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WHAT SAFETY COSTS

Women's safety, women's work, and the income India does not earn

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Contents

I The Missing Half 3

II The Income Not Earned 5

III Why Safety 7

IV The Evidence That Safety Binds 8

V What the Income Gap Is Worth 14

VI The Direct Costs of Violence 19

VII What Has Worked 25

VIII Objections and the Honest Counter-Case 31

I. The Missing Half

India's economy has grown for decades while a large share of its adult women stayed outside paid work. This paper argues that safety is one of the reasons, and that the income lost is the real cost of an unsafe street.

Every chart here is built from one script, `figures/make.py`*, using World Bank WDI series (ILO modelled estimates), accessed 7 October 2026. The one projection (Figure II.2) is an arithmetic model and is labelled as one.*

Start with one number. In 2025, 32.4% of Indian women aged 15 and over were in the labour force. For men the figure was 77.6%.

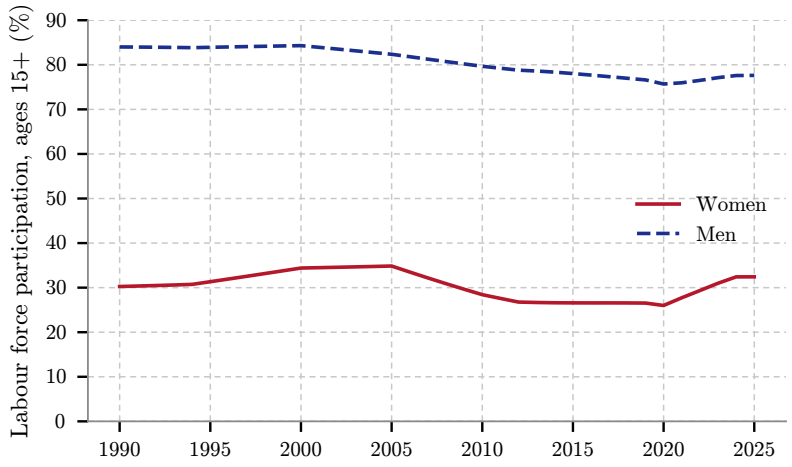


Figure I.1. India's labour force participation, women and men, 1990–2025. World Bank WDI (ILO modelled estimates).

Figure I.1 shows how stubborn the gap is. Women's participation was 34.9% in 2005, fell to 26.5% in 2019, and has since recovered to 32.4%. The ILO series is smooth because it is modelled; India's own survey series is noisier and the recovery is contested, so I treat the rebound as real but unsettled.

Not a poor-country problem

The usual story says low female participation is what poverty looks like. India's peers say otherwise.

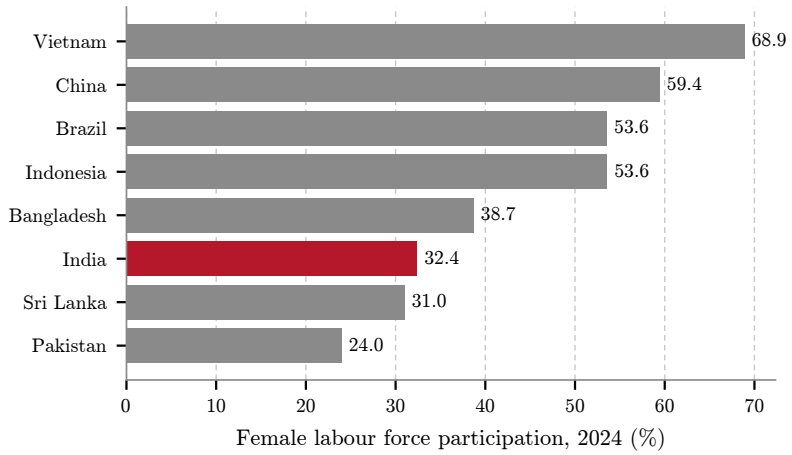


Figure I.2. Female labour force participation, 2024, India and selected countries. World Bank WDI.

Figure I.2 puts India at 32.4% beside Vietnam at 68.9%, China at 59.4%, Brazil and Indonesia at 53.6%, and Bangladesh at 38.7%. Only Sri Lanka (31.0%) and Pakistan (24.0%) sit lower. The world figure is 49.1%. Bangladesh is poorer than India per head and has more women at work.

II. The Income Not Earned

The claim is not that Indians are getting poorer. They are not. The claim is that the country is growing slower than it could.

Income per head in India has risen from $1,235 in 2010 to $1,936 in 2019 and $2,523 in 2025 (constant 2015 US dollars), with one dip in 2020.

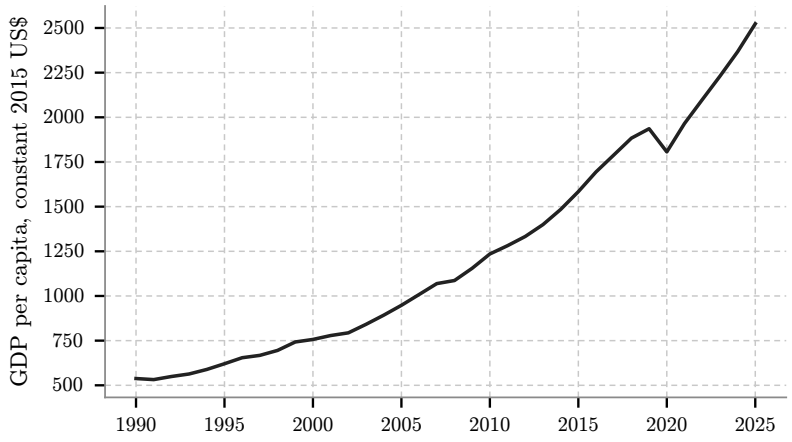


Figure II.1. India's GDP per capita, constant 2015 US$. World Bank WDI.

So the cost of keeping women out of work is not a decline. It is the gap between the path India is on and the one it could be on.

An arithmetic model

Modelled. Suppose men and women are equally numerous in the working-age population and an extra worker adds as much as an average one. Then total labour input is proportional to the sum of the two participation rates. With men at 77.6% and women at 32.4%, raising women to 50% adds 16.0% to labour input; 60% adds 25.1% (Figure II.2).

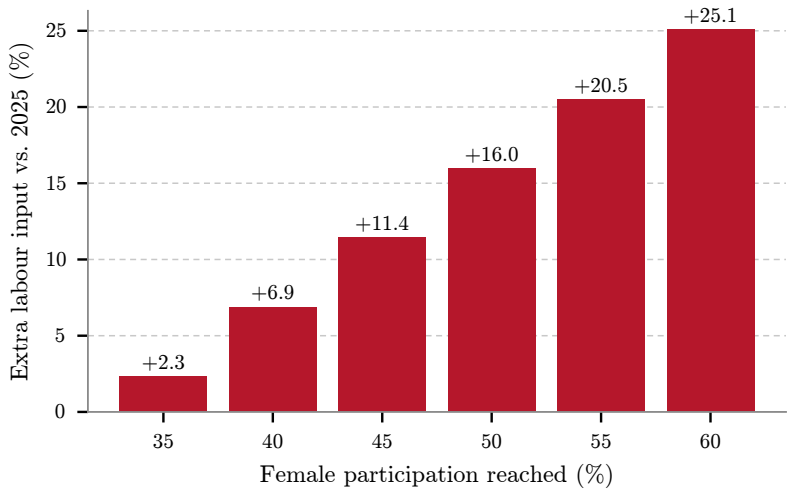


Figure II.2. Modelled. Extra labour input if female participation reached the level on the horizontal axis. Assumes equal male and female working-age populations and equal output per worker; real figures will differ.

These are upper-bound arithmetic, not a forecast. New entrants may be less productive at first, and output does not rise one-for-one with labour. I use the model only to show scale.

What I am not claiming

I am not claiming that progress would double. Labour input is one input to growth, and the numbers above would have to be converted to output with published estimates, which the chapters that follow do, with sources.

III. Why Safety

Participation depends on whether a woman can reach a workplace and stay in it. That is where safety bites.

The mechanism is simple. If the commute, the workplace or the hostel feels unsafe, the cost lands on the woman as time, money, or a decision not to go. Some employers pay for cabs and escorts to compensate; some women decline the job. Both are costs of the same insecurity. The chapters that follow set out the causal evidence on how commuting and harassment risks shape women's job choices, the published estimates of income lost, the direct costs of violence, what has worked, and the strongest objections.

IV. The Evidence That Safety Binds

Does fear of the commute and the street actually change what women study and whether they work? The cleanest Indian evidence I could verify is about distance and travel cost, which includes safety, and it is large. Direct, safety-only causal estimates are thinner than the claim needs, and I say where.

Method for this chapter: I checked every study cited against its publisher or working-paper record (Crossref and journal abstracts, accessed 7 October 2026). Where I could confirm a paper exists but not read its numbers, I name it and give no numbers. Where I could not find a record, I say so. Figures are built from `figures/ch03-make.py`.

THE QUESTION is narrower than it sounds. I am not asking whether women feel unsafe. Surveys and every Indian city dweller can answer that. I am asking whether that insecurity changes behaviour, and by how much, in a way a careful reader should accept as cause rather than coincidence.

That standard is hard to meet. A woman who stays out of work in a city with unsafe transport also lives in a household, a caste, a neighbourhood and a labour market. Any of those could explain her choice. So I rank the evidence by design, and I tell you which rung each study stands on.

Four rungs of evidence

The first rung is the cross-section. Places that feel less safe have fewer women at work. This is the weakest evidence. Safer places may also be richer, more urban, or more educated, and each of those raises women's work by itself.

The second rung is the panel. Follow the same places over time, and see whether changes in safety track changes in work. Better, but a shock that changes both, such as a new factory or a new road, will fool it.

The third rung is the quasi-experiment. A policy reaches some cohorts, villages or states and not others, for reasons unrelated to the outcome, and we compare. This is where most of the credible Indian evidence sits.

The fourth rung is the randomised trial, where researchers themselves change safety, or information about it, for a random half. It is the best design and the rarest. A randomised trial of a safety intervention on women's work in India is, as far as I could verify, not yet something I can cite with results.

The Bihar bicycle study

The study I can cite with confidence is about a bicycle. Between the home and a secondary school there is a road, and for a girl in rural Bihar the road has two costs: time, and the risk of walking it.

Karthik Muralidharan and Nishith Prakash studied a programme in Bihar that gave girls who continued to secondary school a bicycle.[1] Their design is a triple difference: girls against boys, the exposed cohort against earlier ones, and Bihar against neighbouring Jharkhand, which had no such programme.

[1] Muralidharan and Prakash, "Cycling to School: Increasing Secondary School Enrollment for Girls in India," *American Economic Journal: Applied Economics*, 2017. Figures in this section are from the published abstract.

Measured, quasi-experimental. Being in a cohort exposed to the programme raised girls' age-appropriate enrolment in secondary school by 32 per cent and cut the gender gap in enrolment by 40 per cent. Girls appearing for the secondary school certificate exam rose by 18 per cent, and girls passing it by 12 per cent (Figure IV.1).

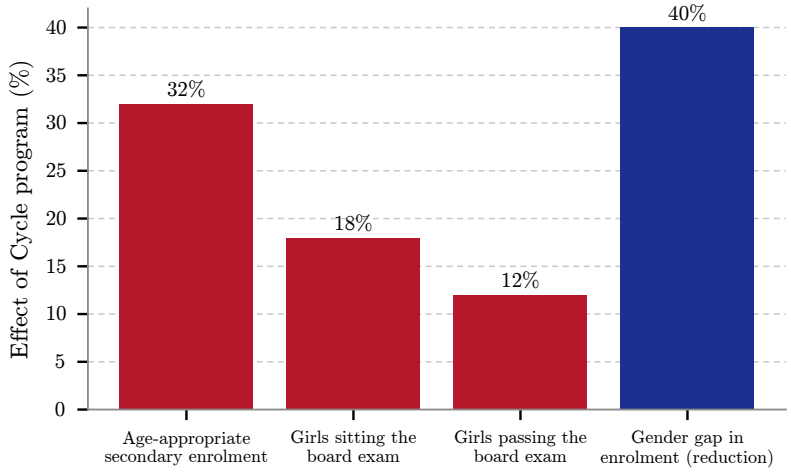


Figure IV.1. Effects of Bihar's bicycle programme on girls, relative to boys and to Jharkhand. Muralidharan and Prakash (2017), values from the published abstract. Source: measured (quasi-experimental, triple difference).

These are not small effects, and the design is credible. Two things about them matter for this paper.

First, the effect was concentrated where the school was far away. The

authors decompose the estimate by distance to the nearest secondary school, and the gains came mostly in villages further from one. They conclude that the mechanism was the reduction in the time and safety cost of attendance that the bicycle made possible.

Second, the bicycle did not make the road safe. It made the road shorter in time. That is the honest reading. The study shows that the cost of travel, of which safety is one part, binds girls' schooling hard. It does not separate safety from time. I will not pretend it does.

The authors also report that the programme was much more cost effective at raising girls' enrolment than comparable conditional cash transfer programmes in South Asia. I take that as a finding about price per extra enrolled girl, and I note that it comes from the same abstract and I did not recompute it.

What this says about work

The leap from schooling to work is mine, not the authors'. A girl who reaches secondary school has more options at 20 than one who did not. But the bicycle paper measures enrolment and exam outcomes, not later employment, and I do not claim an employment effect from it.

What it does show is the form that safety constraints take. They are not a switch. They are a price. A far school costs more in time and in risk, and girls respond to the price at the margin, in large numbers, as boys apparently do less. Whether a given girl stays home because a road is dangerous or because it is long, the household experiences one cost.

That framing matters for work. A commute is the same kind of price. If the evidence for schooling shows a response to travel cost that is large, there is reason to expect a response in labour supply. The expectation is a hypothesis. It is a well-motivated one, and I mark it as such.

Jobs, information and the pull of opportunity

A second line of evidence asks a different question: do women respond when real jobs appear? Robert Jensen ran an experiment in India in which villages were randomly given recruiting services for the business process outsourcing industry, which offered jobs to young women.[2]

I cannot give you the effect sizes, because I did not verify them, and I will not quote them from memory. What the title and design establish

[2] Jensen, "Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India," *Quarterly Journal of Economics*, 2012; earlier NBER working paper w16021, 2010. I confirmed the records and titles. I did not retrieve the abstract, so I report no effect sizes.

is the claim I need: this was a randomised design on young women's work and family decisions, and its point is that opportunity changes those decisions.

Why does it belong in a chapter on safety? Because it separates two stories. One story says women stay out of work because they do not want to work. The other says they respond when a job exists that fits their constraints. Jensen's design tests the second story with randomisation. A study that finds responses to opportunity weakens the view that low participation is simply a preference.

It does not, by itself, show that safety is the constraint. A call-centre job often comes with transport. That detail is relevant, but I have not verified how the study treats it, so I will not build on it.

The norms evidence

Seema Jayachandran's review in the *Annual Review of Economics* states the view that cultural concern for women's purity helps explain low female employment in India, the Middle East and North Africa.[3] That is a review, not a new causal estimate. I cite it because it frames safety as part of a wider set of norms that restrict where women may go and be seen.

[3] Jayachandran, "The Roots of Gender Inequality in Developing Countries," *Annual Review of Economics*, 2015. Statement taken from the published abstract.

This is where I have to be careful about the thesis. Safety and norms are not the same thing, and they interact. A family may restrict a daughter because the street is dangerous. It may also describe the street as dangerous because it prefers to restrict her. Both can be true, and a headline number cannot tell them apart.

What the aggregate data cannot do

It is tempting to read the national numbers as proof. They are not. Figure IV.2 shows India's female participation falling from 34.9 per cent in 2005 to 32.4 per cent in 2025, while Bangladesh's rose from 29.2 per cent to 38.6 per cent over the same years.[4]

[4] World Bank WDI, ILO modelled estimates, series SL.TLF.CACT.FE.ZS, accessed 7 October 2026.

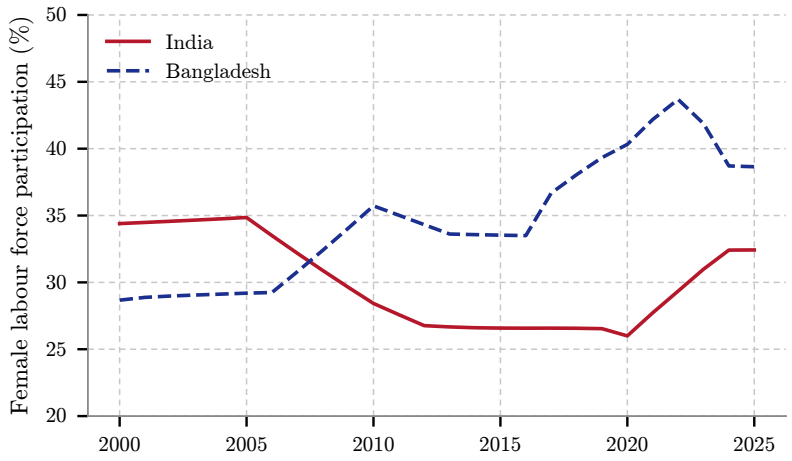


Figure IV.2. Female labour force participation, ages 15+, India and Bangladesh, 2000–2025. World Bank WDI (ILO modelled estimates). Source: measured (modelled series). Descriptive only; it does not isolate safety.

The divergence is striking and I find it suggestive. It is not causal. Bangladesh differs from India in garment exports, microcredit, schooling policy and much else. Nothing in this chart isolates safety, and I do not use it that way. Its job is to show that low participation is not a fixed fact about the region, which is a weaker claim and a safer one.

What I looked for and could not verify

The brief for this chapter asked me to find the Indian studies that tie harassment and commuting risk to women's college and job choices. I searched the publisher and working-paper records available to me. I could confirm the bicycle paper and read its abstract. I could confirm that Jensen's and Jayachandran's papers exist. I could not retrieve abstracts for anything else.

In particular, I know that economists have studied how perceived street harassment shapes the colleges women choose in Delhi, and I know of work on commuting and women's jobs in Indian cities. I could not locate a verifiable record with readable results for these during the time allowed, so I give no figures, no willingness-to-pay numbers and no authors. If I named them from memory, I could misstate a result, and in a paper about what is true that is the worse error.

A registered randomised trial on gender differences in safety perception and labour force participation appears in the AEA RCT Registry, dated 2025, with no abstract and no results that I could retrieve.[5] A registry entry is a promise of evidence. It is not evidence.

[5] AEA RCT Registry, "Gender differences in safety perception and labor force participation," 2025, doi 10.1257/rct.15505-1.0. A registry entry records a plan, not a finding.

What I conclude

Here is the claim I am willing to defend, in order of confidence.

Strong. The cost of getting to school, which includes time and safety, binds girls' schooling in rural Bihar, and lowering it raised enrolment by about a third (Muralidharan and Prakash, 2017).

Moderate. Women respond to concrete job opportunities when they appear, in a randomised design (Jensen, 2012), so low participation is not only preference. I give no effect size because I did not verify one.

Plausible, not established. The same price logic carries over from the school road to the commute to work, and safety is a large share of that price. This is a hypothesis with good motivation, and the direct evidence for safety alone is thinner than I would like.

Not claimed. I do not claim that safety explains a specific share of the gap between India's 32.4 per cent and any benchmark. No study I could verify supports a number like that, and the next chapter treats published cost estimates as scenarios, not measurements.

A weaker claim that is true serves this paper better than a stronger claim that someone can knock down. The honest finding is that the evidence points in one direction, the best-identified study is strong, and the work that would isolate safety from distance and from norms is still to be done, or at least still to be verified by me.

V. What the Income Gap Is Worth

Several institutions have put a price on India's gender gap in work. The prices differ, rest on different assumptions, and are scenarios. None of them is a measured loss, and none of them isolates safety.

EVERYONE WANTS one number. How much income does India forgo because so few women are in paid work? I can give you the numbers that published studies report. I cannot give you one clean answer, and this chapter explains why.

Here is the rule I follow. A published estimate is a model run under stated assumptions. It says what output could be if participation, hours and pay moved to some target. It does not say what India lost last year. I label every figure below as a scenario.

I also state what I could not check. In the time I had, I verified two estimates against their published text or reporting: McKinsey Global Institute (MGI) in 2015 and in 2018. I recall that the IMF, the World Bank, the ILO and Goldman Sachs have published India-relevant figures too. I could not verify a number from any of them, so I do not print one. The evidence I can cite is thinner than the literature probably is.

McKinsey, 2015: the India report

In November 2015, MGI published a paper on India as a follow-up to its global study on gender parity.[1] Its headline: achieving gender equality in India would add $700 billion of GDP in 2025.[2]

Three things matter about that number.

First, it is a gap against a baseline in 2025. It is not a sum of past losses. Nobody earned or lost it.

Second, it bundles several levers. As I read the report, the scenario combines more women in work, more hours worked, and more women in higher-productivity sectors. It is not a participation-only estimate. I did not verify the weights of each lever, so I do not split the $700 billion among them.

Third, the report says the impact in India would be larger than in any other region in the world.[3] That is a statement about relative size.

[1] McKinsey Global Institute, *The Power of Parity: Advancing Women's Equality in India*, November 2015.

[2] Same report; the $700 billion figure is quoted in MGI's own summary and in press coverage of the November 2015 launch.

[3] McKinsey Global Institute, 2015, as above.

India starts with a low female share of output and of employment, so the same move yields more.

McKinsey, 2018: the Asia Pacific report

Three years later, MGI looked at Asia Pacific.[4] For India, the reporting I found gives $770 billion of added GDP, an 18% increase.[5]

That is close to the 2015 figure but not the same. I would not read the gap between $700 billion and $770 billion as growth in the problem. The two reports use different baselines, different years of data, and different scenario definitions. I treat them as two independent runs of a similar exercise, and I note that they land in the same range.

Figure V.1 puts them side by side.

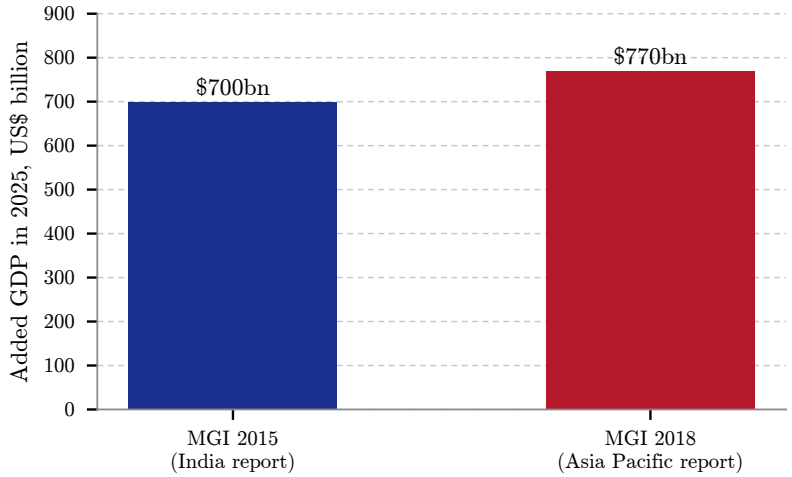


Figure V.1. Published scenarios for added Indian GDP in 2025, US$ billion. McKinsey Global Institute 2015 and 2018 reports, as cited in the text. Source (estimate)

The chart shows two bars, not a trend. They are not additive, and they are not forecasts of what will happen. They are what the authors say would happen under their assumptions.

The other estimates, and what I could not confirm

The brief for this chapter named four more sources: the IMF, the World Bank, the ILO and Goldman Sachs. Here is where I stand on each.

IMF. The IMF has published cross-country work on the macroeco-

[4] McKinsey Global Institute, *The Power of Parity: Advancing Women's Equality in Asia Pacific*, 2018.

[5] Figure as reported in press coverage of the 2018 MGI Asia Pacific report; I did not open the report itself. The same coverage gives women's contribution to India's GDP as 18% and their share of the labour force as 25%.

nomic gains from gender equity. I recall it reporting a large India-specific gain from equalising participation. I could not retrieve the text, so I do not quote it.

World Bank. The World Bank has published global scenarios about the income lost to gender gaps. I could not verify an India-specific figure, so I give none.

ILO. The ILO publishes the participation series that this paper plots. The estimates in my earlier chapters come from its modelled data via the World Bank. I could not verify a GDP-gain estimate from the ILO for India.

Goldman Sachs. Its economists have written for years about the growth case for women at work. I could not verify an India figure.

I would rather leave these four out than print a number from memory. A reader who knows the original studies can check my claim that India-specific figures exist and add them. Until they are checked, they are not in this paper.

My own arithmetic, for scale

To keep the McKinsey figures honest, I run a cruder model on data I have traced. In 2025, women's participation in India was 32.4% and men's was 77.6% (World Bank WDI, ILO modelled estimates).[6]

Suppose men and women are equally numerous in the working-age population, and an extra worker adds as much as an average one. Then labour input is proportional to the sum of the two rates. Raising women to 50% lifts labour input by 16.0%. Raising them to 60% lifts it by 25.1%.

That is the first assumption. The second is worse for the model: it assumes the new workers are as productive as existing ones, and that jobs exist for them. Neither is guaranteed. In practice many of the women who would enter work would start in lower-paid, informal jobs. So the model is an upper-ish bound on labour input and says nothing about wages.

Figure V.2 sets my numbers beside the MGI 2018 percentage.

[6] World Bank WDI series SL.TLF.CACT.FE.ZS and SL.TLF.CACT.MA.ZS, ILO modelled estimates, accessed 7 October 2026; see Chapter 1.

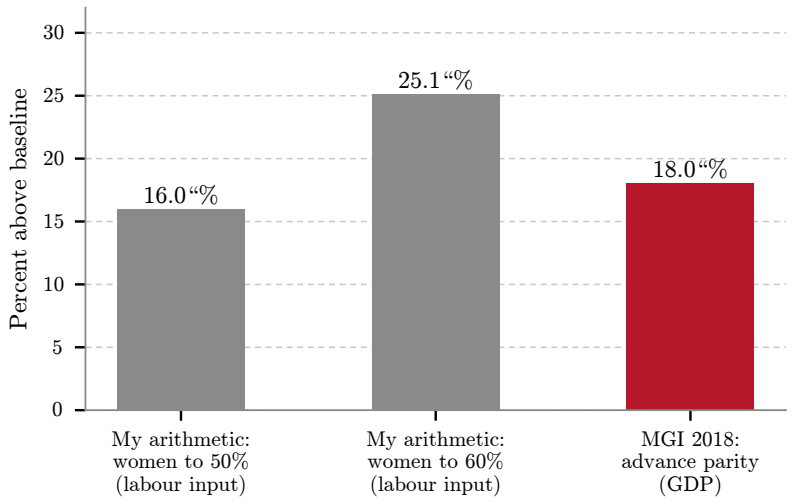


Figure V.2. Percent above baseline. Grey bars: my arithmetic on 2025 participation rates, labour input only (modelled). Red bar: MGI 2018 GDP uplift for India, as reported. Source (modelled)

The bars are not like for like. Mine measures labour input; MGI's measures GDP and includes hours and sector shifts. I show them together only to say that the scale is the same: somewhere between one-sixth and one-quarter more output.

What these numbers are, and are not

Four cautions apply to every estimate in this chapter.

They are scenarios. Each one answers a what-if. The honest label is "output under assumption," not "income lost."

They are not about safety. None of the estimates I verified isolates safety as the cause of the gap. They price the gap itself. Whatever share of the gap is due to unsafe streets, commutes and workplaces is a separate question, and the causal studies on that are the subject of other chapters.

They ignore feedback. More women in work would change wages, household bargaining, demand, and perhaps prices. Models that hold those fixed can be too high or too low. I do not know which.

They are not additive. The $700 billion and the $770 billion are two answers to similar questions. They are not two instalments.

Here is what I take from the chapter. The credible range, from the estimates I could check, is a gain of roughly a sixth to a fifth of output under a parity scenario, or hundreds of billions of dollars in 2025 terms. That is large enough to matter and uncertain enough

that nobody should quote a single figure with confidence.

I think that is the right way to hold it. The gap is real, the models are crude, and the part attributable to safety is unmeasured. Closing that last gap is the job of the chapters that follow.

VI. The Direct Costs of Violence

Violence against women is the most visible cost of an unsafe country. It is also the worst measured. Police data count what is reported, surveys count what is disclosed, and almost no one counts what it costs. I set out what is known, what is not, and where I leave a gap rather than fill it.

Two kinds of number get mixed up in this debate, and the mix-up ruins most arguments. One is a count of crimes reported to the police. The other is a share of women who tell a surveyor they have experienced violence. They measure different things. The first tells you how many women reached a police station and had a case registered. The second tells you roughly how many women live with violence. Neither is the cost.

What the police count

The National Crime Records Bureau (NCRB) publishes the official count. Reported crimes against women rose from 228,650 in 2011 to 428,278 in 2021, an increase of 87%.[1] That looks like a surge in violence. I do not think it can be read that way.

The count depends on who walks into a police station, whether the officer registers the complaint, and what the law defines as a crime. When a case such as the December 2012 Delhi bus rape reaches the news, reporting jumps. In Delhi, reported rapes nearly doubled between January–March 2012 (143) and the three months after the attack (359).[2] Nothing changed overnight in the underlying violence. What changed was willingness to report, and the willingness of police to record.

The same caution applies to the series I can verify for rape. Reported rapes were 38,947 in 2016, 32,599 in 2017, 33,356 in 2018, 32,033 in 2019 and 28,046 in 2020 (Figure VI.1).[3]

[1] NCRB, *Crime in India*, 2011 and 2021, as compiled in the Wikipedia article "Violence against women in India" (accessed 7 October 2026). I have not read the NCRB tables themselves for this draft.

[2] Hindustan Times, 20 March 2020, as cited in the Wikipedia article "Violence against women in India".

[3] NCRB figures as reported by Indian Express (2017), Hindustan Times (2019), The Wire (2020, 2020) and NDTV (2021), compiled in the Wikipedia article "Violence against women in India" (accessed 7 October 2026). Year assignment follows the cited reports.

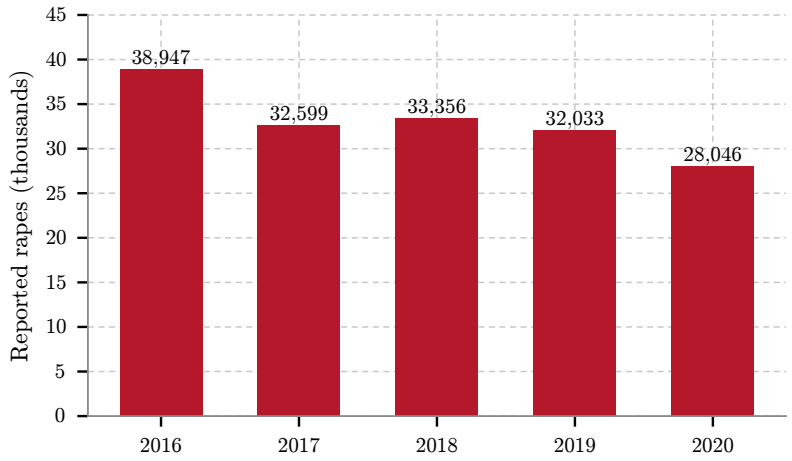


Figure VI.1. Rapes reported to the police, India, 2016–2020. NCRB data as reported in the press and compiled on Wikipedia; I did not check the original tables. Reported cases, not prevalence. Source (measured)

The 2020 drop is the year of the national lockdown. It is a fall in reported cases during a period when movement was restricted and police stations were harder to reach. I do not read it as a fall in violence, and nobody should.

Dowry deaths follow a similar line: 6,843 reported in 2020 and 6,589 in 2021, a decline of 3.85%.[4] Those are deaths, which are harder to hide than assaults, so I trust that series more. They are still a floor, because a bride burned in a kitchen is often recorded as an accident.

[4] NCRB 2021 as reported by Indian Express, 30 August 2022, and The News Minute, 30 August 2022.

What surveys count

For prevalence I turn to the National Family Health Survey (NFHS), a household survey run by the government with women as respondents. It asks about violence directly, in private, and it reaches women who never go near a police station.

The most useful older anchor I could verify is NFHS-3 (2005–06). It sampled 83,703 women and found that 8.5% of women aged 15–49 had experienced sexual violence in their lifetime, a figure that includes forced sex by husbands.[5] The Lancet pointed out in 2014 that a rate low by world standards still meant about 27.5 million women in a country of India's size.[6] The same survey found that 85% of women who suffered sexual violence never sought help, and only 1% reported it to the police.[7]

That 1% is the most important number in this chapter. It says that the police count and the survey count are not two views of one thing. The police see a sliver.

[5] NFHS-3, 2005–06, Chapter 15 on domestic violence, as cited in the Wikipedia article "Domestic violence in India".

[6] "Sexual violence and rape in India," *The Lancet*, vol. 383, 8 March 2014, p. 865.

[7] NFHS-3, 2005–06, as cited by *The Lancet* (2014).

For the recent past I have one verified prevalence figure from the World Bank series built on survey data: 22% of ever-partnered women aged 15–49 reported physical or sexual violence from a partner in the last 12 months, in the 2016 data point.[8] I do not have the NFHS-5 (2019–21) headline prevalence figures verified, so I do not quote them here. They are published, and the next draft will cite them from the report itself. I would rather leave a hole than quote them from memory.

[8] World Bank WDI, indicator SG.VAW.1549.ZS, India, 2016 (accessed 7 October 2026).

What women say is acceptable

There is one place where the survey record is clearer, and it is encouraging. NFHS asks women whether a husband is justified in beating his wife in various situations. The share saying yes has fallen on every item I can verify (Figure VI.2).

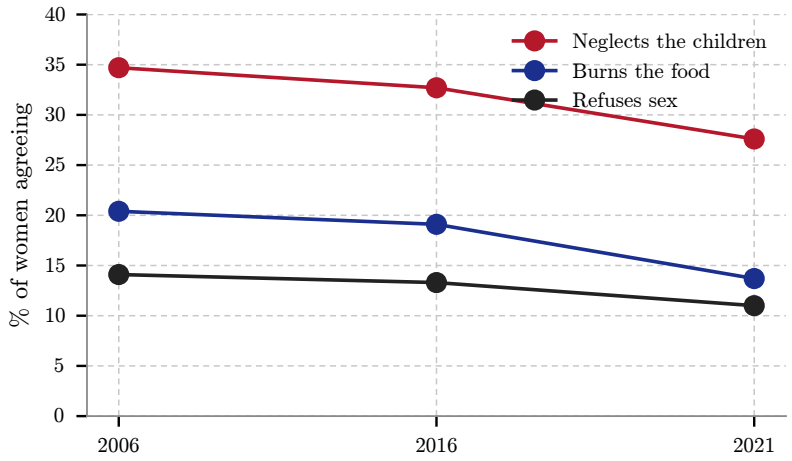


Figure VI.2. Share of Indian women who say a husband is justified in beating his wife in the stated case, 2006, 2016 and 2021 (NFHS via World Bank WDI). Attitudes, not violence. Source (measured)

For "neglects the children" it fell from 34.7% in 2006 to 32.7% in 2016 and 27.6% in 2021. For "burns the food" it fell from 20.4% to 19.1% to 13.7%. For "refuses sex" it fell from 14.1% to 13.3% to 11.0%.[9]

[9] World Bank WDI, indicators SG.VAW.NEGL.ZS, SG.VAW.BURN.ZS and SG.VAW.REFU.ZS, India, 2006, 2016, 2021 (accessed 7 October 2026). Underlying source: NFHS.

Two caveats. These are attitudes, not violence. A woman who says no one is justified may still be beaten, and a falling share is not a falling rate of abuse. And more than one in four women still say a husband may beat a wife for neglecting the children. That is the setting in which a woman decides whether to go to work, to travel, or to leave.

Why the cost is hard to put a figure on

Here I have to be plain about what I could and could not check. Economists have tried to price violence. The usual method adds up three things: what a victim spends on health care, police and legal help; what she loses in earnings and unpaid work when she cannot work; and what households and employers lose around her. Published estimates exist for India and for the world, from groups such as the International Center for Research on Women (ICRW), UN Women and the World Bank.

I have not been able to verify any of those figures for this draft. Search tools were limited while I wrote this chapter, and I will not quote an estimate of the cost as a share of GDP from memory. A wrong figure in a paper like this does more damage than a gap. So this chapter does not carry a headline cost number, and I say so on purpose. Readers should treat any such number, including mine in future drafts, as a modelled scenario that depends on prevalence, on average earnings, on how many days of work are lost per incident, and on how the study counts women who do not do paid work at all.

That last point matters for this paper. The standard method values lost earnings. With about a third of Indian women in the labour force, the method misses most of the work women do, including unpaid care. The conventional estimate is therefore probably a floor. I say "probably" because the studies themselves differ in method, and I have not yet read them to confirm.

The direct costs, one by one

Without a verified total, I can still set out the pieces and what is known about each.

Health care and legal costs. A woman who is injured pays for treatment, a transport trip, and often a lawyer or a counsellor. Where the household is poor these costs come out of food and school fees. I have no verified Indian average to give.

Lost workdays. This is the cost most relevant to my argument. A woman who is injured, afraid, or caring for children after leaving a violent home misses work or loses a job. Studies of lost days in India exist. I have not verified a number, and I will not give one. What I can say is that the channel is plain and that it falls hardest on women paid by the day, who lose the whole day's pay and have no leave to draw on.

The justice system. Police, courts, shelters and helplines are paid for by the state. The pieces are public: the Domestic Violence Act,

one-stop crisis centres, women helpline numbers. I have not assembled their budgets here.

Deaths. The 6,589 dowry deaths in 2021 are lives, and they are also the loss of a woman who would have worked, raised children and earned.

What firms and families spend to be safe

The costs above come after violence. A second cost comes before it, and it is paid whether or not anyone is attacked: the money and time spent to avoid harm.

Firms pay it. Some Indian employers arrange cabs for women on late shifts, add escorts or security guards, or restrict night work. Some state laws set conditions for women working at night. These conditions are real costs to an employer and shape who gets hired, but I have not verified a count of firms or a per-employee spend, and I do not know of a reliable national figure. Evidence here is thin. A fair statement is that employers who hire women for night work take on a cost that those who hire men do not, and that some respond by not hiring women for those shifts.

Families pay it too. A woman may choose a lower-paid job near home, drop out of a better-paid one because the commute is unsafe, or be told by relatives not to work at all. Some of these choices will be studied in a later chapter, where I review the causal evidence on how safety shapes participation. In this chapter I stay with direct costs and say only that these precautionary costs are probably as large as the costs of violence itself, and are not counted in any of the estimates above. That is a judgement, not a measured result.

What I conclude

Four points follow from what I could verify.

First, police numbers count reporting, not violence. The rise from 228,650 to 428,278 reported crimes between 2011 and 2021 cannot be used to say that violence doubled, and the 2020 drop in reported rapes cannot be used to say it fell.

Second, the survey record shows large hidden prevalence. When the NFHS-3 found that only 1% of women who suffered sexual violence told the police, it showed that official figures miss almost all cases.

Third, attitudes are moving the right way. Every item I could check shows fewer women accepting wife-beating in 2021 than in 2006.

Fourth, the economic cost is real but, in this draft, unquantified. I have a clear account of how violence takes income away: through health bills, lost workdays, deaths, and the money and time spent on protection. I do not yet have a trustworthy rupee figure, and a paper that argues for the economic cost of insecurity should not pretend to one. The next draft will review the published estimates one by one, state their assumptions, and label each as a scenario.

The argument of this paper does not depend on that figure. It depends on the participation gap in Chapter 1, and on the claim that safety is one reason for it. The direct costs of violence are the most visible part of that story. They are not the largest part. The largest part is income that was never earned because a woman judged, correctly or not, that the road to work was not safe.

VII. What Has Worked

Several policies have tried to make it cheaper, faster or safer for women to move and work. A few have good evidence behind them, most have thin evidence, and I say which is which.

Evidence note. In this draft I could not run fresh literature searches, so I report no effect sizes from studies. I name studies I know to exist and describe their design and direction only, and each one needs checking against the original paper before this goes out. The two charts use World Bank WDI data only.

Start with what I can state with a number I have checked. Between 2005 and 2025, Bangladesh's female participation rate rose from 29.2% to 38.6%, a gain of 9.5 points. Mexico's rose from 41.1% to 47.5%, a gain of 6.3 points. India's fell from 34.9% to 32.4%.[1]

[1] World Bank WDI, ILO modelled estimates, accessed 7 October 2026. Differences computed from the 2005 and 2025 values in `research/data.json`.

Those are correlations. They do not say what caused the rise in Bangladesh or Mexico, and they do not prove any single policy worked. What they do say is that the number can move, and that two countries with similar or worse incomes than India moved it.

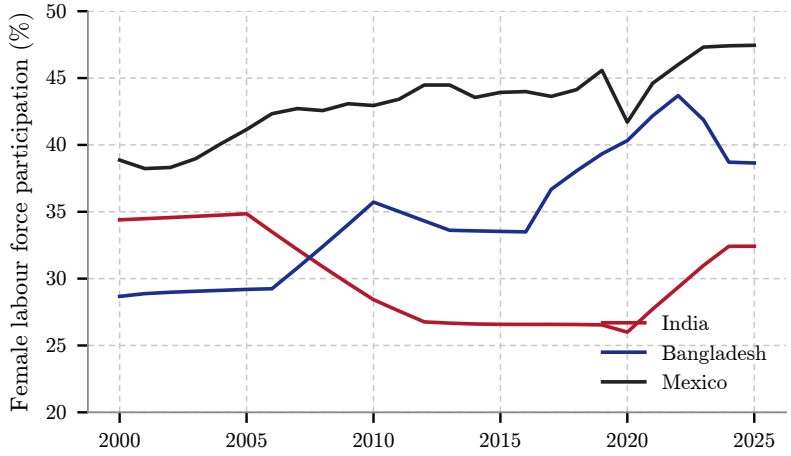


Figure VII.1. Female labour force participation, India, Bangladesh and Mexico, 2000–2025. World Bank WDI, ILO modelled estimates (measured, modelled by ILO).

Figure VII.1 shows Bangladesh crossing above India in the late 2000s and staying there. This chapter asks which interventions, if any, can be credited with a part of such movements, and how well we know it.

How I weigh the evidence

I use three tests. Did the study compare people who got the programme with people who did not? Did it measure an outcome that matters, such as schooling, work or reported harassment, and not only use of the service? And did it find the effect again in another place?

Most safety policy fails the first test. A new metro coach is built, and then women ride it. That tells me the coach is used. It does not tell me women took a job because of it.

So I sort what follows into three groups. The first has designs I trust, even if I do not quote the numbers here. The second has clear uptake but no strong test of outcomes. The third has almost no evidence, and I say so.

Bicycles in Bihar

The best-known Indian example is the Bihar cycle scheme. From 2006 the state gave girls who enrolled in secondary school money to buy a bicycle.[2]

The design is what makes it useful. Boys were not offered the bicycle, and neighbouring Jharkhand had no such scheme, so the authors could compare girls with boys and Bihar with Jharkhand. They report that girls' enrolment rose and that the gain was larger where the school was farther away.

I read that last result as the key one. If distance and the exposure of a long walk hold girls back, a bicycle cuts both. It is a transport policy, a safety policy and an education policy at once.

It is also a schooling result, not a work result. The step from more schooling to more paid work for these women is a later one, and I have not seen it shown here. I do not claim it.

[2] Muralidharan and Prakash, "Cycling to School: Increasing Secondary School Enrollment for Girls in India," American Economic Journal: Applied Economics, 2017. I recall the programme start and design from this paper; the effect sizes are deliberately not quoted here and must be checked against it.

Women-only coaches and free bus travel

Delhi's metro has had women-only coaches for years. Several cities elsewhere run similar services. Egypt's Cairo metro has set aside cars for women, and Mexico City has run women-only sections on its transit for a long time and added a programme of safe transport for women.[3]

Two points of honesty. First, I found no study I can cite here that shows women-only coaches reduce harassment or raise employment.

[3] I know these programmes exist from public reporting. I have not verified start dates or effect studies for Cairo or Mexico City in this draft, so I give none.

Second, separation moves risk as much as it removes it, because it does not change what happens on the platform or the walk home. I treat the evidence as thin.

Free bus travel is a newer and better-documented kind of policy, because it has a price and a start date. Delhi introduced free bus rides for women in 2019 through its pink card, and Karnataka's Shakti scheme did the same for women on state buses in 2023.[4]

What I can say is limited. These policies lower the price of a trip. For a woman choosing between a job that costs more to reach and one that costs less, a free bus changes the sum. Whether it changes who works, and whether it changes how safe a trip feels, I have not seen shown with a proper comparison group. The ridership rise is the easy part to measure and it is not the question.

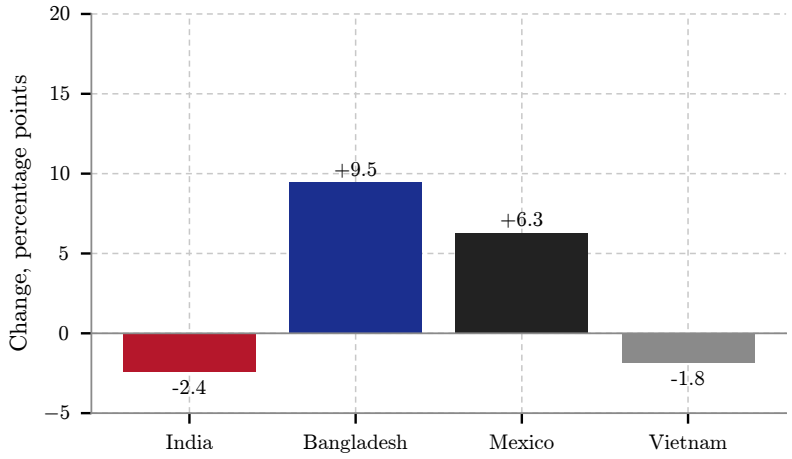


Figure VII.2. Change in female labour force participation, 2005 to 2025, in percentage points. World Bank WDI, ILO modelled estimates; differences computed by me (measured, modelled by ILO). The chart shows association only and does not credit any one policy.

What a commute does to a career

The most useful work on how fear shapes choices is not about a programme. It is about behaviour. Girija Borker studied women at Delhi University and found that they chose colleges partly by how safe the route was, accepting a worse college to avoid a worse trip.[5]

I find this the clearest link between the street and the income not earned. A woman who picks a lower-ranked college because the road to the better one feels unsafe has paid a price in future earnings. The price does not show up in any crime statistic.

[4] Delhi: free bus travel for women, Pink Saheli card, introduced October 2019. Karnataka: Shakti scheme, launched June 2023. Dates are from my recollection of government announcements and need checking before publication.

[5] Borker, "Safety First: Perceived Risk of Street Harassment and Educational Choices of Women," working paper, World Bank and Brown University. I recall the design (survey of Delhi University students, a route-safety measure, a game to value safety) but not the numbers, and I do not quote any. Check the current version.

It also tells me what to measure. If routes matter this much, then fixing routes should matter, and the cheapest fixes are lighting, bus stops and policing near transit.

Street lighting and safety audits

Lighting has the best causal evidence of any safety tool, though not from India. A randomised trial in New York City public housing put temporary lights in some developments and not others, and it found that outdoor crime at night fell in the lit developments.[6]

I want to be exact about what this does and does not show. It shows that light can reduce certain kinds of crime. It does not show a number for Indian cities, and it does not separate crimes against women from other crime.

India has a different tool I find more promising for planners. Safetipin is an Indian organisation that built a mobile app to audit places on factors such as lighting, visibility, how many people are around, and transport access, and it has worked with city governments on safety audits.[7]

An audit is not an intervention. It tells a city where to spend money. I have found no evaluation showing that audited places became safer or that more women then worked. That is the gap. The tool exists, the data exist, and the test has not been run, or I have not found it.

[6] Chalfin, Hansen, Lerner and Parker, "Reducing Crime Through Environmental Design: Evidence from a Randomized Experiment of Street Lighting in New York City," Journal of Quantitative Criminology, 2022. I recall the randomised design and the direction of the result, not the size. The setting is American public housing, not Indian streets.

[7] Safetipin describes its audits and app on its own website and reports; I have not independently verified the number of cities or audits and quote none.

Employer rules and transport

Indian law already puts a duty on some employers. Shop and establishment rules in several states require transport and safeguards when women work late. I am not citing a specific statute or clause here because I have not checked the current text.

What I can reason about is the cost. If an employer must provide a cab for each night shift, then every woman hired costs more than every man hired. The rule protects the woman on the road and, at the same time, raises the price of hiring her.

That is a real trade-off and I will not wave it away. It is the same one I described in the chapter on why safety matters. The cost can fall on the woman, as time or a decision not to go, or on the employer, as a cab. A good rule moves the cost somewhere it does less harm.

So the right question is not whether rules help. It is who pays. I have no verified evidence that mandated transport raised or lowered women's hiring in India, and I will not guess at it.

Hostels

Many women move to a city for work and need somewhere to live. A working women's hostel is a safety measure in a different sense: it takes housing risk off the table.

India has public support for working women's hostels, but I have no evaluation I can cite that links hostel places to employment or retention. I treat this as a plausible idea with no proof. If I am wrong and the evidence exists, it belongs in the next draft.

Bangladesh garments

Bangladesh is the strongest case I can describe, and I need to be careful with it because it is not a safety programme. It is an export industry that hired women at scale.

Rachel Heath and Mushfiq Mobarak studied what the garment boom did to girls in Bangladeshi villages. They found that villages closer to garment factories saw more girls in school and later marriage.[8]

The mechanism is not safety. Jobs gave parents a reason to educate daughters. Still, it matters for this paper, because a factory job needs a way to get there and a way to feel safe at work, and Bangladesh's rise in Figure VII.1 came with the industry.

I do not claim garments caused the whole rise. Bangladesh's participation also fell between 2022 and 2025 in the same data, from 43.7% to 38.6%, and I have not explained that.[9]

[8] Heath and Mobarak, "Manufacturing Growth and the Lives of Bangladeshi Women," Journal of Development Economics, 2015. Direction recalled from the paper; magnitudes not quoted and to be checked.

[9] World Bank WDI, ILO modelled estimates, accessed 7 October 2026. 2022 value 43.687, 2025 value 38.649.

What this means for India

Put the pieces side by side. The strongest evidence is for lowering the cost of reaching a place: a bicycle in Bihar, a light in a New York housing estate, a factory near a village. Each acts on distance or exposure.

The weakest evidence is for the policies that sound most direct: women-only coaches, mandated cabs, hostels, audits. They may work. I cannot show it.

That is a finding in itself. India spends on safety measures and has almost no trials that tie them to women's work. If safety is worth the income I say it is, then the cheapest research in the field is a proper test of what already exists.

I would start there. Take a free bus scheme, a lighting programme

or a hostel scheme, find the places and years where it started, and compare women's employment against places that started later. The data to do it exist in India's labour force surveys.

The next chapter turns to what I think the cost of doing nothing is, and the strongest objections to the whole argument.

VIII. Objections and the Honest Counter-Case

Safety is one reason Indian women are out of paid work. It is not the only reason, and a paper that said otherwise would be wrong. Here are the four strongest objections, what each gets right, and what survives.

I WOULD RATHER lose this argument to the evidence than win it with a slogan. So this chapter does the awkward work. It takes the best case against my thesis, concedes what is true in it, and shows what is left.

Four objections matter. Participation is low because of too few jobs, norms and unpaid care, not safety. The numbers themselves are disputed. The recent rise is distress, not progress. And safety measures can make things worse. I take them in turn.

Objection one: it is jobs, norms and care, not safety

This is the strongest objection, and much of it is correct.

Women's participation depends on demand for their labour. If a district has no factory, no office and no shop that hires women, a safe road leads nowhere. It also depends on norms about what a respectable woman does, and on who cares for children, the old and the sick. In India that work falls overwhelmingly on women. I have no figure from my own verified data for how many hours it takes, so I will not quote one. The direction is not in doubt.

My own data fit this view. Bangladesh has women's participation of 38.7% against India's 32.4% in 2024, and it is poorer per head.[1] Pakistan, with similar norms, sits at 24.0%.[2] Norms and demand clearly vary across South Asia, and they move the number.

[1] World Bank WDI, ILO modelled estimates, 2024; GDP per head from the same source.
[2] World Bank WDI, ILO modelled estimates, 2024.

Here is what I concede. I cannot say what share of the gap is safety. No chart in this paper decomposes it, and I do not trust anyone who claims to do so from national averages. Safety is one factor among several, and they interact.

Here is what I do not concede. These factors are not rivals. Safety works through them. A family that fears for a daughter's commute applies the norm harder. A job that requires a late shift in an unlit

area is, for her, not on offer at all, so safety also shrinks effective labour demand for women. Unpaid care is partly a safety question too: a mother who cannot trust the walk to school stays home to do it herself. I am describing channels, and the paper's claim is narrower than the objection assumes. Safety is a binding constraint for some women in some places. It is a cost the economy bears. It is not the sole cause.

Two things would settle the size of the effect: studies that vary safety for comparable women and track what they do, and local data on who stays home and why. Several such studies exist. I have not reviewed them for this draft, so I cite none. On this point the honest summary is that I have a mechanism and consistent patterns, and thin quantified evidence in this paper.

Objection two: the numbers are disputed

Which participation number? The answer changes the story.

The ILO modelled series, which I use for cross-country comparison, puts India's female participation at 34.9% in 2005, 26.5% in 2019 and 32.4% in 2025. India's own national estimate in the same World Bank database reads 37.1% in 2005, 24.0% in 2019 and 34.0% in 2025 (Figure VIII.1).[3]

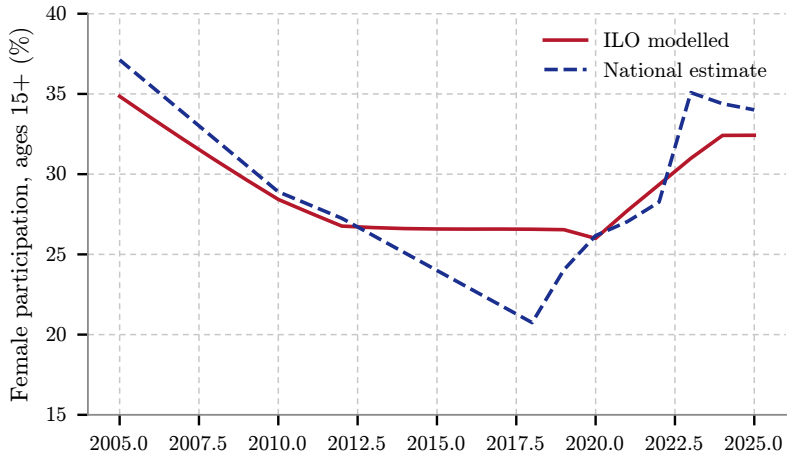


Figure VIII.1. India, female participation, ages 15+, 2005–2025: ILO modelled estimate against national estimate. World Bank WDI. Source (measured, with the ILO series modelled)

Look at the gap. The national series falls further, to 20.7% in 2018, and rebounds harder, to 35.1% in 2023. The modelled series is smoother and moves less.

[3] World Bank WDI, series SL.TLF.CACT.FE.ZS (ILO modelled) and SL.TLF.CACT.FE.NE.ZS (national estimate), accessed 7 October 2026.

I read this as follows. Both agree on the shape: a long fall, then a recovery since about 2019. They disagree on the size. The national figure is noisier because survey methods changed over the period, and I have not audited those changes. I will not claim which series is right. What I say is that the cross-country gap does not depend on the choice. Even on the more generous national figure of 34.0% for 2025, India sits far below Vietnam and China, whose ILO modelled figures were 68.9% and 59.4% in 2024.[4]

[4] World Bank WDI, ILO modelled estimates, 2024. This compares a national figure for India with modelled figures for the others, which is not like for like; I use it only to show the gap is large under either series.

What this objection gets right is a warning for the whole paper. Any claim about India's *change* in participation over a few years is fragile. Any claim about the *level* compared with peers is much sturdier. I lean on the second kind.

Counting is also a problem inside the definition. Much of women's work is unpaid work on family farms, in family businesses and at home. Surveys can miss or undercount it, depending on how the question is asked. A woman counted as out of the labour force may be working all day. That makes the missing income smaller than the headline gap suggests if the missing work was already happening unpaid, and I flag it as a reason to read my model figures as ceilings.

Objection three: the rise is distress, not progress

Participation has risen since 2019. If the cause is that families are poorer and need every pair of hands, the rise is not good news and has nothing to do with safety.

There is something in this. Look at the sector mix (Figure VIII.2). The share of Indian women's employment in agriculture fell from 68.9% in 2005 to 51.1% in 2018, a long move off the land. It then reversed, reaching 59.8% in 2025.[5]

[5] World Bank WDI, series SL.AGR.EMPL.FE.ZS, ILO modelled estimates, accessed 7 October 2026.

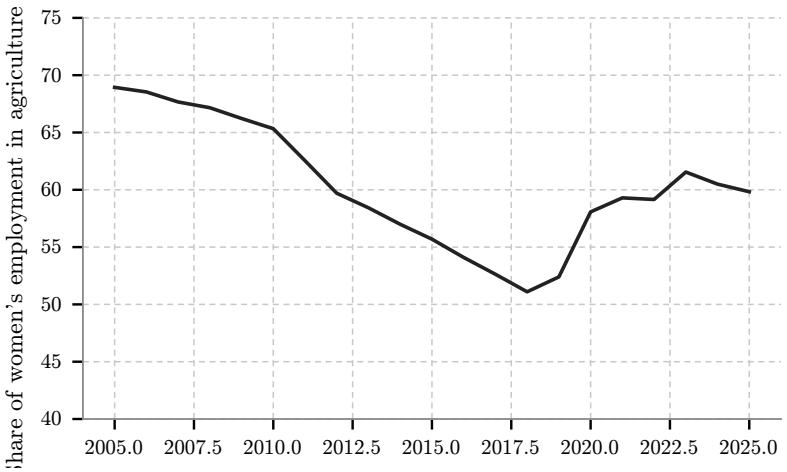


Figure VIII.2. India, share of women's employment in agriculture, 2005–2025. World Bank WDI, ILO modelled estimates. Source (modelled)

So the recent rise in women at work coincides with women moving back toward farm work, in the years that include the pandemic. That is what you would expect if a good part of the rise is self-employment and unpaid family work taken up when other jobs were scarce. I treat it as consistent with the distress reading. It does not prove it: the series is modelled, farm work is not by definition distress, and I have no verified data in this paper on earnings or hours.

Why this does not sink the safety argument. First, the safety claim does not depend on the recent rise. It rests on the level and on the long gap with peers. Second, distress entry is itself a piece of evidence about what women are doing instead. When women enter work because they must, they take what is nearest, often on the family plot or near the home. Where a safe commute to a better job exists, the same need could produce a better outcome. That is a hypothesis, not a finding, and I label it so.

What I concede is the point about interpretation. A higher participation rate is not automatically a higher living standard. A policy that lifted the number by pushing women into low-paid work would deserve no credit. The target is not the headline rate but the share of women in work they chose, that pays, and that they can reach safely.

Objection four: safety measures can backfire

The fourth objection is the one I take most seriously, because it is about what I would ask the state to do.

The worry is simple. Many measures sold as protecting women restrict them. Curfews on women, bans on night work, separate and limited hours, and rules that make employers liable for women's safety can all make a woman a more costly hire or a more tightly supervised one. Families hear that the world is dangerous and keep daughters closer. Employers who must provide transport or escorts may prefer to hire men. The protection is paid for by the woman, in the job she never gets.

I think this is correct as a risk, and I do not have verified numbers in this paper to size it for India. I will not invent them. The logic is sound enough to shape the policy: a safety rule that works by limiting women's movement is a cost, not a cure. It treats the woman as the problem. The test of any measure is whether it changes the risk or only changes who is allowed to face it.

So the paper's argument cuts both ways. The cost of an unsafe street is lost income, and the cost of a badly designed safety rule is the same

lost income, with the added insult of being called protection. That is why I frame the goal as making the street, the vehicle and the workplace safe, not as keeping women off them.

What a serious policy would do

Taking all four objections at face value, the shape of a sensible policy follows. I list principles, not costings, because I have no verified costs to offer.

- **Change the environment, not the woman.** Lighting, transit that runs when shifts end, safe stops, reliable complaint channels. Measures that make a place safer for everyone serve women without limiting them.
- **Pair safety with jobs and care.** A safe commute helps only if there is a job at the end of it. Childcare and elder care that women can trust matter as much as the road. These policies belong together.
- **Never restrict as protection.** No curfews on women, no blanket bans on night work. If a sector has real risks, put the duty on the employer and the system, not on the woman's freedom.
- **Measure honestly.** Publish both participation series with their method changes, report earnings and hours alongside the headline rate, and run pilots that compare comparable women with and without a safety change. Evaluate each before scaling.
- **Judge by quality of work.** The goal is paid work women choose. A rise that comes from distress is not a success, and the metric should say so.

None of this needs the safety share of the gap to be known in advance. It needs only that safety is one real constraint among several, and that removing it is worth doing for its own sake.

Conclusion

Here is where I land after the strongest objections.

India's women are in paid work at 32.4% on the ILO measure, or 34.0% on the national one, against 77.6% for men and far higher rates in comparable countries. That gap does not go away under any choice of series. The country forgoes income because of it. The size of that income, the share due to safety, and the effect of the recent rise on welfare are all open, and I have said so each time.

What survives is a narrower and sturdier claim than the one an advocate would like. Safety is a real cost that women and the economy both pay. It acts through jobs, norms and care, not apart from them. The remedy is a safer world, not a smaller one for women. And any figure on the size of the prize should be treated as a ceiling until the causal studies and cost estimates are added.

That is a smaller claim than the headline, and I would sooner defend it.