Fertility Transition and Gender Equity in India
An examination of time-use survey data-2019

While most theorists agree that there is a significant relationship between declining fertility rates, development, and gender equity, most of this research focuses on high-income countries. This has created a gap in understanding whether the same theories and arguments can be applied to the Global South. This research recognizes this gap and aims to analyze previous arguments and counterarguments, identifying consistencies and inconsistencies and outlining and consolidating literature. This paper looks at gender equity from a family perspective by examining the work distribution within the family to gauge emerging gender equity and its significant contributors.

Some theorists have explored the relationship between fertility and gender equity to understand how fertility transition affects gender equity (Mills, 2010). Mills emphasizes the lack of pre-existing literature on the relationship between fertility and gender and argues that gender equity is one of the most significant (and understudied) factors affecting fertility rates. The statistical and qualitative analysis reveals that GDI correlates most highly with fertility. There has been a powerful argument on how gender equity can lead to fertility transition. For instance, Dyson and Moore (1983) have strongly put forward this argument in the case of India, although they failed to explain why Indian states such as Punjab and Delhi, which have strong patriarchal norms and son preferences, saw sharp declines in fertility. There are concerns about such arguments in India because of several disadvantages observed for females, including higher mortality levels at younger ages. (Banerjee & Duflo, 2011). Overall, there appears to be a close connection between fertility transition and gender equity, which means that gender equity preceded fertility transitions at least in the context of Western countries.

However, there are strong arguments and theorizing on how declining fertility rates, in turn, cause an increase in gender equity. Some theorists suggest that the declining fertility rates in India have caused significant changes in the nation's socioeconomic structure, particularly concerning the family (Ram, 2012). Undoubtedly, early marriage and early childbearing reduce educational attainment, which increases the likelihood of having a larger number of children. Additionally, it implies lesser chances of involving in paid employment. Therefore, higher fertility does not favour gender equity. But at the same time, how far low fertility caters to gender equity is not clear. Malhotra (2013) brings out the lack of empirical research and analysis about the effects of declining fertility levels on gender equity and development, particularly within the context of developing countries. It has been argued that fertility declines allow women to receive higher education levels and be incorporated into the workforce (Ram, 2012). Malhotra (2013) also brings out a framework illustrating the contextual factors leading to a change in fertility, which generate not only a temporary increase in women's well-being and empowerment but rather a fundamental transformation of gender relations.

Formulation on Demographic Change and Gender Equity

The relationship between fertility transition and gender equity exhibits a two-stage process (McDonald 2000, 2013; Anderson and Kohler 2015).In the **First stage,** there will be gains in institutional gender equity meaning more parity in educational and paid employment. But family gender equity will be lagging (due to work-family conflict). It is also assumed that the fertility fall to very low levels during this period due to this conflict. In the **Second stage,** gender equity exists even in familial norms. This, according to Anderson and Kohler (2015) can make the fertility levels go up (not far above replacement but better compared to very low fertility)

The Reason for moving from first to second stage is often debated but there has not been a unanimity in this case. It is argued that the age structure change leading to marriage squeeze (very low fertility leading to fewer women of marriageable age) is one of the important reasons for such phenomena (Anderson and Kohler 2015). These theoretical formulations assume a positive association between development and fertility change. Moreover, equity-based development, such as higher levels of paid work by women, and human capital development, are fundamentals. However countries like India, despite experiencing rapid fertility change, follow different pathways to achieve replacement-level fertility. Therefore, it is important to examine how far such theoretical models are relevant for India and what are the other pathways possible to achieve gender equity.

Methodology

We first examine the major arguments between fertility transition and gender equity using data available from various sources in India like NSSO, NFHS and Census. Thereafter, by diving deep into the data available on time use survey we construct an indicator of gender equity within the family. We will be using the extent of time spent by men and women within the family for unpaid activities. The important question is whether the sharing of responsibilities has changed with the rapid fertility transition and women entering the labour market. We use a linear model to establish this relationship. The model is as follows

$$Hij = \alpha + \beta.Wij + \beta 2.Fij + \beta 3.Xij + Sj + \varepsilon ij$$

where Hij is the difference between the time women and men spent unpaid working in the household 24 hours before the survey. This dependent variable can take any value from negative to positive. The variables of importance are Wij, which portrays women's work participation in paid work, and Fij, which is the number of children in the household. Xij are the important indicators affecting the unpaid work within the family to represent the cultural context, such as caste, religion, educational levels of women, educational level of partners, etc., and other related variables. SJ will capture the state differences as the cultural practices are often different across states. Moreover, there have been substantial differences

in fertility levels across states in India. As per the earlier studies, southern states which experienced early fertility transition has also better gender indicators. Therefore, it is important to see how far gender equity might come to these states earlier than the other states.

One of the major issues confronting women's work participation in India is that there is a connection between poverty and fertility and poverty and women's work participation. To avoid this, we will also attempt to see the type of work and carry out the analysis separately based on unskilled and skilled work. Because, the nature of work also determines the gender equity within the households.

Not only work participation but also the education level of women are critical for gender parity. With the fertility transition, there has been a rapid increase in the education of women in the country. The enrolment at the school level is nearly 100 per cent irrespective of gender. How these environments affect gender equity is not clearly understood. Therefore, the model will also examine the effect of education on ensuring a more equitable family environment irrespective of whether women are involved in paid employment outside. This is important as two major arguments that have been put forward in achieving more gender equity in the context of fertility transition have been educational and employment parity between men and women.

Fertility Transition and Gender Equity Arguments

The major arguments on fertility and gender equity can be summarized into five broad categories.

1. **Resource:** Equal occupational opportunities for both men and women, leading to economic empowerment and equity, are well known for achieving more gender equity (Galor 2011, McDonald 2000, Mason 1997, Simmons 1996). Fertility transition provides those opportunities for women, leading to more equity.

2. **Education:** Investing in children including girls with positive gender equity outcome has been well known for a long. *(Bhat 2002, Lee and Mason 2010, Lutz et al. 2019).* Education is expected to provide a more gender equitable society in the future.

3. **Demography:** Fertility decline leading to gender imbalance in the number of marriable ages in favour of women has been widely discussed in demographic studies *(Anderson and Kohler 2015, Kabeer 2007, Bhat and Halli 1999).* The marriage squeeze and the resultant difficulty for men to find women of marriageable age, considering the age gap in marriage, is one of the important ways of achieving gender equity, according to many studies.

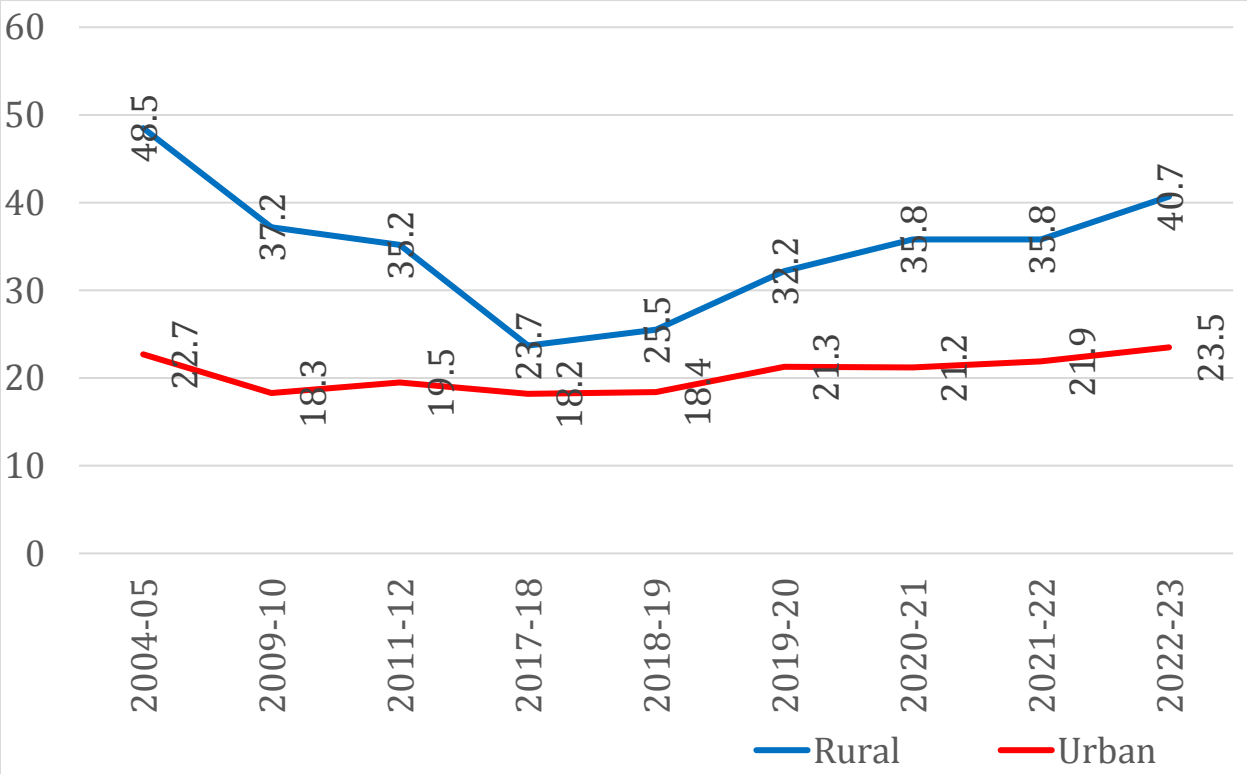
4. **Changing sex composition:** Fertility transition also leads to families with only female children. In India, the proportion of families with only female children is increasing and could potentially question the age-old patriarchal norm *(Allendorf 2020)*

Economic Argument

There are two processes at play in the economic argument. Firstly, economic advancement can lead to demographic change meaning work participation of women leding to fertility transition (*Ruggles 2015)*. Second aspects is that when fertility declines women have more time to spend in labour market. But, it does not necessarily lead to resolution of family-work conflict and women's status may not increase tremendously. According to Goldin (2004), it leaves women with a clear choice between family and career.

In India, it is interesting to observe that the work participation of women has gone down during a period of rapid fertility change (Figure 1). Therefore, the resource pathways of achieving gender equity appear not very promising in the case of India.

Figure 1: Workforce Participation Rate (%) for females aged 15 and above by rural and urban, India



Source: From Various rounds of National Sample Surveys and Periodic Labour force Surveys, India, Ministry of Statistics of Programme Implementation, Govt of India.

Educational Outcome

Fertility transition leads to strong aspiration for investing in children within the family with positive gender equity outcome. It is also argued that with demographic transition- small numbers of children- parents respond by investing more in the quality of children (*Lee Mason 2010*). As the number of younger siblings is reduced, daughters are freer to attend school (*Bhat 2002*). The research suggests that the demographic transition largely makes women/girls' lives more similar to those of men/ boys facilitating greater gender equity. The movement towards parity in education between male and female children are also evident in the case of India (Figure 2). The gap has narrowed over the period leading to more gender equity. However, the data do not indicate whether there is any difference in the quality of education between male and female children in India.

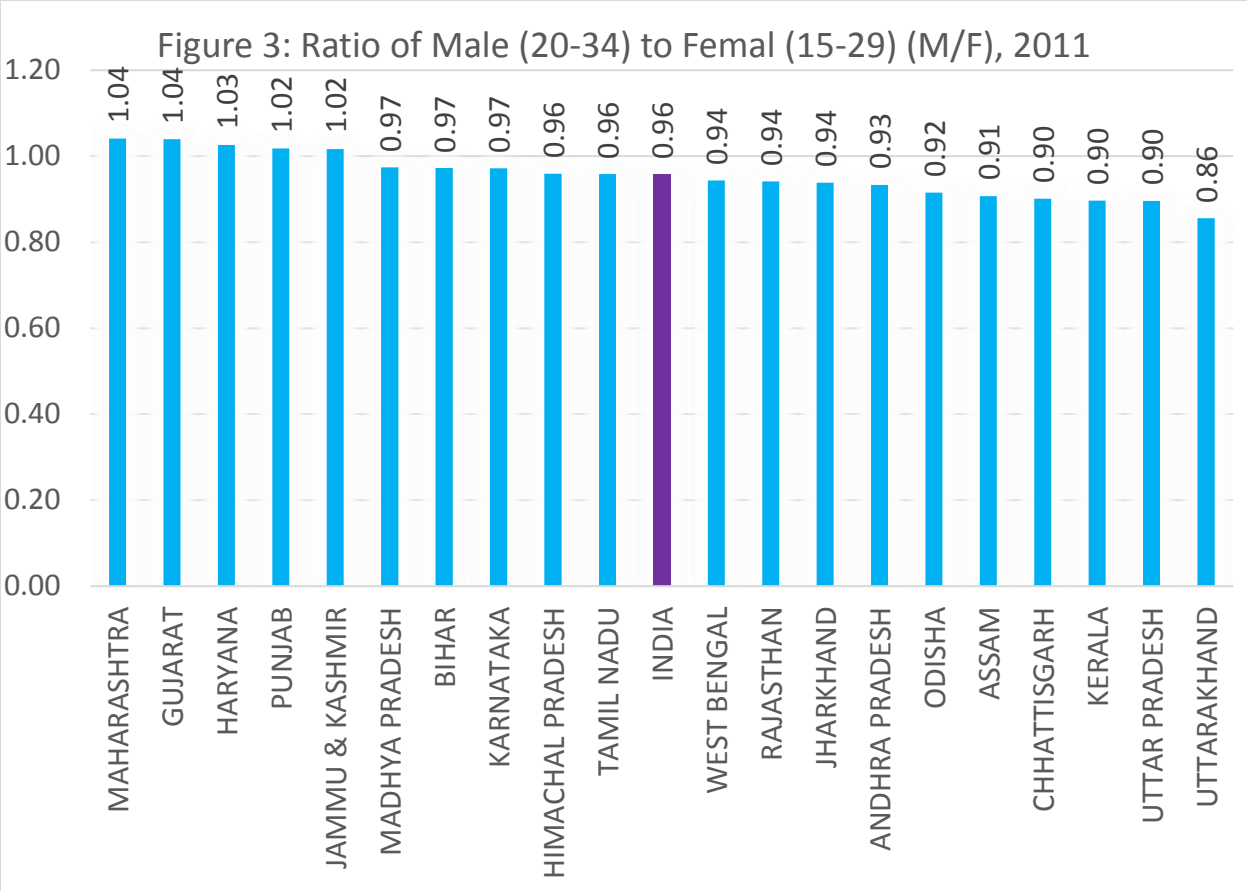
Figure 2: Completed Years of Schooling, India 2005-06 to 2019-21

Completed Years of Schooling	Age Group	Year	Male	Female
12 year or more	20-24	2019-21	52.8	47.1
		2005-06	27.2	19.6
10-11 years	15-19	2019-21	31.7	31.1
		2005-06	21.8	18.3

Source: Various rounds of National Family Health Surveys, IIPS, Mumbai.

Age structure imbalance (marriage squeeze)

With the decline of fertility, the size of the younger cohorts tends to become smaller than the older ones. This tilts the balance in the marriage market in favour of women (*Anderson and Kohler 2015*). Bhat and Halli (1999) have argued in the case of India that there is a cheering news that, as a result of declining fertility, the marriage squeeze against females will ease and, for a change, men will have to confront a shortage of brides. Unfortunately, the data do not indicate a serious marriage squeeze yet in India, with majority of the state recording smaller number of men of marriageable age than women (Figure 3)



Source: Census of India 2011, Office of the Registrar General of India, Govt of India

Results of the Analysis

(Yet to be completed)

Demographic Change and Gender Equity: What do we learn for India?