
Gender Occupational Segregation in Haryana: A District Level Analysis Based on National Classification of Occupations

HEMLATA SHARMA*

Associate Professor, Department of Economics, Kurukshetra University, Kurukshetra, Haryana, India
Email: hsharma@kuk.ac.in
*Corresponding author

Abstract: This paper analyses Gender occupational segregation in Haryana using census data for National classification of occupations for 2001 and 2011. The value of Duncan's index of dissimilarity shows that during 2001 and 2011, segregation has declined in Haryana. Both At aggregate level and at sectoral level. It declined for total, main and marginal workers in rural sector. However, in urban sector Gender occupational segregation declined for total and main workers and increased for marginal workers. Our results show that segregation is higher among main workers in rural sector and marginal workers in Urban sector. Also, segregation is higher in urban sector as compared to rural sector. Our results also show that segregation is higher among districts of Mewat, Mahendergarh and Rewari which are socially backward and is least among developed districts of Panchkula, Panipat, Gurgaon and Karnal.

Keywords: Gender occupational segregation, Duncan's index, Main workers, and Marginal workers

INTRODUCTION

Gender occupational segregation refers to the separation of men and women into different occupations. It can be the concentration of one gender in certain fields of occupations (horizontal segregation) or the concentration of one gender in certain grades, levels of responsibility or positions (vertical segregation). Gender occupational segregation is most persistent aspect of discrimination and is omnipresent. The degree of segregation may differ, but it is present in all the countries and regions with diverse social, cultural, political and economic settings. Haryana, the most infamous state of India in matters relating to women is no exception to it.

Gender occupational segregation is key to Gender equality. It is true that key to gender based occupational segregation and female labour force participation are affected by similar factors but, high female labour force participation alone may not increase gender equality if there is segregation among occupations. It becomes all the more important in case of Haryana which has Female LFPR only 15.3% with Rural LFPR being 13.7% and urban 18.5% for (Periodic Labour Force Survey; PLFS, July 2018- June 2019)

The present paper analyses Gender segregation in Haryana at aggregate level as well as in rural and urban sectors. The section following Introduction gives a brief review of literature. The next section outlines the methodology used in the paper. After discussing methodology, the next two sections present the estimates of Gender occupational segregation in Haryana at aggregate level as well as in rural and urban sectors. Final section concludes the paper.

Review of Literature

The unequal treatment women face in the labour markets is based on gender discrimination, before and after their entrance in the workforce. The labour market discrimination in terms of wages or exclusion from certain occupations is not new as can be seen in works of Edgeworth (1922), Treiman and Hartmann (1981), Phillips and Taylor (1980). Various alternative approaches have appeared in literature for segregation which include neoclassical theories of "statistical discrimination" (Arrow; 1973), "taste for discrimination" (Becker; 1971), 'gender differential investments in human capital endowments' (Polachek ;1981), feminist theory of "discriminatory practices inherited from the past as well as by the bargaining power exercised in the present" (Bergmann; 1974, Treiman and Hartmann; 1981, Figart; 2005), Pollution hypothesis (Goldin; 2002) and the dual labour market hypotheses (Barron and Norris; 1976) . The reasons for segregation put forth are requirement for special abilities (England et al.; 1982), sex-stereotypes (Reskin and Bielby; 2005,) women's own preference for certain jobs (Rosen; 1986), prejudices of employers (Becker; 1957) and formal and legal barriers for women (Rubery, 1978; Hartman, 1979). In general, when women do work, they tend to be engaged in low paid and low

productivity jobs (ILO 2011). The efforts to integrate occupations have never yielded desired results and inequality in wage and working conditions is persistent. (Crompton and Sanderson; 1990).

In case of India, there exists a low level of segregation, compared to other countries (Richard Anker;1998 and Uppal;2008). It is lower among educated persons and among the permanent workers (Chakraborty and Chattopadhyay;) and higher in urban sectors as compared to rural sectors (Agarwal and Agarwal, 2015). As far as Segregation among castes is concerned it is higher among scheduled caste and scheduled tribes (Agarwal, 2016). Although It is the tendency for the male/female to be employed in different jobs (Blackburn and Jarman; 1997) but gender segregation intensifies labour market inequality. Also, it has been widely recognized that social and cultural norms discourage women to take up paid employment and they confine women to the role of caregivers (Desai and Jain 1994, Panda 1999, Das and Desai 2003, Jaeger 2010). These gender norms are strengthened by occupational segregation (Badgett and Folbre; 1999).

Methodology

The methodology employed in this paper deals with sources of data, definition of work and workers and Index for measuring occupational segregation.

Source of data

The secondary data has been obtained from various census reports of 2001 and 2011 for Haryana. The paper uses various concepts of workers given in Census and occupations given in National classification of Occupations 2004.

Work and Workers

In Indian census, work is defined as participation in any economically productive activity with or without compensation, wages or profit. Such participation may be physical and/or mental in nature. Work involves not only the physical work but also includes supervision and direction given to other workers. Work is taken as basis to identify workers. The concept of work in Indian census was introduced in 1961 census, thereafter some changes were made in 1971 census but since 1981 the census definition of work remains unchanged, and workers were categorized into main and marginal workers.

Main Workers

All those workers who had worked for a major part of the year preceding the date of enumeration i.e., those who were engaged in any economically productive activity for 183 days (six months) and more during the last year are termed as main workers.

Marginal Workers

All those workers who had worked any time in the year preceding enumeration but did not work for a major part the year i.e., those who worked less than 183 days or less than six months were termed as marginal workers.

National Classification of Occupations (NCO)

NCO is a classification of occupations which describes and assigns codes to occupations in the country and aligns it with the International Standard Classification of Occupations (ISCO). In India first classification was NCO-1946 followed by NCO-1958, NCO -1968, NCO-2004 and now the current series NCO-2015. We have used NCO-2004 to classify Occupations.

NCO-2004

In India after a gap of about 3 decades the NCO – 04 was brought out. During this period, the economic, social, industrial, and agrarian fields underwent drastic changes. Globalization and economic liberalization had infused competitiveness amongst various industries. This led to changes in the work process and skill level of the workers. This also brought in a totally new class of jobs and functions categorising occupations. NCO-2004 was made compatible with ISCO-88. In keeping with the skill levels defined in ISCO-88 to suit the Indian conditions NCO-2004 classified occupations in 10 divisions which include (1) Legislators, Senior Officials and Managers, (2) Professionals, (3) Technicians and Associate Professionals, (4) Clerks, (5) Service Workers and Shop & Market Sales Workers, (6) Skilled Agricultural and Fishery Workers, (7) Craft and Related Trades Workers, (8) Plant and Machine Operators and Assemblers, (9) Elementary Occupations and (x) Workers Not Classified by Occupations

Measurement of Occupational Segregation

The Gender occupational Segregation has been measured by using Duncan's Index of dissimilarity.

Duncan’s Index of Dissimilarity

Index of dissimilarity (ID) is used to measure Occupational segregation. This index can vary from 0 (no segregation, implying an equal percentage of women in each occupation) to 1 in the case of complete dissimilarity (where women and men are in totally different occupational groups). It is measured as the sum of the absolute difference in females’ and Males’ distribution over occupations.

$$ID = \frac{1}{2} \sum \left| \frac{M_i}{M} - \frac{F_i}{F} \right|$$

Where M_i = Proportion of male in occupation i

F_i = Proportion of female in occupation i

M = number of males in the workforce

F = number of females in the workforce

The index score can be interpreted as the percentage of workers that would have to change jobs to obtain equal distribution of employment.

Gender Occupational Segregation in Haryana at Aggregate level

Table -1 presents the estimates of gender occupational segregation in Haryana at aggregate level for Total workers, Main Workers and Marginal workers.

Table -1 shows that ID- Index declined from 45.01% in 2001 to 34.49% in 2011 for Total workers, from 44.10% to 31.69% for Main workers and from 46.61% to 43.08% for Marginal workers. For Total workers at aggregate level, in 2001 Panipat (33.60%) recorded lowest value of Index followed by Jhajjar (35.41%) and Panchkula (22.10%). In 2011 Panchkula (from 35.61 % to 22.10 %) reported a huge decline in value of segregation index and is ranked 1. Gurugram with a value of 22.87% is ranked 2. For Main workers, the top and bottom districts are same with only a few exceptions. Panipat (28.24%) and Faridabad (32.29%) in 2001, Panchkula (19.73%) and Gurugram (20.82%) in 2011 observed the lowest value. However, for Marginal workers the lowest value is observed in Jhajjar (34.92%) followed by Karnal (34.92%) in 2001 and Panipat (31.82%) followed by Karnal (32.92%) in 2011.

Table 1: Gender Occupational Segregation in Haryana at Aggregate level (in percent)

Year State District	2001		2011		2001		2011		2001		2011	
	Total Workers (R+U)				Main Workers (R+U)				Marginal Workers (R+U)			
	ID	Ran k	ID	Ran k	ID	Ran k	ID	Ran k	ID	Ran k	ID	Ran k
Ambala	41.0 1	8	27.9 1	4	40.1 3	6	25.5 3	4	45.2 5	10	25.5 3	4
Bhiwani	56.9 6	17	48.3 3	19	53.8 1	15	44.5 9	19	56.8 2	17	44.5 9	19
Faridabad	36.2 7	4	28.5 6	5	32.2 9	2	25.7 0	5	42.0 8	8	25.7 0	5
Fatehabad	44.6 1	10	40.1 9	14	41.7 7	9	39.2 4	16	40.9 4	7	39.2 4	16
Gurugram	56.0 6	13	22.8 7	2	51.1 7	13	20.8 2	2	59.4 5	19	20.8 2	2
Hisar	41.0 0	7	29.5 1	6	41.5 3	8	29.0 0	7	35.3 5	3	29.0 0	7
Jhajjar	35.4 1	2	40.4 2	15	33.2 5	3	37.8 4	15	34.9 2	1	37.8 4	15
Jind	48.1 3	12	39.6 3	12	45.9 1	12	36.6 5	11	48.6 0	13	36.6 5	11
Kaithal	45.6 2	11	38.9 5	11	38.4 8	5	37.2 1	13	44.0 7	9	37.2 1	13
Karnal	40.2 8	6	29.5 9	7	43.2 4	10	28.8 7	6	34.9 2	2	28.8 7	6
Kurukshetra	56.2 6	15	36.4 2	9	55.3 8	16	34.2 2	9	51.5 7	14	34.2 2	9
Mahendragarh	56.3 2	16	45.0 2	18	53.4 0	14	42.3 7	18	55.8 4	15	42.3 7	18

Mewat	N.A.	N.A.	53.4 4	21	N.A.	N.A.	50.3 3	21	N.A.	N.A.	50.3 3	21
Palwal	N.A.	N.A.	41.3 7	17	N.A.	N.A.	37.1 5	12	N.A.	N.A.	37.1 5	12
Panchkula	35.6 1	3	22.1 0	1	33.3 2	4	19.7 3	1	48.3 4	12	19.7 3	1
Panipat	33.6 0	1	25.4 5	3	28.2 4	1	22.7 5	3	40.9 2	6	22.7 5	3
Rewari	57.6 6	18	53.2 2	20	56.5 8	17	47.7 3	20	56.7 6	16	47.7 3	20
Rohtak	39.4 4	5	40.6 7	16	40.8 6	7	40.3 5	17	37.7 6	4	40.3 5	17
Sirsa	56.0 8	14	40.0 3	13	57.2 1	18	37.2 9	14	48.0 4	11	37.2 9	14
Sonipat	42.2 0	9	36.9 4	10	44.6 7	11	34.9 3	10	39.1 4	5	34.9 3	10
Yamunanagar	59.7 9	19	35.6 4	8	60.8 1	19	33.1 8	8	59.1 1	18	33.1 8	8
HARYANA	45.0 1		34.4 9		44.1 0		31.6 9		46.6 1		31.6 9	

Source: Author's calculations based on census data

Note:(i) R stands for Rural Sector and U stands for Urban Sector in the table.

(ii) In between 2001 and 2011 boundary of some districts changed and some new districts emerged Mewat on 4 was carved out of Gurgaon in April 2005 and Palwal was created from Faridabad on 15 August 2008. Therefore, data for Mewat and Palwal is missing in 2001 census.

Gender Occupational Segregation in Haryana at sectoral level

Table -2 and Table -3 present occupational segregation in Haryana for Total workers, main workers, and marginal workers in rural and urban sectors.

Gender Occupational Segregation in Haryana in rural sector

Table -2 gives estimates of Gender occupational segregation in Haryana in rural sector.

In rural sector of Haryana, ID Index declined from 53.81% in 2001 to 44.01% in 2011 for Total workers, from 52.03% to 40.89% for Main workers and from 49.43% to 48.94% for Marginal workers. The lowest value of Index is observed for Faridabad (23.12%) followed by Jhajjar (35.48%) in 2001 and Panchkula (22.74%) followed by Karnal (30.62%) in 2011 for Total workers. For Main workers Faridabad (20.82%) and Panchkula (32.95%) in 2001, Panchkula (20.04%) and Karnal (29.67%) in 2011 observed the lowest value. However, for Marginal workers the lowest value is observed in Faridabad, (28.92%) and Hisar (36.64%) in 2001 and Karnal (32.40%) and Ambala (35.30%) in 2011.

Table 2: Gender Occupational Segregation in Haryana in Rural Sector (in percent)

Year State District	2001		2011		2001		2011		2001		2011	
	Total Workers (R)				Main Workers (R)				Marginal Workers (R)			
	ID	Ran k	ID	Ran k	ID	Ran k	ID	Ran k	ID	Ran k	ID	Ran k
Ambala	48.2 2	7	32.1 8	3	46.3 8	7	31.1 0	3	54.4 3	13	35.3 0	2
Bhiwani	63.2 2	15	52.1 4	19	60.9 3	15	49.5 0	19	58.7 4	16	56.9 0	18
Faridabad	23.1 2	1	33.6 9	4	20.8 2	1	31.2 3	4	28.9 2	1	39.9 6	5
Fatehabad	47.5 4	6	44.2 6	12	45.6 1	6	43.9 9	14	38.8 3	5	41.7 2	6
Gurugram	64.0 2	17	49.3 3	18	59.9 0	14	45.8 1	17	60.7 6	18	59.5 2	19

Hisar	51.7 7	10	36.2 0	6	53.3 6	12	34.0 9	6	36.6 4	2	38.4 8	4
Jhajjar	35.4 8	2	44.7 1	13	33.1 9	3	41.6 6	11	37.8 9	3	47.1 8	11
Jind	55.4 5	12	42.8 8	10	51.6 1	11	39.5 4	10	50.2 8	10	45.3 3	7
Kaithal	51.0 3	9	43.9 9	11	43.3 0	5	42.8 3	13	40.4 5	7	45.8 6	9
Karnal	48.5 6	8	30.6 2	2	51.2 6	10	29.6 7	2	38.6 1	4	32.4 0	1
Kurukshetra	66.8 3	18	46.5 3	14	67.8 1	18	42.2 2	12	51.8 6	11	47.5 5	12
Mahendragarh	60.2 5	13	48.2 0	17	58.1 1	13	45.1 1	15	57.9 0	15	54.9 0	17
Mewat	N.A.	N.A.	57.3 5	20	N.A.	N.A.	54.4 4	20	N.A.	N.A.	61.9 2	20
Palwal	N.A.	N.A.	42.7 7	9	N.A.	N.A.	36.7 3	9	N.A.	N.A.	50.8 1	16
Panchkula	41.5 5	3	22.7 4	1	32.9 5	2	20.0 4	1	52.8 5	12	49.7 3	15
Panipat	52.8 8	11	34.8 5	5	46.7 0	8	31.2 9	5	55.0 9	14	35.8 7	3
Rewari	63.6 7	16	59.1 4	21	61.0 5	16	55.4 6	21	58.8 2	17	65.9 1	21
Rohtak	43.6 0	4	47.7 5	16	42.4 2	4	47.8 8	18	40.3 5	6	48.6 4	13
Sirsa	62.7 3	14	47.1 1	15	66.4 9	17	45.8 1	16	45.9 5	9	46.5 6	10
Sonipat	46.6 5	5	40.3 6	8	48.7 7	9	36.6 1	8	40.4 7	8	45.3 6	8
Yamunanagar	69.9 2	19	39.6 6	7	72.6 8	19	34.6 5	7	62.4 0	19	49.4 6	14
HARYANA	53.8 1		44.0 1		52.0 3		40.8 9		49.4 3		48.9 4	

Source: Author's calculations based on census data

Note:(i) R stands for Rural Sector in the table.

(ii) In between 2001 and 2011 boundary of some districts changed and some new districts emerged Mewat on 4 was carved out of Gurgaon in April 2005 and Palwal was created from Faridabad on 15 August 2008. Therefore, data for Mewat and Palwal is missing in 2001 census.

Gender Occupational Segregation in Haryana in urban sector

Table-3 gives estimates of Gender occupational segregation in Haryana for Total workers, main workers, and marginal workers in urban sector.

In urban sector of Haryana, ID Index slightly declined from 28.82% in 2001 to 27.71% in 2011 for Total workers and from 32.39% to 26.61% for Main workers. However, it increased from 30.61% to 33.68% for Marginal workers. The lowest value of Index is observed for Panipat (22.41%) in 2001 and Gurugram (20.66%) in 2011 for Total workers. For Main workers Panipat (18.39%) in 2001 and Gurugram (20.15%) in 2011 observed the lowest value and for Marginal workers the lowest value is observed in Ambala (20.75%) in 2001 and Kurukshetra (13.31%) in 2011.

Table 3: Gender Occupational Segregation in Haryana: Urban Sector (in percent)

Year State District	2001		2011		2001		2011		2001		2011	
	Total Workers (U)				Main Workers (U)				Marginal Workers (U)			
	ID	Ran k	ID	Ran k	ID	Ran k	ID	Ran k	ID	Ran k	ID	Ran k

Hemlata Sharma et al/ Gender Occupational Segregation in Haryana: A District Level Analysis Based on National Classification of Occupations

Ambala	35.9 0	15	26.2 3	4	37.7 0	11	23.4 3	3	20.7 5	1	38.9 4	19
Bhiwani	38.0 4	18	39.2 0	21	41.7 0	18	38.2 5	20	33.7 6	15	43.1 8	21
Faridabad	27.3 0	3	28.3 7	7	28.3 0	2	25.3 6	5	29.8 1	9	32.6 9	12
Fatehabad	33.4 4	9	31.0 4	10	34.6 0	7	33.4 2	14	36.2 1	18	28.5 9	5
Gurugram	31.1 0	7	20.6 6	1	34.0 4	6	20.1 5	1	28.5 1	8	31.3 8	8
Hisar	26.1 6	2	26.3 4	5	28.6 6	3	27.6 0	7	31.0 8	10	29.3 8	6
Jhajjar	35.0 8	11	32.5 6	13	39.9 5	13	32.1 9	11	31.1 6	11	37.7 7	17
Jind	35.7 4	14	36.8 2	18	41.0 8	16	35.6 2	17	34.2 7	16	38.7 7	18
Kaithal	30.0 8	4	28.9 2	9	31.4 1	4	30.1 8	9	27.0 1	6	27.8 3	4
Karnal	30.3 9	5	32.7 9	14	36.1 2	10	32.9 3	13	25.9 2	4	34.7 7	14
Kurukshetra	32.6 4	8	28.5 8	8	33.8 2	5	29.7 7	8	31.6 8	13	13.3 1	1
Mahendragarh	38.6 7	19	37.1 1	19	40.4 4	14	38.9 0	21	46.3 8	19	24.2 2	3
Mewat	N.A.	20	31.2 2	11	N.A.	N.A.	32.1 4	10	N.A.	N.A.	32.6 8	11
Palwal	N.A.	21	38.8 5	20	N.A.	N.A.	37.6 7	19	N.A.	N.A.	41.3 2	20
Panchkula	33.9 9	10	22.6 5	2	34.8 9	8	21.7 8	2	26.2 2	5	22.4 9	2
Panipat	22.4 1	1	25.1 6	3	18.3 9	1	24.3 9	4	33.3 9	14	29.8 7	7
Rewari	36.0 1	16	32.4 6	12	44.0 2	19	32.3 2	12	24.5 7	3	31.4 1	9
Rohtak	35.1 4	12	35.7 9	17	40.8 3	15	36.4 0	18	27.2 8	7	34.4 9	13
Sirsa	30.5 0	6	27.4 1	6	35.4 8	9	26.6 9	6	36.0 1	17	31.4 3	10
Sonipat	35.3 9	13	34.4 0	15	39.2 6	12	33.5 7	15	23.3 6	2	37.6 6	16
Yamunanagar	37.5 3	17	35.0 0	16	41.2 4	17	34.2 4	16	31.5 5	12	36.2 9	15
HARYANA	28.8 2		27.7 1		32.3 9		26.6 1		30.6 1		33.6 8	

Source: Author's calculations based on census data

Note:(i) U stands for Urban Sector in the table.

(ii) In between 2001 and 2011 boundary of some districts changed and some new districts emerged Mewat on 4 was carved out of Gurgaon in April 2005 and Palwal was created from Faridabad on 15 August 2008. Therefore, data for Mewat and Palwal is missing in 2001 census.

CONCLUSION

The analysis of occupational segregation in Haryana using NCO 2004 shows that Occupational segregation is on decline in Haryana from 2001 to 2011. It declined for total, main and marginal workers in rural sector. However, in urban sector Gender occupational segregation declined for total and main workers and increased for marginal workers. Our results show that segregation is higher among main workers in rural sector and marginal workers in Urban sector. Also, segregation is higher in urban sector as compared to rural sector. The NCO's exclusion of agriculture sector has increased occupational segregation in the categories of workers,

because agriculture is one sector where there are only a few defined occupational categories and hence segregation is lower.

In Haryana although segregation is on decline and women are working in all occupations that formerly were 'all-men'. However, their share within some occupations is still minor. For example, as construction workers, engineers, or ICT professionals. There are also number of jobs like nursing, anganwadi, preschool and domestic help that are commonly dominated by women. This has led to the over-representation of women in housework and agricultural occupations and under-representation in services. This calls for immediate policy intervention because achieving higher growth do not appear to help eliminate gender-based segregation in Haryana. The major reason is that segregation is dependent on local social norms and beliefs, the female participation in an occupation, and the locally binding constraints to labour supply and demand. The level of segregation can only be reduced by bringing women into male dominated occupations. Therefore, we need to focus on countering constraints for women to succeed in male-dominated jobs. It is true that segregation cannot be eliminated completely but, it can be reduced to a considerable extent if suitable measures are taken.

REFERENCES

1. Agrawal T (2016). "Occupational Segregation in the Indian Labour Market", *The European Journal of Development Research* 28: 330-351.
2. Agrawal T, Agrawal A (2015). "Trends in occupational gender segregation in India", *International Journal of Gender Studies in Developing Societies* 1: 4-24. 15.
3. Anker R (1998). "Gender and jobs: Sex segregation of occupations in the world", International Labour Organization. (ILO) Geneva.
4. Arrow, Kenneth, (1973). "Higher education as a filter, *Journal of Public Economics*", 2, issue 3, pp. 193-216,
5. Badgett, M.V.L.; Folbre, N. (1999). "Assigning care: Gender norms and economic outcomes", *International Labour Review*, Vol. 138, No. 3, pp. 311–326
6. Barron, R. D. and G. M. Norris (1976). "Sexual Divisions and the Dual Labour Market." Pp. 47-69 in *Dependence and Exploitation in Work and Marriage*, edited by Diana Leonard Barker and Sheila Allen. London: Longman
7. Becker, Gary S, (1971). "The Economics of Discrimination", 2nd ed. Chicago: Univ. Chicago Press
8. Bergmann, Barbara, (1974). "Occupational Segregation, Wages and Profits When Employers Discriminate by Race or Sex", *Eastern Economic Journal*, 1, issue 2, pp. 103-110,
9. Chattopadhyay, M. and S. Chakraborty R. Anker (2013). "Sex Segregation in India's Formal Manufacturing Sector", *International Labour Review*, 152 (1), 43-58.
10. Crompton, R. & Sanderson, K. (1990). "Gendered Jobs and Social Change", London: Unwin Hyman
11. Das, M.B.; Desai, S. (2003). "Why are educated women less likely to be employed in India? Testing competing hypotheses, *Social Protection*" Discussion Paper Series, No. 313, Washington DC: World Bank.
12. Desai, S.; Jain, D. (1994). "Maternal employment and changes in family dynamics: The social context of women's work in rural South India", *Population and Development Review*, Vol. 20, No. 1, pp. 115– 136.
13. Duncan, O.D. and Duncan, B. (1955). "A Methodological Analysis of Segregation Indices", *American Sociological Review*, 20: 210-217
14. Edgeworth, F.Y. (1922). "Equal pay to men and women for equal work" *Economic Journal* 32 (128): 431-457
15. Emerek Ruth, Hugo Figueiredo, Pilar González, Lena Gonäs and Jill Rubery (2003). "Indicators on Gender Segregation" <https://core.ac.uk/download/pdf/6379134.pdf> accessed on 22 April 2021
16. England, Paula & Chassie, M & McCormack, Linda. (1982). "Skill Demands and Earnings in Female and Male Occupations", *Sociology and Social Research*. 66. Pp.147-168.
17. Figart, Deborah, (2005). "Gender as more than a dummy variable: Feminist approaches to discrimination", *Review of Social Economy*, 63, issue 3, p. 509-536
18. Goldin, Gerald. (2002). "Representation in Mathematical Learning and Problem Solving". *Handbook of International Research in Mathematics Education*, Lawrence Erlbaum. 197-218.
19. Hartman, H. (1979). *Capitalist Patriarchy and the Case for Socialist Feminism*. New York: Monthly Review Press.
20. Jaeger, U. (2010). "Working or stay-at-home mum? The influence of family benefits and religiosity", Working Paper No. 84 (Munich, Ifo Institute, Leibniz institute for Economic Research, University of Munich)
21. Karmel, T. and Maclachlan, M. (1988). "Occupational Sex Segregation - Increasing or Decreasing", *Economic Record* 64, 187-95.
22. Moir H. and Selby Smith J. (1979). "Industrial segregation in the Australian labour market", *Journal of Industrial Relations*, Vol 21, pp. 281-362.
23. Panda, P.K. (1999). "Poverty and young women's employment: Linkages in Kerala", Working Paper

(Thiruvananthapuram, Centre for Development Studies).

24. Phillips, A. and B. Taylor (1980). "Sex and skills: notes towards a feminist economics" *Feminist Review* Vol. 6: 79-88
25. Polachek, Solomon, (1981). "Occupational Self-Selection: A Human Capital Approach to Sex Differences in Occupational Structure", *The Review of Economics and Statistics*, 63, issue 1, pp. 60-69.
26. Reskin, Barbara & Bielby, Denise. (2005). "A Sociological Perspective on Gender and Career Outcomes", *Journal of Economic Perspectives*. 19.pp. 71-86.
27. Rosen, Sherwin. (1986). "The Theory of Equalizing Differences", *Handbook of Labor Economics*.
28. Rubery, Jill, (1978). "Structured Labour Markets, Worker Organisation and Low Pay", *Cambridge Journal of Economics*, 2, issue 1, pp. 17-36
29. Treiman, D.J. and H.I. Hartmann (eds). (1981). "Women, Work and Wages: Equal Pay for Jobs of Equal Value", Washington DC: National Academy Press.
30. Uppal Anupama (2008). "Occupational Sex Segregation in the Unorganised Manufacturing Sector", *Review of Development and Change* 13 (2)