

THEMA Working Paper n°2020-17 CY Cergy Paris Université, France

Inheritance Rights and Women's Empowerment in the Labor and Marriage Markets

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December 2020

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Abstract

There is increasing evidence that land rights are an effective means of improving women's conditions. This paper exploits an exogenous change in the possibility of obtaining land rights for women in India and estimates its effects on women's empowerment. In particular, I use the 1976 to 1994 amendments to the Hindu Succession Act (HSA) in five states. I demonstrate that in these states, young women's education increased by approximately one year. I also find that the amendments did not affect female labor force participation but did increase young women's age at marriage. I replicate this analysis using the 2005 national reform, and I obtain the same results. This finding shows that despite women's empowerment in the marriage market due to their increase in education, there are still many factors preventing them from increasing their labor supply. From a public policy perspective, this paper demonstrates that social norms governing marital behaviors can mitigate the effects of land rights.

Keywords: Hindu Succession Act, Education, Female labor force participation, Marriage market, India.

JEL classification: J16, I20, J12, J21.

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1 Introduction

Evidence shows that land rights given to women are a pathway out of poverty and an effective empowerment tool (Agarwal (1994); Roy and Tisdell (2000); Allendorf (2007); Meinzen-Dick et al. (2019)). Nevertheless, in India, very few women own land themselves: Kieran et al. (2015) reviewed different surveys on land ownership and found that only 3% to 15% of women own land, which is far from the share of male landowners. In addition, they are increasingly excluded from the labor force: between 1990 and 2019, Indian women's labor force participation (LFP) fell from 30% to 20.2%.¹ These persistent differences reinforce each other: lack of access to ownership leads to fewer economic opportunities, for instance, in the labor market, itself increasing discrimination regarding access to inputs and economic security (The World Bank, 2012).

Given this vicious circle, this paper looks at the effect of increasing the opportunities for women to become landowners on other economic outcomes, such as education or labor force participation. I exploit an exogenous change in the inheritance rights of women in India, the amendments to the 1956 Hindu Succession Act (HSA): from 1979 to 1994, five states amended their succession laws to grant women the right to inherit their share of a joint property (or ancestor property) from their fathers. These changes opened the possibility of obtaining land rights, the main asset passed on from generation to generation. Using the features of the amendments and the work of Roy (2015), I define the group affected by the change based on women's state of residence and age at the time of the amendments, and I use a triple-difference strategy with ownership of land in the family to analyze the amendments' effects on women's economic situations.

Indeed, Roy (2015) emphasizes that following the amendments, parents tended to act strategically to avoid giving their daughters their share of the inheritance and sent them to school longer as compensation for disinheriting them. Using the most recent survey on this issue, the 2011-2012 round of interviews from the Indian Household Development Survey, this paper supports these findings: I find that the amendments increased youngest daughters' educational attainment by approximately one year.² I contribute further to the literature by showing that this effect is not persistent over time for landed families but might have changed the community's social norms regarding the level of education a woman should attain. Moreover, I argue that this increase in education is a way for parents to offer their daughters more opportunities in the marriage market than in the labor market:

^{1.} World Bank database. Found at https://data.worldbank.org/indicator/SL.TLF.CACT.FE. ZS

^{2.} Datasets available at https://ihds.umd.edu. Desai, Sonalde, Reeve Vanneman and National Council of Applied Economic Research, New Delhi. India Human Development Survey-II (IHDS-II), 2011-12. ICPSR36151-v2. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2015-07-31.

I find no effect on labor force participation, even though these women increased their educational levels.

Analyzing the possible impacts on marriage outcomes, I find a small but significant decrease in the age at marriage between the treated and the control group but an increase of 0.3 years for women from landed households compared to their non-landed counterparts. I also analyze the degree of spouses' assortative matching and find that they tend to marry someone with the same (or a close) level of education. Finally, I find that these results are robust to two different identification strategies and are not driven by any effect on men's inheritance and that the 2005 national reform had the same effect on education as the amendments, reinforcing the main findings.

These results show that the additional years of education offered by parents allow women to be more competitive in the marriage market and to gain autonomy in their households. Hence, they can marry later to a more educated husband. This finding is consistent with the existing literature underlying the increasing returns to education for women on the marriage market compared to on the labor market in recent decades (Klasen and Pieters, 2013; Afridi et al., 2018) and the importance of marriage in developing countries (Desai and Andrist, 2010; Anukriti and Dasgupta, 2017).

Another explanation is that even if only a few of these women actually inherited parts of their ancestral land, the possibility of being the legal landowner could have played a positive role in increasing women's bargaining power or decision-making power (Panda and Agarwal, 2005; Brule, 2010; Mookerjee, 2017; Heath and Tan, 2020). This situation allowed them to have a say in their marital decisions, marrying later and to a husband with whom they are more equal. I do not exclude the possibility that both explanations operate simultaneously and reinforce each other.

Literature review

A growing body of literature has emphasized the relationship between women's empowerment, property rights and economic development (Klasen and Lamanna, 2009; Duflo, 2012; Fernández, 2014). This paper contributes to this literature by assessing the impact of the acquisition of property rights, more specifically for women. Studies have shown that having access to effective rights to land, but more broadly to productive assets, matters for several reasons: for instance, as men inherit land but often migrate to urban areas, wives and widows are de facto in charge but without land titles, preventing them from borrowing and investing (Roy and Tisdell, 2000). Other studies have outlined that widows owning land were treated with more respect and consideration by relatives and other members of the community and suffered less from marital violence (Agarwal, 1994; Panda and

Agarwal, 2005). To summarize, Meinzen-Dick et al. (2019) underline the broad consensus on the positive effects of women's land rights on their bargaining power and decision-making power over consumption, human capital investments and intergenerational transfers. More generally, it has also been demonstrated that women tend to spend a larger share of their income or resources for the household's needs, significantly improving the well-being of their children and other members of the household (Roy and Tisdell, 2000; Duflo, 2003; Qian, 2008). Finally, Fernández (2014) shows that as a state becomes richer and fertility declines, fathers are more willing to give their daughters' property rights.

Moreover, this work relates to the growing literature on Indian women's declining labor force participation rate. This phenomenon has been observed in urban India (Klasen and Pieters, 2013; Afridi et al., 2018) and in rural India, where the withdrawal of women from the labor market has been even stronger (Das, 2003; Neff et al., 2012). This decline goes along with an increasing school enrollment rate for women and sustained economic growth. Using the amendments to the Hindu Succession Act as exogenous shocks to women's economic positions, this paper contributes to the understanding of this phenomenon.

Finally, several studies have analyzed the amendments' effects on women. Recent works have underlined the fact that the amendments were unsuccessful at improving women's possibility of actually inheriting their father's property (Roy, 2015).³ For instance, it has been underlined that the likelihood of women "gifting" their share of the coparcenary to their brothers increased after the amendments (Roy, 2015). Instead, it seems that the amendments allowed for a significant increase in alternative forms of compensating transfers, such as education for girls and, to an extent, an increase in dowry payments (Deininger et al., 2013; Sapkal, 2017; Roy, 2015). Other papers have studied further how other aspects of women's lives have been improved. Studies have found an increase in their autonomy within the household (Heath and Tan, 2020; Mookerjee, 2017). Finally, some findings have underlined negative effects such as an increase in the preference for sons (Bhalotra et al., 2020), higher mortality among girls (Rosenblum, 2015), an increase in domestic violence against women, intrahousehold conflicts, and higher rates of suicide for both women and men (Anderson and Genicot, 2015).

This paper is organized as follows: Section 2 introduces the context of the reform and the Hindu

^{3.} Instead, families strategically behave to limit women's ownership due to gender-biased cultural norms and practices such as patrilocality (a prevailing practice in India where women leave their family's home or region and move to their spouse's household).

Succession Act. Section 3 describes the descriptive statistics and identification strategy. Section 4 details the empirical methodology used in this work. Section 5 gives the estimated effects of the amendments on education, labor force participation and age at marriage for women. In the last section, I perform robustness checks to ensure the validity of the results.

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

This section presents the historical and legal backgrounds of the reform and the amendments. 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. Another important feature of the Mitakshara system, which is still a predominant characteristic of India's property system, is the division between two different forms of property: separate property, which is everything that has been self-acquired during a lifetime, and joint property, shared in the coparcenary system.⁴ 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. In India, joint property is mainly composed of agricultural land and habitats (Rosenblum, 2015; Agarwal, 1994). The colonial laws further restricted the possibility of inheritance for women until they were changed in 1937 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, exactly like their male counterparts. These states were Kerala in 1976, Andhra Pradesh in 1986, Tamil Nadu in 1989, and Karnataka and Maharashtra in 1994. As mentioned earlier, because joint property is mainly composed of land, these states allowed women to obtain land rights. It is important to note here that Kerala's amendment is slightly different from the others: Kerala's state government decided

^{4.} A union of family members sharing the ancestral property.

to abolish the joint property system entirely. To obtain interpretable and unbiased results, I do not consider this reform, which may have had different impacts on women's economic positions.

Figure 1. Amended states



In 2005, the federal government decided to amend the HSA for all states in India so that it became the Hindu Succession Amendment Act (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 the joint property. The purpose of this paper is to use the amendments and the national reform to isolate the effect of a change in succession laws on women's situations.

3 Data and identification strategy

This study uses the Indian Human Development Survey (IHDS), especially the 2011-2012 round. To my knowledge, the 2011-2012 round is the most recent survey that has been used to study this issue. It allows for a better understanding of the effect of the amendments: at the time of the survey, women who were young enough to be affected by the amendments were out of school, married and already in the labor market. This information enables me to draw better conclusions about the effects of the amendments. The IHDS is a nationally representative, multitopic survey interviewing approximately 41,554 households in 1,503 villages and 971 urban neighborhoods across India. The datasets are publicly available online. The survey includes a broad range of information that can be used for this analysis, such as data on education, work, and income. It also includes a special questionnaire on women's birth history, marriage and health: the *eligible women survey*. This sample will be used extensively in this paper as a way to assess the amendments' impacts on women.

The choice of the IHDS is also motivated by its comprehensive measure of employment, including work on a family farm or in a family business, work with household animals, agricultural and nonagricultural work, and salaried positions. The IHDS interviewers were specifically trained to ask women and children questions about work to account for any type of activities they might be involved in. This information is particularly useful for my analysis, as most women in India do not work in a salaried position but are actively involved in many activities within the household, such as agricultural work or family businesses.⁵

Following Roy (2015) and Bose and Das (2017), I exclude several states for various reasons. As stated above, Kerala's amendment is slightly different and might have affected women differently. Jammu and Kashmir, as well as Union Territories like Pondicherry, are administratively and politically different, so I also exclude them. West Bengal and Assam are governed by the Dayabhaga system: there is no difference between joint and separate properties in these states. Finally, the northeastern states are also politically separate; therefore, I exclude them from the sample as well. The final analysis is based on 16 major states in India.⁶

To define the treated group, I focus on women aged more than 16 years old to ensure that as many women as possible are likely to be out of school and to be of working age (on average, women in my sample complete five years of education, and school starts at 6 years old. Moreover, the legal working age is 14 years old in India (Bose and Das, 2017)). I further restrict the sample to Hindu, Sikh, Jain and Buddhist women, as the HSA applies only to these four religions (they represent 88.5% of my sample, approximately the same share in both the amended and unamended states). The sample is then composed of 52,624 Hindu, Sikh, Jain or Buddhist women aged between 16 and 80 years old. In the *eligible women survey*, married women between the age of 16 and 50 years old answered detailed questions about marital history, birth, gender relations, etc. ⁷ I use this restricted sample composed of 28,758 observations in most regressions (see Table 1 for descriptive statistics).

The identification strategy used is very close to that from the work of Roy (2015). I am using the fact that, in order to be considered "treated", a woman must be born in an amended state and be young enough to be affected. Specifically, the treated group is composed of women who were

^{5.} For an analysis of the differences between the IHDS and alternative surveys, see Desai and Joshi (2019).

^{6.} Himachal Pradesh, Punjab, Uttarakhand, Haryana, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Orissa, Chhattisgarh, Madhya Pradesh, Gujarat, Maharashtra, Andhra Pradesh, Karnataka, and Tamil Nadu.

^{7.} Because the IHDS 2011-2012 reinterviewed women from the 2005 survey, some women could be up to 78 years old in the *eligible women survey*, although only 0.7% of the *eligible women survey* is 60 years old or above.

| Variable | All | Unamended | Amended |
|-----------------------|----------------|---------------|------------|
| Age | 39.47 | 38.95 | 40.52 |
| 0 | (17.21) | (17.27) | (17.04) |
| Years of education | 5.03 | 4.82 | 5.45 |
| | (5.12) | (5.12) | (5.09) |
| Days worked | 78.56 | 71.62 | 92.88 |
| U C | (109.86) | (104.78) | (118.38) |
| Mean age in household | 39.47 | 40.52 | 38.96 |
| - | (0.047) | (0.084) | (0.057) |
| Assets | 15.75 | 15.38 | 16.51 |
| | (6.55) | (6.98) | (5.46934) |
| Income | 141 046.4 | $135 \ 269.2$ | 143 850.2 |
| | (1124.27) | (1588.29) | (1481.13) |
| Poor | 18.73 | 19.82 | 16.47 |
| Urban | 29.08 | 26.62 | 34.16 |
| Low caste | 73.32 | 71.62 | 76.83 |
| Observations | 52 624 | 35 429 | 17 195 |
| Age | 35.36 | 35.17 | 35.75 |
| 0 | (0.058) | (0.071) | (0.10) |
| Years of education | 4.88 | 4.59 | 5.49 |
| | (0.029) | (0.035) | (0.049) |
| Days worked | 98.99 | 89.05 | 119.35 |
| U C | (0.69) | (0.81) | (1.261) |
| Mean age in household | 37.59 | 37.21 | 38.39 |
| U U | (0.053) | (0.065) | (0.094) |
| Assets | 15.58 | 15.08 | 16.59 |
| | (0.038) | (0.05) | (0.055) |
| Income | 132 553 | $133\ 161.2$ | 131 307.4 |
| | $(1 \ 309.16)$ | $(1\ 730.21)$ | (1 834.86) |
| Poor | 18.07 | 19.82 | 14.49 |
| Urban | 28.13 | 25.25 | 34.02 |
| Low caste | 74.39 | 73.03 | 77.17 |
| Age Married | 17.61 | 17.37 | 18.09 |
| | (3.63) | (3.73) | (3.38) |
| Spouse's education | 7.12 | 7.21 | 6.93 |
| | (4.83) | (4.77) | (4.95) |
| N. of eligible women | 28 758 | 19 323 | 9 435 |

 Table 1: Descriptive statistics

Note: Standard deviations are in parentheses. This table uses the 2011-2012 IHDS, restricted to women older than 16 years old. The second half of the table uses the *eligible women survey*. Poor, Urban and Low Caste are displayed as percentages of the population.

10 years old or younger at the time of the amendment in their state. This group is expected to be the group most impacted in terms of education, as these women were not yet of school age at the time of the amendment or were still at an early stage in their schooling: parents were prone to take the amendments into account when considering their daughters' education. For instance, a Hindu woman born in 1992 in the state of Karnataka is considered likely to be affected by the amendment and hence belongs to the treated group. I split the treated sample into three groups to identify long-term effects: women born after the amendment, women who were between 0 and 5 years old when the amendment passed in their states, and women who were between 6 and 10 years old.

I use two "partially" treated groups: some of the women in the 11- to 15-year-old cohort were already married at the time of the reform and were also more likely to be out of school. Finally, a majority of women in the 16- to 20-year-old cohort were out of school and married and hence less likely to make decisions according to the HSA amendments. The omitted group is composed of women of at least 21 years old at the time of the amendment as well as women of all ages living in states that did not amend the HSA.

Land is a crucial asset in developing countries, especially India. One's number of bighas (the measure of surface area used in India) is a strong indicator of that person's social status, as land provides a secure and permanent income over time, moreso than any other productive asset. The market for land is complex to access, and land is mainly inherited within the family from ancestors (Roy and Tisdell, 2000). Hence, women who belong to a landed household are more likely to be affected by the reform. I use a triple-difference strategy with ownership of land to assess this particular effect on landed households.

4 Empirical methodology

4.1 Methodology

To empirically test the impact of the amendments, I define age cohorts. The first regression is expressed in Equation (1):

$$y_{i} = \sigma_{s} + \beta_{k} + \delta_{1} Dpostref * Land + \delta_{2} D1 * Land + \delta_{3} D2 * Land,$$

+ $\delta_{4} D3 * Land + \delta_{5} D4 * Land + \delta_{6} Dpostref +$ (1)
 $\delta_{7} D1 + \delta_{8} D2 + \delta_{9} D3 + \delta_{10} D4 + \delta_{11} Land + X_{i} sk + u_{i}$

 y_i is the dependent variable, the outcome for woman *i* in state *s* and born in year *k*. δ_1 , δ_2 , δ_3 , δ_4 and δ_5 are the coefficients of interest: they capture the effects of belonging to a certain age cohort in an amended state and of being from a household owning land. *Dpostref* is equal to 1 if the woman was born after the amendment was passed in her state, D1 equals 1 if she was 0 to 5 at the time of the amendment, D2 accounts for women who were 6 to 10 at the time of the amendment, D3 for 11- to 15-year-old women, and finally D4 for the 16- to 20-year-old cohort. Then, σ_s is the state fixed effect, controlling for any state-specific characteristics, β_k is a year-of-birth fixed effect, and u_i is the error term. X_{isk} is a matrix of household and individual characteristics, such as an indicator for urban vs. rural areas, the number of persons in the household, the mean age in the household, poverty status, income, religion, caste, father's education, and mother's education.⁸

The dummy variable *Land* captures the effect of belonging to a household that owns land, as emphasized previously. However, the IHDS does not indicate if a woman comes from a landed household but only if she marries into one. It is very likely that if she comes from a landed household, her spouse does too. I cannot evaluate this feature empirically in the data because once married, women do not answer questions about their natal household or belongings. However, when asked to compare the economic situation of their natal and marital households, 72% of women married into a household with land answer that both situations are similar. Only 11% answer that they come from a worse-off household. Following Bose and Das (2017), I include in the regressions controls for similarities between husbands' and wives' natal households: belonging to the same family, perception of her marital household as economically comparable to her natal household, land as part of the dowry in her community, and belonging to the same caste.⁹

4.2 The parallel trends assumption

The difference-in-differences method is very sensitive to the parallel trends assumption: one of the major concerns is that the regression is actually capturing a trend or a structural difference between the treated and control groups. Indeed, one might worry about the initial difference between the amended and unamended states in education, labor force participation, or even age at marriage prior to the amendments. To alleviate this concern, I conduct a pre-reform balance test, using Roy's methodology, on selected variables. I compare the reformed state and all the unreformed states

^{8.} The controls used change with the outcome variable and may also include spouse's age, age at marriage, alternative forms of income, etc.

^{9.} In the Appendix tables A15, A16 and A17, I reproduce all the results presented here, but I include only women who married into a household with the same economic status. The results are not very different from those of the main analysis.

using women who were 21 or older in 1986 (the year of the reform in Andhra Pradesh, the first amendment considered). The results are shown in Table A1 in the Appendix. The two groups do not appear very different in the characteristics considered, but there are some significant differences, especially in terms of years of education and age, that cannot be ignored.

To confirm the methodology's validity, I plot the mean years of education and mean number of days worked during the previous year for the whole sample in Figures 2 and 3. As shown on the graph, before the amendments, the amended and unamended states followed a similar increasing trend in mean years of education: there is no systematic difference in the mean years of education for women prior to the reform. A similar feature is observed for the second major variable: the number of days worked during the previous year.¹⁰

Figure 2. Years of education



Figure 3. Days worked the previous year



Finally, following Bose and Das (2017), I run a regression using Equation (1) but replace the

^{10.} In figures 5a and 5b, I reproduce figures 2 and 3, comparing landed and non-landed households from amended states. The trends are not very different. (Note that the number of days worked during the previous year strongly varies with age, while the number of years of education usually remains constant over one's lifetime.)

cohort dummy with a dummy for reformed states. To approximate the sample that I am using in the regression (the *eligible women survey*), I remove unmarried women. The coefficients are small and insignificant for years of education and number of days worked during the previous year, as shown in Tables A2 and A3 in the Appendix. The sample is reduced again to women aged 21 or older at the time of the first reform in 1986, so they are approximately 47 years old when interviewed. These results appear to confirm that the chosen identification strategy is valid.

5 Results: the amendments (1986-1994)

5.1 Educational attainment

The educational effect of the amendments has been emphasized several times in the literature (Roy, 2015; Bose and Das, 2017). Using both methodologies with the Indian Human Development Survey 2011-2012, I find significant and positive coefficients that are close to those in the existing literature.

In Table 2 column 1, the regression includes state and year-of-birth fixed effects. Column 2 adds household controls. Column 3 reports the results with individual control variables, including controls that account for the difference in spouses' natal households. All regressions are restricted to the women in the *eligible women survey*. The effect is strong and significant for the 0- to 5-year-old cohort: the amendments increase educational attainment for this cohort by approximately 1 year. The increase is approximately 0.7 years for the 6- to 10-year-old cohort and 0.6 for the 11-to 15-year-old cohort. The coefficients are insignificant for the last cohort when all controls and specifications are considered.

Looking at the coefficient on *Born after the reform**Land, one can see that the effect for the cohort born after the reform is not significant. One of the possibilities is that the positive effect of the amendments is not persistent over time. This hypothesis is consistent with the findings of Bose and Das (2017), who showed that daughters of women affected by the reform were not significantly more likely to increase their education. However, it is worth noting that the coefficient for the variable *Born after the reform* is positive and significant, indicating and increase of 2.06 additional years of education. This suggests that the effect on all treated women is positive, regardless of landownership. This means that after the amendments passed, the positive effect on education was disseminated throughout the population. It is possible that the amendments led to a change in

| | (1) | (2) | (3) |
|---|--|---|--|
| Born after the reform * land | $\begin{array}{c} 0.0579 \\ (0.291) \end{array}$ | -0.131 (0.176) | -0.232 (0.166) |
| 0 to 5 years old at time of the reform * land | $\frac{1.478^{***}}{(0.442)}$ | 1.150^{***} (0.324) | 0.981^{**} (0.389) |
| 6 to 10 years old at time of the reform * land | 0.915^{*} (0.466) | $\begin{array}{c} 0.767^{***} \\ (0.233) \end{array}$ | 0.681^{**} (0.280) |
| 11 to 15 years old at time of the reform * land | 0.639^{*} (0.325) | 0.689^{***} (0.205) | 0.573^{*} (0.306) |
| 16 to 20 years old at time of the reform * land | $\begin{array}{c} 0.522 \\ (0.416) \end{array}$ | 0.560^{*} (0.316) | $\begin{array}{c} 0.463 \\ (0.324) \end{array}$ |
| Born after the reform | $1.540^{***} \\ (0.329)$ | 1.652^{***} (0.323) | 2.098^{***} (0.314) |
| $0\ {\rm to}\ 5$ years old at time of the reform | $\begin{array}{c} 0.0525 \\ (0.406) \end{array}$ | $\begin{array}{c} 0.162 \\ (0.338) \end{array}$ | $\begin{array}{c} 0.460 \\ (0.345) \end{array}$ |
| $6~{\rm to}~10~{\rm years}~{\rm old}$ at time of the reform | $0.0211 \\ (0.414)$ | $\begin{array}{c} 0.0428 \\ (0.359) \end{array}$ | $\begin{array}{c} 0.352 \\ (0.287) \end{array}$ |
| 11 to 15 years old at time of the reform | $\begin{array}{c} 0.114 \\ (0.260) \end{array}$ | $\begin{array}{c} 0.0255 \\ (0.194) \end{array}$ | $\begin{array}{c} 0.134 \\ (0.203) \end{array}$ |
| $16\ {\rm to}\ 20\ {\rm years}\ {\rm old}\ {\rm at}\ {\rm time}\ {\rm of}\ {\rm the}\ {\rm reform}$ | -0.0482 (0.327) | -0.0164 (0.312) | $\begin{array}{c} 0.0752 \\ (0.237) \end{array}$ |
| Land | -1.441^{***} (0.289) | -0.275 (0.179) | -0.193 (0.131) |
| Constant | 2.004^{***} (0.116) | -0.708 (0.476) | -0.708^{*} (0.379) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N | 28749 | 28734 | 26892 |
| R^2 | 0.170 | 0.363 | 0.480 |

Table 2: Years of education - Hindu women

Notes: Robust standard errors are in parentheses and are clustered at the state level. This table uses the 2011-2012 round of the IHDS and especially the *eligible women survey*. The dependent variable is the number of years of education completed. *Born after the reform* is equal to 1 if the woman lived in an amended state and was born after the reform passed in her state. Household controls include income, poverty status, the number of persons in the household, an indicator for urban or rural residency, caste, religion, and the mean age in the household. Individual controls include education of the father and dummies to control for similarities between natal and marital households (described above).

the acceptable level of schooling for women in this population and that households without land imitated those who were directly affected by the amendments. Removing this cohort of women born after the reform from the analysis does not affect the results for the other cohorts.

5.2 Labor force participation

An increase in education following the amendments could have an important effect on these women's labor force participation (LFP hereafter). This section analyzes the impact of the amendments on the number of days worked during the previous year.

The results from Equation (1) appear in table 3 and are similar to those presented in table 2, with the fourth column restricted to women working at least one day the previous year.

The coefficients are insignificant for all the most treated cohorts. The increase in education did not cause higher LFP. In column 4, the coefficient for the least treated cohort is positive and significant but is also compensated for by a negative and significant coefficient of equal magnitude on the noninteracting term 16 to 20 at the time of the reform. It is possible that these women were impacted by the amendments through the autonomy channel: even though married or already out of school, these women might have felt empowered in the labor market due to the possibility of becoming landowners. But the lack of information on this issue prevents me from drawing conclusions about any effect.

To understand the insignificant effects, I rely on the growing literature analyzing the decreasing LFP of women in India. (Neff et al., 2012; Klasen and Pieters, 2013; Desai and Joshi, 2019; Afridi et al., 2018). The first hypothesis is that the insignificant coefficients stem from the educational effect underlined previously: one of the explanations is that young girls are in school rather than in the labor market. Nevertheless, the regressions exclude women still enrolled and add an age fixed effect, which reduces the possibility of a missing cohort (younger women who are still in school) driving the effect. This first hypothesis is also countered by Neff et al. (2012). In contrast, long-term negative effects could influence these results: as women increased their education, their preferences regarding their desired type of job changed to white-collar jobs. As these jobs are usually less abundant and more gender biased, these women were not able to enter the labor force in jobs they prefer. When adding a fixed effect for level of education, a U-shaped correlation appears: women who have completed the 1st to 4th class have positive and insignificant coefficients for the number of days worked, and this effect becomes increasingly negative and significant until the end of high school and increases again in post-secondary school. Hence, it is possible that the additional years of education received by the most treated cohort led them to desire better jobs that are not available, offsetting the effect of additional years of education.

| | (1) | (2) | (3) | (4) |
|---|---|--------------------------|--------------------------|--------------------------|
| Born after the reform*land | -8.096 (13.67) | -5.103 (13.27) | -4.883 (12.73) | 8.599 (14.41) |
| 0 to 5 years old at time of the reform * land | -10.13 (11.47) | -7.330 (10.98) | -4.079 (9.605) | -0.323 (9.432) |
| 6 to 10 years old at time of the reform * land | -8.495 (9.559) | -8.230 (10.36) | -5.110 (11.03) | 5.310 (6.578) |
| 11 to 15 years old at time of the reform * land | $10.35 \\ (10.11)$ | 8.674 (9.177) | 13.07 (9.277) | 2.888 (10.93) |
| 16 to 20 years old at time of the reform * land | 10.64 (12.48) | $9.161 \\ (12.31)$ | $11.42 \\ (13.18)$ | 14.03^{*} (6.993) |
| Born after the reform | -1.180 (14.11) | -1.474 (15.68) | -2.014 (14.68) | -0.186 (9.081) |
| $0\ {\rm to}\ 5\ {\rm years}\ {\rm old}\ {\rm at}\ {\rm time}\ {\rm of}\ {\rm the}\ {\rm reform}$ | -1.122 (10.16) | -0.922 (10.43) | -3.779 (10.44) | 5.144 (5.823) |
| $6~{\rm to}~10~{\rm years}$ old at time of the reform | -0.495 (8.550) | 1.652 (8.625) | -0.240 (9.258) | $2.190 \\ (4.727)$ |
| 11 to 15 years old at time of the reform | -4.423 (6.576) | -2.307 (6.033) | -5.790 (5.196) | 1.237 (7.800) |
| 16 to 20 years old at time of the reform | -8.712 (5.365) | -7.748 (5.176) | -9.016 (5.523) | -12.84^{**} (4.726) |
| Land | $\begin{array}{c} 44.63^{***} \\ (6.254) \end{array}$ | 35.23^{***} (5.662) | 36.05^{***} (5.160) | -20.83^{**} (7.172) |
| Constant | 38.63^{***} (2.522) | 68.81^{***} (9.542) | 58.55^{***} (11.32) | 338.4^{***} (17.61) |
| State FE | Yes | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes | Yes |
| Household controls | No | Yes | Yes | Yes |
| Individual controls | No | No | Yes | Yes |
| Working women only | No | No | No | Yes |
| N P^2 | 28633 | 28625 | 26771 | 15094 |
| n | 0.152 | 0.101 | 0.109 | 0.199 |

Table 3: Days worked the previous year - Hindu women

Notes: Robust Standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 round of the IHDS and especially the *eligible women survey*. The dependent variable is days worked during the previous year. *Born after the reform* is equal to 1 if the woman lives in an amended state and was born after the reform passed in her state. Household controls include income, poverty status, the number of persons in the household, an indicator for urban or rural residence, caste and religion (in column 3), the mean age in the household, and the number of boys and girls between 0 and 14 years old. Individual controls include education, father's education, age at marriage, number of children alive, number of boys and number of girls and dummies used to control for similarities between natal and marital households. I exclude women still enrolled in school.

Alternatively, Desai and Joshi (2019) used both rounds of the IHDS to emphasize an income effect pushing women away from the labor force. The observed insignificant effect for the most treated cohorts could be the result of an increase in either their spouse's wages or more generally in their household income. All regressions include controls for poverty and income level, and both coefficients are positive, indicating that women from poor households work more than richer women. Desai and Joshi (2019) provide another explanation: the reduction in land size pushed down labor demand for agricultural work and triggered a negative effect on women's employment. The insignificant result could stem from this income effect, preventing women from entering the labor force, although the coefficients for income are small and not significant in most regressions.

My hypothesis is that the decision of parents to allow their daughters to go to school longer was not related to labor force participation. Klasen and Pieters (2013) underlined that women may increase their education to improve their marriage prospects rather than their employment opportunities. They showed that returns to education on the marriage market increased between 1987 and 2009: women with higher education were more likely to attract a "high-quality husband" because educated mothers have a positive influence on their children's health and education outcomes. As marriage is of prime importance in India for parents and spouses, women may have increased their educational attainment to be more competitive in the marriage market. My hypothesis using Roy's conclusions is that parents tried to compensate their daughters for disinheriting them with education to increase their potential in the marriage market.¹¹ The next section is dedicated to understanding the extent to which the amendments have impacted women's positions in the marriage market.

My results appear to contradict Sapkal (2017) as well as Heath and Tan (2020). Both argue that the amendments triggered a positive effect on LFP through an upward change in unearned income, which increased bargaining power for the women belonging to the treated religious groups. Apart from the survey used (which is more recent), the main difference from this paper is the identification strategy: I only consider the treated religious groups, and I account for the fact that

^{11.} Further works on investments in education and marriage market returns can help us understand how education affects women's positions in the marriage market. Chiappori et al. (2009) developed a model with two kinds of returns to education, labor market and marriage market returns, and showed that men and women invest differently in education because of these unequal returns. In past decades, women chose to invest more in schooling to avoid discrimination or because of increasing marriage market returns *in the labor market* due to new home production technologies, changing the matching process and the division of marital surplus. In the context of India, this model could be extended to account for a reverse effect of increasing marriage market returns *within marriage*: investments in schooling allow women to marry a "high-quality husband" because of expected higher productivity in the home, especially with children. Additionally, Chiappori et al. (2017) argued that the increasing returns to the education of the children and the additional time offered by new home production technologies in their model lead to an increase in the time spent with children and an increasing "marital higher education premium".

the most important form of inheritance through the coparcenary system is land, which is consistent with results on education, as well as with other papers related to the HSA (Roy, 2015; Bose and Das, 2017).¹² Therefore, I argue that the results found by Sapkal (2017) and Heath and Tan (2020) are true for the least treated cohort who were already on the labor market and who did not benefit from the increase in education. For the younger cohorts, the increase in education did not change their opportunities or willingness to enter the labor market.

5.3 Age at marriage

As the amendments did not impact the LFP of treated women, the last aim of this paper is to understand if the amendment impacted the age at marriage of treated women, indicating a change in their position inside the household and in the marriage market. The timing of marriage is very important in developing countries: it is a matter of social norms (single women are socially disapproved) and economic decisions (specifically in countries practicing dowry and bride price customs and where marriage is perceived as a risk-sharing arrangement).¹³

This variable has been studied in the literature in two different papers: Roy (2015) and Deininger et al. (2013). The former finds a negative but insignificant impact of the amendments on the age of marriage, and the latter find a positive and significant coefficient. I intend to refine and clarify these results by using both a different sample and a different methodology.

The results are displayed in table 4. Looking first at the second half of the table, all coefficients for the noninteracting terms are negative and significant. Therefore, the treated group married earlier than the control group as a whole (between 1.4 and 0.4 years earlier). Nevertheless, the first half of the table gives positive and significant coefficients for the most treated, even after controlling for diverse household and individual characteristics: members of the 5- to 10-year-old cohort belonging

^{12.} More specifically, Sapkal (2017) focuses on older women (women less than 28 years old at the time of the surveys—1999-2000 and 2004-2005—are excluded) and not on households with land. Heath and Tan (2020) exploit differences across religious groups and the timing of marriage as an identification strategy and use a dummy equal to 1 if the woman worked in the previous 7 days before the interview. They find an increase in autonomy and LFP, especially outside the home and for cash. The dependent variable is also different across the surveys used. In the IHDS, I use the variable *WKDAYS*, which is the number of days worked during the previous year, including work on a family farm or in a family business, with animals, or in a salaried position. Heath and Tan (2020) use the NSS and a dummy variable for work in the previous 7 days. Work is defined as the "situation of working or being engaged in economic activities (employed)". Additionally, they used the NFSH with another definition: work for "pay, profit, or gain".

^{13.} Another variable would have been of prime interest: the amount of dowry given to these treated women. Unfortunately, the IHDS does not ask for information on dowries, and hence, I cannot empirically evaluate it. Therefore, I rely on the work of Roy (2015), who shows that dowries increased for the 11- to 15-year-old cohort. Her results are also consistent with Anderson (2007). In table A4, we see that a woman in this cohort also has a high likelihood of choosing her husband by herself.

to a household with land married 0.32 years later than their non-landed counterparts, a finding that is close to the coefficients for the 6- to 10- and 11- to 15-year-old cohorts.

While the positive results are very close to those in Deininger et al. (2013), the negative effects go along with Roy (2015)'s analysis but are statistically significant in the present analysis. The difference relative to Roy (2015) can be explained by the sample, as it is not restricted to the daughters of the head-of-household in this paper (they account for too few observations in the dataset). I also choose age 16 instead of age 22 as the minimum age since the mean age at marriage in the sample is 17.6, to account for as many possibly treated women as possible.¹⁴

Looking at Deininger et al. (2013), their positive coefficient (0.258) is close to the coefficient in table 4 for the most treated cohorts, but it is the result of an interaction between gender and marriage after the HSA. They also provide a triple interaction using gender, timing of marriage and land, which is negative and nonsignificant. Again, the chosen sample is different: I choose to remove men from the sample to isolate the effects of the amendments on women, which should give different results.^{15 16}

Therefore, treated women were married significantly younger than control women, but among the treated women, those whose family owned land were married slightly later. How should we interpret these contradictory results? One possible explanation is the increase in education analyzed earlier: if these women stayed in school longer, they would be more likely to marry later. However, I control for years of education, which does not affect the results. Looking at the literature related to LFP in the previous section, it is possible that women from landed households increased their education with the passage of the amendments. As previously discussed, such women may have become more educated to become more competitive in the marriage market, as the returns to education in the marriage market were higher than those in the labor market.

Additionally, these potentially more endowed women might have gained a better position within their households and increased their bargaining power (even if that did not translate into actual property). Indeed, as emphasized by Desai and Andrist (2010), access to resources is a key determinant of marriage and especially age at marriage: a woman who has stronger bargaining power within her

^{14.} Notably, removing the very few women who have had more than one marriage results in very similar coefficients and significance levels.

^{15.} The analysis for men is reproduced in the Appendix section. There are no significant results for men regarding years of education or work.

^{16.} For both comparisons, it is important to note that the survey used in this work is more recent and contains more observations of women who are likely to be affected by the amendments and are married by the time of the survey. However, one could be concerned about the dummy for land ownership, which is only a proxy for land ownership in the natal household, although this concern has been addressed in the identification section.

| | (1) | (2) | (3) |
|---|---------------|---------------|---------------|
| Born after the reform [*] land | 0.967^{***} | 0.818*** | 0.869*** |
| | (0.254) | (0.185) | (0.191) |
| | | | |
| 0 to 5 years old at time of the reform $*$ land | 0.776^{***} | 0.601^{***} | 0.324^{*} |
| | (0.250) | (0.193) | (0.162) |
| | 0 571*** | 0 504** | 0.945* |
| o to 10 years old at time of the reform ' land | 0.5(1) | 0.504 | (0.160) |
| | (0.193) | (0.177) | (0.109) |
| 11 to 15 years old at time of the reform [*] land | 0.476^{*} | 0 491** | 0.325^{*} |
| | (0.234) | (0.176) | (0.161) |
| | (0.201) | (0.110) | (0.101) |
| 16 to 20 years old at time of the reform ^{$*$} land | 0.337 | 0.350 | 0.153 |
| · | (0.221) | (0.201) | (0.186) |
| | | | × , |
| Born after the reform | -1.160^{*} | -1.004^{*} | -1.443^{**} |
| | (0.560) | (0.507) | (0.544) |
| | 1 01 1444 | 1 100** | 1 100*** |
| 0 to 5 years old at time of the reform | -1.214*** | -1.103** | -1.180*** |
| | (0.390) | (0.386) | (0.348) |
| 6 to 10 years old at time of the reform | _1 159*** | _1 100*** | _1 129*** |
| o to to years old at time of the felorin | (0.285) | (0.279) | (0.252) |
| | (0.200) | (0.210) | (0.202) |
| 11 to 15 years old at time of the reform | -0.826*** | -0.819*** | -0.885*** |
| v | (0.221) | (0.209) | (0.189) |
| | | | |
| 16 to 20 years old at time of the reform | -0.445* | -0.394 | -0.388* |
| | (0.241) | (0.240) | (0.198) |
| T J | 0.059*** | 0 109*** | 0.990*** |
| Land | -0.953 | -0.403 | -0.330 |
| | (0.177) | (0.110) | (0.0829) |
| Constant | 18.20*** | 15.29*** | 16.09*** |
| | (0.0711) | (0.228) | (0.312) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| State trend | No | No | Yes |
| Individual controls | No | No | Yes |
| N | 28688 | 28672 | 26965 |
| R-sq | 0.168 | 0.307 | 0.307 |

 Table 4: Age at marriage - Hindu women

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 round of the IHDS survey and especially the *eligible women survey*. The dependent variable is age at marriage. *Born after the reform* is equal to 1 if the woman lives in an amended state and was born after the amendment was passed in her state. Household controls include income, poverty status, the number of persons in the household, an indicator for urban or rural residency, caste, religion, and the mean age in the household. Individual controls include education and dummies to control for similarities between natal and marital households.

household is more likely to have a say in her marital decision. Mookerjee (2017) already showed that the amendments had a positive impact on autonomy within marital households: the effect of the interaction with land might be driven by the increasing autonomy of women in decision-making in their natal household as well, allowing them to decide when to marry. These channels (the increase in education and the possibility of ownership) are not mutually exclusive and could simultaneously play a significant role.

These results suggest that women from landed households marry later than women from nonlanded households, although the treated group as a whole appears to marry significantly earlier. The amendments primarily impacted households with land, as ancestral property consists primarily of land, leading to the conclusion that the amendments had an overall positive impact on age at marriage.

6 Robustness Checks

This paper emphasizes that giving women the legal right to inherit from their family's joint property might lead parents to adopt strategic behaviors to avoid sharing their property with their daughters but to compensate them in terms of educational investments. This effect empowers women in the marriage market, allowing them to marry later in life. The robustness of these results is tested with three alternative specifications: the timing of marriage, a sample of men, and the 2005 national reform.

Marriage timing strategy

As a first robustness check, I reproduce the analysis using the fact that women who were already married when the amendments passed in their state were not affected by the amendments and hence were still excluded from coparcenary. This second strategy is also consistent with the first: less than 1% of the women in the sample were married before 10 years old. Therefore, our treated group was very likely to still be single at the time the amendments were passed.

I use Equation (2) to investigate the effect of the timing of marriage following the work of Bose and Das (2017):

$$y_i = \sigma_s + \beta_k + \delta_1 \text{ married treated} * \text{Land} + \delta_2 \text{ married treated} + \delta_3 \text{Land} + \xi_i sk + u_i$$
(2)

The dummy *marriedtreated* equals 1 if the woman married after the amendment passed in her

state, and δ_1 captures this effect. I add a state fixed effect σ_s , a year-of-marriage fixed effect β_k , and household and individual controls.

The results are displayed in the Appendix. Table A5 shows that the coefficient for women married after the amendments passed, living in an amended state, and coming from landed households is positive and significant, implying that these women increased their education by 0.8 years, which is very close to the coefficient for the most treated cohort presented in table 2.

Regarding labor force participation, table A6 once again supports the results presented earlier in Table 3. Looking at the coefficient of interest, we find no significant effects regarding the number of days worked the previous year, as all coefficients are insignificant. These results using this second identification strategy are consistent with the results emphasized previously and strengthen the validity of the results.

Finally, looking at age at marriage in tables A7 and A8, we find no significant effect on age at marriage when it is interacted with land and a negative and significant effect when restricting to households with land.

This negative coefficient is consistent with the results seen in table 3, as the noninteracting terms are also negative, which suggests a difference in terms of age at marriage between the treated and control groups. This result is also consistent with the results of Roy (2015) mentioned in the previous section, as the interaction terms are nonsignificant. This insignificant result can be explained by the fact that the positive effect underlined in the previous section may be too small to be robust to another strategy.

Effect on men

The amendments are supposed to primarily affect women to give them the same access to their family's joint property as men have. However, if the same outcomes are observed for their brothers or husbands, one may suspect that these results are not caused by the amendments. Therefore, I use the same identification strategy, and I perform the same regressions on the number of years of education and number of days worked during the previous year. To have a sample comparable to the *eligible women survey*, I restrict the regression to married or ever married men between the ages of 15 and 49 years old who have children.

Table A9 reproduces table 2, and table A10 reproduces table 3. Looking first at the number of years of education, one can see that only the coefficient for *Born after the reform*Land* is positive in the first half of the table but is significant only in columns 2 and 3 when adding controls, which

suggests that these results are not driven by the amendments. The other interesting coefficients (the land interactions) are insignificant, implying no effect on the number of years of education for men coming from households owning land.¹⁷

Plotting the difference in years of education between spouses for treated and non-treated women in figure 4 using the timing of marriage, one can see that the insignificant effect for men and the increase in women's education allowed the educational gap between spouses to close.¹⁸

Figure 4. Differences in education levels between spouses for households with land (in percents)



Note: A indicates that both spouses have the same level of education, B indicates that the husband has more education and C indicates that the wife has more education.

In table A9, I look at the effect on the labor force participation of men. Most of the coefficients for the noninteracting terms are positive and significant, up to 31 additional days worked during the previous year. This could be due to pre-existing trends in terms of employment in the treated group of men. However, for education, the interacted coefficients are not statistically significant (except for the coefficient for born after the amendments), implying that this positive effect is not driven by the amendments, as landed households are the most affected group.

Finally, I study age at marriage for men.¹⁹ In table A11, I find a pattern similar to the one found in table 4: the noninteracting terms are negative and significant, while the interactions with land show positive and significant effects for the treated and landed group. However, comparing

^{17.} The coefficients for the cohort Born after the reform and θ to 5 years old at the time of the reform are also positive and significant, with 1.8 and 1.2 additional years of education. These results could be driven by the general increase in the acceptable number of school years for daughters born after the reform emphasized in table 2, as parents would increase both their daughters' and sons' education if they do not want their daughters to be more educated than their sons.

^{18.} Note that this comparison does not consider time or state differences and is only an analysis of the means of observations.

^{19.} The IHDS containts information on age at marriage only for women belonging to the *eligible women survey*. To calculate the age at marriage of their husbands, I use this variable, as well as the spouse's age, and deduce the husbands' age at marriage.

these results with those in table 4, we can see that the magnitude of the positive effect is larger than the positive effect found for women. Both women and men in the treated group coming from households owning land were married at a significantly later age than the rest of the treated group, but the effect is larger for men. This situation leads to a larger difference in terms of age between spouses, as shown in table A12. The increase in age difference is only observed for landed couples. The parallel variation for age at marriage is possibly due to the high correlation between the age of women and of men at marriage; for instance, Maertens (2013) finds a correlation coefficient of 0.66 between spouses' marital age using data from three villages in India. Moreover, the observed age difference corroborates the results on the empowerment of treated women in the marriage market: older men might have better income, and are more attractive in the marriage market.

To conclude, there is very little evidence that the effects emphasized in this paper are driven by men's response to the amendments regarding education and labor force participation. Regarding the marriage market, new dynamics seem to have appeared: the empowerment of treated women allowed these women to marry at a later age, to wealthier men, resulting in a larger age difference between spouses.

The 2005 national reform

Finally, the 2005 national reform is used to check whether the results of this paper could be reproduced in other states in India under a different reform but with the same aim. This national reform was implemented 11 years after the last amendments in Karnataka and Maharashtra in 1994. Similar to the amendments, it focuses on section 6 of the 1956 Act and attempts to remove gender discrimination in accessing ancestral property through coparcenary.

$$y_i = \alpha_s + \beta_k + \delta_1 treated 2005 * Land + \delta_2 treated 2005 + \delta_3 Land + X_i k + u_i$$
(3)

In Equation (3), treated 2005 equals 1 if the woman was 10 years old or less at the time of reform in a state that did not amend the HSA prior to 2005. δ_1 captures the effect of the reform in 2005. Once again, α_s is a state fixed effect, β_k is a year-of-birth fixed effect, $X_i k$ accounts for household and individual characteristics, and u_i is the error term. To obtain a better understanding of the effect of this second reform, I use a different dependent variable: a dummy variable equal to 1 if the woman attended school at least once in her lifetime. For this last analysis, I do not use the same sample: I take all observations into account from the youngest to the oldest woman (restricted in

| | (1) | (2) | (3) | (4) |
|------------------------------|---------------|---------------|----------|---------------|
| Treated [*] Land | 0.0501** | 0.0542** | 0.048** | 0.0400* |
| | (0.0223) | (0.0248) | (0.0195) | (0.0211) |
| Treated | -0.0211 | 0.163*** | 0.064 | 0.0842 |
| | (0.0148) | (0.0251) | (0.0490) | (0.0499) |
| Land | -0.0609** | -0.0623** | -0.051** | -0.0148 |
| | (0.0250) | (0.0288) | (0.0219) | (0.0141) |
| Constant | 0.759^{***} | 0.789^{***} | 0.650*** | 0.467^{***} |
| | (0.0168) | (0.0260) | (0.0222) | (0.0199) |
| Year-of-birth FE | No | No | Yes | Yes |
| State FE | No | No | Yes | Yes |
| Household controls | No | No | No | Yes |
| Women more than 5 years old | No | Yes | Yes | Yes |
| Women less than 40 years old | Yes | Yes | Yes | Yes |
| N | 51989 | 45033 | 45033 | 45009 |
| R^2 | 0.003 | 0.051 | 0.351 | 0.343 |

 Table 5: Ever attended school - Linear Probability Model - Hindu Women

Notes: Robust standard error are in parentheses, clustered at the state level. This table uses the 2011-2012 round of the IHDS, restricted to women older than 47 years old, excluding unmarried women. The dependent variable is a dummy equal to one if the women attended school at least once. *Treated* is equal to one if the woman lives on one of the states which did not amend the Act and was between 0 and 10 in 2005. Controls include urban residency, poverty status, income, caste, religion, and years of education.

the regression) and do not use the *eligible women survey*. I only analyze effects on education in this section, as the treated group was too young at the time of the survey to have entered the labor market or been married.

The results from using a linear probability model (LPM) are presented in table 5. As one can see, the results for the interaction are positive and significant, indicating an increase in the probability of having ever attended school by approximately 4 percentage points. These results seem to imply that the 2005 reform triggered a positive educational effect as well, emphasizing the reproducibility of the amendment's effects.²⁰

These last results have several limitations. Analyzing the 2005 reform is more complex than analyzing the amendments for several reasons. First, one might be concerned with the age of the considered sample as well as with potential trends over time. Compared to the previous regressions, in these regressions, I can only identify a treated group based on previously amended states to compare with those that were reformed only in 2005. This does not ensure that this control group

^{20.} To test the robustness of these results, table A14 in the Appendix section gives the results from a probit model.

is suitable, as it has already benefited from the change. Moreover, I can no longer use the *eligible women survey*, as it is composed only of women who were more than 16 years old at time of the survey: the treated cohort is below this age, as mentioned in the identification strategy. This is problematic because it prevents me from controlling for similarities between marital and natal households and from separating women who come from a landed household from those who only marry into one. Therefore, the regressions might suffer from these issues, which are hard to address using this sample.

Finally, qualitative analyses have underlined several barriers preventing the implementation of the reform. The NGO Landesa, which specializes in advocating for women's access to land rights across the world, has listed some of them. One is the fact that women are not aware of their rights or are not able to claim them due to their family (their brothers might try to avoid sharing the property as much as possible, and women might be scared of the consequences if they fight for their right.)

Further study using a different survey or an alternative methodology would allow for a better understanding of the effect of the HSAA 2005 reform.

7 Concluding remarks

This study emphasizes the potential effects of property rights on women in developing countries and sheds light on some explanations for the nontraditional relationship between education, labor force participation and bargaining power among women in India. Using a recent dataset, I explore the impact of the Hindu Succession Act amendments on educational attainment, the number of days worked during the previous year and age at marriage. My findings are consistent with the existing literature for education: women affected by the amendments enjoy more years of schooling than their counterparts, triggering a positive change in the socially acceptable level of schooling for women in the long run. This situation did not encourage women to increase their labor force participation. Instead, the amendments and the resulting increase in education allowed women to bridge the gap with their husbands in terms of education, gaining power within marriage and enabling women with land to marry relatively later in life than non-landed women. Different robustness checks confirm the validity of these findings, especially their reproducibility through the 2005 national reform.

Can land rights empower women? From these results and those in the existing literature, it is hard to infer a strict positive effect on women's empowerment in general due to the HSA's amendments in particular. It is not clear whether alternative transfers in education and delays in age at marriage completely compensate for the positive effect of effective property rights emphasized in other countries (Meinzen-Dick et al., 2019). Finally, in line with recent studies (Maertens, 2013), this paper also shows that social norms constraining marriage behaviors are prominent factors affecting the labor force participation decisions of Indian women and that raising education levels might be inefficient in bringing women into the workforce if these factors are not taken into account.

8 References

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Appendices

| | Reformed | Unreformed | Difference |
|--------------------|-----------|-------------|--------------|
| | Itelormed | Officiormed | Difference |
| Age | 60.8 | 60.99 | 0.12^{***} |
| | (0.13) | (0.099) | (0.16) |
| Years of education | 2.15 | 1.8 | -0.33 |
| | (0.049) | (0.036) | (0.061) |
| Days worked | 71.27 | 61.24 | -10.02 |
| | (1.45) | (0.99) | (1.73) |
| | Reformed | Unreformed | Difference |
| Age | 51.5 | 51.84 | 0.29* |
| | (0.094) | (0.07) | (0.12) |
| Years of education | 1.19 | 2.43 | -0.48* |
| | 0.12 | 0.09 | 0.15 |
| Days worked | 119.02 | 94.28 | -24.73 |
| | (3.55) | (2.28) | (4.10) |
| Age at marriage | 17.87 | 16.44 | -1.43 |
| | (0.09) | (0.07) | (0.12) |
| Spouse's education | 5.46 | 6.12 | 0.65 |
| | (0.16) | (0.11) | (0.20) |

 Table A1: Pre-reform balance tests between reformed and unreformed states

Note: Standard errors are in parentheses. This table uses the 2011-2012 round of the IHDS and the *eligible women survey*. Stars indicate that the differences are statistically significant. The first half of the table is a *ttest* for the whole sample; the second half is restricted to the *eligible women survey*. This table analyzes the mean of variables for women older than 21 in 1986 (the time the first amendment considered was passed). Reformed states includes Andhra Pradesh, Maharashtra, Karnataka and Tamil Nadu. Unreformed states include all other states in India except Kerala and the northeastern states of West Bengal, Assam, Jammu and Kashmir.



(a) Years of education in treated states



(b) Days worked during the previous year in treated states $% \left(\mathbf{b}\right) =\left(\mathbf{b}\right) \left(\mathbf{b}\right) \left($

Figure 5. Parallel trends by land ownership

| | (1) | (2) | (3) |
|--------------------|-----------|---------|---------|
| Reformed states | 0.613 | 0.0526 | 0.0453 |
| | (0.370) | (0.207) | (0.215) |
| | | | |
| Constant | -3.14e-13 | -0.203 | -0.267 |
| | (.) | (0.654) | (0.712) |
| | | | |
| Year-of-birth FE | Yes | Yes | Yes |
| State trend | No | No | Yes |
| Household controls | No | Yes | Yes |
| Ν | 15228 | 15216 | 15216 |
| R-sq | 0.065 | 0.340 | 0.340 |

Table A2: Years of education for Hindu women -Women older than 21 years at the time of the reform

Notes: Robust standard error are in parentheses, clustered at the state level. This table uses the 2011-2012 round of the IHDS, restricted to women older than 47 years old, excluding unmarried women. The dependent variable is the number of years of education attained by a women. *Reformed states* is equal to one if the woman resides in one of the states which amended the HSA. This table analyzes the means of the variables for women older than 21 in 1986 (time the first amendment considered was passed). Reformed states includes Andhra Pradesh, Maharashtra, Karnataka and Tamil Nadu. Unreformed states of West Bengal, Assam, Jammu and Kashmir. Controls include urban residence, the number of persons in the household, assets, caste, and religion.

| | (1) | (2) | (3) |
|--------------------|----------|---------|---------|
| Reformed states | 3.374 | 9.078 | 8.321 |
| | (7.185) | (7.679) | (7.364) |
| Constant | 8 74e-11 | -1 184 | -7 907 |
| | (.) | (13.17) | (16.69) |
| Year-of-birth FE | Yes | Yes | Yes |
| State trend | No | No | Yes |
| Household controls | No | Yes | Yes |
| N | 15256 | 15216 | 15216 |
| R-sq | 0.100 | 0.136 | 0.137 |

Table A3: Days worked the previous year for Hinduwomen - Women older than 21 years at the time of thereform

Notes: Robust standard error are in parentheses, clustered at the state level. This table uses the 2011-2012 round of the IHDS, restricted to women older than 47 years old and excluding unmarried women. The dependent variable is the number of days worked during the previous year. *Reformed states* is equal to one if the woman belongs to one of the state that amended the HSA. This table analyzes the means of the variables for women older than 21 in 1986 (the time the first amendment considered was passed). Reformed states includes Andhra Pradesh, Maharashtra, Karnataka and Tamil Nadu. Unreformed states include all other states in India except Kerala and the northeastern states of West Bengal, Assam, Jammu and Kashmir. Controls include urban residence, assets, caste, religion, and years of education.

| | (1) | (2) | (3) |
|--|---------------|---------------|----------------|
| Born after the reform*Land | -0.0484*** | -0.0491*** | -0.0462*** |
| | (0.0149) | (0.0154) | (0.0149) |
| | | | 0.0040 |
| 0 to 5 years old at the time of the reform*Land | -0.0178 | -0.0170 | -0.0248 |
| | (0.0153) | (0.0147) | (0.0146) |
| 6 to 10 years old at the time of the reform $Land$ | -0.00623 | -0.00490 | -0.00851 |
| o to to your ord at the time of the forthin Land | (0.00879) | (0.00963) | (0.00856) |
| | (0.00010) | (0.00000) | (0.00000) |
| 11 to 15 years old at the time of the reform*Land | 0.0154^{**} | 0.0161^{**} | 0.0193^{***} |
| | (0.00591) | (0.00570) | (0.00616) |
| | 0.00007 | 0.00400 | 0.00004 |
| 16 to 20 years old at the time of the reform*Land | 0.00207 | 0.00402 | 0.00224 |
| | (0.00720) | (0.00690) | (0.00568) |
| Born after the reform | 0.0164 | 0.0170 | 0.0210 |
| | (0.0231) | (0.0238) | (0.0221) |
| | (0.0201) | (0.0200) | (0.0221) |
| 0 to 5 years old at the time of the reform | 0.0102 | 0.00989 | 0.0162^{*} |
| · | (0.00967) | (0.00985) | (0.00773) |
| | · · · · | . , | . , |
| 6 to 10 years old at the time of the reform | -0.00179 | -0.00236 | -0.000214 |
| | (0.0139) | (0.0143) | (0.0132) |
| 11 to 15 years old at the time of the reform | -0.00971 | -0 00995 | -0.0110 |
| 11 to 15 years on at the time of the reform | (0.00971) | (0.00333) | (0.00749) |
| | (0.00031) | (0.00049) | (0.00749) |
| 16 to 20 years old at the time of the reform | -0.00914 | -0.0104* | -0.00621 |
| | (0.00580) | (0.00544) | (0.00444) |
| | | | |
| Land | -0.00438 | 0.000259 | 0.000858 |
| | (0.00279) | (0.00313) | (0.00269) |
| Constant | 0 0507*** | 0 0/78*** | 0 159*** |
| Constant | (0.0001) | (0.0410) | (0.0331) |
| State FE | Ves | Ves | Ves |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N | 28673 | 28658 | 26883 |
| R^2 | 0.032 | 0.033 | 0.065 |

Table A4: Probability of choosing her own husband - Hindu women

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round and especially the *eligible women survey*. The dependent variable is equal to one if the woman chose her own husband. *Born after the reform* is equal to 1 if the woman lives in an amended state and was born after the amendment was passed in her state. Household controls include income, poverty status, number of persons in the household, urban or rural residency, caste, religion, and mean age in the household. Individual controls include education, father's education and dummies to control for similarities between natal and marital households.

| | (1) | (2) | (3) |
|-------------------------------|---------------------------|--------------------------|--------------------------|
| Married after the reform*Land | 0.953^{*} (0.489) | 0.849^{**} (0.381) | 0.829^{*} (0.420) |
| Married after the reform | -0.319 (0.343) | -0.0869 (0.268) | -0.0818 (0.292) |
| Land | -1.551^{***} (0.297) | -0.359^{*} (0.199) | -0.275^{*} (0.147) |
| Constant | 4.004^{***} (0.214) | 2.325^{***} (0.514) | 1.651^{***} (0.343) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N | 19366 | 19360 | 18240 |
| R^2 | 0.216 | 0.402 | 0.505 |

Table A5: Years of education - Hindu women - Marriage timing
strategy

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round and especially the *eligible women survey*. The dependent variable is the number years of education completed. *Married after the reform* is equal to 1 if the woman lived in a amended state and was married after the reform passed in her state. Household controls include income, poverty status, number of persons in the household, urban or rural residency, caste, religion, and the mean age in the household. Individual controls include the education of the parents and dummies to control for similarities between natal and marital households (described above).

| | (1) | (2) | (3) |
|-------------------------------|--------------------------|--------------------------|--------------------------|
| Married after the reform*Land | 1.348 (8.994) | 1.642 (8.853) | 2.962 (8.965) |
| Married after the reform | 2.717 (6.002) | 3.668 (6.317) | 1.722 (6.502) |
| Land | $44.30^{***} \\ (8.112)$ | 33.89^{***} (6.134) | 35.74^{***} (5.436) |
| Constant | 139.4^{***} (5.950) | 160.1^{***} (7.240) | 126.1^{***} (14.85) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N | 19264 | 19261 | 18133 |
| R^2 | 0.133 | 0.149 | 0.157 |

 Table A6: Days worked during the previous year - Hindu women
 - Marriage timing strategy

Notes: Robust Standard errors are in parentheses and are clustered at the state level. The table use 2011-2012 IHDS round and especially the *eligible women survey*. The dependent variable is days worked during the previous year. Married after the reform is equal to 1 if the woman lives in an amended state and was born after the reform passed in her state. Household controls include income, poverty status, the number of persons in the household. Individual controls include father's education, the number of children alive, the number of boys and girls, years of education and dummies to control for similarities between natal and marital households.

| | (1) | (2) | (3) |
|-------------------------------|---------------------------|--------------------------|--------------------------|
| Married after the reform*Land | 0.159 (0.180) | 0.0671 (0.137) | -0.0417 (0.128) |
| Married after the reform | -0.546^{*} (0.258) | -0.370 (0.259) | -0.371 (0.236) |
| Land | -0.807^{***} (0.167) | -0.210^{*} (0.101) | -0.141^{*} (0.0758) |
| Constant | 14.50^{***} (0.330) | 9.060^{***} (0.371) | 8.882^{***} (0.320) |
| State FE | Yes | Yes | Yes |
| Year-of-marriage FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N | 18273 | 18268 | 18238 |
| R^2 | 0.270 | 0.366 | 0.399 |

Table A7: Age at marriage - Hindu women - Marriage timing
strategy

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round and especially the eligible women survey. The dependent variable is age at marriage. Married after the reform is equal to 1 if the woman lives in an amended state and was married after the amendment passed in her state. Household controls include income, poverty status, the number of persons in the household, urban or rural residency, caste, religion, and the mean age in the household. Individual controls include education and father's education. All regressions include dummies to control for similarities between natal and marital households (described above).

| | (1) | (2) | (3) | (4) |
|------------------------------|-----------|-----------|-----------|----------|
| Married after the reform | -0 230*** | -0 220*** | -0 225*** | -0.0796 |
| | (0.0638) | (0.0645) | (0.0633) | (0.0852) |
| Constant | 10 38*** | 10 05*** | 10 00*** | 13 03*** |
| Constant | (0.126) | (0.129) | (0.128) | (0.129) |
| State FE | Yes | Yes | Yes | Yes |
| Year-of-marriage FE | Yes | Yes | Yes | Yes |
| Age FE | Yes | Yes | Yes | Yes |
| Household controls | No | Yes | Yes | Yes |
| Individual controls | No | No | Yes | Yes |
| Only households with land | Yes | Yes | Yes | No |
| Only households without land | No | No | No | Yes |
| N | 8893 | 8892 | 8898 | 9340 |
| R^2 | 0.837 | 0.838 | 0.839 | 0.856 |

Table A8: Age at marriage - Households with land - Marriage timing strategy

Notes: Robust standard errors are in parentheses and are clustered at the district level. The table uses the 2011-2012 IHDS round and especially the eligible women survey. The dependent variable is age at marriage. Married after the reform is equal to 1 if the woman lives in an amended state and was married after the amendment passed in her state. Household controls include income, poverty status, the number of persons in the household, urban or rural residency, caste, religion, and the mean age in the household. Individual controls include education and father's education. All regressions include dummies to control for similarities between natal and marital households (described above).

| | (1) | (2) | (3) |
|---|---|---|---|
| Born after the reform*Land | $\begin{array}{c} 0.504 \\ (0.292) \end{array}$ | 0.486^{***} (0.119) | 0.297^{**} (0.107) |
| 0 to 5 years old at the time of the reform *Land | $\begin{array}{c} 0.379 \ (0.315) \end{array}$ | $0.263 \\ (0.199)$ | $\begin{array}{c} 0.145 \\ (0.198) \end{array}$ |
| 6 to 10 years old at the time of the reform *Land | 0.534^{*} (0.273) | 0.436^{*} (0.231) | $\begin{array}{c} 0.416 \\ (0.256) \end{array}$ |
| 11 to 15 years old at the time of the reform *Land | $0.356 \\ (0.337)$ | $0.209 \\ (0.228)$ | $\begin{array}{c} 0.184 \\ (0.233) \end{array}$ |
| 16 to 20 years old at the time of the reform *Land | 0.410 (0.447) | $\begin{array}{c} 0.267 \\ (0.295) \end{array}$ | $\begin{array}{c} 0.180 \\ (0.286) \end{array}$ |
| Born after the reform | 1.671^{**} (0.621) | 1.664^{**} (0.586) | 1.774^{**} (0.626) |
| $0\ {\rm to}\ 5$ years old at the time of the reform | 1.157^{***} (0.337) | 1.068^{***} (0.296) | $\begin{array}{c} 1.188^{***} \\ (0.334) \end{array}$ |
| 6 to 10 years old at the time of the reform | $\begin{array}{c} 0.363 \\ (0.234) \end{array}$ | $0.278 \\ (0.208)$ | $\begin{array}{c} 0.295 \\ (0.214) \end{array}$ |
| 11 to 15 years old at the time of the reform | $0.299 \\ (0.221)$ | $\begin{array}{c} 0.347^{*} \\ (0.193) \end{array}$ | 0.434^{**} (0.164) |
| $16\ {\rm to}\ 20\ {\rm years}\ {\rm old}\ {\rm at}\ {\rm the}\ {\rm time}\ {\rm of}\ {\rm th}\ {\rm reform}$ | $0.263 \\ (0.270)$ | $\begin{array}{c} 0.254 \\ (0.190) \end{array}$ | $\begin{array}{c} 0.375^{*} \\ (0.185) \end{array}$ |
| Land | -0.910^{***} (0.214) | $\begin{array}{c} 0.121 \\ (0.109) \end{array}$ | 0.200^{*} (0.105) |
| Constant | 3.862^{***} (1.149) | $1.329 \\ (1.168)$ | $\begin{array}{c} 0.783 \ (1.079) \end{array}$ |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N | 47926 | 47896 | 47518 |
| R^2 | 0.158 | 0.318 | 0.370 |

Table A9: Years of education - Hindu men

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round and restricts the sample to ever-married men between 15 and 49, with children. The dependent variable is the number of years of education completed. *Born after the reform* is equal to 1 if the man lives in an amended state and was born after the reform passed in his state. Household controls include income, poverty status, the number of person in the household, urban or rural residency, caste, religion, and the mean age in the household. Individual controls include education and the occupation of the head's father or husband.

| | (1) | (2) | (3) |
|---|----------------|---------------------------------------|---------------|
| Born after the reform [*] Land | -16.50** | -16.75** | -16.21*** |
| | (6.333) | (5.975) | (5.458) |
| | 14.47 | 10.00 | 10.00 |
| 0 to 5 years old at the time of the reform*Land | -14.47 | -13.86 | -13.09 |
| | (13.31) | (12.08) | (10.99) |
| 6 to 10 years old at the time of the reform $Land$ | -5.034 | -4.893 | -4.394 |
| | (8.873) | (8.088) | (8.143) |
| 11 to 15 years old at the time of the reform*Land | _11.09 | -8 860 | -8 387 |
| 11 to 19 years old at the time of the feform Land | $(7\ 240)$ | (5.925) | (5,764) |
| | (1.210) | (0.020) | (0.101) |
| 16 to 20 years old at the time of the reform *Land | -6.416 | -5.806 | -5.739 |
| | (10.63) | (8.613) | (8.589) |
| Born after the reform | 30.61*** | 32.31*** | 30.95*** |
| | (7.140) | (7.365) | (7.660) |
| | () | () | () |
| 0 to 5 years old at the time of the reform | 22.03^{***} | 23.17^{***} | 23.46^{***} |
| | (7.191) | (5.786) | (5.601) |
| 6 to 10 years old at the time of the reform | 10.32^{***} | 11.10** | 11.37** |
| · ·· ·· · · · · · · · · · · · · · · · | (3.411) | (3.797) | (4.336) |
| | | , , , , , , , , , , , , , , , , , , , | |
| 11 to 15 years old at the time of the reform | 7.935*** | 8.279*** | 8.674*** |
| | (2.581) | (2.468) | (2.670) |
| 16 to 20 years old at the time of the reform | -0.467 | -0.0991 | -0.103 |
| v | (4.783) | (4.457) | (4.598) |
| T 1 | 10 00*** | 1 000 | 0.004 |
| Land | -16.09^{***} | 1.883 | 2.964 |
| | (4.423) | (3.341) | (3.517) |
| Constant | 278.1*** | 294.6*** | 266.2*** |
| | (6.937) | (13.51) | (13.23) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N | 21946 | 21934 | 21749 |
| R^2 | 0.086 | 0.119 | 0.122 |

 Table A10: Days worked during the previous year - Hindu men

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round and restricts the sample to ever-married men between 15 and 49, with children. The dependent variable is days worked during the previous year. *Born after the reform* is equal to 1 if the man lives in an amended state and was born after the reform passed in his state. Household controls include income, poverty status, the number of persons in the household, urban or rural residency, caste and religion (in column 3), the mean age in the household, and the number of boys and girls between 0 and 14 years old. Individual controls include education and the education/occupation of the head's father or husband. I exclude men still enrolled in school.

| | (1) | (2) | (3) |
|---|-------------------------------|---|---|
| Born after the reform*Land | $\frac{1.309^{***}}{(0.269)}$ | $1.025^{***} \\ (0.221)$ | $1.132^{***} \\ (0.237)$ |
| 0 to 5 years old at the time of the reform | $\frac{1.694^{***}}{(0.384)}$ | 1.354^{***} | 1.017^{**} |
| *Land | | (0.386) | (0.377) |
| 6 to 10 years old at the time of the reform | 1.080^{***} | 0.910^{**} | 0.814^{**} |
| *Land | (0.332) | (0.321) | (0.307) |
| 11 to 15 years old at the time of the reform | 1.151^{***} | $\begin{array}{c} 1.107^{***} \\ (0.239) \end{array}$ | 0.973^{***} |
| *Land | (0.346) | | (0.263) |
| 16 to 20 years old at the time of the reform | 0.757^{**} | 0.719^{**} | $\begin{array}{c} 0.529 \\ (0.372) \end{array}$ |
| *Land | (0.348) | (0.329) | |
| Born after the reform | -1.435^{***} | -1.124^{**} | -1.641^{***} |
| | (0.377) | (0.402) | (0.410) |
| $0\ {\rm to}\ 5$ years old at the time of the reform | -1.536^{***} | -1.277^{***} | -1.276^{***} |
| | (0.408) | (0.432) | (0.407) |
| $6~{\rm to}~10~{\rm years}$ old at the time of the reform | -1.399^{***} | -1.244^{**} | -1.336^{***} |
| | (0.441) | (0.439) | (0.392) |
| 11 to 15 years old at the time of the reform | -1.014^{***} | -0.939^{***} | -0.989^{***} |
| | (0.303) | (0.272) | (0.252) |
| 16 to 20 years old at the time of the reform | -0.601^{*} | -0.483 | -0.456 |
| | (0.305) | (0.299) | (0.296) |
| Land | -1.215^{***} | -0.657^{***} | -0.601^{***} |
| | (0.185) | (0.110) | (0.0857) |
| Constant | 27.56^{***} | 16.95^{***} | 17.14^{***} |
| | (0.201) | (0.686) | (0.658) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N_{-2} | 26711 | 26698 | 25107 |
| R^2 | 0.204 | 0.271 | 0.313 |

Table A11: Age at marriage - Hindu men

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round and especially the *eligible women survey*. The dependent variable is age at marriage. *Born after the reform* is equal to 1 if the man lives in an amended state and was born after the amendment was passed in his state. Household controls include income, poverty status, the number of persons in the household, urban or rural residency, caste, religion, and the mean age in the household. Individual controls include education, father's education and dummies to control for similarities between natal and marital households.

| | (1) | (2) | (3) |
|--|---|--|---|
| Born after the reform*Land | $\begin{array}{c} 0.343^{***} \\ (0.105) \end{array}$ | 0.244^{**} (0.106) | 0.267^{**} (0.110) |
| 0 to 5 years old at the time of the reform | 0.820^{***} | 0.701^{**} | 0.658^{**} |
| *Land | (0.254) | (0.257) | (0.265) |
| 6 to 10 years old at the time of the reform | 0.521^{**} | 0.446^{*} | 0.492^{**} |
| *Land | (0.213) | (0.216) | (0.222) |
| 11 to 15 years old at the time of the reform | 0.666^{***} | 0.617^{***} | 0.606^{***} |
| *Land | (0.150) | (0.126) | (0.149) |
| 16 to 20 years old at the time of the reform *Land | $0.403 \\ (0.329)$ | $\begin{array}{c} 0.371 \ (0.317) \end{array}$ | $\begin{array}{c} 0.371 \\ (0.326) \end{array}$ |
| Born after the reform | -0.250 | -0.0982 | -0.203 |
| | (0.361) | (0.351) | (0.352) |
| 0 to 5 years old at the time of the reform | -0.259^{**} | -0.132 | -0.132 |
| | (0.107) | (0.100) | (0.109) |
| 6 to 10 years old at the time of the reform | -0.264 | -0.181 | -0.269 |
| | (0.205) | (0.201) | (0.213) |
| 11 to 15 years old at the time of the reform | -0.178^{*} | -0.107 | -0.129 |
| | (0.0910) | (0.0795) | (0.0859) |
| $16\ {\rm to}\ 20\ {\rm years}\ {\rm old}\ {\rm at}\ {\rm the}\ {\rm time}\ {\rm of}\ {\rm the}\ {\rm reform}$ | -0.108 | -0.0528 | -0.0852 |
| | (0.280) | (0.266) | (0.270) |
| Land | -0.217^{***} | -0.180^{**} | -0.207^{***} |
| | (0.0728) | (0.0634) | (0.0688) |
| Constant | 10.33^{***} | 6.368^{***} | 6.182^{***} |
| | (0.110) | (0.457) | (0.496) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N P ² | 26727 | 26714 | 25077 |
| R^{2} | 0.161 | 0.176 | 0.182 |

 Table A12: Age differences between spouses

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round and especially the *eligible women survey*. The dependent variable is the difference in ages between spouses. *Born after the reform* is equal to 1 if the wife lives in an amended state and was born after the amendment was passed in her state. Household controls include income, poverty status, the number of persons in the household, urban or rural residency, caste, religion, and the mean age in the household. Individual controls include fathers' education, education of the wife and dummies to control for similarities between natal and marital households.

| | (1) | (2) | (3) |
|--|-----------------|--------------------|---------------|
| Born after the reform*Land | 0.0712^{*} | 0.0768^{**} | 0.0694^{**} |
| | (0.0350) | (0.0294) | (0.0321) |
| | 0.0109 | 0.0000 | 0.0160 |
| 0 to 5 years old at the time of the reform*Land | (0.0183) | (0.0208) | (0.0169) |
| | (0.0287) | (0.0505) | (0.0273) |
| 6 to 10 years old at the time of the reform*Land | 0.0751^{*} | 0.0795^{*} | 0.0736 |
| | (0.0403) | (0.0444) | (0.0489) |
| | 0.0400 | 0.0400 | 0.0470 |
| 11 to 15 years old at the time of the reform "Land | (0.0422) | (0.0420) | (0.0479) |
| | (0.0351) | (0.0332) | (0.0300) |
| 16 to 20 years old at the time of the reform*Land | 0.0619 | 0.0621 | 0.0547 |
| | (0.0386) | (0.0388) | (0.0369) |
| | 0.000.4* | 0 0 7 0 0 * | 0.0400 |
| Born after the reform | -0.0634* | -0.0589* | -0.0482 |
| | (0.0353) | (0.0335) | (0.0314) |
| 0 to 5 years old at the time of the reform | 0.0293 | 0.0335 | 0.0351 |
| | (0.0422) | (0.0430) | (0.0400) |
| | 0.0000 - | 0.00.100 | 0.00000 |
| 6 to 10 years old at the time of the reform | -0.00685 | -0.00408 | -0.00389 |
| | (0.0438) | (0.0450) | (0.0444) |
| 11 to 15 years old at the time of the reform | -0.0194 | -0.0148 | -0.0213 |
| | (0.0386) | (0.0386) | (0.0358) |
| | 0.01.41 | 0.0150 | 0.0166 |
| 16 to 20 years old at the time of the reform | 0.0141 | (0.0150) | (0.0100) |
| | (0.0240) | (0.0243) | (0.0253) |
| Land | -0.0538*** | -0.0551*** | -0.0509*** |
| | (0.0130) | (0.0106) | (0.0111) |
| | A 1 1 ■ 4 4 4 4 | | 0 1 6 6 * * * |
| Constant | -0.117*** | -0.197*** | -0.166*** |
| | (0.0261) | (0.0474) | (0.0434) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N \mathbb{R}^2 | 26708 | 26695 | 25061 |
| K^{*} | 0.032 | 0.038 | 0.042 |

Table A13: Assortative matching between spouses - Linear Probability Model

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round and especially the *eligible women survey*. The dependent variable is equal to one if the wife has more or the same years of education as her husband. *Born after the reform* is equal to 1 if the woman lives in an amended state and was born after the reform passed in her state. Household controls include income, poverty status, the number of persons in the household, urban or rural residency, caste, religion, and the mean age in the household. Individual controls include the father's education, and dummies to control for similarities between natal and marital households (described above).

| | (1) | (2) | (3) | (4) |
|------------------------------|----------------------------|---|---------------------------|---------------------|
| Treated*Land | 0.151^{**} (0.0613) | 0.125 (0.0952) | 0.136^{*} (0.0799) | 0.112 (0.0810) |
| Treated | -0.0664 (0.0470) | $\begin{array}{c} 0.859^{***} \\ (0.129) \end{array}$ | -0.0243 (0.193) | 0.124 (0.255) |
| Land | -0.184^{***} (0.0694) | -0.200^{**} (0.0820) | -0.182^{**} (0.0736) | -0.0369 (0.0454) |
| Constant | 0.704^{***} | 0.802*** | 1.015^{***} | 0.0506 |
| Year-of-birth FE | No | No | Yes | Yes |
| State FE | No | No | Yes | Yes |
| Household controls | No | No | No | Yes |
| Women more than 5 years old | No | Yes | Yes | Yes |
| Women less than 40 years old | Yes | Yes | Yes | Yes |
| N | 51989 | 45033 | 45033 | 45009 |

Table A14: Ever attended school - Linear Probability Model - Hindu Women

Notes: Robust standard error are in parentheses and clustered at the state level. This table uses the 2011-2012 IHDS round, restricted to women. The dependent variable is a dummy equal to one if the woman attended school at least once. *Treated* is equal to one if the woman lives in one of the states which did not amend the HSA and was between 0 and 10 years old in 2005. Controls include urban residence, poverty status, income, caste, religion, and years of education.

| | (1) | (2) | (3) |
|--|------------------|---------------|---------------|
| Born after the reform*Land | 0.0579 | -0.131 | -0.270 |
| | (0.291) | (0.176) | (0.147) |
| | 1 170** | 1 150** | 0.076* |
| 0 to 5 years old at the time of the reform "Land | $1.4(8^{\circ})$ | 1.150^{-1} | (0.204) |
| | (0.442) | (0.324) | (0.384) |
| 6 to 10 years old at the time of the reform*Land | 0.915 | 0.767^{**} | 0.635^{*} |
| U U | (0.466) | (0.233) | (0.289) |
| | () | | |
| 11 to 15 years old at the time of the reform*Land | 0.639 | 0.689^{**} | 0.586 |
| | (0.325) | (0.205) | (0.295) |
| 16 to 20 years ald at the time of the reform*I and | 0 522 | 0 560 | 0 307 |
| To to 20 years on at the time of the felorin Land | (0.322) | (0.300) | (0.397) |
| | (0.410) | (0.310) | (0.301) |
| Born after the reform | 1.540^{***} | 1.652^{***} | 2.190^{***} |
| | (0.329) | (0.323) | (0.329) |
| | · · · · | · · · · | · · · · |
| 0 to 5 years old at the time of the reform | 0.0525 | 0.162 | 0.496 |
| | (0.406) | (0.338) | (0.363) |
| 6 to 10 years old at the time of the reform | 0.0211 | 0.0428 | 0 3/13 |
| o to to years old at the time of the reform | (0.414) | (0.350) | (0.943) |
| | (0.111) | (0.000) | (0.200) |
| 11 to 15 years old at the time of the reform | 0.114 | 0.0255 | 0.150 |
| | (0.260) | (0.194) | (0.198) |
| | 0.0400 | 0.0104 | 0 104 |
| 16 to 20 years old at the time of the reform | -0.0482 | -0.0164 | 0.124 |
| | (0.327) | (0.312) | (0.260) |
| Land | -1.441*** | -0.275 | -0.157 |
| | (0.289) | (0.179) | (0.125) |
| | (0.200) | (0.1.0) | (*******) |
| Constant | 2.004^{***} | -0.708 | -0.731 |
| | (0.116) | (0.476) | (0.389) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N | 28749 | 28734 | 24317 |
| R^2 | 0.170 | 0.363 | 0.485 |

| Table A15: Years of education - Excluding women who married into l | households | with a |
|--|------------|--------|
| worse economic situation | | |

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round and especially the *eligible women survey*. The dependent variable is the number years of education completed. *Born after the reform* is equal to 1 if the woman lives in an amended state and was born after the reform passed in her state. Household controls include income, poverty status, the number of persons in the household, urban or rural residency, caste, religion, and the mean age in the household. Individual controls include the father's education and dummies to control for similarities between natal and marital households (described above).

| | (1) | (2) | (3) |
|---|----------|---------------|---------------------------------------|
| Born after the reform*Land | -8.096 | -5.103 | -3.490 |
| | (13.67) | (13.27) | (12.17) |
| | . , | · · · · | , , , , , , , , , , , , , , , , , , , |
| 0 to 5 years old at the time of the reform *Land | -10.13 | -7.330 | -2.999 |
| | (11.47) | (10.98) | (9.278) |
| 6 to 10 years old at the time of the reform*Land | -8 495 | -8 230 | -5 940 |
| o to royours one at the time of the folding Land | (9.559) | (10.36) | (11.27) |
| | (0.000) | (10.00) | (11.21) |
| 11 to 15 years old at the time of the reform $Land$ | 10.35 | 8.674 | 13.47 |
| | (10.11) | (9.177) | (9.458) |
| 16 to 20 years ald at the time of the reform*I and | 10.64 | 0 161 | 10 51 |
| To to 20 years on at the time of the reform Land | (12.04) | (12, 31) | (13.93) |
| | (12.40) | (12.01) | (10.20) |
| Born after the reform | -1.180 | -1.474 | -1.966 |
| | (14.11) | (15.68) | (14.43) |
| | · · · · | | |
| 0 to 5 years old at the time of the reform | -1.122 | -0.922 | -2.501 |
| | (10.16) | (10.43) | (11.02) |
| 6 to 10 years old at the time of the reform | -0.495 | 1.652 | 0.659 |
| | (8.550) | (8.625) | (9.312) |
| | (0.000) | (010-0) | (0.011) |
| 11 to 15 years old at the time of the reform | -4.423 | -2.307 | -7.759 |
| | (6.576) | (6.033) | (5.660) |
| 16 to 20 years old at the time of the reform | -8 712 | -7 748 | -8 833 |
| to to 20 years ou at the time of the felorin | (5,365) | (5.176) | (5.517) |
| | (0.000) | (0.110) | (0.011) |
| Land | 44.63*** | 35.23*** | 35.41^{***} |
| | (6.254) | (5.662) | (5.294) |
| | 00 00*** | 00 01 **** | |
| Constant | 38.63*** | 68.81^{***} | 58.41^{***} |
| | (2.522) | (9.542) | (13.14) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N | 28633 | 28625 | 24210 |
| <u></u> <u>R</u> ² | 0.132 | 0.151 | 0.165 |

| Table A16: | Days worked the previous year - Excluding women who married i | into |
|------------|---|------|
| | households with a worse economic situation | |

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round, and especially the *eligible women survey*. The dependent variable is days worked during the previous year. *Born after the reform* is equal to 1 if the woman lives in an amended state and was born after the reform passed in her state. Household controls include income, poverty status, the number of persons in the household, urban or rural residency, caste and religion (in column 3), the mean age in the household, and the number of boys and girls between 0 and 14 years old. Individual controls include education, father's education, age at marriage, number of children alive, the number of boys and number of girls and dummies to control for similarities between natal and marital households. I exclude women still enrolled in school.

| | (1) | (2) | (3) |
|---|---------------|-------------|---------------|
| Born after the reform*Land | 0.967^{**} | 0.818*** | 0.851^{***} |
| | (0.254) | (0.185) | (0.191) |
| 0 to 5 years old at the time of the reform *Land | 0.776^{**} | 0.601** | 0.366 |
| | (0.250) | (0.193) | (0.176) |
| 6 to 10 years old at the time of the reform*Land | 0.571^{**} | 0.504^{*} | 0.353^{*} |
| | (0.193) | (0.177) | (0.162) |
| 11 to 15 years old at the time of the reform*Land | 0.476 | 0.491^{*} | 0.317 |
| | (0.234) | (0.176) | (0.153) |
| 16 to 20 years old at the time of the reform *Land | 0.337 | 0.350 | 0.194 |
| | (0.221) | (0.201) | (0.201) |
| Born after the reform | -1.160 | -1.004 | -1.456^{*} |
| | (0.560) | (0.507) | (0.548) |
| 0 to 5 years old at the time of the reform | -1.214^{**} | -1.103* | -1.198** |
| | (0.390) | (0.386) | (0.340) |
| 6 to 10 years old at the time of the reform | -1.159^{**} | -1.109** | -1.114*** |
| | (0.285) | (0.279) | (0.252) |
| 11 to 15 years old at the time of the reform | -0.826** | -0.819** | -0.852*** |
| | (0.221) | (0.209) | (0.185) |
| 16 to 20 years old at the time of the reform | -0.445 | -0.394 | -0.387 |
| | (0.241) | (0.240) | (0.208) |
| Land | -0.953*** | -0.403** | -0.345** |
| | (0.177) | (0.110) | (0.0921) |
| Constant | 18.20*** | 15.29*** | 15.98*** |
| | (0.0711) | (0.228) | (0.277) |
| State FE | Yes | Yes | Yes |
| Year-of-birth FE | Yes | Yes | Yes |
| Household controls | No | Yes | Yes |
| Individual controls | No | No | Yes |
| N | 28688 | 28673 | 24307 |
| R^2 | 0.154 | 0.215 | 0.312 |

 Table A17: Age at marriage - Excluding women who married into households with a worse economic situation

Notes: Robust standard errors are in parentheses and are clustered at the state level. The table uses the 2011-2012 IHDS round and especially the *eligible women survey*. The dependent variable is age at marriage. *Born after the reform* is equal to 1 if the woman lives in an amended state and was born after the amendment was passed in her state. Household controls include income, poverty status, the number of persons in the household, urban or rural residency, caste, religion, and the mean age in the household. Individual controls include education and dummies to control for similarities between natal and marital households.