CORRELATES OF GENDER BIAS AND FORMAL EMPLOYMENT IN INDIA: INSIGHTS FOR QUICK REVIVAL AFTER COVID-19 PANDEMIC

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ABSTRACT

The COVID-19 pandemic has led to global despair, risking the well-being of individuals and progress of societies. Prior to the pandemic, the Indian economy was grappling with the triple burden of rising unemployment among the educated youth, declining female labour force participation, and slowing growth momentum beginning 2017–18.With negative growth projections and pervasive gender gaps in formal employment, Indian educated women will be adversely affected as they are highly participative in the unpaid and informal work. The Indian development scenario looks bleak as the pandemic is likely to accentuate the existing tribulations in the post-pandemic period. Attempting to identify vulnerable states and provide a forward-looking approach, this paper explores the inter-play of growth, higher education, and employment from a gender perspective. The findings also highlight that neither growth nor the ballooning educated labour force resulted in the disposal of gender bias in India's labour market.

Keywords: *gender gaps, formal employment, higher education, COVID-19, India*

1. INTRODUCTION

India has one of the lowest female labour force participation rates (FLFPRs) in the world, with less than a third of women (15 years and above) working or actively looking for a job (World Bank, 2019). While India's gross domestic

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product (GDP) increased from USD 467 billion in 2000–01 to USD 2.7 trillion in 2017–18 (EconomicTimes, 2020), the FLFPR[1] was 23.3% (MoSPI, Annual Report: Periodic Labour Force Survey (PLFS), 2017-18), declining from 34.1% in 1999–00 to 32.2% in 2004–05 and 27.2% in 2011–12 (MoSPI, 2014;MoSPI, 2001). Globally, only nine countries have a lower proportion of working women than India, namely Yemen, Syria, Iraq, Jordan, Algeria, Iran, Somalia, Morocco, and Egypt. The Indian labour market is complex with very low participation of women in the labour force despite higher educational attainment, considerable regional differences, and informalisation of women's work despite high growth. These trends along with persistent gender differences have put women at the backseat of economic growth both as contributors and benefiters. A majority of women are involved in unpaid and informal work as their decisions are not always backed by their aspirations but influenced by several social, cultural, and economic factors. This continuing trend not only hampers growth prospects but also has a long-term effect on the well-being of women[2] in the present and coming generations.

The recent COVID-19 outbreak has deteriorated the social, economic, and financial landscape precipitously worldwide. Following the 'great lockdown' imposed by nations for controlling COVID-19 spread, economic activities were largely disrupted, leaving policy makers juggling with projections and policies to minimise the post-crisis effects. On one hand, the International Monetary Fund estimates that the global economy will contract sharply by 3% in 2020, much worse than the financial crisis of 2008–09 when the world output dropped by 1.7%. On the other hand, according to the ILO report (ILO, 2020)'Rapid assessment of the impact of the COVID-19 crisis on employment', casual workers and the self-employed are most likely to lose their work and incomes. Before the pandemic, the Indian economy was grappling with the triple burden of rising unemployment, especially among the educated youth and women, declining participation of women in the labour force, and slowing growth momentum beginning 2017–18.The World Economic Forum predicted that at the current rate of progress, it will take 257 years to close the economic gender gap (Sprechmann, 2020). Since COVID-19 crisis is disproportionately affecting women in many ways, there is a risk that some of the achievements of the recent decades will be lost and gender inequalities in the labour market will be exacerbated. In the overexposed sectors, the pandemic has led to the collapse of economic activity that absorbs a sizeable proportion of female employment, with 41% of total female employment in such sectors compared with 35% of male employment (ILO, 2020). In India, three-quarters of employment is non-regular (casual or self-employed), and a substantive proportion of such employment is held by women. Hence, women have a greater threat of experiencing loss of employment than men. Therefore, to realise full economic potential, state

1 Share of working-age women who are either employed or being able to work

2 The terms female and women are used interchangeably.

governments should initiate cultivation of positive attitude towards increasing women participation in economic activities (Dhillon, 2020).

India has been hit with a double whammy (negative growth projections and loss of employment, especially among women), and the pandemic will most likely amplify the existing inequalities. In conjecture of the aforementioned concerns, the new development policy should target quick revival of the Indian economy after the pandemic. Therefore, it is essential to examine the long existing non-linear triangular relationship between economic growth, employment, and education from a gender perspective and identify the vulnerable states that need immediate policy attention after the pandemic. The paper uses a state-wise analysis approach to explore the employment–unemployment trends of the working-age population (15–59 years). The historical case studied here is the gender gaps among higher education graduates with a special emphasis on formal employment in a high-growth period before the COVID-19 outbreak in India. This study conducted an economic analysis of the historic data of the National Sample Survey (NSS, EUS-employment-unemployment surveys 2004-05 & 2011-12) and Periodic Labour Force Survey (PLFS, 2017-18) along with other secondary data.

The remainder of the paper is structured as follows. Section 2 draws attention to status and trends related to women in the labour market. Section 3 examines the inter-play of growth, employment of higher education graduates, and gender gaps in major Indian states. This section extends the analysis to elaborate the employment trends of higher education graduates along with gender gaps in formal employment. Section 4 presents an economic analysis of various indicators, thereby identifying vulnerable states based on the performance estimates of the pre-COVID-19 period. An important caveat of this study is the limited availability of data on employment–unemployment trends during the pandemic.

2. WOMEN IN THE LABOUR MARKET

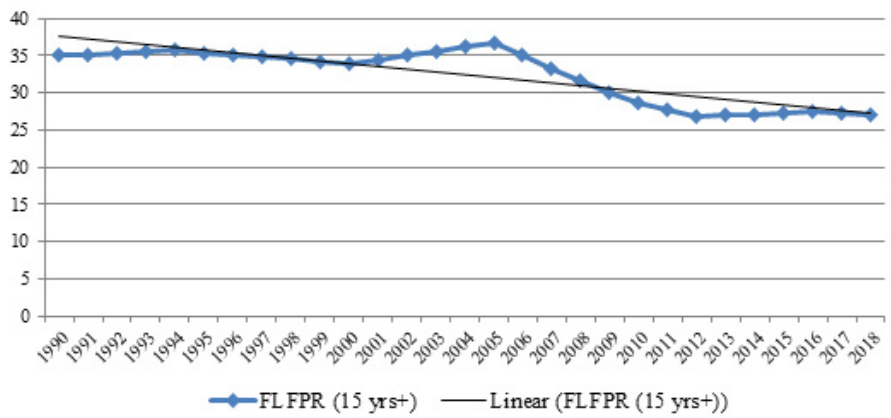
The U-shaped relationship between economic development and women employment has been well researched (Durand, 1975; Psacharopoulas & Tzannatos, 1989; Schultz, 1991; Goldin, 1994). Two economic effects, namely income[3] and substitution[4], lead to the upward and downward response of women employment (Goldin, 1994).The income effect dominates during the falling portion of the curve, whereas the substitution effect dominates in the rising portion. The entire process of women's response can be studied under three phases of economic development. In the first phase, because income levels are low, agriculture remains the predominant form of activity that involves a

3 Change in hours of work of an individual due to a change in family income

4 Change in hours of work of an individual due to a change in their wage, holding income constant-the compensated wage effect.

large number of women workers, both paid and unpaid (most often) workers. As income rises in the second phase as a consequence of introduction of new technology, women employment declines. The decline owes to the income effect and may be reinforced by a reduced relative price of home-produced goods and by a reduced demand for women's labour in the agricultural sector. In the third phase, as women education improves, the value of women's productive time in the labour market increases relative to the price of home-produced goods and they are back as the paid labour force. In India, data from ILOSTAT suggest a decline in the overall FLFPR between 1990 and 2018 **(Figure1)**, which mirrors how difficult it could be for Indian women to join the labour force (LiveMint, The Formal Sector has a Gender Bias, 2018). Furthermore, the low and declining workforce participation of women has been attributed to a mix of positive factors such as an increased participation in education, cultural sanctions that become even more important due to rising household income and marriage, wage discrimination, and barriers to entry into preferred jobs (Sundaram & Tendulkar, 2004; Klasen & Janneke, 2015).

Figure 1: Female labour force participation rate, India (1990–18)



Source: ILOSTAT database

In India, feminisation of labour was due to the New Economic Policy and structural adjustment process of the 1990s (Ghosh, 1999; Shah et al., 1994). In the globalised–liberalised economy, women form the bulk of cheap and flexible labour force (Held, 1995) and their participation increased in both the formal and informal labour markets[5]. Further, feminisation of labour occurred due to the expansion and growth of the informal sector, and the extent was such that it was called the 'female sector' (Scott, 1994). Moreover, the increase in women's employment was related to the growth of casualisation (Standing, 1999). During the 1980s, employment of women as wage workers exceeded 70%, thereby popularising the concept of feminisation of the workforce (Ward, 1990). Sectors that accounted for a tremendous rise in women employment

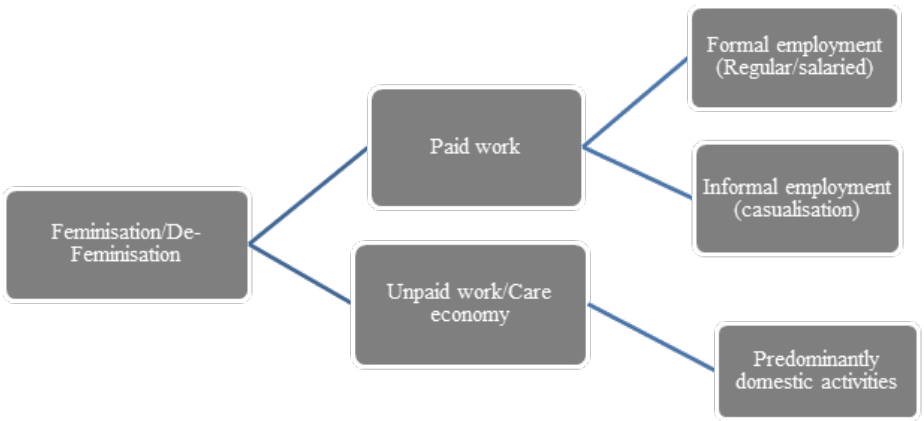
5 The Platform for Action of the Fourth World Conference on Women, Beijing 1995

during the 1990s were electronics or light consumer goods such as garments, sport goods, and leather wear (Frobel, Jurgen, & Otto, 1980; Mies, 1998 [1986]). Employing large number of women in factories was a logical strategy of capitalists to use the abundant cheap labour. However, this strategy used by transnational corporations has been described as 'capitalism shaking hands with patriarchy and both trying to control women' (Harvey, 2010; Lim, 1997). The World Development Report, 1996 reported a rise of 39% in Indian exports during 1990–94. The production process of the exports industries is more labour-intensive and thus triggered the rise in home-based and sub-contracted activities among women. However, in India, feminist economists have called 'feminisation of workforce' a short-lived phenomenon as the process began to decelerate or even to reverse even before the 1997 crisis (Ghosh, Globalization, Export-oriented Employment for Women and Social Policy: A Case Study of India, 2001). In fact, according to the Economic Survey 2017–18, with growing rural to urban migration of men, feminisation of the agriculture sector occurred, with increasing number of women in multiple roles as cultivators, entrepreneurs, and labourers (Vasudeva, 2018). Feminisation of agriculture is not a new trend in India because the Economic Census 1998 revealed that more than 2 million women were employed in non-crop agricultural enterprises. Moreover, in the rural sector, the percentage of main female workforce to all main workers increased from 25.19% in 1991 to 26.27% in 2000. Furthermore, women are likely to be employed more in agricultural activities such as farming, livestock, fisheries, and forestry rather than in non-agricultural activities (Vepa, 2005).

The precarious balancing act of managing household chores and work responsibilities (unpaid work/care economy) leads to greater exploitation of women as a human resource. Women in India spend upto 352 minutes per day on domestic work, which is 577% more than that spent by men (52 minutes), according to the Organization for Economic Cooperation and Development data (IndiaSpend, 2019). Furthermore, women's unpaid work plays a crucial role in sustaining economic activity, as much as 3.1% of India's GDP. However, much of it goes unrecognised, thus exacerbating gender and work inequality. The statistical theory of discrimination by Phelps (1972) and Arrow (1973) is based on the premise that firms have limited information about the skills of job applicants, which gives them the incentive to use visible characteristics such as race or gender to infer the expected productivity of the applicants. This leads to gender-based employment segregation, and hence, concentration of women in relatively low-paying and low-quality jobs. Studies have shown that one way of breaking through the gender rigidities in the labour market could be 'strengthening agglomeration mechanisms for women—women creating jobs and opportunities for themselves and bringing other women on board'. Thus, as women employment became more informal, the concept of feminisation shifted to de-feminisation of the labour market, reflecting two situations: one, declining participation of women in the labour market, and second, deteriorating

employment conditions of women.

Figure 2: Framework for feminisation or de-feminisation of the labour market



Source: Author's understanding

Given the fact that India now has a large demographic dividend and women account for more than half of the labour force in any economy, only two plausible reasons exist for this trend: supply side—rising youth unemployment which means either young people have stayed in education/training or more specifically, women have restrained themselves to work and/or; demand side—growth has failed to create sufficient employment opportunities for people, more so for educated people, especially women. Based on the understanding of feminisation or de-feminisation of the Indian labour market **(Figure 2)** through various literature, in the next section, we attempt to examine the employment–unemployment trends of women who are higher education graduates.

3 ECONOMIC GROWTH, EMPLOYMENT OF HIGHER EDUCATION GRADUATES, AND GENDER GAP IN INDIAN STATES

The Indian development scenario seems optimistic in terms of economic growth, which gained momentum after the economic reforms of 1991. Prior to the reforms, the Indian economy grew at a disappointing 'Hindu rate of growth of 3.5% between 1955 and 1978, as a response to the Nehru–Mahalanobis growth strategy that emphasised on promoting economic growth through state-led industrialisation under a protective trade regime. Being the dominant economic power globally for more than three-fourths of known economic history (Maddison, 2007), India has earned the epaulette of being the fastest growing major economy in the world by attaining the sixth largest place in the economy with a sustained growth rate higher than China (GoI, Economic Survey 2018-19, 2019-20). India has historically been a major creator of wealth and significant contributor to world's GDP, with an exponential rise in its GDP and

GDP per capita in the post-liberalisation period (GoI, Economic Survey 2019-20, 2020). Economic growth does not occur in isolation; rather it has observable effects on other socioeconomic factors. Thus, rapid growth is only a sufficient condition for development that includes employment generation, equality, and equitable societies. Growth in the Indian states have had a very feeble but positive relationship with unemployment which proves that high growth states do not necessarily have low unemployment. And the quadrant analysis for states also reveals that with growth having little dent on unemployment and quality of employment, the tendency of a vicious circle of poor employment leading to poor education is likely to continue in future if region specific policy initiatives are not taken (Khare, 2020). Niti Ayog (2018) in 'Strategy for New India @ 75' estimated that to generate sufficient jobs and attain prosperity, India will need to achieve an annual growth rate of 9% by 2022–23. Moreover, to translate growth into development, this rapid growth has to be inclusive, sustained, clean, and formalised. In this section, we analyse the performance indicators of growth, employment of higher education graduates, and gender gaps in major Indian states.

3.1 Growth Performance of Major Indian States

Despite good macroeconomic trends in India, regional disparities in growth remain high (Datt & Ravallion, 2002; Kundu &Varghese, 2010, Khare 2019), which has put its objective of 'growth with equity' at an economic stake. Although the GDP growth rate has accelerated since the 1980s, and more so, during the post-liberalisation period (1990s and onwards), its translation into sufficient employment opportunities and decent work[6] continue to threaten sustainable development in the long run. To examine this situation across the major Indian states in the post-reform period, long-term growth rates of the net state domestic product (NSDP) were calculated (base year 2011–12) for the period 2004–05 to 2017–18 **(Table 1)**. To assess sustainability of growth rates, we divided the entire (2004–05 to 2017–18) period into two sub-periods: period I (2004–05 to 2011–12) and period II (2011–12 to 2017–18). This analysis of growth trends reveals that Gujarat, Haryana, and Maharashtra recorded relatively higher growth rates throughout the sub-periods. On the other hand, West Bengal, Assam, and Punjab, recorded a low growth rate during 2004–05 to 2017–18. An in-depth analysis of growth performance of the states shows that Tamil Nadu, Bihar, and Rajasthan witnessed unsustained growth and moved from a high growth rate to a low growth rate, whereas Karnataka, Madhya Pradesh, and Himachal Pradesh shifted from a low growth to high growth. Furthermore, Odisha and Uttar Pradesh continuously recorded low growth rates, whereas Kerala and Andhra Pradesh performed moderately.

6 ILO defines decent work as work that is productive, delivers fair income, security in the workplace and social protection for families.

Table 1: Net state domestic product growth (base year: 2011–12)

State	2004–05 to 2017–18	2004–05 to 2011–12	2011–12 to 2017–18
Gujarat	9.24	8.75	8.42
Haryana	8.20	7.91	7.32
Tamil Nadu	7.99	9.02	5.66
Maharashtra	7.80	8.22	6.19
Karnataka	7.68	6.60	7.78
Madhya Pradesh	7.28	6.83	6.72
Bihar	7.12	7.96	5.13
Rajasthan	6.93	7.62	5.12
Himachal Pradesh	6.70	6.07	6.44
Kerala	6.63	6.77	5.50
Andhra Pradesh	6.59	5.87	6.46
Odisha	6.22	5.41	6.23
Uttar Pradesh	6.19	5.90	5.61
Punjab	5.89	5.98	4.92
Assam	5.52	4.47	5.91
West Bengal	5.28	5.40	4.37
All India	7.25	7.37	6.05
Mean	6.95	6.80	6.11
SD	1.05	1.32	1.08
CV	15.16	19.46	17.66

Source: Computed CAGRs for NSDP at factor cost, RBI database from NAS, Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation, Government of India (MOSPI).

Note (*): (1) States ranked as per growth performance; (2) All India data taken from CSO, MOSPI

In light of the aforementioned analysis, investigating the performance of labour market indicators will be of great significance. The next section examines the employment–unemployment scenario of higher education graduates.

3.2 Employment Trends of Higher Education Graduates

A long-term analysis reveals that although unemployment reduced during 2011–12, it considerably increased across all education levels in 2017–18 **(Table 2)**. The theoretical underpinnings of a positive relationship between education and employment does not hold true in the case of India. Unemployment among both males and females has been increasing at all education levels. For higher education graduates, unemployment increased sharply from 7.17% in 2011–12 to 15.57% in 2017–18 for males and from 20.27% to 29.44% for females for the same period. The middle level of education is seen as a threshold level, after

which unemployment among females increases to more than double compared with that among males. Signs of gender inequality in the Indian labour market are clear as evident by a gap of a negative 14 percentage points (pp) between unemployment of males and females for higher education graduates during 2017–18. The rising unemployment is accompanied by a yawning gender gap, signalling the dual characteristic of the crisis.

Table 2: Unemployment trends by education level

Unemployment rate	Male			Female		
	2004–05	2011–12	2017–18	2004–05	2011–12	2017–18
No schooling	1.12	0.90	2.03	1.28	0.49	0.43
Up to Primary	2.11	1.70	3.37	2.96	1.39	1.50
Middle	3.97	2.83	6.51	9.68	6.38	6.85
Secondary	5.35	3.24	7.11	19.64	9.67	10.77
Higher secondary	6.72	5.02	11.14	23.54	15.07	20.35
Graduate & above	8.07	7.17	15.57	24.66	20.27	29.44

Source: Computed using the NSS unit level data

The state-wise analysis of employment distribution **(Table 3)** reveals that the proportion of persons employed in regular/salaried jobs has increased in a majority of states, with a sharp rise in Bihar, Haryana, Karnataka, Kerala, Tamil Nadu, and West Bengal. The only exception of a decline in formal employment was observed in Odisha. The category 'self-employed', which ranked second in terms of formal employment, recorded a decline in employment distribution in all states, largely in Haryana, Bihar, Rajasthan, Tamil Nadu, and West Bengal. This decline was compensated by an increase in employment distribution in the category 'casual work', which is considered the worst on the scale of formal employment. A larger number of people were engaged in casual work in Andhra Pradesh, Bihar, Haryana, Himachal Pradesh, and Maharashtra, whereas employment reduced considerably in Kerala, Gujarat, and Karnataka.

Table 3: Employment distribution of higher education graduates across states

States	Regular/salaried			Self-employed			Casual		
	2004–05	2011–12	2017–18	2004–05	2011–12	2017–18	2004–05	2011–12	2017–18
Andhra Pradesh	21.9	28.6	28.7	50.1	47.9	42.6	27.9	23.5	28.7
Assam	20.6	22.6	30.7	64.3	62.4	56.3	15.2	15.0	13.1
Bihar	10.2	13.9	18.9	68.5	59.2	55.2	21.3	27.0	25.9
Gujarat	27.3	32.1	34.1	53.0	50.7	51.1	19.6	17.1	14.9
Haryana	28.8	30.4	39.0	57.8	51.2	42.2	13.3	18.4	18.8
Himachal Pradesh	21.2	29.1	24.9	70.4	62.7	61.8	8.4	8.1	13.3
Karnataka	21.0	27.5	32.3	51.2	49.0	43.5	27.8	23.5	24.1
Kerala	26.7	31.1	36.5	35.7	33.4	31.9	37.6	35.5	31.6
Madhya Pradesh	18.2	22.3	22.5	61.8	57.4	56.3	20.0	20.4	21.2
Maharashtra	30.4	33.6	34.5	48.2	47.5	42.9	21.3	18.8	22.6
Orissa	20.9	27.3	24.8	60.1	56.5	55.6	18.9	16.2	19.6
Punjab	30.7	35.3	38.0	50.3	45.9	41.6	19.0	18.8	20.4
Rajasthan	17.4	25.8	30.1	70.7	57.1	57.4	11.9	17.1	12.5
Tamil Nadu	30.0	33.8	39.4	42.3	35.9	30.4	27.7	30.3	30.1
Uttar Pradesh	16.5	18.9	22.2	71.6	63.2	58.7	11.9	17.9	19.1
West Bengal	23.6	31.0	32.6	52.5	46.6	44.1	23.8	22.4	23.3
Average	22.9	27.7	30.6	56.8	51.7	48.2	20.4	20.6	21.2
All India	24.0	29.6	32.4	57.1	51.2	48.2	18.8	19.3	19.5

Source: Computed using the NSS unit level data

The labour force of higher education graduates significantly increased from 10.4% in 2004–05 to 17.3% in 2017–18 **(Table 4)**, with a majority of the rise due to growth in sub-period I. All the states recorded an increase in labour force of higher education graduates in sub-period I, whereas Bihar, Haryana, and Himachal Pradesh witnessed a steep decline in sub-period II. Additionally, Uttar Pradesh, Andhra Pradesh, Tamil Nadu, Rajasthan, and Karnataka registered a sustained expansion of labour force through the period. Ironically, among these states, Andhra Pradesh, Rajasthan, and Tamil Nadu witnessed a sharp decline in the proportion of higher education graduates working in formal employment. Considering the increasing labour force of higher education graduates, one might expect a rise in the formalisation of workforce but the reality is different. A closer look indicates de-formalisation of workforce of the educated, as evident by a decline in the proportion of higher education graduates in formal

employment in sub-period II, except in a handful of states. Andhra Pradesh, Assam, Himachal Pradesh, Haryana, and Kerala had a higher worker population in formal jobs. Interestingly, Kerala more or less sustained the employment status throughout the period.

Table 4: Employment status of higher education graduates

States	Labour force			Regular/salaried workers		
	2004–05	2011–12	2017–18	2004–05	2011–12	2017–18
Andhra Pradesh	7.5	14.8	19.4	58.1	65.2	49.9
Assam	8.1	11.7	13.1	59.8	56.9	57.2
Bihar	11.1	14.8	6.9	29.0	36.9	42.9
Gujarat	9.0	10.6	13.7	52.1	56.4	58.3
Haryana	10.2	20.5	14.8	51.6	56.2	54.1
Himachal Pradesh	9.5	14.2	11.4	55.2	59.2	48.5
Karnataka	8.1	13.2	16.6	55.0	62.4	60.1
Kerala	11.6	17.2	18.8	52.3	58.9	52.3
Madhya Pradesh	9.1	15.0	14.9	48.7	59.0	51.3
Maharashtra	12.2	16.6	17.7	56.8	61.4	61.7
Orissa	11.6	17.3	14.3	39.8	55.1	49.0
Punjab	11.4	12.3	13.9	53.6	59.2	39.4
Rajasthan	8.2	16.7	17.4	56.1	56.7	53.0
Tamil Nadu	9.8	14.8	20.4	62.9	66.9	57.9
Uttar Pradesh	11.3	16.1	37.7	38.9	42.6	45.9
West Bengal	11.0	17.4	15.3	47.4	55.1	53.1
All India	10.4	16.3	17.3	54.2	58.4	55.2

Source: Computed using the NSS unit level data

3.3 Gender Gap in Formal Employment of Higher Education Graduates

Gender gap[7] is the most critical challenge of the Indian labour market, especially when the female labour force participation rate is alarmingly low. A country's economic development crucially depends on the participation of its women as they constitute approximately 50% of its human resource (Development, 2010)**.** Moreover, women's participation in the workforce compared with men is also a crucial determinant of their social status (Mammen & Paxson, 2000). However, economic well-being and welfare of women may not improve if they are engaged in low-paying distress-driven work (Srivastava & Srivastava, 2009). Hence, the employment status of women in India must be examined, especially when the Indian economy has been growing at a rate higher than that of other developing countries. Women comprise 48% of India's population but have not benefitted equally from India's economic growth (Bank, Working for Women in India, 2019). Of the three employment or activity status categories

7 Male–female differences

of workers recorded by the NSS—self-employed, regular salaried, and casual labour, a higher proportion of the female workforce in India always belong to the self-employed group (Mazumdar & Neetha, 2011) and a closer look reveals the presence of substantial gender gaps **(Table 5)**. Gender gap in formal employment remains consistently high in Rajasthan, Uttar Pradesh, West Bengal, and Odisha, although it declined at the all India level from 29.1% in 2004–05 to 25.3% in 2017–18. In response to the initiatives taken by international bodies in the sphere of gender equality, the Government of India took several measures. Some of the states reacted positively to these measures as evident by a decline in the male–female gap in Punjab, Karnataka, Gujarat, Bihar, and West Bengal. Assam recorded a considerable improvement in the gender dimension by reducing the gap during 2011–12, while Kerala maintained gender equality with more women in the formal sector. This trend is in sync with the engagement of women in the work category 'non-remunerative domestic activity'. Bihar, Gujarat, Uttar Pradesh, and West Bengal with larger gender gaps had a large proportion of educated women engaged in unpaid work. By contrast, Kerala, which is the Indian state that is relatively gender balanced, added the highest proportion of educated women to this category along with Himachal Pradesh, Assam, and Odisha.

Table 5: Gender gaps in formal employment of higher education graduates

States	Male–female gap			Women in unpaid work		
	2004–05	2011–12	2017–18	2004–05	2011–12	2017–18
Andhra Pradesh	59.8	59.2	50.3	43.3	47.0	43.2
Assam	65.4	71.5	55.0	41.1	52.8	48.6
Bihar	77.7	76.0	64.0	68.8	65.2	65.6
Gujarat	72.3	64.7	52.9	65.8	64.2	59.7
Haryana	56.8	54.7	55.0	54.0	61.7	57.0
Himachal Pradesh	40.6	42.0	44.7	26.5	25.8	37.3
Karnataka	64.8	50.4	44.7	57.5	52.9	51.6
Kerala	2.70	2.10	-3.7	18.2	34.7	31.6
Madhya Pradesh	60.0	61.4	52.2	61.7	65.5	53.2
Maharashtra	46.4	56.6	48.8	49.7	54.2	51.3
Orissa	59.9	59.6	56.3	48.1	63.3	55.5
Punjab	26.8	25.8	-8.2	51.4	50.1	47.4
Rajasthan	69.2	66.7	63.2	50.5	51.8	53.0
Tamil Nadu	41.9	47.0	39.2	40.9	47.2	44.3
Uttar Pradesh	67.5	62.0	59.2	69.5	70.9	66.4
West Bengal	69.7	59.2	58.9	60.9	59.4	57.6
All India	29.1	31.6	25.3	49.1	51.6	47.5
Mean	53.7	54.1	45.9	50.5	54.2	51.5

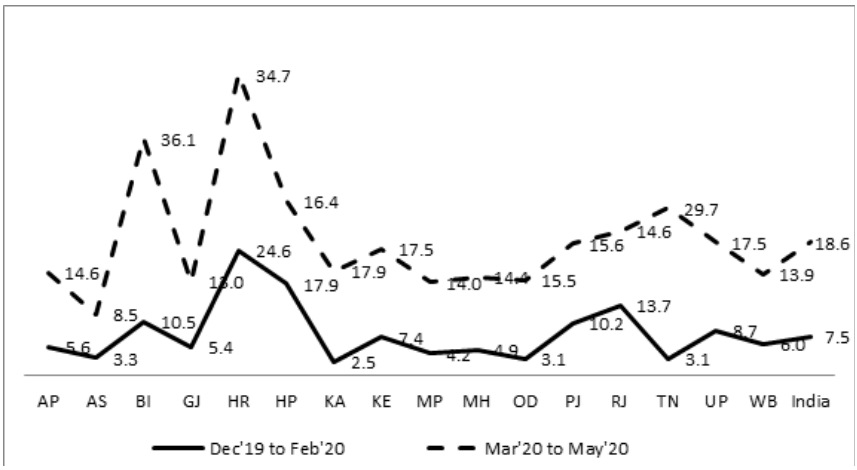
Source: Computed using the NSS unit level data

To summarise, the state-wise analysis in the pre-COVID-19 period shows that economic growth with higher educational attainment does not promise employment generation and neither does economic growth with employment ensure gender equality in the labour market. In other words, economic growth is not sufficient but a necessary condition for gender inclusive and formalised employment outcomes. Among the states that exhibited good growth, Haryana and Karnataka recorded a rise in workforce of regular/salaried jobs, whereas Gujarat recorded a decline in casual workforce. Expansion of labour force of the educated does not warrant an improvement in the employment status as states (i.e., Andhra Pradesh, Rajasthan, and Tamil Nadu) that recorded an expansion of labour force of higher education graduates also witnessed a parallel decline in formal employment (regular/salaried jobs). While Punjab recorded a higher female workforce in formal employment with a decline in gender gap, Kerala recorded a sustained moderate growth with a high proportion of women higher education graduates engaged in non-remunerative activities despite an overall balanced workforce. Other states that improved on the gender scale were Karnataka and Assam.

4. TARGETING QUICK REVIVAL AFTER COVID-19 PANDEMIC

An important implication of the aforementioned analysis is that the noxious pandemic is potentially capable of worsening the already existing crises of the Indian labour market. Therefore, a forward-looking approach aiming to minimise the damage and ensure quick recovery of the economy as a whole on the basis of the historic performance is very essential. A closer look presents the sky rocketing unemployment rate in the post-COVID-19 period **(Figure 3)**. A massive increase in the average unemployment rate (3-month average estimates) was observed in the first phase of lockdown, rising from 7.5% in December 2019 to February 2020 to 18.6% in March 2020 to May 2020. The average unemployment rate more than doubled in 11 of the 16 major states, with the highest increase observed in Tamil Nadu, Bihar, Karnataka, Odisha, and Kerala. Bihar, Haryana, and Tamil Nadu had the highest unemployment rate, whereas Gujarat, West Bengal, and Madhya Pradesh had the lowest unemployment rate. In absolute terms, the average employment during March 2019–20 was 360 million for men and 43 million for women, respectively, which reflects the large pre-existing gender gaps in the employment status. Moreover, unemployment increased between March 2020 and May 2020, with absolute employment declining to 256 million for men and 26 million for women (Deshpande, 2020) and a burgeoning gap of 230 million in April 2020. For all the major states, the average unemployment rate rose substantially, with the highest rate observed in Bihar (36.1%), Haryana (34.7%), Tamil Nadu (29.7%), Karnataka (17.9%), and Kerala (17.5%).

Figure 3: Unemployment rate in pre- and post-COVID-19 periods, monthly time series (%)

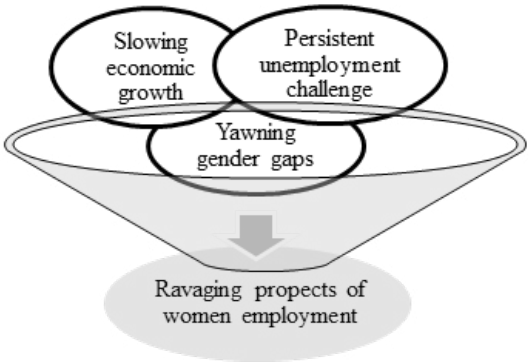


Source: Computed using monthly time series data from Centre for Monitoring Indian Economy (CMIE) Pvt. Ltd.

Note (@): Three-month average unemployment rate

The unremitting unemployment challenge in India takes a major place in the policy discourse and may lead to massive tribulations in the state of economy in the long run. Given the historical context and the status of women in the labour market discussed in the previous section, with GDP growth taking a downturn, women workers will be the worst hit, as also buttressed by the Oxfam Report 2019 that stated *the face of inequality in India is female*. The COVID-19 crisis is likely to exacerbate gender inequality in formal employment because participation of women in employment (remunerative work) in high-growth periods was declining and they bear a disproportionate burden of care economy (non-remunerative work). The gender gap in the Indian formal sector is pervasive, with at least 85% of the workforce in transportation, construction, and manufacturing sectors and 72% in hi-tech services being dominated by men. In every sector, the gender gap among Indian professionals is worse than the global average (Srinivas & Bansal, 2018). In developing countries, women are over-represented in informal employment because a higher proportion of women work as contributing family workers. According to the ILO, the share of women in informal employment in developing countries was 4.6 pp higher than that of men when including agricultural workers, and 7.8 pp higher when excluding them (ILO, World Employment Social Outlook, 2019).

Figure 4: Adverse impact on women employment



Source: Author's understanding

Given the state of flux **(Figure 4)** and rather limited data on employment–unemployment trends in the post-COVID-19 period in India, this section attempts to present the state of the gendered Indian labour market by using a state-wise analysis approach. The spotlight parameters investigated were the unemployment rate in the post-COVID-19 period (3-month average), JustJobs index[8], and gender gap in formal employment of higher education graduates. The state-level JustJobs index covers five dimensions: employment, formality, benefits, income equality, and gender equality. Each dimension is based on a set of equally weighted indicators and draws exclusively from government sources including surveys conducted during 2010–18 by National Sample Survey Organisation, the Labour Bureau, the Annual Sample Survey of Industries, Reserve Bank of India, and Periodic Labour Force Survey (Dewan & Prakash, 2019). In this study, we focused only on three dimensions: employment, formality, and gender equality.

4.1 Index on Employment and Formality

The employment dimension covers three indicators: labour force participation rate (15 years and above), unemployment rate (15 years and above), and youth unemployment rate (15–29 years). The top performing states in the index of employment were Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, and Gujarat, whereas states with lowest ranks were Haryana, Uttar Pradesh, Punjab, Bihar, and Kerala **(Table 6)**. The formality dimension includes three indicators: share of self-account workers in total employment, share of contributing family workers in total employment, and share of workers with a written job contract, excluding the self-employed. On the scale of formality, the better performing states were Kerala, Tamil Nadu, Andhra Pradesh, Punjab,

8 It is a comprehensive index prepared by JustJobs Network Inc that assigns weightages to the selected parameters and is developed to measure quantity and quality of jobs at the state level in India.

and West Bengal, whereas the worst performers were Odisha, Gujarat, Madhya Pradesh, Rajasthan, and Uttar Pradesh. On the other hand, the vulnerable states that witnessed an extremely high unemployment rate in the post-COVID-19 period and low formality were Uttar Pradesh and Himachal Pradesh.

Table 6: State of the major Indian states in the post-COVID-19 scenario

State	UR Post-COVID-19	JustJobs Index, 2010–18			Gender gap in formal employment, Higher education graduates, 2017–18
		Employ-ment	Formality	Gender equality	
Bihar	36.1	40.0	42.0	14.0	64.0
Haryana	34.7	52.0	42.0	41.0	55.0
Tamil Nadu	29.7	69.0	67.0	57.0	39.2
Karnataka	17.9	82.0	43.0	51.0	44.7
Kerala	17.5	18.0	72.0	38.0	-3.7
Uttar Pradesh	17.5	52.0	17.0	21.0	59.2
Himachal Pradesh	16.4	69.0	39.0	73.0	44.7
Punjab	15.6	41.0	46.0	30.0	-8.2
Odisha	15.5	58.0	36.0	28.0	56.3
Andhra Pradesh	14.6	88.0	46.0	62.0	50.3
Rajasthan	14.6	69.0	25.0	46.0	63.2
Maharashtra	14.4	77.0	38.0	65.0	48.8
Madhya Pradesh	14.0	79.0	26.0	43.0	52.2
West Bengal	13.9	58.0	46.0	21.0	58.9
Gujarat	13.0	76.0	35.0	31.0	52.9
All India	18.6	64.0	38.0	44.0	25.3

Note ($): 1) Unemployment rate (UR) is the 3-month average rate calculated using CMIE data for the period March2020–May2020. 2) Gender gap in formal employment of higher education graduates is estimated using the unit level data of the PLFS. 3) Assam is excluded in the JustJobs index due to the small sample size.

Analysing the post--COVID-19 scenario from a gender perspective is essential as it has pushed women to work-from-home and aggravated their double burden of paid and unpaid care work. On mapping the performance of states on the select indicators, some insightful observations can be made from **Tables 7** and **8**[9]. Bihar and Uttar Pradesh are vulnerable as they registered a very high

9 By using quadrants, we identified vulnerable states based on their simultaneous performance in two indicators (Qi, i=1, 2, 3, 4). The quadrants were defined separately for each indicator based on the minimum and maximum values.

unemployment rate with a very high gender gap in formal employment of higher education graduates and overall gender equality in the labour market. Tamil Nadu is the only state that performed well on the gender scale with a very low gender gap in formal employment of higher education graduates and overall gender equality but a very high unemployment rate. Andhra Pradesh, Karnataka, and Madhya Pradesh performed moderately. Although Rajasthan and Odisha recorded a moderate unemployment rate, the presence of a high gender gap in formal employment of higher education graduates and low overall gender equality bring them closer to vulnerability. Moreover, West Bengal and Gujarat witnessed a very high gender gap in formal employment of higher education graduates and overall gender equality, but they performed relatively better in terms of employment with a very low unemployment rate in the post-COVID-19 period.

Table 7: Relationship between unemployment rate, post-COVID 19, and gender equality

GE **UR**	**(GE_1 below Q_3= below 21.0)**	**GE_2 ($Q_1 - Q_2$ = 21.0 − 38.0)**	**GE_3 ($Q_2 - Q_3$ = 38.0 − 51.0)**	**GE_4 (above Q1= above 51.0)**
UR_1 (above Q_3= above 17.9)	Bihar		Haryana Karnataka	Tamil Nadu
UR_2 ($Q_2 - Q_3$ = 15.6 − 17.9)	Uttar Pradesh	Punjab Kerala		Himachal Pradesh
UR_3 ($Q_1 - Q_2$ = 14.4 − 15.6)		Odisha	Rajasthan	Andhra Pradesh Maharashtra
UR_4 (below Q_1= 15.6)	West Bengal	Gujarat	Madhya Pradesh	

Note (&): UR:unemployment rate for the post-COVID 19 period (March2020– May2020;3-month average). 2) GE:index of gender equality (2010–18). 3) UR_1: very high unemployment rate, UR_2:high unemployment rate, UR_3:moderate unemployment rate, UR_4:low unemployment rate. GE_1:low gender equality, GE_2:moderate gender equality, GE_3:high gender equality, GE_4:very high gender equality.

Table 8: Relationship between unemployment rate, post–COVID 19, and gender gap in formal employment of higher education graduates

GG / EG	(GG_1 above Q_3 = above 58.3)	GG_2 ($Q_1 - Q_2$ = 56.3 − 58.3)	GG_3 ($Q_2 - Q_3$ = 52.2 − 58.3)	GG_4 (below Q1= below 44.7)
EG_1 (above Q_3 = above 17.9)	Bihar	Haryana	Karnataka	Tamil Nadu
EG_2 ($Q_2 - Q_3$ = 15.6 – 17.9)	Uttar Pradesh			Kerala Himachal Pradesh Punjab
EG_3 ($Q_1 - Q_2$ = 14.4− 15.6)	Rajasthan	Odisha	Andhra Pradesh Maharashtra	
EG_4 (below Q_1= 15.6)	West Bengal	Gujarat Assam	Madhya Pradesh	

Note (!): 1) EG:economic growth. 2) GG:gender gap in formal employment among higher education graduates (2017–18). 3) EG_1: very high economic growth, EG_2:high economic growth, EG_3:moderate economic growth, EG_4:low economic growth. GG_1:very high gender gap, GG_2:high gender gap, GG_3:moderate gender gap, GG_4:low gender gap.

5. CONCLUSIONS

A central driver of economic growth and development in India is the increased role of women, which is due to several mutual reinforcing forces such as improved health, improved educational attainment, and a larger share in the labour market. In other words, economic growth can be achieved through women empowerment and improvement in their employment status as they form half of the potential workforce. Gender inequality has increased in the labour market, whereas it has decreased at all levels of education. This imbalance between education and employment, especially among women, has only exacerbated the gender bias by placing women in distress situations of not finding suitable jobs or formal employment. Thus, providing equal opportunities and equal status in the labour market, irrespective of the rigid gender norms, is the thrust area of policymaking in new liberal societies.

Unemployment and gender inequality are global phenomena. From the aforementioned analysis, it is evident that growth is not sufficient to create employment opportunities, improve the employment status, and decrease gender gaps. Several states, despite experiencing higher growth, have failed to improve the employment status and bring more women into formal employment. The need therefore is to introduce a blanket of gender-sensitive policies aiming to provide decent work and formal employment to women. Although the COVID-19 pandemic is not gendered, its impact will undoubtedly exacerbate gender gaps

in the labour market as unemployment and pervasive gender gaps are not recent issues. The above mentioned analysis highlights the challenges of the gendered labour market in the pre-COVID-19 period that pose possible threats after the pandemic, more so for vulnerable states. Thus, focusing on regional and gender dimensions is important while formulating strategic employment policies such that the relative advantages of individual states can be maximised for a quick recovery of the economy as a whole.

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