

Gender and Son Meta-Preference: Is Development Itself an Antidote?

Nimirndha nan nadai naer konda paarvaiyum
Nilathil yaarkkum anjaatha nerigalum
Thimirndha gnana cherukkum iruppadhaal
Semmai maadhar thirambuvadhu illaiyaam

*Her head held high, and looking everyone in the eye,
Unafraid of anyone because of innate integrity,
Possessing assuredness born of courage of conviction,
The Modern Woman never feels inferior to any*

Subramania Bharati, “Pudumai Pen”

अबला जीवन तेरी हाय यही कहानी !
आंचल में है दूध और आंखों में पानी

*Woman, this is your life story
Mothering your role, sadness your destiny*

Maithlisharan Gupta

#MeToo

Over the last 10-15 years, India's performance improved on 14 out of 17 indicators of women's agency, attitudes, and outcomes. On seven of them, the improvement has been such that India's situation is comparable to that of a cohort of countries after accounting for levels of development. Encouragingly, gender outcomes exhibit a convergence pattern, improving with wealth to a greater extent in India than in similar countries so that even where it is lagging it can expect to catch up over time. However, on several other indicators, notably employment, use of reversible contraception, and son preference, India has some distance to traverse because development has not proved to be an antidote. Within India, there is significant heterogeneity, with the North-Eastern states (a model for the rest of the country) consistently out-performing others and not because they are richer; hinterland states are lagging behind but the surprise is that some southern states do less well than their development levels would suggest. The challenge of gender is long-standing, probably going back millennia, so all stakeholders are collectively responsible for its resolution. India must confront the societal preference, even meta-preference for a son, which appears inoculated to development. The skewed sex ratio in favor of males led to the identification of “missing” women. But there may be a meta-preference manifesting itself in fertility stopping rules contingent on the sex of the last child, which notionally creates “unwanted” girls, estimated at about 21 million. Consigning these odious categories to history soon should be society's objective. The government's Beti Bachao, Beti Padhao and Sukanya Samridhi Yojana schemes, and mandatory maternity leave rules are all steps in the right direction.

INTRODUCTION

7.1 Recognizing the long-run objective of elevating the role and status of women while also responding to prominent incidents of violence

against women, the government in January 2015 launched “Beti Bachao, Beti Padhao”. Translated roughly as “Save the Daughter, Educate the

Daughter”, it targeted the worsening Child Sex Ratio (CSR) in India through a mass campaign aimed at creating awareness and changing social norms. As the advanced world grapples with the fallout from the endemic harassment of women, and as the evidence grows about the intrinsic and instrumental value in raising the role and status of women in society (Elbhorg-Woytek et al., 2013; Jayachandran, 2015), it is time to ask: how is India faring and how much progress has been made? Is India the land of the empowered woman imagined by Subramania Bharati or the helpless, oppressed woman described by Maithlisharan Gupta?

7.2 The intrinsic values of gender equality are uncontested. But now there is growing evidence that there can also be significant gains in economic growth if women acquire greater personal agency, assume political power and attain public status, and participate equally in the labor force (Dollar and Gatti, 1999; Lagarde, 2016; Loko and Diouf, 2009). In developing countries, working women also invest more in the schooling of their children (Aguirre et al. 2012; Miller 2008). Recently at Davos, IMF chief Christian Lagarde, quoting IMF research, said that women’s participation in the workforce to the level of men can boost the Indian economy by 27 percent.

7.3 Another reason to take stock is to correct a possibly pervasive methodological problem afflicting assessments relating to gender and other social issues. The problem is one of conflating “development time” and “chronological time.” Gender indexes such as the Global Gender Gap Index of the World Economic Forum (WEF) or the Gender Inequality Index (GII) of the United Nations Development Program (UNDP) rank countries in chronological time.

7.4 But such simple cross-sectional comparisons are prone to a potential flaw. The role of women evolves with development. Scandinavia in the early 1900s was demonstrably

less well-disposed to women than Scandinavia today, and possibly less well-disposed than countries today that have attained a level of development not dissimilar to Scandinavia in the early 1900s (Borchorst, 2008).

7.5 Thus, unless this determinant of gender outcomes is accounted for, cross-sectional comparisons—as in the two gender indices noted—could be misleading: a case of passing judgment in “chronological time” oblivious of “development time.” Invoking “development time” is not to dismiss “chronological time” and not a ruse to succumb to the “soft bigotry of low expectations.” Rather, policy-making should be informed by both perspectives. Urgency of action should spring from assessments in chronological time but that must be leavened by the understanding that comes from assessments in development time.

7.6 This distinction is crucial for another reason: if a country’s performance is atypical in development time, the policy strategy will have to be far different from that if a country’s performance is typical. In the former, bleaker case, development itself cannot be counted upon to improve the role and status of women. The burden on government, civil society, and other stakeholders will correspondingly be greater.

7.7 The first part of this chapter is an attempt at assessments after taking account of the role that development itself plays in changing gender outcomes. Specifically, two kinds of assessments are made:

- Level: How did India fare on a set of gender outcomes relative to a set of developing economies in the late 1990s/early 2000s and in the most recent period (2015-16), controlling for the level of development?
- Change: Is there a kind of convergence effect? That is, are gender indicators more responsive

to improvements in household wealth in India than in other countries?

7.8 Gender equality is an inherently multi-dimensional issue. But, embracing multi-dimensionality indiscriminately can impede understanding. Accordingly, assessments in this chapter are made on three specific dimensions of gender:

- **Agency** relate to women's ability to make decisions on reproduction, spending on themselves, spending on their households, and their own mobility and health.
- **Attitudes** relate to attitudes about violence against women/wives, and the ideal number of daughters preferred relative to the ideal number of sons.
- **Outcomes** relate to son preference (measured by sex ratio of last child), female employment, choice of contraception, education levels, age at marriage, age at first childbirth, and physical or sexual violence experienced by women.

7.9 The dimensions that are focused on and the assessments that are made are neither comprehensive nor necessarily representative, but they attempt to take into account the following: what the literature has focused on (Jayachandran, 2015); other important features specific to India that might have been overlooked; and more practical considerations of data availability, so that India can be compared with a large enough sample of countries.

7.10 The analysis in this chapter is based on the Demographic and Health Survey (DHS) datasets from 1980 to 2016. The survey has datasets at household level; both women and men are asked detailed questions on gender-related attitudes,

agency and outcomes, among other issues. The India National Family Health Survey (NFHS) 2015-16, which feeds into the DHS survey, has been combined with international DHS datasets. Previous DHS/NFHS datasets for India are available for the following periods: 1992-93, 1998-99, and 2005-06.

7.11 Our main findings are as follows¹:

- On 14 out of 17 indicators relating to agency, attitude, and outcomes, India's score has improved over time. On seven of them, the improvement is such that in the most recent period India's performance is better than or at par with that of other countries, accounting for the level of development.
- The progress is most notable in the agency women have in decision-making regarding, household purchases and visiting family and relatives. There has been a decline in the experience of physical and sexual violence. Education levels of women have improved dramatically but incommensurate with development.
- On 10 of 17 indicators, India has some distance to traverse to catch up with its cohort of countries. For example, women's employment has declined over chronological time, and to a much greater extent, in development time. Another such area is in the use of female contraception: nearly 47 percent of women do not use any contraception, and of those who do, less than a third use female-controlled reversible contraception. These outcomes can be disempowering, especially if they are the consequence of restrictions on reproductive agency. Whether women "choose" or acquiesce in their limited choices

¹ The "level" analysis (and the international comparison) is done after aggregating the variables of interest at country level, and at the level of states for the within-India comparison. To facilitate comparisons across time, states are defined by their 1995 borders. For the "change" analysis, household level data from NFHS 2015-16 has been used.

are important and deeper questions but beyond the scope of this chapter.

- Encouragingly, there is evidence of convergence. Analysis at household level indicates that on all but 2 measures, gender indicators improve as wealth increases. More importantly, from a development time perspective, nearly all gender dimensions respond to wealth to a greater extent in India than in other countries. This implies that even where India is lagging, it can expect to catch up with other countries as the wealth of Indian households increases.
- While there is considerable variation within the Indian states and across dimensions, the broad pattern is one of the North-Eastern states doing substantially better than the hinterland states even in development time; hinterland states are lagging, some associated with their level of development and some even beyond that; surprisingly, some southern states such as Andhra Pradesh and Tamil Nadu fare worse than expected given their level of development.
- Perhaps the area where Indian society—and this goes beyond governments to civil society, communities, and households—needs to reflect on the most is what might be called “son preference” where development is not proving to be an antidote. Son preference giving rise to sex selective abortion and differential survival has led to skewed sex ratios at birth and beyond, leading to estimates of 63 million “missing” women.
- But there is another phenomenon of *son meta-preference* which involves parents adopting fertility “stopping rules” – having children until the desired number of sons are born. This meta-preference leads naturally to the

notional category of “unwanted” girls which is estimated at over 21 million. In some sense, once born, the lives of women are improving but society still appears to want fewer of them to be born.

- Collective self-reflection by Indian society on son preference and son meta-preference is necessary. Initiatives such as *Beti Bachao Beti Padhao* and *Sukanya Samridhi Yojana* and the mandatory maternity leave rules inaugurated by this government are important steps focused on addressing the underlying challenge.

INDIA AND OTHER COUNTRIES

Level: India's Performance

7.12 Table 1 summarizes the main findings. For each gender dimension (corresponding to questions in the DHS and NFHS 4), columns 1 and 2 report the average values for India for two time periods (2005-06 and 2015-16) and column 3 reports the change (in percentage points) for India between them. Column 4 assesses whether India is an outlier relative to other countries given its level of development (in 2015).

7.13 The positive news here is that on 12 out of 17 variables, average levels in India have improved over time. For example, 62.3 percent of women in India were involved in decisions about their own health in 2005-06, which increased to 74.5 percent in 2015-16. Similarly, the percentage of women who did not experience physical or emotional violence increased from 63 percent to 71 percent. The median age at first childbirth increased by 1.3 years over ten years.

7.14 On 7 out of these 12 cases, India performs better than, or at par with the cohort of other developing countries even after accounting for levels of development.

Table 1. Summary of Results

			(1)	(2)	(3)	(4)
	Gender Dimension	Specific Issue [#] (Women's Responses)	India 2005-06 (%)	India 2015-16 (%)	Change (2)-(1)	Is India an Outlier for its level of wealth [§] in 2015?
1	Agency	Involved in decisions about their own health	62.3	74.5	12.2	8.2
2	Agency	Involved in decisions about large household purchases	52.9	73.4	20.4	9.6
3	Agency	Involved in decisions about visits to family and relatives	60.5	74.6	14.1	4.1
4	Agency	Involved in decisions about their own earnings	82.1	82.1	-0.1	-7.4
5	Agency	Involved in decisions about contraception	93.3	91.6	-1.7	0.1
6	Attitude	Prefer more or equal number of daughters over sons	74.5	78.7	4.3	-4.4
7	Attitude	Wife beating is not acceptable	50.4	54.0	3.5	-2.7
8	Outcome	Using reversible contraception, if using any method of contraception	33.8	32.8	-1.0	-51.6
9	Outcome	Employed ^{##}	36.3	24.0	-12.3	-26.0
10	Outcome	Employed in non-manual sector ^{##}	18.9	28.2	9.3	-19.8
11	Outcome	Earning more than or equal to husband	21.2	42.8	21.6	-7.4
12	Outcome	Educated ^{##}	59.4	72.5	13.1	-6.8
13	Outcome	Not experiencing physical or emotional violence	62.6	70.5	7.8	0.3
14	Outcome	Not experiencing sexual violence	90.3	93.6	3.3	1.7
15	Outcome	Median age at first child birth [*]	19.3	20.6	1.3	0.4
16	Outcome	Median age at first marriage [*]	17.3	18.6	1.3	-0.4
17	Outcome	Sex ratio of last birth ² (females per hundred births)	39.4	39.0	-0.4	-9.5

* Age is in years and is for year 1998-99.

All questions/responses are reported so that positive numbers denote greater female empowerment.

These dimensions are calculated for the set of all women between 15-49. All other dimensions are calculated for married women between the ages of 15 and 49. In column 4, the numbers represent the extent to which India is an outlier, positive or negative. They derive from the regression equation estimated at household level in Annex I. All numbers represent percentage points difference from the average estimated relationship, except for the numbers in rows 15 and 16 where they refer to number of years.

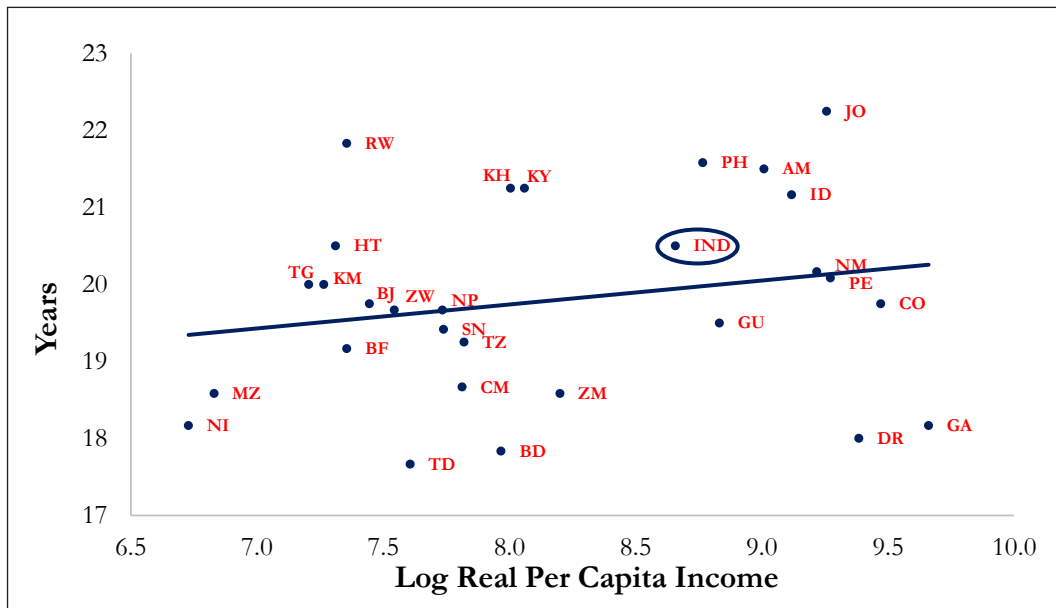
§ Numbers in bold are statistically significant.

Source: Survey calculations based on DHS and NFHS data.

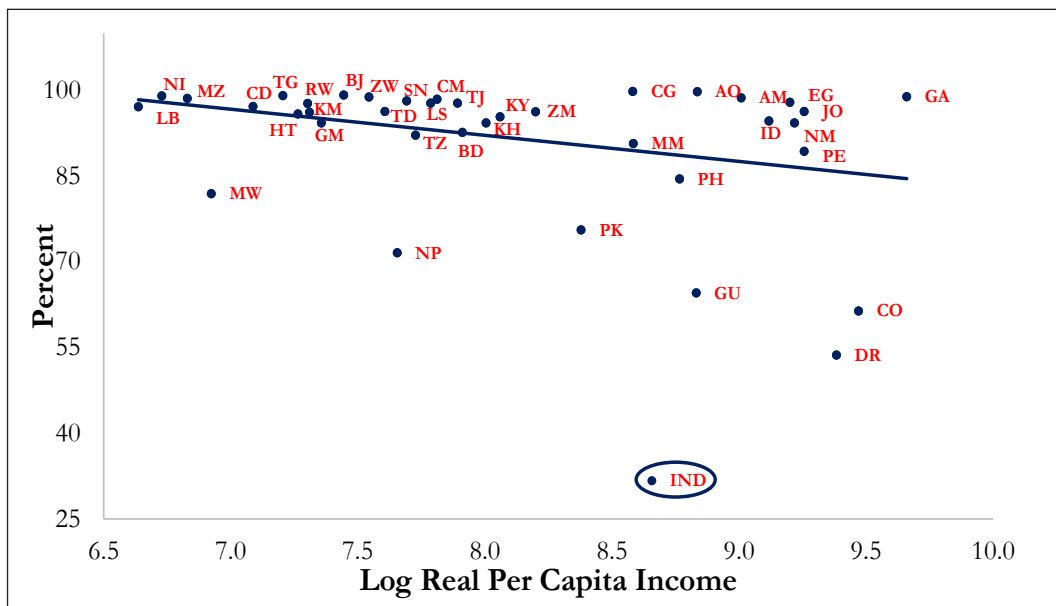
7.15 Figure 1 provides visual illustration of India's (represented by "IND") progress on one such dimension – age of female at first childbirth, which improves by 1.3 years (6.9 percent) between 2005-06 and 2015-16. The median age of first

childbirth for married women in these countries is plotted against log real per capita income. Given their level of wealth, Indian women perform better on age at first childbirth by 0.4 years.

² To construct this indicator, besides births by sex, it is also necessary to know if the most recent birth is likely to be the last. To overcome this problem, the sample is restricted to only those women who either have been sterilized or have completed biological fertility cycle (older than 40 years).

Figure 1. Age of Female at First Childbirth in 2011-16

Source: CSO & Survey calculations based on DHS and NFHS data.

Figure 2. % of Women not Using Sterilization as a Contraception Method (2011-2016)

Source: CSO & Survey calculations based on DHS and NFHS data.

7.16 India has some distance to traverse on several dimensions (10 out of 17) to be on par with other countries in development time. One such dimension is the use of reversible contraception methods. For their level of wealth, the use of reversible contraception methods among Indian women is 51.6 percentage points lower than it

should be.

7.17 Figure 2 explores this finding in greater detail. It plots the relationship between percentage of women not using sterilization as a contraception method (among women using any contraception method at all) and log real per capita income for the international sample. India is well below the

line of best fit. The number of married women in India who do not use any contraception method is high (46.5 percent). Among women using any contraception method at all, the percentage of Indian women using female-controlled reversible contraception is unusually low (32.8 percent).

7.18 These findings warrant attention: since not many women use methods of reversible contraception, they have little control over when they *start* having children, but only seem to have control over when they *stop* having children. This could affect other milestones early on in a woman's life; for example, women may not get the same access to employment that men do. Of course, these are important questions relating to how much true agency women have—whether they choose or acquiesce in their limited choices—but these are deeper questions beyond the scope of this chapter.

7.19 Another well documented finding relates to the percentage of women who work (row 9, Table 1), which has indeed declined over time (from 36 percent of women being employed in 2005-06 to 24 percent of women being employed in 2015-16). There is a long and contested literature on whether this decline is a cause for concern or will improve naturally with time and development. There is the more general phenomenon, documented by Goldin et. al. (1995), of a U-shaped behavior of female labor force participation with respect to development. India is on the downward part of the “U” but even more so than comparable countries.

7.20 On the supply side, increased incomes of men allows Indian women to withdraw from the labor force, thereby avoiding the stigma of working; higher education levels of women also allow them to pursue leisure and other non-work

activities all of which reduce female labor force participation. (Bhalla and Kaur, 2011; Kapsos, 2014; Klasen, 2015). On the demand side, the structural transformation of Indian agriculture due to farm mechanization results in a lower demand for female agricultural laborers (Chatterjee et al., 2015; Mehrotra et al., 2017). Evidence also points to insufficient availability of the types of jobs that women say they would like to do—regular, part-time jobs which provide steady income and allow women to reconcile household duties with work—and types of sectors that draw in female workers. (Kannan and Raveendran, 2012; Chand and Srivastava, 2014) This, interacted with safety concerns and social norms about household work and caring for children and elders, militates against women's mobility and participation in paid work (Pande et al., 2016; Prillaman et al., 2017).

7.21 Finally, the sex ratio of last birth is biased against females and is lower by 9.5 percentage points in 2015-16 in comparison to other countries. And this has remained stagnant in the last decade. The sections on son preference and son meta-preference discuss the implications of this finding in greater detail.

Is there a convergence effect?

7.22 The next assessment undertaken is at the household level to see if gender related indicators improve with wealth both in India as well as other countries.³ Table 2 summarizes the results (Annex I provides the details of the regression specification used for this analysis).

7.23 Column 1 shows the impact on the relevant gender indicator of one standard deviation increase in wealth in the typical country in the sample. For example, row 1 indicates that if wealth increases by one standard deviation in the average country, the number of women involved in decision making on their health increases by 5.5

³ The wealth of a household comes from the wealth factor score provided by DHS/NFHS 4. This score is based on the number and type of assets owned. This wealth factor score is normalized for the size of the household by dividing it by the household size, giving a measure of average wealth at the individual level.

⁴ One caveat is that the unit of wealth measured here is a relative not an absolute one so it may not represent comparable increases in wealth across countries.

Table 2. Responsiveness of Gender Dimensions to Wealth— India and other Countries*

			(1) Effect of wealth [§] for other countries (%)	(2) Additional effect of wealth [§] in India (%)	(3) = (1) + (2) Total effect of wealth [§] in India (%)
Gender Dimension	Specific Issue (Women's Response)				
1	Agency	Involved in decisions about their own health	5.5	4.7	10.2
2	Agency	Involved in decisions about large household purchases	6.4	4.4	10.7
3	Agency	Involved in decisions about visits to family and relatives	5.5	8.2	13.6
4	Agency	Involved in decisions about their own earnings	3	7.2	10.2
5	Agency	Involved in decisions about contraception	0.5	6.6	7.1
6	Attitude	Prefer more or equal number of daughters over sons	1.9	25.3	27.2
7	Attitude	Wife beating is not acceptable	11.5	12.9	24.4
8	Outcome	Using reversible contraception, if using any method of contraception	-1.5	19.2	17.7
9	Outcome	Employed [#]	3.2	-19.9	-16.7
10	Outcome	Employed in non-manual sector [#]	20.6	52.4	72.9
11	Outcome	Earning more than or equal to husband	3	7.2	10.2
12	Outcome	Educated ^d	10.6	59.9	70.6
13	Outcome	Not experiencing physical or emotional violence	2.1	31.3	33.5
14	Outcome	Not experiencing sexual violence	1.2	8.2	9.4
15	Outcome	Median age at first child birth**	1.2	1.7	2.9
16	Outcome	Median age at first marriage**	1.4	2.6	4.0
17	Outcome	Sex ratio of last birth (females per hundred births)	0.5	-2.2	-1.7

*Numbers indicate the improvement in score with a 1 standard deviation increase in household wealth.

**Median Age in years for 1998-99.

[#]These dimensions are calculated for the set of all women between 15-49. All other dimensions are calculated for married women between the ages of 15 and 49. They derive from the equation estimated at household level in Annex I. All numbers represent percentage points difference from the average estimated relationship, except for the numbers in rows 15 and 16 where they refer to number of years.

[§]Numbers in bold are statistically significant.

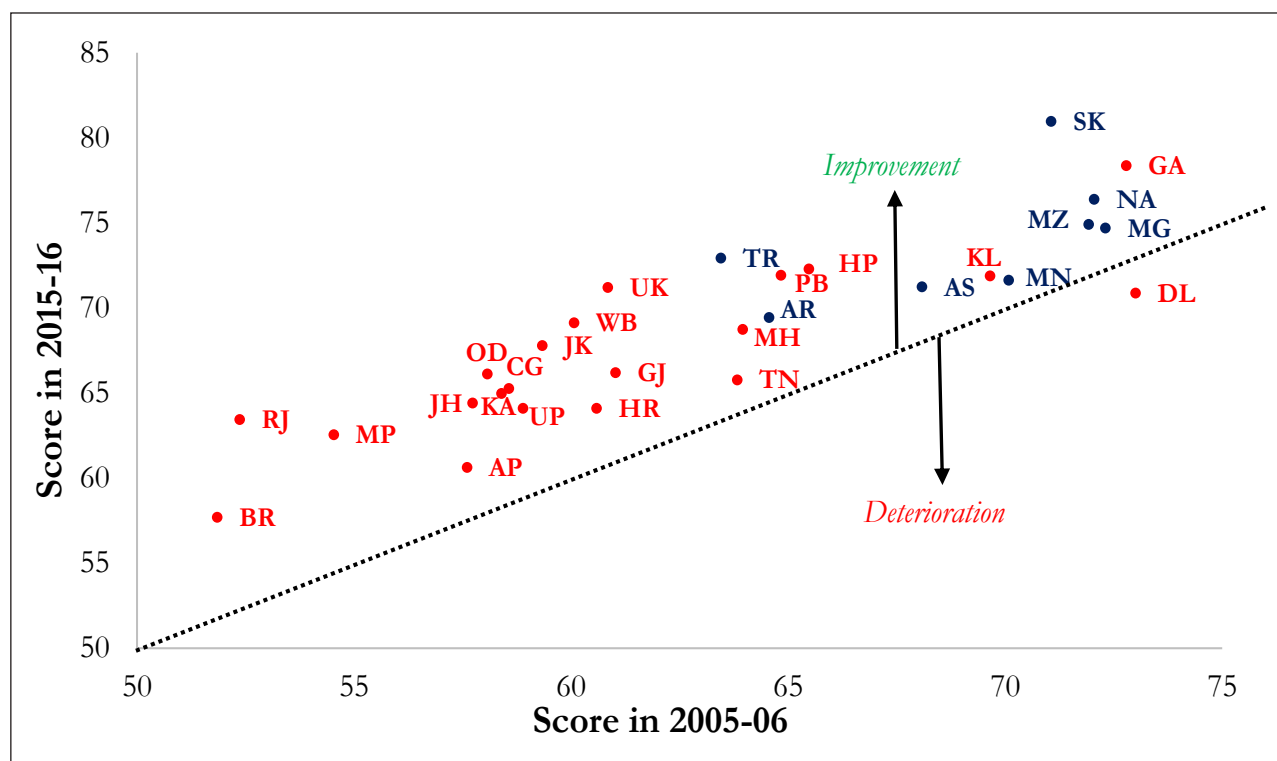
Source: Survey calculations based on DHS and NFHS data.

percentage points. Column 2 shows that in India, the number of women having agency on health matters increases by a further 4.7 percentage points for a one standard deviation increase in wealth. Column 3 shows the overall effect in India, in this case a 10.2 percentage point increase (4.7+5.5) for one standard deviation increase in wealth.

7.24 The key finding from Table 2 is that in 15 out of 17 cases, gender indicators are more responsive to wealth in India than they are in the typical country (15 out of 17 coefficients in column 2 are positive).⁴ This suggests that even if India is lagging in development time, it can expect to catch up with other countries as household wealth increases.^{5,6}

⁵ Strictly speaking, this convergence effect would hold only if India's wealth coefficient is greater than that of the richer countries in the sample. That does turn out to be true and statistically significant (results not reported).

⁶ In some cases, India might artificially seem to outperform other countries (in terms of responsiveness) because the level of certain variables may be closer to the maximum limit in other countries to begin with, therefore leaving them little or no scope for improvement with wealth.

Figure 3. Average Gender Score for Indian States

Source: Survey calculations based on NFHS 4 data.

7.25 It is notable that the only two cases where such a convergence effect is not visible and where India appears to be falling behind even in development time (where the effect of wealth in India is negative in column 3) is on women's employment and sex of last child. The low numbers of female last children are explored in greater detail in sections on son preference and son meta-preference.

PERFORMANCE OF THE INDIAN STATES

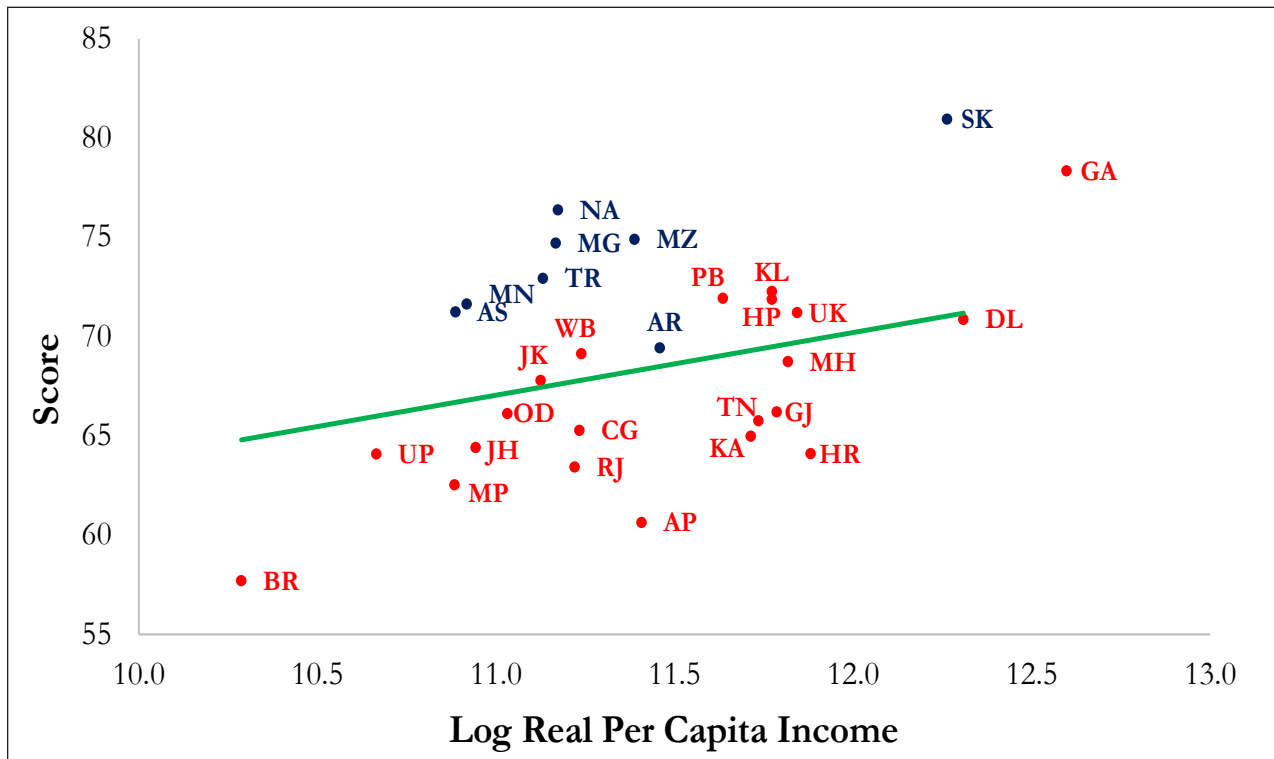
7.26 How do the Indian states perform relative to each other and relative to their level of development? To shed some light on this, the scores of the Indian states across all the dimensions are averaged.⁷ Figure 3 shows the average score of each state in the two time periods. The variables are calibrated such that the maximum score is

100 percent. The scores of the states in 2005-06 are on the x-axis and the score in 2015-16 are on the y-axis, with the 45-degree line helping in the understanding of movements over time. North-Eastern states have been colored blue. All the other states are colored red.

7.27 A few patterns emerge. All states (with the exception of Delhi) are above the 45-degree line, underscoring the earlier results that there is improvement over time. Indeed, there is also a "convergence" effect in that the poorer performers in the earlier period improve their score more over time (the dots at the lower end have shifted up to a greater extent relative to the 45-degree line compared with dots at the upper corner).

7.28 Second, most North-Eastern states (with the exception of Tripura and Arunachal Pradesh)

⁷ To arrive at a score for each state, the state-wise percentage for each one of these variables in attitude, agency, and outcome is first calculated. For the age-related variables (age at first marriage and age at first birth), the state-level median ages are calculated and normalized with respect to the average age of marriage and first birth in Sweden (33 years and 29 years, respectively). For the percentage of females in the labor force, the current benchmark is placed at 72 per cent of the female population, which is the Swedish national average of female labor force participation, and Indian responses are normalized.

Figure 4. Gender Score vs. Per Capita Income for Indian States in 2015

Source: Survey calculations based on NFHS 4 and CSO data.

and Goa occupy the North-East quadrant, indicating that they are the best performers at all points of time. Kerala is the next best performer. The lagging performers are Bihar, Rajasthan, Madhya Pradesh, Uttar Pradesh, Jharkhand and, surprisingly, Andhra Pradesh. Delhi's performance actually worsens in a decade, and it falls from having the highest score in 2005-06 (going from 73 in 2005-06 to 70.9 in 2015-16).

7.29 Finally, since there is a theoretically perfect score of 100, the distance of the Indian states from their absolute frontier can be assessed. The worst Indian score is 57.6 (Bihar) and the best is 81 (Sikkim) with most of India scoring between 55 and 65 (about 40 per cent away from the frontier). Indian states have some distance to traverse to reach the theoretical frontier.

7.30 Figure 4 plots the gender score for Indian states in 2015 against log per capita income, and hence conveys how states are performing in

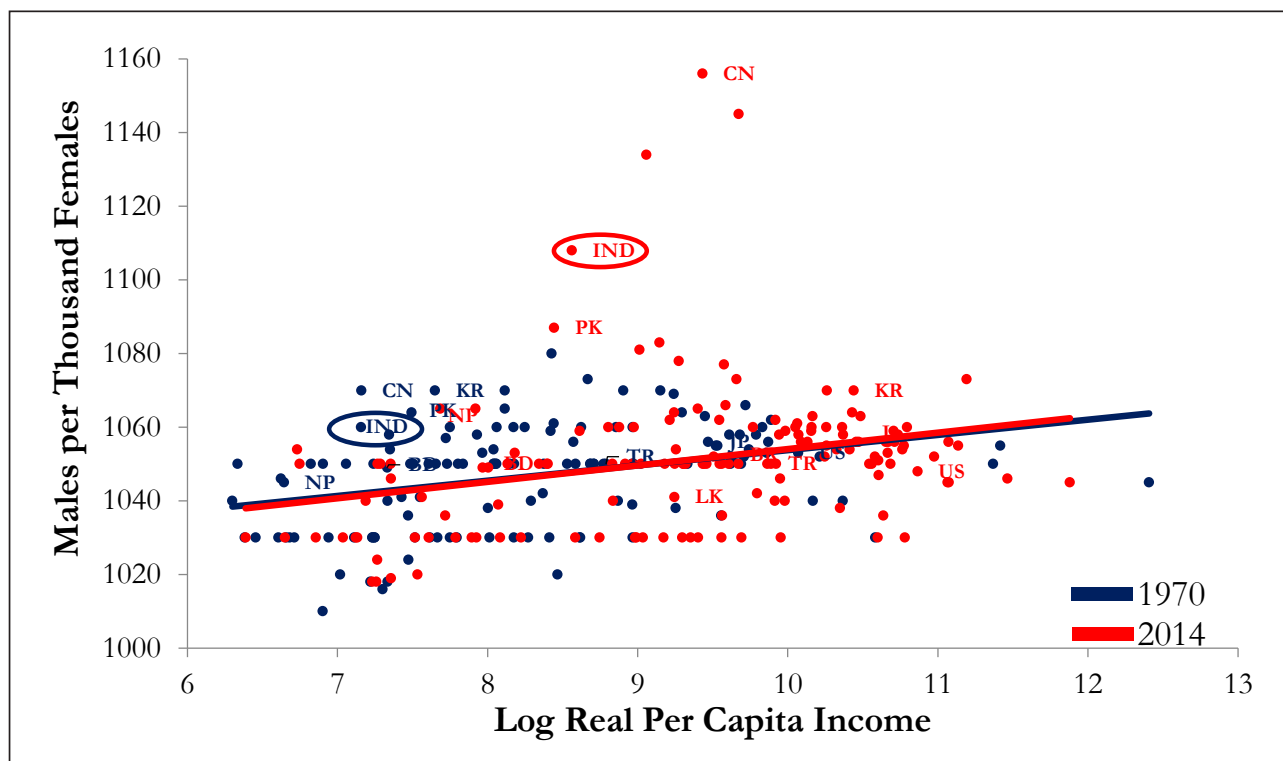
“development time.” Here, the North-Eastern states have much better gender scores given their levels of income (they are well above their line of best fit). On the other hand, accounting for their levels of income, Andhra Pradesh, Haryana, Bihar and Tamil Nadu perform less well.

SON PREFERENCE: SKEWED SEX RATIO AT BIRTH (SRB)

7.31 Issues relating to son preference are a matter for Indian society as a whole to reflect upon. Because it is a long-standing historical challenge, all stakeholders are collectively responsible for its existence and for its resolution. Figure 5 plots the Sex Ratio at Birth (SRB) for countries in 1970 and 2014 against their level of real per capita income. India and China are well above the regression line, suggesting that there are many more males to females after accounting for development levels.

7.32 The biologically determined natural sex ratio at birth is 1.05 males for every female.⁸ Any

Figure 5. Sex Ratio at Birth and Real Per Capita Income (1970 and 2014): International Comparison



Source: World Development Indicators and Penn World Tables.

significant deviation from this is on account of human intervention – specifically, sex-selective abortion. In the case of China, the one-child policy interacted with the underlying son-preference to worsen the sex ratio from 1070 in 1970 to 1156 in 2014. India's sex ratio during this period also increased substantially even without the one-child policy from 1060 to 1108 whereas if development acted as an antidote, it should have led to improvements in the sex ratio.

7.33 Figure 6 plots the sex ratio for the different states in India in 1991 and in 2011. It is striking that there is a general upward drift in sex ratio and the regression line is also upward sloping, indicating a negative correlation between income and sex ratio (a worsening in development time). Most striking is the performance of Punjab and Haryana where the sex ratio (0-6 years) is

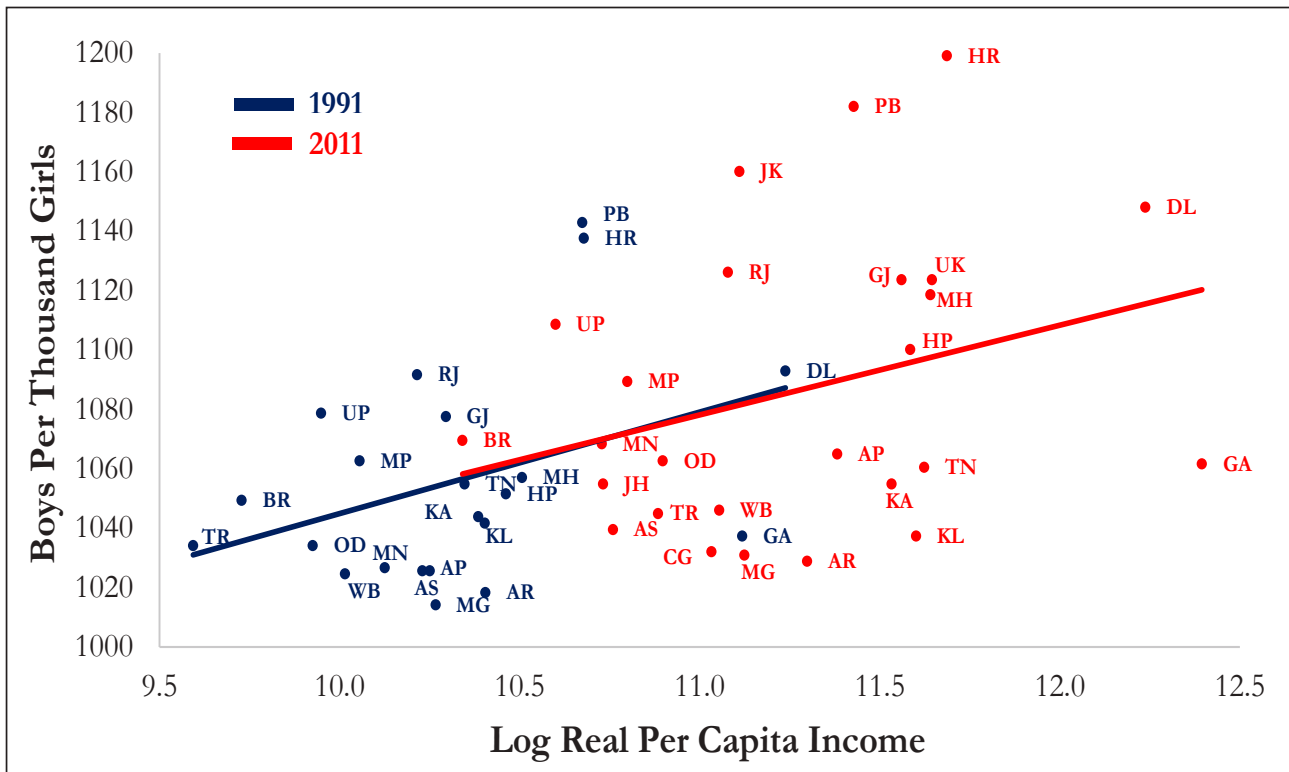
approaching 1200 males per 1000 females, even though they are amongst the richest states.

7.34 Several decades ago, Sen (1990), noting the skewed ratio of females to males, estimated that nearly 100 million women were missing in the world (almost 40 million in India alone). A large part of this is driven by a combination of sex-selective abortion as well as neglect of the girl child after birth.

7.35 Using the methodology of Sen (1990) and Anderson & Ray (2010, 2012), the total stock as well as the flow of “missing women” in India are updated. The stock of missing women as of 2014 was nearly 63 million and more than 2 million women go missing across age groups every year (either due to sex selective abortion, disease, neglect, or inadequate nutrition).

⁸ Evolutionarily, boys have a slightly lower probability of survival in infancy, and are therefore born at a slightly higher rate. Together, these ensure that the sex ratio in adulthood is 1:1 in accordance with Fisher's principle.

Figure 6. Sex Ratio (0-6 years) and Real Per Capita Income For Indian States



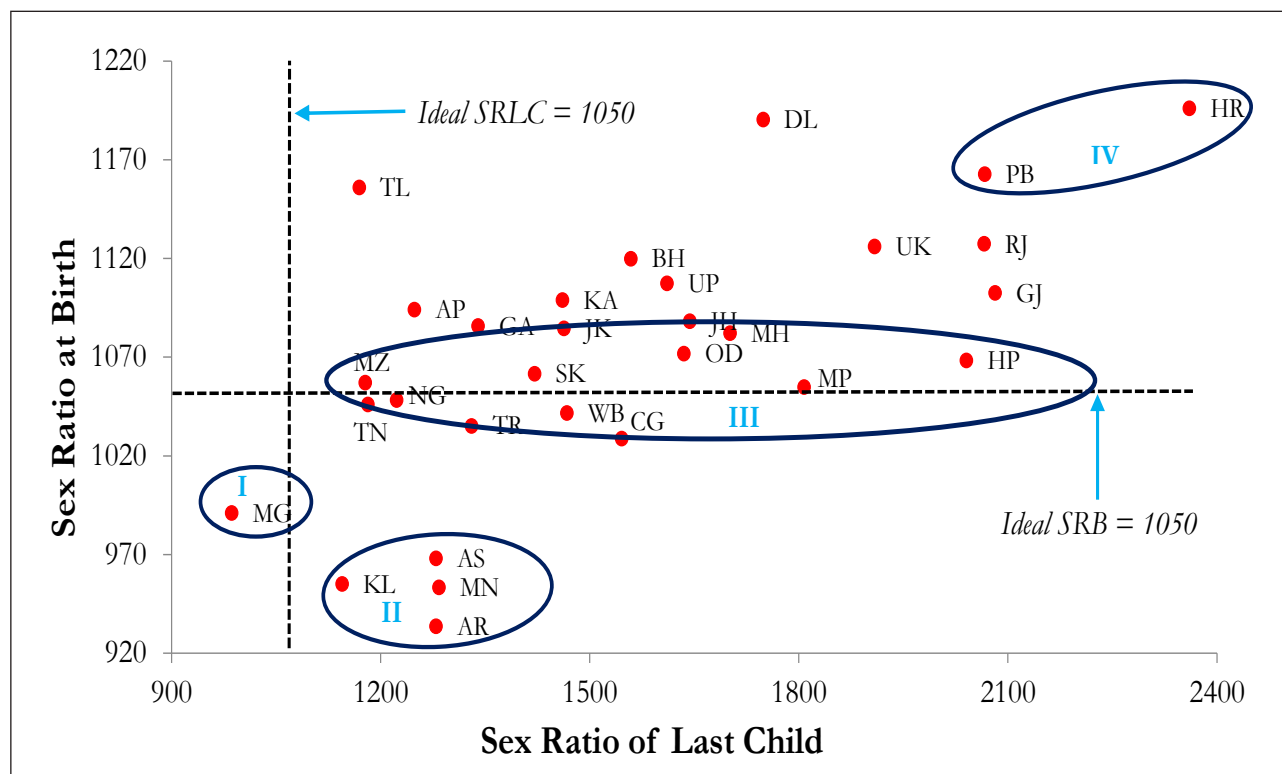
Source: Census of India & CSO.

SON “META” PREFERENCE: SEX RATIO OF LAST CHILD (SRLC) AND “UNWANTED” GIRLS

7.36 While active sex selection via fetal abortions is widely prevalent, son preference can also manifest itself in a subtler form. Parents may choose to keep having children until they get the desired number of sons. This is called son “meta” preference. A son “meta” preference – even though it does not lead to sex-selective abortion – may nevertheless be detrimental to female children because it may lead to fewer resources devoted to them (Jayachandran & Pande, 2017). The important thing to note is that this form of sex selection alone will not skew the sex ratio – either at birth or overall. Therefore, a different measure is required to detect such a “meta” preference for a son. One indicator that potentially gets at this is the sex ratio of the last child (SRLC). A preference for sons will manifest itself in the SRLC being heavily skewed in favor of boys. On the other hand, an SRLC of close to 1.05:1 would

imply that parents’ decisions to continue having children is uncorrelated with previous birth being a son or a daughter. Families continue to have children until they get the desired number of sons. This kind of fertility stopping rule will lead to skewed sex ratios but in different directions: skewed in favor of males if it is the last child, but in favor of females if it is not (see the two panels on India below). Where there is no such fertility stopping rule, the sex ratio will be 1.05 regardless of whether the child is the last one or not.

7.37 India after outlawing sex selection (via the implementation of Pre-Natal Diagnostic Techniques (PNDT) Act, 1994) saw a stabilization of its sex ratio at birth (see Annex II), albeit at an elevated level. However, it is not clear whether it resulted from changes in societal preferences or due to increased state regulation of sex-detection technology. SRLC helps us better understand and decompose the underlying factors (Yoo et al., 2016).

Figure 7. Sex Preference – “Malign” and “Meta” (Male Per Thousand Females)

Source: Survey calculations based on NFHS 4.

7.38 Figure 7 plots the SRLC against the SRB for Indian states. The dashed vertical and horizontal lines represent the “ideal” benchmark with no son preference. Meghalaya stands out as an ideal state because both sex ratio at birth and sex ratio of last child are close to the benchmark. States in circle II and circle III, such as Kerala, do not seem to practice sex selective abortions (since their sex ratios at birth are close to the biological benchmark) but indicate some son “meta” preference (skewed SRLC). Punjab and Haryana, on the other hand, exhibit extremely high son preference and meta preference – the overall sex ratios are significantly above the biological benchmark, and the sex ratio of the last child is heavily male skewed, implying parents are unlikely to stop after having a daughter.

7.39 This son “meta” preference is depicted in Figures 8a and 8b. All the left-hand panels show the sex ratio for each birth order among families that had strictly more than one child (i.e. which continued having children after the first birth). So, in India (top left panel), the sex ratio of the first

child for households that have strictly more than 1 child is 1.07. Similarly, 0.86 is the sex ratio of the second child among families that had strictly more than 2 children.

7.40 In contrast, the top panel of Figure 8b shows the sex ratio of the last child by birth order. For India, the sex ratio of the last child for first-borns is 1.82, heavily skewed in favor of boys compared with the ideal sex ratio of 1.05. This ratio drops to 1.55 for the second child for families that have exactly two children and so on. The striking contrast between the two panels conveys a sense of son meta preference. This contrast is even more stark when seen against the performance of Indonesia (middle panels) where the SRLC is close to the ideal, regardless of the birth order and whether the child is the last or not.

7.41 What do these figures imply? Families where a son is born are more likely to stop having children than families where a girl is born. This is suggestive of parents employing “stopping rules”

Figure 8a. Sex Ratio by Birth when Child is not the Last

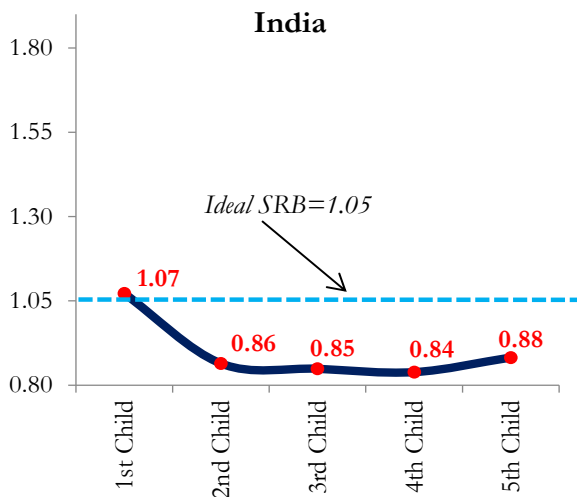
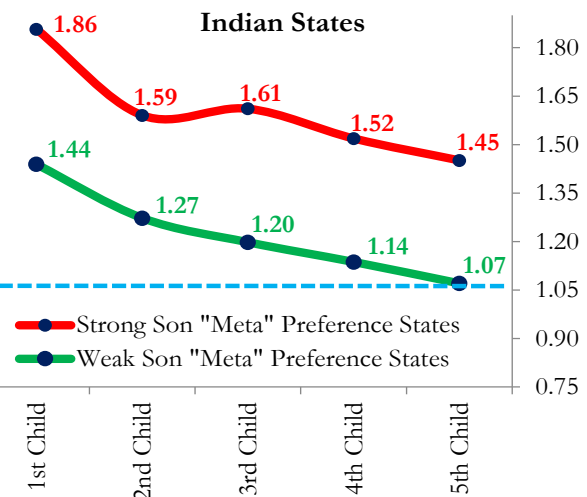
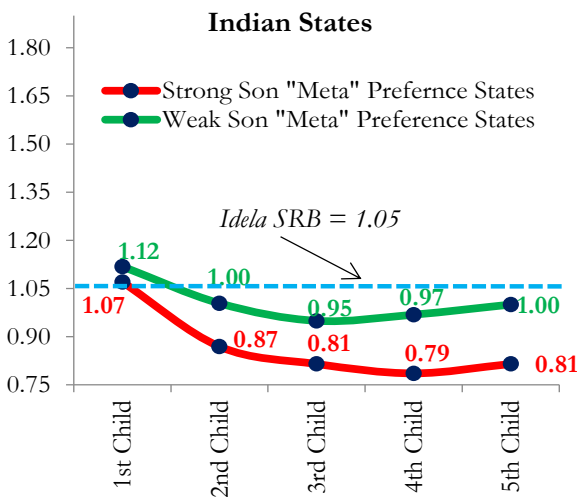
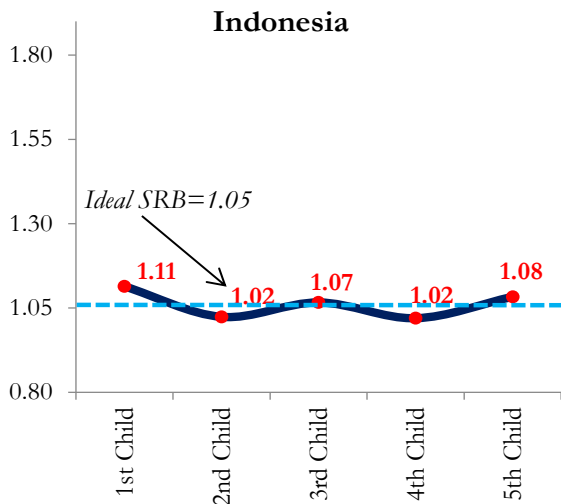
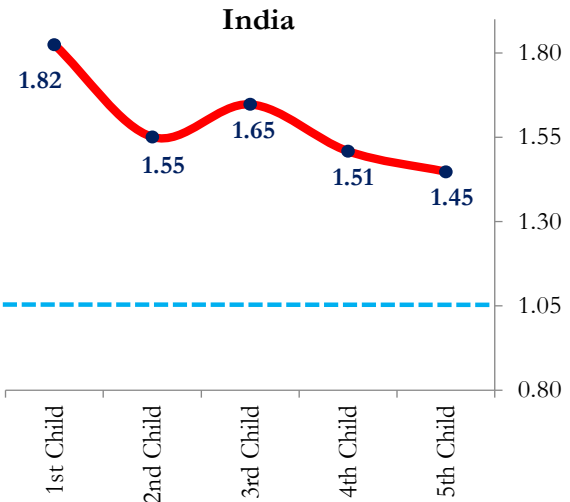


Figure 8b. Sex Ratio by Birth when Child is the Last



Source: Survey calculations based on DHS and NFHS 4.

– having children till a son is born and stopping thereafter. The only exception to this pattern is with regards to the first child. Even parents who have a first-born son are likely to continue having children, which reflects a pure family size preference – Indian parents, on average, want to have at least two children.

7.42 Jayachandran (2015) lists a number of reasons for such a son preference, including patrilocality (women having to move to husbands' houses after marriage), patrilineality (property passing on to sons rather than daughters), dowry (which leads to extra costs of having girls), old-age support from sons and rituals performed by sons.

7.43 The bottom panels are for the Indian states, distinguishing between states that exhibit strong son “meta” preference, such as Punjab and Haryana (red line) and the states that exhibit weak son “meta” preference, such as the North-Eastern states (green line). There is again a striking contrast in meta preference for sons within India between states.

7.44 Such meta preference gives rise to “unwanted” girls—girls whose parents wanted a boy, but instead had a girl. This chapter presents the first estimate of such notionally “unwanted” girls. This is computed as the gap between the benchmark sex ratio (dotted line) and the actual sex ratio among families that do not stop fertility (in the left panel of Figure 8a; see Annex III for details). This method yields the number of unwanted girls as 21 million.⁹

CONCLUSION

7.45. Analysis of multiple rounds of the Demographic Health Survey (DHS) and National Family Health Survey (NFHS) data indicates that over the last 10-15 years, India's performance has improved on 14 out of 17 indicators of women's agency, attitudes, and outcomes. On seven of them, the improvement has been such that India's situation is comparable to, or better than, that in a

cohort of countries after accounting for levels of development.

7.46. On several dimensions, employment and use of reversible contraception in particular, India has some distance to traverse to catch up with other countries because development on its own has not proved to be an antidote.

7.47. Encouragingly, gender outcomes exhibit a convergence pattern, improving with wealth to a greater extent in India than in similar countries so that even where it is lagging it can expect to catch up over time.

7.48. Within India, there is significant heterogeneity, with the North-Eastern states (a model for the rest of the country) consistently out-performing other states and not because they are richer; hinterland states are lagging behind but the surprise is that some southern states do less well than their development levels would suggest.

7.49. Because the challenge is historical and long-standing, no one stakeholder is responsible for creating it or solving it. On gender, society as a whole—civil society, communities, households—and not just any government must reflect on a societal preference, even meta-preference for a son, which appears inoculated to development. The adverse sex ratio of females to males led to 63 million “missing” women. But the meta-preference manifests itself in fertility-stopping rules contingent on the sex of the last child, which notionally creates “unwanted” girls, estimated at about 21 million. Tellingly, for example, skewed sex ratios characterize families of Indian origin, even in Canada (Srinivasan, 2017).

7.50. Given these observations, the state and all stakeholders have an important role to play in increasing opportunities available for women in education and employment. Understanding the importance of its role, the government has launched the *Beti Bachao Beti Padhao* and *Sukanya Samridhi Yojana* schemes. It has also made 26 weeks maternity leave mandatory for women employed

⁹ This is the stock of unwanted girls for the 0-25 age group in the population currently.

in the public and private sectors. Further, every establishment that has more than 50 employees is now required to offer creche facilities. These steps will offer support to women in the workforce. In this somewhat unequal contest between the irresistible forces of development and the immovable objects that are cultural norms, the former will need all the support it can get – and then some.

7.51. Just as India has committed to moving up the ranks in the ease of doing business indicators, it should perhaps do so on gender outcomes as well. Here, the aim should be broader. Many of the gender outcomes are manifestations of a deeper societal preference, even meta-preference for boys, leading to many “missing” women and “unwanted” girls. So, Indian society as a whole should perhaps resolve—the miles to go before society can sleep in good conscience—to consign these odious categories to history soon.

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