
Social Norms and Gender Disparities with a Focus on Female Labor Force Participation in South Asia

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Despite decades of economic growth, gender disparities in South Asia remain remarkably high. Although not the only one, social norms are a crucial driver of various gender outcomes, including differential economic participation. Using repeated cross-sectional data from nationally representative surveys, this study explores long-term trends across gender outcomes and social norms (contrasting attitudes and social normative expectations towards gender roles) in South Asia. The results corroborate the evidence that there has been almost no progress in gender disparities in South Asia over the past half-century. There has been little progress in female labor force participation, age at first birth, agency, and intimate partner violence, while (basic) education is an important exception. The lack of progress is apparent among all layers of society, including women who live in urban areas, are educated, and have higher incomes. Gender attitudes also remain unchanged, while for some issues, they have become more conservative and have a negative relationship with gender outcomes. This negative relationship is even stronger when social normative expectations are considered. More data on social norms and a better understanding of their constraining role may be critical for achieving gender equality in the region.

JEL Codes: J16, J21, O15

Keywords: social norms, women's empowerment, female labor force participation, South Asia.

Introduction

Gender disparities across a variety of dimensions of wellbeing, education, economic participation, health, access to assets, services, and voice have been highlighted as key

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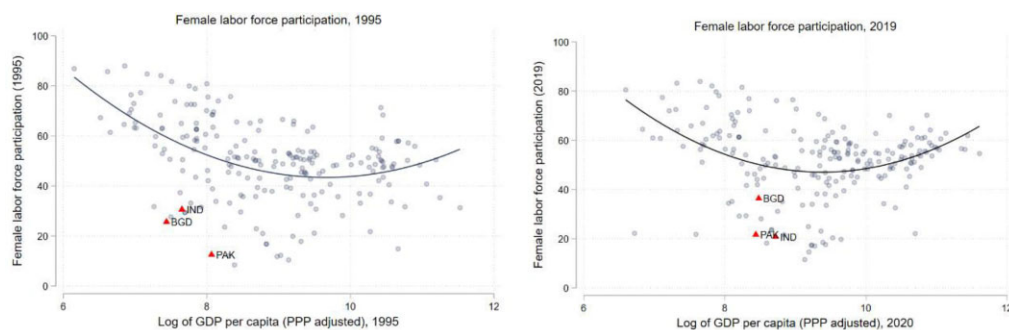
features of inequality and poverty in the South Asia region (Alkire and Santos 2014; Vijaya et al. 2014; Klasen and Lahoti 2021). Although progress has been achieved in several of these dimensions, gender disparities persist in some areas. A major area of concern is the low female labor force participation (FLFP) in the region. Notwithstanding some within-region differences, FLFP rates in South Asia remain below all other world regions, apart from the Middle East and North Africa, by a large margin (at 23.6 and 19.8 percent, respectively, for 2019)¹ and have remained broadly unchanged since 2001 (Najeeb et al. 2020).

The theoretical and empirical literature consistently recognizes social norms as a key driver of various gender outcomes (Heise 1998; World Bank 2012; MuñozBoudet et al. 2013; Verick 2014; Weber et al. 2019). A recent review by Jayachandran (2021) illustrates how norms act as a barrier to women's employment and how they offset the impact of various policies aimed at increasing women's employment. By placing restrictions on women's mobility, control over finances, roles within the household, and attitudes around gender-based violence, social norms make it harder for women to participate and thrive in the labor market. Other studies have confirmed this to be true in the specific context of South Asia (Bridges et al. 2011; Amir et al. 2018; Bernhardt et al. 2018; Heintz et al. 2018; Klasen 2019).

Persistently restrictive social norms may explain why, in the past two decades, FLFP has continued to be low in the region despite significant gains in GDP growth, women's educational attainment, and total fertility rate, factors typically associated with improvements in women's economic participation (Goldin 1995; Mammen and Paxson 2000; Verick 2014). Indeed, trends observed in South Asia also do not conform to the traditionally hypothesized U-shaped relationship between economic development and FLFP, as FLFP rates are much lower than in other countries with the same level of GDP per capita (Boserup 1970; Durand 1975; Goldin 1995). Figure 1 illustrates this using two time periods: 1995 and 2020. FLFP in South Asian countries (Bangladesh, India and Pakistan are highlighted) falls substantially below the U-shaped curve, i.e., below the employment rates of countries at the same level of GDP per capita. In addition and in contrast with India and Pakistan, only Bangladesh seems to have moved closer to the U-curve when its position of 2020 is contrasted with that of 1995.

Social norms often influence behavior in combination with or through interactions between households, markets, and formal and informal institutions (World Bank 2012). To understand how gender inequality evolves, it is therefore important to look at changes over time in various macro- and micro-level variables that influence gender outcomes and their relationship with norms and attitudes. At the macro level, these variables include the sectoral structure of an economy and the types of opportunities it generates (Lopez-Acevedo and Robertson 2016; Mani et al. 2020), large infrastructure investments (Samad and Zhang 2016), and formal institutions, such as laws (Gonzales et al. 2015). At the micro level, the literature points to several

Figure 1. The U-shape Relationship between FLFP and Economic Growth



Source: WDI (modeled ILO estimate for FLFP rate). Left graph includes 210 countries and right graph includes 215 countries. Graphs plot the quadratic fit of the two variables. GDP per capita is PPP adjusted at constant 2017 international USD. Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period.

supply-side factors, including lifecycle events such as educational attainment, age of marriage, and age of first birth (Parsons et al. 2015). Women’s agency within the household (Kabeer 1999; Rahman and Islam 2013; Klasen and Pieters 2015; Afridi et al. 2018) is also affected by social norms. These can restrict the decision-making power of women about their participation in economic activities, the realization of their desired fertility, and timing of first birth after marriage. Limited agency can also correlate with intimate partner violence (IPV) experience (Kabeer 1999; World Bank 2012; Jayachandran 2021).

Despite the wide recognition of social norms as an important determinant of gender inequality, the evolution of these norms has not been adequately examined or measured. While norms around various dimensions of gender have been explored in isolation in specific geographical contexts,² the literature is still scant, relying generally on attitudes, or personal beliefs,³ about gender roles. Researchers (Mackie et al. 2015; Cislighi and Heise 2018) have pointed out that social norms are different from personal beliefs and that the core difference is in how they influence behavior. Personal beliefs or attitudes regulate behavior from an *internal* motivation or conviction, while social norms rely on the *external* influence of others. Social norms are informal rules of behavior that dictate what is acceptable or appropriate in a given situation within a given social context (Bicchieri 2006; Cislighi and Heise 2019). Two “external” components need to be measured to fully capture social norms: the first, labeled social empirical expectation, is the perception of how typical a behavior is within a particular reference group; and the second, labeled social normative expectation, is the perception of what people in the reference group think the correct behavior *should be* (Cialdini et al. 1991; Bicchieri 2006). Both these components are different from personal (factual or normative) beliefs, which do not rely on a social context, namely on perceptions about others’ beliefs.

This study attempts to understand the persistence of gender inequality in South Asia by exploring trends in gender outcomes and related attitude variables. Using large-scale, cross-country data over multiple time periods, we provide a long-term, regional view of these trends. Using a cohort analysis approach, we unpack what has changed and what has remained stagnant. In addition, we use the global survey “Gender Equality at Home” which provides data on social norms. This survey, conducted in 2020 and 2021, covers 208 countries including 6 countries in South Asia and measures both personal beliefs and social normative expectations toward gender equality.⁴

Our analysis documents five stylized facts on gender outcomes, gender attitudes, and social norms in South Asia. *First*, South Asian women born across half a century have experienced little progress, or have even experienced regression, in terms of a series of norms-sensitive outcomes, such as labor force participation, age at first birth, agency, and IPV; a key exception that we document has been education. Even if not examined in this paper, we acknowledge improvements in other areas such as in health: fertility has reduced, mortality rates have been equalizing and girls seem to have been doing slightly better than boys in terms of nutrition. *Second*, economic development had almost no impact on progress. This comes in contrast to what would be expected after decades of strong economic growth in the region. As countries develop, gender disparities should decrease, but this is not the case. In fact, the stagnation of gender outcomes is quite widespread and applies to women living in urban areas, who are educated, and have higher incomes. *Third*, gender attitudes—often conservative—have not changed or have become even more conservative for men and women born across that same period. These gender attitudes involve views on a woman’s right to a job, higher education, contributing to household income, and childbearing. This extends even to acceptance of violence, with a slightly increasing trend in justification of IPV. This stability of conservative attitudes is indicative of the persistence of social norms, even as incomplete and noisy proxies. *Fourth*, a negative relationship exists between these conservative gender attitudes and their respective gender outcomes. Although this is not a causal relationship, their interdependence is important to note, given the difficulty in explaining the lack of progress in gender outcomes in the region. *Fifth*, countries with more restrictive social norms tend to have lower female labor force participation and, even after controlling for the level of GDP per capita, social norms (social normative expectations) have a correlation with FLFP that is higher than that of attitudes (or personal beliefs). This highlights the stronger pressure of social norms on behavior. The social context in which individuals live, work, and socialize matters. It is thus important to expand our efforts in collecting data on social norms.

The remainder of the paper is organized as follows. Section 2 discusses the related literature on social norms and women’s outcomes focusing on South Asia. Section 3 describes the secondary data sources used to explore these trends in the region, while

Section 4 outlines the methods used to analyze them. In Section 5, we present the five stylized facts and discuss their implications. Finally, Section 6 concludes.

Literature Review

Women's economic participation is influenced by several factors operating at different levels—from the macro to the individual. While there are both demand and supply-side factors that may predict and determine women's labor force participation and employment outcomes, we focus primarily on barriers on the supply-side, especially those that interact strongly with social norms to influence FLFP.⁵

Many studies argue that gender norms are behind the low levels of women's economic participation (Bridges et al. 2011; Fernández 2013; Giuliano 2017).⁶ The literature focused on South Asia, while it comprises relatively small-scale and country-specific studies, also converges on emphasizing that social norms are one of the key drivers of low FLFP in the region. In India, Deshpande and Kabeer (2021) find that detrimental social norms, which reinforce expectations of women being primarily responsible for household chores, lower women's probability of employment.⁷ Analysis of national household survey data in Bangladesh reveals a strong correlation between a conservative outlook (as indicated by wearing a *burqa* or veil) and a lower probability of female employment (Ahmed and Sen 2018). Another study in Madhya Pradesh finds that men's perceptions about community norms against FLFP are predictive of their spouse's employment status, suggesting that husbands, and their concern for their own reputation, may act as a conduit for social norms to affect women's labor force participation (Bernhardt et al. 2018). Men's own support for FLFP has also been found to be more predictive of women's labor force participation in their household in Pakistan than women's own opinions (Amir et al. 2018).

Social norms also influence FLFP via other micro-level indicators that are associated with women's employment. Education is frequently cited as one of the strongest determinants of FLFP (Heath and Jayachandran 2017). However, social norms can affect both decisions regarding girls' education and its ability to influence employment outcomes of women. For example, in Nepal, Vogel and Korinek (2012) find that households are more willing to invest in boys' than girls' education based on norms about their role in society. Another study in Pakistan (Sawada and Lokshin 2009) finds that lack of (local) schools affects female education more strongly than male education but also that sociocultural factors, such as the risk of violating the *purdah* if girls have to go far from home to reach a distant school, exacerbate the constraint of lack of schools (or absence of female teachers). In Sri Lanka, Malhotra and DeGraff (1997), as well as Gunatilaka (2013), find that the labor market behavior of educated young women is shaped by family expectations about their role as daughters in the household, cultural differences in the acceptability of young women working, marital status, and more.

Women's employment outcomes are also closely linked to key lifecycle events such as the age of marriage and the age of first birth, which are barriers to employment. Early marriage, a practice that strongly depends on collective arrangements and preferences derived from social norms (Greene and Stiefvater 2019), can limit women's access to education (Field and Ambrus 2008; Delprato et al. 2015), limiting future employment opportunities, and lead to early childbearing, which further restricts their ability to participate in employment (Parsons et al. 2015). Similarly, spousal age gaps that normally accompany early marriage, education gaps, and others have been associated with different outcomes for women.⁸ Across the world, entrenched gender norms around women's role within the household create expectations for women to be responsible for household chores and child-rearing, often irrespective of their employment status (Bittman et al. 2003; Sayer 2005). In South Asia, where early marriage, arranged marriage, within-kin marriage, large spousal age gaps, and other practices are still prevalent, women face additional normative pressures once married. In some cases, women are expected to have children soon after getting married to prove their value (Scott et al. 2021), for example, by birthing sons (Mitra 2014; Javed and Mughal 2019). Adding to marriage and childbearing, the added expectations around domestic responsibilities women face, and the low availability of childcare options, women in the South Asia region often face insurmountable barriers in pursuing employment due to conflicting demands on their time after marriage (Kantor 2009). For example, a cohort analysis of barriers to FLFP in Pakistan finds that household and childcare responsibilities are frequently attributed as a reason for women's absence from the labor force. This trend has remained mostly unchanged in the 15-year period since 1999 (Amir et al. 2018).

Women's ability and voice in decision-making within the household, and the social norms, such as expected gender roles, that regulate it, have implications beyond childbearing. These include women's mobility (Jejeebhoy and Sathar 2001; Kantor 2002) when norms bound women to limited access to means of transport, or limited ability to leave their homes; their ability to build their capabilities and access economic opportunities (Kabeer 1999; Rahman and Islam 2013; Afridi et al. 2018), and their experience of IPV when participating in the labor market or earning an income (Krishnan et al. 2010; Weitzman 2014; Raj et al. 2018).

In sum, the literature has emphasized the important role of social norms in affecting women's decisions and choices across several domains. Yet, the links between social norms, gender disparities, and economic development are complex. For example, Heath and Mobarak (2015) show that, in Bangladesh, the growth of the garment sector has supported women's employment and mobility in cities. At the same time, social norms in support of child marriage have not changed and so this remains a widespread practice in Bangladesh, despite legal frameworks against it (Male and Wodon 2016) or cash transfers targeted to adolescent girls (Hahn et al. 2018).⁹ More generally, Schultz (2010) argued that returns to education can

contribute to improved health outcomes by improving women and their families' childcare even if the women may not enter the labor force. Advancements in some domains and lack of progress in others illustrate the complex links between social norms and gender outcomes. As mentioned at the outset, better data on social norms and on sources of exogenous change in them should enable teasing out these complex linkages in future research.

Data

To explore the relation between social norms and women's outcomes in South Asia and whether, with time, this relation has changed, we searched for sources of data on both gender outcomes and gender attitudes that were available for more than a single year. While most countries in South Asia have several waves of comprehensive household surveys, the combination of outcome and attitude variables is not common in any single survey. After examining multiple data sources, we decided to use nationally representative data from the Demographic and Health Surveys (DHS) and the World Value Survey (WVS) for Bangladesh, India, and Pakistan. As mentioned in the introduction, we also used data on social norms from the survey on "Gender Equality at Home." This survey collects data on both personal beliefs (attitudes) and social normative expectations about gender roles allowing to assess their differential correlation with gender outcomes. The main disadvantage is that, since we can only use the data of 2020, it is only possible to assess the correlation of norms and outcomes in a cross-country static approach.

For the DHS and WVS datasets, we proceeded to identify gender outcomes and attitudes that were more likely to be related with each other. We adopted an iterative process similar to that of previous studies aimed at identifying empowerment determinants (Malhotra et al. 2002). Guided by the literature on agency and empowerment, and publications on social and gender norms, we considered a set of variables repeatedly being classified as related to social norms. We then looked at how these specific variables had been used in the literature i.e., whether as an outcome or as explanatory variables, or as proxies of social norms. The literature tends to classify variables as proxies for social norms when such variables are closer to beliefs or opinions, for example, acceptance of wife-beating, or intensity of preference for sons. Similarly, variables are classified as outcomes when they report the occurrence or frequency of a behavior, for example, incidence of IPV, or fertility. Again, the literature on women's empowerment and agency provides some guidance on which outcome is more likely to be influenced by social norms and which appear to be more independent from social norms. The final list of variables selected from the DHS and WVS distinguishes these variables in two groups: "gender norm-influenced outcomes" and "gender-normative attitudes."

Table 1. Summary of Findings: Some Improvements but Trends Have Been Mostly Stagnant or Regressive

Variable	Bangladesh	India	Pakistan
Employment (% working)	47.7%	24.0%	17.3%
Decadal change (percentage points)	1.6	−4.1	0.3
Education (yrs. of education)	5.6	6.9	4.4
Decadal change (months)	14.5	15.0	11.5
Age at first birth (yrs.)	18.0	20.3	21.3
Decadal change (months)	2.2	1.8	−3.6
Agency (% having say in 1 or more decisions)	88.1%	84.0%	60.6%
Decadal change (percentage points)	−1.4	−2.1	−12.8
IPV experience (% reporting)	12.1%	5.8%	4.0%
Decadal change (percentage points)	0.0	−0.1	0.2

Source: DHS rounds.

Note: For each outcome variable, the table reports two rows of numbers. The first row represents the most recent level of the variable, and the second row shows the decadal changes. The levels, in the first rows, are calculated as averages across the full DHS population (i.e., 15 to 50-year-old ever married women), and for the most recent survey year; for Bangladesh (BGD) it is 2017/18, for India (IND) it is 2015/16, and for Pakistan (PAK) it is 2017/2018. The IPV value for Bangladesh is for 2007, as it is the only year for which IPV experience was collected. The decadal changes, in the second row of each variable, are calculated as the difference between two numbers—the average for a recent cohort (mostly women born in 1990) minus the average calculated for an early cohort (mostly women born in 1950)—divided by four (the number of decades between 1950 and 1990). Depending on the variable, the decadal change is expressed in percentage points or months. There are some exceptions to the birth years used for the calculations of the decadal change: 1950 and 1970 are used to calculate the decadal change in fertility outcome, and 1970 and 1990 for IPV justification. For Pakistan, 1970 and 1990 are used to calculate the decadal change in IPV justification.

This final list (see [tables 1](#) and [2](#)) includes five outcomes and five related attitudes. A first set of outcomes deals with women's economic engagement: employment, education, and woman's age at first birth. Note that these three indicators are interrelated. For example, age at first birth, as well as age of marriage, are often used in the literature as variables influencing labor force participation. The next set of outcomes relate to intra-household power and negotiation: agency and incidence of IPV. As discussed above, some of these outcomes have a more direct link with social norms, such as incidence of IPV, while others, such as educational achievements, are determined by multiple factors, and their links with social norms may be less direct. The list of five subjective attitudes around gender includes: gender attitudes towards economic participation of women, their education, economic empowerment, women's aspirations and roles (fertility preferences), and justification of IPV. The [supplementary online appendix S.1](#) provides more detail on the data sources and the variables used. In the working paper version of this article ([Bussolo et al. 2022](#)) we explored a wider set of gender outcomes (some presented in [Supplementary Online Appendix S.6](#)), examining also Afghanistan, Maldives, and Nepal, which we exclude here due to the lack of the respective attitude variables.

Table 2. Summary Table of Cohort Trend for Attitude Variables (from World Values Surveys)

Variable (percent of men and women who agree)	Bangladesh	India	Pakistan
When jobs are scarce, men have more right to a job (%)	83.2%	68.9%	92.2%
Decadal change (percentage points)	5.1	3.5	0.5
University education is more important for a boy than for a girl (%)	45.2%	38.0%	61.0%
Decadal change (percentage points)	1.1	−0.2	−1.8
Both partner/spouses should contribute to household income (%)	12.3%	15.8%	27.8%
Decadal change (percentage points)	−7.0	−4.4	−15.3
A woman has to have children to be fulfilled (%)	98.1%	85.3%	98.1%
Decadal change (percentage points)	2.3	−2.5	1.7
IPV justification (% justifying)	20.1%	7.7%	41.1%
Decadal change (percentage points)	7.7	−1.6	8.8

Source: WVS rounds.

Note: For each question proxying an attitude or belief, the table reports two rows of numbers. The first row represents the most recent level of the variable, and the second row shows the decadal changes. The levels, in the first rows, are calculated as averages across men and women respondents aged 15 to 50 years, and for the most recent survey year; for Bangladesh it is 2018 for “jobs for men” and “university education for boys,” and 2002 for “contributions to household income” and “women and children;” for India it is 2012 for the first and second variable, and 2001 for the third and fourth variable; and for Pakistan it is 2018 for the first and second variables and 2001 for the third and fourth variables. The decadal changes, in the second rows, are calculated as the difference between two numbers—the average for a recent cohort (*mostly* people born in 1990) minus the average calculated for an early cohort (*mostly* people born in 1950)—divided by four (the number of decades between 1950 and 1990). The exceptions are as follows: for Bangladesh and India the 1950 and 1980 years of birth are used to calculate the decadal change for “contributions to household income” and for “women and children.” For Pakistan, the 1950 and 1980 years of birth are used to calculate the decadal change for “contributions to household income” while the 1955 and 1975 years of birth are used in the case of “women and children.”

In the case of the gender equality at home survey, we focused on two sets of variables characterizing social norms about gender roles and likely to influence FLFP. The first set of variables assesses the social norm “female homemaker” using the responses to two questions: (a) how much do you agree or disagree with the following statement? “Woman’s most important role is to take care of her home and children;” and (b) out of 10 of your neighbors, how many do you think believe that a woman’s most important role is to take care of her home and children? The second set of variables assesses the social norm “male breadwinner” through the responses to two questions: (a) how much do you agree or disagree with the following statement? “Household expenses are the responsibility of the man, even if his wife can help him;” and (b) out of 10 of your neighbors, how many do you think believe that household expenses are the responsibility of the man, even if his wife can help him? Respondents answer the first questions about their personal beliefs according a five-point Likert scale which includes: agree strongly, agree, neutral, disagree, disagree strongly. The share, in a specific country, of those who agree or strongly agree represents the quantitative measure of the personal beliefs about each of the two gender

roles in that country. Correspondingly, social normative expectations are calculated as the share of neighbors out of 10 that respondents believe agree with the normative statements.

Methods

Pseudo-panel from Repeated Cross-sections

Using repeated cross-sections from the DHS and the WVS, we create pseudo panels, where individuals from specific birth cohorts are followed as they age. Using these pseudo panels allows us to net out the age effect and thus compare relevant outcomes across generations (or cohorts) born more than 50 years apart. This “netting out” of the age effect is however affected by two issues. The first is that the size for some groups (people born in a certain period and observed at a certain age range) can be relatively small. This means that the estimation of the age and cohort effects, in some cases, uses only a small number of observations, and might be less precise (Verbeek and Nijman 1992). This small size issue is common for the earliest and most recent cohorts. The second related issue is that the full lifecycle—or at least the period from age 15 to 49—is observed only for some cohorts, those born between the 1960s and 1980s, but not for the earliest and most recent cohorts. This means that the lifetime employment rate (the average employment rate of a cohort during its lifetime) is biased for the earliest and the most recent cohorts. Older people are over-represented for the earliest 1940s cohorts, and younger people are over-represented for the most recent 1990s cohorts. This is because the earliest surveys for the DHS are in the 1990s, so we can observe people who were born in the 1940s only when they are about 50 years old, but we have no information about them when they were younger because we do not have surveys fielded before the 1990s. Conversely, since the most recent DHS surveys were collecting data around 2015, we can observe cohorts who were born in the 1990s only when they are about 25 years old or younger, but not when they become older.

Two Types of Variables: With and Without Age Profiles

The first issue (small sample size for certain groups) means that the estimates for the employment rate or other outcome variables for the earliest and most recent cohorts (and ages) should be taken with a grain of salt. In fact, when summarizing the long-term evolution of women’s economic engagement and other outcomes we drop some of the earliest and latest cohorts, restricting our analysis to the cohorts born between 1950 and 1990 (see [table 1](#) footnote for details).

The second issue (not observing the full lifecycle) is dealt with differently for different types of outcomes. Outcomes such as the age at first marriage, or the years

of education, do not change after a certain age. In fact, all variables relating to a specific event that can happen only once, or at least that happens before a certain age, do not have an ‘age profile’ and therefore the mentioned bias does not affect the time trend observed across cohorts, even if the cohorts are observed at different ages. However, employment, agency and IPV do have age profiles and thus, changes across cohorts need to be assessed when cohorts are of the same age. The [supplementary online appendix S.2](#) contains an illustration of this issue for the two types of outcomes.

Heterogeneity Analysis

While the described methods so far relate to the “average” woman in the countries of the region, there is potentially quite a bit of dispersion around this average, and to capture this heterogeneity we analyze different groups of women separately. The groups are formed according to the level of education, wealth quintiles, and rural versus urban location. This heterogeneity analysis is based on the following regression specification:

$$\text{Outcome}_{i,r,y} = \sum_{q=2}^5 \varphi_q W_{iry} * Yob_{i,r,y} + \beta_1 Yob_{i,r,y} * U_{i,r,y} + \beta_2 Yob_{i,r,y} * E_{i,r,y} \\ + \sum_{q=2}^5 \theta_q W_{iry} + \beta_3 U_{i,r,y} + \beta_4 E_{i,r,y} + \gamma_y + \rho_r + \varepsilon_{i,r,y}$$

where “Outcome,” the dependent variable, refers to the series of norms-sensitive outcomes; *Yob* is the year of birth and is a continuous variable ranging between early 1940s to late 1990s, *W* is wealth group (in quintiles), *U* is a dummy indicating urban location, and *E* a dummy variable representing higher education level (secondary or tertiary);¹⁰ and γ and ρ are year of birth and region fixed effects; and “i,” “r” and “y” are indexes for the individual, the region and the year of birth. Our focus will be on the marginal effects of education, location, and wealth. This allows us to identify whether the trends across cohorts are different for women who are richer, more educated, or live in urban areas.

Results

Stylized Fact 1: Outcomes—in Terms of Economic Engagement and Intra-household Power—of South Asia Women Born Across Half a Century Remain Stagnant and, in Some Cases, Regressed

The main result from analyzing a large set of norms-sensitive outcomes for women is that their improvement has been mostly elusive. We assessed outcomes in various

domains and across cohorts spanning half a century, as we start our analysis for generations of women born in the 1940s. The lack of progress on some indicators over such a long time, and especially during the more recent decades of strong economic growth, is notable. The result of our analysis is summarized in [table 1](#) for all three South Asian countries considered in the study.

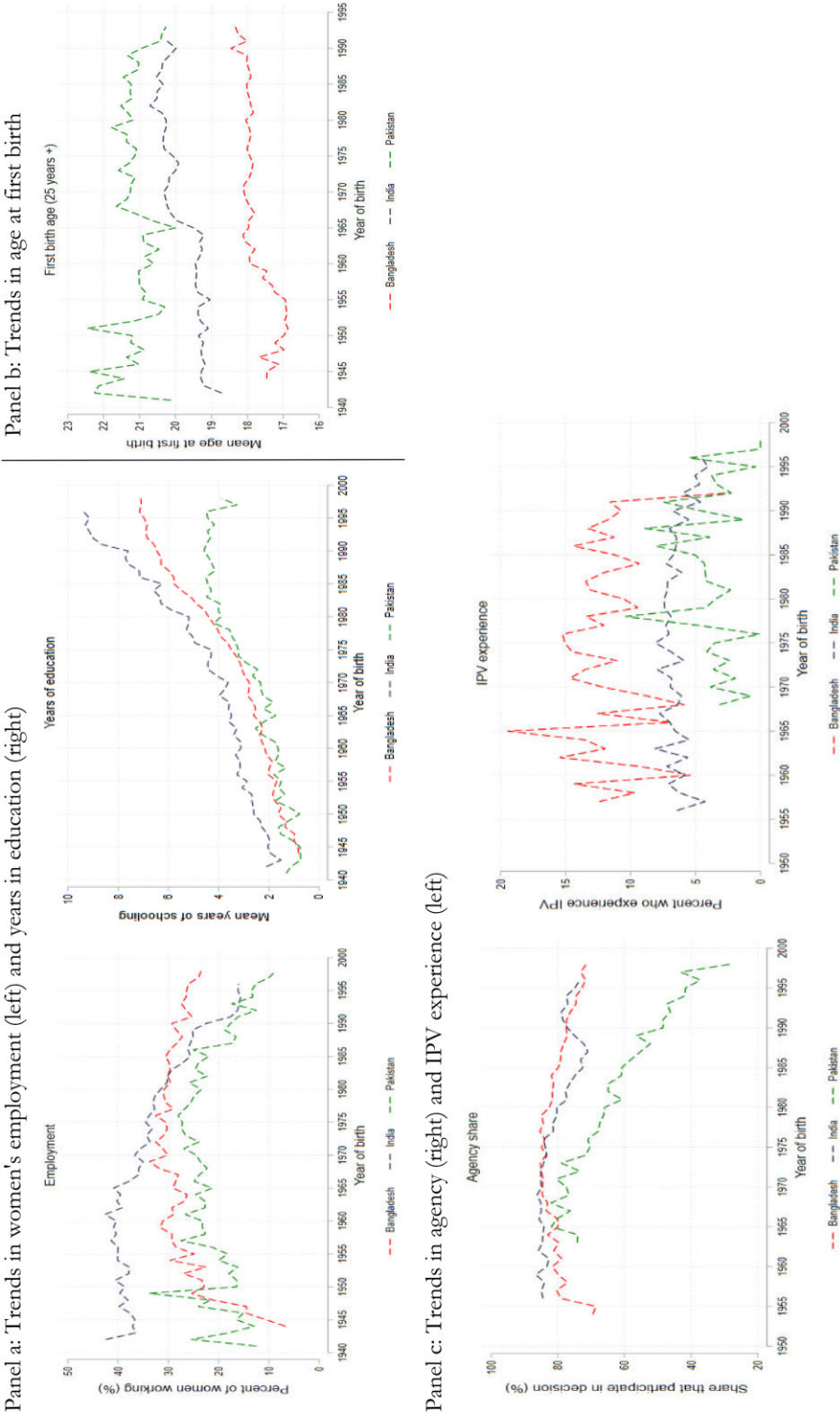
[Table 1](#) summarizes results that are shown in more detail in [fig. 2](#). These figures show the time evolution of the outcome variables—or, more precisely, how these variables have changed for the *average* women across cohorts—while [table 1](#) shows the decadal average change in these variables comparing cohorts born in 1950 to cohorts born forty years later, in 1990. To provide a reference point, [table 1](#) also reports the value for the different variables calculated for the full population, not just a specific cohort, from the most recent survey. For example, looking at the column for Bangladesh, the percentage of women working in 2017/18 was 48 percent, as shown in the first row. The average employment rate for women born in the 1950s was about 22.8 percent and this increased to 29.3 percent for women born in the 1990s. The cumulative change between these two cohorts is 6.5 percentage points, and the average decadal change is thus 1.6 percentage points. In short, employment for women in Bangladesh increased on average less than 2 percentage points during each of the decades that separate the generations of women born in the 1950s from those born in the 1990s. Decadal changes for the other variables are calculated in the same way.

In terms of women's employment, India's share of women employed shrunk by 4 percentage points per decade, and while Bangladesh and Pakistan had a positive decadal change, this was close to zero, and can be interpreted as a stagnation. Changes in education are expressed in number of additional months of education accumulated during each decade. This is the only outcome—among those considered here¹¹—showing improvements, ranging between 11 months and 15 months each decade. Consider next the age at first birth. Changes are measured in number of months to be added (or subtracted) for each decade to the average age at which women gave birth to their first child. Almost no improvement is recorded for this outcome. For agency and experience of IPV, changes are expressed as percentage points. Again, there has been no improvement in this group of outcomes.

The trends across cohorts for all five norm-sensitive outcomes are discussed below in more detail.

Employment and Education. Low female labor force participation is a crucial concern for the South Asia region both in terms of its implications for gender equality and for overall economic growth. In 2019, women's labor force participation in the region stood at 25 percent while for men it was 80.5 percent (WDI). Against a background of strong economic growth and increased levels of education, economic participation has not changed significantly in the region among women born across over 50 years. [Figure 2](#) (left of panel a) shows that women born in recent years are *not*

Figure 2. Gender-related Outcomes



Source: DHS rounds.

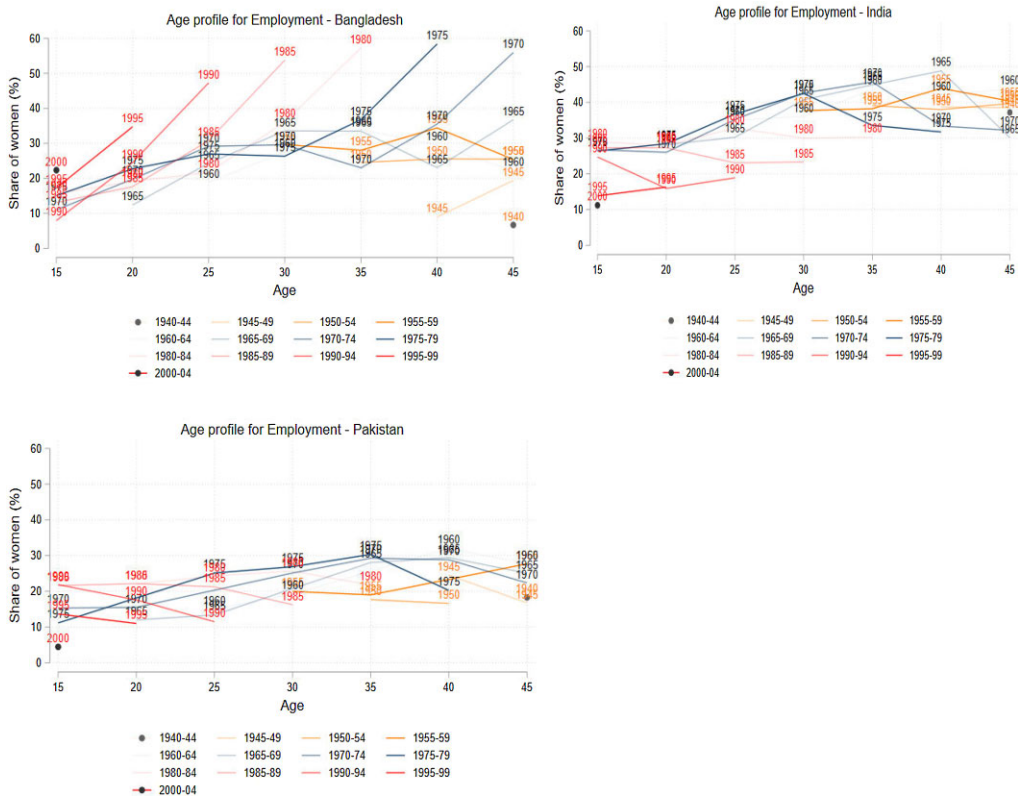
Figure 2. (Continued.) Note: These graphs measure the mean value of each variable for each cohort. Employment/Education: The left graph of panel a measures on the vertical axis the share of working women born in a birth year. The right graph of panel a plots on the vertical axis the mean years of education for women born in a birth year. Age at first birth: The graph of panel b measures on the vertical axis the mean age at first birth for women born in each year. Agency: the left graph of panel c measures on the vertical axis the percentage of women within each birth year that have a say in at least one of the decisions within the household. IPV experience: the right graph of panel c measures the percent of women born in each year who experience intimate partner violence.

participating in the labor market significantly more than women of older generations. In fact, for India and Pakistan, there has been some reduction in the share of working women among cohorts born more recently. For a cohort born in 1970, the share of working women was 30 percent, 37 percent, and 24 percent in Bangladesh, India, and Pakistan, respectively. For cohorts born in 1995, these shares shrink significantly by 15, and 11 percentage points in India and Pakistan, respectively. Bangladesh appears to be a slight exception as women born in the 1940s and early 1950s are less employed than women born afterwards compared to the other two countries. However, the share of working women born in the most recent cohort (1998 cohorts), 23.5 percent, remains at quite a low level in Bangladesh too. This persistently low share of employment places South Asia off the empirical regularity of the U-curve linking female employment and level of development, as shown in [fig. 1](#).

As discussed in the methods section, the comparison of employment shares across these cohorts does not provide an accurate picture of the long-term trend as mainly older women are represented in the 1940s cohorts, while mainly younger ones are found in the 1990s cohorts. Comparing different cohorts at the same age eliminates this age composition bias. This more accurate comparison is graphically shown in [fig. 3](#), using the same data as in [fig. 2](#). In this figure, the dots represent the shares of working women calculated for each cohort in each of the years in which a survey is available. The lines connect the dots that belong to the same cohorts as they age. For easier interpretation, we group cohorts from different decades by color.

The typical inverted “U” lifecycle profile for employment, with the middle part of the lifecycle with the highest participation, is discernable in [fig. 3](#). For example, looking at the cohort of women who were born in 1970–74 (middle dark blue line in the top right graph) in India, it appears that 26 percent of these women were working at age 20–24, then this percentage increases and reaches a peak of 46 percent as they are 35–39 years old, and finally it declines to below 32 percent when they reach 45 years. [Figure 3](#) also highlights the cohort effect, namely that lines of different cohorts, when compared at the same age, display different levels of participation in the labor market. The darker shaded lines plotting the share of employed women for more recent cohorts lie mostly below the lighter shaded lines of their predecessors, confirming the declining trend in participation found in [fig. 2](#) (left of panel a) even when the age composition is controlled for.

Figure 3. Share of Working Women: Age Profiles of Different Cohorts for Bangladesh (top left), India (top right), and Pakistan (bottom)



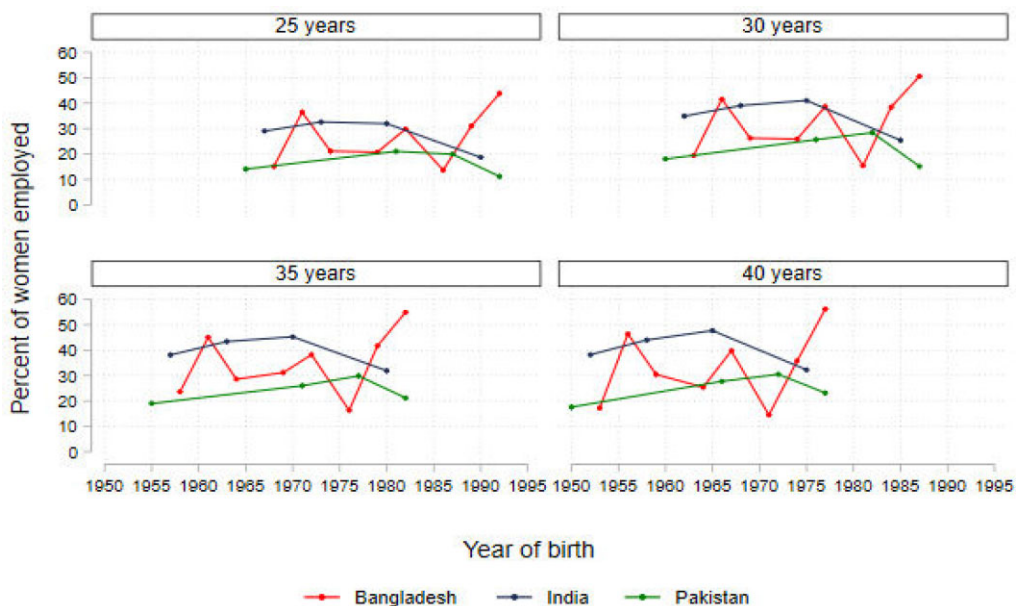
Source: DHS rounds.

Note: The dots represent the shares of working women calculated for each cohort in each of the years in which a survey is available. The lines connect the dots that belong to the same cohorts as they age. Cohorts from different decades are grouped by color.

The vertical distances between the lines of [fig. 3](#) can be explicitly plotted as the cohort effect, and this is done in [fig. 4](#). In this figure, the lines connect different cohorts observed at the same age. In the cases of India and Pakistan, the recent decreasing participation is confirmed by the cohort plots of [fig. 4](#). The exception of Bangladesh with an increase in participation for the recent cohorts is confirmed.¹²

This employment trend is concerning when compared with the progress recorded in women's education. The average years of education has increased significantly over time for the three South Asian countries ([fig. 2](#) right of panel a). For women born before 1965, average educational attainment was low, at less than four years for all six countries. The trend begins to rise after 1965, reflecting greater access and investment in education in the region and across the world (see [Barro and Lee 2013](#)).

Figure 4. Share of Working Women, Cohort Plots



Source: DHS rounds.

Note: The vertical axis plots the percentage of women employed for a specific age group for each year of birth.

Women born after 1990 achieve more than twice the years of education of women born before 1965 in all countries. Although an upward trend is evident in all countries, the average years of education of women born after the 1980s stagnates in Pakistan. Comparing the years of education of men and women, education inequality is closing in the region. Women are catching up with men in the number of years they spend in school. However, even if women of more recent cohorts have a higher number of years of education than those born in the 1970s or 1980s, they still seem to be below having completed the full cycle of secondary education, and this gap is particularly severe for Pakistan and Bangladesh. This qualification of the progress on female education is worth reiterating. The gender gap in education was so large that the recorded progress, while significant, has been mainly the result of closing the gap in primary education. This is crucial to allow girls to progress to secondary and higher levels of education, but for these levels the gender gaps have been reducing much more slowly or not at all. Achieving higher levels of education is needed to successfully participate in the labor market, but it can also be influential on another set of important decisions in the lives of women: marriage and childbearing, which is discussed next.

Fertility. The fact that the ages at which women have their first child remain overall unchanged for more than 50 years covered in this study is remarkable. The age at

first birth experiences a negligible increase in Bangladesh and India of two months per decade, while in Pakistan there was a negative decadal change (Table 1). As can be seen in fig. 2 (panel b), the trends remain almost flat for the whole range of year of birth, with the average age at first birth between 18 and 21 years old. This is mainly due to women in South Asia giving birth to their first child after a few years of getting married. Going through childbirth at a young age has both economic, psychological, and health implication for women. Early childbirth may truncate the continuation of a woman's education and hence limit her labor market opportunities.

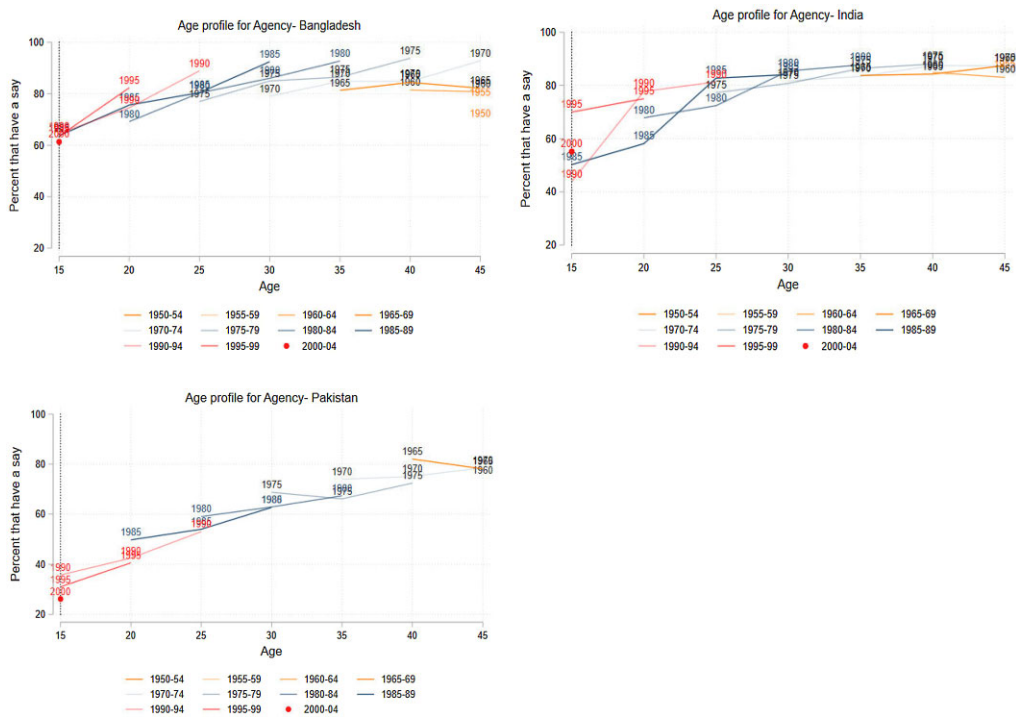
Agency and IPV. Gender norms are intrinsically connected with roles and expectations for women and men that are played up inside the household and particularly in spousal power relations. These relations (and norms) are connected to issues such as women's agency (Donald et al. 2020; Bussolo et al. 2021), which in turn responds to changes such as spousal gaps in education and age, desired and realized fertility differences between partners, and experience and justification of IPV. As noted by Bernhardt et al. (2018), when men and women bear different costs of violating norms, intra-household bargaining will mediate the role that norms play in governing female labor supply.

Agency, according to Kabeer (1999), is the "ability to define one's goal and act on them." One of the ways in which researchers have measured agency is by considering the process of decision making inside households. The DHS collects data on self-reported participation in this process. In more detail, women (and men) are asked whether they have a say in decisions at different levels, from large household expenses to personal health care and mobility.¹³

The left graph (panel c) in fig. 2 plots, for each birth cohort, the share of women who have a say in at least one of the three household decisions. The remaining group is thus that of women who have no say at all. Women born in recent years have less agency than women born in early years. This is especially the case for women in Pakistan. Agency, like employment, has a lifecycle profile, as shown in fig. 5.¹⁴ Not surprisingly, women's bargaining power increases with having children, increased wealth in the household, and other time-related factors (Mahmud et al. 2012; Akter and Chindarkar 2020). Comparing cohorts at the same age is thus a better approach to gauge the cohort effect. Apart from Bangladesh (top left graph), there is no clear evidence that women of generations born more recently have greater agency than women of earlier generations at the same age. While in other countries there is an initial rise for each cohort which then flattens out as the cohort ages, the pattern is different in Bangladesh. Women born in recent cohorts in Bangladesh have more agency, at a particular age, than women born in the preceding years. The gap is however almost negligible.

The last outcome considered in this group is experiencing IPV. Social norms can play a role in the acceptability of violence, and when and why it is justified (Weber et al. 2019). Regarding the incidence of IPV, a set of questions were asked to the

Figure 5. Women Agency: Age by Cohort for Bangladesh (top left), India (top right), and Pakistan (bottom)



Source: DHS rounds.

Note: The vertical axis plots the percentage of women who have a say in at least one decision within the household for women born within a group of birth years. The horizontal axis plots 5-year age groups, for instance, 15 represents ages 15–19, 20 represents ages 20–24, and so on.

women about whether they have ever experienced any form of physical and sexual violence by their current or previous partners.¹⁵ The right graph in fig. 2 (panel c) shows a stagnant trend for IPV experience across all countries.¹⁶

Stylized Fact 2: Urbanization, Education, and Higher Incomes Do Not Seem to Exert the Expected Positive Influence on Women’s Outcomes

The results discussed up to this point refer to the average women in each birth cohort. However, it may be the case that there is dispersion around the average results and that the trends have been different for some groups of women. A recurring theme in debates about gender disparities is that these disparities should decrease, if not disappear, as countries develop. Higher levels of income, education and urbanization support the closing of the gaps between women and men and, when they remain, it is because of actual choice and not because of discrimination, lack of resources

or disempowerment. The direction of influence is not unequivocally positive. For example, education and place of residence can ease the pressures of social normative expectations to marry young. Education may operate by changing a woman's goals and opportunities away from early marriage. Place of residence may change the nature of social norms that women are exposed to, but it is not clear that in urban areas they encounter norms that are less conservative than those in rural areas. When families migrate from rural to urban areas, as is common in South Asia, the influence of their relevant reference group may diminish if urban areas are more heterogeneous or dispersed. However, this might also work in the opposite direction as cities are considered more "dangerous" for women and hence their "purity" more in need of protection and control. Communities also tend to concentrate in specific neighborhoods and socially segregate themselves even in urban areas, which can further strengthen the influence of social norms. Using the regression approach described in the methods section and by focusing on more affluent, better educated, and urban women within each cohort, this section addresses the questions of whether the trends are different, and whether the gender gap is closing for these specific groups of women in South Asia.

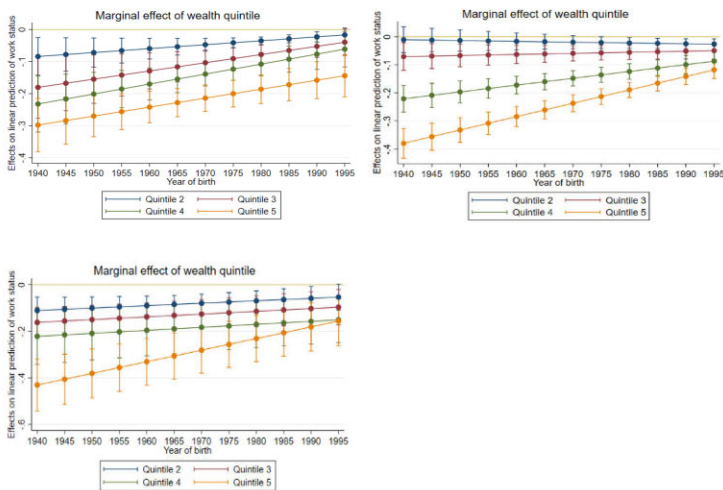
This heterogeneity analysis for labor market participation shows that women in the top 20 percent of the wealth distribution have enjoyed stronger progress when compared with their poorer counterparts. However, more educated women, or women living in urban areas do not seem to have followed a different path than less educated or rural women. So, this confirms that the stagnant trends and decadal changes discussed above for the *average* woman indeed affected *most* women and that urbanization and education have not contributed much to boost employment, while rising incomes seem to provide some upward lift. The same conclusion—namely some positive influence of wealth and lesser-to-no impact of education and place of residence—can be drawn for the heterogeneity analysis of the other norm-sensitive outcomes. The remainder of this sub-section provides additional details.

Figure 6 (panel a) shows the marginal effect of wealth across cohorts for women's engagement in the labor market. Within each cohort and holding constant other determinants, the most affluent group of women, which is represented by women in the top quintile of the wealth distribution, has a lower probability than women in the bottom quintile (the reference, or omitted, group) of being employed. For Bangladesh, India and Pakistan, the relative difference between the richer and poorer women has been decreasing from the early to the recent cohorts. This means that women of the richer group have progressed faster, i.e., they have experienced larger increases in employment rates, than women of the reference group, quintile 1. In fact, quintile 5 has progressed faster than any other quintiles.¹⁷ This is shown, in the graph, by the steeper slope of the marginal effect for quintile 5 vis-à-vis the other quintiles.

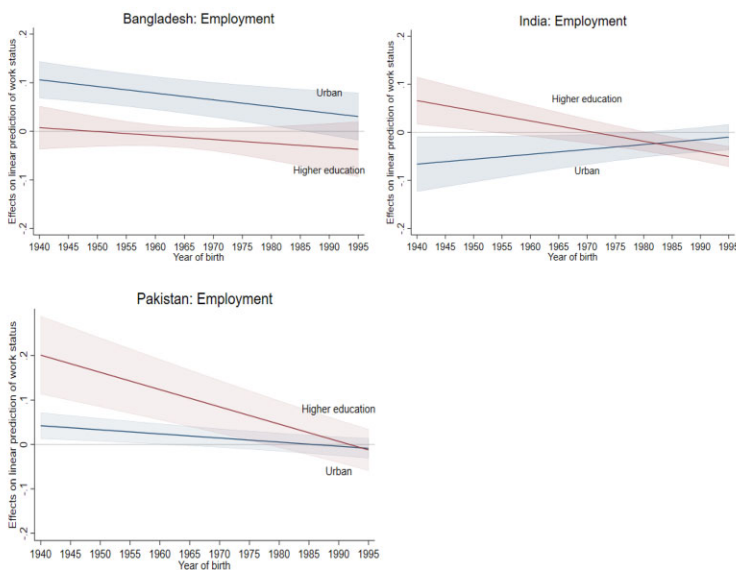
Consider next the groups of more educated and urban women in fig. 6 (panel b). As for the case of wealth, the marginal effects show the impact of belonging

Figure 6. The Marginal Effect of Wealth, Education and Location on Employment

Panel a: The marginal effect of wealth on employment for Bangladesh (top left), India (top right), and Pakistan (bottom)



Panel b: The marginal effect of education and location on employment for Bangladesh (top left), India (top right), and Pakistan (bottom)



Source: DHS rounds.

Figure 6. (Continued.) Note: The marginal effects are estimated by regressing the outcome variable on wealth, or location (rural versus urban) or higher education (secondary and tertiary education versus no or primary education), its interactions with year of birth, age, and state fixed effects. Standard errors are clustered by the state. We focus on the slope of the marginal effects. Move from left to right of the marginal effects to compare the difference between old and more recent cohorts who are categorized into five different wealth quintiles, or urban versus rural resident, or higher versus lower education level.

to one category—having more education or living in an urban area—vis-à-vis the reference group, while holding other factors constant. Starting with education, having secondary or higher education does not confer a significant advantage in the probability of being employed. If anything, the expansion of education from the bottom, i.e., the fact that fewer and fewer women have no education at all, means that the difference in (years of) education across the two groups is reduced for more recent cohorts. The slope of the marginal effect across cohorts for the urban dummy tends to be quite low for India, indicating that, at best, there is no differential progress for urban women with respect to rural ones. In the case of Bangladesh, the slope is negative, indicating that urban women have fared slightly worse than rural ones.

In terms of the other norms-sensitive outcomes, there is little difference in the trends for the more affluent women, except in India where the wealthier women born in recent years experienced less IPV. Better educated women enjoyed infinitesimal progress in agency and IPV experience, but only in India and Pakistan. Similarly, apart from agency in Pakistan, more recent cohorts of women in urban areas did not experience stronger progress than women in rural areas in any of the gender outcomes. Detailed graphs and comments for all these norms-sensitive outcomes are available in the [supplementary online appendix S.5](#).

Stylized Fact 3: Gender Attitudes in South Asia Have Remained Conservative for Men and Women Born Across Half a Century

In parallel to the outcome variables, we examine the long-term evolution of cultural attitudes towards gender roles and find no progress in the four attitudes studied. Using various waves of the WVS, we construct pseudo-panels for Bangladesh, India, and Pakistan, and follow the evolution of attitudes from cohorts born in the late 1940s to cohorts born in the late 1990s. An important issue, noted in the methods section, is that analyzing the evolution of a variable across birth cohorts provides unbiased information only if that variable has no “age profile” or if cohorts are compared at the same age. There are not yet many studies focusing on whether attitudes have an age profile or tend to be persistent during the lifetime of an individual, however some emerging evidence seems to support this persistence (Wachter 2020). We plotted our data on attitudes for different cohorts as they age to check this. These plots (shown in the online appendix fig. S2.3) indicate that attitudes do not have a strong age profile and remain flat. This may not be the case for a single individual within the cohort, but

for the average one representing the cohort, attitudes formed early on in the lifecycle tend to remain stable; if anything, aging seems to bring a shift toward more conservative views. [Table 2](#) offers a bird's-eye view of the decadal changes of key beliefs, while [fig. 7](#) shows the detailed trends.

The share of people agreeing with conservative attitudes—such as that the priority for becoming breadwinners should be given to men, or women's preeminent goal being maternity—is remarkably high in the most recent surveys: about 70 percent and above. From 70 to more than 90 percent of the population agree or strongly agree that men have precedence over women in obtaining jobs when these are scarce and, at best, less than 30 percent agree or strongly agree that both spouses should contribute to the household income. At the same time, 85 to almost 100 percent view maternity as key to a woman's fulfillment. The most progressive position is that on education, where the population is near-equally divided between agreeing and disagreeing that university education is more important for boys than for girls. More importantly, the table highlights that these large majorities holding conservative views have been either stable for decades or have even increased in some cases.

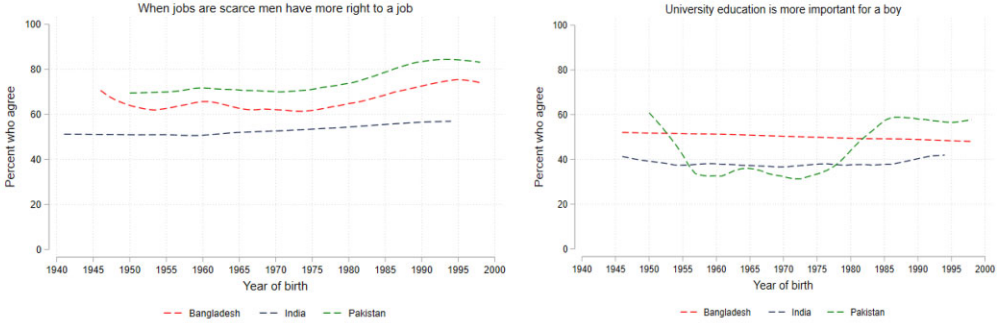
Discrimination by gender in employment contributes to low female labor force participation ([Özbilgin et al. 2012](#)). The attitudes in a society over who gets a job may influence women's supply of labor. [Figure 7](#) (left of panel a) shows that in Bangladesh, India, and Pakistan, the majority of respondents agree that when jobs are scarce, men have more rights to jobs than women. In all three countries, more than half of the respondents agree with this attitude. Examining the trend across cohorts, this conservative attitude has increased among younger cohorts. For instance, in Pakistan, the share of respondents who believe that men have more right to jobs averaged about 70 percent for cohorts born until 1970. This share increased to over 80 percent for cohorts born from the late 1980s. A similar increase can be seen in Bangladesh and, less obviously, in India.

While the years of education have increased for South Asian women, the conservative attitude towards girls' education is not reducing as one would expect ([fig. 7](#), right of panel a). However, the attitude that university education is more important for boys than for girls is less conservative among respondents, although high, than the other attitudes. About 30 to 60 percent of respondents in the three countries believe that university education is more important for boys than for girls. Comparing the trend across cohorts, it remained constant across cohorts for Bangladesh and India and has a U-shape for Pakistan.

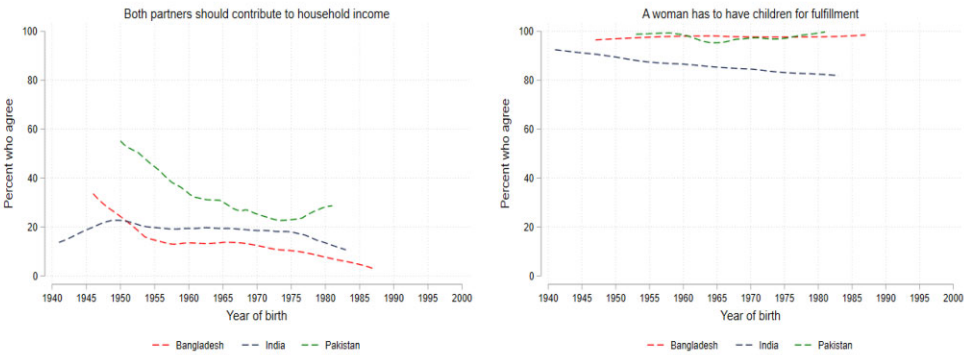
When women contribute to household income, they are also more likely to contribute to household decision making. [Figure 7](#) (left of panel b) shows that less than half of respondents in Bangladesh, India, and Pakistan agree that women and their spouses should contribute to household income. Across cohorts, this share has reduced in all three countries. This regression is more obvious in Bangladesh and Pakistan where the share of respondents born in the 1940s and 1950s who

Figure 7. Attitudes towards Gender in South Asia Have Been (Almost) Fixed for 50 years

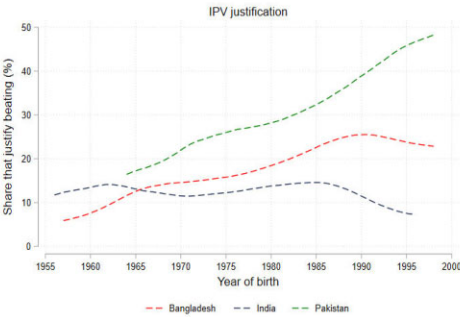
Panel a: Trends in attitude towards job (left) and education (right)



Panel b: Trends in attitudes towards childbearing (left) and income contribution (right)



Panel c: Trends in attitude towards IPV justification



Source: WVS (top four graphs) and DHS (bottom graph).

Note: The vertical axes of the graphs show the percentage share of women who agree to the four attitude statements. The response options for the first three statements are “agree strongly,” “agree,” “disagree” and “strongly disagree,” and include “neither agree nor disagree;” while, for the last, the possible responses are simply “necessary” or “not necessary.” The percentage share of agreeing women is thus calculated summing all those who either “agree” or “strongly agree,” or say “necessary,” and dividing these sums for the sum of all possible responses. The bottom graph measures the percentage of women born in each year who justify intimate partner violence. The graphs plot a local polynomial smooth of the attitude on the year of birth.

agree that both partners should contribute to household income is twice the share of respondents in the 1970s and 1980s.

Figure 7 (right of panel b) shows that more than four-fifths of respondents in all countries agree that a woman has to have children to be fulfilled. This share, which is over 90 percent in Bangladesh and Pakistan, has remained stagnant across older and younger generation of respondents. In India, this share fell by about 10 percentage points for respondents born in 1980 compared to those born in 1941.

Figure 7 (panel c) shows an upward trend for justification of IPV.¹⁸ Women in Pakistan and Bangladesh born after the 1960s are more likely to justify beating than women of older generations. As discussed at the outset of this section, IPV justification may not be static and could change over the lifecycle. We show the age profiles by cohort for IPV justification in fig. S2.2 in the [supplementary online appendix](#). In general, the age profiles by cohort do not show any clear pattern to conclude that women of more recent cohorts are less likely to justify beating than earlier cohorts at a specific age or vice versa. This increasing trend in IPV justification, along with the static trend in IPV experience, is worrisome considering that violence against women is considered a global health issue.

Stylized Fact 4: A Negative Relationship Exists Between Gender Outcomes and Conservative Gender Attitudes in the Region

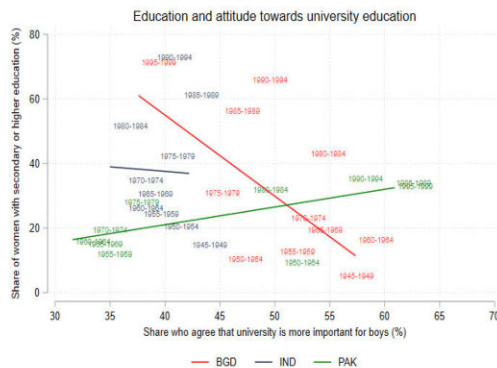
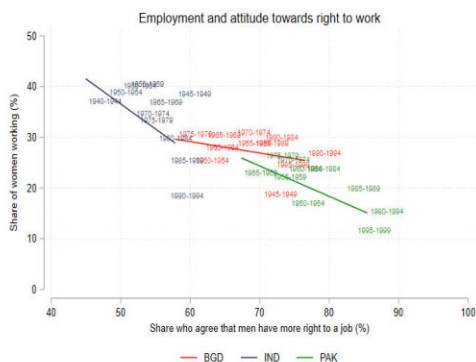
Gender norms have received increased attention in recent years by researchers and policy makers, to a large extent, motivated by the search for determinants of the stubbornly low rates of female labor force participation or the lack of progress in closing other gender gaps. While we cannot establish causality, we assess the correlations between norms-sensitive outcomes and corresponding attitudes and provide some initial evidence of the strength of the linkages between these two sets of variables.

For all the three countries, fig. 8 (left of panel a) depicts a clear negative association between women's employment rate and the attitude toward precedence of men in obtaining scarce jobs. It is interesting to note that while India and Pakistan have similar slopes, the association in Bangladesh is weaker. This is driven by the data points for more recent birth-cohorts (1990 and after) which have higher shares of women working than India, despite being located more towards the right along the attitudinal dimension. Further, despite Bangladesh and Pakistan experiencing large overlaps on the attitude dimension, such that 70–80 percent of respondents in both countries believe that men have more right to jobs, Bangladesh is placed higher on the vertical axis in terms of the share of women working.

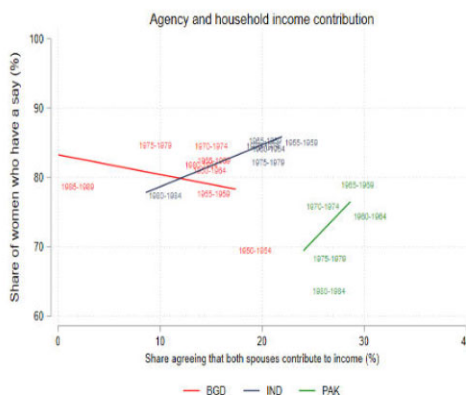
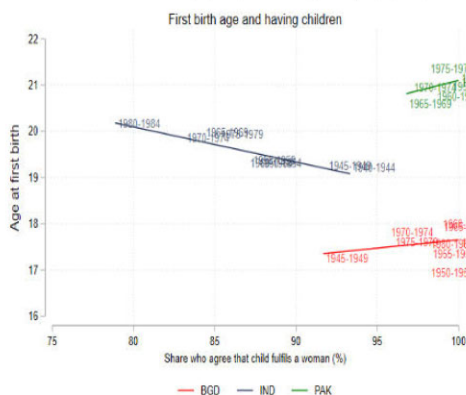
The linkage of educational outcome with the related attitudinal variable is shown in fig. 8 (right of panel a). This figure plots the correlation between the share of women having secondary or higher education against the share of respondents who agree that “university is more important for boys than girls” in Bangladesh, India,

Figure 8. Correlation of the Gender Outcomes with the Respective Gender Attitudes

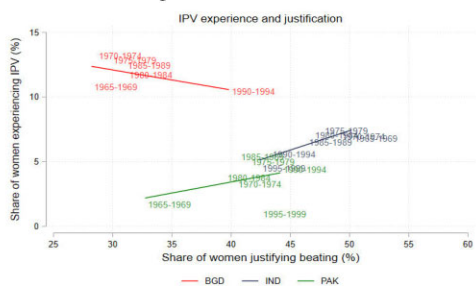
Panel a: Employment (left) and education (right)



Panel b: Childbearing (left) and agency (right)



Panel c: Intimate partner violence



Source: WVS and DHS.

Note: Observations grouped in 5-year birth cohorts. The correlation coefficient of the employment variables is -0.36 for Bangladesh (95 percent Confidence Interval CI -0.787 to 0.311); -0.57 for India (95 percent CI -0.872 to 0.045); -0.76 for Pakistan (95 percent CI -0.941 to -0.255). The correlation coefficient of the education variables is -0.63 for Bangladesh (95 percent CI -0.892 to -0.044); -0.03 for India (95 percent CI -0.650 to 0.608); 0.67 for Pakistan (95 percent CI 0.066 to 0.913). The correlation coefficient of the agency variables is -0.3 for Bangladesh (95 percent CI -0.830 to 0.511); 0.92 for India (95 percent CI 0.429 to 0.991); 0.50 for Pakistan (95 percent CI -0.681 to 0.960). The correlation

Figure 8. (*Continued.*) coefficient of the childbearing variables is 0.27 for Bangladesh (95 percent CI -0.484 to 0.790); -0.88 for India (95 percent CI -0.974 to -0.515); 0.47 for Pakistan (95 percent CI -0.433 to 0.904). The correlation coefficient of the IPV variables is -0.19 for Bangladesh (95 percent CI -0.789 to 0.594); 0.84 for India (95 percent CI -0.789 to 0.594); and 0.83 for Pakistan (95 percent CI 0.363 to 0.963).

and Pakistan. We group observations into 5-year birth cohorts with darker shades indicating more recent birth cohorts. In the case of education, the results are mixed. A strong negative association is found only for Bangladesh. In addition, the change in attitudes and education levels is consistent with the passing of time as more recent (darker) cohorts display more progressive views and higher levels of education. The correlation, however, is not present or has the “wrong” sign in the cases of India and Pakistan. In India, recent (darker) cohorts have higher levels of education even if attitudes towards gender roles with respect to tertiary education do not change. In Pakistan, even if attitudes become less progressive, the share of women receiving higher education increases. The persistence of regressive gender attitudes has, seemingly, not been a binding constraint for women’s education outcomes. However, the consequences of static and regressive attitudes may show up in other proximate outcomes to education, like employment.

Financial empowerment can increase the agency of women in the household. Women who contribute financially to household income are more likely to participate in household decision making. The share of women who agree that both spouses should contribute to household income is generally low in all three countries—less than 40 percent, and this share is decreasing with younger cohorts. As shown in [fig. 8](#) (right of panel b), the correlation between the attitude towards shared economic responsibilities and agency seems positive for the cases of India and Pakistan, while no significant association is found for Bangladesh.

The onset of motherhood has been strongly linked to withdrawal of women from the labor force and selection into casual work or more flexible jobs which allow time for childcare. Deep-seated beliefs about women as mothers are evident in [fig. 8](#) (right of panel b), where overwhelmingly, above 80 percent of respondents agree that women need to have children to be fulfilled. This holds across countries and cohorts, ranging from the 1940s to the 1980s. Correspondingly, the average age of women at their first birth has remained mostly stable at around 17–18 years in Bangladesh and above 20 years in Pakistan. The graph shows an insignificant relationship for Bangladesh and Pakistan but highlights how concentrated within a small area the observations are for these two countries. In the case of India, the relationship is negative. The slight increase of age at first birth is mirrored by a corresponding decline in the share of respondents who agree that women need to have children to be fulfilled.

IPV has generated a great deal of concern among policy makers and is of interest to researchers ([Chibber and Krishnan 2011](#)). In finding solutions to IPV,

understanding attitudes towards this violence, its justification especially, is important. Researchers have found a strong positive relationship between IPV experience and justification in several countries in Africa and Asia (Abramsky et al. 2011). Their results are not different from what we find in India and Pakistan in fig. 8 (panel c). In these countries, the linear relationship between IPV experience and IPV justification is positive—the higher the share of women that justify beating, the higher the shares that are likely to experience beating (and vice versa). However, the slopes of the relationship are almost flat. On the contrary, there is a negative relationship between the two variables in Bangladesh. An explanation for the opposing relationships may not be available but the clustering of the different cohorts leads us to the conclusion that domestic violence, its justification and incidence, is sticky and warrants effective interventions.

Stylized Fact 5: South Asian Countries Appear to Have the Most Conservative Social Normative Expectations Around Gender Roles. Social Norms Thus Account for a Larger Share of the Gap in FLFP, After Controlling for the Level of GDP, than Personal Beliefs

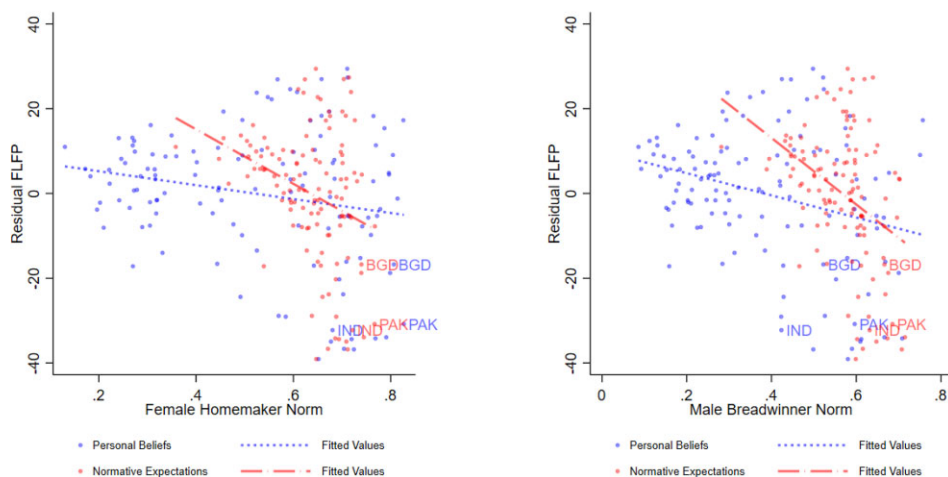
Personal beliefs are an imperfect proxy for social norms as they do not consider the *social* elements of norms, i.e., what one thinks others believe in, and what one sees others do. Using a recent global survey, which measures both personal beliefs and the social normative expectations toward gender equality, we can show the different degree with which personal beliefs and social normative expectations correlate with gender outcomes.¹⁹ Respondents were asked how much they would agree (personal belief) with various statements concerning gender roles and how many, out of 10 neighbors, would agree with the same statements (social normative expectation). As discussed in the data section, we consider two statements which are related with women's engagement in economic activities. The first is about the "women as homemakers" social norm, and the second is about the "men as breadwinners" social norm. Across all countries and for both statements, the social normative expectations were more conservative than the personal beliefs. In other words, the average share of neighbors agreeing with these statements, as reported by the respondents, was higher than the share of people who personally agree with them. Notably, in South Asia social normative expectations are at the highest level vis-à-vis the other regions (see fig. S7.1 in the online appendix). A woman's decision to participate in the labor market responds to what she thinks is the correct behavior, but clearly also to what she thinks society expects as the correct behavior. The strongly conservative social normative expectations about gender roles in South Asia exert pressure on women (and men) to not deviate from the norm.

Using a regression approach, we show that social normative expectations about the gender division of labor in the household are significantly related to gender

Figure 9. Personal Beliefs and Social Normative Expectation against the Gap in Women’s Engagement in the Economy

Panel (a) female homemaker

Panel (b) male breadwinner



Source: Data on personal beliefs and social normative expectations come from the Survey on Gender Equality at Home. Data on FLFP is retrieved from World Development Indicators.

Note: Personal beliefs are calculated as the share of the population that “agrees strongly” or “agrees” with the normative statement on gender labor division in the household for women as mothers and homemakers (Female Homemaker Norm) and men as financial providers (Male Breadwinner Norm). Social expectations are calculated as the share of the reference group believed to agree with the respective normative statements. Residual FLFP are the residuals saved after regressing the female labor force participation rate on per capita GDP (log) and its square.

outcomes, after controlling for the level of development. FLFP rates at the country level are regressed against GDP per capita (in logs) and its square and, in one case, against the social normative expectations or personal beliefs of “women as homemakers” and, in the second case, against the social normative expectations or personal beliefs of “men as breadwinners.” Scatter plots in fig. 9 show the results of these regressions. The variable on the vertical axes measures the residuals of a first regression of FLFP with the level of development and its square, basically these residuals are the deviations from the U-Curve depicted in fig. 1. The horizontal axes represent the shares of the social normative expectations or the shares of personal beliefs. These graphs highlight three key results. First, that social normative expectations about the gender roles at home account for a significant part of the gender gaps in participation in economic activities conditional on the level of development. Larger negative residuals, i.e., lower FLFP rates once level of GDP is controlled for, are found among countries that have more conservative social normative expectations. Second, social normative expectations display a stronger correlation with FLFP than personal beliefs, as the regression lines have a significantly steeper slope. The third result is

specific to South Asia. Bangladesh, India, and Pakistan are all positioned at the bottom right corner of these scatter plots, an area where the largest negative residuals and largest shares of conservative social expectations are found. An increase of 14 percentage points in female labor force participation would be achieved in a thought experiment where the gaps between the social normative expectations of men as breadwinners (65 percent) and the personal beliefs (47 percent) were to be closed.

Conclusion

This paper explores the evolution of gender-normative attitudes and gender norm-influenced outcomes in South Asia. Using repeated cross-sectional data from nationally representative surveys in the region, we examine the levels, trends, and relationship of these outcomes for women born across half a century. Our results highlight the presence of wide gender disparities and conservative gender norms. In terms of trends, all gender outcomes relating to employment, marriage and children, and intra-household power/negotiation have remained stable or even regressed with the exception, among the variables that we studied, of education. These trends were observed for all women, irrespective of location, education, and income. A similarly stable, or even negative, trend was observed for gender attitudes.

This persistence of gender disparities and conservative attitudes is particularly remarkable when contrasted with the sustained economic development observed in the last two or more decades in South Asia. Gender equality in the region does not seem to be an automatic byproduct of economic development, indicating that restrictive gender norms are constraining progress in gender outcomes. Stylized fact 4 highlights exactly this. Attitudes are related to gender outcomes, and conservative gender attitudes are linked to worse gender outcomes. However, gender norms are still poorly understood and measured, generally, with inadequate proxies. Stylized fact 5 shows that personal beliefs often deviate from social normative expectations, and therefore do not adequately indicate the strength of a norm (which can potentially override individual attitudes in influencing behavior). To properly address these normative barriers, future research should be focused to: (a) measure gender norms more systematically, (b) identify causal links between norms and outcomes, and (c) inform norm-sensitive policies and interventions.

Notes

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1. For women 15+. Source: World Development Indicators, using the International Labour Organization, ILOSTAT database. Data retrieved on June 15, 2021.

2. See for example [Pande et al. \(2020\)](#); [Buchmann et al. \(forthcoming\)](#), among others.

3. Personal beliefs, attitudes, morals are used as synonyms.

4. The Facebook (2020) survey on “Gender Equality at Home” is conducted in partnership with CARE, Ladysmith, the World Bank, and UNICEF. This survey was rolled out in 2020 and 2021 (in this paper we only use 2020 data) through Facebook’s online platform to users across 208 countries, islands, and territories. Observations of this large-scale survey were weighted to represent the online population in each country or region (not only the Facebook user population). For more details see here: <https://dataforgood.fb.com/tools/gendersurvey/>.

5. For a discussion on demand-side factors, see for example, for the case of India, [Chatterjee et al. \(2015\)](#); [Klasen and Pieters \(2015\)](#); [Mehrotra and Parida \(2017\)](#); and [Deshpande and Singh \(2021\)](#).

6. The reverse is also true, female labor force participation and employment has a transformative potential on gender norms ([Seguino 2007](#)).

7. An important note for India is the concept of Sanskritization, which describes the process whereby families placed lower in the caste hierarchy adopted upper caste values as their incomes rose ([Srinivas 1995](#)). However, the concept alone fails to account for many other aspects of cultural change which may explain further social mobility in India ([Singh 1994](#)).

8. For a discussion of marriage markets in developing countries see [Anukriti and Das Gupta \(2017\)](#).

9. [Hahn et al. \(2018\)](#) show that the cash transfer increased years of schooling by 1.2 years. However, it only resulted in a delay in marriage of less than half as large, and an increase in age at first birth of between 0.3 and 0.47 years.

10. The specification for the outcome education excludes the dummy variable for higher education level.

11. Reduction of fertility rates and other health outcomes have also shown progress. For example, mortality rates were approximately unbiased between male and female and child nutrition has shifted in favor of girls.

12. This graphical decomposition clearly does not fully identify these three components. While there are several econometric approaches to this age-period-cohort analysis, each one of them makes strong assumptions about the data and need to be taken with caution. We perform this analysis in the [supplementary online appendix S.4](#) using five different approaches commonly used in the literature. For a similar analysis see also [Tunali et al. \(2021\)](#).

13. Questions included here are those referring to who has a say on (i) large household purchases, (ii) woman’s health care, and (iii) women’s visits to relative and friends. Possible answers are: (a) respondent alone; (b) respondent and husband/partner jointly; (c) husband/partner alone; (d) someone else; and (e) other. Having a say is defined as choosing answers (a) or (b).

14. The age profiles of agency in Bangladesh and India show that women older than 30 years have higher agency within their households on average than women less than 30.

15. We coded the IPV experience variable as 1 if a woman has experienced any form of physical and sexual violence and 0 for no violence. The options included are whether the respondent has ever been either slapped, punched with a fist or hit by something harmful, strangled or burnt, threatened with a knife/gun or other weapon, had an arm twisted or hair pulled, been physically forced into unwanted sex, forced into other unwanted sexual acts, or physically forced to perform sexual acts the respondent did not want to. There is no response for the sexual violence experience for Bangladesh. These data were collected in a limited number of surveys: one survey round in Bangladesh (2007) and Pakistan (2017–18), and two survey rounds in India (2005–06 and 2015–16).

16. Although IPV prevalence is not static and likely to change over the lifecycle, we do not show the age by cohort graphs because the variable has too few data points in the DHS dataset to have any meaningful result.

17. For clarity, the graphs show only quintile 5 (the richest group) and quintile 2 (the second-poorest group). Quintiles 3 and 4 are, as expected, for this and all other variables, in between quintiles 5 and 2. The levels for quintile 1, the reference group are normalized to zero for all cohorts, so the graph does not show the levels at which the various quintiles are, but just their differences with respect to quintile 1.

18. We coded the IPV justification variable as 1 if a woman responds “yes” to at least one of the following circumstances/questions and 0 if she responds “no:” to all of them: In what circumstances is a husband hitting his wife justified? (a) when she goes out without telling the husband, (b) neglects the children, (c) argues with him, (d) refuses to have sex with him, and (e) when she burns the food. Data were collected in two rounds in India and Pakistan and in four rounds in Bangladesh.

19. Several studies (Katz et al. 1931; Bicchieri 2016; Bursztyn et al. 2020; Fernández-Duque 2022) have shown that when personal beliefs and social normative expectations differ—a phenomenon called pluralistic ignorance—people tend to conform their behavior to what social normative expectations dictate. The most common case of pluralistic ignorance is one in which individuals hold more liberal beliefs than those they think their social reference group is holding. With pluralistic ignorance, societies experience a problem of coordination. Bursztyn et al. (2020) show that by manipulating social norms—specifically by providing the information that allow people to correct their social normative expectations, in this case the fact that most men were in agreement about letting their wives go out of the house to work for pay—gender outcomes can be shifted. In this case, women participation in economic activities increased.

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S1 Data Sources and Variables

Table S1.1 and Table S1.2 below summarize availability of data from these surveys across countries in the region and through different time periods. Table S1.3 and Table S1.4 describe the variables that were used in the analysis.

Table S1.1. Data Availability by Survey

Country	Years available (by survey)	
	DHS	WVS
Bangladesh	1993–94, 1996–97, 1999–00, 2001*, 2004, 2007, 2011, 2014, 2017 (9)	1994–1998, 1999–2004, 2017–2019 (3)
India	1992–93, 1998–99, 2005–06, 2015–16 (4)	1989–1993, 1994–1998, 1999–2004, 2005–2009, 2010–2014 (5)
Pakistan	1990–91, 2006–07, 2012–13, 2017–18 (4)	1994–1998, 1999–2004, 2010–2014, 2017–2019

* Special DHS data type.

Source: Authors' analysis of availability of relevant questions and data from the Demographic and Health Surveys and World Value Surveys.

Among the secondary data sources considered, DHS provided the most comprehensive combination of gender-relevant outcome variables across all countries and time periods. WVS was selected due to the availability of a gender attitude variable that could serve as a proxy for relevant norms. A brief description of each is included below.

The Demographic and Health Surveys (DHS): DHS surveys cover seven out of the eight countries in the region, are nationally representative and provide data for a wide range of indicators traditionally used to reflect prevalence and change in gender norms. Data is collected from eligible individuals in a sampled household. The data can be compared across countries because the survey implements near-identical questionnaires across countries. Three core questionnaires are used to collect data by the DHS: a household questionnaire, a women's questionnaire, and a men's questionnaire. In this study, we mostly focus on the women's questionnaire. One limitation of the DHS sample is that it is restricted to women of childbearing age (and in some countries, it covers only women who have married or live in a consensual union).

World Values Survey (WVS): WVS is a cross-national opinion survey that monitors cultural values, attitudes, and beliefs using nationally representative surveys. It uses a rigorous high-quality research design to collect data using standardized questionnaire in almost 100 countries. The WVS measures, among other things, support for

gender equality, attitudes toward work and family, and subjective well-being, and uses agree–disagree Likert scales to measure socio-cultural and political attitudes from respondents.

The DHS and WVS data have been collected in several waves over a period of roughly 20 years, from 1990 to 2018. The coverage however, varies by country (see [Table S1.2](#)). For instance, while DHS data is available for Bangladesh in eight waves, there is only one wave of data, 2015, available for Afghanistan. The DHS collects data from women aged 15–49. The age range in WVS is wider, however, so we restrict our sample to 15–49 for comparability with DHS. The length and breadth of coverage of the DHS and WVS data across countries in South Asia allows us to examine changes in key gender-related outcomes and social attitudes. We trace women born over half a century, from 1940 to 2000.

Table S1.2. Data Availability for DHS and WVS Surveys

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
	DHS																													
BGD			x			x			x					x			x					x			x				x	
IND			x						x							x											x			
PAK	x																x						x						x	
	WVS																													
BGD							x						x																	x
IND	x					x						x				x							x							
PAK								X				x											x							x

Table S1.3. Norm-related Variables by Domain

Domain	Gender-norm influenced outcomes	Gender norm-influenced attitudes
Economic empowerment	Employment	When jobs are scarce, men should have more right to a job than women
Human capital	Years of education	University is more important for a boy than a girl
Fertility	Age at first birth	A woman has to have children to be fulfilled
Intrahousehold bargaining and agency	Say in HH decisions—mobility, household purchase and health	Both the husband and wife should contribute to household income
	IPV experience	IPV justification

Table S1.4. Variable Description

Variables	Definition	Variable name (original)
DHS Variables		
<i>Employment</i>	1 if having worked in the past 7 days, including women who did not work in the past 7 days but who are regularly employed and were absent from work for leave, illness, vacation, or any other such reason. 0 otherwise	V714
<i>Education</i>	Education in single years	V133
<i>Age at first birth</i>	Age of the respondent at first birth (for women aged above 24 years)	V212
<i>Agency</i>	1 if a woman has a say in at least one of the three decisions within the household	(i) V743b (large household purchases), (ii) V743a (woman's health care), and (iii) V743d (visit to relative and friends).
<i>IPV justification</i>	1 if a woman responds 'yes' to at least one of the five circumstances that justifies wife beating and 0 if she responds 'no' to all circumstances or missing for all circumstances	(i) V744a (She goes out without telling him) (ii) V744b (She neglects the children) (iii) V744c She argues with him (iv) V744d (She refuses to have sex with him) (v) V744e (She burns the food)
<i>IPV experience</i>	Ever experienced any form of physical or sexual violence by past or current partner. Coded 1 if a woman has ever experienced any violence and 0 for no violence and missing for women selected and interviewed for the domestic violence module.	D105a-k (has ever been slapped; punched with fist or hit by something harmful; strangled or burnt; threatened with knife/gun or other weapon; CS physical violence by partner; had arm twisted or hair pulled; physically forced into unwanted sex; forced into other unwanted sexual acts; physically forced to perform sexual acts respondent didn't want to.

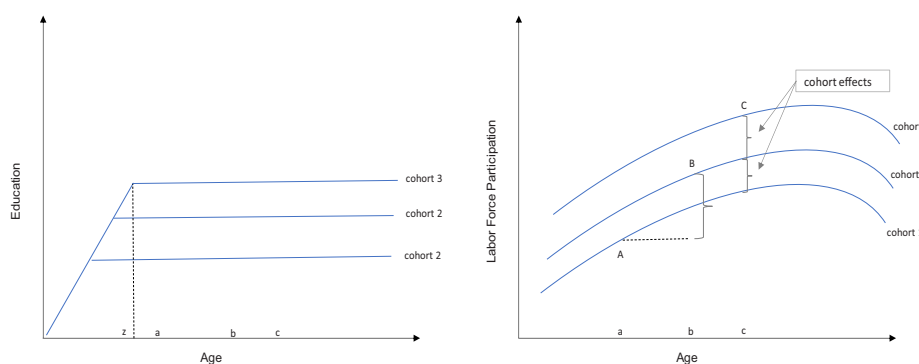
Table S1.4. Continued

Variables	Definition	Variable name (original)
WVS Variables		
<i>Men have more right to a job</i>	1 if a woman or man agrees that when jobs are scarce, a man has more right to a job than a woman, and 0 if they disagree or “neither” agree or disagree.	C001_01
<i>University is more important for a boy</i>	1 if a woman or man agrees or strongly agrees that university education is more important for a boy than for a girl, and 0 if they disagree or strongly disagree.	D060
<i>A woman has to have children to be fulfilled</i>	1 if a woman or man thinks that for a woman to be fulfilled, it is necessary that she has children, and 0 if they think that it is not necessary.	D019
<i>Both spouses should contribute to household income</i>	1 if a woman or man agrees or strongly agrees that both spouses/partners should contribute to household income, and 0 if they disagree or strongly disagree.	D058a
<i>Source: DHS and WVS documentation.</i>		

S2 Age Profile Graphs

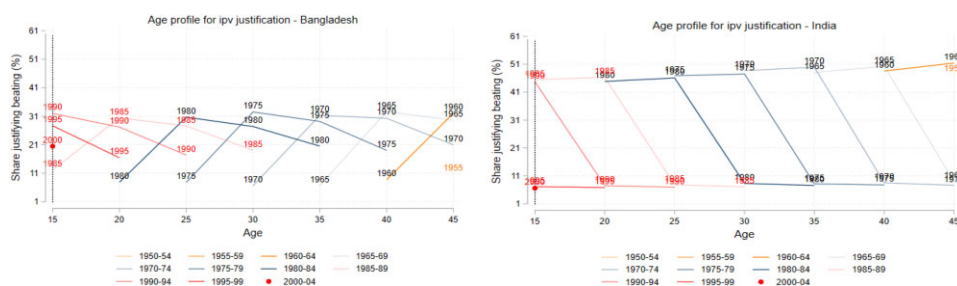
In a stylized fashion, [fig. S2.1](#) illustrates this issue for these two types of outcomes. The panel on the left shows a variable with no age profile. After age 'z', the years of education achieved by a person remains constant throughout the life cycle. The measurement of the cohort effect is thus unaffected if one compares cohorts at different ages. As the cohorts are parallel lines after age 'z', measuring the vertical distance between cohorts '1', '2' and '3' is the same at ages 'a', 'b' or 'c'. This is not the case for a variable such as labor force participation which has an inverted U age profile. For this type of variable, measuring the cohort effect correctly requires comparing cohorts at the same age. The right panel clearly shows that the cohort effect is (incorrectly) much larger if cohorts 1 and 2 are compared when cohort 1 is at age 'a' and cohort 2 is at age 'b', rather than when they are both at age 'b'. [Figure S2.2](#) and [figure S2.3](#) are examples of age profiles produced from the survey data used in this study.

Figure S2.1. Age Profiles for Different Types of Variables



Source: Authors.

Figure S2.2. The Age Profile Graphs for IPV Justification for Bangladesh (left) and India (right)

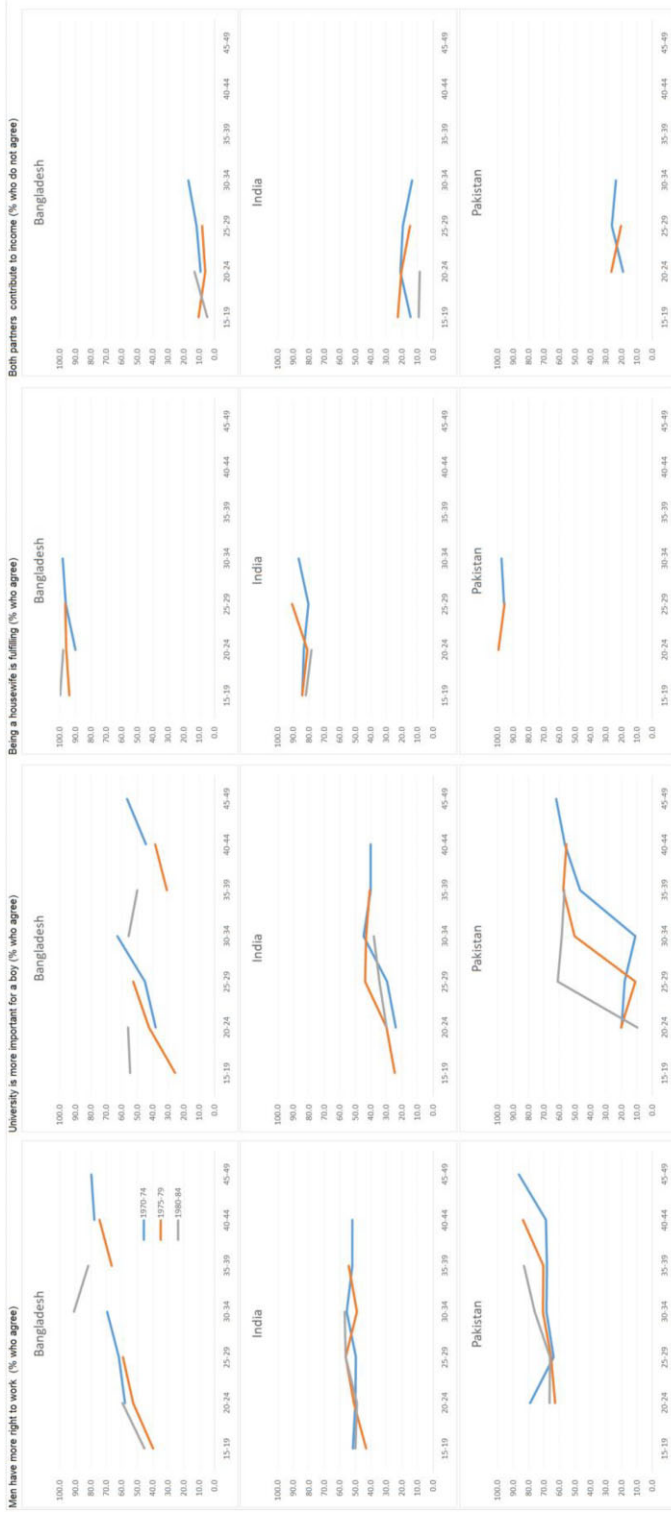


Source: DHS rounds.

Note: We show the age profile of intimate partner violence justification only for Bangladesh and India because these countries have enough data points to plot the age profile graph. While for Bangladesh, women born in 1975–79 have four points in the graph (at age group 25–29, 30–34, 35–39, and 40–44) per cohort group (say 1975), in Pakistan women born in the same years have three data points at age groups 30–34, 35–39, and 40–44.

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Figure S2.3. The Age Profile Graphs for the Attitude Variables



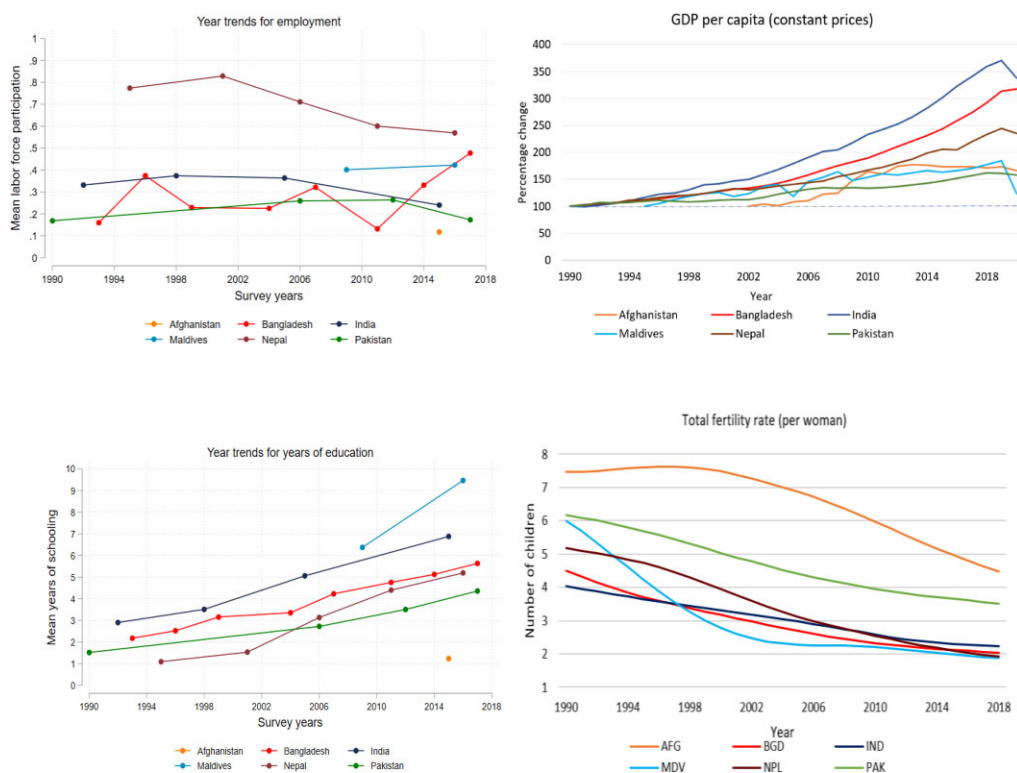
Source: WVS rounds.

Note: We show the age profiles for three cohorts, each represented by a line. The blue line refers to women born in 1975–79; and the grey line refers to women born in 1980–84.

S3 Regional Trend in Related Economic and Gender Outcomes

As shown in [fig. S3.1](#), the share of women working in the region, except for Bangladesh, has not increased over the 28 years between 1990 and 2018, and has, in fact, experienced substantial decline in India, Pakistan and Nepal. The region, however, maintained a positive change in GDP per capita, experienced substantial increase in educational attainment of women, and has reduced total fertility rate (TFR) considerably (reaching close to replacement level fertility in multiple countries) during the same period.

Figure S3.1. Year Trends in FLFP, GDP Growth Rate, TFR and Education



Source: DHS for the employment and education graphs and the World Development Indicators for the GDP per capita and total fertility rate graphs.

S4 Age-period-cohort Analysis

The Prime Working Age (PWA) model is a specific solution to this particular case of Age Period Cohort (APC) analysis for female labor force participation (Nientker and Alessie, 2019). This model assumes a constant effect of age for women in their 40s, thus imposing a further restriction on two dummy variables. The equating of coefficients of two adjacent age groups falls within the wider family of Constrained APC models, where any two coefficients of two adjacent dummies (that being from the age, period, or cohort set) are set to be equal. The theoretical intuition and the preliminary evidence in our data for both countries suggest that this is an assumption worth-considering. While the restriction is non-testable in the full APC model, the fit of simple age-only regression model, and age-period and age-cohort models, all revealed similar coefficients for the dummies in these age groups (42–46 years old and 47–50 years old). The Hanoch and Honig (1985) / Deaton and Paxson (HHDP) model, first proposed by Hanoch and Honig (1985) and Deaton and Paxson (1994) applies a restriction on the period effects. This is done by applying a detrending, such that the period effect is orthogonal to a trend and sums to zero. This approach relies on the assumption of unanticipated business cycle shocks and usually requires several survey years to sufficiently separate trend and cycle.

While the previous two models impose specific restrictions, the approaches of Intrinsic Estimator (IE) and Maximum Entropy (ME) suggest two different generalized solutions to the APC identification problem. The IE approach, proposed by Fu (2000) and Yang et al. (2004), makes use of least squares by applying a Moore–Penrose generalized inverse to deal with the collinearity in the design matrix and is estimated via a principal component regression algorithm. The estimator provides a general solution without imposing specific restrictions on any of the dummy variables, but which depends on several choices made in the optimization algorithm. Similarly, the approach of ME proposed by Browning et al. (2012) suggests the use of the maximum-entropy principle to address the problem. This is a general framework that represents the uncertainty around the parameters as a probability distribution and using an entropy measure to select the probabilities that represent the information in the data the best. This approach falls within the wider family of solutions using maximum-entropy estimation and is more appropriate when the set of possible solutions is bounded.

Finally, the HAPC, first proposed for APC models by Yang and Land (2006), is a solution that uses the principles of standard multilevel analysis, that is using a mixed (fixed and random) effects model and relies on non-linearity. Age and age-squared enter as fixed effects, whereas period and cohort enter as cross-classified random effects. These mixed effects models are popular within economics (as random effects models or random coefficients models in panel data analysis) and education research (e.g., students cluster in classrooms, which further cluster in schools). In this application, the random effects are crossed, in the sense that they are not nested (e.g., students

Table S4.1. Age-period-cohort Effects Using Five Different Models for Bangladesh

	(1)		(2)		(3)		(4)		(5)	
	PWA		HHDP		IE		ME		HAPC	
	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
age									0.0303	(0.0013)
age-squared									-0.0004	(0.0000)
age 22	0.046	(0.022)	0.032	(0.023)	0.029	(0.010)	0.025	(0.015)		
age 26	0.099	(0.035)	0.087	(0.024)	0.065	(0.010)	0.058	(0.016)		
age 30	0.155	(0.049)	0.147	(0.025)	0.104	(0.010)	0.093	(0.017)		
age 34	0.205	(0.064)	0.202	(0.027)	0.137	(0.010)	0.123	(0.018)		
age 38	0.206	(0.079)	0.208	(0.029)	0.120	(0.010)	0.103	(0.020)		
age 42	0.228	(0.094)	0.236	(0.030)	0.126	(0.010)	0.105	(0.021)		
age 46	0.225	(0.116)	0.240	(0.032)	0.106	(0.010)	0.082	(0.023)		
age 50	0.225	(0.116)	0.233	(0.032)	0.088	(0.010)	0.061	(0.022)		
period 1995	0.192	(0.020)	0.139	(0.017)	0.209	(0.009)	0.212	(0.014)		
period 1999	0.020	(0.033)	-0.040	(0.016)	0.054	(0.009)	0.061	(0.014)		
period 2003	0.001	(0.047)	-0.064	(0.015)	0.053	(0.009)	0.063	(0.015)		
period 2007	0.080	(0.062)	0.010	(0.014)	0.148	(0.009)	0.162	(0.016)		
period 2011	-0.121	(0.077)	-0.196	(0.015)	-0.036	(0.009)	-0.019	(0.017)		
period 2015	0.075	(0.092)	-0.002	(0.016)	0.178	(0.009)	0.198	(0.018)		
period 2019	0.218	(0.108)	0.153	(0.017)	0.338	(0.010)	0.361	(0.020)		
cohort 1945	0.041	(0.038)	-0.057	(0.052)	0.024	(0.019)	0.020	(0.036)		
cohort 1949	0.106	(0.042)	0.020	(0.049)	0.072	(0.017)	0.065	(0.032)		
cohort 1953	0.155	(0.051)	0.078	(0.046)	0.104	(0.015)	0.094	(0.029)		
cohort 1957	0.188	(0.063)	0.119	(0.044)	0.12	(0.014)	0.106	(0.026)		
cohort 1961	0.206	(0.076)	0.143	(0.042)	0.121	(0.013)	0.103	(0.024)		
cohort 1965	0.228	(0.090)	0.170	(0.041)	0.126	(0.012)	0.105	(0.021)		
cohort 1969	0.245	(0.104)	0.190	(0.039)	0.125	(0.011)	0.101	(0.019)		
cohort 1973	0.259	(0.118)	0.206	(0.039)	0.123	(0.011)	0.095	(0.017)		
cohort 1977	0.260	(0.134)	0.217	(0.039)	0.106	(0.012)	0.075	(0.016)		
cohort 1981	0.271	(0.149)	0.232	(0.040)	0.100	(0.012)	0.066	(0.015)		
cohort 1985	0.272	(0.164)	0.237	(0.041)	0.084	(0.013)	0.046	(0.015)		
cohort 1989	0.273	(0.179)	0.240	(0.042)	0.068	(0.014)	0.027	(0.015)		
cohort 1993	0.276	(0.194)	0.244	(0.045)	0.054	(0.016)	0.010	(0.017)		
Var(period)									0.0108	(0.0054)
Var(cohort)									0.0030	(0.0017)

clustered in their primary schools and in their subsequent secondary schools). These models rely on the distributional assumptions made on the error terms, being zero-mean normally distributed, thus interpreting period and cohort effects as deviations or shocks.

Table S4.1 presents the parameter estimates and their standard errors for all the five APC models examining female employment. While for PWA, HHDP, IE, ME these

include the estimates for the age, period, and cohort dummies, for HAPC we have the coefficients for age and age-squared, along with the estimates of the variances for the random effects of period and cohort. This is performed only for Bangladesh, for which we have enough evenly repeated cross-sectional datasets. Looking at the signs and magnitudes of the estimated parameters, the APC results complement the conclusions from the graphical examination of these effects.

S5 Heterogeneity in Trends of Norm-related Outcomes

Here we plot the marginal effects of wealth, location, and education on our outcome variables. We estimate the marginal effects by regression; the outcome variables on wealth, location (rural versus urban), higher education (secondary and tertiary education versus no or primary education); their interactions with year of birth; and state fixed effects. Standard errors are clustered by the state. For variables that have a life cycle—i.e., variables that change as an individual ages, for example employment—we control for age in the regression.

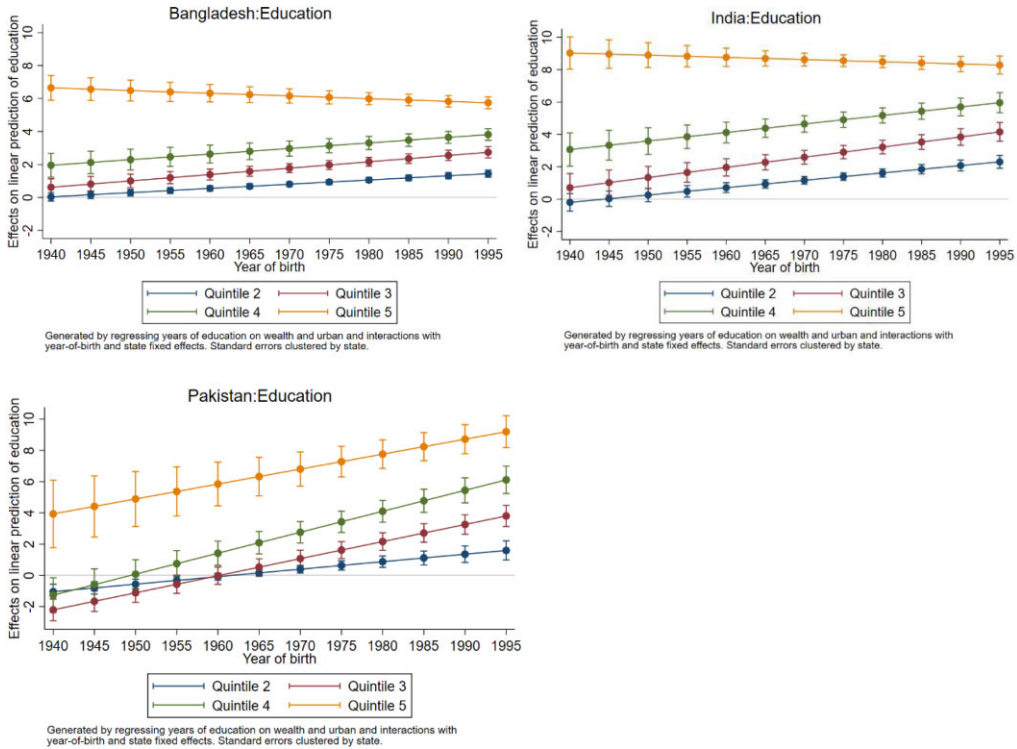
As usual, point zero on the vertical axes of the graphs denotes the line of insignificance. What we focus on is the slope of the marginal effects. Move from left to right of the marginal effects to compare the difference between old and more recent cohorts who are categorized into five different wealth quintiles, urban versus rural resident, and higher versus lower education level. The marginal effect analysis shows that in terms of our outcome variables, urban women have progressed the least vis-à-vis rural women, followed by higher educated women vis-à-vis lower educated women. The richest women have made the most progress vis-à-vis less rich and poor women; however, we do not see any uniform pattern of progress in terms of countries and outcomes.

Since employment is presented in the main part of the paper, we present here the heterogeneity for education, age at first birth, agency, and IPV experience.

i. Education

[Figure S5.1](#) below shows the marginal effects of wealth on education and [fig. S5.2](#) shows the marginal effect of location on education.

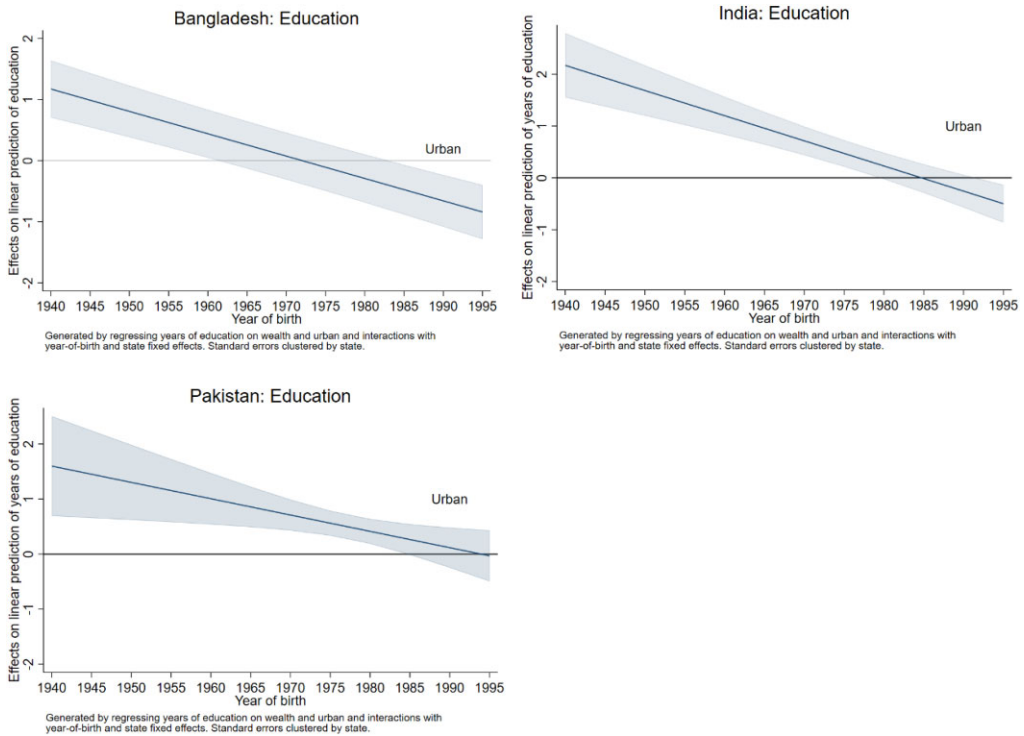
Figure S5.1. The Marginal Effect of Wealth on Years of Education for Bangladesh (top-left), India (top-right), and Pakistan (bottom-right)



Source: DHS rounds.

Note: The marginal effects are estimated by regressing the outcome variable on wealth, or location (rural versus urban) or higher education (secondary and tertiary education versus no or primary education), its interactions with year of birth, age, and state fixed effects. Standard errors are clustered by the state. The graphs show that the richest women have fared better than other women in years of education across cohorts. This is evident in the slope of the fourth and fifth quintiles, which is steeper than the slopes of the other quintiles with a positive differential effect of wealth.

Figure S5.2. The Marginal Effect of Location on Education for Bangladesh (top-left), India (top-right), and Pakistan (bottom-right)



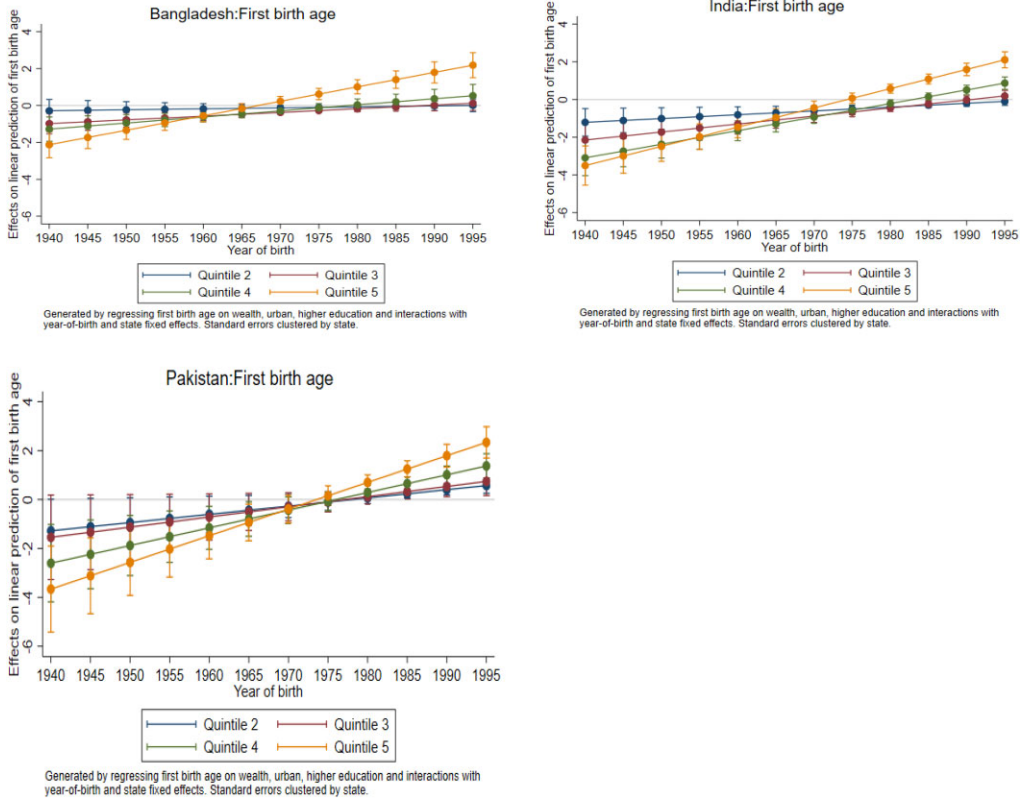
Source: DHS rounds.

Note: The marginal effects are estimated by regressing the outcome variable on wealth, or location (rural versus urban), its interactions with year of birth, age, and state fixed effects. Standard errors are clustered by the state. Unlike wealth, women who live in urban areas have not progressed better in terms of years of schooling, vis-à-vis rural women.

ii. First-birth age

Figure S5.3 shows the marginal effects of wealth on first birth age, while fig. S5.4 shows the marginal effects of location and education on first birth age.

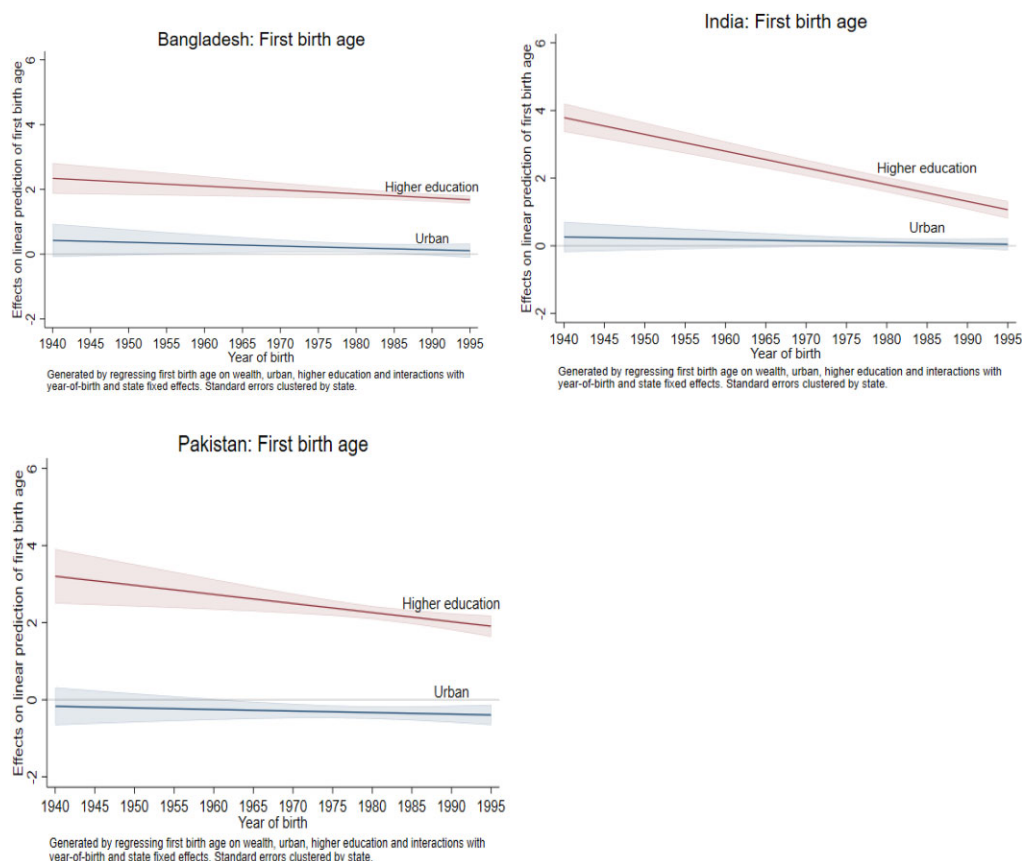
Figure S5.3. The Marginal Effect of Wealth on First Birth Age for Bangladesh (top-left), India (top-right), and Pakistan (bottom-right)



Source: DHS rounds.

Note: The marginal effects are estimated by regressing the outcome variable on wealth, or location (rural versus urban) or higher education (secondary and tertiary education versus no or primary education), its interactions with year of birth, age, and state fixed effects. Standard errors are clustered by the state. Women in the fifth quintile have fared better than other women in the age at first birth in all three countries over cohorts. While the differential effect of wealth was initially negative to zero for these countries for richer women born in the early years, this effect turns positive and increases faster for the richest women born in more recent years.

Figure S5.4. The Marginal Effect of Education and Location on First Birth Age for Bangladesh (top-left), India (top-right), and Pakistan (bottom-right)



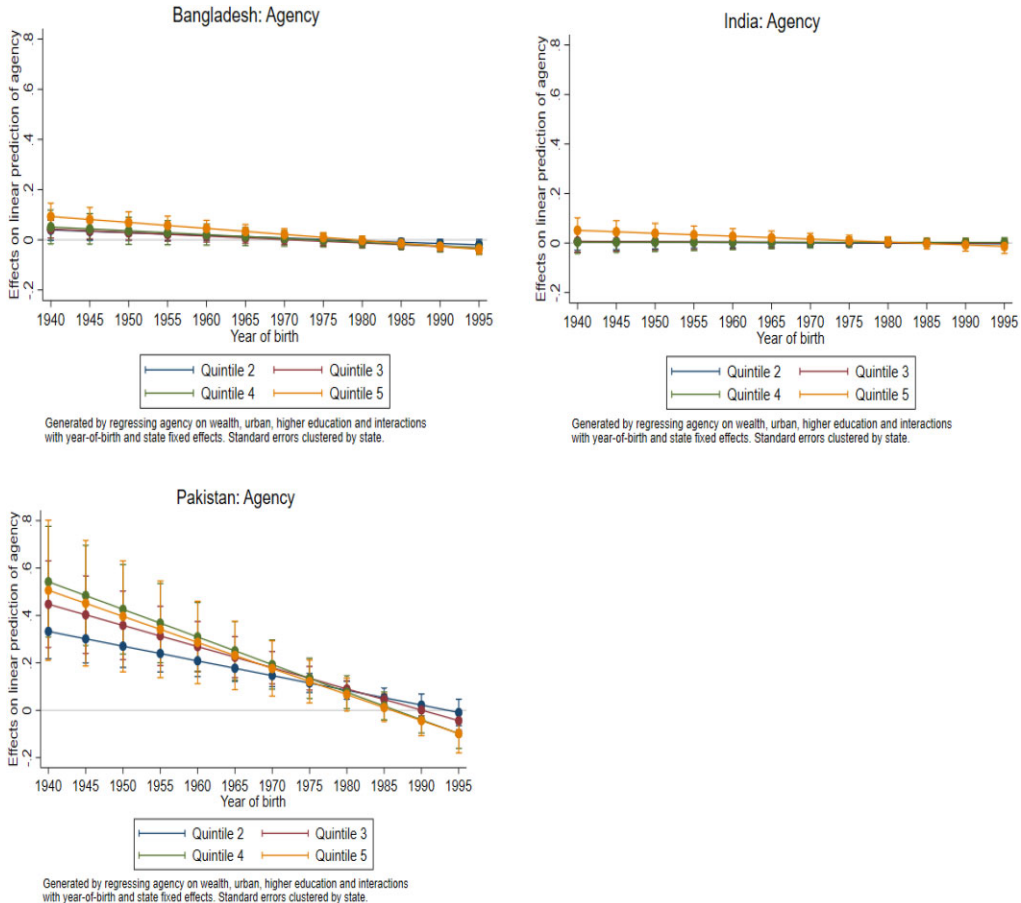
Source: DHS rounds.

Note: The marginal effects are estimated by regressing the outcome variable on wealth, or location (rural versus urban) or higher education (secondary and tertiary education versus no or primary education), its interactions with year of birth, age, and state fixed effects. Standard errors are clustered by the state. Women with higher education and urban women have not fared better in age at first birth. We observe a declining marginal effect of education in all countries.

iii. Agency

Figure S5.5 shows the marginal effects of wealth on agency, while fig. S5.6 shows the marginal effects of location and education on agency.

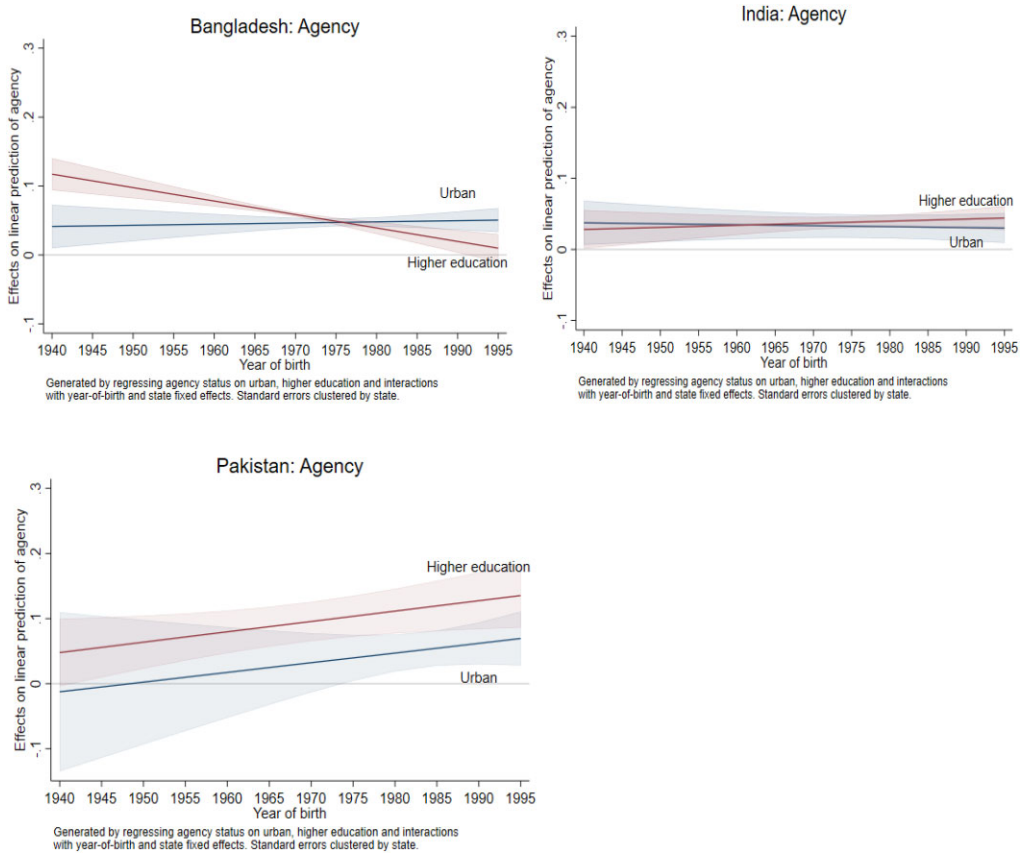
Figure S5.5. The Marginal Effect of Wealth on Agency for Bangladesh (top-left), India (top-right), and Pakistan (bottom-right)



Source: DHS rounds.

Note: The marginal effects are estimated by regressing the outcome variable on wealth, or location (rural versus urban) or higher education (secondary and tertiary education versus no or primary education), its interactions with year of birth, age, and state fixed effects. Standard errors are clustered by the state. Women in the fifth quintile have not fared differently from other women in participating in at least one decision within the household in all countries.

Figure S5.6. The Marginal Effect of Education and Location on Agency for Bangladesh (top-left), India (top-right), and Pakistan (bottom-right)



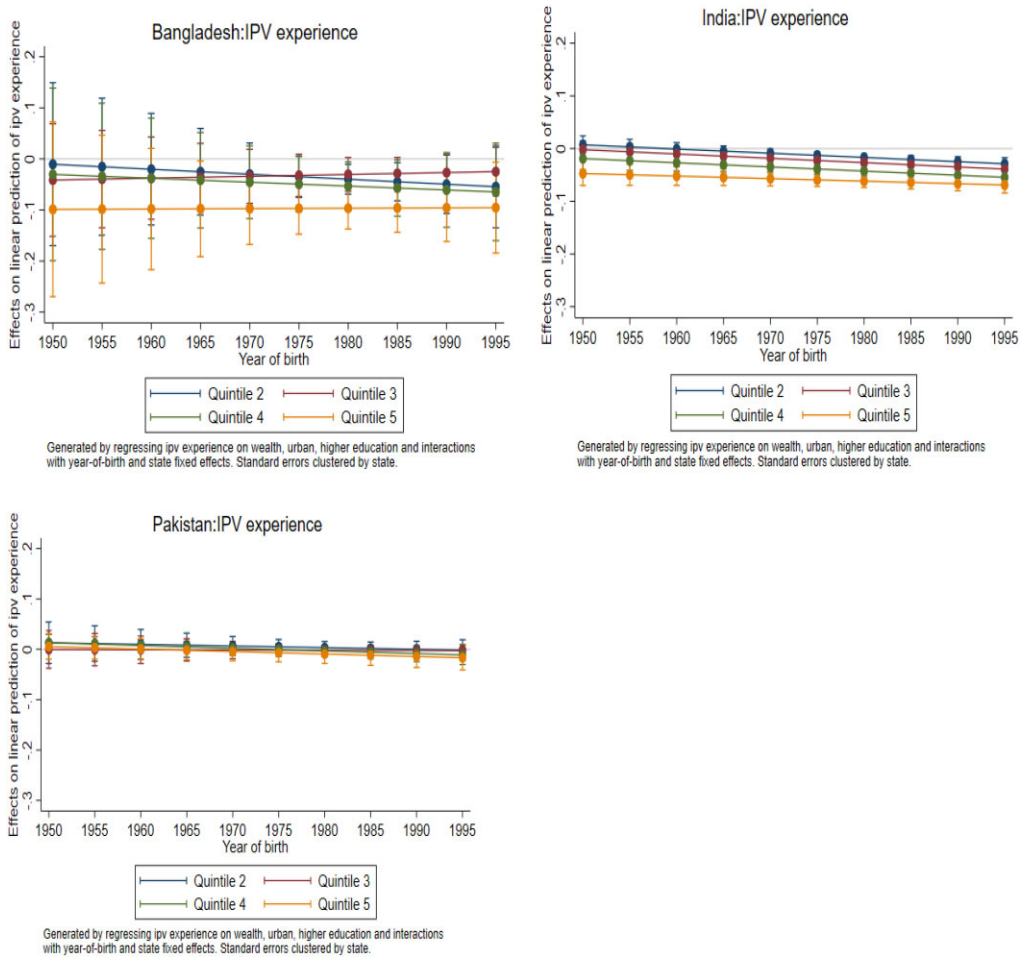
Source: DHS rounds.

Note: The marginal effects are estimated by regressing the outcome variable on wealth, or location (rural versus urban) or higher education (secondary and tertiary education versus no or primary education), its interactions with year of birth, age, and state fixed effects. Standard errors are clustered by the state. Except Pakistan, urban women have not progressed better vis-à-vis rural women in decision making within the household. Similarly, except Pakistan, more educated women have not progressed better vis-à-vis less educated women in decision making.

iv. IPV experience

Figure S5.7 shows the marginal effects of wealth on Intimate Partner Violence (IPV), while fig. S5.8 shows the marginal effects of location and education on IPV.

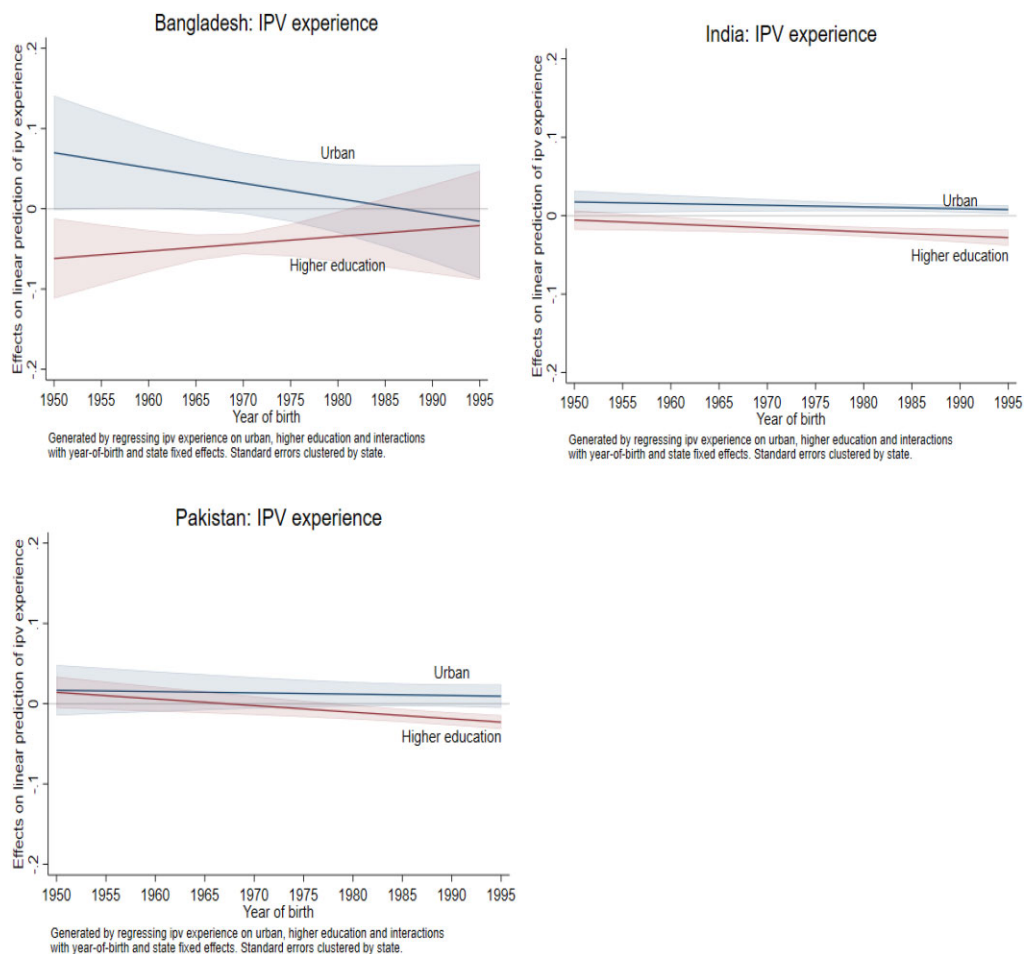
Figure S5.7. The Marginal Effect of Wealth on Intimate Partner Violence (IPV) Experience for Bangladesh (top-left), India (top-right), and Pakistan (bottom-right)



Source: DHS rounds.

Note: The marginal effects are estimated by regressing the outcome variable on wealth, or location (rural versus urban) or higher education (secondary and tertiary education versus no or primary education), its interactions with year of birth, age, and state fixed effects. Standard errors are clustered by the state. Except India, women in the fifth quintile have not fared better than other women in intimate partner violence experience in all countries. The trend of the marginal effect for the fifth quintile is not different from other quintiles and mostly insignificant in Bangladesh and Pakistan.

Figure S5.8. The Marginal Effect of Education and Location on IPV experience for Bangladesh (top-left), India (top-right), and Pakistan (bottom-right)

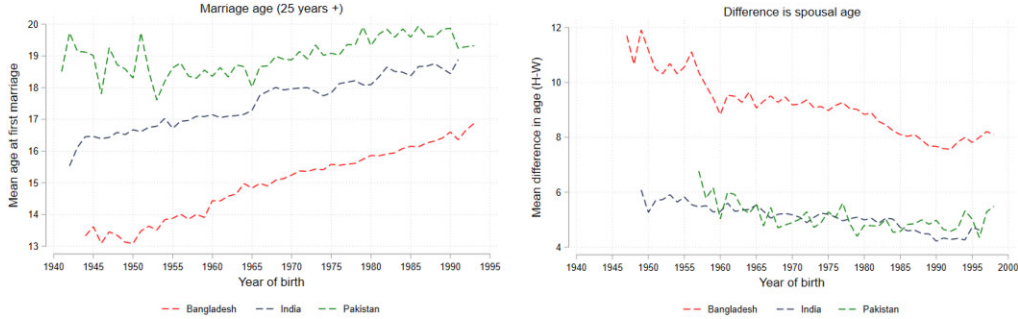


Source: DHS rounds.

Note: The marginal effects are estimated by regressing the outcome variable on wealth, or location (rural versus urban) or higher education (secondary and tertiary education versus no or primary education), its interactions with year of birth, age, and state fixed effects. Standard errors are clustered by the state. More educated women and urban women have not fared better in intimate partner violence experience vis-à-vis less educated and urban women respectively.

S6 Additional Trends in Other Gender Outcomes

Figure S6.1. Trends in Age at First Marriage (left); and Difference in Years of Age between Spouses (right)

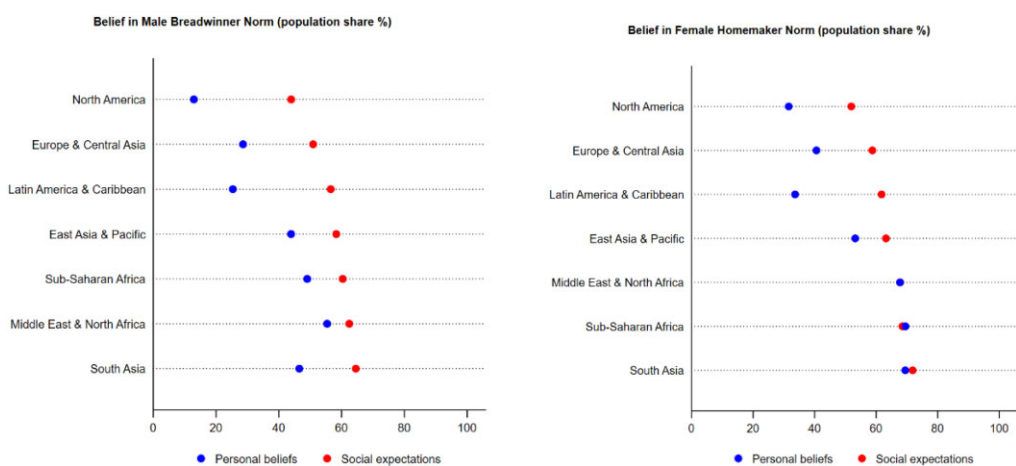


Source: DHS rounds.

Note: This graph shows the mean value of each variable for each cohort. The left graph measures on the vertical axis the mean age at first marriage for women born in a birth year. The right graph measures on the vertical axis the mean difference in age between women born in each year and their spouses.

S7 Pluralistic Ignorance Across the World: Gaps Between Personal Beliefs and Social Normative Expectations on Female Homemaker and Male Breadwinner

Figure S7.1. Personal Beliefs and Social Normative Expectation on Male Breadwinner (left) and Female Homemaker (right)



Source: Survey on Gender Equality at Home.

Note: Share of population who hold personal beliefs about the normative statements are calculated as the regional averages that “agree” or “strongly agree” with the statements. Social expectations are calculated as the share of the reference group believed to agree with the above normative statements on average for each region.