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Inheritance and women's empowerment: The heterogeneous effect of property rights

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Abstract

This paper investigates the role of household socio-economic characteristics in shaping responses to policy interventions when traditional norms are strong, focusing on the impact of land inheritance amendments on women's empowerment in India. Leveraging changes to the Hindu Succession Act, which granted women the right to inherit ancestral property, and a simple conceptual framework with testable prediction, I show that the diverging results that can be found in the literature about the amendments can be explained by the heterogeneous responses to such policy changes. Using representative survey data, I find that the amendments positively affected education, especially among women from rural, landowning households with smaller plots of land. These women also experienced improved marriage market outcomes. The impact on female labor force participation varied across the socioeconomic spectrum, with more educated women showing increased participation in higher-paying jobs, while less educated women in rural areas either left the workforce or transitioned to less demanding occupations. This research contributes to understanding the complex dynamics of policy responses, highlighting the importance of considering the interplay between cultural practices, household characteristics, and socioeconomic factors in policy design and implementation, especially in contexts of high inequality.

Keywords Hindu Succession Act · Education · Female labor force participation · Marriage market · India

JEL classification J16 · I20 · J12 · J21

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1 Introduction

Growing evidence suggests that traditional customs affect how people react to new policies. In particular, this emerging literature is studying how these customs influence families' inter-generational transfers. For example, in Ghana, La Ferrara and Milazzo (2017) studies how matrilineal practices affect how land is divided and how much education children get when inheritance laws change. In Ghana and Indonesia, Ashraf, Bau, Nunn and Voena (2020) found that only families from ethnic groups that practice bride prices invest more in their daughters' education when new schools are built. Bau (2021) studied how pension reforms affect education choices in groups where married couples live with either the husband's or wife's parents in Indonesia and Ghana. This literature, however, focuses primarily on heterogeneity by ethnic groups with different norms. On the other hand, there is a limited understanding of how traditional norms intersect with various facets of an individual's identity. As individuals' characteristics, from their social status to their economic situation, interact with their evolving surroundings, their beliefs and motivations change, thus shaping their behaviors and perspectives (Bau and Fernández, 2021). This limited understanding leads to oversimplified interpretations of policy reactions, and raises one question: How do household economic characteristics mediate the responses to institutional reforms that challenge traditional cultural norms?

This paper attempts to address this question by examining how households' and individuals' characteristics influence response to policy changes, focusing on the impact of land inheritance on women's empowerment. I focus on India, a country that is particularly interesting for this study because various influential factors like caste, class, religion, and ethnic groups significantly shape households' behaviors, constraints, and inequalities (Eswaran, Ramaswami and Wadhwa, 2013; Islam et al. 2021). I take advantage of a policy change introduced by several states in India, the amendments to the Hindu Succession Act (HSA), which granted women the right to inherit family land and dwellings, impacting the dynamics of property transfer within households residing in these states. I leverage the extensive literature which has already assessed the effect of the HSA on women's situation, with mixed conclusions: Research on the HSA's effects on women shows contradictory results. Roy (2015) and Deininger, Goyal and Nagarajan (2013) disagree on whether women actually inherited land, with Roy finding women received education as compensation for not inheriting, while Deininger found they got both education and land. The literature also diverges on labor supply effects: Bahrami-Rad (2021) found decreased work participation due to unearned land income and improved social status, whereas Heath and Tan (2020) showed increased work due to greater inheritance and bargaining power.

I examine how socioeconomic characteristics - particularly land ownership - mediate household responses to inheritance policy reforms within traditional patrilocal systems. I first provide a simple conceptual model to discuss the role of land ownership in driving heterogeneous effects and seemingly diverging findings. First, I discuss the fact that mounting evidence shows that women rarely inherit land (Agarwal, 1994), especially because of patrilocality - daughters traditionally leave for their husband's households upon marriage (Behrman, Pollak and Taubman, 1982; La Ferrara and Milazzo, 2017). Therefore, granting daughters their share of the land

implies land fragmentation, which impacts productivity (Bahrami-Rad, 2021). This leads me to my first prediction: for households for whom land fragmentation is a greater risk, daughters will not receive land inheritance but may receive additional education as compensation. In households that do not rely on their land, daughters may receive the assets. This is in line with Roy (2015) work, and qualitative evidence that shows that only daughters from richer families get part of the family property.

Next, I investigate why parents would increase their daughters' education: I consider the well-established U-shaped relationship between education and labor force participation (LFP in the following) in India due to the many constraints women face in the labor market (Klasen and Pieters, 2015; Afridi, Dinkelman, Mahajan and Zhang, 2018) to hypothesize that the increase in education aims primarily at improving daughters' marriage market outcomes. This leads to prediction two: women from households with smaller plots of land increase their education to marry into better households.

Finally, because both Heath and Tan (2020) and Bahrami-Rad (2021) find effects on female LFP, although in different directions, I investigate the situation of working women to understand who and what is driving the labor supply effect. As mentioned, in the context of India, only women at both ends of the educational level distribution are working. From this, I expect the effect to be heterogeneous across the education distribution: as the amendment increased women's bargaining power, the most educated women increase their LFP in white-collar and higher-paying jobs, while the least educated are either leaving the workforce or switching to less difficult types of occupations, such as non-agricultural jobs.

I test these predictions using a representative survey of the Indian population at the state level, the National Family Health Survey (NFHS) 2005, and especially the married women sample containing important fertility and marriage variables for women. In the main specification, I restrict the main sample to landowning households and interact the size of the land owned with treatment cohorts: I consider a woman treated if she was between 0 to 10 years old at the time of the amendments, and lives in an amended state. I find results that align with the predictions: I show that the amendments have a positive impact of about a year of education for women living in rural areas and who come from families that own land, especially those with smaller plots. Because these families are much more reliant on land production, they may find it challenging to divide their land, which is a valuable asset, and they choose to invest in their daughters' education instead. In addition, I find an increase in marriage market outcomes: women who acquired more education are more likely to marry a more educated man, from a wealthier family, which aligns with empirical evidence about education as an important factor in the marriage market (Klasen and Pieters, 2015; Afridi et al., 2018).

Next, I use an additional source of information, the Indian Human Demographic Survey (IHDS) 2005, and leverage the IHDS's detailed questions on work type: the IHDS has been conceived specifically to assess women's and children's work in depth, including unpaid work in the family or family farm. I find that the impact of the changes in the law on the likelihood of working in certain types of occupation varies by type of work. I find a negative effect on farm work and work with animals, but a positive effect for salaried positions and non-agricultural occupations (although less robust): farm work and work with animals are mainly performed by less

educated rural women, and considered difficult, while non-agricultural occupations, like manufacturing or teaching, are considered better suited for women, but usually performed by a relatively similar demographic. Salaried jobs are usually held by highly educated women. These findings validate the last prediction.

I check the robustness of the results in various ways. First, I make sure that both datasets converge on the findings when using a similar sample and methodology. I find that the results are very similar, despite the smaller number of observations in the IHDS. Next, I check for the possible endogeneity of land and land size. I show that land and land size are not affected by the amendment using a naive regression analysis: I do not find any significant effect following the amendments. Because both datasets only contain information on marital households' assets if the women are married, I check that this variable correctly proxies for land in the natal households. I replicate the main analysis for a sample of daughters still living in their natal household, for which the reported land is *de facto* the land owned by the natal family, and find results close to those in the main results. The results are also unchanged if I reproduce the estimation excluding women who report that their natal family was better off or worse off than their marital family, a category in which women who married up or down in terms of land size would belong. I also check the results excluding certain states with specific characteristics, as well as the first amendment, Kerala, which removed the coparcenary system entirely. Finally, I check the results if I use the same outcome variables in the IHDS and NFHS. Overall, the results are robust.

This paper contributes to several strands of the literature. First, this paper contributes to the expanding literature on the asymmetric effect of social policies, especially in developing countries. An emerging literature studies specifically the effect of cultural practices in shaping policy responses, as per La Ferrara and Milazzo (2017) in Ghana or Ashraf et al. (2020) in Ghana and Indonesia. Few papers move away from ethnic groups to study other identity factors, such as caste or class: Cassan (2019) uses India's affirmative action policies to show that such policies may fail to reach women, especially low-caste women, demonstrating the importance of the intersection of vulnerabilities in the design of public policies. Similarly, Islam et al. (2021) uses a field experiment randomly assigning the rank among a set of physicians of the same gender but with different castes and years of experience and shows that the intersection of gender and caste may trigger different outcomes. This paper bridges the two by showing how pre-existing socioeconomic differences generate heterogeneous responses to policies that challenge traditional norms: individuals navigate policy changes taking into account the norm and their own characteristics, such as land ownership.

Next, I make a substantial contribution to the existing literature on the amendments to the HSA. As previously highlighted, a large body of literature has emerged investigating the effects of the amendments on several types of outcomes: economic empowerment (Deininger et al., 2013; Roy, 2015; Bose and Das, 2017; Sapkal, 2017; Heath and Tan, 2020), marriage outcomes (Roy, 2015; Mookerjee, 2019; Calvi, 2020; Heath and Tan, 2020), and health and mortality (Rosenblum, 2015; Bhalotra, Brulé and Roy, 2020; Calvi, 2020). This paper proposes a theory-driven heterogeneity analysis to analyze the different findings in the literature and how they

can all operate together. This paper argues that heterogeneity by land ownership and level of education can help explain the seemingly conflicting results.

Finally, this paper speaks to a larger literature on women's empowerment in developing countries. More specifically, it relates to the expanding body of literature that highlights the link between women's empowerment and property rights (Klasen and Lamanna, 2009; Duflo, 2012; Fernández, 2014; Meinzen-Dick, Quisumbing, Doss and Theis, 2019). There is broad consensus, as emphasized by Meinzen-Dick et al. (2019), regarding the positive effects of women's land rights in particular on their bargaining power, decision-making authority in matters of consumption, investments in human capital, and intergenerational transfers. These benefits not only impact women but society more generally (Agarwal, 1994; Roy and Tisdell, 2000; Panda and Agarwal, 2005). By shedding light on the importance of ownership of important assets when studying response to policy that challenge traditional norms such as patrilocality, I argue that broadly expanding access to property rights will not affect all individuals similarly and may further exacerbate existing inequalities, pointing out the importance of theory-driven heterogeneity analysis when implementing policies in context with high inequalities.

2 The Hindu Succession Act (1956) and its amendments (1986 - 2005)

This section provides an outline of the key aspects of the amendments, and a brief history of women's land, property, and succession rights in India.

From the 12th century A.D. to 1956, succession rights for Hindus were governed by two systems: Mitakshara in most states and Dayabhaga mainly in Assam and West Bengal. In both systems, it was difficult for a woman to access her family's property. An important feature of the Mitakshara system, which is still a predominant characteristic of India's property system, is the division of property into two different forms: separate property, which is everything that has been self-acquired during a lifetime, and joint property, shared in the coparcenary system.[1] Joint property is a legal notion referring to everything that has been inherited from one's ancestors, as well as any property jointly acquired or included in the joint property. Nowadays, it is mainly composed of agricultural land and dwellings (Agarwal, 1994; Rosenblum, 2015). Before 1937, colonial laws continued to restrict the possibility of inheritance of both types of property for women. They were changed to allow widows to use the land acquired from their husbands' separate and joint properties. In 1956, the Hindu Succession Act reformed the ancient system to unify the law and improve women's access to succession: daughters of a Hindu male dying without a will were eligible to inherit from their father's separate property as well as his part of the joint property (Brule, 2010). However, the Act did not allow women to be part of the coparcenary themselves or to access the joint property by birth as their brothers could.

As a step toward gender equality, five states decided to amend the HSA to enable women to be part of the coparcenary by birth and to inherit their ancestral property, similar to their male counterparts. These states were Kerala in 1976, Andhra Pradesh in 1986, Tamil Nadu in 1989, and Karnataka and Maharashtra in 1994 (Fig. 1). It is

[1] A union of family members sharing the joint property.

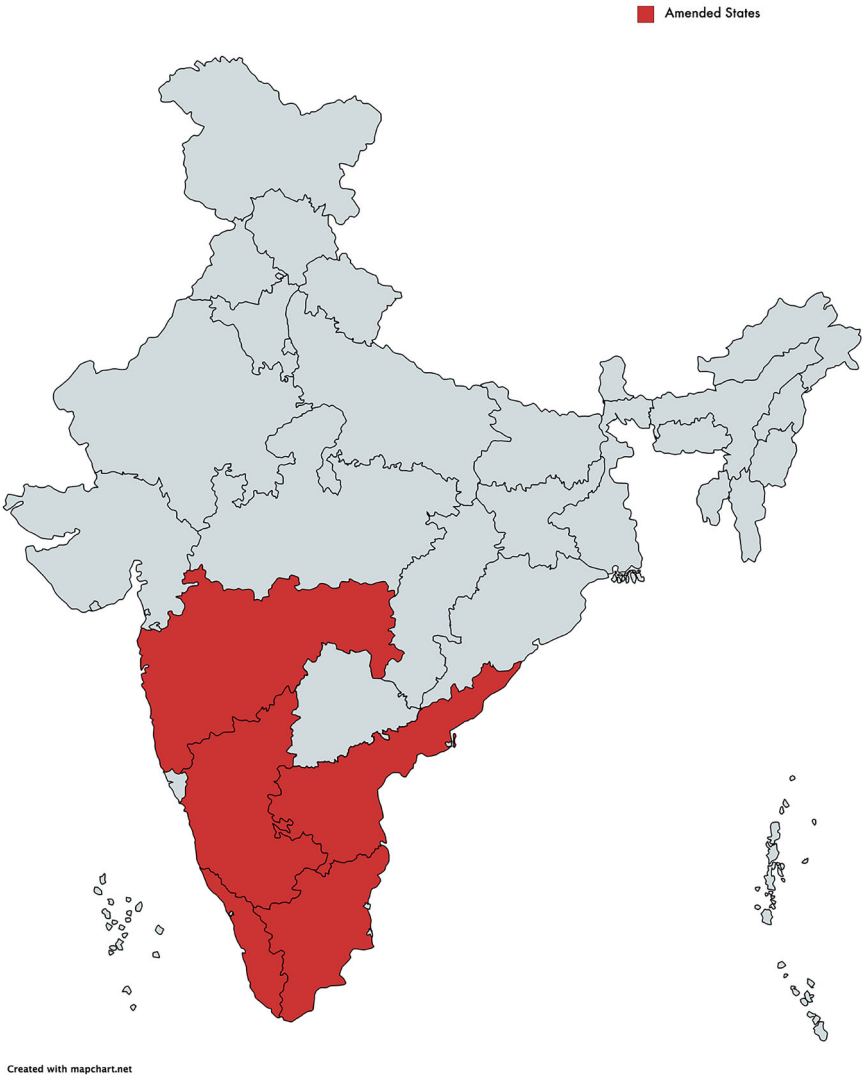

Fig. 1 Amended states

important to note here that Kerala's amendment is slightly different from the others: Kerala's state government decided to completely abolish the joint property system.

These amendments share several notable features. Firstly, they apply exclusively to daughters within Hindu families, including close groups such as Jains, Sikhs, and Buddhists. It is a common practice in India to have laws specific to certain religions. Additionally, daughters are entitled to inherit property only if it has not been divided before the amendments, which occurs if the grandfather or father passed away after the amendments (Agarwal, 1994; Roy, 2015). Lastly, access to inheritance is contingent upon the timing of marriage, with only women married after the amendments being able to benefit from the changes.

In 2005, the federal government decided to amend the HSA for all states in India, resulting in the Hindu Succession Act Amendments (HSAA). This reform is very similar to the previous amendments passed in the five states: the reform gave women the right to be part of the coparcenary by birth and hence to access joint property. The purpose of this paper is to use the amendments to isolate the effect of a change in succession laws on women's situations.

In the context of the HSA, three closely linked terms are inheritance rights, property rights, and access to land rights. The HSA primarily concerns inheritance and the possibility of inheriting ancestral property through the coparcenary system. Coparcenary, which is mainly composed of land, is the simplest and most common way of accessing land since the land market is scarce: access to inheritance grants *de facto* access to land rights. As most land is privately owned, property rights matter more than cultivating or using the land. In the following, I use these three notions interchangeably, except where indicated. More information on the Indian system of property, and especially land, can be found in Agarwal (1994, 1995).

The next section details how the literature has taken advantage of the features of the amendments to identify their effects on women's empowerment, as well as the different conclusions the existing works have reached.

2.1 Review of the HSA amendments' literature

As a large-scale, ambitious reform with seemingly exogenous implementation, the amendments have been used extensively to answer various questions about the effect of property rights on women's empowerment. Nevertheless, there is a lack of definitive consensus on crucial outcomes such as education, labor force participation, and domestic violence resulting from the amendments. In this paper, I posit that these conflicting results might be explained by heterogeneous responses to the amendments that have not been adequately accounted for in existing papers. I review the most important studies in this field, highlighting their main findings and suggested mechanisms, while also noting any conflicting findings among them. Table 1 presents a list of the key papers examining the main outcomes under scrutiny here-inheritance, education, and labor force participation-including authors, publication year, outcomes studied, identification strategy, results, and data utilized. A more detailed table is attached in the Appendix (See Table 8) with other outcomes studied in the literature.

The first set of results concerns bargaining power for women as measured by decision-making and autonomy. Heath and Tan (2020) shows that the amendments increased women's autonomy using an index for freedom of movement and decision-making in the household. Mookerjee (2019) adopts a similar strategy by using measures of autonomy across several dimensions (health, purchases, expenditure, family visits, etc.) and arrives at a similar conclusion, with additional insight: the paper shows that bargaining power also increases for the husband, away from other members of the household. The author links this to a change in household composition: a decline in joint households in favor of nuclear households. Deininger, Jin, Nagarajan and Xia (2019) show that the amendments increased access to bank accounts, an indicator of empowerment and autonomy, although the authors find no effect on sanitary latrines, an asset preferred by women. These findings on autonomy and decision-making can be linked to other papers examining marriage and marital

Table 1 Review of the literature

Author	Data	Identification Strategy	Results
Dependent Variable 1: Actual Inheritance			
Deininger et al. (2013)	REDS 2006	Age at reform	Increase
		Timing death of father	
		Gender	
Roy (2015)	REDS 1999	Age at reform	No effect
	NFHS 1992-2005	Timing death of grandfather	
Dependent Variable 2: Education			
Bose and Das (2017)	IHDS 2005	Married at reform	Increase
Deininger et al. (2013)	REDS 2006	Age at reform	Increase
		Timing death of father	
		Gender	
Deininger et al. (2019)	REDS 2011	Timing death of father	Increase
		Gender	
Heath and Tan (2020)	NFHS 2005	Age at reform compared to avg. age marriage	No effect
	NSS 1988- 2004	Religion	
Roy (2015)	REDS 1999	Age at reform	Increase
	NFHS 1992-2005	Timing death of grandfather	
Sapkal (2017)	NSSO 1999-2005	Age at reform	Increase
Dependent Variable 3: Labor Force Participation			
Bahrami-Rad (2021)	NFHS 1992-2016	Religion	Decrease
		Marriage after HSA	
Heath and Tan (2020)	NFHS 2005	Age at reform compared to avg. age marriage	Increase
	NSS 1988- 2004	Religion	
Sapkal (2017)	NSSO 1999-2005	Age at reform	Increase

outcomes. Bahrami-Rad (2021) shows that women affected by the amendments were more likely to marry a cousin, as an attempt by families to keep property among relatives, and Roy (2015) finds an increase in dowry upon marriage. Deininger et al. (2019) finds an increase in the share of assets in marriage. Some papers find conflicting results regarding age at marriage (Deininger et al., 2013; Roy, 2015), either a positive effect or no effect, although these are secondary outcomes in the papers.

Overall, women do seem to benefit from an uncontested positive effect on bargaining power. While the effects on marriage patterns are not necessarily directly comparable across papers, they seem complementary and point to increased empowerment (increased dowry and assets in marriage have been linked to protection of women in cases where inheritance is lacking (Makino, 2019), and marrying at an older age also appears to correlate with higher bargaining power (Chari, Heath, Maertens and Fatima, 2017)).

The second set of results relates to health, violence, and mortality. The literature here can be divided into three areas: health of women affected by the amendments, violence (especially against women), and health of children, especially daughters.

First, Calvi (2020) finds that the amendments increased women's nutritional outcomes such as BMI and reduced illness and risk of death. Regarding violence, the findings are mixed. While Amaral (2017) finds a decrease in intra-household violence via better matching in the marriage market, Anderson and Genicot (2015) identify an increase in suicide for both men and women, a decrease in differences in male-female suicide rates, and a higher incidence of wife-beating, reflecting a higher conflict rate within households. Amaral (2017) argues that these differences stem from several methodological considerations: she uses more precise measures that do not account for other forms of suicide such as the farmer suicide phenomenon in South India, which is known to decrease female suicide and increase male suicide rates. Additionally, she argues that sample restriction can affect results if the sample accounts for other types of household violence beyond intra-spouse violence; using individual-level data, she can restrict the sample accordingly. Finally, Amaral (2017) incorporates different characteristics into the model, such as state linear trends. In sum, a replication analysis has already been conducted to account for the differences between these two papers on violence against women. Regarding children's health, Rosenblum (2015) finds that the amendments appear to have increased female child mortality and lowered fertility, a finding aligned with Bhalotra et al. (2020), who show that households affected by both the amendments and the introduction of ultrasound technology exhibit an increase in female infant mortality, son-biased fertility stopping, and are less likely to have girls, especially if the firstborn was already a girl.

To conclude, regarding health and violence, the impacts are mixed: while the increase in autonomy highlighted previously appears to increase women's access to healthcare and decrease their risk of dying from disease or malnutrition, the amendments seem to have complex effects on violence, potentially triggering conflicts and increasing mortality risks, even more so for the second generation.

Finally, I present research on outcomes related to economic empowerment. The outcomes of interest are inheritance, education, and labor force participation. A first contradiction emerged regarding whether women had access to inheritance: both Deininger et al. (2013) and Roy (2015) use the India Rural Economic and Demographic Survey (2006 and 1999 waves) to study the effect of the amendments on women's inheritance of land: Deininger et al. (2013) finds a positive effect, while Roy (2015) finds a null effect, with an increase in gifts to brothers. The educational effect is more consensual among studies and is found to be significant and positive (Bose and Das, 2017; Deininger et al., 2013; Roy, 2015; Sapkal, 2017), except for Heath and Tan (2020), who finds an insignificant effect, arguing that their sample is too young. Roy (2015) links the increase in education to compensation for not granting their daughters the land. Results on labor force participation contrast between Heath and Tan (2020) and Bahrami-Rad (2021). Heath and Tan (2020) use the 2005 National Family Health Survey and finds an increase in work participation, especially work for cash (vs. in kind), work for another person, and year-round work following the 1976-1994 amendments. Using a non-cooperative bargaining model, they show that increased autonomy can lead to greater control over one's income and therefore, higher gains from working. In contrast, Bahrami-Rad (2021) uses repeated waves of the NFHS from 1992 to 2016 to assess the effect of the 2005 national reform and finds a decrease in work, especially in agriculture, for family, and for

someone else. The results of Bahrami-Rad (2021) follow a more standard income effect: as women's unearned income increases, they can withdraw from the labor force, influenced by social norms against women working outside the home.

To sum up, the existing literature emphasizes four effects of the amendments: (1) increased education as compensation for reduced land inheritance (Roy, 2015); (2) increased education alongside land inheritance (Deininger et al., 2013); (3) decreased labor force participation due to unearned income from land and improved social status (Bahrami-Rad, 2021); and (4) increased labor force participation due to enhanced bargaining power from land ownership (Heath and Tan, 2020). Channels (1) and (2) contradict each other on the actual access to inheritance, and (3) and (4) contradict each other on the direction of the effect on LFP. In addition, for channels (3) and (4) to work, women have to inherit or at least be positively affected in terms of bargaining power. A summary of the main papers and their similarities and divergences is provided graphically in Fig. 2.

Regarding how these papers address the differences in findings: the divergent results between Deininger et al. (2013) and Roy (2015) receive explicit attention from the latter author, who demonstrates that using grandfather's time of death as an eligibility factor instead of father's time of death reverses the effect to negative regarding actual inheritance access.[2] However, Roy (2015) does not address why Deininger et al. (2013) obtained positive results in the first place. On educational outcomes, Heath and Tan (2020) directly acknowledges their contradiction with the broader literature, attributing their insignificant findings to sample composition, specifically, that their respondents were too young at the time of the survey. In contrast to these explicit discussions of methodological differences, Bahrami-Rad (2021) and Heath and Tan (2020) offer no direct comparison of their divergent findings. It should be noted that these two have many observable differences in their approaches including dataset selection, which amendments they incorporate (the four early adopters or the 2005 national one), and their primary outcome measures, which might contribute to their conflicting results.

I contribute to this literature by highlighting the role of heterogeneity in explaining the effect of the HSA and bridging the different results in the literature, especially regarding the work force and human capital investment.

3 Conceptual framework

This section presents a conceptual framework to understand how inheritance reforms generate heterogeneous responses across families. I model families as utility-maximizing units that navigate trade-offs between inheritance, education, marriage arrangements, and female labor force participation. These strategies vary across the wealth and education distribution, as families' social positioning shapes both perceived and actual returns to different investments. The analysis demonstrates how institutional reforms interact with pre-existing inequalities to produce heterogeneous behavioral responses. The conceptual framework mainly draws from Afridi, Bishnu

[2] Indeed, the father's death might reflect the father's property only (separate property), and not joint property, where most of the land is.

and Mahajan (2024) and Botticini and Siow (2003). The former has been calibrated using Indian data, while the latter has been used in different work on India, such as Roy (2015), making these two particularly relevant to the context of this work.

3.1 Model set-up

I consider a household with two children, a son and a daughter such that $g \in \{m, f\}$, in a context with patrilocal marriage norms, where sons remain with parents to work on the family land while daughters join their husbands' families upon marriage (Botticini and Siow, 2003). In the following, subscript f relates to the daughters, m to the sons, and h to the daughter's husbands. A variable without subscript is at the household level. I assume that these parents are altruistic-they want to maximize the welfare of both children-but face trade-offs due to social norms and their own need for labor on the land. A key constraint is land fragmentation risk: land, defined by a continuous variable l, is treated as a productive asset, and under patrilocal norms, land inherited by daughters (l_f) effectively transfers outside the household (Agarwal, 2003; Agarwal, Anthwal and Mahesh, 2021). This creates disincentives for sons to remain and invest in family agricultural production (Botticini and Siow, 2003). Consequently, land is generally bequeathed to sons, but due to parental altruism, parents compensate daughters through lump-sum transfers such as dowries, also a continuous variable given by d (without subscript, as this always goes to the daughters), or increased educational level e. These mechanisms depend on initial wealth and, crucially, the size of land l.

Empirical evidence strongly supports these mechanisms. Land inheritance by women remains extremely rare due to patrilocality barriers documented in Agarwal (1995). However, parents compensate through alternative transfers: Roy (2015) shows that while HSA reforms made women more likely to inherit, they were also more likely to gift land to brothers, while parents increased transfers through dowries and education. Similar compensatory patterns appear in Ghana (La Ferrara and Milazzo, 2017) and the Philippines (Estudillo, Quisumbing and Otsuka, 2001a, b). When inheritance does occur, Agarwal et al. (2021) show it is more likely in smaller, more endowed families with sufficient resources to avoid jeopardizing productive efficiency.

The model unfolds over two key decisions: first, parents allocate resources between education e and inheritance as transfer t ($t_{fg} = d + \mathrm{l_f} l_g$); second, children marry and make labor force participation decisions, for simplicity a binary variable p. Parents decide in the first period and are forward-looking: they anticipate the outcomes of the second period on the labor and marriage market. I describe the model backward to understand parental decisions.

3.2 Period 2: Marriage markets and labor force participation

Children's predetermined education e and inheritance t levels determine their returns in both marriage and labor markets. Marriage market outcomes and labor market participation are jointly determined.

3.2.1 Marriage market

The marriage matching function is such that educational attainment and family transfers serve as complementary signals in the marriage market: low e_f or t_f women typically marry low e_h men, and vice-versa for high e_f or t_f. This is supported by evidence of homogamy in India (Afridi et al., 2018; Anukriti and Dasgupta, 2017).

3.2.2 Labor force participation

Following Afridi et al. (2024), women's labor decisions follow a U-shaped pattern with education. For a low e_f, economic necessity dominates: labor income is essential regardless of social constraints, hence p_f is equal 1 and concentrated in blue-collar jobs. For moderately educated women, social norms push them out of the labor force as their returns to home production (i.e. childcare) are higher and stigma costs increase, so p_f is equal 0. For high e_f women benefit from high market returns that overcome social constraints: p_f is equal 1 and concentrated in white-collar jobs. Transfers like inheritance create competing effects: they reduce p_f incentives through income effects but increase autonomy and effective wages. Whether one dominates depend on returns on the market.

This generates the following outcomes from period 2: e_f increases e_h but decrease p_f, until labor market returns are higher than home production market. Then, women's employment depends first on their marriage outcomes, and on whether market returns exceed home production returns, given by their education and transfer levels.

Empirically, this pattern explains why female labor force participation in India has stagnated despite educational improvements (Klasen and Pieters, 2015), as education can serves the marriage market through signaling home production capacity rather than employment potential (Afridi et al., 2018). For the effect of transfer, Heath and Tan (2020) show that the autonomy effect dominates in the HSA context for high paying wages, and, according to Bahrami-Rad (2021), that the income effect dominates for difficult work.

3.3 Period 1: Parental resource allocation

parents in period 1 anticipates the outcomes of period 2 as described above, so parents face a resource allocation problem where they can achieve similar welfare outcomes for daughters through different combinations of inheritance, education, and dowry. The key constraint is that land fragmentation becomes economically costly when plots fall below viable agricultural size.

This generates distinct parental strategies: if l is large, the household can provide actual inheritance without severe fragmentation costs, therefore l_f is high, as parents choose to bequeath land to daughters while also offering education and dowry if the budget allows. if l is small, the household faces prohibitive fragmentation costs and substitute inheritance with investments in education and dowry to achieve similar marriage market outcomes, so that e_f and d are higher than non-landed counterparts. Families without wealth are constrained and can offer neither.

3.4 The HSA amendments

Inheritance reforms expand women's legal rights to family property. The effects depend on whether families can afford to implement these rights without incurring excessive fragmentation costs.

In terms of period n°1, if l is small, reforms create legal rights that cannot be economically exercised, so l_f remains at 0, but leads to increased compensatory education e_f investments. For larger land holdings with manageable fragmentation costs, daughters may receive some inheritance, so l_f is positive.

Prediction 1 Households with large land holdings are more likely to grant daughters their legal inheritance share because fragmentation costs are manageable relative to plot sizes. Conversely, households with small land holdings will substitute inheritance with increased education investments because fragmentation costs exceed the benefits of direct inheritance.

Therefore for period n°2, increased education improves marriage market outcomes due to positive assortative matching, so higher e_f leads to higher e_h:

Prediction 2 Within smaller land-holding households, increased education investments will improve marriage market outcomes.

Regarding labor force participation, outcomes depend on initial endowment and inheritance, as e_f and p_f follow a U-shaped relationship, and t_f affects lfp_f $\mathrm{p_f}$ through an income effect or a bargaining power effect:

Prediction 3 Among highly educated women from larger land-holding families, inheritance reforms should increase formal sector labor participation through enhanced bargaining power. Among less educated women from smaller land-holding families, reforms may decrease labor participation or shift work toward less physically demanding occupations.

Based on these predictions, heterogeneous outcomes are to be expected in terms of pre-marital investments, marriage, and labor market returns from a change in ownership rights through inheritance in a context with strong cultural norms regulating marriage practices and large income inequalities. In the following, I test these predictions using survey data from India and the HSA amendments.

4 Empirical strategy

The literature on the HSA's amendments not only diverges in findings but also in empirical strategies. The amendments have been studied using various data sets and methodologies, especially as eligibility criteria for the amendments vary across additional dimensions. Age, state of residence, year of marriage, family composition, and religion all determine exposure to the amendments. Most of the literature uses the variation in the implementation of the amendments in time (between 1976 and 1994 and in 2005 for the national amendments) and in space (Kerala, Andhra Pradesh, Tamil Nadu, Karnataka, and Maharashtra) to causally evaluate the impact on women's empowerment using a difference-in-differences methodology. Time is used in three ways: either using age at the time of the amendments (Roy, 2015), marriage year relative to the 2005 reform (Bahrami-Rad, 2021) or age at the time of the amendments relative to age at marriage (Heath and Tan, 2020) (a woman must be

younger than the 10th percentile of age at marriage at the time of the amendments). As time and space do not allow for precise identification of the treated group, most papers add a third identification factor. First, only Hindu, Sikh, Jain, and Buddhist households were eligible for the amendments, a factor used by both Heath and Tan (2020) and Bahrami-Rad (2021). Second, Roy (2015) and Deininger et al. (2013) use the fact that father and grandfather deaths matter, as only non-partitioned properties are eligible for the amendments. Finally, because most of the joint property consists of land and dwellings, households with land are more affected than non-landowners (Roy, 2015). Most other papers in the literature use one of these methods, as detailed in Table 1.

In this paper, I follow the second methodology of Roy (2015). I identify the treated group as women living in amended states, who were young enough at the time of the amendments: between 0 and 10 years old. This particular group is expected to be highly affected, as these women were either not yet of school age or were in the early stages of their education, leading parents to take the amendments into consideration when making decisions regarding their daughters' education. For example, a Hindu woman born in 1992 in the state of Karnataka would likely be considered part of the treated group, as she was 2 years old at the time of the amendments. I include two partially treated groups: the 11- to 15-year-old cohort and the 16- to 20-year-old cohort (Roy, 2015). In both cohorts, a significant share of women were already out of school and potentially married, reducing the likelihood of their decisions being influenced by the HSA amendments. The omitted group includes women who were at least 21 years old when the amendment occurred, as well as women of all ages residing in states that did not amend the HSA. I exclude women born after the amendments for two main reasons: First, my study focuses on a sample of married women, and the cohort born after the amendments is younger at the time of the survey. Consequently, I can only include women who married at a younger age, potentially creating sample bias. Second, as demonstrated by Bhalotra et al. (2020), the amendment, along with the widespread adoption of ultrasound technology, led to an increase in selective abortions. Analyzing the effects of this biased cohort falls beyond the scope of this paper.

In addition, as I hypothesize that land matters in explaining households' behavior following the amendment, I interact the cohort dummies with a dummy equal to one if the household owns land. The first regression is expressed in Equation (1):

$$\begin{aligned} y_{isk} = {} & \sigma_s + \beta_k + \beta_2\, 0\,\text{to}\,10\,\text{years} - \text{old} \times \text{Land} + \beta_3\, 11\,\text{to}\,15\,\text{years} \\ & - \text{old} \times \text{Land} + \beta_4\, 16\,\text{to}\,20\,\text{years} - \text{old} \times \text{Land} + \beta_7\, 0\,\text{to}\,10\,\text{years} \\ & - \text{old} + \beta_8\, 11\,\text{to}\,15\,\text{years} - \text{old} + \beta_9\, 16\,\text{to}\,20\,\text{years} - \text{old} + \beta_{10} Land + u_i \end{aligned} \tag{1}$$

y_{isk} represent dependent variables, the outcome for woman i in state s and who was born in year k. β_1, β_2, and β_3 are the coefficients of interest: they capture the effects of belonging to a certain age cohort in an amended state. *0to10years - old* equals 1 if she was 0 to 10 at the time of the amendment, and similarly for *11to15years - old* and *16to20years - old* for the corresponding cohorts. σ_s is the state fixed effect, β_k is a year-of-birth fixed effect, and u_i is the error term. The dummy variable *Land* captures

the effect of belonging to a household that owns land. In all specifications, I use the sample weight for the household provided by the survey administrators.

While this first specification allows me to isolate households that were eligible for the amendments, it does not allow me to understand the effect of land size and endowment. To address this question, I use a second specification reported in Equation (2) where I restrict the sample to landed households and interact the cohort dummies with the size of the land, a proxy for the importance of the land, as the larger the land, the smaller the consequences of fragmentation:

$$\begin{aligned} y_{isk} = {} & \sigma_s + \beta_k + \beta_2\, 0 \text{ to } 10 \text{ years} - \text{old} \times \text{Land Size} + \beta_3\, 11 \text{ to } 15 \text{ years} \\ & - \text{old} \times \text{Land Size} + \beta_4\, 16 \text{ to } 20 \text{ years} - \text{old} \times \text{Land Size} + \beta_7\, 0 \text{ to } 10 \text{ years} \\ & - \text{old} + \beta_8\, 11 \text{ to } 15 \text{ years} - \text{old} + \beta_9\, 16 \text{ to } 20 \text{ years} - \text{old} + \beta_{10} \text{Land Size} + u_i \end{aligned} \tag{2}$$

One concern with the specifications above is the endogeneity of land ownership and the land size. First, parents who exhibit less gender bias may be more inclined to purchase land for their daughters in anticipation of the reform. However, as noted by Roy (2015), the amendments specifically target ancestral property and not separate property, which is the category that would apply if parents were to purchase land in anticipation of the reform. In addition, she addressed this concern and reported no evidence suggesting that families affected by the amendments acquired more land in anticipation of the reform. Second, it is possible that women benefiting from the amendments married into households with smaller or larger plots of land. This second issue is even more concerning, as in the two surveys used in this paper, I can only observe land and land size in the marital family, instead of the natal family-the unit of interest. To ensure the validity of the results with my sample, I perform a naive regression using the identification variables as the dependent variables-land ownership, size of the land if any, marriage, and urban or rural residence-on the three cohort dummies in Table 9. I do not find any significant effect for the 0-to-10-years-old cohort, strengthening the homogeneity assumption. Additionally, in the robustness check section, I address this concern by using an unmarried sample of women for whom land size is reported for the natal family and restricting the sample to women who report that their marital family was equally wealthy as their natal family, following the work of Bose and Das (2017). I find that land size in the marital family seems to be an adequate proxy for land size in the natal family adequately.

5 Data

For this study, I first use the National Family Health Survey (NFHS). The NFHS dataset includes various measures related to education, labor force participation, and marriage outcomes. The survey interviews 124,385 women in 109,041 households. For the analysis, the main focus will be on the 2005 wave. [3] There are two reasons to use this dataset to address the question in this paper. First, it

[3] The NFHS dataset can be found here. International Institute for Population Sciences - IIPS/India and Macro International. 2007. National Family Health Survey NFHS-3, 2005-06: India: Volume I. Mumbai, India: IIPS and Macro International.

includes dedicated interviews focusing on women on various topics such as marriage, sexual activity, fertility, fertility preferences, and family planning: the "married women" questionnaire. These questions are crucial for empirically assessing the potential constraints around women's access to inheritance and the alternative forms of empowerment that might stem from the change in the law. Most importantly, the NFHS has been employed by several papers in the literature, including Rosenblum (2015); Roy (2015), Bhalotra et al. (2020); Heath and Tan (2020); and Bahrami-Rad (2021), allowing me to link my findings on the heterogeneous effects of the amendments to the potential conflicting results highlighted in the literature.

Education is measured as the number of years of education, which ranges from no education to above a bachelor's degree. The years of education are coded from 0 to 23. Regarding labor force participation, I consider a binary variable that takes the value of 1 if the woman is employed. [4] Because only slightly more than one-third of women are engaged in formal employment, the intensive margins (hours per day, salary, etc.) are rarely used in the literature; I follow existing work and focus on the extensive margin. Land ownership is measured as an answer to the question "How much agricultural land does this household own?". Other important measures such as urban or rural residence, religion, and age at marriage are described in tables.

The land size variable, originally measured in acres (see Fig. 3), is recoded into quartiles. The recoding divides households into distinct groups from Group 1, comprising households with the smallest land sizes, to Group 4, comprising households with the largest land sizes. This transformation accounts for potential non-linear effects in land ownership while increasing precision by expanding the number of observations per group compared to using the original variables in acres.

Table 2 reports the main descriptive statistics for the control group, the two partially treated cohorts, and the most treated group. As expected, the most treated group is the youngest, but also the most educated. Most individuals are Hindu, and around half live in urban areas. The 11-to-20 cohort is the most likely to be working by almost 10 percentage points (35% for the control group compared to 45%). Finally, 47% of the sample lives in households that own land. There is a difference between the control and treatment groups: households in the control group are more likely to own land on average. This is partly explained by the fact that these states are more rural. However, the size of landholdings, shown in the second part of the table, exhibits smaller initial differences across groups.

6 Results

Table 3 reports the main results from Equation (1). I report OLS coefficients and standard errors in parentheses. Column 1 presents the results for the number of years of education, and Column 2 for the likelihood of working. The main coefficient of

[4] The precise question is: "Aside from your own housework, have you done any work in the last seven days?"

Table 2 Descriptive statistics - NFHS

	Control		11 - 20 yo		0 - 10 yo	
	Mean	SD	Mean	SD	Mean	SD
Age	34.16	7.81	31.04	5.47	26.33	4.87
Education	5.24	5.36	6.32	5.22	6.84	4.96
Work	0.35	0.48	0.45	0.50	0.38	0.48
Age at Marriage	18.06	3.93	18.18	4.09	18.06	3.79
Land	0.47	0.50	0.34	0.48	0.31	0.46
Urban	0.43	0.49	0.51	0.50	0.47	0.50
Hindu	0.94	0.23	0.96	0.19	0.99	0.09
Sikh	0.04	0.19	0.00	0.04	0.00	0.02
Buddhist	0.02	0.12	0.03	0.17	0.01	0.09
Jain	0.01	0.08	0.01	0.08	0.00	0.04
Observations	51752		6826		3770	
Land Size	2.37	1.11	2.69	1.03	2.46	1.03
Observations	22980		2180		1061	

Descriptive statistics of the main variables. The sample used is the sample of married women between 21 and 50 years old from the NFHS 2005. *0 - 10 yo* equals one if the woman was between 0 and 10 years old at the time of the amendments in an amended state, and *11 - 20 yo* equals one if the woman was between 11 and 20 at the time of the amendments. *Control* is the rest of the sample. *Education* is years of education. *Work* is a dummy that equals one for women who worked in the past week. *Urban* equals one if the woman lives in an urban area, *Land* equals one if the household own land and the religion dummies. The last variables are religion dummies. *Land Size* the table shows the acres of land recoded into quartiles (four groups)

interest, *0 to 10 years-old* × *Land*, is positive and significant for both education (Column 1) and the likelihood of working (Column 2). These results are consistent with the literature on the educational effect of the amendments (Deininger et al., 2013; Roy, 2015; Sapkal, 2017) and LFP (Heath and Tan, 2020). Furthermore, in the Appendix, Table 10 presents additional results with the younger cohort divided into two: one ranging from 0-to-5 years old at the time of the amendments and another from 6 to 10. The results show that the most significantly impacted cohort is the 0-to-5 age group, suggesting that the amendments predominantly affected those who were not of school age when the changes were implemented (since schooling is mandatory from ages 6 to 14 in India).[5]

Regarding the magnitude of the effect, women benefiting from the amendments increased their education by 0.8 years, which lies between the findings of Roy (2015), who reported an increase of 1.02 years, and Deininger et al. (2013), who found a 0.3 years increase. The results are also very close to those of Heath and Tan

[5] *11-to-15 years-old* also exhibits a positive effect. One explanation for this effect is the dowry increase highlighted by Roy (2015), who noted that the amendments increased treated women's dowry for this cohort specifically. Because dowry increases the competitiveness of women, those unaffected by the amendments might have increased their education to compete with eligible women.

Table 3 Years of education and likelihood to work - NFHS

	(1) Years of Education	(2) Likelihood to Work
0 to 10 years-old × Land	0.817*	0.0794*
	(0.429)	(0.0456)
11 to 15 years-old × Land	0.269	0.0143
	(0.471)	(0.0430)
16 to 20 years-old × Land	0.0945	0.0601*
	(0.438)	(0.0317)
0 to 10 years-old	0.375	− 0.0462
	(0.331)	(0.0281)
11 to 15 years-old	0.455*	− 0.0239
	(0.255)	(0.0205)
16 to 20 years-old	0.0503	− 0.0237
	(0.209)	(0.0190)
Land	− 0.936**	0.0633*
	(0.363)	(0.0325)
Constant	1.976***	0.544***
	(0.589)	(0.0575)
N	62383	62388
R^2	0.115	0.077

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the NFHS, restricted to married women between 21 and 50 years old, and belonging to the Hindu, Sikh, Jain, and Buddhist religions. *Land* equals one if the household responded yes to the question "Does this household own any agricultural land?" The dependent variables are the number of years of education and the likelihood of working. The regressions include state and year-of-birth fixed effects and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

(2020) for work, as they found a 7 percentage point increase, while I find an 8 percentage point increase in the likelihood of working.

Table 3 establishes that the amendments increased education among women from landowning households. To test Prediction 1-that land fragmentation concerns vary by holding size, so do the education results-Table 4 restricts the sample to landowners and examines how effects vary with land size (acres own recoded in quartiles). *0 to 10 years-old* × *Land Size*, is negative and significant, while the coefficient *0 to 10 years-old* is positive and significant. The two coefficients together suggests that the positive effect seen in Table 3 is driven by women from families owning smaller plots of land (families in the first quartile of ownership). The results are shown graphically: I plot the average marginal effects in Figs. 4 and 5 for *0 to 10 years-old* and *11 to 15 years-old* by quartiles of acres of land. Compared to the control group, the 0-to-10-years-old cohort from small landowners (Groups 1 and 2) significantly increased their education. While the effect is not as strong, the conclusion tends to extend to the 11-to-15-year-old cohort. This supports the hypothesis that families with smaller plots face greater fragmentation costs and therefore substitute land inheritance with educational investments. Regarding the likelihood of

Table 4 Years of education and likelihood to work by size of family land - NFHS

	(1) Years of Education	(2) Likelihood to Work
0 to 10 years-old × Land Size	− 0.525***	0.0273
	(0.145)	(0.0185)
11 to 15 years-old × Land Size	− 0.310	0.0210
	(0.182)	(0.0172)
16 to 20 years-old × Land Size	− 0.159	− 0.00220
	(0.154)	(0.0212)
0 to 10 years-old	2.073***	− 0.0879
	(0.603)	(0.0776)
11 to 15 years-old	1.375***	− 0.106
	(0.387)	(0.0648)
16 to 20 years-old	0.761*	− 0.00979
	(0.429)	(0.0413)
Land Size	0.947***	− 0.0368***
	(0.110)	(0.00548)
Constant	− 0.570	0.690***
	(0.676)	(0.0973)
N	26236	26237
R^2	0.186	0.120

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the NFHS, restricted to married women between 21 and 50 years old, and belonging to the Hindu, Sikh, Jain and Buddhist religions. Unlike Table 3, this specification uses continuous land size (acres) rather than binary land ownership, and restricts the sample to landowners only. *Land Size* the table shows the acres of land recoded into quartiles (four groups). The dependent variables are the number of years of education and the likelihood of working. The regressions include state and year-of-birth fixed effects and household weights.***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

working, results are insignificant: the positive impact on LFP cannot be explained by household land size.

This validates **Prediction 1**: The expansion of access to land property through the amendments appears to have increased education, particularly for younger daughters from landed rural households, likely more reliant on agricultural production and more concerned about land fragmentation. In addition to these findings, I conduct a similar estimation using the type of residence in the interaction, as shown in Table 11. While imprecise, the results tend to strengthen the conclusion highlighted above: the education effect stems mainly from rural, landowning households, consistent with the fact that these households are more reliant on agricultural production.

According to **Prediction 2**, these more educated women are also more competitive in the marriage market and should achieve better outcomes. I use two metrics commonly employed in related literature to quantify these outcomes: groom quality, measured by husband education, and marital family wealth (Lu, Siddiqui and Bharadwaj, 2021).[6] Results are reported in Table 5, and align with the prediction: women in the 0-to-10 and

[6] Wealth does not include land ownership.

Table 5 Marriage market outcomes by land size - NFHS

	(1) Husb. Education	(2) Wealth of Marital Fam
0 to 10 years-old × Land Size	− 0.486***	− 12391.3***
	(0.136)	(2557.2)
11 to 15 years-old × Land Size	− 0.274	− 8214.2***
	(0.173)	(2229.5)
16 to 20 years-old × Land Size	− 0.183	− 4422.5
	(0.160)	(4869.8)
0 to 10 years-old	2.004***	30664.6***
	(0.545)	(8157.3)
11 to 15 years-old	1.187**	26437.2***
	(0.528)	(6563.8)
16 to 20 years-old	0.533	16582.6
	(0.465)	(13617.9)
Land Size	1.174***	24765.2***
	(0.135)	(1788.6)
Constant	1.610*	− 47210.2***
	(0.909)	(14458.7)
N	26038	26237
R^2	0.127	0.253

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the NFHS, restricted to married women between 21 and 50 years old, owning agricultural land and belonging to the Hindu, Sikh, Jain and Buddhist religions. *Land Size* is a categorical variable from 1 to 4, equal to the four quartiles of acres of land in response to the question: "How much agricultural land does this household own?" The dependent variables are the number of years of education of the husband and family wealth which is an indicator created by NFHS administrators and validated in different countries using expenditures and income at the household level. The regressions include state and year-of-birth fixed effects and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

11-to-15-year-old cohorts from households with smaller plots of land marry more educated husbands from wealthier families. [7]

So far, the results show that education increased for women who were younger at the time of the amendments and especially for women from households with small plots of land. This corroborates Roy (2015) findings: education serves as compensation for parents who are not willing to offer actual inheritance. Subsequently, this increase improved their competitiveness in the marriage market.

Next, I assess the effect of the amendments on LFP. Returning to the conceptual framework, in the context of India, the relationship between education and labor force participation is not linear: it is not obvious that more educated women would increase their workforce participation. If this were the case, we would find a positive effect for *0 to 10 years-old* × *Land Size* in Table 4, suggesting that the population that increased their education also works more. On the other hand, according to Bahrami-Rad (2021),

[7] It is not surprising that the *11 to 15 years old* cohort was also significantly and positively impacted in terms of marriage market outcomes in light of Roy (2015)'s results on dowry for this cohort.

following the amendments, women should work less because their increased education allows them to withdraw from difficult jobs that carry social stigmas. However, I do not find a negative effect either. Therefore, what, or who, drives the increase seen in Table 3? To address this remaining challenge, I use another dataset: the IHDS.

6.1 Alternative dataset: The IHDS

Leveraging the 2005 wave of the IHDS (Indian Human Development Survey) has a distinct advantage over the NFHS to address the remaining gap in our understanding of the effect of the amendments on LFP. The 2005 IHDS includes a comprehensive measure of employment, encompassing work on family farms or in family businesses, involvement with household animals, agricultural and non-agricultural work, as well as salaried positions. In addition, IHDS interviewers received specialized training to inquire about work-related activities of women and children, accounting for various types of activities they may be involved in. This information is particularly relevant for analyzing various activities within the household, such as agricultural work or family businesses, which might go under-reported in other surveys. I use the IHDS dataset in a manner consistent with the NFHS, by restricting the sample to married women between 21 and 50 years old - the Eligible Women sample in the IHDS - from households belonging to the treated religions. Descriptive statistics for the IHDS are in Table 12. [8]

I present in Table 13 the characteristics of women working in each type of occupation. Patterns are consistent with evidence highlighted in Section 3. Types of work deemed difficult are mostly performed by women with low level of education in rural areas: working with animals, on farms, or on agricultural land. When women report working with animals or on farms, it is mainly on family property; hence they come from households with land. Only half of the workers in agricultural work own land, so they might work for others. Working in the family business or salaried jobs (mainly white-collar jobs) is reserved for more educated women from wealthier families. These do not necessarily come from households with land, but they generally own more assets. Finally, non-agricultural jobs encompass various types of jobs that are in between, such as manufacturing. These jobs are mainly for uneducated but urban women.

I estimate a specification similar to Equation (1) in Table 6. I find that following the amendments, women eligible for the amendments from land-owning households worked less on the family farm and with household animals. On the other hand, they are more likely to work in salaried occupations and in non-agricultural jobs (Table 14 shows that work in non-agricultural jobs is driven by the 6-to-10-year-old cohort). Here, it is important to note that both *0 to 10 years-old* × *Land* and *0 to 10 years-old* are significant for most work type variables. To understand the interactions, Fig. 6 plots the predictive margins for women in non-land-owning and land-owning households, for the treated and control cohorts. I find effects for both landowners and non-landowners: farm work and work with animals decrease for landowners and

[8] To note that the definition of the eligible sample or married sample differs in the NFHS and in the IHDS and in how the literature used them. The NFHS includes currently married women, and the IHDS includes ever-married women, therefore divorced or widows. Most women being currently married, the results remains mainly unchanged if I restrict the sample to currently married women.

Table 6 Likelihood to work in different types of work - IHDS 2005

	(1) Farm	(2) Animal	(3) Business	(4) No Agri	(5) Agri	(6) Salary
0 to 10 years-old × Land	− 0.169**	− 0.186***	0.0209	0.0352***	0.0106	0.0384**
	(0.0679)	(0.0311)	(0.0242)	(0.00658)	(0.0433)	(0.0171)
11 to 15 years-old × Land	0.00984	− 0.159***	0.00857	0.0141	0.0522*	0.0150
	(0.0587)	(0.0488)	(0.0126)	(0.0115)	(0.0257)	(0.00952)
16 to 20 years-old × Land	0.0948	− 0.0547	0.00537	0.0124	0.123***	− 0.00214
	(0.0601)	(0.0465)	(0.00937)	(0.0148)	(0.0416)	(0.0213)
0 to 10 years-old	0.0875***	0.102***	− 0.0157	− 0.0161	− 0.0849***	− 0.00818
	(0.0268)	(0.0314)	(0.0163)	(0.0403)	(0.0162)	(0.0271)
11 to 15 years-old	0.0213	0.0783**	− 0.0149	− 0.0174	− 0.0332	− 0.0111
	(0.0270)	(0.0337)	(0.00905)	(0.0137)	(0.0282)	(0.0135)
16 to 20 years-old	− 0.0163	0.0192	− 0.0108*	− 0.0136	− 0.0681***	0.0119
	(0.0290)	(0.0325)	(0.00599)	(0.0190)	(0.0233)	(0.0146)
Land	0.470***	0.366***	− 0.0217***	− 0.0320***	0.0121	− 0.0416***
	(0.0549)	(0.0281)	(0.00265)	(0.00707)	(0.0267)	(0.00670)
Constant	0.140***	0.208***	0.0247	0.0205	− 0.0168	0.0607***
	(0.0461)	(0.0386)	(0.0154)	(0.0126)	(0.0247)	(0.0158)
N	26286	26286	26286	26286	26286	26286
R^2	0.382	0.230	0.013	0.036	0.117	0.026

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the IHDS, restricted to married women between 21 and 50 years old, and belonging to the Hindu, Sikh, Jain and Buddhist religions. *Land* equals one if the household answered "Yes" to the question "does this household own or cultivate any agricultural land?" The dependent variables are dummies equal to one if the woman works in a certain type of occupation. Wage and salary workers are classified as: *Salary* with monthly or annual pay, agricultural workers (*Agri*) with daily pay and an agricultural occupation, and non-agricultural wage workers (*No Agri*) covering all other daily wage workers. *Farm*, *Animal*, and *Business* are the types of work performed in the family or family business. The regressions include state, year-of-birth fixed effects, and household wieghts. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

increase for non-landowners. Salaried work increases for landowners (the effect is imprecise). The effect for non-agricultural work should be interpreted with caution: it seems that it decreased for non-landowners and increased for landowners, but the effects are very imprecise. The fact that both non-eligible and eligible women respond in terms of workforce participation makes sense, as the decreased participation of some may increase the opportunities for others, if households need outsiders to work on the farm or to take care of animals. Indeed, it seems that the amendments decreased the labor force participation of women on the family farm and with animals, potentially creating work for non-landed households in the village.

These findings validate **Prediction 3**: the effect on labor force participation is not uniform along the education distribution. There are two distinct patterns: first,

educated women increase their participation in salaried, formal, and high-paying jobs; second, less educated rural women either switch to inactivity or move to less difficult jobs, such as non-agricultural jobs. Returning to Section 3, we can use the U-shaped LFP curve to understand the results: as education increases, women at the lower-end of the distribution decrease their LFP, specifically for social status reasons, as working, especially in difficult jobs, is a sign of low status. If they still choose to work, for instance, because of household income constraints, the same increase in education can help them get better jobs. At the other end of the distribution, the most educated women are closer to the formal job market and are also the most likely to inherit following the amendments, according to Agarwal et al. (2021). In addition, even if their households do not own land, they are also more likely to inherit other forms of assets contained in the coparcenary: these households may possess various assets, including non-agricultural properties and residences, classified as ancestral property.[9] For these women, we can then hypothesize that the mechanism highlighted by Heath and Tan (2020) is at play: the unearned income from inheritance grants better bargaining power and enables them to enjoy the benefits of their work, increasing returns in the labor market. Finally, they are also already very educated; hence the increase in education would probably be marginal for them, explaining why the positive effect on education is concentrated among small landowners.

6.2 Robustness checks

6.2.1 The IHDS as an alternative dataset

Using the IHDS also allows me to perform various robustness checks to ensure that the results still hold. I reproduce Table 4 in Table 15 and Fig. 7, using Equation (2) and the sample of married women. I also reproduce the results on the marriage market outcome in Table 16 with the same variables - husband education and marital household wealth - and the interaction with urban residency (Table 17). All reproduce the effects obtained with the NFHS. In Table 18, I reproduce Table 15 with a particular insight: I use alternative definitions of land ownership, leveraging the detailed questions from the IHDS survey. Indeed, it could be that not only the size but also the actual use of the land matters. Therefore, I use the base question from the IHDS questionnaire about ownership of land to create a dummy variable equal to one if the interviewee answers yes. I refer to this dummy as *Own Land*. Next, I use the question on whether the household owns and cultivates the land-*Own and Cultivate*. Finally, I use questions about the share of this land that is rented out-*Rented Out*. The results are very similar to those using the NFHS for ownership of land, the variable closest to the one used in the main results, while other definitions are not significant.

[9] Deere, Oduro, Swaminathan and Doss (2013), in their study using a 2010 household asset survey in Karnataka conducted through the Gender Asset Gap project, demonstrate that residential properties are the most commonly inherited assets by women. These assets may require less maintenance, hold less social power, and are more likely to be shared with daughters. While not testable with the available data, it's also plausible that these women might have inherited these non-agricultural properties from their families, leading to an increase in unearned income and influencing their decisions regarding labor.

6.2.2 Measurement errors in land size

As mentioned in Section 4, one might be concerned that land ownership and the size of the land are only reported for the marital family, while the relevant level is the natal household. This paper is not the first to use marital family ownership as a proxy for natal ownership: Bose and Das (2017) uses the IHDS to study the effect of the amendments on women's education and the inter-generational effect of the amendments on their children's education, also using land ownership in the marital household as a proxy. The rationale stems from the fact that marriage in India, especially in rural areas, is characterized by strong homogamy in terms of caste and class (Dugar, Bhattacharya and Reiley, 2012; Banerjee, Duflo, Ghatak and Lafortune, 2013; Anukriti and Dasgupta, 2017), and land is a determinant of individuals' status, which is also linked to class (Tiwari, Goli, Siddiqui and Salve, 2022).

I test this hypothesis in two ways. First, I reproduce Equation (2) on a sample of unmarried women in the NFHS in Table 19. While the unmarried sample has various disadvantages for answering the question at hand, such as the number of observations and the selection problem-since unmarried women in India are a particular sub-sample of women-land ownership for this sample is *de facto* reported for the natal household. In Table 19, I restrict the sample to daughters of the head of the household: as these women still live in their natal families, the reported land is *de facto* the land of their natal family.[10] The results are close to those in Table 4: the education effect seems to be mainly driven by small landowners (despite the lack of significance for our cohort of interest). In addition, I also use the IHDS dataset to reproduce the results of Table 4 by restricting the sample to women who report that their natal family is comparable to their marital family. Again, as land is a crucial asset in India (Agarwal, 1994; Roy and Tisdell, 2000), women reporting a better-off or worse-off family may reflect a difference in land endowment. In Table 20, the results are similar to the baseline results found with the IHDS. Overall, these findings strengthen the validity of the results and the use of land size in the marital family as a proxy for the natal family.

6.2.3 Alternative control group

I follow Roy (2015) as well as Bose and Das (2017) and exclude several states that have different inheritance systems or are administratively or politically distinct: Jammu and Kashmir are administratively and politically different; West Bengal and Assam are governed by the Dayabhaga system, where there is no distinction between joint and separate properties in these states; finally, the northeastern states are also politically distinct. The final analysis is based on the 16 major states in India.[11] Columns 1 and 2 of Table 21 show the results from Equation (2) excluding these states from the control group. The results are consistent with the main analysis.

[10] It should be noted that some daughters of the household might have stayed with their natal family upon marriage. These cases can also strengthen confidence in the mechanism, so I keep them in the sample.

[11] Himachal Pradesh, Punjab, Uttarakhand, Haryana, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Orissa, Chhattisgarh, Madhya Pradesh, Gujarat, Maharashtra, Andhra Pradesh, Karnataka, and Tamil Nadu.

6.2.4 Kerala

As mentioned in Section 2, five states decided to amend the HSA to enable women to be part of the coparcenary by birth and to inherit ancestral property, exactly like their male counterparts: Kerala in 1976, Andhra Pradesh in 1986, Tamil Nadu in 1989, and Karnataka and Maharashtra in 1994. However, Kerala's amendment is slightly different from the others: Kerala's state government decided to abolish the joint property system entirely. In various papers in the literature, including Roy (2015) and Heath and Tan (2020), Kerala is excluded from the analysis to ensure that this different reform does not entirely drive the results. In Table 21, Columns 3 and 4 reproduce the results from Table 4: the results do not vary.

6.2.5 Dependent variables in the NFHS and IHDS

Years of education and the dummy variable for working are not exactly similar for the IHDS and the NFHS. In the NFHS, the number of years of education ranges from 0 to 23, while in the IHDS, it ranges from 0 to 16, with all years above 16 coded as 16. Additionally, the variable used for work in the NFHS reports whether the respondent has worked in the past 7 days, while the IHDS reports whether the respondent has worked in the past year, allowing me to account for seasonal work in particular. I recoded the education variable to range from 0 to 16 and used the alternative measure of work in the past year, which is also available in the NFHS. In Table 22, I find results aligned with the main analysis.

6.2.6 Time variable for work

Both the IHDS and the NFHS are convenient to analyze together as they both had survey waves in 2005. One important point to note when analyzing labor force participation in India is the sharp decline in LFP that occurred around 2005 (see Fig. 8). Because work is a time-variant variable, unlike education, the same cohorts might exhibit different results if surveyed in 2005 versus afterward: this is visible in Fig. 9, where I plot the share of women working by education level using the same 0-to-10-years-old cohort at the time of the amendments for the 2005 and 2016 waves of the NFHS. In Tables 23 and 24, I reproduce the results with the IHDS 2011, the next wave of the IHDS, which interviewed the same cohort as in 2005: I find that some results no longer hold, or do not hold as strongly. This can explain the difference between Heath and Tan (2020) and Bahrami-Rad (2021) on the similar variables they both use, as Bahrami-Rad (2021) also uses the NFHS 2016.

6.3 Bridging the gap in the literature

As highlighted in Section 1, different papers in the literature reach different conclusions that could be interpreted as contradictory. On the one hand, Roy (2015) shows that parents increased their daughters' education to compensate for reduced land inheritance, which aligns closely with Bahrami-Rad (2021)'s findings that, in a context like rural India, an increase in education would reduce labor force participation in difficult manual jobs. On the other hand, Deininger et al.

(2013) finds that an increase in both education and land inheritance enhances bargaining power, which, as per Heath and Tan (2020), leads to an increase in LFP. Can my findings above help us reach a consensus?

Overall, I find that the education results seem to be driven by small landowners in rural areas. For these households, allowing daughters to inherit land presents a risk in terms of land productivity, so they prefer to compensate their daughters with education instead-a phenomenon observed in other contexts (Jensen and Miller, 2017; La Ferrara and Milazzo, 2017). These women benefited from this increase in education in two ways: first, they increased their competitiveness in the marriage market, marrying more highly educated men from wealthier households. Second, they decreased their labor force participation in manual and difficult jobs, such as work with animals or on the family farm. On the other hand, women from wealthier families might have inherited or received some form of property, as suggested by Agarwal (1994), thereby increasing their unearned income and their participation in high-paying jobs in the formal job market. Finally, it seems that some of the least educated women chose not to leave the labor market but changed occupations, shifting from manual and difficult jobs to non-agricultural occupations, which are considered less strenuous, but the evidence is weaker. Therefore, the response to the amendments in terms of LFP varies according to the distribution of wealth and education.

One question remains: why do different papers reach different results on similar outcomes? Could the difference in findings be due to variations in samples or specifications? First, I investigate the possibility that the different identification strategies used in the literature drive the heterogeneous results by emphasizing different parts of the population. I reproduce the work of Heath and Tan (2020) as detailed in Appendix A in Table 26 using both the NFHS and the IHDS 2005. In this estimation, to be considered treated, a woman must be younger than the 10^{th} percentile of age at marriage at the time of the amendments. Women above the 90^{th} percentile of age at marriage constitute the control group. I interact the treatment dummy with the treated religions. [12] Unsurprisingly, as I use a very similar sample, I find results very close to those of the authors when using the NFHS: the results for work are significant and positive, while the results for education are not significant. However, when using the IHDS, the results are insignificant for both education and work. This suggests that: 1) landowners drive the education findings, which do not appear in empirical strategies that do not emphasize land ownership, and 2) the impact on LFP varies by datasets and variables used but is only partially explained by land ownership. [13] The heterogeneity and the literature are plot in Table 7.

Indeed, I show using the IHDS sample that different occupational variables yield contradictory results that can even out once aggregated. Even within the NFHS, Bahrami-Rad (2021) and Heath and Tan (2020) use different variables: agricultural and non-agricultural work in Bahrami-Rad (2021); clerical occupations, work all year, and work for cash in Heath and Tan (2020). Finally, Bahrami-

[12] The samples and codes are from Heath and Tan (2020) and can be found in the supplementary data here.

[13] Some results, particularly in the robustness checks section, do show a positive effect for work using the IHDS and interacting with land size. The effect appears positive and significant for the youngest cohort, in accordance with theory: wealthy households with larger landholdings are able to grant daughters some land, increasing their bargaining power and their LFP. The effect does not hold in all specifications, suggesting again that land size is not the main driver of heterogeneity in LFP.

Table 7 Bridging the gap in the literature

Decision n° 1: Education Outcomes	
Small Landowners	Large Landowners
Roy (2015); Bose and Das (2017); Deininger et al. (2013, 2019); Sapkal (2017)	Heath and Tan (2020)
Increased: as compensation for not increasing land ownership	No effect: as already educated and receiving inheritance
Decision n°2: Labor Force Participation	
Low Education/Less Wealthy	High Education/Wealthy
Bahrami-Rad (2021)	Sapkal (2017); Heath and Tan (2020)
Decreased: Increased education allows for better marriage market outcomes, reducing labor force participation	Increased: Gains driven by increased decision-making power and autonomy

Rad (2021) uses most waves of the NFHS, including the 2016 wave. This potentially impacts the results, as labor force participation decreased in India after 2005 (see Fig. 8). As demonstrated above, when using the 2011 IHDS-the next wave of the IHDS, which interviewed the same cohort-as shown in Table 24, I find different results for work. Hence, the survey year matters when assessing women's labor force participation.

Finally, there are structural differences between the datasets that can explain some contradictory findings. Table 25 shows that women in the NFHS have, on average, higher levels of education, are older, and belong to more urban, affluent, and educated households than those in the IHDS. Other papers using different surveys, such as Roy (2015) with the Rural Economic and Demographic Survey (REDS), focus on rural households, which can explain part of the difference between their work and Heath and Tan (2020) in terms of education.

7 Concluding remarks

This paper studies how household economic factors - especially landholding size and educational attainment - shape family reactions to changes in inheritance law under patrilocal marriage traditions. By analyzing the heterogeneous effects of the Hindu Succession Act amendments, I demonstrate, using a simple conceptual framework and testable predictions, that households' reactions to these changes are shaped by a complex interplay of factors, including land ownership, plot size, education and cultural practices such as patrilocality. The findings reveal that women from rural, landowning families with smaller plots experienced increased educational attainment, likely as compensation for reduced land inheritance. Additionally, these women saw improved marriage market outcomes, suggesting that education served as an alternative form of intergenerational transfer. The impact on female labor force

participation varied across the socioeconomic spectrum, with more educated women from wealthier households showing increased participation in higher-paying jobs, while less educated women either left the workforce or transitioned to less demanding occupations.

The key insight is that household characteristics determine how families respond to policies that challenge traditional inheritance practices. When inheritance laws change, not all families can or will respond the same way - their economic situation shapes their choices within existing cultural frameworks. This research shows that policy effectiveness depends on understanding how economic constraints interact with traditional institutions. Wealthier families with more land can afford to give daughters inheritance, while poorer families substitute with education investments instead. Both operate within the same cultural norms, but their economic circumstances lead to different strategies. The findings have important policy implications: simply expanding legal rights may not create equal outcomes. If policymakers ignore how economic differences shape responses to reform, new policies might actually worsen existing inequalities. Understanding these economic mediating factors is essential for designing effective policies in contexts where traditional institutions remain strong.

Data Availability Data is provided within the manuscript and codes are provided at this link: https://www.dropbox.com/scl/fo/gpx5iryb86f1iwhm0raqm/AFmRKp2OR6E1abBK9Z9f4XM?rlkey=xvlmu30td0gih13r15r7w74i9&st=2nqrawxq&dl=0.

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Author contributions I am the sole author.

Conflict of interest The author declares no competing interests.

8 Appendix

Figures 2–9

Fig. 2 Graphical Review of the Literature

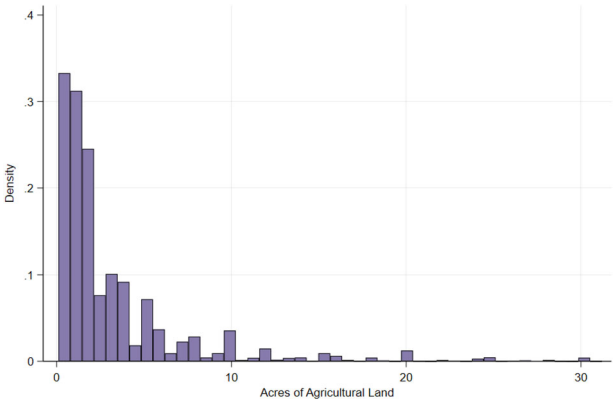


Fig. 3 Distribution of Land Size in the NFHS. Notes: Distribution of land size, measured as acres, in the NFHS 2005 dataset, prior recoding. The top 1% is removed for clarity

8.1 Annexe A -Identification strategy

In Table 26, I follow the identification strategy of Heath and Tan (2020). I use state of residence as the first identification factor. The authors use age at the time of the

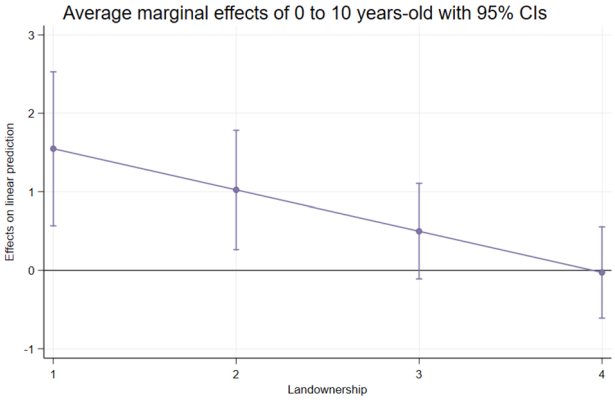


Fig. 4 Predicted Margins for Years of Education for Married Women 0 to 10 Years Old Cohort- NFHS. Notes: This figure uses the 2005 round of the NFHS, restricted to married women between 21 and 50 years old, owning agricultural land and belonging to the Hindu, Sikh, Jain and Buddhist religions. The figure plots the predictive margins for the 0 to 10 years old cohort by the four quartiles of acres of land owned by the households

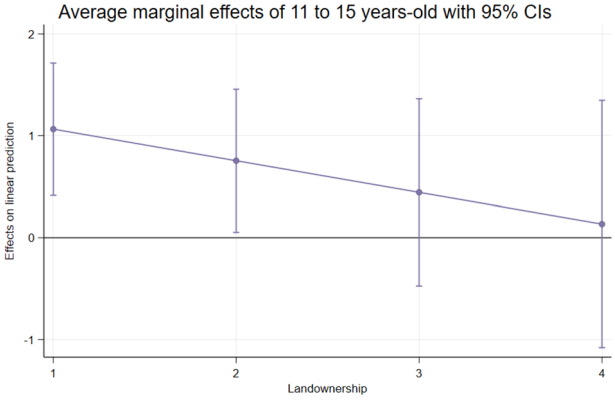
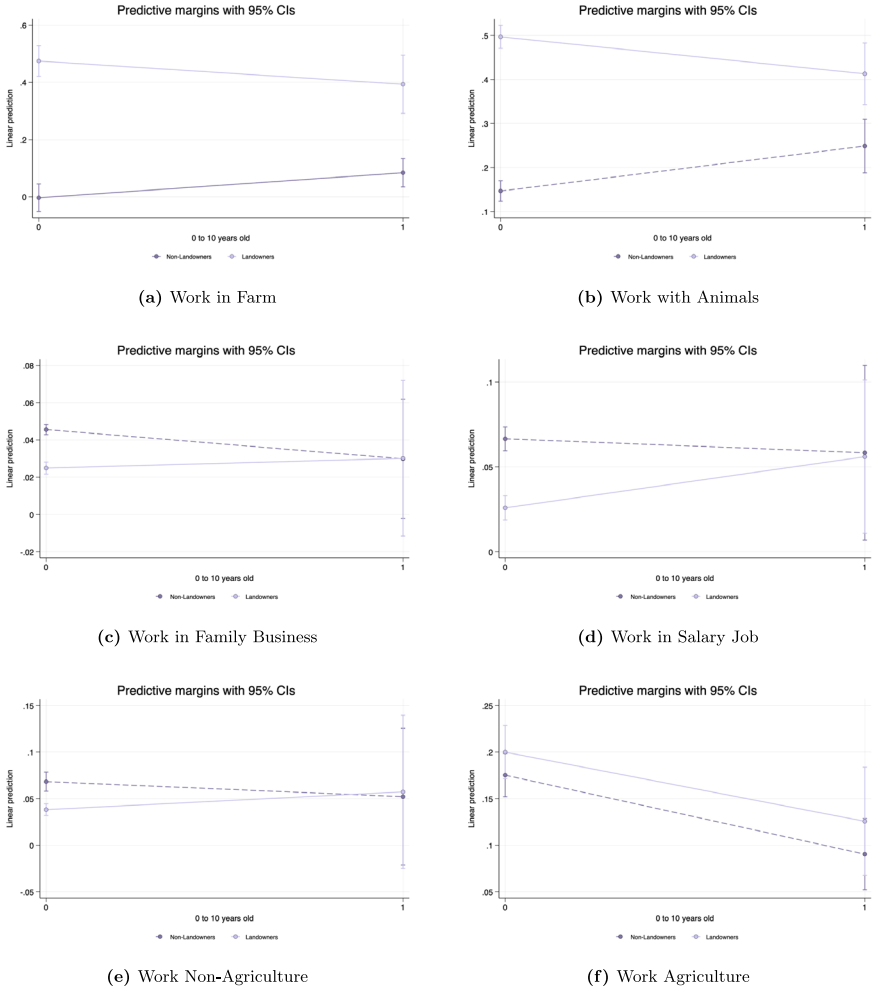


Fig. 5 Predicted Margins for Years of Education for Married Women 11 to 15 Years Old Cohort- NFHS. Notes: This figure uses the 2005 round of the NFHS, restricted to married women between 21 and 50 years old, owning agricultural land and belonging to the Hindu, Sikh, Jain and Buddhist religions. The figure plots the predictive margins for the 11 to 15 years old cohort by the four quartiles of acres of land owned by the households

amendments as the second identification factor but employ a different definition than Roy (2015): to be considered as treated, a woman must be younger than the 10^{th} percentile of age at marriage at the time of the amendments. Women above the 90^{th} percentile of the age at marriage are considered as controls. In this identification strategy, the triple-differencing factor is religion, where only Hindu, Sikh, Jain, and Buddhist women are impacted by the amendments, excluding women from Christian, Muslim, or other religions. While this second methodology presents less bias since religion is time-invariant for each household, both samples are composed of 80% Hindus, which significantly diminishes the size of the control sample.



(a) Work in Farm

(b) Work with Animals

(c) Work in Family Business

(d) Work in Salary Job

(e) Work Non-Agriculture

(f) Work Agriculture

Fig. 6 Predicted Margins for Different Types of Work for Married Women - IHDS. (**a**) Work in Farm. (**b**) Work with Animals. (**c**) Work in Family Business. (**d**) Work in Salary Job. (**e**) Work Non-Agriculture. (**f**) Work Agriculture.Notes: The Figure uses the 2005 round of the IHDS, restricted to married women between 21 and 50 years old, from households who own agricultural land and belonging to the Hindu, Sikh, Jain and Buddhist religions. The figure plots the predictive margins for the 0 to 10 years old cohort by the four quartiles of acres of land owned by the households

In this second methodology, as shown in Equation (2), I interact a dummy equal to one if the woman was younger than the 10^{th} percentile of age at marriage at the time of the amendments with a dummy equal to one for the treated religions.

$$y_{isk} = \delta_1 Treated + \delta_2 Religion + \delta_3 Religion * Treated + \sigma_s * Religion + \beta_k * Religion + u_i \tag{3}$$

it is the dependent variable, the outcome for woman *i* in state *s* and born in year *k*. *Treated* is the coefficient of interest: it captures the effects of belonging to the treated age group and the treated religions.

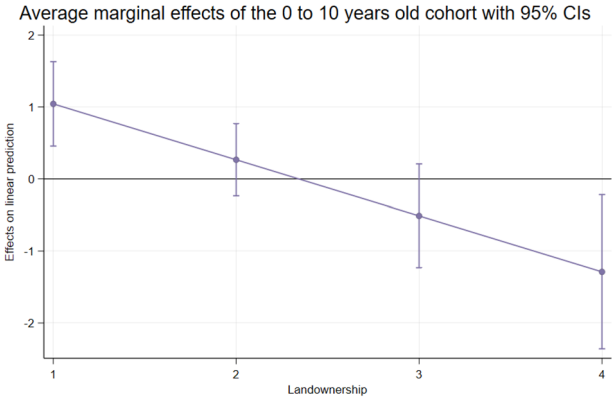


Fig. 7 Predicted Margins for Years of Education for Married Women - IHDS. Notes: The Figure uses the 2005 round of the IHDS, restricted to married women between 21 and 50 years old, owning agricultural land and belonging to the Hindu, Sikh, Jain and Buddhist religions. The figure plots the predictive margins for the 0 to 10 years old cohort by the four quartiles of acres of land owned by the households

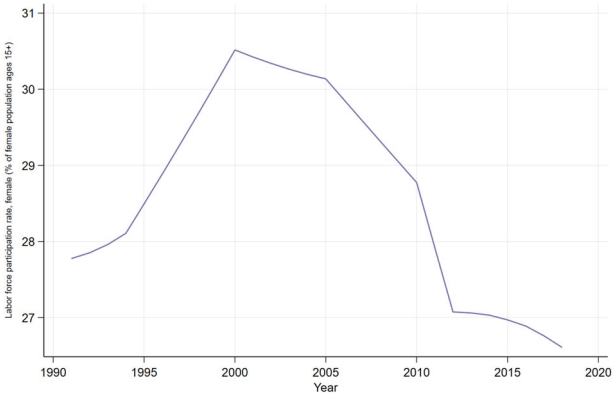


Fig. 8 Labor Force Participation rate, female (% of female population ages 15+). Notes: The Figure uses the International Labour Organization. "ILO Modelled Estimates and Projections database (ILOEST)" ILOSTAT. It plots the Labor force participation rate, female (% of female population ages 15+), modeled ILO estimate

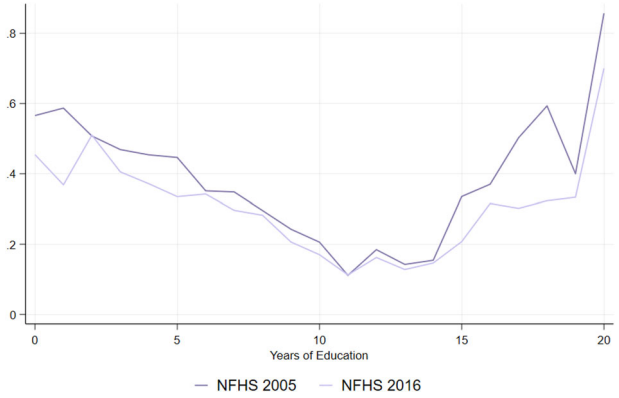


Fig. 9 Women Employment Across Education Levels in 2005 and 2016 - NFHS. Notes: Distribution of women's employment across education levels, comparing the NFHS 2005 and NFHS 2016 data

Table 8 Review of the literature - additional outcomes

Author	Data	Identification Strategy	Results
Dependent Variables 1: Autonomy and Decision Making			
Deininger et al. (2019)	REDS 2011	Age at reform	Increase access to bank accounts
		Timing death of father	No effect on sanitary latrines
		Gender	
Heath and Tan (2020)	NFHS 2005	Age at reform compared to avg. age mar	Increase
	NSS 1988-2004	Religion	
Mookerjee (2019)	NFHS 2005	Married after amendments	Increase
		State	
Dependent Variables 2: Fertility and Daughters health and Survival			
Bhalotra et al. (2020)	NFHS 1992-2005	Timing birth	Firstborn less likely to be girl
	REDS 2006	Post ultrasound technology	
		First child is girl	
Deininger et al. (2019)	REDS 2011	Age at reform	Decrease share of daughters born
		Timing death of father	Increase daughters survival
Rosenblum (2015)	NFHS 1992-2005	Age at reform	Fertility Decrease
		Religion	Child Mortality Increase
		Land	
Dependent Variables 3: Marriage and Assets			
Bahrami-Rad (2021)	NFHS 1992-2016	Religion	Marriage with Relatives Increases
		Marriage	
Deininger et al. (2013)	REDS 2006	Timing death of father	Age at marriage Increases
		Gender	
Deininger et al. (2019)	REDS 2011	Age at reform	Assets in Marriage Increases
		Death of father at reform	
Mookerjee (2019)	NFHS 2005	Married after amendments	Increase nuclear family arrangement
		State	
Roy (2015)	REDS 1999	Age at reform	Dowry Increase
	NFHS 1992-2005	Death of grandfather	
		Land	
Dependent Variables 4: Health and Violence			
Amaral (2017)	NCRB	Age at reform	Fall in violence against women
	NFHS 1998-2005	Time marriage year	

Table 8 continued

Author	Data	Identification Strategy	Results
Anderson and Genicot (2015)	NCRB	State	Decrease male-female suicide gap
	NFHS 2005	Time	Increase wife beating
Calvi (2020)	NFHS 2005	State	Improve nutritional outcomes
	NSS 2004	Time marriage	Reduce illnesses
		Religion	Lower risk of death

Table 9 Endogeneity check - NFHS

	(1) Married	(2) Land	(3) Land Size	(4) Urban
0 to 10 years-old	− 0.0386	0.0202	− 0.00156	− 0.0105
	(0.0376)	(0.0283)	(0.0391)	(0.0169)
11 to 15 years-old	− 0.0233**	0.00352	0.0688	− 0.000544
	(0.0112)	(0.0195)	(0.0641)	(0.0123)
16 to 20 years-old	− 0.0114**	0.0258	0.000374	− 0.0220***
	(0.00465)	(0.0165)	(0.0298)	(0.00750)
Constant	1.046***	0.423***	2.574***	0.337***
	(0.0195)	(0.0901)	(0.251)	(0.118)
Only Married	No	Yes	Yes	Yes
Landed Households	No	No	Yes	No
N	72741	62388	26237	62388
R^2	0.130	0.078	0.131	0.071

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the NFHS, restricted to married women between 21 and 50 years old, and belonging to the Hindu, Sikh, Jain and Buddhist religions. The dependent variables are the likelihood to be married, the likelihood that the marital household owns land, their land size if they own any, and type of residency. The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 10 Years of education and likelihood to work with an additional cohort - NFHS

	(1) Years of Education	(2) Likelihood to Work
0 to 5 years-old × Land	1.201**	0.113***
	(0.439)	(0.0404)
6 to 10 years-old × Land	0.622	0.0582
	(0.516)	(0.0479)
11 to 15 years-old × Land	0.267	0.0144
	(0.470)	(0.0426)
16 to 20 years-old × Land	0.0890	0.0604*
	(0.438)	(0.0317)
0 to 5 years-old	0.621	− 0.0888**
	(0.495)	(0.0407)
6 to 10 years-old	0.310	− 0.0261
	(0.284)	(0.0308)
11 to 15 years-old	0.477*	− 0.0254
	(0.251)	(0.0204)
16 to 20 years-old	0.0616	− 0.0245
	(0.209)	(0.0191)
Land	− 0.936**	0.0633*
	(0.363)	(0.0325)
Constant	1.912***	0.548***
	(0.613)	(0.0588)
N	62383	62388
R^2	0.115	0.077

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the NFHS, restricted to married women between 21 and 50 years old, and belonging to the Hindu, Sikh, Jain and Buddhist religions. *Land* is equal to one if the households owns agricultural land. The dependent variables are the number of years of education and the likelihood of working. The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 11 Years of education and likelihood to work by type of residency - NFHS

	(1) Years of Education	(2) Likelihood to Work
0 to 10 years-old × Urban	− 1.821***	0.00511
	(0.444)	(0.0498)
11 to 15 years-old × Urban	− 1.003**	− 0.0290
	(0.370)	(0.0340)
16 to 20 years-old × Urban	− 0.571*	− 0.0887**
	(0.316)	(0.0375)
0 to 10 years-old	1.348***	− 0.0155
	(0.482)	(0.0440)
11 to 15 years-old	0.967**	− 0.00538
	(0.365)	(0.0225)
16 to 20 years-old	0.396***	0.0335*
	(0.127)	(0.0179)
Urban	4.203***	− 0.216***
	(0.146)	(0.0323)
Constant	0.0929	0.642***
	(0.777)	(0.0492)
N	62383	62388
R^2	0.233	0.113

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the NFHS, restricted to married women between 21 and 50 years old, and belonging to the Hindu, Sikh, Jain and Buddhist religions. *Urban* is equal to one if the household lives in an urban area. The dependent variables are the number of years of education and the likelihood of working. The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 12 Descriptive statistics - IHDS

	IHDS 2011						IHDS 2005					
	Control		11 - 20 yo		0 - 10 yo		Control		11 - 20 yo		0 - 10 yo	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	35.69	8.15	35.34	4.78	28.09	5.64	34.65	7.46	30.08	5.39	26.04	4.77
Age at Marriage	17.77	3.82	18.26	3.57	18.80	3.41	17.49	4.00	17.92	3.89	18.68	3.65
Education	4.97	4.97	5.70	4.73	7.34	4.64	4.46	4.83	5.68	4.80	7.15	4.81
Work	0.53	0.50	0.63	0.48	0.50	0.50	0.55	0.50	0.56	0.50	0.39	0.49
Land	0.48	0.50	0.41	0.49	0.37	0.48	0.45	0.50	0.39	0.49	0.23	0.42
Urban	0.31	0.46	0.36	0.48	0.37	0.48	0.35	0.48	0.36	0.48	0.38	0.49
Hindu	0.96	0.21	0.98	0.14	0.99	0.12	0.95	0.21	0.98	0.14	1.00	0.00
Sikh	0.04	0.19	0.00	0.03	0.00	0.00	0.04	0.18	0.00	0.02	0.00	0.00
Buddhist	0.01	0.08	0.02	0.12	0.01	0.11	0.01	0.08	0.02	0.12	0.00	0.00
Jain	0.00	0.05	0.00	0.06	0.00	0.04	0.00	0.06	0.00	0.07	0.00	0.00
Observations	22750		3235		2613		22465		3430		391	

Descriptive statistics of the main variables. The 2005 IHDS sample is the sample of ever-married women between 21 and 50 years old. *Education* is the number of years of education. *Work* is a dummy equal to one of the women who worked in the previous year. *Own* is a dummy equal to one if the household owns any land. *Urban* is equal to one if the women lives in an urban area, similarly for *Land* and the religion dummies

Table 13 Descriptive statistics by work type - IHDS

	Farm		Animal		Business		Agri		No Agri		Salary	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	33.66	7.71	34.93	7.28	35.17	6.88	34.43	7.04	34.24	7.10	35.45	6.75
Age at marriage	16.78	3.41	16.78	3.60	17.79	4.43	16.28	3.72	16.20	4.30	18.60	4.39
Education	3.60	4.16	3.24	3.95	5.36	4.68	1.37	2.65	1.96	3.22	7.07	5.80
Land	1.00	0.00	0.80	0.40	0.31	0.46	0.51	0.50	0.34	0.47	0.22	0.41
Assets	10.71	4.92	11.25	5.14	14.13	5.84	7.02	3.38	8.08	4.47	15.00	6.29
Urban	0.04	0.20	0.07	0.25	0.48	0.50	0.04	0.20	0.28	0.45	0.62	0.48
Observations	1197		5856		832		3932		1236		1269	

Descriptive statistics of the main variables. The 2005 IHDS sample is the sample of ever-married women between 21 and 50 years old who work. *Own Land* is a dummy equal to one if the household owns or cultivates agricultural land. *Urban* is equal to one if the woman lives in an urban area. *Assets* is the household's assets as calculated by the IHDS administrators. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 14 Likelihood to work in different types of work with an additional cohort - IHDS 2005

	(1) Farm	(2) Animal	(3) Business	(4) No Agri	(5) Agri	(6) Salary
0 to 5 years-old × Land	− 0.186*	− 0.314***	0.0513	0.0113	− 0.0406	0.0617**
	(0.0943)	(0.0365)	(0.0742)	(0.0193)	(0.0286)	(0.0282)
6 to 10 years-old × Land	− 0.161**	− 0.133***	0.00901*	0.0447***	0.0313	0.0290**
	(0.0602)	(0.0467)	(0.00457)	(0.0126)	(0.0529)	(0.0131)
11 to 15 years-old × Land	0.00987	− 0.159***	0.00857	0.0141	0.0522*	0.0150
	(0.0587)	(0.0489)	(0.0125)	(0.0115)	(0.0257)	(0.00954)
16 to 20 years-old × Land	0.0947	− 0.0548	0.00532	0.0125	0.123***	− 0.00215
	(0.0601)	(0.0465)	(0.00935)	(0.0148)	(0.0416)	(0.0213)
0 to 5 years-old	0.104***	0.157***	− 0.0141	− 0.0150	− 0.0724***	− 0.0118
	(0.0297)	(0.0491)	(0.0147)	(0.0444)	(0.0152)	(0.0238)
6 to 10 years-old	0.0815***	0.0800***	− 0.0153	− 0.0173	− 0.0906***	− 0.00622
	(0.0280)	(0.0279)	(0.0158)	(0.0386)	(0.0185)	(0.0282)
11 to 15 years-old	0.0218	0.0789**	− 0.0145	− 0.0176	− 0.0333	− 0.0110
	(0.0269)	(0.0337)	(0.00880)	(0.0136)	(0.0281)	(0.0134)
16 to 20 years-old	− 0.0162	0.0194	− 0.0106*	− 0.0137	− 0.0682***	0.0120
	(0.0290)	(0.0324)	(0.00575)	(0.0190)	(0.0232)	(0.0144)
Land	0.470***	0.366***	− 0.0217***	− 0.0320***	0.0121	− 0.0416***
	(0.0549)	(0.0281)	(0.00265)	(0.00707)	(0.0267)	(0.00670)
Constant	0.140***	0.208***	0.0247	0.0205	− 0.0168	0.0608***
	(0.0461)	(0.0386)	(0.0154)	(0.0126)	(0.0247)	(0.0158)
N	26286	26286	26286	26286	26286	26286
R^2	0.382	0.230	0.013	0.036	0.117	0.026

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the IHDS, restricted to married women between 21 and 50 years old, and belonging to the Hindu, Sikh, Jain, and Buddhist religions. *Land* equals to one answered Yes to the question "does this household own of cultivate any agricultural land?". The dependent variables are dummies equal to one if the women work in a certain type of occupation. Wage and salary workers are classified as: *Salary* with monthly or annual pay, agricultural workers (*Agri*) with daily pay and an agricultural occupation, and nonagricultural wage workers (*No Agri*) covering all other daily wage workers. *Farm*, *Animal*, and *Business* are the types of work performed in the family or family business. The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 15 Years of education and likelihood to work by land size - IHDS 2005

	(1) Years of Education	(2) Likelihood to Work
0 to 10 years-old × Land Size	− 0.252**	0.0545**
	(0.114)	(0.0206)
11 to 15 years-old × Land Size	− 0.448***	0.0177
	(0.161)	(0.0253)
16 to 20 years-old × Land Size	− 0.381***	0.0238
	(0.136)	(0.0274)
0 to 10 years-old	0.950	− 0.0768
	(0.596)	(0.0569)
11 to 15 years-old	1.316***	0.0258
	(0.308)	(0.0568)
16 to 20 years-old	1.026***	0.0395
	(0.366)	(0.0746)
Land Size	0.625***	− 0.0564***
	(0.0881)	(0.0127)
Constant	2.421***	1.061***
	(0.549)	(0.0779)
N	11186	11412
R^2	0.183	0.122

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the IHDS, restricted to married women between 21 and 50 years old, owning agricultural land and belonging to the Hindu, Sikh, Jain, and Buddhist religions. *land Size* is equal to the four quartiles of total agricultural land owned in acres. The dependent variables are the number of years of education and the likelihood of working. The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 16 Marriage market outcomes by land size - IHDS 2005

	(1) Husb. Education	(2) Wealth of Marital Fam
0 to 10 years-old × Land Size	− 0.505**	− 0.541
	(0.207)	(0.553)
11 to 15 years-old × Land Size	− 1.008***	− 0.951**
	(0.150)	(0.459)
16 to 20 years-old × Land Size	− 0.0784	− 0.511
	(0.250)	(0.442)
0 to 10 years-old	0.738	0.884
	(0.613)	(1.268)
11 to 15 years-old	2.130***	1.618**
	(0.723)	(0.739)
16 to 20 years-old	− 0.421	0.611
	(0.439)	(0.854)
Land Size	0.892***	1.193***
	(0.110)	(0.146)
Constant	3.109***	10.63***
	(0.697)	(0.662)
N	10433	11412
R^2	0.113	0.238

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the IHDS, restricted to married women between 21 and 50 years old, owning agricultural land and belonging to the Hindu, Sikh, Jain and Buddhist religions. *land Size* is equal to the four quartiles of total agricultural land owned in acres. The dependent variables are the number of years of education of the husband and the wealth in the family is an indicator created by IHDS administrators validated in different countries using expenditures and income at the household level. The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 17 Years of education and likelihood to work by type of residency - IHDS

	(1) Years of Education	(2) Likelihood to Work
0 to 10 years-old × Urban	− 1.147***	0.115*
	(0.368)	(0.0580)
11 to 15 years-old × Urban	− 1.545***	0.0369
	(0.447)	(0.0352)
16 to 20 years-old × Urban	− 0.461	− 0.0145
	(0.438)	(0.0403)
0 to 10 years-old	0.931	− 0.0357
	(0.567)	(0.0860)
11 to 15 years-old	1.093**	0.00543
	(0.446)	(0.0266)
16 to 20 years-old	0.995**	0.0169
	(0.433)	(0.0298)
Urban	4.039***	− 0.469***
	(0.127)	(0.0281)
Constant	5.061***	0.662***
	(0.292)	(0.0417)
N	25948	26286
R^2	0.255	0.241

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the IHDS, restricted to married women between 21 and 50 years old and belonging to the Hindu, Sikh, Jain and Buddhist religions. *Urban* is equal to one if the household lives in an urban area. The dependent variables are the number of years of education and the likelihood of working The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 18 Years of education and likelihood to work by types of ownership of land - IHDS 2005

	(1) Educ	(2) Work	(3) Educ	(4) Work	(5) Educ	(6) Work
0 to 10 years-old × Own Size	− 0.252**	0.0545**				
	(0.114)	(0.0206)				
11 to 15 years-old × Own Size	− 0.448***	0.0177				
	(0.161)	(0.0253)				
16 to 20 years-old × Own Size	− 0.381***	0.0238				
	(0.136)	(0.0274)				
0 to 10 years-old × Own and Culti Size			0.0927	− 0.00643		
			(0.138)	(0.0200)		
11 to 15 years-old × Own and Culti Size			0.0138	− 0.00440		
			(0.181)	(0.0298)		
16 to 20 years-old × Own and Culti Size			− 0.00357	− 0.0366		
			(0.124)	(0.0404)		
0 to 10 years-old × Rented out Size					− 0.111	− 0.0151
					(0.134)	(0.0185)
11 to 15 years-old × Rented out Size					− 0.178	0.0341
					(0.229)	(0.0259)
16 to 20 years-old × Rented out Size					− 0.628***	0.0212
					(0.171)	(0.0182)
0 to 10 years-old	0.950	− 0.0768	0.276	0.0475	0.648	0.0304
	(0.596)	(0.0569)	(0.558)	(0.0752)	(0.665)	(0.0707)
11 to 15 years-old	1.316***	0.0258	0.515*	0.0613	0.662	0.0294
	(0.308)	(0.0568)	(0.256)	(0.0496)	(0.573)	(0.0535)
16 to 20 years-old	1.026***	0.0395	0.348	0.151	0.955*	0.0455
	(0.366)	(0.0746)	(0.332)	(0.0992)	(0.524)	(0.0644)
Constant 2.421***	1.061***	4.169***	0.870***	3.838***	0.943***	
	(0.549)	(0.0779)	(0.533)	(0.0821)	(0.496)	(0.0415)
N	11186	11412	10901	11117	8463	8566
R^2	0.183	0.122	0.172	0.111	0.203	0.158

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the IHDS, restricted to married women between 21 and 50 years old, and belonging to the Hindu, Sikh, Jain and Buddhist religions. *Own Size* is equal to the four quartiles of total agricultural land owned in acres. *Own and Culti Size* is equal to the four quartiles of land that the household owns and cultivate in acres. *Rented out Size* is the quantile of land rented out in acres. The dependent variables are the number of years of education and the likelihood of working. The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 19 Endogeneity check - years of education and likelihood to work for unmarried women by land size - NFHS

	(1) Education	(2) Likelihood to Work
0 to 10 years-old × Land Size	− 0.407	− 0.0332
	(0.330)	(0.0242)
11 to 15 years-old × Land Size	0.186	− 0.0754*
	(0.698)	(0.0370)
16 to 20 years-old × Land Size	− 2.174***	0.117***
	(0.538)	(0.0324)
0 to 10 years-old	4.179***	− 0.00275
	(1.457)	(0.0975)
11 to 15 years-old	1.924	0.159
	(2.901)	(0.0971)
16 to 20 years-old	9.939***	− 0.229*
	(1.595)	(0.126)
Land Size	0.880***	− 0.00277
	(0.160)	(0.0167)
Constant	− 3.308***	0.339***
	(1.153)	(0.105)
N	2263	2263
R^2	0.223	0.131

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the NFHS, restricted to daughters of the head of the household between 21 and 50 years old, owning agricultural land, and belonging to the Hindu, Sikh, Jain, and Buddhist religions. *Land Size* is a categorical variable from 1 to 4, equal to the four quartiles of acres of land as answered by the question: "How much agricultural land does this household own?". The dependent variables are the number of years of education and the likelihood of working. The regression adds state and year of birth fixed-effect and household weights.***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 20 Years of education and likelihood to work for married women by land size with same natal and marital economic position - IHDS

	(1) Years of Education	(2) Likelihood to Work
0 to 10 years-old × Land Size	− 0.285**	0.0715***
	(0.128)	(0.0198)
11 to 15 years-old × Land Size	− 0.445**	0.0202
	(0.174)	(0.0345)
16 to 20 years-old × Land Size	− 0.466**	0.0188
	(0.217)	(0.0269)
0 to 10 years-old	0.682	− 0.0678
	(0.689)	(0.0572)
11 to 15 years-old	1.121**	0.0353
	(0.449)	(0.0819)
16 to 20 years-old	1.075	0.0850
	(0.678)	(0.0879)
Land Size	0.609***	− 0.0546***
	(0.0873)	(0.0158)
Constant	1.556*	1.019***
	(0.772)	(0.0950)
N	7615	7757
R^2	0.196	0.122

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the IHDS, restricted to married women between 21 and 50 years old, owning agricultural land, who reported similar economic status in their natal and marital households, and belonging to the Hindu, Sikh, Jain, and Buddhist religions. *Land Size* is equal to the four quartiles of total agricultural land owned in acres. The dependent variables are the number of years of education and the likelihood of working. The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 21 Years of education and likelihood to work with alternative treated and control groups - NFHS

	(1) Education	(2) Work	(3) Education	(4) Work
0 to 10 years-old × Land Size	− 0.440***	0.0351*	− 0.525***	0.0273
	(0.109)	(0.0206)	(0.145)	(0.0185)
11 to 15 years-old × Land Size	− 0.344*	0.0221	− 0.310	0.0210
	(0.182)	(0.0180)	(0.182)	(0.0172)
16 to 20 years-old × Land Size	− 0.163	− 0.00246	− 0.159	− 0.00220
	(0.155)	(0.0215)	(0.154)	(0.0212)
0 to 10 years-old	1.816***	− 0.108	2.073***	− 0.0879
	(0.492)	(0.0886)	(0.603)	(0.0776)
11 to 15 years-old	1.496***	− 0.109	1.375***	− 0.106
	(0.373)	(0.0675)	(0.387)	(0.0648)
16 to 20 years-old	0.781*	− 0.00821	0.761*	− 0.00979
	(0.430)	(0.0419)	(0.429)	(0.0413)
Land Size	0.947***	− 0.0368***	0.947***	− 0.0368***
	(0.110)	(0.00548)	(0.110)	(0.00548)
Constant	− 0.558	0.690***	− 0.570	0.690***
	(0.674)	(0.0976)	(0.676)	(0.0973)
Excluding Kerala	Yes	Yes	No	No
Only Main States	No	No	Yes	Yes
N	26021	26022	26236	26237
R^2	0.175	0.121	0.186	0.120

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the NFHS, restricted to married women between 21 and 50 years old, owning agricultural land and belonging to the Hindu, Sikh, Jain, and Buddhist religions. *Land Size* is equal to the four quartiles of total agricultural land owned in acres. The dependent variables are the number of years of education and the likelihood of working. The regression adds state and year of birth fixed-effect and household weights.***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 22 Years of education and likelihood to work with alternative main variables - NFHS

	(1) Years of Education	(2) Likelihood to Work
0 to 10 years-old × Land Size	− 0.515***	0.0268
	(0.138)	(0.0190)
11 to 15 years-old × Land Size	− 0.311*	0.0212
	(0.181)	(0.0142)
16 to 20 years-old × Land Size	− 0.158	− 0.00132
	(0.149)	(0.0203)
0 to 10 years-old	2.042***	− 0.0997
	(0.583)	(0.0746)
11 to 15 years-old	1.378***	− 0.123**
	(0.380)	(0.0549)
16 to 20 years-old	0.754*	− 0.0332
	(0.415)	(0.0498)
Land Size	0.939***	− 0.0483***
	(0.110)	(0.00967)
Constant	− 0.535	0.720***
	(0.675)	(0.148)
N	26237	26236
R^2	0.187	0.127

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the NFHS, restricted to married women between 21 and 50 years old, owning agricultural land, and belonging to the Hindu, Sikh, Jain and Buddhist religions. *Land Size* is a categorical variable from 1 to 4, equal to the four quartiles of acres of land as answered by the question: "How much agricultural land does this household own?". The dependent variables are the number of years of education and the likelihood of working as in the IHDS. The regression adds state and year of birth fixed-effect quartiles and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 23 Years of education and likelihood to work - IHDS 2011

	(1) Years of Education	(2) Likelihood to Work
0 to 10 years-old × Land	0.351	0.101
	(0.380)	(0.0655)
11 to 15 years-old × Land	0.0187	0.142*
	(0.413)	(0.0765)
16 to 20 years-old × Land	− 0.451	0.0984
	(0.372)	(0.0853)
0 to 10 years-old	0.641	− 0.0214
	(0.388)	(0.0472)
11 to 15 years-old	0.530*	− 0.0390
	(0.278)	(0.0448)
16 to 20 years-old	0.544	− 0.0378
	(0.325)	(0.0326)
Land Size	− 0.896***	0.175***
	(0.326)	(0.0467)
Constant	5.923***	0.343***
	(0.305)	(0.0341)
N	28597	28598
R^2	0.171	0.140

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2011 round of the IHDS, restricted to married women between 21 and 50 years old, owning agricultural land, and belonging to the Hindu, Sikh, Jain, and Buddhist religions. *Land* equals one if the household answers Yes to "Does your household own or cultivate any agricultural land?". The dependent variables are the number of years of education and the likelihood of working. The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 24 Likelihood to work in different types of work - IHDS 2011

	(1) Farm	(2) Animal	(3) Business	(4) No Agri	(5) Agri	(6) Salary
0 to 10 years-old × Land	0.00650	− 0.0735	0.0224**	0.0174	0.121***	0.00798
	(0.0577)	(0.0469)	(0.00882)	(0.0150)	(0.0330)	(0.0152)
11 to 15 years-old × Land	0.134**	− 0.0494	0.0315*	0.0189	0.136**	− 0.0374
	(0.0656)	(0.0384)	(0.0178)	(0.0154)	(0.0608)	(0.0227)
16 to 20 years-old × Land	0.168**	− 0.0433	− 0.00377	0.00829	0.115*	− 0.0262*
	(0.0812)	(0.0427)	(0.0138)	(0.0143)	(0.0677)	(0.0130)
0 to 10 years-old	0.0262	0.131***	− 0.0200*	− 0.0116	− 0.0712***	0.0128
	(0.0286)	(0.0391)	(0.0110)	(0.0344)	(0.00779)	(0.0127)
11 to 15 years-old	− 0.0311	0.0742**	− 0.0149	− 0.00342	− 0.0811***	0.0316*
	(0.0289)	(0.0324)	(0.0117)	(0.0179)	(0.0262)	(0.0180)
16 to 20 years-old	− 0.0552*	0.0227	− 0.00401	− 0.00650	− 0.0490	0.0127
	(0.0289)	(0.0209)	(0.0122)	(0.0155)	(0.0362)	(0.00823)
Land	0.390***	0.226***	− 0.0395***	− 0.0160**	− 0.00306	− 0.0465***
	(0.0533)	(0.0328)	(0.00890)	(0.00670)	(0.0208)	(0.00916)
Constant	0.0685*	0.285***	0.0756***	0.0342***	0.0251	0.131***
	(0.0369)	(0.0401)	(0.00792)	(0.0109)	(0.0175)	(0.0152)
N	28598	28598	28598	28598	28598	28598
R^2	0.332	0.185	0.017	0.065	0.084	0.031

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2011 round of the IHDS, restricted to married women between 21 and 50 years old, and belonging to the Hindu, Sikh, Jain, and Buddhist religions. *Land* equals one if the household answers Yes to "Does your household own or cultivate any agricultural land?". The dependent variables are dummies equal to one if the woman works in a certain type of occupation. Wage and salary workers are classified as: *Salary* with monthly or annual pay, agricultural workers (*Agri*) with daily pay and an agricultural occupation, and nonagricultural wage workers (*No Agri*) covering all other daily wage workers. *Farm*, *Animal*, and *Business* are the types of work performed in the family or family business. The regression adds state and year of birth fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 25 Descriptive statistics - ttest IHDS-NFHS

	NFHS		IHDS			
	Mean	SD	Mean	SD	Diff.	t-stat.
Age	33.65	7.77	33.92	7.42	− 1.00***	(−17.726)
Age at marriage	18.01	3.95	17.58	3.94	0.45***	(15.558)
Education	5.34	5.31	4.66	4.85	1.18***	(30.467)
Land	0.44	0.50	0.44	0.50	− 0.00	(−1.062)
Work	0.38	0.49	0.55	0.50	− 0.16***	(−45.151)
Urban	0.44	0.50	0.35	0.48	0.10***	(29.587)
Religion	1.18	0.80	1.14	0.69	0.05***	(8.653)
Observations	66646		26256		99027	

Descriptive statistics of the main variables. Both samples are the sample of ever-married women between 21 and 50 years old. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table 26 Years of education and likelihood to work - NFHS and IHDS with Heath and Tan (2020) estimation

	NFHS		IHDS	
	Education	Work	Education	Work
Treated × Religion	0.0928	0.0621***	0.713	0.0372
	(0.245)	(0.0214)	(0.758)	(0.0386)
Treated	0.251	− 0.0293	− 0.304	0.0108
	(0.307)	(0.0265)	(0.968)	(0.0400)
Religion	− 1.404***	0.182**	3.175***	− 0.200**
	(0.499)	(0.0808)	(0.835)	(0.0949)
N	59732	59736	24316	24666
R^2	0.157	0.063	0.160	0.089

Robust standard errors are in parentheses, clustered at the state level. This table uses the 2005 round of the NFHS and the IHDS, restricted to married women between 21 and 50 years old. The dependent variables are the number of years of education and the likelihood of working. The regression adds state-religion and year of birth-religion fixed-effect and household weights. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

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