

Early Advantage to Adult Disadvantage

Comparative Analysis of Women's Outcomes over Life Cycle in West Bengal

SANCHARI ROY

Using three waves of the National Family Health Survey (2005–21), the paper examines how women in West Bengal have fared relative to the rest of India over the life cycle, from birth to adulthood. The paper documents a pattern of early advantage giving way to adult disadvantage. This erosion reflects two compounding forces: failures of state capacity in delivering nutrition, health and welfare programmes, and entrenched patriarchal norms that bind at the transition to adulthood, underscoring that progress on one dimension of gender equality may not automatically transmit to others.

Historically, the state of West Bengal has occupied a distinctive position in India's sociopolitical and cultural landscape. It was heralded as an early pioneer in many social and economic domains, including a progressive reputation for social reformation and gender equality under the leadership of Raja Ram Mohan Roy, often hailed as the "Father of the Indian Renaissance." Roy led a sustained campaign against the practice of *sati* (widow immolation) that culminated in its legal abolition through the Bengal Sati Regulation, 1829 (Mani 1986; Forbes 1996), but also extending beyond to encompass advocacy for women's education, property rights, and opposition to child marriage and polygamy that would be carried forward by subsequent generations of Bengali reformers, including Ishwar Chandra Vidyasagar, who was instrumental in establishing some of the earliest institutions for girls' education in India, including the Bethune School in 1849 (Sarkar 2002).

Since the 1970s, the rule of the Left Front government, led by the Communist Party of India (Marxist), further reinforced the state's progressive self-image through land reforms, decentralised governance, and policies committed to social justice (Bhattacharyya 2016). However, whether this record translated into gains for women specifically remains debatable. While seminal research by Chattopadhyay and Duflo (2004) found that female leaders in West Bengal invested more in public goods valued by women, suggesting that the institutional architecture for gender-responsive governance was, at least in principle, present in the state, evidence from land reform policy itself is more ambiguous. For instance, land *pattas* were initially registered in the name of the (typically male) head of household, and the corrective move towards joint *pattas* for both spouses came only after much of the redistributable land had already been allocated, thereby limiting its gender transformative potential (Government of West Bengal 2004).

The subsequent Trinamool Congress government, led by Mamata Banerjee, who, until recently, was one of India's few female chief ministers, came to power in 2011 on a campaign of gender activism built around advancing women's welfare, and introduced flagship schemes such as the incentivised Kanyashree Prakalpa scheme in 2013 to improve adolescent girls' education and delay marriage, and the Lakshmi Bhandar in 2021 to provide income support for female-headed households (Dutta and Sen 2020).

The author thanks the co-editors of this special issue, Maitreesh Ghatak and Achin Chakraborty, and an anonymous referee for their insightful comments and feedback. The author also thanks Abhik Banerji for outstanding research assistance. This paper draws on ongoing joint work with Pushkar Maitra.

Sanchari Roy (s.roy3@exeter.ac.uk) teaches economics at the Department of Economics, University of Exeter Business School.

Yet, of late, the progressive credentials of the state have again come under serious question. Horrific incidents of sexual assault (Amnesty International 2024; *Hindu* 2024), declining public safety of women, and a growing sense of institutional failure in protecting women's rights (Quint 2024) have dominated news headlines and public discourse in recent years (*Hindu* 2024). The juxtaposition between Bengal's illustrious history of social reform on the "woman question" and its contemporary record on gender equality is striking and raises the fundamental question of whether historical progressivism has translated into sustained improvements in women's lived experiences over time. As Basu (2000) has argued in the context of women and the communist movement in West Bengal, there have long been "gendered paradoxes" within ostensibly progressive political movements in the state, where formal commitments to equality coexisted with deeply entrenched patriarchal norms within households and communities. Understanding whether and how this paradox manifests in measurable outcomes for women across their life course is the central motivation of this paper.

In this paper, we undertake an empirical investigation of how West Bengal has fared in terms of women's socio-economic progress compared to the rest of India over the last two decades, using a comprehensive set of measures that track women's outcomes across their life cycle, from birth to adulthood. It is well documented in existing research that early life disadvantage can compound into adulthood (Heckman 2006; Cunha and Heckman 2007). While this conceptual framework was developed primarily in the context of cognitive and non-cognitive skill formation, the argument may be extended to the gendered context.

A girl born into a household that discriminates against female children may receive less attentive healthcare in infancy, be withdrawn from school earlier, be married off before the legal age of 18, bear children sooner, suffer poorer health as an adult, be economically marginalised and more vulnerable to domestic violence. As Jayachandran (2015) discusses in her review of the roots of gender inequality in developing countries, these disadvantages are rooted in deeply entrenched patriarchal norms that manifest consistently over the life course. While economic development may narrow gender gaps, societal cultural norms, including patrilocality, son preference, and concerns around female "purity," play a critical role in perpetuating gender inequality in countries like India, often independently of income levels. In a recent survey of the literature on gender norms and economic development, Field et al (2026) document how shared expectations about appropriate behaviour by gender shape outcomes for women (and men) across societies, and are correlated with GDP per capita. Moreover, the relationship between women's empowerment and economic development, while bidirectional, is unlikely to be self-sustaining, and continuous policy commitment to gender equality is needed (Duflo 2012). Thus, a key insight from this literature is that progress on one dimension of gender equality may not automatically translate into gains on other dimensions, particularly when deeply rooted social norms remain unchanged (Field et al 2021). With its unique combination of progressive

reform heritage, long experience of left-wing governance, and yet persistent gender deficits across multiple domains, West Bengal offers a compelling case study to examine these dynamics empirically.

We use three waves of the National Family Health Survey (NFHS-3, 4 and 5), covering 2005–21. Our key empirical finding is that early life advantage for girls in West Bengal compared to rest of India dissipates as women move through the life course, suggesting that the constraints holding back women in the state are structural rather than biological, and that they likely bind at the transitions to adulthood. In particular, over the last two decades, West Bengal has made significant gains in achieving early female advantage compared to the rest of India, including a consistently higher proportion of female births and sharply declining infant female (and male) mortality. However, these early life gains have failed to carry forward in the later lives of women in the state, with child nutrition outcomes (including stunting, wasting, and underweight) having worsened over recent years compared to the national average, thereby pointing to structural failures in translating infant survival into healthy child development. This nutritional deficit among young girls in West Bengal appears to compound into their adulthood in the form of a recent increase in the share of moderately anaemic women, outpacing the rest of India.

Even as more women are completing secondary schooling in West Bengal than before, the state continues to lag behind the rest of India on this front too. This also has negative implications for marriage and fertility: women in West Bengal continue to marry and bear children significantly earlier than the national average, despite the impetus provided by the implementation of the Kanyashree Prakalpa welfare scheme in 2013 aimed at reducing underage marriage and school dropout among adolescent girls (Dutta and Sen 2020). The state has also fallen behind the rest of India in female labour force participation over the last two decades, despite concurrent educational gains, a pattern consistent with the "missing-middle" phenomenon (Klasen and Pieters 2015), in which improved human capital fails to translate into economic participation in the presence of restrictive gender norms, but also broader economic stagnation in the state. While reported domestic violence has fallen faster in West Bengal than nationally over recent years, documented incidents of public violence against women not captured in these surveys stand in sharp contrast.¹

Beginning with the description of data, it subsequently presents the main empirical findings, organised by life cycle stage, comparing trends in West Bengal against the rest of India across the three NFHS waves to identify areas of convergence and divergence.

Data

The empirical analysis in this paper draws on three rounds of the NFHS—NFHS-3 (2005–06), NFHS-4 (2015–16), and NFHS-5 (2019–21)—spanning approximately two decades of India's demographic and health transition. The NFHS is a large-scale, nationally representative household survey conducted by the Ministry of Health and Family Welfare (MOHFW), Government

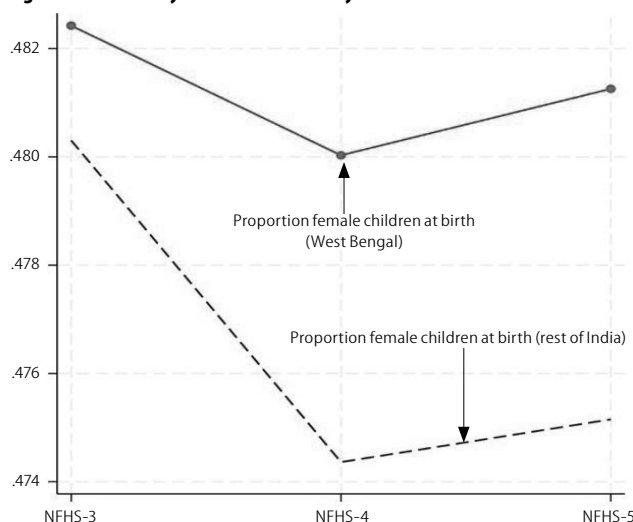
of India. All three rounds employ a stratified, multistage probability sampling design, in which primary sampling units—villages in rural areas and census enumeration blocks in urban areas—are first selected with probability proportional to size, followed by a random selection of households within each unit, ensuring that estimates are representative at both the national and state levels.

This paper uses the women's questionnaire of the NFHS. All women aged 15–49 years in sampled households are eligible for individual interviews across all three rounds, covering a comprehensive range of topics, including marriage, fertility, contraception, reproductive and maternal health, child health and immunisation, and nutritional status. The women's questionnaire also records individual-level variables, including educational attainment, current and past work status, age at first marriage and first birth, complete birth history and, for a subsample of households, experience of domestic violence. In NFHS-3, the total national sample yielded approximately 1,24,000 women, while NFHS-4 had approximately 6,99,000 women, and NFHS-5 covered over 7,24,000 eligible women. For West Bengal, NFHS-4 collected information for 17,668 eligible women, while NFHS-5 did the same for 21,408 eligible women, providing a sample of adequate size for reliable state-level inference across the indicators examined in this paper.

Patterns by Gender over the Life Cycle

Probability of female births: West Bengal consistently shows a higher proportion of female births at around 0.48, relative to the rest of India, which shows a comparative decline from 0.48 to 0.47 (Figure 1), indicating less pronounced son preference in West Bengal compared to other states. This is also broadly consistent with census data showing that overall sex ratios (female/male) have become more female-biased in West Bengal

Figure 1: Probability of Female Birth—by NFHS Wave

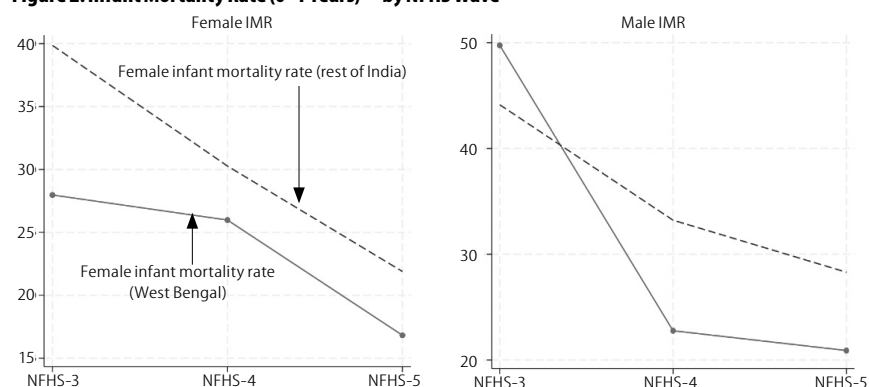


between 2001 and 2011, while other states like Bihar, Chhattisgarh, etc, have experienced steep declines (Census 2011).

Child Health

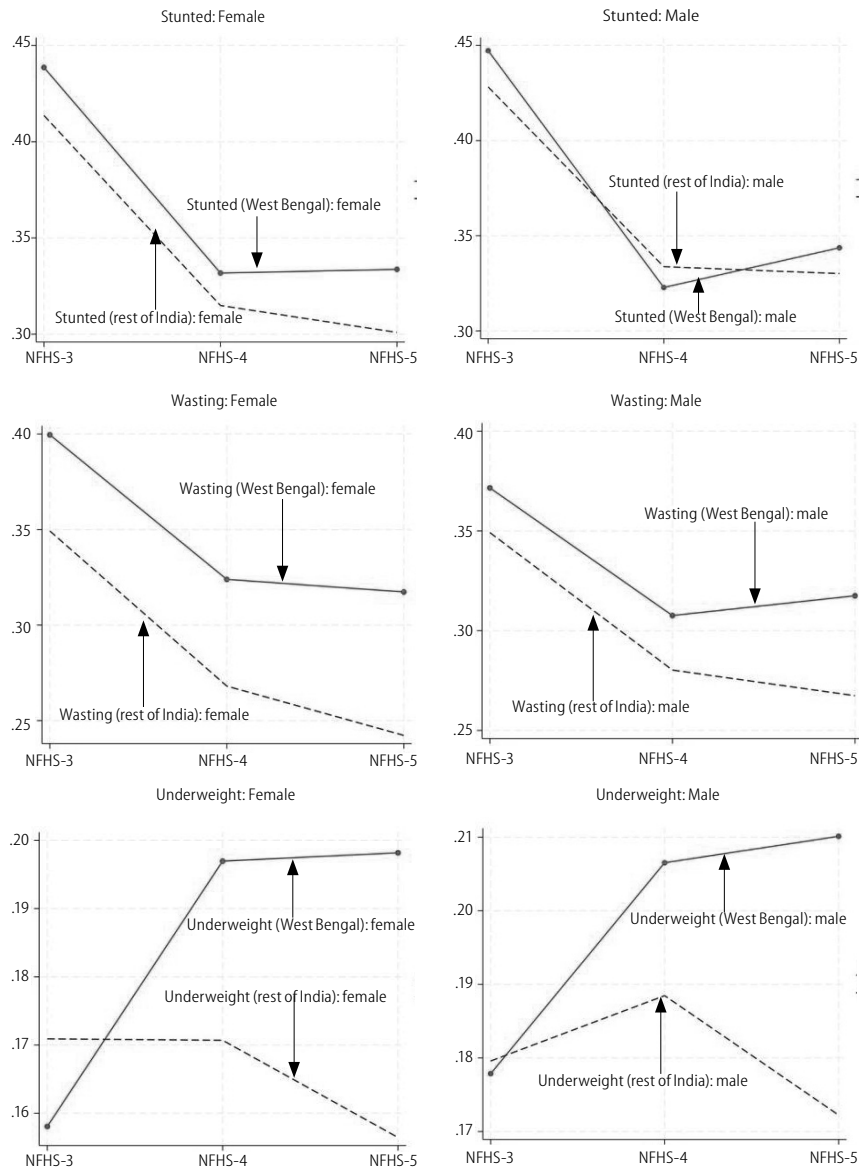
(i) Infant mortality: Over the last two decades, female infant mortality in the first year of life (0–1 years) has declined consistently in West Bengal, with the state outperforming the rest of India throughout (Figure 2). From around 29 per 1,000 live births in NFHS-3, female infant mortality rate (IMR) in West Bengal has fallen to around 17 per 1,000 live births by NFHS-5, and while the state's lead over the national average has shrunk over the last two decades, it continues to perform better than most other states. A similar pattern is observed when we look at male IMR, which has dropped more sharply in West Bengal compared to the rest of India in NFHS-4 and NFHS-5. Overall, it appears that West Bengal has been comparatively more successful in reducing infant deaths. Moreover, we do not find any systematic female disadvantage in infant survival in West Bengal: both female and male IMR trends have been declining similarly.

Figure 2: Infant Mortality Rate (0–1 Years)—by NFHS Wave



(ii) Child anthropometrics: However, this advantage of West Bengal does not appear to carry over to child health outcomes beyond the first year of life. Focusing on child anthropometrics in the 0–5 years age range, West Bengal consistently records a higher proportion of stunting among girl children compared to the national average throughout all NFHS waves, starting at nearly 45% in NFHS-3 and declining to around 33% in NFHS-4 before stagnating there at NFHS-5 (Figure 3, p 96). This is in contrast to the rest of India, which continues the downward trajectory from NFHS-3 and NFHS-4 to reach around 30% by NFHS-5, and has resulted in a widening of West Bengal's disadvantage in recent years. Wasting tells a similar story of West Bengal's relatively poor performance compared to the rest of India. However, the most concerning trend is observed for the proportion of underweight female children aged 0–5 years. This has actually increased in West Bengal from around 16% in NFHS-3 to nearly 20% by NFHS-4 and NFHS-5, in sharp contrast to the marked decline in the rest of India by NFHS-5.

It is important to note that across all three anthropometric indicators, there is no meaningful gender differential within West Bengal: boys and girls are equally affected, which suggests

Figure 3: Child Anthropometrics (0–5 Years)—by NFHS Wave

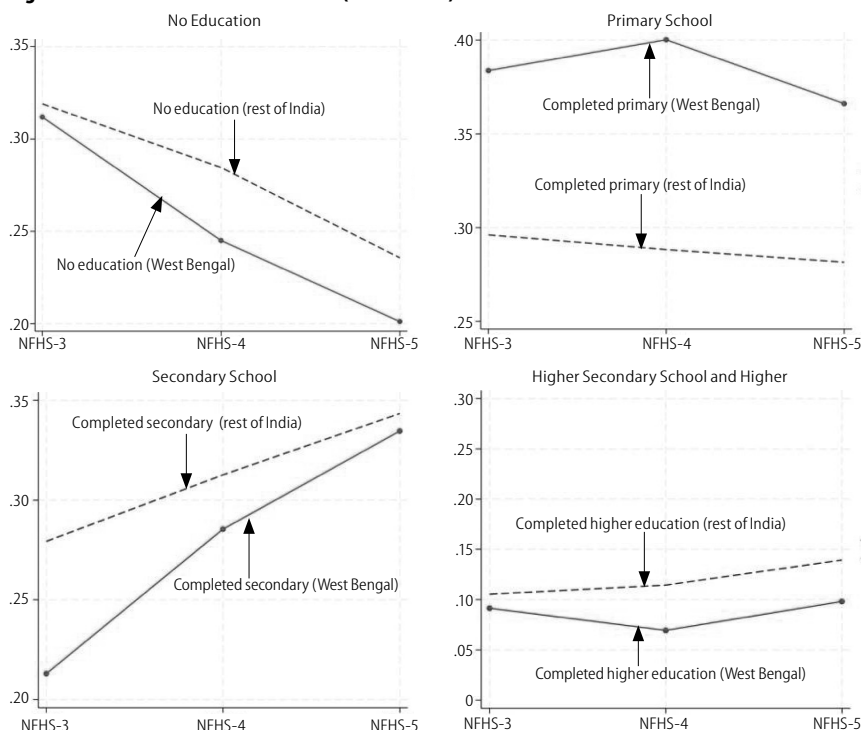
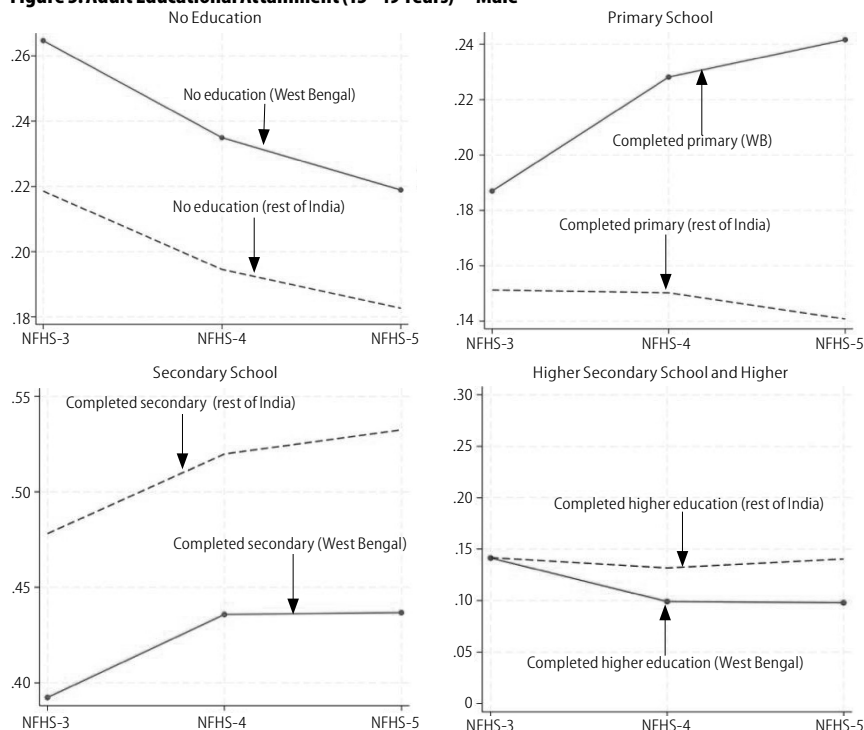
that the underlying problem is potentially one of generalised nutritional deprivation rather than gender-specific discrimination or neglect. Nevertheless, the state's worsening position relative to the rest of India on these key dimensions of child nutrition and development is concerning, and points to potential structural weaknesses in the state's public health infrastructure that appear to undo the relative advantages gained by the state in infant survival. Furthermore, the relevance of these anthropometric findings to our analysis is not a within-state gender gap but West Bengal's deteriorating position compared to the rest of India, and the potential of early, gender-neutral deficits compounding into gender-specific health disadvantages later in the life cycle, as our adult anaemia results subsequently highlight.

Adult educational attainment: Moving forward in the life course, we now turn our attention to adult outcomes. We begin with the highest educational attainment achieved by women

across the mutually exclusive categories of no education, primary school completion, secondary school completion and higher secondary school or more. Overall education attainment has improved considerably in West Bengal across all three NFHS waves (Figure 4, p 97), in keeping with national trends. West Bengal has consistently had a higher share of women aged 15–49 years with primary schooling than no schooling compared to the rest of India. Both have been generally trending downwards over the last two decades, no doubt attributable to the policy push to expand access to primary education through the Sarva Shiksha Abhiyan since the early 2000s. In particular, the proportion of women with no education has declined in West Bengal from around 32% at NFHS-3 to around 20% by NFHS-5, compared to a somewhat smaller reduction in the rest of India from a similar level to around 24%. The share of women who have completed primary schooling is higher in West Bengal at around 40% compared to the rest of India (around 30%) across all three waves, and gently declining over time. Such reduction in the share of women with low education is matched by a promising rising trend in the proportion of those with secondary schooling in West Bengal, from approximately 22% at NFHS-3 to around 35% at NFHS-5, yet consistently below the rest of India trend.² This is interesting, given that micro studies have found that female-friendly cash incentive policies implemented by the West Bengal government,

like the Kanyashree Prakalpa in 2013 targeting 13–18-year-old girls, have been positively associated with female secondary school completion and bridging the gender education gap (Sen and Thamarapani 2023), yet does not seem to have gone far enough compared to the rest of India. The situation is less rosy for the share of women with higher secondary attainment, where West Bengal appears to have stagnated at around the 10% mark over the last two decades while the rest of India has seen a gradual increase. It is possible that the full benefits of Kanyashree Prakalpa have not yet been fully realised, given that only six years would have passed since the implementation of the policy and NFHS-5. Yet, the slow pace of change is concerning as higher secondary attainment has a direct implication for women's labour market entry and economic autonomy.

The observed pattern for educational attainment among men in West Bengal is also mixed (Figure 5, p 97). While no-education rates have been declining, male primary school

Figure 4: Adult Educational Attainment (15–49 Years)—Female**Figure 5: Adult Educational Attainment (15–49 Years)—Male**

completion appears to have actually increased somewhat over recent years instead of showing a compositional shift to secondary education, compared to the rest of India. Like women, the proportion of men with higher secondary attainment in West Bengal has remained below the rest of India and stagnant. Thus, the overall pattern suggests that although West Bengal has made meaningful progress in getting women through primary school (and, to some extent,

secondary school), this has not translated into substantial gains in higher educational attainment for either women or men. Moreover, the female deficit at the top of the education ladder has emerged as a key structural barrier for women's economic empowerment in the state, as discussed later.

Marriage and Fertility

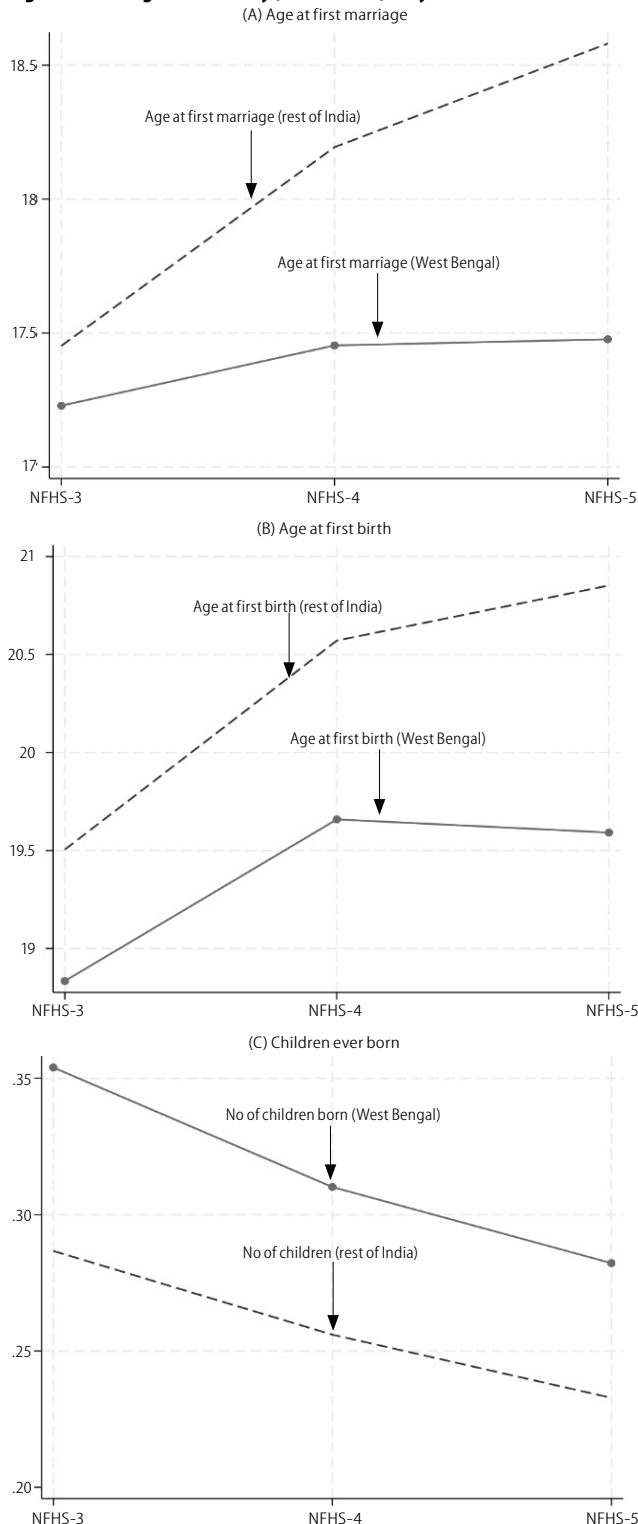
(i) **Age at marriage:** West Bengal has consistently lagged behind the rest of India in the age at which women first marry, and progress has stalled in recent years (Figure 6, Panel A, p 98). At NFHS-3, the average age at first marriage in the state is approximately 17.3 years—below the legal minimum of 18—rising marginally to 17.5 at NFHS-4, then stagnating by NFHS-5. By contrast, from similar levels at NFHS-3, the average age at marriage for women in the rest of India has risen steadily to around 18.5 by NFHS-5, crossing the legal threshold in the process. This implies that, over time, the divergence between the two trajectories has widened rather than narrowed: what was a modest gap at NFHS-3 has become a full year's difference by NFHS-5, and is a matter of urgent policy concern, as examined in further detail in Mukhopadhyay et al (2026) in this special issue.

(ii) **Age at first birth:** The age at first birth for women in West Bengal closely mirrors that of age at first marriage, as observed in Panel A, reflecting the tight link between early marriage and early child-bearing (Figure 6, Panel B, p 98). In West Bengal, the average age at first birth is just under 19 years for women in NFHS-3, rising to around 19.7 at NFHS-4 and then stagnating by NFHS-5. In contrast, the rest of India shows a steady upward trend from approximately 19.5 at NFHS-3 to over 20.5 at NFHS-5. This implies that, as with age at marriage, the gap between

West Bengal and the rest of India in age at first birth has also widened somewhat over the last two waves, in part due to the stagnating pattern in West Bengal between NFHS-4 and NFHS-5. This suggests that the modest progress made in the state during NFHS-3 was not sustained in later years, as structural drivers of early marriage, for example, limited female education beyond secondary level, regressive patriarchal norms, etc, continue to limit women's economic progress.

(iii) **Fertility:** In a related vein, the number of children ever born to women in West Bengal on average has also been higher than their counterparts in the rest of India, despite both series declining over time (Figure 6, Panel c). West Bengal starts at around 3.5 children at NFHS-3, falling to roughly 2.8 by NFHS-5, while the rest of India begins at approximately 2.9 and declines to around 2.5. Note, however, that children ever

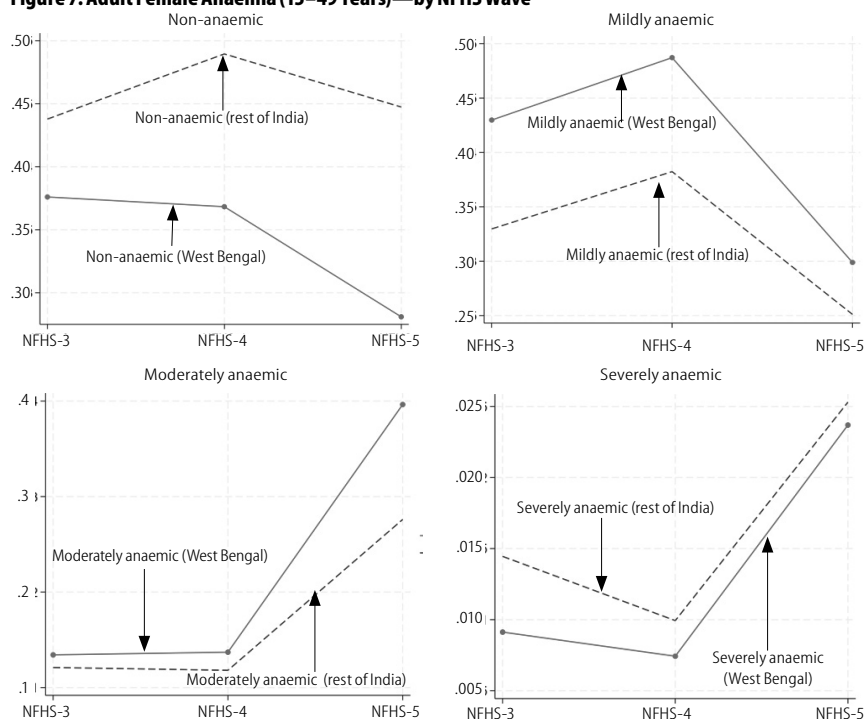
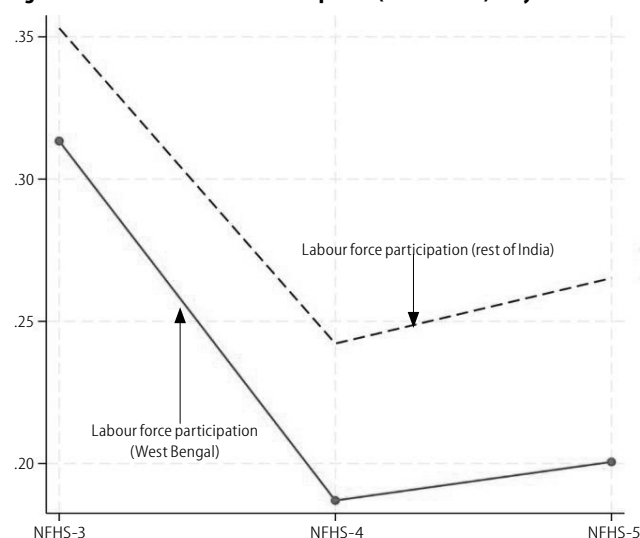
Figure 6: Marriage and Fertility (15–49 Years)—by NFHS Wave



born to mothers is a stock measure, weighted in favour of older, higher fertility cohorts, and combines completed (cohort) fertility and current (period) fertility. Indeed, West Bengal's recent total fertility rate (TFR) is among the lowest in India at around 1.6 in NFHS-5, falling below the national figure of around 2.0. Hence, the higher stock of children ever born reflects the residue of historically higher fertility in West Bengal that has since undergone a rapid and substantial fertility decline in recent years. Nevertheless, early marriage and childbirth as documented above may have continued to constrain women's schooling attainment and hence subsequent labour force participation even if they are having fewer children, reinforcing the cycle of disadvantage within the life cycle framework.

Adult health: In terms of health outcomes, we examine the trends in prevalence of anaemia among women aged 15–49 years across the NFHS waves, which reveals a striking trajectory of deterioration over time (Figure 7, p 99). The proportion of non-anaemic women in West Bengal has actually declined from approximately 0.38 at NFHS-3 to below 0.30 by NFHS-5, well below the rest of India, which stabilised around 0.45 during this period. Alarming, this decline has been accompanied by a sharp increase in the share of moderately anaemic women (rather than mildly anaemic ones) in West Bengal from just over 10% in NFHS-3 and NFHS-4 to nearly 40% in NFHS-5, outpacing the magnitude of increase in the rest of India. A deterioration of this scale and rapidity is hard to attribute to slow-moving structural forces alone. Anaemia is directly addressable through iron and folic acid supplementation delivered through the existing Integrated Child Development Services (ICDS) and public health apparatus. Hence, a reversal of this magnitude points to specific failures of programme implementation. A silver lining is that the prevalence of severe anaemia among women in West Bengal has not shown a similar deterioration relative to the rest of India in recent years. Taken together with the child anthropometric findings discussed above, the anaemia trends suggest that nutritional deprivation in West Bengal is a crisis that spans the life course, from malnourished young children to increasingly anaemic adult women, and demands urgent policy attention to address it.

Labour force participation: Turning to the labour market, we show that female labour force participation (FLFP) in West Bengal has declined significantly over the period under study, and the state performs worse than the rest of India throughout all three waves (Figure 8, p 99). At NFHS-3, approximately 31.8% of women aged 15–49 in West Bengal reported being in the labour force, already below that for the rest of India at just over 36.2%. Both series then fall sharply by NFHS-4: West Bengal dropping to around 19.2% and the rest of India to approximately 24%, before both partially stabilise at NFHS-5. The decline between NFHS-3 and NFHS-4 is slightly steeper in West Bengal than for the rest of India, as the gap between the state and the national average widens from 4.5 percentage points to 4.8 percentage points between NFHS-3 and NFHS-4, and widens further to 6.7 by NFHS-5.³

Figure 7: Adult Female Anaemia (15–49 Years)—by NFHS Wave**Figure 8: Female Labour Force Participation (15–49 Years)—by NFHS Wave**

This trajectory of persistently low and declining female economic participation is particularly concerning when juxtaposed against the educational gains documented earlier. West Bengal has successfully reduced the share of women with low education and increased secondary school completion rates, yet these improvements have not translated into commensurate gains in women's entry into the labour market in recent years. While this is a broader pattern across India, consistent with the well-documented phenomenon of a "missing middle" in India's female employment, whereby rising household incomes and expanding schooling paradoxically lead to withdrawal of women from the workforce rather than transitions into better-quality employment (Klasen and Pieters 2015),⁴ the stagnation of female higher secondary

attainment in West Bengal relative to rest of India likely constitutes part of the explanation as well. Without the educational credentials that enable entry into formal sector employment, secondary schooling alone is insufficient to shift women's labour market participation. This may also reflect a thin formal labour market and broader economic stagnation, made worse in a context where patriarchal norms around female mobility and work outside the home remain deeply entrenched.

Violence: On reported experience of domestic violence, West Bengal shows a more encouraging trend than most other indicators discussed. At NFHS-3, approximately 36% of West Bengal women aged 15–49 report ever having experienced domestic violence, higher than the national average of around 32%. However, the state has registered a significant decline from NFHS-4 (around 34%) to

NFHS-5 (approximately 27%), dropping below that of the rest of India, which has declined more gradually. A potential concern that such a faster pace of reduction in reported domestic violence in West Bengal is merely being driven by increased legal awareness or greater access to reporting mechanisms appears less likely since both series use the same survey instruments. Nevertheless, these encouraging trends in domestic violence should be read alongside the documented incidents of violence against women in public spaces that have drawn national attention in recent years, thereby presenting a more sobering picture of the state of women's safety and physical autonomy in West Bengal.

Discussion and Conclusions

The findings of this paper present a striking paradox. West Bengal, a state with a distinguished history of social reform, more than three decades of left-wing governance committed to equity, and active policy interventions targeting women's welfare, has succeeded in securing early life advantages for girls, including a favourable sex ratio at birth and lower infant mortality relative to the rest of India. Yet these early gains dissipate, and in many cases reverse, as women progress through their life course. Over the last two decades, child nutrition outcomes have worsened relative to the national average, educational attainment has stalled at the higher secondary level, marriage and childbearing continue to occur earlier than the national norm, anaemia prevalence has risen sharply, and FLFP has fallen further behind the rest of India.

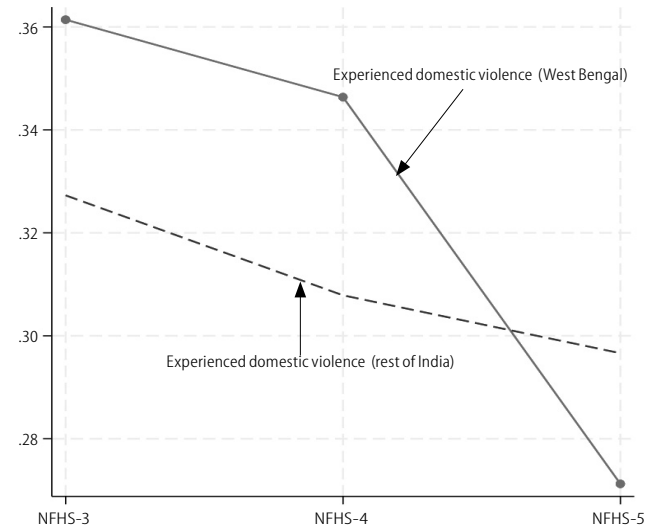
The central question these observed patterns raise is: Why has West Bengal been unable to convert its early life successes into sustained improvements for women across the life cycle? We discuss several possible explanations below.

The first explanation lies in the role of state capacity and public service delivery in shaping gender outcomes. The nutritional crisis documented in this paper, from child underweight to adult female anaemia, points to a systemic weakness in the state's nutrition and public health infrastructure that has persisted over decades. West Bengal's performance on the ICDS programme, the primary vehicle for child nutrition interventions in India, has long been considered inadequate relative to the state's needs (Maity 2016). Vacancy rates for ICDS officials in the state are among the highest in India (Figure 10, reproduced from NITI Aayog [2020]).

The worsening of child nutrition indicators between NFHS-4 and NFHS-5, a period that coincides with the TMC government's consolidation of power, may suggest that the diversion of policy attention to high-profile welfare schemes such as Kanyashree Prakalpa and Lakshmi Bhandar may not have been matched by (or even come at the cost of) investment in the less visible but equally important domain of routine nutrition and health service delivery. This is not to suggest that policy focus on Kanyashree Prakalpa, an incentive-based conditional cash transfer scheme designed to delay marriage and promote girls' secondary schooling, is unwarranted. Indeed, there is a wealth of evidence demonstrating the positive impacts of conditional cash transfers on schooling rates in developing countries (Schultz 2004; de Janvry et al 2006; Baird et al 2011). However, the emerging evidence on Kanyashree Prakalpa is mixed. While micro-level evidence suggests that the scheme has had positive effects on female secondary school completion (Sen and Thamarapani 2023), the state-level trends suggest that these gains may not have been sufficient to shift the distribution at the upper end of the education ladder, or to meaningfully delay marriage and first birth beyond the secondary school threshold. One possible explanation is that conditional cash transfer schemes, while effective at encouraging school attendance up to a specified target (in this case, age 18 or secondary school completion), may not generate the sustained changes in underlying gender norms and cultural context needed to propel girls into higher education and subsequently, the labour market (Baird et al 2014). The binding constraint therefore may not be only the financial cost of keeping girls in school, but rather the social and normative expectations around when a girl should marry, which the scheme's incentive structure may be insufficient to overcome.

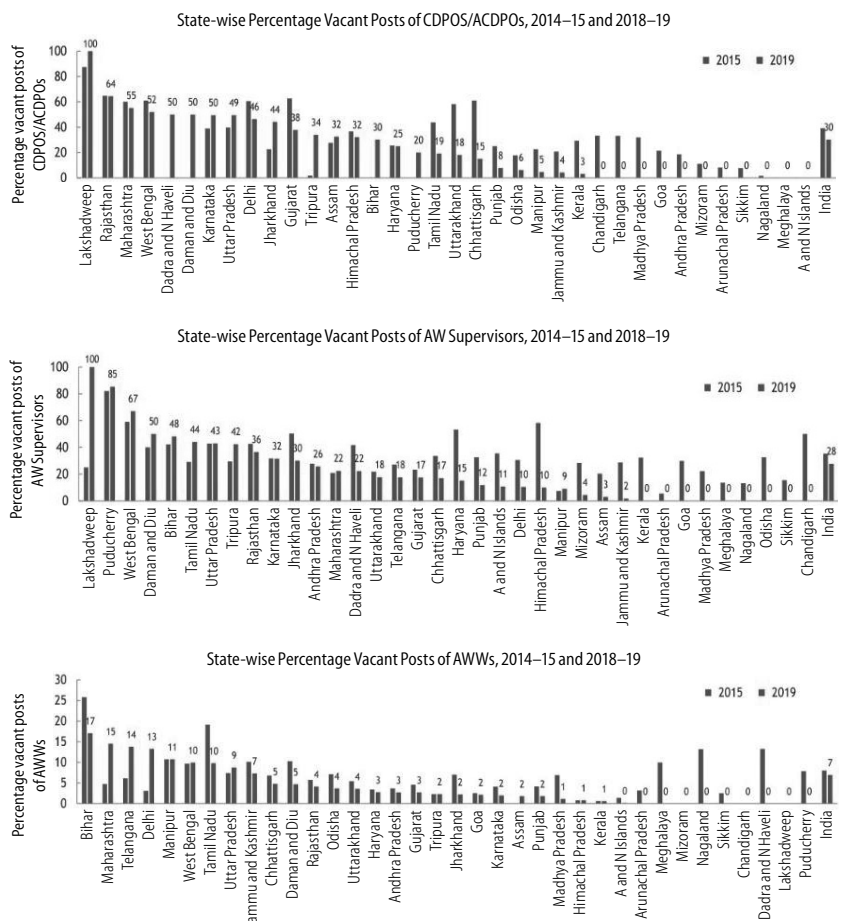
This brings us to our second explanation of the West Bengal puzzle: the persistence of entrenched patriarchal gender norms, whereby shared expectations on

Figure 9: Ever Experienced Domestic Violence (15–49 Years)—by NFHS Wave



gender-appropriate behaviour shape women's economic outcomes across the developing world (Field et al 2026). A key transition point in the female life cycle is the one from secondary to higher education or the labour market, where norms around female mobility and "purity" restrict female aspirations. As a result, the declining female labour force

Figure 10: State-wise Percentage Vacant Posts for ICDS Officials, 2014–15 to 2018–19



Source: MoWCD ICDS data.

participation, even as female education has expanded, is perhaps the starkest illustration of this dynamic: it suggests that the structural demand for female labour and the normative environment surrounding women's work have not shifted commensurately with improvements in women's human capital in West Bengal compared to the rest of India. This reinforces the broader insights from the gender norms literature that progress on measurable indicators of gender equality, for example, infant survival, school enrolment, etc, can coexist with the persistence of deeper structural inequalities that only become visible when women attempt to convert their human capital into economic agency and social autonomy.

These two explanations are best understood as forces that likely compound one another. State capacity failures and patriarchal norms may be mutually reinforcing across the life cycle: girls who are malnourished in childhood, married before the legal age, and kept out of the labour force are also

disproportionately likely to be those least reached by the state's nutrition, health and welfare programmes. Weak programme delivery and restrictive norms may thus operate on the same girls, each deepening the disadvantage the other creates, and compounding over the life course. Our nutrition findings are a case in point. Child nutritional deficits are gender neutral within West Bengal, pointing to a broader failure of state capacity. Yet this may compound over the life cycle into gender-specific health burdens that fall disproportionately on women, as evidenced by the sharp rise in adult female anaemia in recent years. Such policy failure-induced emerging gender disadvantages may be further reinforced by existing gender norms; for example, the custom of women eating less and later than men has been shown to be associated with worse female health outcomes (Rathore 2026). The paradox of West Bengal is that both are present at once, and the state's early-life achievements for girls are precisely what make their later-life erosion so stark.

NOTES

- 1 We acknowledge that state-level aggregates using NFHS may mask some rural-urban heterogeneity within West Bengal, particularly for nutrition and labour force participation. However, such disaggregation lies beyond the scope of this paper and is left to future work.
- 2 Note that since educational attainment measures the highest level of schooling completed, this is not a contradiction. West Bengal moves a larger share of girls onto the schooling ladder and up to the primary rung, reflected both in its lower share in the "no education" category and its higher share at the primary category, relative to rest of India. But a smaller share of girls progress beyond primary schooling in the state relative to the national average, such that the same weak transition from primary to secondary schooling registers at once as a higher primary share and a lower secondary share.
- 3 We also confirm using an alternative data source, that is, Periodic Labour Force Survey (PLFS), and find similar trends for West Bengal (IWwAGE 2021).
- 4 Note that Klasen and Pieters (2015) focus on urban India during a period of rising household incomes and schooling between 1987 and 2011. Urbanisation in West Bengal, despite being close to the all-India average of 31% (Census 2011), displays concentration around the capital city, and it is not a high-growth state during our study period relative to the rest of India. Hence, this framework should be applied with caution to West Bengal.

REFERENCES

- Amnesty International (2024): "India: Authorities Must Protect Protesters Demanding Justice after Rape and Murder of Kolkata Doctor."
- Baird, S, F H Ferreira, B Özler and M Woolcock (2014): "Conditional, Unconditional and Everything in between: A Systematic Review of the Effects of Cash Transfer Programmes on Schooling Outcomes," *Journal of Development Effectiveness*, Vol 6, No 1, pp 1–43.
- Baird, S, C McIntosh and B Özler (2011): "Cash or Condition? Evidence from a Cash Transfer Experiment," *Quarterly Journal of Economics*, Vol 126, No 4, pp 1709–53.
- Basu, A (2000): "Democratic Centralism in the Home and the World: Bengali Women and the Communist Movement," *Promissory Notes: Women in the Transition to Socialism*, S Kruks, R Rapp and M B Young (eds), New York: Monthly Review Press.
- Bhattacharyya, D (2016): *Government as Practice: Democratic Left in a Transforming India*, Cambridge: Cambridge University Press.
- Census (2011): "Census of India," Technical Report, Government of India.
- Chattopadhyay, R and E Duflo (2004): "Women as Policy Makers: Evidence from a Ran-domized Policy Experiment in India," *Econometrica*, Vol 72, No 5, pp 1409–43.
- Cunha, F and J Heckman (2007): "The Technology of Skill Formation," *American Economic Review*, Vol 97, No 2, pp 31–47.
- de Janvry, A, F Finan, E Sadoulet and R Vakis (2006): "Can Conditional Cash Transfer Programs Serve as Safety Nets in Keeping Children at School and from Working When Exposed to Shocks?" *Journal of Development Economics*, Vol 79, No 2, pp 349–73.
- Duflo, E (2012): "Women Empowerment and Economic Development," *Journal of Economic Literature*, Vol 50, No 4, pp 1051–79.
- Dutta, A and A Sen (2020): "Kanyashree Prakalpa in West Bengal, India: Justification and Evaluation," International Growth Centre Report No S-35321-INC-1.
- Field, E, R Pande, N Rigol, S Schaner and C Troyer Moore (2021): "On Her Own Account: How Strengthening Women's Financial Control Impacts Labor Supply and Gender Norms," *American Economic Review*, Vol 111, No 7, pp 2342–75.
- Field, E M, M McKelway and A Voena (2026): "Gender Norms and Development," Working Paper 34832, National Bureau of Economic Research.
- Forbes, G H (1996): *Women in Modern India*, Cambridge University Press.
- Government of West Bengal (2004): "West Bengal Human Development Report," Technical Report, Development and Planning Department.
- Heckman, J (2006): "Skill Formation and the Economics of Investing in Disadvantaged Children," *Science*, Vol 312, No 5782, pp 1900–02.
- Hindu (2024): "Death of Woman Doctor in Kolkata Medical College Triggers Outrage," 22 August, <https://www.thehindu.com/news/cities/kolkata/death-of-woman-doctor-in-kolkata-medical-college-triggers-outrage/article68506176.ece>.
- IWWAGE (2021): "Women's Workforce Participation in India: Statewide Trends West Bengal," Technical report, LEAD Krea University.
- Jayachandran, S (2015): "The Roots of Gender Inequality in Developing Countries," *Annual Review of Economics*, Vol 7, pp 63–88.
- Klasen, S and J Pieters (2015): "What Explains the Stagnation of Female Labor Force Participation in Urban India?" *The World Bank Economic Review*, Vol 29, No 3, pp 449–78.
- Maity, B (2016): "Interstate Differences in the Performance of 'Anganwadi' Centres under ICDS Scheme," *Economic & Political Weekly*, Vol 51, No 51, pp 59–66.
- Mani, L (1986): "Production of an Official Discourse on Sati in Early Nineteenth Century Bengal," *Economic & Political Weekly*, Vol 21, No 17.
- Mukhopadhyay, S, A Chakraborty and P Kabiraj (2026): "Early Marriage in West Bengal: An Exploration into Its Pattern and Possible Causes," *Economic & Political Weekly* (forthcoming).
- NITI Aayog (2020): "Evaluation of ICDS Scheme of India," Technical report, Ministry of Women and Child Development, Government of India.
- Quint (2024): "Unrest in Bengal's Sandeshkhali as Women Allege Sexual Assault by TMC Leaders."
- Rathore, U (2026): "First to Wake-up, Last to Eat: Evidence of Disproportionate Morning Penalties on Women in India," *Journal of Development Studies*, Vol 62, No 3, pp 448–26.
- Sarkar, S (2002): *Beyond Nationalist Frames: Post-colonialism and History of Bengal*, Bloomington: Indiana University Press.
- Schultz, T P (2004): "School Subsidies for the Poor: Evaluating the Mexican Progresa Poverty Program," *Journal of Development Economics*, Vol 74, No 1, pp 199–250.
- Sen, G and D Thamarapani (2023): "Keeping Girls in School Longer: The Kanyashree Approach in India," *Feminist Economics*, Vol 29, No 4.