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Determinants of Female Labor Force Participation in India

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Abstract

Attention to women's economic participation is relatively new, although women constitute half the global population; with their increasing role in labor markets, they play an important role in the economies of developed countries. This paper focuses on the determinants of female labor force participation in India. Examining the structural transformation (ST) framework from agricultural to nonagricultural sectors, comparisons are made to other countries including, particularly, China. Although growing in recent years, women's participation in India is shown to be low in the formal sector, lower than in neighboring Asian countries and developed countries. Six factors influencing female labor force participation in India are reviewed: (1) development strategy, including the extent of labor intensity and skills development; (2) demographic transition; (3) sociopolitical and cultural factors, including policies pursued in the process of modernization of traditional gender roles and religion; (4) insufficient investment in vocational education and training; (5) insufficient quantity and quality of childcare facilities; and (6) concern for women's safety and their limited mobility. Some policy implications are highlighted.

Key words: Female employment, wages, wage gap, development strategy, informality

JEL Codes: E24, E26, J16, J31, O1



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Presidential Address to the 32nd International Conference of Agricultural Economists

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1. Introduction

“We cannot all succeed when half of us are held back.” —Malala Yousafzai, Nobel Laureate, activist, 16th birthday speech at the United Nations, July 12, 2013 (Malala Fund 2013).

“Women will only have true equality when men share with them the responsibility of bringing up the next generation.”—Ruth Bader Ginsburg, late Justice of the United States Supreme Court (Choo 2000).

This paper is influenced by my personal experience, which stresses the importance of women’s quality mentoring. Until I completed my college education, at the age of 18 years, I was more interested in Bollywood/Hollywood movies than my studies. The idea that I had the potential to achieve higher goals and make a difference in the lives of others had not crossed my mind. With my father’s encouragement, during my college years, I won several elocution/debating competitions and pursued other extracurricular activities. Clearly, he had a keener understanding of my abilities and potential than I did. As I was finishing my first college degree, a young man approached my father to ask to marry his daughter. My father’s first declared that I was too young to be married. When he learned that the young man was leaving for the United States on a Ford Foundation scholarship to pursue a PhD, he thought my marriage could work, if I, too, could join him and also obtain a scholarship to pursue a postdoctoral degree abroad. Without further education, he thought the gulf between me and my husband would increase. He, perhaps, also thought postgraduate education in the United States might be too high a bar for me to cross, but by encouraging me to apply, it was a better approach than opposing the marriage proposal. I sent 12–14 applications to US universities and was accepted by most. Even better, I received a fellowship at the University of Chicago’s prestigious Economics Department to pursue graduate work in economics. I began my

marriage living apart from my new husband, with me in Chicago and him, in Ithaca, New York, at Cornell. In addition to my own determination, this experience showed the particular support of my husband for my studies. Thus, I married, left for the United States, and eventually moved to Cornell. Two lessons that I derived from my experience were: first, given the opportunity, a woman can realize her potential. Second, supportive parents and spouses can make significant differences in women's achievements.

Nearly half the global population is female. Women's active participation in pursuits beyond their household work makes significant difference to themselves, as well as to the overall well-being of societies. Silverstein & Sayre (2009, 3) noted:

Women are increasingly gaining influence in the work world ... the number of working women in the United States is about to surpass the number of working men. Three-quarters of the people who have lost jobs in the current recession are men...women are still paid less, on average, than men, and are more likely to work part-time—factors that have helped insulate them somewhat from the crisis. Nevertheless ... women not only will represent one of the largest market opportunities in our lifetimes but also will be an important force in spurring a recovery and generating new prosperity.

In this paper, I note that Indian women's labor force participation has historically been lower than in neighboring countries, and, although it has increased in recent years, India has generated few jobs in the formal sector, for men or women, and thus, informal employment, largely in agriculture, has not changed significantly.

I focus on determinants of women's low labor force participation in India and explore reasons for the low participation.

Using US longitudinal data, Claudia Goldin (1994), 2023 Nobel Prize winner in Economics, made two critical observations in her research on gender inequality in work and family life: first, women participate less in the labor market than men, and second, they earn less than men. Furthermore, female participation in the US labor market did not show an upward trend, but rather a U-shaped curve. Participation of married women declined with the transition from an agrarian to an industrial society in the early 19th century, but increased with growth of the service sector in the early 20th century (Nobel Prize 2023). Goldin (1994) explained this pattern as resulting from structural change and evolving social norms in regard to women's responsibilities for the home and family. In this paper, I suggest that India, although at a less advanced stage of development, also shows a similar growth pattern.

Accurate data are crucial for such an inquiry. Increased interest in gender-related issues led the International Monetary Fund (IMF) to add a "new" macro critical dimension of gender disparities growth to its armory of factors covering inflation, debt, etc. (IMF 2021).

Narrowing of gender gaps was considered critical because of the contribution of a decline in the gaps to "growth, resilience, financial stability, and income equality." Unfortunately, data availability and definitional issues led to misleading results in IMF's initial inquiry, which I discuss later (Bhalla 2023; ILOSTAT 2023).

Investments in education and training create skills essential for manufacturing and service jobs, as countries transform from predominantly agricultural to modern manufacturing and service sector economies. Recent data from periodic household surveys in India, discussed

later, show that the narrative of female labor force participation has changed considerably in recent years, from one of declining female labor force participation, at already low levels, to increased participation. Moreover, the wage gap between genders may also have narrowed, particularly, for the educated labor force. During the 20th century, women's education levels increased throughout the world, including in India, to the extent that in most high-income countries, women are now substantially more educated than men. Access to contraceptive pills to facilitate family planning also played an important role in accelerating this revolutionary change, offering new opportunities for career planning. Yet, despite modernization, economic growth, and rising proportions of employed women in the 20th century, for a long period, the earnings gap between women and men has scarcely closed. Recent evidence from India shows signs of a narrowing wage gap for educated women. Goldin (1994) further argued that part of the explanation for the continued wage gap is found in educational decisions, made at relatively young ages, which impact a lifetime of career opportunities. If the expectations of young women are formed by the experiences of previous generations—for instance, their mothers, who did not return to work until their children had grown up—then development will be slow. Goldin noted that most of the earnings difference is now between men and women in the same occupation, largely arising with the birth of the first child. How does it play out in the Indian context?

Other consequential factors include, for example, changing values and norms toward women's work outside the home and the quantity and quality of childcare facilities. They determine whether and how women can devote time to work away from home, without concern about their children's welfare, and, importantly, concern for their own safety. Therefore, women's fearless mobility matters. Violence against women is rampant in many countries and even greater in India, as reported in the World Bank Gender Data Portal (World

Bank 2024a), preventing women's full mobility and effective participation in work outside the home. There are also related issues around the weight that society attaches to real or perceived virginity of unmarried women.

I outline Indian female labor supply in the context of cultural attitudes toward female children in Section 2. In Section 3, I discuss the phenomenon of informality of the labor force and women's work. In Section 4, I describe Indian female social indicators, as they affect the quality of female labor. In Section 5, I discuss India's female labor force participation comparatively with other countries in the world. In Section 6, I discuss factors affecting female labor participation, including development strategy and skill development, effect of cultural norms and safety concerns, and other social issues. Childcare and fertility are discussed in Section 7. The Women's Reservation Bill is reviewed in Section 8, and I conclude in Section 9.

2. A Description of India's Female Labor Force: Social Values and Norms

In 2022, the world's female population was 49.7 percent of the total, falling gradually from 49.9 percent in 1973. Notable exceptions were in China and India (StatisticsTimes.com 2024).

India and China each have had more favorable male sex ratios, reflecting higher overall supply of men. Some causes of the high male sex ratios in India and China are common, but others vary. Common factors are strong son preference and easy access to sex-selective abortions in both countries (Wikipedia 2024b). The gap between education and employment levels is huge and needs to be explained.

In the 1980s, prenatal ultrasound became widely available. Abortion, already legalized in India earlier in 1971, became more widespread. India had a birth ratio of 111 males to 100 females according to the 2011 census, even though fetal sex determination was outlawed in 1994. The sex gap has at last begun to narrow. India's latest sex ratio at birth is 108 males to 100 females (Tong 2022; Silver et al. 2023).

In China, the one-child policy, and in India, the tradition of the dowry system (payment of cash, jewelry, real estate, land by a bride's family to her husband as a traditional condition of marriage), have also contributed to the high cost of having a girl child and to discrimination against and abuses of females (Pletcher 2024; see also, Wikipedia 2024a). In China, the groom's family pays the bride's family, but that does not seem to have adversely affected son preference, an issue worth pursuing in future research.

Political representation in a democratic India is good at some levels, for example, at the level of Prime Minister and the Presidency, but it is unclear whether it matters for determining outcomes. In China, although in 1949, Chairman Mao Zedong accorded women "half the sky," there has not been female leadership at the level of head of state (Tan 2021). In India, there are billionaire female entrepreneurs and a considerable representation of women in local elected bodies, where it was made mandatory in 2023. First introduced in 1996, the bill gained traction with many state governments, but at least 14 of India's 28 state legislatures must approve it for it to become enshrined in the Constitution. Women's representation in both houses was last reported to be only around 14 percent, and women made up only about 8 percent of the candidate field in 2014 (Santhanam 2023), a record described as "abysmally low," by Raghuram Rajan, former Governor of the Reserve Bank. One in five women

employed is “one of the lowest rates in Asia (Rajan & Lamba 2024). The new legislation will affect representation in Parliament and in state assemblies, as well as overall effectiveness in participation—but it will take a long time to realize and have actual social impacts on women’s effective participation (Banerji 2023; Ioanes 2023; UN Women 2023).

A recently published survey found that approximately 55 percent of national-level respondents considered women and men to be equally good political leaders, and 14 percent thought that women made better politicians than men (Evans et al. 2022).

Low participation of women in science, technology, engineering, and math (STEM) in India is consistent with the global record of women constituting less than 30 percent of the world’s STEM researchers (WEF 2020). The number of women faculty in STEM in India was about 14 percent (Mudur 2022; UNESCO 2019), compared to 35 percent worldwide. Across 100 Indian universities, only 16.6 percent of the overall STEM faculty were women (Muralidhar and Ananthanarayanan 2024). More than 40 percent of the total graduates in STEM in India were women (World Bank 2024c). Similar findings were reported by the 2020–21 All India Survey on Higher Education (AISHE 2021). Worldwide, women comprise 42.3 percent of the sample in STEM education—including undergraduate, postgraduate, MPhil, and PhD courses. According to the World Economic Forum (WEF 2023), however, women accounted for 27 percent of the India STEM employment and ranked 127 in the world.

There are some positive role models on which India needs to build. Over 100 women scientists and engineers are reported to have been involved in India’s lunar landing mission on August 23, 2023, with India becoming the first country to put a spacecraft near the Moon’s

south pole. Many women were in leadership positions at the time of the launch and during the landing, a story widely reported in Indian news media (Krishnan 2023).

3. Informality and Women's Work

For low-income countries, informality dominates labor markets, and women play a disproportionate role in informal markets relative to men. The International Labor Organization (ILO) defines all economic activities by workers and economic units, which are either in law or in practice not covered or insufficiently covered by formal arrangements, as informal. An informal labor market is characterized by low wages and low productivity, a lack of job security, and no worker benefits. In India, women make up almost half of all informal labor, and approximately 80 percent of women employed in India work in the informal sector (ILO 2018). Informality dominates in all sectors in India.

Almost 70 percent of employment and 33 percent of output in emerging market economies is a product of the informal sector (World Bank 2019, 29). Informality is also detrimental to fiscal governance. In emerging markets, countries with above average levels of informality had lower government revenue relative to countries with below average levels of informality (Ohnsorge & Yu 2021). Figure 1 shows that informality is higher in low-income countries, compared with middle- and high-income countries.

<INSERT FIGURE 1 approximately HERE>

Sectorally, agriculture has the highest rates of informal labor. Informality decreases in the industry and services sector, relative to agriculture, in high-income countries, while

informality persists across sectors in low-income countries. Countries lagging in ST are characterized by high rates of informality. Rates of informality drop, as countries transition in income, as seen in Figures 2–4. For a further discussion on informality, see Dey (2023).

<INSERT FIGURE 2 approximately HERE>

<INSERT FIGURE 3 approximately HERE>

<INSERT FIGURE 4 approximately HERE>

In Indian states, female labor force participation has been less than 40 percent. Participation rates are particularly low in northeastern India (Figure 5).

<INSERT FIGURE 5 approximately HERE>

Table 1 shows the state-wise Labor Force Participation Rate (LFPR) by residence (rural/urban) and gender (male/female) in India for the period, July 2022–June 2023, for persons 15 years and older.

To understand the relationship between income and female labor force participation, we estimated regressions using Female Labor Force Participation Rate versus Per Capita Net State Domestic Product (both linear and quadratic) for year 2019–20 (used in the paper) and 2020–21 (latest available data) (MoSPI 2024). In both cases, the results were not significant, and R^2 values were very low, and are not presented here. Also, data are not directly

comparable between 1971 and 2019–20, because indicators were defined differently (1971 data referred to the female *working* population, whereas 2019–20 data referred to female *labor force* participation).

To better understand determinants of women’s labor force participation and differences across time and space, greater attention needs to be paid to the consistency of concepts of how and why data are collected. As it is, they are less amenable to critical analysis.

4. Female Social Indicators

India scores poorly on overall female literacy and health rankings compared to male rankings. Despite gains, India’s female literacy has lagged other less developed countries, like Eritrea, Algeria, Botswana, and Honduras (World Bank 2024d). There is also scope for improvement in life expectancy at birth for Indian women, compared with other developing countries. The National Family Health Survey, conducted in 2019–20, showed that the sex gap had begun to close but was still too wide. India’s most recent sex ratio at birth was 108 males per 100 females (Tong 2022). The 75th Round of the National Sample Survey (NSS) on Household Consumption Expenditure on Education, conducted in 2017–18, placed the literacy rate of females aged 7 years and above at 70.3 percent (MoSPI 2018); according to the World Bank, adult Indian women rate above age 15 was 66 percent (World Bank 2024d).

In 2019, India’s female life expectancy was 72.2 years. Although substantial increased from 64 years in 2000, and slightly better than male life expectancy of 69.5 years in 2019, the 5th Round of the National Family Health Survey (NFHS) found that most women encounter barriers in accessing health care—facilities are frequently too distant with travel to them

unfeasible and too expensive to utilize. A scarcity of women doctors is also a problem (GOI 2022).

5. Female Labor Force Participation Compared to Other Countries: Unresolved

Conceptual Issues

Only ILO data allows for intercountry comparisons of “employment.” ILO often uses the term employment interchangeably with “labor force participation.” According to ILO data, globally, female labor force participation has remained flat over the last three decades. In five of the world’s seven regions, more than half of adult women are employed in formal employment while male participation in employment is about 80 percent across all regions. The gender gap is narrowing in some regions, such as Latin America and the Caribbean, partly due to falling male employment participation and a concurrent increase in female participation. South Asia and the Middle East and North Africa (MENA) are the two regions with the lowest levels of female employment as the share of total employment. India is a notable in that the share of women’s formal labor force participation in India is not only lower than in other countries at similar levels of per capita income (Figure 6), but it was declining a decade ago (Chaudhary & Verick 2014). Even with the recent increase, the employment share remains lower than in other countries, but is also lower than in the earlier decade (Figure 6). Female labor force participation/employment is either stable or increasing in most other countries, and in most cases, is substantially higher than in India.

<INSERT FIGURE 6 approximately HERE>

The starker comparison is with India's neighbors—Pakistan and Bangladesh. Bangladesh had a lower share of female employment, compared to India in the 1990s, but its steady increase is consistent with growing manufacturing and services sectors, with the share of women's employment in agriculture decreasing over time (Sarkar et al. 2019). Bangladesh overtook India in share of female labor force employment about 2010, and the gap between the two countries continues to widen. Rahman and Islam (2013) noted that Bangladesh's improvement was predominantly driven by employment in urban labor-intensive and export-oriented textile industries. The gap between India and Pakistan, on the other hand, has been greatly reduced and converged to the 20–25 percent range in recent years. When India is omitted from low-middle-income countries, the region's share of female employment in total increases by a considerable margin, according to the WB Gender data portal, closing the gender gap by 10 points.

The latest labor force participation survey, released in October 2023 by the National Statistical Office (NSO), showed an unemployment rate of 3.2 percent over the July 2022–23 period, the lowest level since the surveys started in April 2017. Data also showed a steady *rise* in the labor force participation rate of women to 57.9 percent for the period ending June 2023, compared to 49.8 percent during the period July 2017 to June 2018 (MoSPI 2024). However, this rise was accompanied by an increase in self-employment, including unpaid household work and employment in small businesses.

Wage employment, a better form of employment, declined to 20.9 percent from 22.8 percent in 2017–18. In contrast, the share of self-employment increased to 57.3 percent from 55.8 percent in the previous year and from 52.8 percent in 2017–18 (MoSPI 2024). Female employment has increased, too, but largely as unpaid household work or in agriculture.

According to Mehrotra and Sinha (2017), women are “forced” to do unpaid work, rather than being able to obtain paid employment at a decent wage.

Labor force participation rate for males in India increased from 75.8 percent in 2017–18 to 78.5 percent in 2022–23; the corresponding increase for females was from 23.3 percent to 37.0 percent (GOI 2023). In rural areas, labor force participation increased from 50.7 percent in 2017–18 to 60.8 percent in 2022–23; for urban areas, it increased from 47.6 percent to 50.4 percent.

The unemployment rate decreased to 2.4 percent in 2022–23; for urban areas, it decreased from 7.7 percent to 5.4 percent. The unemployment rate for males in India decreased from 6.1 percent in 2017–18 to 3.3 percent in 2022–23, with a corresponding decrease for females from 5.6 percent to 2.9 percent.

Women’s share of the agricultural labor force increased from 55.3 percent in 2017–18 to 64.3 percent in 2022–23. Similarly, a larger number of youth (41 million) are pursuing education until 23–24 years of age—a sign of a lack of employment opportunities—compared to 17 years previously, when they left school for work (World Bank 2024b).

The World Bank reduced India’s economic growth forecast by 0.7 percent in 2022–23, due to continued preponderance of the informal sector and a lack of growth in its productivity. Moreover, there is heterogeneity in female labor force participation rates across different Indian states. Unfortunately, more granulated data on women’s employment by profession were not available.

Observing state-level data in 1971 provides a context for examining the latest figures. Figure 7 examines labor force participation rates across states using data from the 2019–20 Periodic Labor Force Survey (PLFS). As stated earlier, however, these data are not comparable over time since they use different definitions. Northeastern states of Andhra Pradesh, Maharashtra, and Himachal Pradesh lead the list of states with female labor force participation rates of 20 percent and above, while states, like Punjab, Haryana, West Bengal, and Assam are at the bottom. These differences across states are striking. Beyond any general cultural issues that would influence these differences, reasons for their divergence are not clear and need more research.

<INSERT FIGURE 7 approximately here>

The divergence among states is persistent. Himachal Pradesh, Chhattisgarh, and Sikkim lead the list of states, with Maharashtra, Tamil Nadu, and Gujarat in the middle of the list.

Northern states like Uttar Pradesh, Bihar, and Haryana perform worst. Haryana is next door to Himachal Pradesh, but reasons for differences between the two in the share of female employment are not clear.

Bhalla (2023) questioned these estimates, addressing participation rates and wage gaps. He argued that female labor force participation is “near record highs”—which is not what our research suggests—and the wage gap compares well globally. Especially stunning, he argued, is the 3 percent wage gap for unmarried women (single, divorced, separated). Bhalla concluded that the labor force participation gap in India has been declining and is now very close to the level observed during 1993–2004, when India had a more liberal definition of female work. He asserted that the gender wage gap is low, comparable to the best of

advanced countries, especially for college-educated women: “A record Indian society can be proud of, with room left for further progress!”

Of the two gaps—participation and wages—the lower participation rate for women has received the most attention in India because the NSS employment survey for 2011–12 showed a steep decline in female participation. Regardless of the definition of work used, this decline was more than 10 percentage points lower than in 2004–05. With development and education, the trend has been upward in most economies, with both economic growth and female educational attainment increasing rapidly in India, too.

So, why did Indian female labor participation decline? Bhalla (2023) argued it was likely due to a definition change. Rural women who worked at home (collecting firewood, water, etc.) were counted as unpaid workers in 2004–5 (hence, in the labor force), and then, *not* counted as unpaid workers in 2011–12.

Indian labor market data (PLFS, formerly NSS), released for the agricultural year 2022–23, allow for longer term comparisons. Bhalla (2023) used NSS/PLFS labor market data over the past 30 years to discuss India’s progress on the Goldin (1994) gender gap. For more than a decade, Indian experts have been puzzled by the trend in the female labor force participation rate, which seemingly has not followed the secular increase pattern rigorously estimated and forecast by Goldin (1994). Using the usual status definition of labor force (employed for at least 30 days) for the age group of 15–64 years, Table 1 reports that the participation rate for women, at 39.2 percent, was within 5 percentage points of the 44-percent level observed in 2004–5, and 6.3 percentage points *higher* than the 2011–12 level of 32.8 percent. The Consumer Pyramids Household Survey from the private Centre for Monitoring Indian

Economy [CMIE] places the female labor participation force rate at just 10.3 percent in 2022–23, and therefore, can be dismissed. The CMIE data are discussed further later in this section.

For the age group of 25–64 years, not affected by school and college enrollments, participation rate was 45.6 percent in 2022–23. Regardless of definition, the rate estimates for 2022–23 are very close to the 1993–94 estimates, confirming the Goldin U-shaped curve. Also reported in Table 1 is the participation rate gap between male and female participants—now, at 52.0 percentage points; it is nearly the lowest observed in Indian history.

News on the wage gap is even more encouraging for the Indian economy. For individuals aged 25–64, the gender wage gap is 30 percent, but is not adjusted for education, an important contributor to earnings. A strict control for education is available by looking at only college-educated workers. For all unmarried workers with college degrees, the wage gap is almost nonexistent—only 3 percent in 2022–23 (compared to 6 percent for the United States). For all college-educated workers (married or unmarried), the wage gap is 16 percent (compared to 20 percent in the United States). No matter how one examines the wage data, the Indian record is one of consistent improvement over the years, and with low wage gaps for college-educated workers, the numbers are comparable and likely better than for several advanced countries.

<INSERT TABLE 1 approximately HERE>

We next explore evidence and determinants of performance, and what we know and need to know through more data/research and analysis for better outcomes.

6. Factors Affecting Female Labor Force Participation

I propose six important factors in determining women's participation in the labor force:

1. *Development strategy and skill development*: Whether a country's overall development strategy is employment-oriented makes a difference. Despite being the fastest growing economy globally in recent years, and notwithstanding liberalization since 1991, India's import-substituting industrialization strategy has created few jobs, including for men (Figure 8). Comparisons with East and Southeast Asian neighbors are striking. The manufacturing sector, which creates higher productivity employment than agriculture, has a lower share in GDP than in China, South Korea, or Vietnam, and the manufacturing share has been improving only slowly.
2. *Demographic transition*: This has been less rapid in India than in China, South Korea, or Indonesia.
3. *Cultural factors*: Traditional gender roles, meaning women as housewives and men as breadwinners, are changing rapidly in some countries. In India, however, these attitudes have changed slowly, as recent evidence from Pew Surveys shows. In some societies, not working outside the household is considered a matter of status for women. Income and status are positively related, a phenomenon noted in India, as well as in Japan and South Korea.
4. *Insufficient investment in vocational education and training*: Vocational education and training are needed to create skills necessary for manufacturing and service jobs.
5. *Insufficient quantity and quality of childcare facilities*: Without needed childcare facilities, women's work remains in the home.

6. *Concern about women's safety and their limited mobility*: A concern about “protection of women” has led to several written and unwritten rules limiting women’s work to specific hours of the day and specific spaces, especially in areas where crime is increasing.

Evidence to support these propositions follows.

6.1 Development strategy and skill development

ST provides a useful framework for understanding women’s changing employment status. It is a combination of:

1. The process of demographic transition;
2. Agricultural productivity growth; and
3. Reduction in GDP share and employment of agriculture in the economy and increase in per capita income.

Together, with these changes comes an increase in the share of GDP and employment in the manufacturing and service sectors, which tend to have higher productivity. Based on the experience of 130 countries from 1970–2007, we have shown that ST has been more rapid in countries where there has been a shift in overall employment and GDP shares in favor of manufacturing and service sectors (Lele et al. 2021). This also applies to women’s employment.

South Korea, China, and other East and Southeast Asian countries have experienced more rapid ST than India: (1) more rapid GDP growth (Figure 8); (2) more rapid demographic transition in the form of a decline in female fertility rates; and (3) more rapid decline in the

share of GDP in agriculture, commensurate with an increase in growth in the manufacturing and service sectors, combined with rural–urban migration. The transformation has meant people who were employed in agriculture and carrying out informal work have moved more rapidly to employment in other, more skill-intensive, productive sectors. In China, through migration, women have benefited from relatively more formal jobs—in factory assembly lines, service sector employment, etc., where they earn higher wages, leading to greater voice and status in the household.

<INSERT FIGURE 8 approximately here>

Figure 9 charts the share of agriculture in GDP. In the left panel of Figure 9, we see that South Korea, China, Vietnam, and even Bangladesh have experienced a more rapid decline in the share of agriculture in the economy than has India.

<INSERT FIGURE 9 approximately here>

ST must also be examined with respect to changes in workers’ skill levels. The Asian Development Bank (Majumdar 2008) highlighted lack of education and skill development in India as headwinds to employment and wage growth. In India, women’s literacy rate at the national level was 65.46 percent in 2011, compared to 82.14 percent for men. The Ministry of Minority Affairs implemented skill development schemes, like *Seekho aur Kamao (Learn and Earn)* (<https://pib.gov.in/PressReleasePage.aspx?PRID=1910025>); *USTTAD (Upgrading the Skills and Training in Traditional Art/Crafts for Development)* (<https://nift.ac.in/node/196>); *Nai Manzil (New Horizons)*

(<https://www.worldbank.org/en/results/2022/07/08/giving-young-people-from-indias-minority-communities-a-second-chance>).

6.2 Cultural norms and safety concerns

Gender roles are determined by prevailing cultural norms. Procreation, childcare, and household responsibilities traditionally have been the domain of women, with men as breadwinners. Despite a sea change in gender roles in Western countries during the 20th century and Indian women having received the right to vote at the time of independence in 1947, traditional gender roles in India have remained entrenched. Opinion surveys by the Pew Research Center in many states and over time in India, and comparatively in other countries, provide data on attitudes toward gender roles. The latest survey in India (2019) revealed that many Indians express egalitarian views toward some gender roles, for example, in the home and as political leaders. For instance:

- 62 percent of adults said both men and women should be responsible for taking care of children. A third of adults (34 percent) felt that childcare should be handled primarily by women.
- Fifty-four percent said that both men and women in families should be responsible for earning money, but 43 percent considered this mainly the obligation of men.
- Eight in 10 agreed with the sentiment that when jobs are in short supply, men should have greater rights to employment than women.
- Even college-educated Indians sometimes overwhelmingly endorsed traditional views on gender-related issues. For instance, 80 percent of those with a college degree and 88 percent with less education agreed that wives must always obey their husbands.

Further, Indian society places higher value on son preference rather than daughters (CNBC 2021; Gupta & Negi 2021).

More adults see *violence* against women as a major national issue. A 2021 Pew Research Center reported that three-quarters of Indians viewed it as a “very big problem”—greater than 65 percent who said communal violence was a very big problem—similar to 76% share who saw crime and corruption as a major issue (Sahgal et al. 2021). Police cases registered as “crimes against women” nearly doubled between 2010 and 2019, and rapes and murders of women have led to massive protests across India (Economic Times 2012), possibly explaining Indian laws and regulations limiting women’s work participation to certain hours of the day and areas.

The International Center for Research on Women (ICRW) was among the first to examine domestic violence in India. Since 2008, ICRW has been testing and replicating its Gender Equity Movement in Schools (GEMS) program in India, which promotes gender equality among girls and boys and counters gender-based violence. Since 2008, the program has reached 2.5 million students and trained 26,000 teachers across five states in India (ICRW 2022).

The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 (POSH Act) protects employees in India from sexual harassment, requiring organizations to establish internal committees to hear and address grievances about sexual harassment. The government threatened to act against employers who do not comply with the law (GOI 2015). Recent reports suggest, however, that there has been an *increase* in the

number of cases of sexual harassment reported by Indian companies in their annual reports over the past decade (Chawla 2024).

The World Bank has recently initiated the mainstreaming of gender in infrastructure and also has introduced the Public–Private-Partnership (PPP) Gender Toolkit, developed by the Public Private Infrastructure Advisory Facility (PPIAF) and Global Infrastructure Facility (GIF).

The toolkit is intended to help PPP practitioners prepare gender-informed PPP projects to effectively close gender gaps. Gender-responsive PPPs incorporate design features, measures, and specific actions for reducing gender inequalities (or closing gender gaps) within the community of stakeholders affected directly or indirectly by the project (World Bank 2024a).

Women’s safety and work participation can be greatly enhanced by introducing safe modes of public transportation and other public–private initiatives. Unsafe or unavailable transportation increases the opportunity cost of work for women, especially considering their dual burdens at work and at home. ILO found lack of access to safe transportation was associated with a 16.5 percentage point reduction in female labor force participation rates in developing countries (Yoon & Kühn 2017). Lei et al. (2019, 1) showed that “access by paved or unpaved roads and frequent bus services increase the odds of nonagricultural employment among men and women.” Investment in safe and timely public transport is imperative.

Policies like separate railcars reserved for women in Mumbai’s local trains and the Delhi metro are steps aimed at creating safe spaces for women’s travel. More recently, the Karnataka government launched the *Shakti* scheme, providing free travel for women in state-run buses to widespread uptake. In three days following the scheme’s launch, reportedly almost 10 million women traveled on state-run buses, costing the state Rs. 210 million (Times of India 2023).

IFPRI's Global 50/50 Report 2023/2024 expanded its focus to address policy to promote equality of opportunity in the workplace, with recognition of the need for workplace policies related to childcare and eldercare to support employees' care responsibilities (Global Health 50/50; IFPRI and UN Women 2024).

Age differences in attitudes among Indian women are minimal, with older women slightly more likely to hold conservative views on gender roles. Similarly, between men and women, changes in attitudes toward gender roles have changed relatively little over a decade (Evans et al. 2022). The general consistency across age groups suggests that Indian attitudes on family gender roles may be changing very slowly over time. Perhaps, the biggest changes have occurred since the early 2000s.

Between the NFHS survey's second (1998–99) and third (2005–06) rounds, several measures showed a move away from traditional attitudes. For instance, the share of married men under age 50 who said husbands should have greater say in deciding about visits to a wife's family or relatives declined slightly, from 26 percent to 21 percent (GOI 2024).

6.4 Other social issues, including religion, affecting decisions to work

Afridi et al. (2023, 1) noted:

Our results highlight the strong effect of gender norms and patriarchy on marital preferences, especially for men hailing from higher castes and northern India, where communities have more traditional gender norms. These findings

suggest that expectations regarding returns in the marriage market may influence women's labor market participation and the nature of market work.

Hinduism is the only surviving world religion that practices goddess worship (Rajan 1998). The deities are the goddesses of wealth (Laxmi), of knowledge (Saraswati), and of power (demon-destroying Durga). The three represent female counterparts of the male trinity of Brahma, Vishnu, and Mahesh. As Eller (2000) noted, "feminist spirituality" is a predominant characteristic of ionophilic religions. The existence of powerful woman deities raises the question of how their worship translates into the social experiences of women in the community. Two matters must be discussed in this regard: *One*, the direct role of goddess worship on women's status, and *two*, rules laid down by texts of religious law that governed (and, in some cases, still do) the social and economic status of women.

Feminist scholar Rajeswari Sundar Rajan (1998, WS-35) noted, "the divide between goddesses and women as social beings can be maintained by patriarchy without any sense of contradiction." She draws a parallel between the Lakshmi–Saraswati–Parvati trinity of deities that guide both the social and status-maintaining expectations of women. There is a huge culture in India of worshipping fierce warrior goddesses, like Kali and Durga, as well. Different goddesses embody different attributes. Some scholars (Vemuri [2021, 92]) have claimed that tension between "nurturing tendency" and "sexual potency" that goddesses embody are simultaneously perceived as essential and dangerous to men. Indeed, Rajan (1998, WS-35) emphasized the variety of goddesses, including tribal goddesses, worshiped in different parts of the country, but also cited author Tracy Pintchman's "puzzlement" over the contradiction of powerful female deities and women's status as "ambiguous," with goddesses "rarely invoked as explicit role-models in the socialization of girls."

Not only does the worship aspect of religion guide women's status, but also religious laws over time. Preference for sons has been expressed throughout Indian history. The Hindu legal text, the *Manusmriti*, infamously claimed that "a woman is never fit for independence." Hindu inheritance laws were historically derived from *Mitakshara* law (written by Vijnanesvara in the early 12th century) where the coparcener (or *karta*) in a joint Hindu family could only be male members, descended lineally from a common male ancestor. The *karta* was also the family member who performed funeral rights, emphasizing son preference even in ancient times. Moreover, as per *Mitakshara* law, widow's rights were excluded. In the Hindu Succession Amendment Act (2005):

"... , *the daughter of the coparcener shall:*

- (i) *by birth be a coparcener in her own right in the same manner as the son.*
- (ii) *have the same rights in the coparcenary property as she would have if she had been a son.*
- (iii) *be subject to the same liabilities in respect of the said coparcenary property as that of a son...*" (Ministry of Law and Justice 2005)

Historic son preference manifests itself as a "missing women" phenomenon (Sen 1990).

Amartya Sen has written about the 100 million missing women, mostly in China and India due to son preference. NFHS 2019–2021, examining a declining sex ratio and a reduction in Total Fertility Rate, used data from all rounds to find a son preference at the 3rd birth order, since "the desire for a smaller family combines with the traditional preference for sons." In fact, Borooah and Iyer (2004, 2) noted that the effects of "desire for sons" and "fear of daughters" limit the size of the Hindu family. Anderson and Ray (2012) revisited the idea of

“missing women,” looking at not only the state of being missing at birth or young ages, but also adult mortality. They found that more than 2 million women are missing in India in any given year, and in most states, most missing women die during their reproductive ages. The only states where missing women are never born, or die as children, are Haryana and Rajasthan, suggesting extreme sex selection in these states.

Although laws have been amended to be inclusive of women, social norms still guide status and workforce participation of women in India. Afridi et al. (2018) provided a parametric as well as semi-parametric decomposition of the decline of the female labor force participation rate in India from 1987–2011. Their results suggested that, at minimum, increases in women’s and men’s education explain at least 22 percent and 53 percent of the total decline between 1987 and 1999, respectively. Similarly, increases in education of women and men account for at least 8 percent and 16 percent of the decline between 1999 and 2011, respectively. The role of women and more educated women, particularly, in home production is critical. Since rural Indian women have had low initial levels of education, recent changes in female education are more likely to have increased women’s marginal productivity in the home than in the market, at least for those women with young children—when investments in health and education are critical. Indeed, decline in the participation rate for women 25–45-years-old was greater than decline for 46–65-year-olds in both decades.

Sarkar et al. (2019) proposed that female employment is a dynamic model of intertemporal utility maximization, dependent on the income of other household members. They utilized the India Human Development Surveys (IHDS) 2005 and 2012 to examine factors that affect entry and exit in labor markets for women. They found that women who are household heads have higher (lower) likelihoods of entry (exit) than any other household members, implying

that they need to participate in income-generating activities. Having a newborn child between the two rounds is associated with a 3-percentage point higher probability of exit, and women from socially disadvantaged or backward caste categories are significantly more likely to enter employment and less likely to exit, as compared to those of high castes. The effect of caste on employment transition is less prominent in urban areas. Also noteworthy are women, who belong to households with highly educated male members, and who are less likely to enter and more likely to withdraw from the labor force. Households with educated males are likely to be economically better off and have higher social status.

7. Childcare and fertility

More women are working, and working more, especially in developed countries. This increased work participation, however, does not directly translate into lower responsibilities at home. Access to affordable childcare, then, is important for women to continue work, especially, as family structures have changed to more nuclear families, and mothers aim to reenter the labor market to supplement family income, restart their careers, and achieve their professional aims.

Economic theory has long modeled the relationship between childcare and women's employment. Heckman (1984), in a classic paper, described the impact of supply-side measures to reduce the cost of childcare, which lower the reservation wage for mothers, leading them to work more. Blau and Robins (1988) extended Heckman's model to include an informal source of childcare (the husband, or another relative), in addition to the mother's care and market care. Empirical testing of the model shows that an increase in the cost of childcare lowers the probability of the mother working, as well as the other caregiver

working. Moreover, younger women are greater users of childcare, since older women are more likely to have an older child to take care of the younger ones. These findings provide a rationale for a childcare subsidy to attract women into the labor force.

The benefits of childcare and preschool education (an “implicit” form of childcare) on mothers’ work has been thoroughly documented across both developed and developing countries, and the impact on mothers’ labor force participation rates is unambiguously positive (Baker et al. 2008; Bauernschuster & Schlotter 2015; Berlinski et al. 2011; Berlinski & Galiani 2007; Carta & Rizzica 2018; Herbst 2017; Hojman & Lopez Boo 2022). Brix et al. (2022), noted that not only does access to childcare increase the extent to which a mother is economically active, it also relieves the burden of care from older girl siblings, who often bear a high burden of household chores.

Andresen and Havnes (2019) exploited the staggered rollout of subsidized childcare services in Norway in 2002, to estimate the impact of childcare on the labor supply of caregivers. While mothers, especially those of small children, reentered the labor market, earned more, and experienced a 15-percentage point increase in the probability of being employed, there was no observed labor supply response for fathers. Similar results are found in England (Brewer et al. 2022); Canada (Baker et al. 2008; Lefebvre et al. 2009); Germany (Gathmann & Sass 2018); and Luxembourg (Bousselin 2022).

Evans et al. (2021) noted positive effects of childcare in developing countries of Kenya, Ecuador, and Brazil. Hojman and Lopez Boo (2022) implemented “the first randomized evaluation of an at scale childcare program in a developing country.” They exploited the staggered rollout of *Programa Urbano* in Nicaragua for children aged 0 to 4 years old,

belonging to poor and urban sections of society, and found a positive impact on the probability of a mother working and on annual household income.

Economic literature on the impact of access (or lack of access) to childcare on mothers in India is quite sparse—in line with the sparseness of childcare facilities outside of the Integrated Child Development Services (ICDS). The only major childcare scheme in recent times has been the Rajiv Gandhi National Creche Scheme for the Children of Working Mothers, launched in 2006, which provided childcare facilities at highly subsidized rates for children ranging in age from 6 months to 6 years, with mothers from poor/below the poverty level (BPL) families. However, it, too, has suffered from the pitfalls of limited coverage and a lack of funds, especially after the onset of COVID-19.

Considering the poorly state-funded childcare facilities in India, Nandi et al. (2020) ran cluster randomized experiments in rural parts of Udaipur district in Rajasthan over a span of three years, examining the impact of this intervention on “indicators of empowerment,” as identified by NFHS: freedom of movement for women/primary caretakers in the household, community participation of mothers, and their views on gender issues, their household decision-making power, labor force participation, time use, and mental health. Preliminarily published results reported an “Intent-to-Treat” impact of 43.4 percentage points of access to childcare-to-childcare take-up. A 16-percentage point reduction in time spent on childcare by the mother was reported, and a 770-rupee decline in total household income. In contrast to existing literature, the study claimed no consistent short-term (7-day recall period) evidence of childcare on mothers’ labor market outcomes, quoting demand-side constraints (a lack of suitable work) and patriarchal social norms as reasons. The 7-day recall period might explain

ambiguous outcomes: sporadic work may not be available and finding permanent work takes time.

Mothers and families, in general, are impacted by childcare beyond changes in market work and income. I examine the complex relationships between childcare, family welfare, children's development, household costs, and future fertility decisions.

A priori belief suggests a negative correlation between fertility rates and female labor force participation rates. True in low-income regions (such as sub-Saharan Africa), the relationship is reversed for high-income countries (Doepke et al. 2022). This phenomenon has been termed "career–family compatibility," and thoroughly documented in OECD countries (Adserà 2004; Ahn & Mira 2002; Da Rocha & Fuster 2006; Oshio 2019). It is attributed to labor market institutions in countries that make it favorable for working women to bear children.

Adserà (2004) argued that labor market characteristics impact the sign of the relationship between fertility and women's employment. Flexible labor markets (for example, in the United States), allow for easy entry and exit, giving mothers reason to be optimistic about their prospects of getting jobs, and hence, contributing to the positive relationship. Moreover, labor markets characterized by sizeable maternity benefits, especially in the public sector (as in Norway and Sweden), make it economically desirable for women to have children and participate in the labor market.

On the contrary, rigid labor markets, characterized by limited maternity benefits, experience a negative fertility–labor force participation relationship, as in the case of many middle- and

low-income countries. Moreover, women in these countries often have to bear the major burden of domestic work and domestic childcare, while also contributing to household income (suffering from what Nandi et al. [2020, 7] refer to as “time poverty”). It is in this situation that subsidized childcare has an important role to play.

Beyond the interrelationship of childcare and market work impacts and fertility, there are direct trade-offs between outcomes of a mother and a child. A child may thrive under the full attention of its mother, but the mother may have been cast out of the labor market and find it difficult to reenter. This burden is exacerbated by increased incidence of nuclear families. Sakanishi (2015) noted a significant negative correlation between the proportion of nuclear families and married women’s participation rates in Japan, noting the absence of non-market caregivers who are not the mother.

Smialek (2024) reported that the Japanese government, to compensate for its “aging and shrinking labor market,” aimed to make public policy and corporate culture “more friendly” to women in the workforce, including increasing childcare center capacity. About 83 percent of Japanese women are employed or seeking a job, up from 65 percent in the early 1990s (Figure 11)—comparable in shares to Australian women, but less than in Canada. The United States reports that about 77 percent of “prime age” women are employed or are looking for jobs.

<INSERT FIGURE 10 approximately HERE>

A 2008 study on a subsidized childcare policy in Quebec found an increase in mothers’ labor force participation, but also detrimental impacts on parental health and relationships, and

therefore, on quality of parenting (Baker et al. 2008). The United States' National Institute of Child Health and Development–Early Childcare Research Network (ECCRN) (2003, 976) study found: “The more time children spent in any of a variety of nonmaternal care arrangements across the first 4.5 years of life, the more externalizing problems and conflict with adults they manifested at 54 months of age and in kindergarten, as reported by mothers, caregivers, and teachers.” The problem behaviors noted were “aggression, disobedience, [and] assertiveness” (NICHD–ECCRN 2003, 978).

Kopp et al. (2023) noted, in their systematic review with meta-analysis, that the recent rise in maternal labor force participation has led to more research on the role of maternal employment on early childhood mental health. Children of mothers working part-time may fare better than those with mothers working full-time. Full-time maternal employment was associated with child behavioral problems and more hyperactivity/inattention. Longer employment duration, however, was related to more prosocial behaviors, but more externalizing behavior problems. Also return to work within the first year postpartum was more likely associated with poorer child mental health, but maternal employment is not “uniformly detrimental or beneficial for children.”

Positive social outcomes, such as greater immunization coverage, also occur because of childcare policies. There are gaps in the literature on the impact of market childcare vis-à-vis domestic care on mothers, from the point of view of family stability, mental health, future fertility decisions, the child's educational outcomes, etc.

8. The Women's Reservation Bill

The political reservation for women in India has long been debated in the Constituent Assembly. On July 18, 1947, freedom fighter and social activist Renuka Ray opposed the reservation, saying in the Constituent Assembly: “...women will get more chances in the future to come forward and work in free India, if the consideration is of ability alone” (Aribam 2023).

The changing attitudes toward reservation in the 73rd and 74th Amendments to the Indian Constitution in 1993, mandated one-third of all *Sarpanch* positions in the *Village Panchayats* (the most decentralized level of government in India) be reserved for women. To fulfill the amendment provisions, reservations were provided in a random manner “...across areas in each election cycle such that in aggregate, the one-third quota would be met” (O’Connell 2020, 66). The variation in which areas’ reservations were implemented has been employed in literature to examine the impact of political reservation for women.

O’Connell (2020) found that the quota helped women climb the political ladder—women candidates running for higher offices increased by 50 percent in areas where the quota was implemented, but their probability of winning—the positive impact of the quota on women’s aspirations (Beaman et al. 2012) and in reporting crimes against women (Iyer et al. 2012) has been documented. At the national level, the proportion of women represented in Parliament remains dismally low (Figure 11).

<INSERT FIGURE 11 approximately here>

9. Conclusion

Women are half of India's total labor force, with the potential to contribute substantially more to socioeconomic development through increased employment. Despite increase in female participation more recently, Indian women's labor force participation is still lower than in neighboring Asian countries, including Bangladesh and China. Factors explaining this phenomenon include slow change in traditional values of gender roles and household division of labor, development strategy that has not created enough employment, insufficient childcare facilities, and concerns about women's safety. Public, private, and nongovernmental sectors will have to work individually and collectively to help change norms, create new institutions, and recognize the importance of women's increased labor force participation.

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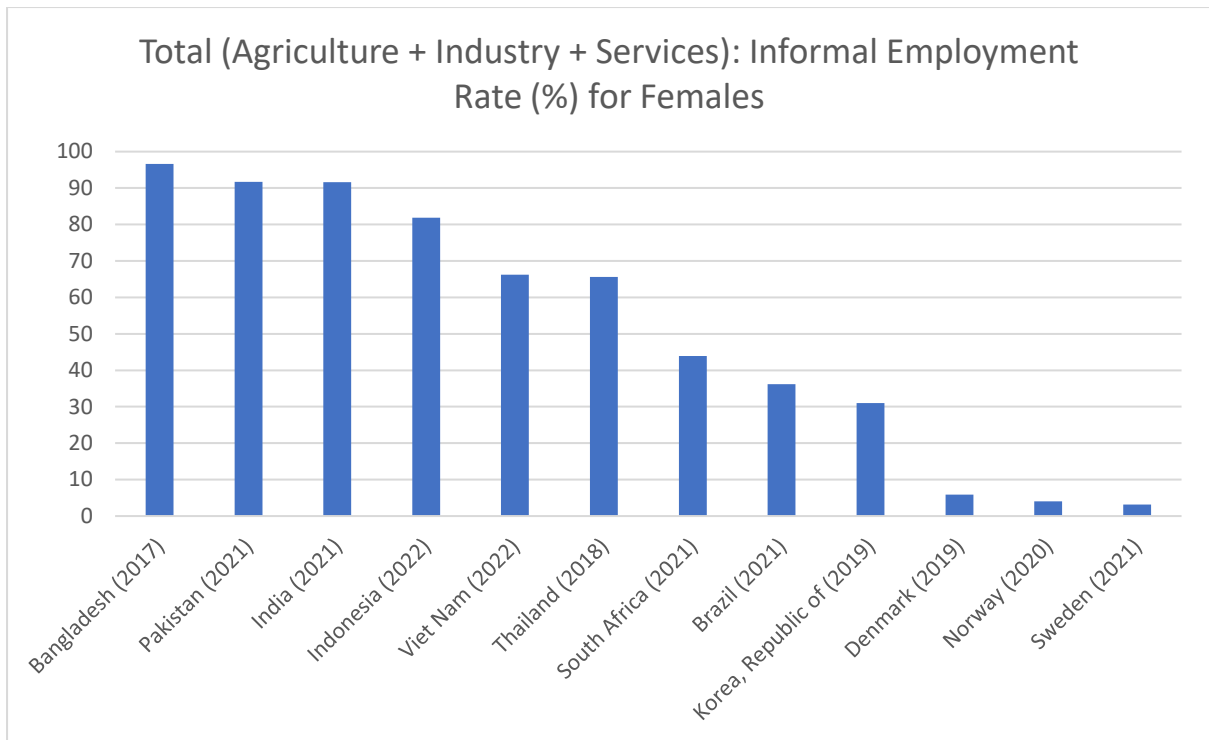


Fig. 1: Percentage of Informal Employment across Countries

Source: ILOSTAT, ILO

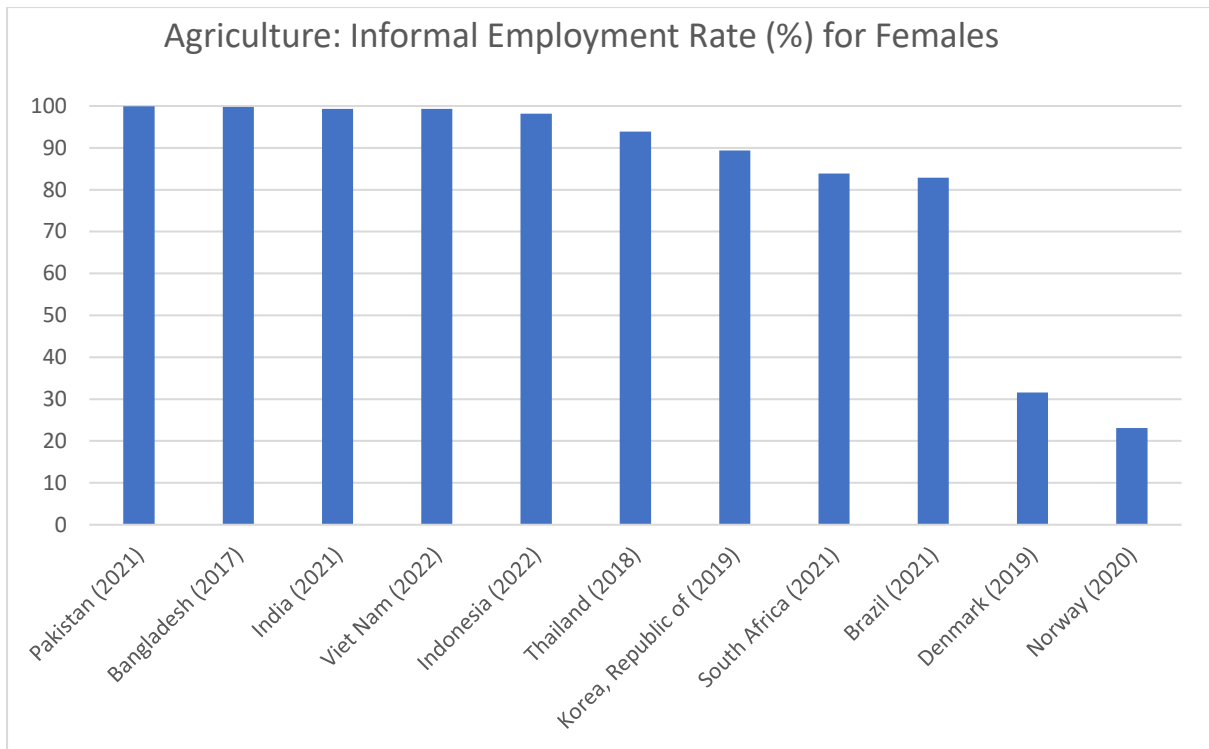


Fig. 2: Percentage of Female Informal Employment in Agriculture

Source: ILOSTAT, ILO

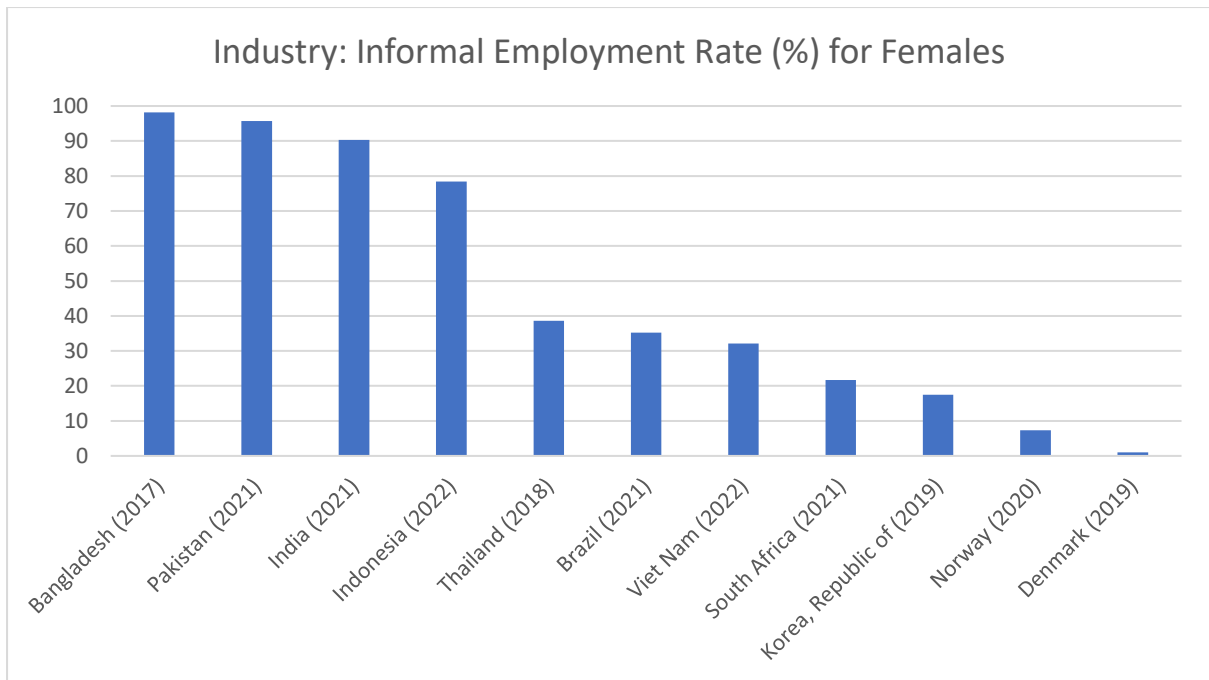


Fig. 3: Percentage of Female Informal Employment in Industry

Source: ILOSTAT, ILO

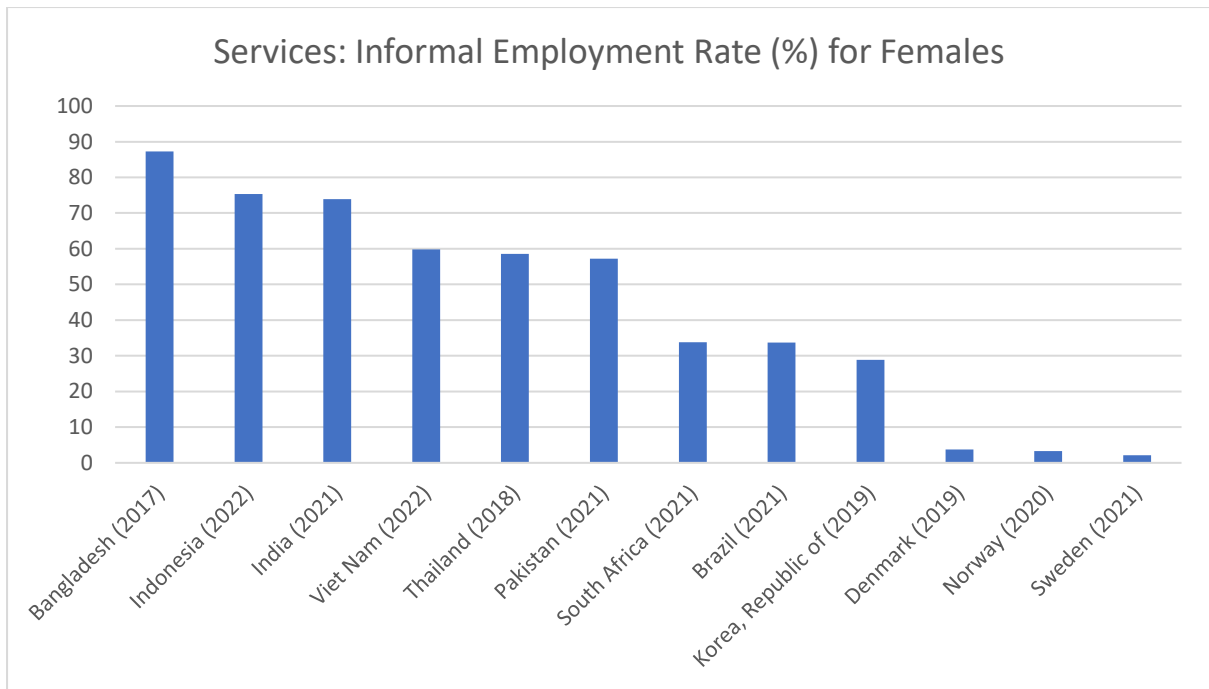


Fig. 4: Percentage of Informal Female Employment in Services

Source: ILOSTAT, ILO

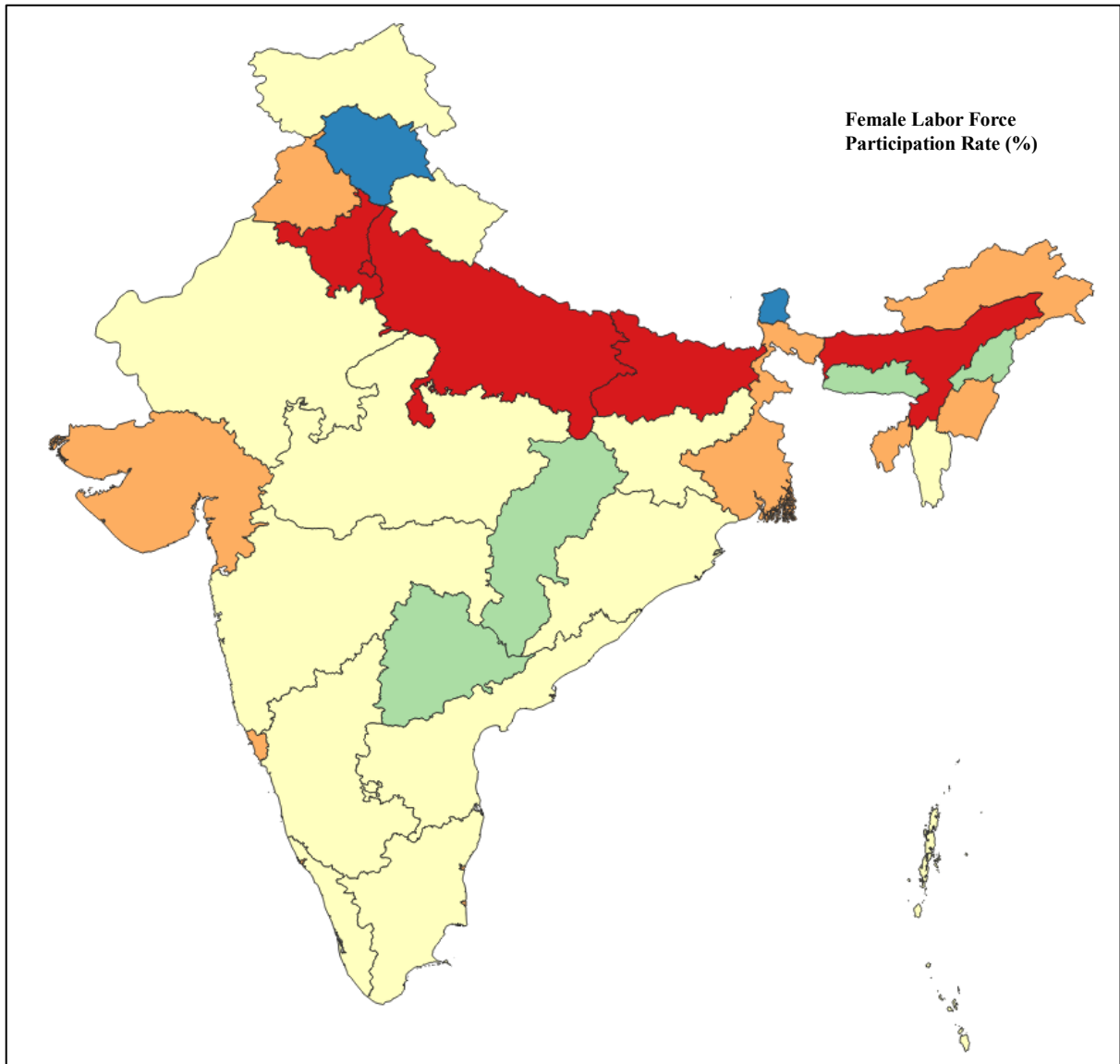


Fig. 5: Map: Female Labor Force Participation Rate by State (%) (2019–20)

Source: Based on Periodic Labor Force Survey (PLFS) data, Ministry of Statistics and Program Implementation (MoSPI)

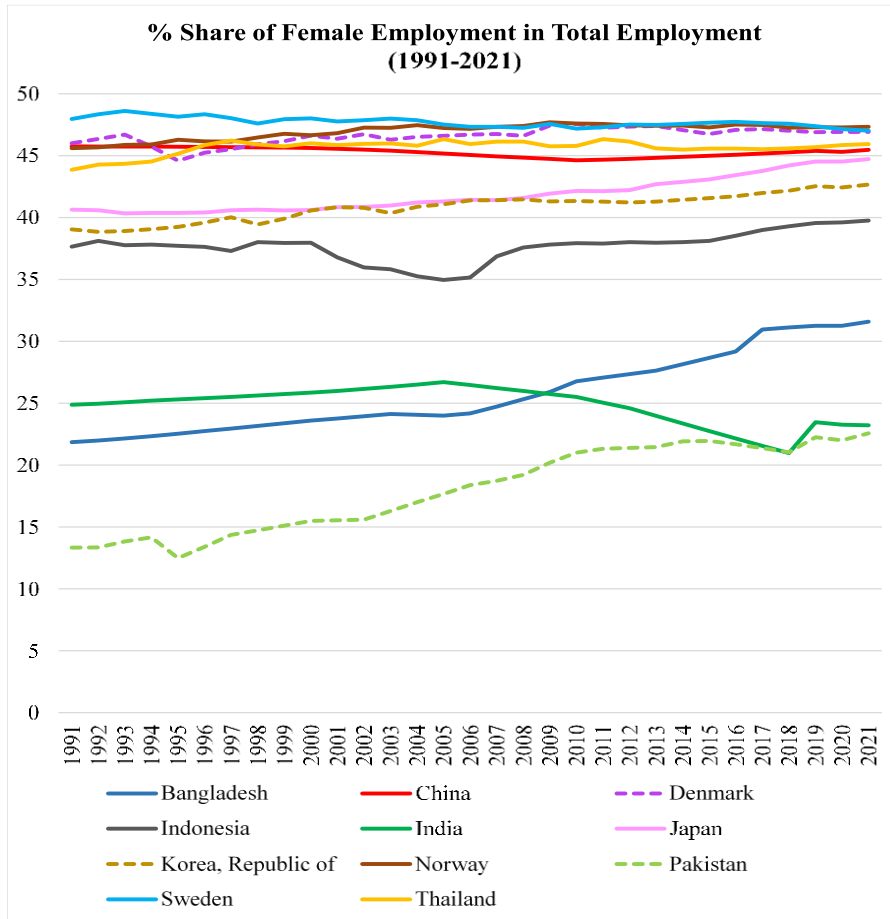
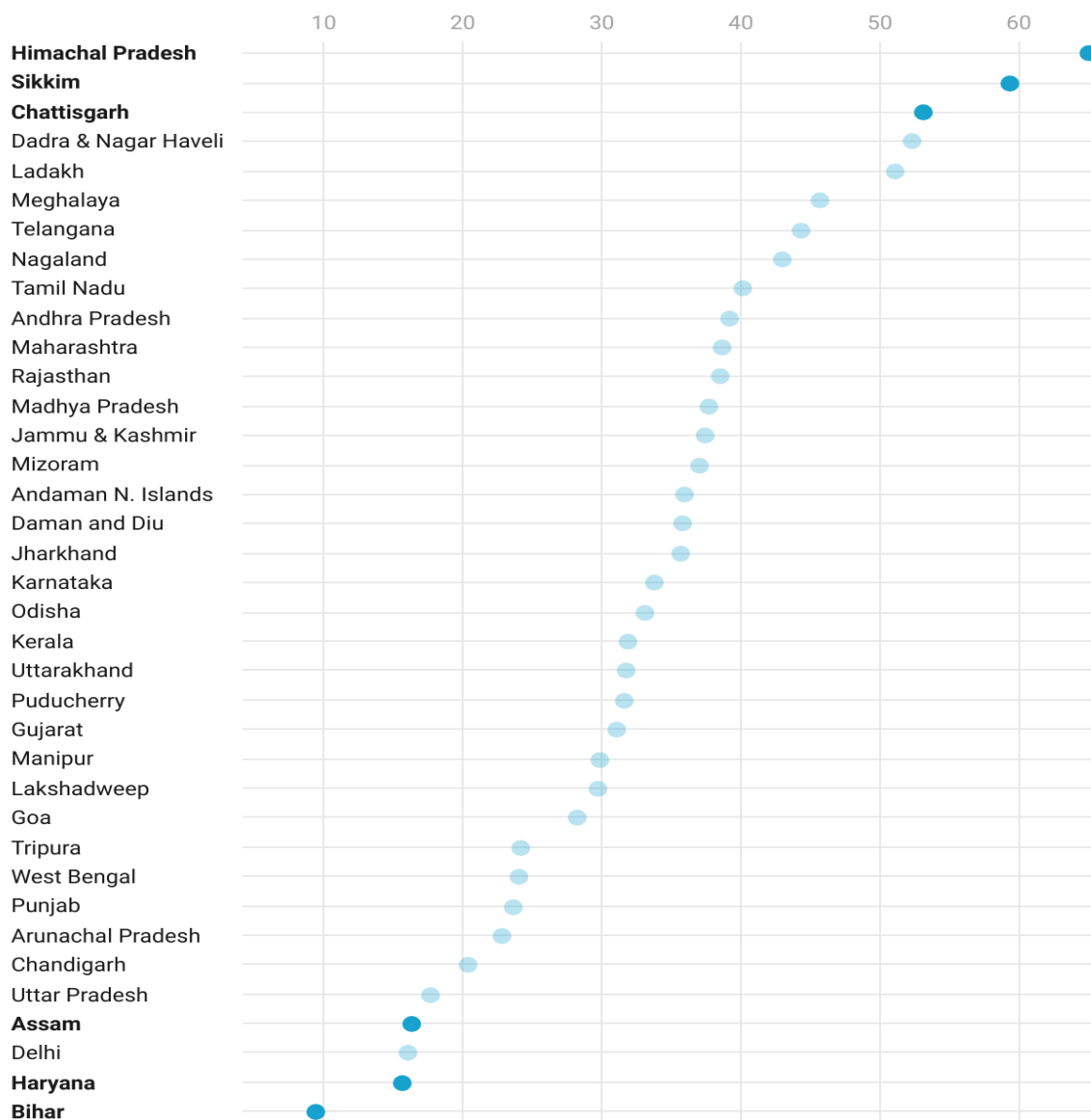


Fig.6: Share of Female Employment in Total Employment, 1991–2021

Note: Data obtained from ILOSTAT, ILO

State-wise Female LFPR 2019-20



Data from PLFS 2019-20 for Women Aged 15+

Fig. 7: State-wise Female Labor Force Participation, 2019–20

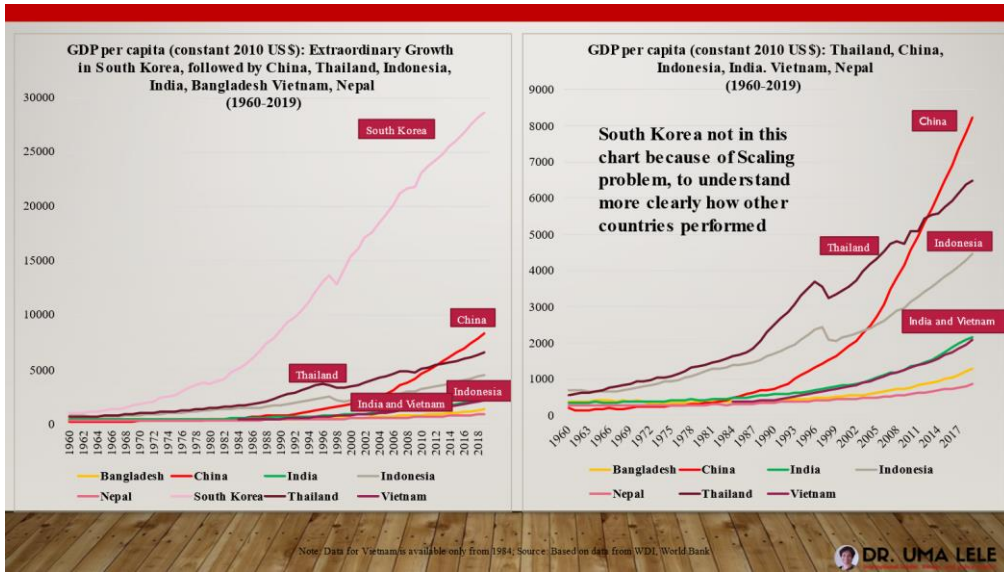


Fig. 8: Trends in per capita GDP, 1960–2018

Source: World Development Indicators, World Bank

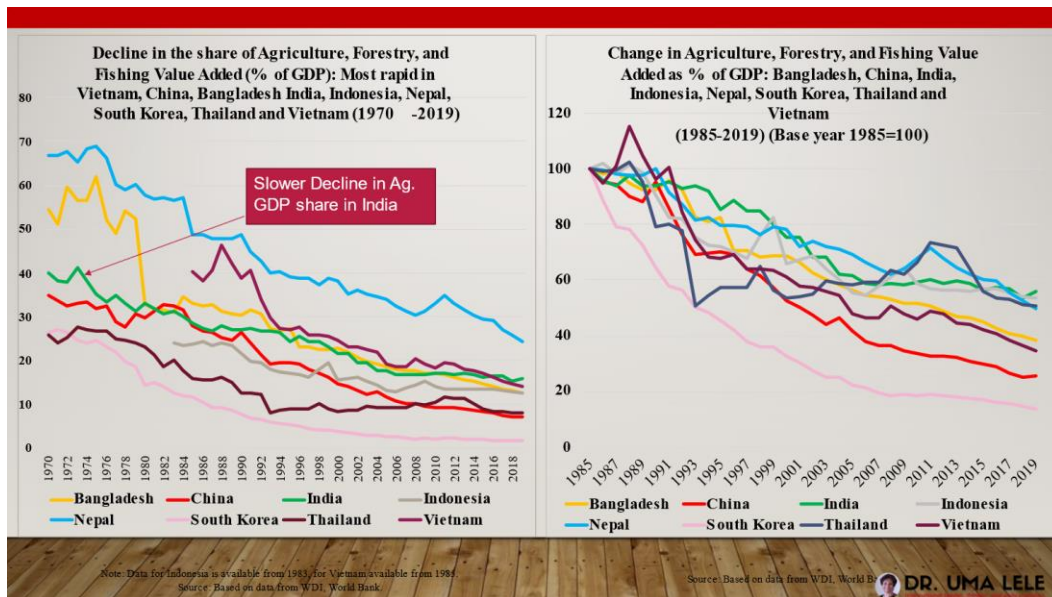


Fig.9: Share of agriculture value added as % of GDP, 1970–2019

Source: World Development Indicators, World Bank

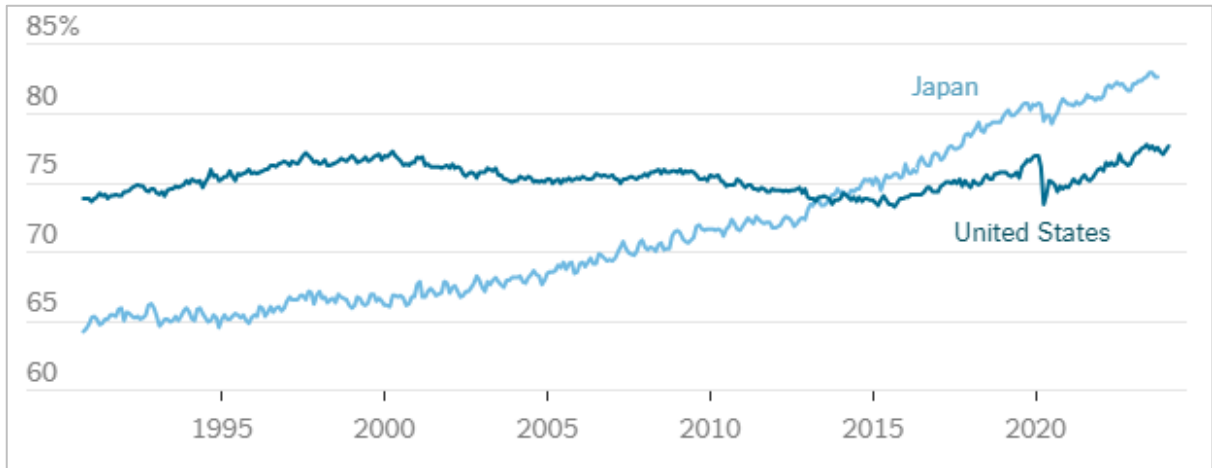
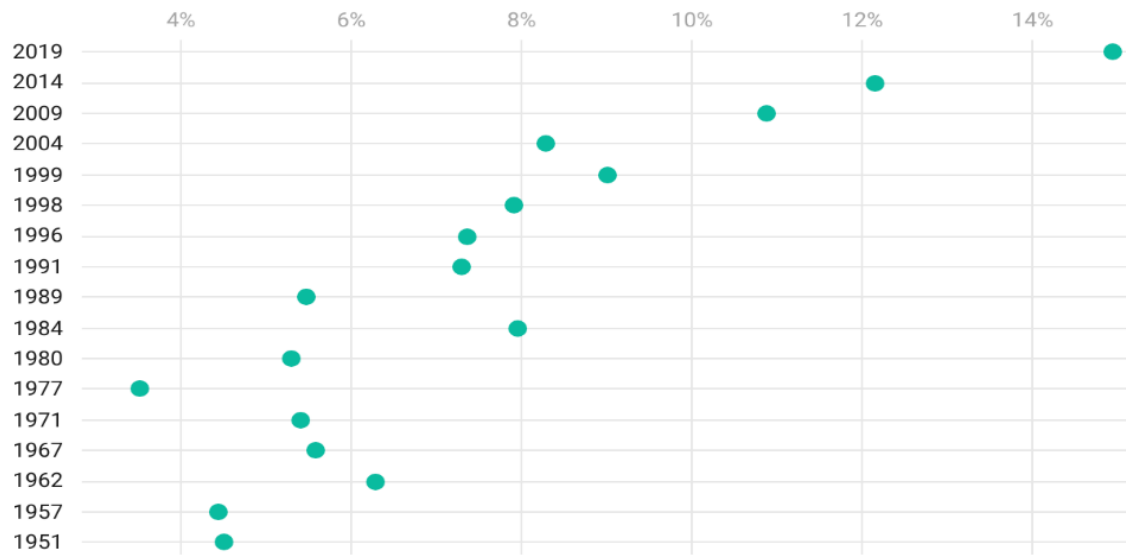


Fig. 10: Female labor force participation rate in Japan and the United States, ages 25–54

Source: OECD by the New York Times (Smialek 2024)

Percentage of Women MPs in Lok Sabha



Source: Election Commission of India • Created with Datawrapper

Fig. 11: Women Members of Parliament in the Lok Sabha Over Time

Table 1: Usual Status Labor Force Participation India 1993–2022—Levels and Gender Gap

	1993	2004	2011	2017	2019	2022
<i>Women in labor force</i>						
<i>(%)</i>						
Ages 15–64	44.2	44	32.8	24.8	31.8	39.2
Ages 25–64	48.1	48.7	37.5	29.6	37.5	45.6
<i>Men in labor force</i>						
<i>(%)</i>						
Ages 15–64	87.6	86.4	82.3	79.4	80.5	82.5
Ages 25–64	96.5	95.9	95.8	94	94.4	95.3
<i>Gap – Labor force participation (%)*</i>						
Ages 15–64	49.5	49.1	60.1	68.8	60.5	52.5
Ages 25–64	50.2	49.2	60.9	68.5	60.3	52.2

Source: NSS PLFS data, various years (MoSPI 2024); World Bank-financed study: authors

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Notes: *Gender gaps are defined as $100 * (\text{Male value} - \text{Female value}) / \text{Male Value}$; a lower gap means greater equality.