Fertility Trends of Modern India- A Shrouded Reality

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Abstract- The big story out of the new **Sample Registration Survey[1] (2018)** data for India is undoubtedly the continuing rapid fall of fertility rates[2]. But behind this statistic lies a more convoluted reality. Despite wide regional variations, the country's TFR is already at the replacement rate[3]. These readings suggest a big change in India's demographic trajectory. India has entered a 37-year period of demographic dividend rendered by a bulge in the working-age population. Many Asian economies- Japan, South Korea, China-were able to utilize this demographic dividend to bolster economic growth and productivity. But this demographic window of opportunity is short-lived. In order to maximize the demographic dividend, concrete policy formulation is the need of the hour. This paper aspires to quantify the relationship of the toppling fertility rates with a score of other factors. It does so by describing the demographic, sociological and economic ramifications of each scenario. Furthermore, it also focuses on the possibility of India's booming working-age population, nay, demographic transition[4] coming to a grinding halt over the next two decades giving way to an ageing population with disastrous implications for our economy.

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Index Terms- TFR, Fertility Rates, Asian Economies, Demographic Dividend, Working-age Population, Ageing Population, Demographic Transition.

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[1]The SRS is a demographic survey for providing reliable annual estimates of infant mortality rate, death rate, birth rate and other fertility and mortality indicators at the national and sub-national levels.

[2] Fertility Rate or Total Fertility Rate (TFR) is defined as the average number of children born to women during their reproductive years. For the population in a given area to remain stable, an overall total fertility rate of 2.1 is needed, assuming no immigration or emigration occurs.

[3] Replacement level is the amount of fertility needed to keep the population the same from generation to generation. It refers to the total fertility rate that will result in a stable population without it increasing or decreasing.

[4] Demographic Transition is a process that represents the transition from high birth and death rates to low birth and death rates as a country develops from a pre-industrial to an industrialized economic system. This happens largely due to fall in TFR after the increase in life expectancy gets stabilized.

1   Introduction
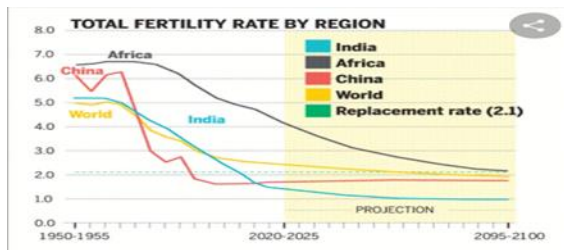
The world is experiencing unprecedented demographic change, and the topic occupies center stage in many countries. Global population growth rate reduced from 2% in 1970 to 1.1% in 2018. On an average, the population is graying; and rather steeply, across the developing globe. The fastest growth is now seen mostly in Africa due to higher fertility rates. Japan is a classic case of an ageing country, where the number of yearly births is now significantly lower than the death rates. World Bank data shows that Japan's population deteriorated from a dismal 0.05% in 2008 to a negative 0.2% in 2018. Median age is around 47 years, and the ratio of older people to the working-age population is the world's highest.
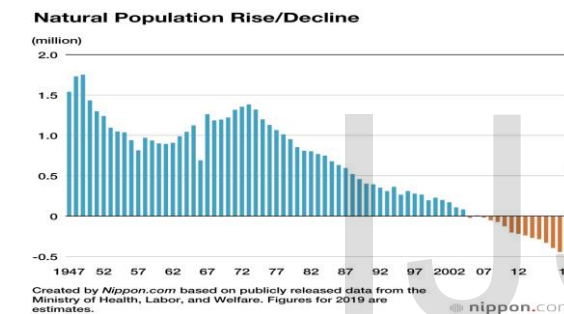

The Occident has barely proved an exception. The US fertility rate is now 1.8 births per woman, short of the 3+ streak of the 60s, and markedly down the replacement rate of 2.1. The population is slumping, with a median age of 38 years as opposed to 28 in 1970. Meanwhile, Russia's growth rate has been hovering around 0% for over two decades. The developed world is edging senility and shrinkage. The biggest challenges are now in managing an ageing society, with implications in social security benefits, hospices and healthcare, workforce, productivity, automation, accelerated obsolescence, and other factors.

The geopolitical repercussions of population decline in the developed world are becoming increasingly main stage. Immigration is changing the ethnic make-up of many countries in Europe and the United States. Different communities have different fertility rates; typically, immigrating groups produce more children than native-mostly white-populations in these regions. In the US, fertility rates amongst the white community average 1.7 while those among Hispanic community average 2.2. The white community is estimated to dip below 50% of the population by 2045, while the Hispanic community might reach 25%, up from 17% in 2018.

Apart from other ramifications, the question of skills among communities is foremost. With the steep rise in non-white politicians, demographic change is also bleeding into politics as well.

Closer home, China-the world's most populous country-is witnessing a colossal shift. The population growth rate has stabilized at around 0.5% over the last decade, and the number of babies born in 2018 was only 15.23 million-the lowest since the 1961 famine. Median age is 37 years, compared to 19 years in 1970. Like the developed world, China, too, now faces issues like a shrinking workforce, and an ageing population.

India's fertility is at a new low. Data from the NFHS[5] shows India's TFR decreased from 3.39 in 1990-92 (NFHS-1) to 2.18 in 2013-15 (NFHS-4). This means, already in 2015, we were below the average global replacement rate of 2.3. A previous article, by authors Pai and Baid[6], (bit.ly/2MtXsLY) projected that India's TFR would fall just under 2.0 in 2019. Following the linear trend projection indicates that TFR in India might be as low as 1.86 in 2021.
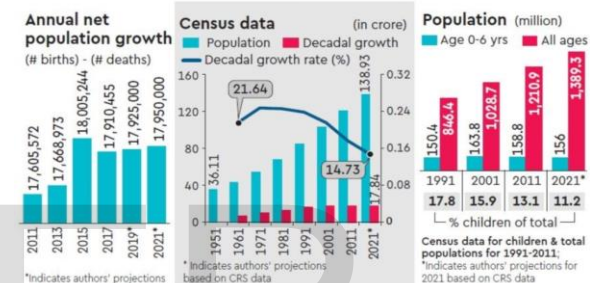
"Demographics is truly a nation's destiny. The US took 50+ years to stabilize from a fertility rate of 3+ to 1.8. China took under two decades, due to the forced enactment of the One-Child Policy. India is achieving this drop in three decades without any extreme interventions. It is remarkable that a country the size of India is achieving this organically. Policymakers must study the effect of liberalization on our demographics; it cannot be a coincidence that fertility dropped steeply from 3.4 in 1992 to 2.18 in 2015 after liberalization in 1991."

To speculate this trend from another viewpoint, the Civil Registration System (CRS)[7] provides a wealth of data. The latest CRS report, based on 2017 data, marks the level of registration of births at 85%, and of deaths at 80%. With this, we can estimate the number of births and deaths per year, and the population growth, barring immigration. The accompanying graphic contains yearly net additional population since 2011, with actual data up to 2017, and trend projections for 2019 and 2021.

With the addition of annual net populations based on CRS data, the projection for 2021 comes close to 139 crores, as shown in the accompanying graphic. The data-backed model also predicts the decadal growth, the growth rates for 2011-21 will fall more steeply than in the previous decades. The upcoming 2021 census will cast more light on this.

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[5] The National Family Health Survey (NFHS) is a large-scale, multi-round survey conducted in a representative sample of households throughout India.
[6] TV Mohandas Pai and Yash Baid are the renowned writers of THE FINANCIAL EXPRESS.

https://www.financialexpress.com
[7] CRS maintains state-wise database of the number of registered births and deaths in the country.

Decadal growth reached its zenith in 1991-2001, with an increase of 18.23 crore, up from 16.31 crore in 1981-91. In 2001-11, decadal growth stabilized to 18.21 crore, slightly fewer than the previous decade. CRS data shows decadal growth is expected to reduce in the 2011-21 decade to roughly 17.8 crore.

Decadal growth rate, on the other hand, peaked back in 1961-70 at 24.8%, and has steadily decreased ever since, which means that the population has been growing slower and slower after 1971. Growth slowly reduced to 21.5% in 1991-2001, and then rapidly dropped to 17.7% in 2001-11. With the population projection based on CRS data, it looks like decadal growth rate might plummet to 14.7% in this decade. Without a doubt, India's population is ageing.

The future of all communities lies in its children. India was pegged as the recipient of the demographic dividend, but data shows we will soon lose that advantage. The accompanying graphic shows the number of children between the ages of 0 and 6 years in the census years 1991 to 2011. This number rose from 150 million in 1991 to 164 million in 2001, and then dropped to 159 million in 2011. Projections from the CRS data indicate that in 2021, India will have around 156 million children, a drop of 3 million from 2011.

The percentage of children to the total population, however, has been steadily decreasing, from 17.8% in 1991 to 13% in 2011. 2021 projections indicate this might fall to 11% soon. Fewer children being born means fewer children entering class 1, and, ultimately, fewer people entering the workforce.

Averages aggregated at the national level however, mask India's considerate economic, cultural and spatial heterogeneity. Notably, several states have already reached fertility that is at or below the replacement level. Recent data from NFHS-3 show that state fertility levels as high as 4.0 births per woman in Bihar and as low as 1.8 in Andhra Pradesh and Goa, indicative of the well-known variation in fertility between north and south India.
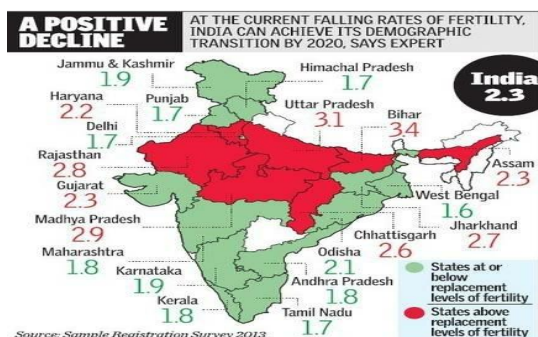

2 Female Literacy and Fertility- A Negative Correlation

Percentage of literate women in the age group of 15 to 49 years has been on the rise consistently. Since 2011, the average female literacy in this age group has skyrocketed from 68.5% to 87% in 2018.
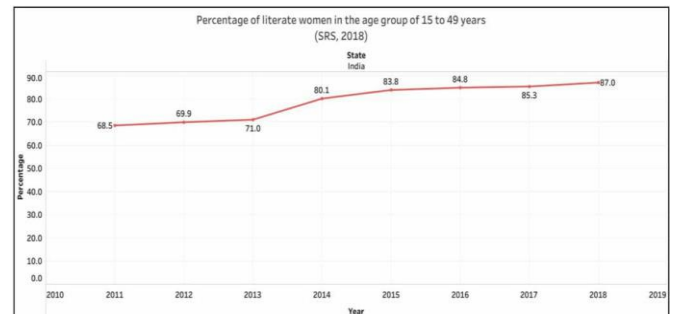
Doubtlessly, certain studies[8] suggest that female literacy is inversely proportional to fertility rates. Higher female literacy is expected to let women make more informed decisions. Not just that, women will also be able to support themselves and family, and will have more bargaining power, once educated. Traditionally, rural women have always recorded a higher TFR compared to urban areas. While TFR in urban areas dropped from 2 to 1.7, the same in rural areas dropped from 3.1 to 2.4 in the last decade.
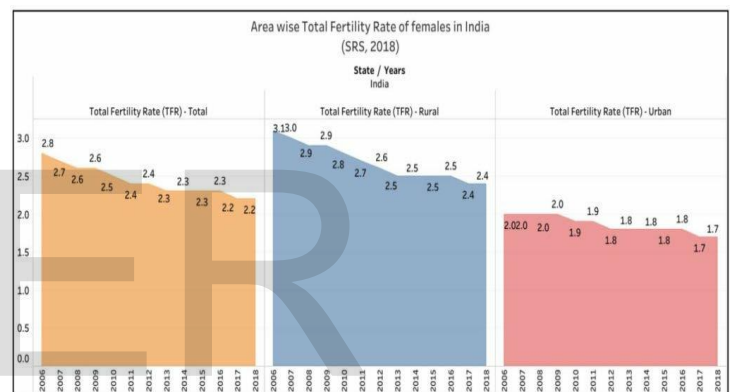
As demonstrated in the subsequent chart, the TFR for women reduces with education. The TFR among illiterate women stood at 3. The same among women who had formal education was 2.5. These findings are further corroborated by educational qualifications. Among those who had education, the overall fertility rate of women with education below primary level stood at 2.9 while those with primary level education had TFR of 2.5. Women with education up to middle level had a fertility rate 0f 2.2 and those educated beyond class X had TFR below 2.
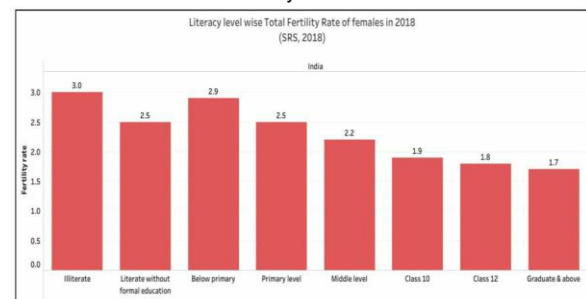

State-wise data reveals that 8 states among the larger states have female literacy rate more than 90%. Kerala continues to record the highest female literacy rate. In 2016, Kerala's female literacy rate was 99.2%, which increased to 99.3% in 2017 and 99.5% in 2018.

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[8] Data available at http://www.ncbi.nlm.nih.gov

Meanwhile, UP, Bihar, Jharkhand continue to record the worst female literacy rates even though the states have reported a substantial improvement over the previous years.

The same is also reflected in the TFR recorded in the states. It is evident that states which have recorded lower female literacy rates have a higher TFR. Bihar, Jharkhand and UP have recorded a TFR of 3.2, 2.5, and 2.9 respectively while Kerala and Himachal Pradesh which have highest female literacy rates of 99.5% and 98.8%, have a TFR of 1.7 and 1.6 respectively.
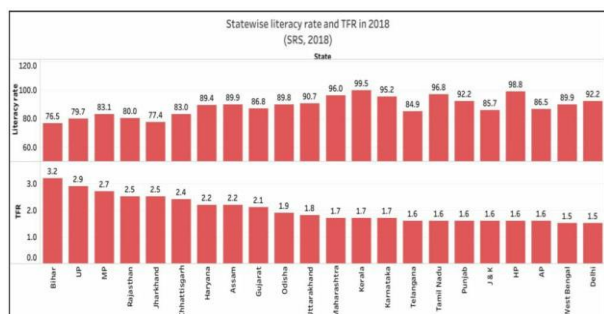
Unquestionably, female literacy[9] has left its mark as fertility continues rocketing south. Furthermore, it has reduced the number of high schools drop outs, teen pregnancies, child marriages, domestic violence and has pushed up the age of marriage for numerous women. It has also resulted in population stabilization and better infant care reflected by lower birth rates and infant mortality rates, respectively.

3   Contraception and Fertility

It is no surprise that the increased use of contraception has a negative impact on fertility rates. India's family planning success story can be gauged from the fact that from a TFR of about 6 in 1952, when the family planning was launched, it has dropped considerably to 2.2 shown in the National Family Health Survey-4 that have results from the year 2015-16. The program may have its drawbacks in terms of faulty strategy that has led to women largely making use of contraceptive measures, or limited basket of choice of contraceptives for young couples among other things, but it still has managed to help India reach closer to the replacement Total Fertility Rate target of 2.1.

In fact, apart from the high focus states such as UP, Bihar, MP and Rajasthan that still have a TFR higher than the national average, the remaining states have managed to even bring it down under 2.

India's modern CPR[10] is 47.8%, of which an astounding 36% is female sterilization. Contraception through condoms is 5.6%, oral pills 4.1%, intrauterine devices 1.5% and male sterilization 0.3%. Female sterilization has been the mainstay of India's TFR reduction so far. Terminal methods like female sterilization can have serious repercussions on women's reproductive health. Holistic family planning necessitates greater choice and availability of non-terminal methods. India has made big strides in reducing population growth, but a shift

needs to be made from the women-centric planning to ensure good reproductive health nationally.
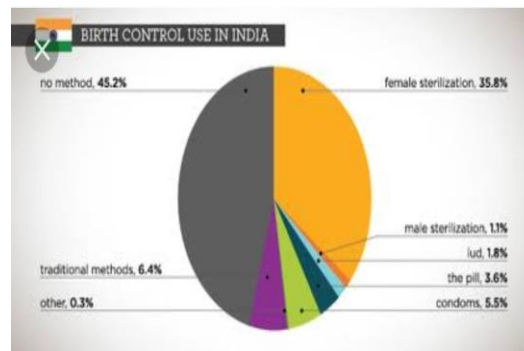
4   Sex Ratio and Fertility

In India, and several other countries with son Preference, the male-biased sex ratio has worsened over the past several decades despite gains for women and girls along other dimensions such as educational attainment and decision-making power in the household. One reason is the increased availability of prenatal sex-diagnostic technology, which has made sex-selective abortions possible. Another less obvious possible reason is the decline in desired family size, nay, desired fertility. Suppose a couple strongly wants to have at least one son. If they wish to have six children, there is only a 1% chance they will be without a son, but if they wish to have only two children, there is a 24% chance[11]. Because they are less likely to have a son by chance the fewer children they have, as their desired family size decreases, the likelihood that they manipulate the sex of the children (through sex-selective abortion, infanticide, or neglect) might increase. The total fertility rate in India has been declining since 1960, while irregularity of the sex ratio has been rising.
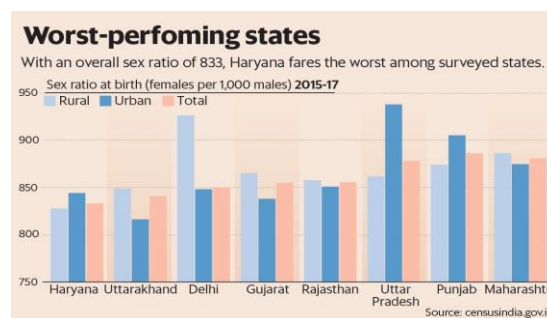
Previous scholars have also conjectured that falling fertility could help explain the time trends in the sex-ratio in South Asia (Das Gupta and Bhatt, 1997; Basu, 1999).

Haryana has the most male-biased sex ratio in India based on the 2011 Census. However, Haryana appears to be typical of north India in terms of the desire to have sons. Where it differs is that fertility is lower

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[9] https://youtu.be/yHPvSR_QzMs This video corroborates the scenario described above in this
section.
[10] Contraception Prevalence Rate is the percentage of women who are currently using, or whose sexual partner is currently using, at least one

method of contraception, regardless of the method used. It is usually reported for married or in-union women aged 15 to 49.
[11] The probability is less than 25% because the natural sex ratio is slightly skewed towards males.

than in the rest of the region. Haryana's low fertility and highly skewed sex ratio are connected.

The facts elucidate logically that fertility and Sex ratio share an inverse correlation.

5 Effects of Child Mortality on Fertility

Child mortality in India began to fall around 1921 and accelerated downward in the 1950s. The evidence for this, however, is largely indirect and based mainly on data from the decennial censuses. Fertility rates, as discussed above began spiraling in the 1960s. By the beginning of the 1970s, when the SRS began to track annual trends in vital rates, the total fertility rate had fallen to fewer than six births per woman, and the infant and child (under 5) mortality rates were below 140 and 230 per 1000 live births, respectively.
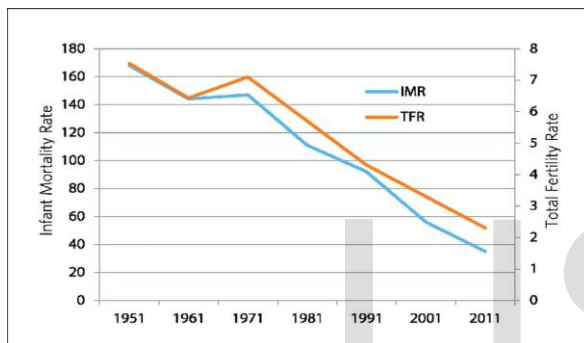
The assumption that a secular fall in mortality would eventually lead to a fertility reduction is central to the propositions of demographic transition theory[12]. Reduction in child mortality used to be regarded as a key trigger for the fertility transition[13], and although this is no longer strongly seen as a hard-and-fast causal link , there are analyses that strongly suggest that continuing high rates of infant and child mortality are significant barriers to fertility decline in Sub-Saharan Africa, e.g. Bongaarts model 2008.

Demographers looked at two ways in which infant mortality could affect fertility. The first was the effect of premature interruption of lactation due to the death of the infant; this would shorten the postpartum sterile period and therefore the birth interval. The second was the possibility that parents replace lost children. The investigators therefore analyzed the length of birth intervals according to the survival or death of the infant and its predecessor.

Their findings indicate that prior to the introduction of family planning, the death of an infant was followed by a short interval to the next conception, presumably because the inhibitory effect of breast-feeding

on ovulation had been removed. Demographers call this the 'psychological effect' on fertility. After contraceptive methods had been introduced, marked differences were revealed in birth intervals. It is called the 'infant replacement effect'.

6 Religion and Fertility

There is little evidence internationally of the correlation between religion and fertility rates. However, when the office of the Registrar General and Census Commissioner of India[14] released fertility rates for the Indian population in 2017, the conversation was hijacked by the difference in population growth rates across religions. Several newspapers emphasized that the data showed that Muslim women had higher fertility[15] rates than non-Muslims, and that the percentage of Muslims in the population was steadily growing.[16]

The numbers showed[17] that the proportion of Muslims in India had grown to 14.2% of the total population in 2011, up from 13.4% in 2001, while the proportion of Hindus had reduced to 79.8% from 80.5%. The percentage of Christians and Jains did not significantly change at 2.3% and 0.4%, respectively, while the proportion of Buddhists decreased from 0.8% to 0.7%, and that of Sikhs reduced from 1.9% to 1.7%.

DIP IN NUMBERS

Religion	TOTAL FERTILITY RATE		Decline
	NFHS-4 (2015-16)	NFHS-3 (2005-06)	
Hindu	2.13	2.59	0.46
Muslim	2.61	3.40	0.79
Christian	1.99	2.34	0.35
Sikh	1.58	1.95	0.37
Buddhist/ Neo-Buddhist	1.74	2.25	0.51
Jain	1.20	1.54	0.34
Other	2.57	3.98	1.41

This implicit suggestion that Muslims have more children than other religious communities, missed data that shows how population growth rates and the total fertility-or the average number of children a woman has over her childbearing years-vary widely between India's states. The total fertility rate seems more closely related to per capita income, healthcare and other basic facilities in that state.

Compare, for instance, Kerala and Uttar Pradesh. In 2011, the total fertility rate of Uttar Pradesh, at 3.3, was higher than the Indian average of 2.4, and higher than the rate in Kerala, at 1.8, according to census data. The Muslim population in Uttar Pradesh increased 25.19%, while the Muslim population in Kerala increased 12.83% between 2001 and 2011. Over the same period, the Hindu population increased 18.9% in Uttar Pradesh and 2.8% in Kerala.

The higher growth rates of Muslims in northern states are "more or less part of a northern culture", NC Saxena, the former secretary of the

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[12] The standard demographic transition theory is one classic approach to the relationship between fertility rates and infant mortality rates which posits that mortality rates for infants and children drive fertility rates, mediated through cultural, social and psychological processes. Those social processes have the effect of keeping population size stable. Under conditions of high mortality, high fertility rates are required to keep populations from shrinking. When there is a transition from high to low mortality rates, cultural processes, albeit with some lag will result in reduced fertility rates. After a period of rapid growth, the population returns to equilibrium.

[13] Reduction in child mortality brings down the 'demand' for children by improving the chances of survival to adulthood.
[14] https://censusindia.gov.in
[15] https://www.dailypioneer.com/2016/india/fertility-rate-indian-muslim-women-beat-others.html
[16]https://www.financialexpress.com/india-news/narendra-modi-reveals-religious-census-musli-population-rises-24/33530
[17]https://pib.gov.in/website/PrintRelease.aspx?relid=126326

Planning commission of India, said in an interval[18] to **The Wire**, a non-profit journalism portal.

This is in sync with higher average total fertility rates in northern and central states, such as Uttar Pradesh (3.3), Bihar (3.5), Chhattisgarh (2.7) and Madhya Pradesh (2.9), as compared to southern states like Andhra Pradesh (1.8), Karnataka (1.9), Kerala (1.8), and Tamil Nadu (1.7), according to 2011 census data.

The states with the highest fertility rates in India are all in north and central India-Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan (2.9), Jharkhand (2.8), and Chhattisgarh. These overall fertility rates seem more related to the state's literacy and development as discussed earlier. Still, there are differences within states in total fertility rates between religious groups. In 2005-2006, according to NFHS-3, Uttar Pradesh had a total fertility rate of 3.3, higher than the all-India average of 2.4.

Kerala had a total fertility rate of 1.93. In 2005-2006, Muslims in Kerala had a fertility rate of 2.46, higher than that of Hindus in Kerala, at 1.53. But the Muslim total fertility rate in Kerala was lower than that of Hindus in Uttar Pradesh, at 3.73. The total fertility rate of Muslims in UP was 4.33.

One reason for the higher Muslim fertility within a state could be wealth-related factors.

Survey information showed that families in the lower wealth quintiles have more children than richer families. For instance, in Bihar, women in the lowest wealth quintile have a total fertility rate of 5.08, while women in the highest quintile have total fertility rate of 2.12. The same holds true for a richer state, like Maharashtra, where the lowest wealth quintile has a total fertility rate of 2.78, compared to the richest wealth quintile with a total fertility rate of 1.74.

On average, Muslims across India are poorer than Hindus across India, with an average monthly household per capita expenditure of Rs 833, compared to Rs 888 for Hindus, Rs 1296 for Christians and Rs 1498 for Sikhs, according to a 2013 NFHS report, based on data from 2010.

Researcher Sriya Iyer, a professor at the University of Cambridge, said that religion does not have statistically significant effect on fertility if other factors such as "access to education (quantity and quality), income, whether couples have help with childcare or not, local healthcare provision (quality and quantity) that lowers infant mortality and hence increases child survival, and the degree of urbanization of the community" are taken into account.

Further, her 2002 study[19] in a Karnataka taluka (an administrative sub-division of a district) found that both Hindus and Muslims had more children than Christians, but she argued that religion affects fertility and contraception through other socioeconomic factors, such as a family's decision to educate its children, rather than through the ideological tenets of a religion.

Socio-economic factors affect the fertility of religious groups in different ways. For instance, higher education for women, and secondary education for men, lowers the fertility of Muslims but not of Hindus and

Christians, the study reported, suggesting that family planning programs might have to be designed keeping in mind these differences.

Further, Iyer said, evidence from India showed that, over the long term, "total fertility rate between religious groups are projected to converge, as women from all religious communities are having fewer children today than their mothers or grandmothers".

Population Projections[20] by the Pew research center, a US-based think tank, estimates that by the year 2050, Muslims will make up 18.4% of India's population, the largest population of Muslims in any country in the world. But India's Hindu population will still be larger than the total Muslim population of India, Pakistan, Indonesia, Nigeria, and Bangladesh, five countries with the largest Muslim population in the world.

In India, the Muslim growth rate is falling faster than the growth rate of Hindus. The decadal growth rate of Muslims fell 4.9 percentage points from 29.5% in 2001 to 24.6% in 2011, while that of Hindus fell 3.5 percentage points from 20.3% to 16.8%.

From the discussed statistics, arguments and empirical data, it can be doubtlessly deduced that the relationship between religion and fertility is somewhat inexplicit. However, religious precepts and theses do influence socio-economic conditions of a household, therefore, obliquely affecting desired fertility of individuals.

7 Urbanization and Fertility

Urbanization affects fertility of the people differently as compared with rural areas. Fertility declines with urbanization. This is caused by lack of accommodation and high cost of living in the case of who migrate from rural areas.

They are not able to bring their wives. But this does not mean that fertility is low in the case of wives of migrant workers. Professor Dandekar's study observes in this connection: "Our study found that the fertility of wives of migrant workers who were absent for a large part of the year was not adversely affected, in fact in the younger age group it was enhanced." Those engaged in white-collar jobs want to educate their children but cannot afford to have many due to the high cost of living.

The better-off also want fewer children to maintain their standard of living. When both husband and wife are employed, they cannot have more than one child, if there is nobody to look after the child in their absence. Even the cost of keeping in crèches and of baby-sitters in big cities dissuades them to have another child.

8 Occupation and Fertility

Occupation determines the economic condition of a family which, in turn, affects fertility considerably. Manual workers have high fertility

[18] https://m.thewire.in/article/health/the-perils-of-reading-the-census-as-a-sensex-of-religion
[19] https://dev.wcfia.harvard.edu/sites/default/files/845__Iyer.UReligion.pdf

[20] https://www.pewresearch.org/fact-tank/2015/4/21/by-2050-india-to-have-worlds-largest-populations-of-hindus-and-muslims

because to supplement the family income, they want more working hands in the form of children.

Where women are also employed with men fertility is low, as in case of developed countries. People prefer to maintain their high standard of living instead of having more children which involve high costs in bringing up and educating them. But the poor in developed countries have high fertility because they want more children to support the family. The same is the case in developing countries both in agricultural and industrial sectors.
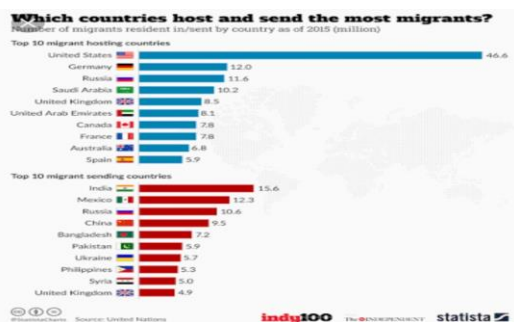
9 Caste system and Fertility[21]

Caste is a type of social stratification unique to India. In India, caste inequalities correspond strongly to indices of social and economic inequality. It is no accident that the incidence of poverty, illiteracy, disease, unemployment, malnourishment, IMR, MMR, income and unequal access to quality education is the highest among the lower castes of our population. In India, the birth rate is high in the case of lower castes, while it is low among high caste Hindus. this because the former live on the outskirts of social paradigm, far away from education and in depressing economic conditions, therefore pushing down the age of marriage for many women. On the other hand, upper caste women are better informed and socially placed to make important life decisions like child birth, age of marriage.

It is clear from prior discussion and elucidation that economic conditions and illiteracy is intricately linked to fertility rate. Hence, we can safely state that caste notions bring up fertility rates exponentially by limiting the opportunities of an individual and pushing him/her into early marriage and childbirth.

10 Migration and Fertility

International migration is an important feature of life in the 21st century- as it was in the 20th, and perhaps at an even greater magnitude. At the turn of the millennium in 2000, 173 million people living outside their country of birth globally. This number grew rapidly over the following 19 years reaching 272 million worldwide in 2019-a 57 per cent increase during that period.

Which countries host and send the most migrants?
Number of migrants resident in/sent by country as of 2015 (million)

Source: United Nations

Two-thirds of the world's international migrants were living in just 20 countries in 2019. In United States alone, there were 51 million international migrants, which was nearly a fifth (19 percent) of the world's total with Germany and Saudi Arabia scoring a close second.

Across countries, one-third of all international migrants originate from only ten countries in 2019. India had the largest number of people living abroad (18 million), followed by Mexico (12 million). Other countries with more than 6 million emigrants included China, Syria, Bangladesh, Pakistan and Ukraine.

Although international migration is a potent demographic force, there has been very little research its effect on fertility and the number of births. But it is obvious that they are strongly related, with migration usually increasing the resident population of young (and potentially procreating) adults in receiving countries and reducing this age group in sending countries. Studies have also demonstrated an indirect link caused by the change of social norms influencing fertility behavior (Fargues 2006).

Several studies on the fertility of migrants to the United States reveal little change in birth rates overall.[22] With migration from Mexico to United States constituting the largest bilateral migration corridor in the world, studies of Mexican migration to the US provide an instructive case for analyzing the relationship between international migration and fertility. Using retrospective life history data on fertility and migration from a study of Mexico-US migration, Lindstrom and Saucedo (2002) tested for the effects of adaptation and socio-cultural assimilation. Their analysis revealed that when women migrate to the US, either as temporary migrants or as long-term settled migrants, their experiences lead to lower birth probabilities while in the host country, as well as to fewer total births. Moreover, migrant women who stay longer and have more experience in the host country have lower fertility than similarly aged women in the source countries.

In a further study of migration and fertility in the United States during the 1980s, Kahn (1994) examined the sources of the growing gap in fertility between migrant and native women. According to Kahn's analysis, although migrants expect to have higher fertility than natives, they tend to adapt these expectations over time. That said, the study found that migrant women on average had increasingly higher fertility than natives throughout the 1980s. Notably, when the same study examined the migrant-native differential more closely, to account for differences in educational attainment, income, and other characteristics, migrants on average had lower fertility than similar natives. Furthermore, by the late 1980s, the standardized fertility levels of migrant women and natives were virtually identical. Thus, if both migrants and natives had the same socio-economic characteristics, their fertility would be quite similar. Migrants who have been in the US for a relatively long period of time have adopted fertility norms more similar to those of the natives of the host country than to non-migrant women in their source-countries. This is corroborated by a study of fertility among migrant Hispanic women in the US conducted by Parrado and Morgan (2008).

As mentioned earlier, the other side of the international migration-fertility framework-that is, the impact of migration on the fertility of non-migrants in source-countries is far less researched than the impact of migrant's fertility in the host countries. Hence, the empirical evidence is scant, with very few studies done. Examining the MENA countries, Fargues (2004) explored whether returning migrants brought back cultural values ad fertility norms prevailing in their destination countries to their home countries.

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https://www.researchgate.net/publication/23777666_An_Analysis_of_Fertility_Differentials_among_Caste_Groups_in_Andhra_Pradesh It is the only evidence I could gather to validate my argument.

[22] In 2013, immigrants increased the overall fertility of the United States by only 0.08 children, or 4.5 percent (Camarota and Zeigler 2015).

Starting from the 1970s and over the course of the ensuing decades, several MENA countries witnessed an intense emigration flow headed to either the West, where fertility was low and families were tiny or to the Gulf, characterized by larger families and deep-rooted patriarchal values. The results of the study showed that migration to Europe was accompanied by an accelerated move towards low birth rates among the source countries. Migration to the Gulf, on the other hand, coincided with a slower pace of fertility transition in the countries of origin.

A rigorous econometric analysis of the migration-induced transfer of fertility norms by Beine, Docquier, and Schiff (2008) provides evidence of a strong transfer of fertility norms from migrants to their countries of origin. The main finding of the study is that the transfer of norms from low- (high-) fertility destination countries reduces (raises) fertility in migrants' countries of origin. The authors found that a 1 percent increase in the fertility norm to which migrants are exposed reduces source-country fertility by about 0.03 percent. Hence, migration from high-fertility sending countries to low-fertility destination countries reduces fertility in the sending ones and saving the former from low-

fertility induced graying trap.

11   Conclusion

Voila! We have come to the end of our demographic sojourn. I elaborated on the steady Demographic metamorphosis that India is set to weather in the next couple years, nay, the impending change in India's fertility trajectory, thanks to the score of variables canvassed aloft. We have successfully established through empirical data, references and validated theses that fertility decline in India is a result of myriad influences. The possibilities emanating from this scenario are mixed. However, it has been substantiated that India is at a very lucrative stage of demographic transition despite spatial variations. Demographic dividend is a temporary phase marked by a swelling working-age population is unfortunately transient. The varying pace of onset and end of demographic transition- from the future workers and toddlers in Uttar Pradesh to the retirees in Kerala- poses a compounded challenge for the policymakers. The declining TFR has further shortened this fleeting opportunity. The trends in fertility have important implications for policy. First, social policy fixated on birth control must shift to more pressing matters like literacy, employment and Infant mortality. An eligible labor-force per se isn't enough. They need to be skilled to meet the demands of the fiercely competitive ground that is the market. Second, the country must brace itself for a time when the old-age dependency ratio sky-rockets through long-term social security and pension schemes. Third, the provision of education, health and other services needs to prepare for the demographic turn. Flawed decisions can very well turn this powerful dynamic into a ticking time bomb.

The fall in Indian fertility is not unique. It is in line with what every other country has experienced at a certain economic stage. India's population is expected to peak in the near future on an average (it has already peaked in Kerala). One could argue that this would be a good thing. But a shrinking, aging population will bring problems of its own.

12   Standing Queries: -

a. There is not enough evidence and studies on how caste differentials affect fertility trends in India. Many questions still remain on the role of caste in swaying the current demographic scenario. Does it proportionate to fertility? Is the relationship bi-directional? And so on.

b. There is a need to look more closely at the salient aspects of migrant's assimilation and adaptation experience. Is migrants' depressed post-migration fertility a result of their socio-economic and cultural integration in the new environment, or a reflection of the challenging and difficult settlement experiences they often face?

c. Another promising line of research can be examining how proximate determinants of fertility, like the use of contraception, relate to the assimilation and adaptation processes.

d. Other questions that need to be answered are regarding the future of Indian demography with such vivid spatial variations at its backdrop.

e. A comparative study on India and Japan's economic policies amid similar demographic conditions can be seriously eye-opening. It can provide possible policy suggestions to harness this chance at socio-economic and political amelioration to achieve what's been a dream-too good to be true.

f. Fertility of the wives of migrant workers who are absent for the better part of a year still remains an area barely researched. Dandekar's study provided some evidence regarding the former but o studies have been carried out yet in depth.

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