

# The Hoover Institution's **Survey of India**

Edited by Šumit Ganguly and Dinsha Mistree



Huntington Program on Strengthening US-India Relations



## 2. India's Demographic Trends

### *A Turning Point for India's Future*

---

Jack A. Goldstone and Leela Visaria

#### POWER AND PARADOXES

---

In 2024, India became the most populous country in the world, passing China and comprising 18 percent of the world's population. This chapter details how India reached that point, the policies that have shaped India's population, and the impact of various aspects of India's population—age structure, labor force participation, education, urbanization, caste and gender—on India's economic and political prospects.

India is becoming a major world power, fueled by a combination of its large population and a recent surge in technical manufacturing and information technology (IT) prowess. Yet India is still hamstrung by major paradoxes—whether it can resolve them will determine how great an impact India's growth will have on its own people and the world.

Among those paradoxes: India is the world's largest democracy; yet for much of its post-Independence existence, it has been dominated by a single political party, either the dynastic secular Indian National Congress Party led by the Nehru/Gandhi family (1952-77, 1980-88, 1991-95, and 2004-14) or the Hindu nationalist Bharatiya Janata Party (BJP) led by Atal Bihari Vajpayee and Narendra Modi (1999-2004 and 2014-29,

respectively). In religion, India's 200 million Muslims comprise the world's third-largest Islamic population of any country in the world, behind only Indonesia and Pakistan; yet India's Muslim population increasingly feels like a threatened minority. India has the largest working-age population of any single country; yet because of gender discrimination and poor education, it has a much smaller *effective* working population than it should. India has one of the fastest-growing information technology sectors among developing countries, yet at the same time its employment in agriculture has been *increasing* in recent years after a slow but steady decline for two decades, the opposite of what we normally expect for a modernizing economy. In this chapter we note these and other paradoxes in the context of India's demographic trends and seek to detail their impacts on India's economy, democracy, and global status.

#### INDIA'S DEMOGRAPHIC TRAJECTORY SINCE INDEPENDENCE: FROM RAPID GROWTH TO SLOWING DOWN

---

India is probably the only developing country with decennial population censuses going back to 1872. The last census, conducted in 2011, was

*A Chapter from* The Hoover Institution's Survey of India

---

the fifteenth in the series. However, owing to the COVID-19 pandemic during 2019–21 that resulted in widespread disruption and lockdown in India, the 2021 census was postponed to 2024 or beyond, thereby interrupting the series for the first time in 150 years. However, the Indian government carries out regular surveys (the National Family Health Survey) to provide more frequent and current information on the structure and characteristics of Indian households.

The 1951 census, completed shortly after independence was granted in 1947, and after tens of millions had migrated East or West in the wake of partition of the subcontinent between India and Pakistan, showed that India was left with a population of 361 million, with 83 percent living in rural areas. Males exceeded females by about 10 million, or 3 percent of the total. Owing to a high birthrate and low life expectancy, the country had a young population, with a median age of just 20 years. On average, women had nearly six children each (fertility was 5.7, producing a crude birthrate of 43.8 births per 1,000 population), but life expectancy was only 41.7 years (42.6 for males and 40.8 for females). Even so, population growth was rapid, at about 2.2 percent per year.<sup>1</sup>

Throughout the 1950s and 1960s, this high fertility was maintained. India's total fertility rate increased slightly, peaking at 5.98 in 1964 and remaining above 5.6 through 1970. Life expectancy began its long and steady increase, rising to 45 by 1960 and 48 by 1970. Much of that increase was due to lower infant and child mortality (infant mortality fell by 1 percent per year from 1950 to 1970), so that the population grew even younger—median age hit a low of 18.2 in 1969. Through the early 1970s, the population growth rate remained well over 2 percent per year, reaching 2.31 percent in the early 1960s and still as high as 2.26 percent in 1973 and 1974. These trends in the 1950s and 1960s meant that India's population doubled to 705 million in the thirty-one years

from 1950 to 1981, by which time one in six of the world's population lived in India.

Projections made by demographers in the 1960s showed that if India's demographic trends from Independence were maintained, India would have a population of 1.4 billion by 2010 and 2.8 billion by 2040. These projections created something of a panic about global population growth. (China, even larger, was on a similar trajectory from the 1950s to the mid-1970s, so that by 1980 India and China together already made up 38 percent of the world's population.) As a result, demographers urged India and other developing countries to promote fertility reduction.

Recognizing that population increases would very likely put pressure on resources, in 1952 the Indian government launched its family-planning program to control population growth and improve maternal health. Indian planners set a target for the birthrate to decline from around 45 per 1,000 population in the 1950s to 25 by 1973, or by almost 50 percent in twenty years. To achieve this highly ambitious goal, the Indian government set national method-specific targets for use of contraception (female and male sterilization, intrauterine devices [IUDs], condoms, and oral pills). The targets were passed down to field-based functionaries for implementation.

However, these initial efforts had little impact. When the 1961 population census revealed that during the decade of 1951–61, India's population had grown at 2 percent per annum, it sent an alarm bell to the government. The Planning Commission sought to more vigorously spread the use of contraception, promoting IUDs, condoms, and male sterilization (vasectomies). Yet through the 1960s, there was little popular enthusiasm for these measures, which were deemed intrusive by most of India's population.

From 1966 to 1970, India's birthrate hovered around 40 per 1,000 population, and the

population grew by 2.5 percent per year from 1961 to 1971. In 1970, a survey supported by the Family Planning Ministry found that less than 10 percent of all married women in the reproductive ages of 15–49 years were using contraceptives. Such dismal performance raised a question in the minds of many whether, without overall socioeconomic development, family planning could become a mass movement. This sentiment was articulated by the health minister of India at the 1974 World Population Conference held in Bucharest when he said that “development is the best contraceptive.” Notwithstanding this proclamation, the program became more coercive after Prime Minister Indira Gandhi declared a state of emergency and suspended the Constitution in June 1975.

Indira Gandhi’s younger son, Sanjay, a member of the Indian Youth Congress, then announced that family planning was a key element in his five-point program to take the country forward on the path of development. (The other elements were promoting literacy, tree planting, eradication of casteism, and abolition of dowry.) He, along with many, believed that if India’s population continued to grow at the prevailing rate, all the progress made in the agricultural and industrial sectors would be nullified. Therefore, vigorous promotion of family planning was a must even if it involved some element of compulsion. Consequently, the Ministry of Health and Family Welfare fixed a target of 4.3 million sterilizations for 1976–77 and allotted them to the states, considering the population size, rural-urban distribution, female literacy, performance of previous years, and so forth.

Many states, too eager to comply with the wishes of Sanjay Gandhi, raised the targets on their own. They galvanized their entire machinery of government by giving targets not only to the health department functionaries but also to schoolteachers, police, railway workers, and others. They were all given quotas and, if they did not fulfill them, they were threatened with

withholding payment of their salaries or promotions. Thus, during the Emergency the program became coercive. The central government did not dissuade the states from taking any measures they deemed fit. Nationally, during 1976–77, 8.3 million sterilizations—mostly male sterilizations—were performed, the majority in the six months between July and December 1976. The Emergency lasted for twenty-one months during 1975–77.

After the defeat of Indira Gandhi in the election in 1977, although initially the voluntary nature of family planning was emphasized by the new government, in reality nothing much changed. Although officially the government was against compulsion, the goal of lowering fertility continued, expressed in terms of attaining replacement-level fertility (then estimated at 2.3 children per woman) by the end of the century. Indira Gandhi, who came back to power in 1980, declared that the country could not wait for social and economic changes to bring about “an appropriate motivational environment in which a small family norm becomes the rule.” Given the backlash that male sterilization faced, the government introduced female sterilization through laparoscopy as the method to be promoted. Female sterilization became the backbone of India’s family planning program in the 1980s. In fact, for a majority of couples, sterilization was the first and the final method of contraception. Laparoscopy camps were held at primary health centers where field-workers were responsible for motivating and bringing women to the camps. They were given method-specific targets and were rebuked or punished if they failed to meet the targets. This led to falsification of data and exaggerations of performance.

The 1990s were marked by two major changes in India’s population dynamics. First, facing pressures from research organizations who documented human rights violations by the health functionaries, and vocal opposition from women’s rights groups, the Indian government

acknowledged that an emphasis on target setting and centralized planning, along with poor training of family care workers, was providing a disservice to Indian families. By then the NGO health and human rights sector and women's groups had become quite active and vocal, dominating the 1994 Cairo International Conference on Population and Development. They vociferously argued that ethical considerations, proper procedures while promoting contraceptive methods, and quality of care cannot be compromised in order to pursue demographic goals, and that policies relying on set targets for fertility reduction violated human and reproductive rights. The government announced in 1996 that the family planning program would become target free and, with the help of members of NGOs and other civil society groups, developed other evaluation indicators while focusing the program on women's health needs.

Second, after decades of resisting contraception and high fertility, Indian families began to accept that smaller families were desirable. This seems to have been mainly a cultural shift, rather than being driven mainly by education or jobs (as we note below, women's labor force participation in India remains extremely low, even without large families to care for).<sup>2</sup> The 1991 census count showed India's population had reached 844 million, implying a growth rate of 2.2 percent per annum in the previous decade. But thereafter growth began to slow noticeably. Owing to government measures, fertility in India had already fallen from about 6.0 children per woman at Independence to 4.0 in 1990. However, this did not change India's growth rate right away; this was in part because the steady fall in mortality offset the decline in births (life expectancy soared from forty-one years to fifty-nine years in this period, an increase of almost 50 percent) and in part because with each cohort larger than the last, there were more women of childbearing age in each new generation. India's annual population growth rate had been 2.2 percent per annum in 1958; it remained at 2.2 percent or

slightly higher until 1989. It was only during the 1990s that the decline in births began to accelerate and reduce the overall growth rate.

From 1990 to 2001, India's fertility fell from 4.0 children per woman to 3.22. By 2011 (the year of the most recent census), it fell to 2.54 and is estimated to have fallen below replacement, to 2.0 by 2020. (Replacement level requires slightly more than two children per woman, about 2.1, because some children still die before reaching adulthood and reproductive age.) India's population growth rate also fell, from just over 2 percent per annum in 1990 to just 1.35 percent per annum in 2011, and an estimated less than 1 percent per year by 2020.

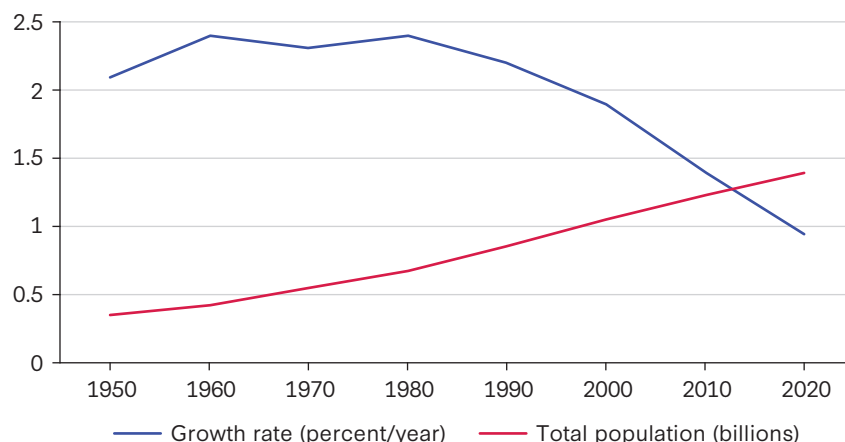
There is great diversity within India, and this is reflected in fertility. The southern states of Kerala and Tamil Nadu were in the forefront in lowering their total fertility rate to less than 2.0, whereas the northern states lagged considerably, with total fertility rates in the late 1990s still greater than 4. In 2005, the government therefore launched the National Rural Health Mission in eighteen states where the health indicators and infrastructure were weak, increasing funding and providing integrated comprehensive quality primary healthcare services to the poor through a scheme of community health volunteers.

The most recent National Family Health Survey (NFHS), held in 2019-21, reported that India's fertility had fallen to 1.6 in urban areas and 2.1 in rural areas. The surveys have shown that despite the universality of marriage of girls in India, the transition to a typically small family has been achieved. The percentage of women with two living children who reported that they did not want to have any more children exceeded 82 percent in all the states except for Bihar and Uttar Pradesh, according to the latest available data from the 2015-16 NFHS survey.

Although India's fertility and growth rate have declined, its population growth is projected



**FIGURE 2.1** India's population and annual growth rate, 1950–2020



**Source:** United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects*, various years

to continue, albeit at an ever-slower pace, for another four decades. This is because even as fewer babies are being born (annual births peaked in 2001 at 28.6 million and are now falling by roughly 150,000 per year), better healthcare, small numbers of elderly, and longer life expectancy mean that death rates are also low, so that births continue to slightly exceed deaths. Only when births fall further, and population aging starts to push up total deaths, will the number of deaths match the number of births. As a result, growth will not cease entirely for another generation. India's population growth rate will continue to decline, but its total population will continue to increase, if ever more slowly (see fig. 2.1). India's population growth is projected to finally end in 2064, with its population peaking at 1.7 billion, then entering a slow and long decline.

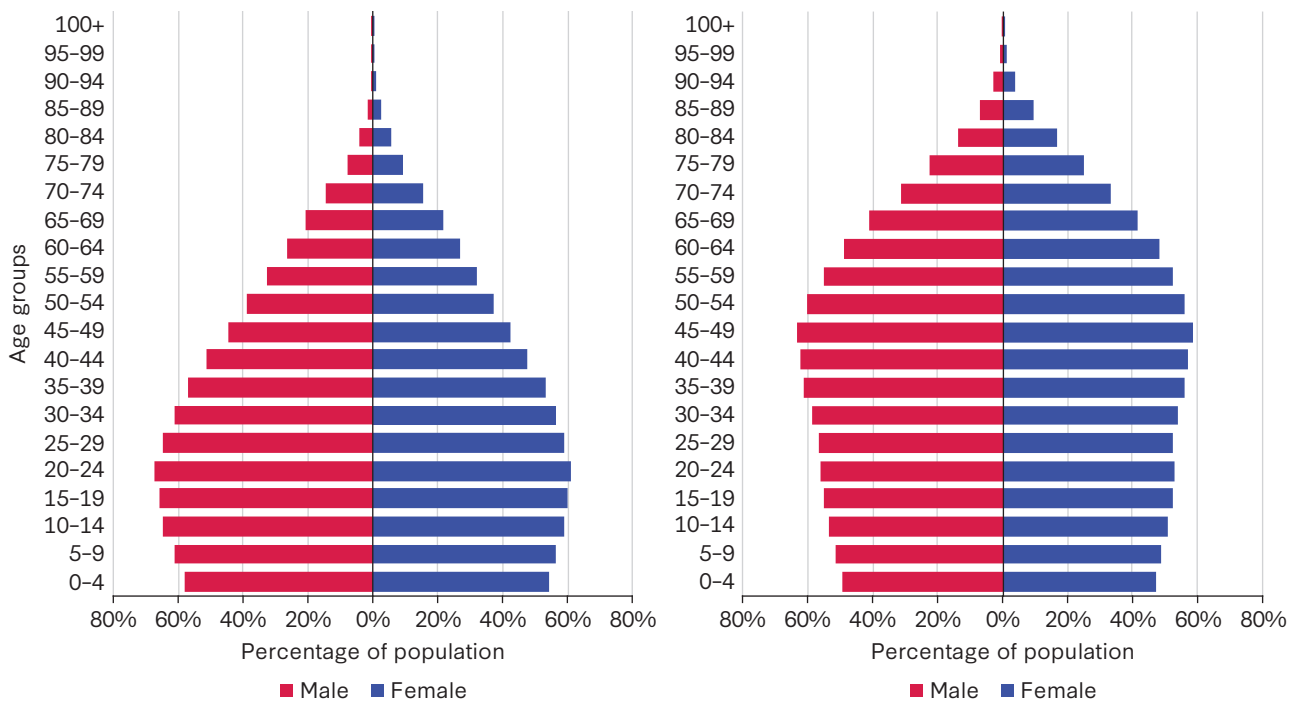
## INDIA'S DEMOGRAPHIC TRAJECTORY 2024–50: A SLOWDOWN AMID DIVERSITY

India's population has garnered considerable attention since 2023, when India overtook China as the world's most populous nation, at 1.422 billion. That event led optimistic observers to suggest that India

would soon catch up with China in other ways, including economic growth and global power. Yet a country's total population is not a good indicator of other characteristics. It matters more whether that population is young or old, whether it is educated, skilled, and participating in the workforce or not, and whether it is improving uniformly or unevenly. Moreover, in the coming three decades India's demographic trends will show a sharp change from those that dominated the twentieth century. India is now a maturing country, in which the youngest working-age groups have already started to decline in size, and most of the growth in population is coming from older age groups. India's median age, which is still only 28 today, is projected to rise rapidly until 2056, when more than half the population will be 40 or older.

The United Nations projects that fertility in India will continue to fall, reaching 1.78 by 2050, while life expectancy will increase to 77.9 years.<sup>3</sup> India never had the extreme sex selection that was seen in some other countries, so that males exceeded females by no more than 3 percent of total population; that is expected to fall further to just 2 percent by 2050. Total population is projected to rise from 1.42 billion today to 1.67 billion by 2050. That will, however, be virtually peak size

**FIGURE 2.2** India's age pyramids, 2024 and 2050



**Source:** United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects*, various years

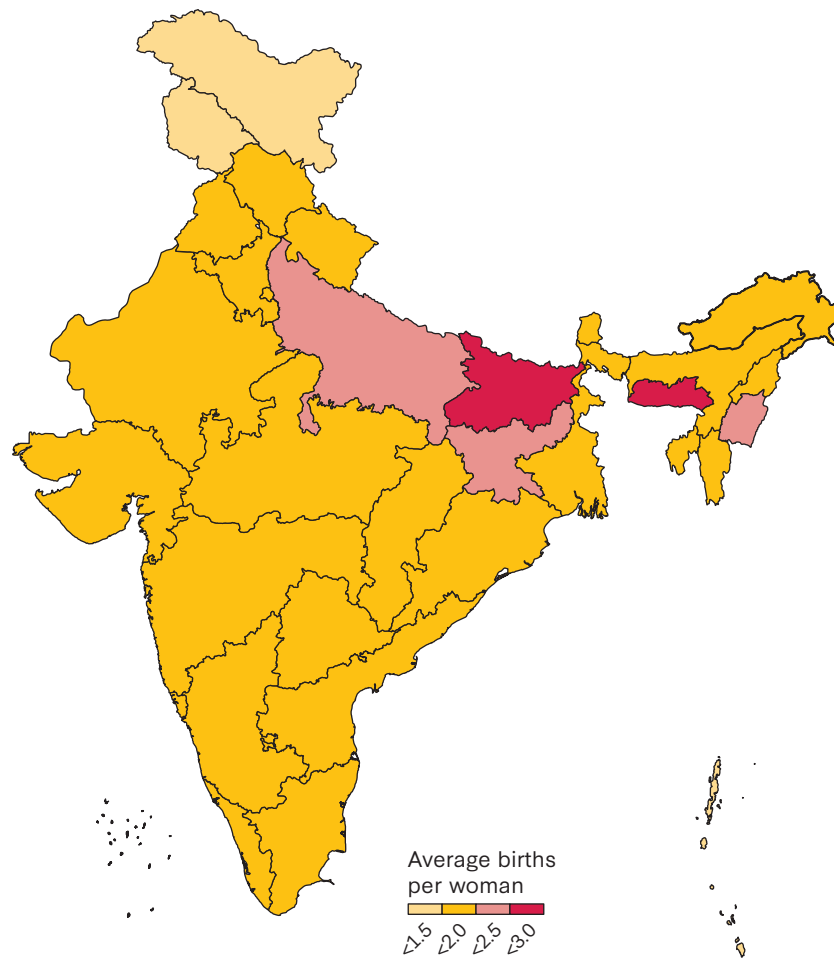
for India, as the UN projection is for total population to reach no more than 1.697 billion in 2064 after which total population will slowly decline to 1.53 billion by the end of the century.

Much more important is what is happening to India's population in terms of age structure and regional variations. First, India is now enjoying a period of prime age structure for economic development. That is, a majority of the population is neither too young (because of recent low fertility) nor too old (because life expectancy has only recently risen above 60) for productive work. If we look at India's population pyramid for 2024, we can see that the largest age cohorts are those from age 10 to 44, with smaller cohorts under age 10 and over age 45. Over the next fifteen years these larger cohorts will remain in their prime working years; if they are in the workforce and productive—especially if they are more productive than the cohorts that preceded them—India will enjoy rapid growth.

However, that window is limited. By 2050, these larger cohorts will have begun to retire, and the cohorts following them into the workforce will be substantially smaller (see fig. 2.2).

Thus today, India's 15-24-age population group—the age group that is critical for expanding the labor force and covering military service—is 254 million. It will never be that large again. According to the United Nations' medium variant projection (which may be conservative, as fertility in India may well follow trends in the rest of Asia and fall more rapidly than expected), that age group will be down to 246 million in 2030, 225 million in 2040, and 217 million in 2050, 15 percent smaller than today. If we look at the larger prime working-age group, those age 15-49, they number 790 million today and will increase to 830 million in 2035. But then this entire group will also decline, falling back to just 798 million by 2050. That is, India in 2050 *will have only eight million more prime working-age*

**FIGURE 2.3** Fertility rates in India's states



**Source:** PRS Legislative Research, National Family Health Survey 5 (2019–20)

people—1 percent more—than it has today. In other words, India's future economic growth will depend entirely on improving its labor force participation and the productivity of its workforce, as it will simply not have more workers.

What India will have is many more seniors. Today, India's retirement age is among the lowest in the world, at 58 to 60 years. While many countries are planning to increase their retirement age, that will not be easy in India, where much work is demanding blue-collar and agricultural labor. Today, India's population age 60 and over is 159 million; by 2050, that is almost certain to be more than double, to 348 million (all these people have already been

born, so they are readily counted). That increase of 189 million in the 60-plus population is virtually all of the anticipated increase in India's population: that is, of India's anticipated 228 million total population increase to 2050, more than 80 percent will be in the population over 60 years old.

In addition to most of India's population growth being driven by seniors, it will likely come from India's poorest and least educated states. As shown in figure 2.3, the only states in India with fertility rates still above replacement are Bihar, Uttar Pradesh, Jharkhand, Manipur, and Meghalaya. In the last census, these states were thus among the fastest growing, increasing



from 2001 to 2011 by 25.4, 20.3, 22.4, 24.5, and 27.9 percent, respectively. They were also among the poorest: the two largest, the northern states of Bihar (population 236 million in 2023) and Uttar Pradesh (127 million), had GDP/capita in 2022–23 of 54,111 Indian rupees (INR) and 83,565 INR, respectively.<sup>4</sup> By contrast, India's more prosperous southern states of Telangana, Karnataka, Andhra Pradesh, Tamil Nadu, Kerala, and Maharashtra all have GDP/capita from 200,000 to 300,000 INR per year, many times higher. Unless India can increase incomes in the roughly 30 percent of its population that still has above-replacement fertility, it will have difficulty growing its economy in the coming decades.

Fortunately, there is plenty of room for progress. Bihar and Uttar Pradesh had literacy rates in 2011 of 62 percent and 67 percent, respectively, compared with the 80 to 90 percent literacy achieved in the leading southern states. In regard to higher secondary school enrollment (grades 11–12), Bihar and Uttar Pradesh had rates of 36 percent and 51 percent in 2021–22, in contrast to Kerala (85 percent), Tamil Nadu (65 percent), Maharashtra (72 percent), and Telangana (6 percent). One might suggest that the large states of Bihar and Uttar Pradesh have high fertility *because* they have low education. But that is not what India's data show. In fact, the states of Gujarat (higher secondary school enrollment of 48.2 percent), Assam (40.1 percent), Nagaland (35.8 percent), and Odisha (43.6 percent) are also exceptionally low in secondary school completion but have fertility rates of 1.9, 1.9, 1.7, and 1.8, respectively. The higher fertility in the north is more a matter of a much larger rural, agricultural population and less funding and emphasis for family planning.<sup>5</sup>

India's states also vary tremendously in regard to urbanization, even setting aside the states or territories that are essentially city-states (e.g., Delhi, Goa, Puducherry). Thus, in the 2011 census, Bihar and Uttar Pradesh had urban populations of 11 percent and 22 percent, respectively, while

the prosperous southern states had urbanization rates ranging from 39 percent in Karnataka and Telangana to 48 percent in Kerala and Tamil Nadu. At an overall urbanization rate of 35 percent in 2020, India has ample scope for improving productivity by following other Asian countries in moving population from rural to urban employment.<sup>6</sup>

In short, in the next twenty-five years, India cannot hope to grow simply through increased numbers of workers; there will not be any. Rather, India's economic prospects will depend on improving the education and urbanization of its existing workforce, while at the same time coping with the needs of a much larger elderly population. Given the massive variation among India's states, especially between the poorer, less educated, more rural, and higher-fertility north and the richer and more urban south, policies will need to target the large northern states to help them catch up with the rest of the nation.

There is yet another area where India has room for improvement regarding its population: the challenges faced by women.

## GENDER ISSUES: WORK AND MARRIAGE

---

Traditionally, India was a painfully patriarchic society. This was most brutally shown in the Hindu practice of *sati*, which, before it was stamped out by the British, encouraged widows to join their husbands in death by throwing themselves on the funeral pyre, being cremated (alive) with them. Patriarchy also survives in the practice of paying dowry, in which a bride's family pays cash or provides clothes and jewelry to the family of the groom. Though made illegal in 1961, a survey of India's rural villages found that dowries were paid in 95 percent of marriages through 2008. Interestingly, dowries are paid by Christian, Sikh, and Muslim families, not just Hindus. Some states

have seen inflation in reported dowries, notably Haryana, Punjab, Gujarat, and Kerala, while others have seen decreases, such as Odisha, West Bengal, Tamil Nadu, and Maharashtra.<sup>7</sup>

However, gender differences are *not* stark where one might expect them, in education and sex ratio. According to the Reserve Bank of India, elementary and upper secondary school enrollments in each state are virtually identical for boys and girls. Thus, the enrollment rate in elementary school for boys and girls in Bihar is 95.1 percent and 97.4 percent, respectively; in Uttar Pradesh for boys and girls, it is 96.5 percent and 99.9 percent—in both states slightly *higher* for girls. If we look at upper secondary enrollments, even in poor rural Bihar, enrollments are slightly higher for girls: 36.2 percent versus 35.6 percent. In Uttar Pradesh, boys have an advantage, but it is slight: 52.8 percent for boys versus 48.3 percent for girls. In Delhi, that is reversed; there, higher secondary school enrollment is 99.5 percent for girls and 91.2 percent for boys. For India as a whole, upper secondary enrollments are 58.2 percent for eligible girls and 57 percent for eligible boys. It is not sex discrimination in education that is responsible for poor education in India; it is the overall poor school enrollment in northern rural states compared with that in richer states, and the low enrollment in higher secondary school overall (under 60 percent nationally).

Also, despite the availability of ultrasound to guide sex-selective abortions, the sex ratio in India never grew as extreme as in India's neighbors. Thus in 1950, the ratio of males to females in India's population stood at 106; it never rose higher than 107.4 in the early 1980s and then returned to 106 today. By contrast, in Bhutan the male/female ratio rose to 114 in 2005 and remains above 112 today. In Pakistan, sex-selective infanticide produced a male/female ratio of 119 in the 1950s, falling to 110 in 1981, but then fading to just 102 today.

Where we do see a stark difference between men and women in India is in regard to formal employment. India, though predominantly Hindu in religion, is part of a group of nations extending from India west through the Middle East and North Africa that have the lowest rates of female labor force participation in the world. In India, only 29.9 percent of women age 15–64 are in the labor force, compared with 71.1 percent in China, over 70 percent in most of the developed world, and 50–65 percent even in sub-Saharan Africa, reaching over 75 percent in Ethiopia, Tanzania, Madagascar, and Mozambique.<sup>8</sup> Getting this huge potential labor force—70 percent of women age 15–64—into more productive roles is critical to provide a boost to economic growth in the absence of any increase in the prime working-age population. According to studies carried out in India, some of the factors responsible for the low participation of women in the workplace are the “motherhood penalty,” where women who have children are expected to devote themselves fully to their domestic responsibilities, and the custom that in the presence of an adult male with higher levels of education and income, the spouse should be discouraged from working.<sup>9</sup>

## INDIA'S MIGRATION PATTERNS: INTERNAL AND EXTERNAL

---

As might be expected for a very populous and still relatively young country, India is a major net exporter of labor. In fact, India is the single largest source of global migrants and the largest recipient of remittances. A total of 17.9 million people born in India are living abroad, often forming large émigré communities in their destination countries. The US\$125 billion received in remittances in 2023 was nearly 16 percent of all global transfers to low- and middle-income countries.<sup>10</sup> India sends unskilled migrants abroad mainly from the large northern states of Bihar and Uttar Pradesh and sends highly skilled migrants abroad mainly from the richer southern states of Kerala and

Tamil Nadu. Many of the latter acquired high-level entrepreneurial and business skills abroad and returned to use those skills building information technology and service industry firms around Hyderabad and Bangalore.<sup>11</sup>

In 2018 and 2019, a total of just over one million Indians (net) migrated to other nations. This of course plummeted during COVID but has recovered to over 300,000 in 2021. The UN projects outmigration from India to continue at a steady rate of half a million per year through the entire twenty-first century. This may be a high estimate, both because India's main age group for migration (age 15–24) is steadily diminishing and because India's own economy should grow and offer more opportunities locally.

Historically, under the British Empire hundreds of thousands of Indian laborers were sent to the Caribbean (especially Trinidad and British Guyana), Fiji, Mauritius, and South Africa. Today, however, migrants more commonly move to the Middle East, Europe, and North America. Slightly over one-half of Indians living abroad today are in Persian Gulf countries; 3.5 million are in the United Arab Emirates and 2.5 million are in Saudi Arabia. However, the second-largest group of Indian-born migrants living abroad is in the United States (2.7 million), where net migration from India now far outpaces that from Mexico. Other large expat communities from India are found in the United Kingdom (835,000), Canada (720,000), and Australia (579,000).<sup>12</sup>

Internal migration, however, is several times greater than international migration, with an estimated five to six million Indians moving to another state from their state of birth every year in the first decade of the twenty-first century, producing an interstate migrant population of about sixty million. This is largely a flow from the poorer north to the richer, faster-growing economies in the southern states, but it is also a movement from rural areas to India's growing cities.<sup>13</sup>

From 2010 to 2020, India's fastest-growing cities increased by 3 to 6 percent per year, with even Delhi and Bangalore growing at over 3 percent per annum. The United Nations projects that India's urban population will increase from its current 38 percent of the total to 53 percent by 2050. Today, five of the world's thirty largest cities are in India (Delhi, Mumbai, Kolkata, Bangalore, and Chennai), and Delhi is expected to displace Tokyo as the world's largest urban agglomeration by 2030. By 2035, greater Delhi is expected to have forty-three million inhabitants and Mumbai twenty-seven million, while Kolkata (twenty million) will be larger than Osaka, and Hyderabad, Bangalore, and Chennai will each be larger than Los Angeles.<sup>14</sup>

The key question, however, is not how large India's cities will be, but how prosperous India will be as they grow.

## **INDIA'S FUTURE ECONOMIC GROWTH: CAN THE DEMOGRAPHIC DIVIDEND BE ACHIEVED?**

---

India today has an age structure nearly optimal for economic growth, with 64 percent of the entire population of working age (15–59). However, as we have noted earlier, India's literacy and female labor force participation are quite low; these reduce India's *effective* working-age population. Thus China, at the beginning of its remarkable economic ascent in 1980, had only 57 percent of its population in that age group. However, China had other advantages. First, China's population was still growing fast, so that age group grew in numbers by 65 percent over the next thirty years. By contrast, in slower-growing India, in the next thirty years (2024–54), India's 15–59 age population will grow by only 8.6 percent. Second, even in 1980 China had higher literacy (91 percent) than India has today (78 percent)—a legacy of the Chinese Communist

Party's emphasis on peasant schooling. Third, China had higher labor force participation in 1980 for both men (87 percent) and women (71 percent) than India has today (76 percent for men, just 33 percent for women).

Thus, if we ask what fraction of China's population was literate and participating in the workforce in 1980, it was 40 percent. But for India today, that fraction is just 27 percent. And for China, that larger effective workforce grew by two-thirds in the next thirty years; in India, it will grow just an eighth as much.

Moreover, China had an edge in its trajectory of urbanization as well. From 1980 to 2010, China's urban population—which generally is three or four times more productive than the rural population—increased from 192 to 669 million, an increase of 477 million, or 248 percent. India, though undergoing urbanization as well, has much slower urbanization; the United Nations projects its urban population will grow from 483 million in 2020 to 877 million by 2050, an increase of only 394 million, and a much smaller percentage gain of just 82 percent.

Furthermore, while the most severe discrimination in India's workplace falls upon women, resulting in the exceptionally low female labor participation rate, India also still retains significant caste-based discrimination against the Scheduled Castes (Dalits) and Scheduled Tribes, whose position outside the established primary castes leads them to be treated with suspicion (or worse) by many Indians. Particularly in rural areas, where caste roles are more rigorously enforced, the scheduled castes and tribes face severe discrimination in access to professional positions, higher education, self-employment, and credit.<sup>15</sup> Although India's Constitution demands equality, in practice informal discrimination based on caste, though diminishing, still persists (much like that of the United States in regard to different races). Inasmuch as the Scheduled Castes

and Scheduled Tribes form about 25 percent of India's total population, the limits on their full and equal participation in the labor force is a further constraint on India's full economic utilization of its population. Given that the 14 percent of India's population that is Muslim also faces discrimination in regard to employment, this means that 40 percent of India's population is subject to significant restrictions on their economic role. This also reduces the effective impact of India's vast population.

Finally, India is already heading into life as an aging country. In 1980, China's over age 65 population was just 43 million, a tiny 4.4 percent of total population. By 2010, that had increased to 116 million, still just 8.6 percent of the total. In India in 2020, the over age 65 population was already 93 million, or 6.7 percent of the total. More important, in the thirty years to 2050, that will increase to 250 million, or 15 percent of the population. So India will be dealing with a senior population roughly twice as large, in terms of population percentage, as China did during its boom years.

In sum, while India has an opportunity to collect a "demographic dividend" on its favorable age structure over the next twenty-five years, it will almost certainly not be able to duplicate China's level of growth. Compared with China, it is handicapped by being in a phase of much slower population growth, by starting with much lower levels of literacy and labor force participation, and by having a more rapidly aging population. What growth can then be reasonably expected?

The biggest factor will clearly be whether India can induce more of its female population to enter the labor force. Doubling their labor force participation to a level common in other Asian countries, at about 66 percent, could raise national output by one-third, even if those women are no more productive than working women are today. However, if they could enter factory work, rather than agriculture, the gains would be even greater.

In 2022, 43 percent of Indians who are employed worked in agriculture. That fraction rises to 59 percent for women. Most concerning, the percentage of women working in agriculture had fallen sharply from 74 percent in 2000 to 54 percent in 2019, but then rose in the last two years. No doubt part of that is due to COVID, which forced people to return home and seek work in their villages. But part may be due to the more rapid growth of population in rural areas than in urban ones. In any event, enabling both men and women to move out of agriculture into other sectors of the economy will be crucial. For comparison, in China by 2010 the fraction of employed women who worked in agriculture had fallen to 32 percent.<sup>16</sup>

Also alarming is that India's large youth cohorts—the country's main comparative advantage relative to East Asian nations—are facing relatively high rates of unemployment. The data are uncertain on this: according to a recent report by the International Labour Organization (ILO), "the problem of unemployment in India has become increasingly concentrated among the youth, especially educated youths and women in urban areas."<sup>17</sup> However, this report estimates the unemployment rate for youth to be only 12.4 percent for all youth and 18.4 percent for those with secondary education or higher. Yet the report also notes that from 2010 to 2022 almost "one in three young people was not in employment, education or training in India, which was almost equal in rural and urban areas and increased over the years. In 2022, the proportion of youths with such status remained high, at 28.5 percent, with almost equal proportions in rural (28.7 percent) and urban areas (29.7 percent)."<sup>18</sup> Just recently, a report from the independent Centre for Monitoring Indian Economy in Mumbai claimed that youth unemployment in India was 45.8 percent in December 2022.<sup>19</sup> Part of the disparity is because of uncertainty over what is a "job." Even the ILO report notes that the majority of reported youth employment is self-employment or irregular work. Legions of youth

are "gig workers" doing sporadic service and delivery work in India's burgeoning cities, uncertain of work from day to day. All reports agree that youth unemployment is much higher for youth who have completed secondary education and still higher for college graduates. This is because despite its rapid overall growth, India's economy still provides too few full-time white-collar positions for its educated youth. This mismatch of jobs and skills is hampering the transition into full-time work of precisely India's potentially most valuable workers.

A final consideration that is hard to quantify is the impact of future climate change on India's growth. India is already suffering punishing heat waves, and Pakistan next door suffered tens of billions of dollars' worth of damage from massive floods in 2022. A single cyclone (Amphan) did US\$13 billion of damage to India in 2020, and rising sea levels will affect the one-third of Indians who live along the coast. Kolkata and Mumbai are particularly vulnerable. More irregular monsoons and higher temperatures may reduce agricultural productivity and limit outdoor labor. In May of 2024, New Delhi recorded its highest-ever temperature—126 degrees Fahrenheit—and temperatures in several states remained above 110 degrees for weeks.<sup>20</sup> Moreover, where China was able to fuel its economy with cheap coal without regard for climate consequences, India will likely face both internal and international pressure to shift to greener sources of energy. That may make India's development more costly; but it is also possible that it may position India to be a low-cost supplier of solar, wind, and storage equipment and green hydrogen, or even an exporter of green energy, providing economic benefits.<sup>21</sup>

Although India's low levels of education and female workforce participation along with high youth unemployment are handicaps, they are also opportunities if they can be overcome. India is hoping to achieve sustained 7 percent per year GDP growth, but we believe that is wholly



unreasonable given these handicaps and the slow growth in the prime labor force. A more realistic (but perhaps still optimistic) guess at India's future GDP growth, assuming no major catastrophes and sound policy, might be for 6 percent per year average growth to 2034, when the prime working-age (15–49) population peaks in size, and 4.5 percent per year from 2034 to 2050, when the labor force starts declining and population aging becomes even more significant. That would take India's GDP from US\$3.94 trillion today to US\$7.1 trillion in 2034, making it likely the third-largest economy in the world behind the United States and China. GDP per capita would rise from US\$2,733 today to US\$4,529. By 2050, India's GDP would double again to \$14.3 trillion, or nearly where China is today, while GDP/capita would reach US\$8,544, a solidly upper-middle-income level, about equal to that of Armenia or Georgia today.<sup>22</sup> That may fall short of Prime Minister Modi's aspiration for India to be a high-income country by 2050, but it would still be a stunning accomplishment and cement India's position as by far the largest economy in the world after the United States and China.

## CAN A GROWING BUT AGING INDIA BE A WORLD POWER?

In five to ten years, India will be by far the world's largest country by population, pulling ahead of a shrinking China, likely reaching 1.6 billion by 2035 compared with China's 1.4 billion. More important, India will also have the world's third-largest economy, provided it can improve the productivity and labor force participation of its billion working-age people, especially in the larger, northern rural states. India will demand, and deserve, a seat at the table in the world's chief security and financial organizations, from the UN Security Council to the World Bank and International Monetary Fund.

India is already seeking both to cooperate with China through membership in the BRICS (Brazil, Russia, India, China, South Africa) international

summits and to compete with China for economic growth and even leadership in certain sectors (e.g., steel, green hydrogen). Even though up through 2050 India's economy will remain considerably smaller than China's, likely somewhere between one-third and one-half its size, India is already seeking to be the major power in the Indian Ocean and to compete with China for influence in Southeast Asia and the Middle East. India's diaspora, already tens of millions strong, will be a potent element of India's ability to project influence.

The next ten years will be crucial for India's ascension to world power status. If it is able to utilize the potential of its working-age population and rapidly raise their productivity, India will be poised to be one of the leading powers of the twenty-first century. However, if that opportunity is lost, if India's poorest states grow larger and remain overwhelmingly rural while its southern states see further declines in fertility, India will enter the middle third of the twenty-first century starting serious aging while not yet solidly a middle-income country. Between 2035 and 2050, the over-60 population will increase by 120 million while the prime working-age (15–49) population will decline by 34 million, a situation that will make it difficult to sustain rapid economic growth.

Though exceeding China in population, India will not rival China in total economic output or in income per head. However, its combination of population and economic size will make it a significant world power compared with much less populous states like Germany, Japan, and Russia; or compared with large states with much smaller economies like those of Nigeria, Pakistan, or Indonesia. Still, whether or not India arrives at this point having overcome the headwinds noted in the previous section, or whether it continues to struggle with them, will determine whether India arrives as a confident, increasingly powerful and influential state, or as a large but staggering state distracted by the need to cope with numerous internal issues.



## IS AN AGING INDIA MORE OR LESS PRONE TO DEMOCRACY?

---

Richard Cincotta and his collaborators have shown there is a strong relationship between a country's median age and its regime type.<sup>23</sup> Young countries (median age under 25) are overwhelmingly autocracies; mature countries (median age over 35) are overwhelmingly democracies; and countries that are maturing (median age 25 to 35) are often transitioning from autocracy to democracy but are not always successful. India, at median age 28.6 today, and likely to be 35 by 2041, would be a country where democracy is likely to emerge but not become stable until well after 2041. Yet India, paradoxically, emerged as a democracy in 1950 despite a median age of 19.9 and is only now, with median age approaching 30, showing signs of drifting into autocracy. In 2021, Freedom House demoted India to "partly free" in its ranking of civil and political liberties, as evidence grows that Prime Minister Narendra Modi is curbing critics, jailing opponents, and clamping down on the Indian press.<sup>24</sup> Does India's demography hold any clues as to the trajectory of its regime? Despite India's long history of democracy, there are in fact no firm bulwarks against sliding into illiberal democracy or even electoral autocracy. If Prime Minister Modi can acquire overwhelming support in India's parliament through a combination of electoral pressure and spreading a Hindu nationalist narrative playing on fears of neighboring Pakistan and China and internal conflict with Muslims, while continuing to show strong economic results, he will likely be able to justify the need for him as the "strong man" necessary to defend India and build it into a regional and world power. This would put him on a trajectory not too different from Viktor Orbán's acquisition of centralized power in Hungary, or even Vladimir Putin's rise to power in the Russian Federation.<sup>25</sup>

Yet there are reasons to believe that Modi will not be able to go that far down the path to one-man rule. First, India may not be able to continue its

strong economic growth. Doing so will require more than just deals to support India's oligarchs. As noted earlier, it will require changing India's female workforce participation and a massive effort to raise education and formal employment in rural India. Those changes may be difficult to achieve by decree and will require enlisting local popular support for major reforms. If Modi continues to rely mainly on state backing for oligarchs and infrastructure investment to fuel growth, that path will likely stall out in the absence of broad-based growth, robbing Modi of one of his major selling points.

Second is India's enormous regional and ethnic diversity. So far, Modi has framed his Hindu nationalist policies mainly in opposition to India's Muslim minority. Yet Hindu/Muslim is just one of India's many divisions. Another is that between the Indo-European-language regions (mainly speaking Hindi and its offshoots) of northern India and the Dravidian-language regions of southern India. The latter include the states of Andhra Pradesh, Telangana, Karnataka, Kerala, and Tamil Nadu. These are all among the most economically prosperous states in India; collectively they produce more than a quarter of India's total GDP and include the tech centers of Bangalore and Hyderabad.<sup>26</sup> These regions are not strongly attracted to Modi's Hindu nationalist program, and none of these states have voted for the BJP in the most recent state elections. The south is a region that Modi cannot afford to alienate, and its opposition will likely remain a check on Hindu extremism and a limiting factor on BJP power.

The 2024 national elections for India's parliament (the Lok Sabha) have suggested that there are limits to how far Modi and the BJP are able to exert control over India. A weak showing in the southern states demonstrated little appeal there for Modi's centralizing of power and use of the BJP as a vehicle for rolling back Indian democracy. Modi's party also had a weak showing in parts of the north, which are economically

lagging. If that does not change, enthusiasm for Modi may decline. Just as the next ten years will be crucial in determining whether India is able to overcome its economic hurdles and become a high-middle-income state, so these years will also be crucial in determining whether the south will remain in opposition and a force to limit the surge to illiberalism, or whether the region will jump on the Modi bandwagon and enable him to make India into a more autocratic one-party state.

## CONCLUSION: INDIA AT A TURNING POINT

India's economy and political system are at a turning point. The economy has great potential to reap a "demographic dividend" from its current favorable population structure and continue its strong growth. Yet there are also daunting obstacles that need to be overcome for that potential to be achieved. The next ten years are critical, as India's prime-age labor force will only grow until 2035, at which point that trend will reverse and aging will start to become a more significant drag on future growth. Whether or not India can implement reforms that will effectively utilize and increase the productivity of its labor force will shape its economic trajectory for the next half century. The political system is also facing a critical juncture. Drawing on India's increasing global stature and strong current growth, Prime Minister Narendra Modi is building a more centralized, less liberal regime promoting Hindu nationalism. If Modi can overcome the obstacles noted above and keep India powerful and growing strongly, he may continue to shift India in the direction of becoming a more autocratic, one-party state. Yet given all the obstacles India faces, and Modi's pattern of relying on oligarchs and infrastructure investment to drive growth—which is not compatible with sustained broad-based and inclusive growth—India may falter, and Modi's aspirations may be met with greater opposition. Either way, the coming ten years will be crucial to

determining India's economic and political patterns for the next half century.

## NOTES

1. These figures, and all demographic data unless specified otherwise, are from the UN Department of Economic and Social Affairs, Population Division, *World Population Prospects, 2022 Revision*, which for India are based on India's government data. <https://population.un.org/wpp/Download/Standard/MostUsed/>.
2. Nandita Bhan, Nicole E. Johns, Sangeeta Chatterji, et al., "Validation of the Fertility Norms Scale and Association with Fertility Intention and Contraceptive Use in India," *Studies in Family Planning* 54, no. 1 (2023): 39–61.
3. These data are from the UN Department of Economic and Social Affairs, Population Division's "Medium Variant" growth projections. These projections are used throughout this chapter for India. <https://population.un.org/wpp/Download/Standard/MostUsed/>.
4. State population estimates for 2023 are from India's National Commission on Population, Ministry of Health and Family Welfare, *Census of India 2011, Population Projections for India and States 2011–2036, Report of the Technical Group on Population Policies*, July 2020, [https://main.mohfw.gov.in/sites/default/files/Population%20Projection%20Report%202011-2036%20-%20upload\\_compressed\\_0.pdf](https://main.mohfw.gov.in/sites/default/files/Population%20Projection%20Report%202011-2036%20-%20upload_compressed_0.pdf). State GDP data are from Reserve Bank of India, *Handbook of Statistics on Indian States, 2022–2023*, <https://rbi.org.in/Scripts/AnnualPublications.aspx?head=Handbook%20of%20Statistics%20on%20Indian%20States>.
5. State literacy and enrollment data are from Reserve Bank of India, *Handbook of Statistics on Indian States* for the years indicated.
6. State urbanization data are from Reserve Bank of India, *Handbook of Statistics on Indian States* for the dates indicated. Estimated 2020 overall urbanization rate is from United Nations Population Division, *World Urbanization Prospects, 2018 Revision*, <https://population.un.org/wup/Publications/Files/WUP2018-Report.pdf>.
7. Soutik Biswas, "Indian Dowry Payments Remarkably Stable, Study Says," BBC News, July 4, 2021, <https://www.bbc.com/news/world-asia-india-57677253>.
8. World Bank, Gender Data Portal, "Labor Force Participation Rate (% of population), Female," accessed February 6, 2024, <https://genderdata.worldbank.org/en/indicator/sl-tlf-acti-zs?age=15-64>.
9. Sudipa Sarkar, Soham Sahoo, and Stephen Klasen, "Employment Transitions of Women in India: A Panel Analysis," IZA Institute of Labor Economics Discussion Paper Series, 11086 (October 2017); Maitreyi Bordia Das and Ieva Zumbo, "The Motherhood Penalty and Female

- Employment in Urban India,” World Bank Policy Research Working Paper 8004, March 2017, <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/417411489495483028/the-motherhood-penalty-and-female-employment-in-urban-india>.
10. World Bank, Data Portal, “Personal Remittances, Received,” accessed July 8, 2024, <https://data.worldbank.org/indicator/BX.TRF.PWKR.CD.DT?locations=IN-1W>.
  11. Ruchi Singh, “Origin of World’s Largest Migrant Population, India Seeks to Leverage Immigration,” Migration Policy Institute, March 9, 2022, <https://www.migrationpolicy.org/article/india-migration-country-profile>.
  12. Singh, “Origin.”
  13. S. Irudaya Rajan and R. B. Bhagat, “Internal Migration in India: Integrating Migration with Development and Urbanization Policies,” *KNOMAD Policy Brief 12*, February 2021.
  14. United Nations Population Division, *World Urbanization Prospects*, 2018 Revision (United Nations, 2019).
  15. Oxfam India, *India Discrimination Report 2022*, September 2022, <https://www.oxfamindia.org/knowledgehub/workingpaper/india-discrimination-report-2022>.
  16. World Bank Data, “Employment in Agriculture,” accessed July 8, 2024, <https://data.worldbank.org/indicator/SL.AGR.EMPL.FE.ZS?locations=IN-CN&view=chart>.
  17. International Labour Organization, *India Employment Report 2024: Youth Employment, Education and Skills*, March 29, 2024, 89–90.
  18. International Labour Organization, *India Employment Report*, 91.
  19. Tara Subramaniam and Sania Farooqui, “Too Few Jobs, Too Many Workers and ‘No Plan B’: The Time Bomb Hidden in India’s ‘Economic Miracle,’” CNN, May 27, 2023, <https://www.cnn.com/2023/05/27/economy/india-economic-miracle-issues-youth-intl-hnk-dst/index.html>.
  20. Hari Kumar and Mujib Mashal, “New Delhi Sweats Through Its Hottest Recorded Day,” *New York Times*, May 29, 2024, <https://www.nytimes.com/2024/05/29/world/asia/india-delhi-hottest-day-ever.html>.
  21. Angela Picciariello, Sarah Colenbrander, Amir Baza, and Rathin Roy, *The Costs of Climate Change in India: A Review of the Climate-Related Risks Facing India, and Their Economic and Social Costs*, Literature Review, Overseas Development Institute, June 2021, <https://media.odi.org/documents/ODI-JR-CostClimateChangeIndia-final.pdf>.
  22. GDP data are from International Monetary Fund, World Economic Outlook Database, <https://www.imf.org/en/Publications/WEO/weo-database/2024/April/weo-report?c=924,534,&s=NGDPD,NGDPDPC,&sy=2022&ey=2029&ssm=0&scsm=1&scd=0&ssd=1&ssc=0&sic=0&sort=country&ds=.&br=1>.
  23. Richard Cincotta, “The Age-Structural Theory of State Behavior,” *Oxford Research Encyclopedia of Politics*, August 2017, <https://doi.org/10.1093/acrefore/9780190228637.013.327>; Richard Cincotta and John Doces, “The Age-Structural Maturity Thesis: The Impact of the Youth Bulge on the Advent and Stability of Liberal Democracy,” in *Political Demography: How Population Changes Are Reshaping International Security and National Politics*, ed. Jack A. Goldstone, Eric P. Kaufmann, and Monica Duffy Toft (Oxford University Press, 2012, 81–97).
  24. Debasish Roy Chowdhury, “Modi’s India Is Where Global Democracy Dies,” *New York Times*, August 24, 2022, <https://www.nytimes.com/2022/08/24/opinion/india-modi-democracy.html>.
  25. Steven Levitsky and Daniel Ziblatt, *How Democracies Die* (Crown Books, 2018).
  26. Reserve Bank of India, *Handbook of Statistics on Indian Economy*, September 15, 2023, <https://rbi.org.in/Scripts/PublicationsView.aspx?id=21811>.