Newly Added Industries in Principal Status between 2004-05 and 2009-10

	Illiterate	Informal Education and below Primary	Elementary Education	Higher Secondary Education	Graduation and above	Mixed
Women-dominated industries in principal status	Agricultural and animal husbandry service activities; sewage and refuse disposal, sanitation and similar activities	-	Manufacture of knitted and crocheted fabrics and articles; manufacture of watches and clocks; manufacture of paper and paper products; manufacture of other food products	Manufacture of man-made fibres; library, archives, museums and other cultural activities.	Scheduled air transport, research and experimental development on natural sciences and engineering, architectural, activities of trade union; engineering and other technical activities	Site preparation; spinning, weaving and finishing of textiles; manufacture of other textiles.
Men-women integrated industries in principal status		Recycling of metal waste and scrap	Manufacture of electronic valves and tubes and other electronic components; manufacture of other food products	Library, archives, museums and other cultural activities; news agency activities	Manufacture of office, accounting and computing machinery; database activities and distribution of electronic content; scheduled air transport; higher education; hardware consultancy; secondary/senior secondary education; activities auxiliary to insurance and pension funding; other computer-related activities; other financial intermediation; other education	Administration of the state and the economic and social policy of the community; publishing; manufacture of electric lamps and lighting equipment; manufacture of plastic products; manufacture of wearing apparel, except fur apparel; production, processing and preservation of meat, fish, fruit vegetables, oils and fats; manufacturing nec;

Source: Computed from NSS, various rounds.

Table 13: Education Specific Work Participation Rates in Newly Added Industries in Subsidiary Status between 2004-05 and 2009-10

Type of Industries	Illiterate	Informal Education and below Primary	Elementary Education	Secondary Education	Higher Secondary Education	Graduation and Above	Mixed
Women-dominated industries in subsidiary status	Renting of personal and household goods nec; building of complete constructions or parts thereof; civil engineering; growing of crops combined with farming of animals; mining of iron ores; quarrying of stone, sand and clay; manufacture of beverages; manufacture of basic iron and steel;	Manufacture of rubber products	Telecommunications; manufacture of dairy product; dressing and dyeing of fur; manufacture of articles of fur; manufacture of other fabricated metal products; metal working service activities; manufacture of medical appliances and instruments and appliances;	Other financial intermediation; manufacture of special purpose machinery; compulsory social security activities;	Sporting and other recreational activities	Post and courier activities; monetary intermediation; secondary/senior secondary education; activities to auxiliary to insurance and pension funding;	Higher education; other retail trade of new goods in specialised stores; restaurants, bars and canteens; fishing, operation of fish hatcheries and fish farms;
Men-women integrated industries in subsidiary status				Administration of the state and the economic and social policy of the community	Extra-territorial organisations and bodies		Other education; business activities nec;

Source: Computed from NSS, various rounds.

education level indicates that even in the high-end industries most women have either elementary and/or higher secondary education which suggests that they are at the lower end of the given job hierarchy.

Since 1999-2000, horticulture, mixed farming and animal husbandry-related services have been employing significant share of women. However, the proportion of technically educated women workers has declined and that of poorly educated women has increased in these sectors. Besides, proportion of women in forestry, logging and related activities has increased by about 10 percentage points, again amongst those who are illiterate or have elementary education. Within the mining sector (NIC Code 13), women have been predominantly present in the mining of non-ferrous metal ores except uranium and thorium and other mining activities. However, the proportion of women workers in this sector has been continually declining. In the manufacturing sector, chemical and chemical products, electrical and electronic goods, food processing, machinery, textiles, paper industry, leather, nuclear fuel, rubber and fibre are the major women-dominated industries. The proportion of women employed in the food processing industry increased by more than 50 percentage points between 1993-94 and 2004-05; that in the production of electronic goods increased by about 16 percentage points; that in manufacture of miscellaneous items, i.e., balls, sports and athletic goods, children's play equipments, articles of personal use, candle and products of wax, brooms, brushes, other miscellaneous products, etc. Nevertheless, most of these industries employ women with either no or poor levels of education, i.e., up to primary, except manufacture of medical appliances. Within the service sector, the proportion of women's employment in retail and wholesale trade has gradually declined since 1993-94. Trade, hotel and restaurants, private households with employed personnel and other service activities, viz., washing, dry cleaning, hair dressing and other beauty treatment parlour saloons, etc., have experienced rising share of women employment with the increase being maximum among the illiterate and poorly educated workers. On the other hand, such industries as financial intermediation, insurance and pension, real estate activities, database activities, legal accounting, bookkeeping, tax consultancy, market research, public

opinion polling, business and management consultancy have experienced an increase in women workers having education level higher secondary and above (Tables 12 and 13, p 206).

6 Conclusions

The preceding analysis clearly indicates that the labour market is consistently moving in favour of men vis-à-vis women. The progressive increase in the dissimilarity index indicates rising gendered segregation of industries in the last two decades. This is not only in terms of the number of opportunities available, but also in terms of the nature of work done which is manifested through the education level of the workers. Further, certain specific industries, namely, the manufacture of food, beverages, chemicals and chemical products, textiles, tobacco products, machineries and electrical goods continue to be dominated by women across the years and across both statuses of work. Similar is the scenario in the tertiary sector where education, health and social work, financial intermediation, domestic help, sewage and sanitation, etc., are the major women dominated services. The proportion of home-based women workers registered a sharp increase during the periods under observation, yet they continued to be clustered in fewer industries in both principal and subsidiary statuses of work. They are primarily engaged in work related to animal farming, tobacco products, apparels and textiles, food and beverages, etc. Within the service sectors, women are engaged in retail activities in specialised and non-specialised stores; restaurants, bars and canteens; adult and other education and other service activities.

Besides, increase in the work participation of women in the lower education and skill levels also testifies to the fact that gender segregation in the labour market is sustained through institutionalisation of labour market structures preserving the patriarchal footholds that serve the interest of men. Moreover, the availability of diversified job opportunities per se does not necessarily imply better scope for women to be employed which is pointed out by a higher level of segregation in the urban areas compared to the rural areas in both, principal and subsidiary statuses of work. As a result, it would not be misleading to suggest that in addition to their gender, the locational advantages affect men and women's position in the labour market differentially.

NOTES

- 1 Himanshu (2011) states that estimates from the quinquennial rounds (50th, 55th, 61st and 66th) are comparable with that of the 64th round because despite being an annual round, the 64th round uses the same concepts and questionnaires as well as the same sampling designs canvassed during the thick rounds.
- 2 The Index of Dissimilarity (ID) has been critiqued by analysts because of the fact that ID values change over time from both changes in the occupational structure of the labour force as well as the extent to which occupations are feminised. Hence scholars have introduced some modifications to the ID. One such methodology is to decompose ID into two parts: changes in the sex composition of occupations and changes in the relative size or distribution of occupations. However this standardisation

methodology suffers from the problem that it gives same weight to changes in percentage female in all occupations, small and large (Anker 1998). Taking into cognisance these shortcomings and advantages of ID, this paper uses ID to measure industrial segregation.

- 3 Several scholars have tried to arrive at a sex

typing of occupations on the basis of absolute and relative measures. The former approach uses the same cut-off for both the sexes and does not take consideration the fact that a particular occupation can be male dominated due to overall lower participation of women in the workforce. The cut-off point for identifying

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sex-typed occupations is chosen after identifying the occupations where one sex predominates to such an extent that the other sex does not have equal opportunity of obtaining job in this occupation. On the other hand, the relative measure, the sex typed occupations are identified on the basis of percentage point deviation from average participation rates in the workforce as a whole. This paper chooses to allow for the percentage point deviation at five which has been adopted in this paper following Beller (1982).

- 4 Work participation rate has been computed as number of workers aged 15-59 years per hundred persons aged 15-59 years.
- 5 Eapen (2004) shows that the horizontal segregation as indicated by the index of dissimilarity declined during 1987-88 and 1993-94 in urban areas but increased slightly in rural areas. The author further concludes that over time women have been increasing their share in professional, technical, administrative and managerial occupations, particularly in urban areas, but the nature of their career paths, vis-à-vis men, could be very different.
- 6 It is well known that in rural areas the boundaries between public and private spaces of work are rather blurred. Much of the agricultural activities such as sorting, storing of produce, etc, indeed take place within the household spheres.

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