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Empowering Women? Inheritance Rights, Female Education and Dowry Payments in India

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Abstract

This paper examines the impact of gender-progressive reforms to the inheritance law in India on women's outcomes. Despite stipulating that daughters would have equal shares as sons in ancestral property, I find that the reform failed to increase the actual likelihood of women inheriting property. Instead, parents appear to be "gifting" their share of land to their sons in order to circumvent the law. However, parents also appear to be compensating their daughters for such disinheritance by giving them alternative transfers in the form of either higher dowries or more education following the reform.

Decisions linked to intergenerational transfers are of fundamental importance in determining the distribution of income and productivity in society. The existence of gender gaps in such transfers has been widely documented, especially in developing countries [Agarwal, 1994, World Bank, 2012]. While this is often interpreted as reflecting gender biased preferences of parents (typically in favour of sons), a number of studies have argued that this could arise even when parents are unbiased, e.g. if there is need to mitigate an incentive problem between siblings [Botticini and Siow, 2003], or if rates of return to asset-specific experience differ by gender [Rosenzweig and Wolpin, 1985] etc. This would imply that in the presence of multiple and substitutable forms of transfer, under-investment in one dimension might be compensated by over-investment in another. For example, if we consider land and education to be two key forms of capital, then lower land transfers made by parents to girls compared to boys could be offset by relatively higher investment in their education if parents display inequality aversion. However, if there exists complementarity between assets (e.g. if higher education improves farm productivity), then parents might choose to concentrate all assets in one heir, typically the son, such that gender gap in one form of transfer may be compounded by gaps in other forms as well.

The existing evidence in the context of developing countries is mixed in this regard. While some studies, e.g. Quisumbing [1994], Estudillo et al. [2001], Quisumbing and Otsuka [2001], La Ferrara and Milazzo [2012] find support for compensating behaviour of parents, others like Quisumbing et al. [2004] find that sons are favoured in transfer of both land and schooling. One feature of these existing studies is that, with the exception of Quisumbing et al. [2004], most of them focus on matrilineal societies, where kinship is traced along the female line. Patrilineal societies, where kinship is traced along the male line, may be expected to behave differently. Hence, there is a need to study the relationship between alternative forms of intergenerational transfers in the context of patrilineal systems more typical of developing countries, and the corresponding implications for gender equity.

This paper attempts to fill this gap. In particular, it seeks to analyze whether greater property rights for women leads to higher or lower levels of alternative forms of transfer, in particular, education and dowries. The principal methodological problem faced in causally exploring such a relationship is that of potential endogeneity. Unobserved heterogeneity at the household level that is correlated with both female property rights and related female outcomes may generate spurious results. For example, gender progressive parents may be more likely to invest in their daughters' education as well as give them greater rights to family inheritance. This could lead to the classic omitted variable problem that would bias the estimates of the impact of female property rights. A second complication in this regard may arise due to measurement error as it is often difficult to obtain appropriate measures of female

property rights due to the fact that women in many societies lack formal titles to property [Deere and Leon, 2003, Sweetman, 2008]. This may introduce further biases in the estimates of the causal impact of women's property rights on relevant outcomes.

To address these problems, this paper exploits legislative changes to the central inheritance law in India as a source of exogenous variation in female inheritance rights.[1] Like most personal laws in India, inheritance laws too vary by religion. The fundamental law governing present day inheritance rights of four religious communities i.e. Hindus, Buddhists, Jains and Sikhs[2], called the Hindu Succession Act 1956 (henceforth refered to as HSA 1956), was designed to lay down a law of succession whereby sons and daughters would enjoy equal inheritance rights to family property. In reality, however, significant gender inequalities existed in the law that disadvantaged daughters considerably. The main source of bias came from ancestral or joint family property, to which sons enjoyed a direct right *by birth* to a share but daughters did not. Both had equal rights of inheritance to the separate property that their father accumulated during his lifetime. But, due to the fact that a considerable amount of property, especially land in rural areas, is still jointly owned, such biased rights had a crippling effect on the property ownership of women in India.[3]

The earliest attempts at amending this law were made by five Indian states, namely Andhra Pradesh, Tamil Nadu, Kerala, Karnataka and Maharashtra, between late 1970s and early 1990s. The amendments stated that women who were unmarried at the time the reform was passed in their state would be granted claims equal to that of their brothers in ancestral or joint family property, including the right to a share by survivorship [Agarwal, 1994].[4] I exploit these state-level legislative amendments to the HSA 1956 as a "natural" experiment in order to study the impact of a potential improvement in women's inheritance rights on their likelihood of inheritance, education and dowry in India.

The identification strategy in this paper firstly uses the fact that exposure to the improved inheritance rights regime following the amendments was determined by the woman's state of birth and year of birth. Not only did a woman have to

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[1]Here, inheritance refers to post-mortem inheritance that is typically obtained after the death of the patriarch of the family.

[2]These religions are considered to be offshoots of Hinduism and hence are looked upon as being "Hindu-like" religions. For the rest of the paper, I will use the term "Hindu" to denote Hindus, Buddhists, Sikhs and Jain, i.e. religions to which the HSA 1956 applied.

[3]In my dataset, ancestral land constitutes approx. 84% of total household land in India. To clarify, the HSA 1956 applies to all ancestral property, including both land and non-land assests, but since land accounts for a large proportion of property in India, especially in villages, I focus on land in this paper.

[4]Details regarding each state amendment is available in "The Hindu Succession Act 1956, with State Amendments (Bare Act)".

be born in a state that passed the reform, she also had to be young enough to be unmarried at the time of reform in order to benefit from it. Since more than 85% of women in the dataset I use are married by the age of 21 but only about 2% women get married before 10,[5] one would expect that women who belonged to the latter group would benefit the most from it, while those who belonged to the former would benefit the least. Secondly, property in the woman's parental family should not have been partitioned already by the time of the reform. As stated in Agarwal [1994], the HSA 1956 stipulates that, "a person's share in ancestral property was deemed to be that which the person would get if the property were partitioned ... on a *per capita basis* among *all* family members holding an interest in the [ancestral] property." This implies that when the ancestral property is partitioned (typically at the death of the patriarch of the family i.e. say the grandfather), all members of the coparcenary (which includes the grandfather's children as well as the eligible grandchildren) would inherit (or at least delineate) their individual shares at that same point in time. Thus, exposure to the inheritance reform is also defined by the timing of the woman's paternal grandfather's death. Only if her grandfather died after the reform was passed would she be eligible to benefit from the reform, since only in such families would bequests be determined according to the new rules.

Therefore, I identify the causal impact of the inheritance reform by using a triple differences methodology that exploits variation in women's state of birth, year of birth and timing of grandfather's death. Whether or not the woman's grandfather died after the reform constitutes the key treatment in this context. Of those whose grandfather died after the reform, the 'most treated' group consists of women who were 10 years or younger at the time the reform was passed in their state; women who were 11-15 years old at the time comprise a 'partially treated' group, since approximately 16% women in my dataset get married within this age band; women who were 16-20 years old at the time are 'least treated', since close to 60% of women in this age-group would already have been married by then. Women who were 21 years or older constitute the omitted group. The identifying assumption is that, in the absence of the reform, any difference between women in households where the grandfather died before reform and those where he died after reform would have been the same on average across all age-groups.

I use individual level data obtained from the Rural Economic and Demographic Survey (REDS) 1999, which is a representative survey of households in 16 major states of India that contain 90% of the country's population (Census of India, 2011). The REDS 99 dataset contains retrospective information on all members of the household provided by household head, including on daughters who have married

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[5]The median age at marriage in my dataset is approximately 18 years.

and left the household.

I find that the inheritance reform had virtually no impact on the actual likelihood of inheritance for the treated women. This is consistent with existing evidence from ethnographic and mixed qualitative-quantitative studies in the reforming states described in Bates [2004], Brown et al. [2002] and Brule [2012], which document that the progressive legislative amendments to the HSA 1956 failed to have any impact on women's inheritance in these states in practice.

Instead, I find that the likelihood of a land "gift" being made to a *brother* of a treated woman increased significantly relative to control group following the reform. I interpret this as indicating that parents[6] were attempting to circumvent the law by "gifting" their share of the coparcenary (joint family) property to their son in order to avoid having to give property to the daughter.[7] This was made possible by the intestate nature of the HSA 1956 whereby the rules of the law applied only in the absence of a will. This suggests that the reason why no effect of the reform was observed on land inheritance of daughters is because parents were behaving strategically to avoid having to comply by the rules of the amendment and give their daughters their rightful share. Indeed, the Law Commission of India, in a report prepared later in relation to the Hindu Succession (Amendment) Act 2005, explicitly documents the occurrence of such strategic behaviour on the part of some families in Tamil Nadu during the time of the Tamil Nadu Amendment of the HSA, including even fraudulent pre-dated partition of joint family property, to defeat the rights of the daughter. Moreover, the legal literature critiquing these state-level amendments at the time of their enactment openly doubted their "real" efficacy since they failed to "protect the share of the daughter from being defeated by ... testamentary disposition [of joint family property] in favour of another, or by alienation" [Sivaramayya, 1997].

I also examine the impact of the reform on alternative forms of transfers to women, in order to assess whether parents were following reinforcing or compensating strategies as a response to the reform. Traditionally, dowry payments have constituted the most common form of such transfers - a pre-mortem bequest to daughters in South Asia [Anderson, 2004, Goody, 1973]. I find heterogeneous treatment effects on dowries of treated women by age group. The 'most treated' group of women received lower mean dowries on average relative to control group, while the

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[6]I use the terms "parent" and "father" interchangeably, since mothers typically have little voice regarding family property matters in the patrilineal system, especially in rural India.

[7]Apart from the free-riding and differential returns theories, another oft-cited reason for disfavouring daughters' inheritance of household property in India is to prevent the fragmentation or loss of control over jointly owned family land. Due to customs of virilocality and village exogamy, whereby married daughters leave their parents' home to live with their husband's family which is generally outside their own village of residence, parents run the risk of losing control over their household property if their daughters inherit a share.

'partially treated' group received higher dowries. The 'least treated' group of women did not experience any significant change. I also examine the impact of the reform on an alternative form of transfer i.e. education. Here, I find that women in the 'most treated' group had on average 1.4-1.7 additional years of education relative to control group. Note that this is also the group of women who were of school-going age at the time of the reform. On the other hand, no significant effect is observed on the education of the older age groups, especially those belonging to the 'least treated' group who were past school-going age, suggesting that the findings are less likley to be driven by correlated unobservables.

Taken together, these findings on inheritance, dowry and education suggest that parents appear to be compensating their daughters for disinheriting them from household property by transferring to them alternative forms of wealth like dowry or education. For daughters who were past primary school-going age by the time the reform was passed in their state, but approaching marriageable age, compensation took the traditional form of dowries at the time of marriage. On the other hand, for daughters that were still of school going-age at the time when the reform was passed, compensation for disinheritance took the form of increased investment in their education, while dowry payments for them were lower.

Therefore, the findings of this paper suggest that although progressive legislation aimed at improving inheritance rights of women in India did not have the desired first order effect, intrahousehold dynamics may have ensured that parents were compensating their daughters for such disinheritance in a manner that resulted in an unintended but positive impact on alternative forms of transfers to daughters.[8]

This paper relates to two different strands of literature. First, it speaks to the literature on intergenerational transfers and bequest behaviour. Behrman et al. [1982] find that in the presence of inequality aversion, parents may undertake compensating strategies whereby they devote greater resources to children with lower endowments. Empirical support for such compensating behaviour is also provided by Quisumbing [1994], Estudillo et al. [2001], Quisumbing and Otsuka [2001], La Ferrara and Milazzo [2012] in the context of land and education, especially in matrilineal societies. This paper shows that compensating strategies can be adopted by parents even when legislation stipulates equal division of property, with implications for gender equity. The existing literature has also studied dowry as a form of "pre-mortem" transfer of wealth [Anderson, 2003, Goody, 1973], and a change in the environment for producing bridal wealth, in the form of labour market expansion, has been put

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[8]It is possible to interpret such a finding as being supportive of the assumption of parental inequality aversion or preference for "equal outcomes" for their children used in general preference models of resource allocation [Behrman et al., 1982]. However, without a credible way of estimating present discounted value of these transfers, it is difficult to empirically verify such a claim.

forth as potential mechanism for the reduction in prevalence of dowry [Botticini and Siow, 2003]. My paper fits well with such a line of argument as it shows that a legal reform in inheritance rights can have similar consequences on dowry payments through its impact on education.[9]

This paper also relates to the literature on the role of land rights in enhancing investment incentives in agricultural land [Banerjee et al., 2002, Besley, 1995], residential investment [Field, 2007], entreprenurial investment of retained earnings [Johnson et al., 2003] etc. By analyzing how change in rules for intergenerational tranfer of land affects investment in children's human capital, this paper shows that consequences for the provision of land rights extends beyond the realms that are traditionally studied.

A related paper, Goyal et al. [2013], also examines the impact of amendments to the HSA 1956 on women's inheritance in India. My study differs from Goyal et al. [2013] in a number of ways. Firstly, the results of my paper differ from Goyal et al. [2013]. Unlike Goyal et al. [2013], I find no significant impact of the reform on women's propensity to inherit. I argue that the main reason for this difference is that Goyal et al. [2013] use variation in the timing of death of the woman's father (i.e. whether father died before or after the reform) to define treatment status. However, as Agarwal [1994] points out, the amendment to the original HSA 1956 relates to *ancestral* property owned by the grandfather such that the relevant trigger of inheritance would be the timing of the death of the grandfather, and not the father. Using variation in the timing of grandfather's death, I find no significant impact on the likelihood of inheritance for women post reform. Indeed, this is consistent with the existing evidence from a number of the ethnographic and mixed qualitative-quantitative studies on this topic [Bates, 2004, Brown et al., 2002, Brule, 2012] that also document the widespread ineffectiveness of the reform with regard to women's inheritance.

In addition, when controls for father's year of death are added, the positive impact of the Goyal et al. [2013] on female inheritance disappears. Therefore, I argue that their finding does not constitute the effect of the reform per se but rather could be driven by unobserved characteristics of fathers who live longer. For example, although historically land markets in India have been thin, there has been increased activity in the recent past, especially in the south [Deininger et al., 2007, Deininger and Goyal, 2012]. Hence the positive coefficient reported by Goyal et al. [2013] could merely be proxying for the fact that fathers who lived longer were more likely to acquire land in the rapidly changing economic climate of the country, and

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[9]Edlund [2006] distinguishes between "gross" dowry (assets the bride brings at the time of marriage) and "net" dowry (those netted against groom payments); for the purpose of my paper, I use dowry as gross dowry.

leave a share to their daughters. But this would have nothing to do with the reform, since daughters had rights to their father's self-acquired property even before the reform.

Finally, combined with my results on land gifts, education and dowry payments, the estimated lack of impact on female inheritance that I find in my paper contributes to our understanding of the process of intergenerational transfers in rural India, where sons continue to be given exclusive inheritance rights to property (despite enactment of progressive legislation favouring daughters) while daughters are compensated for their disinheritance with either higher dowries or higher education. Goyal et al. [2013] provide speculative explanations in this regard, hence the evidence provided in this context to disentangle the underlying mechanism of the reform's impact constitutes a key innovation of my paper.

The remainder of the paper is organized as follows: Section 1 describes the institutional background of Hindu inheritance law in India, while Section 2 outlines the data and identification strategy. Section 3 presents results on inheritance, and Section 4 discusses the impact on alternative forms of transfers i.e. dowry payments and education. Section 5 concludes.

1   The Institutional Background

1.1   The Hindu Personal (Inheritance) Law

As mentioned earlier, the laws for inheritance of property in India differ by religion. The inheritance rights of Hindus are governed by the HSA 1956, which also governs the rights of Buddhists, Jains and Sikhs. The Act was built on the foundation of ancient legal doctrines that have prevailed in India since the 12 century A.D., and purported to lay down a law of succession that gave equal rights of inheritance to sons and daughters[10]. In reality, however, significant gender inequalities remained.

A key feature of the legal structure of Hindu inheritance in India is the distinction between "joint family property" and "separate property".[11] Generally speaking, joint family property "consists principally of ancestral property (that is, property inherited from the father, paternal grandfather or paternal great-grandfather), plus any property that was jointly acquired or was acquired separately but merged into

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[10]These ancient Indian doctrines were completely biased in favour of sons as far as property inheritance issues were concerned, while daughters had no inheritance rights at all in any kind of property (Agarwal, 1994 pp. 206). The HSA 1956 was the first attempt to introduce some measure of gender equality in this regard.

[11]The joint family here is a legal concept and need not coincide with the joint residence or or any other aspect of a common household economy that may be implied in a sociological use of the term [Agarwal, 1994].

the joint property". Separate property, on the other hand, "includes that which was self-acquired (if acquired without detriment to the ancestral estate) and any property inherited from persons other than father, paternal grandfather or paternal great-grandfather" [Agarwal, 1994, p. 85-86].[12]

According to the HSA 1956, daughters of a Hindu male dying intestate (i.e. without leaving a will)[13] were equal inheritors, along with sons, of only their father's separate property and his "notional" portion of joint family property, but had no direct inheritance rights to joint family property itself.[14,15] Sons, on the other hand, not only inherited their share of the father's own property and his "notional" portion of joint family property, but also had a direct right *by birth* to a share of the joint family property. In fact, all persons who acquired interest in the joint family property by birth were said to belong to the Hindu coparcenary", which is conceptually similar to an exclusive male membership club in relation to the issue of inheritance to which women had no access.[16]

Hence, it is apparent that the daughters suffered from discrimination in terms of inheritance under HSA 1956.

Moreover, for the millions living in rural India, the most common form of property is land that is typically family-owned, which makes the gender bias in inheritance rights quite a significant phenomenon. Thus the law, by excluding the daughter from participating in the coparcenary ownership of ancestral property, not only discriminated against her on grounds of gender, but also led to a negation of her fundamental right of equality as guaranteed to her by the Indian Constitution [Ramanujam, 2005].

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[12]Using the REDS 1999 dataset, it is estimated that ancestral property constitutes approx. 84% of total household property in India. This indicates that the salience of the inheritance rights reform was indeed quite high in India.

[13]According to Goyal et al. [2013], the proportion of people who die without making a will in India is very high (around 65%, and probably even higher in rural areas). Recent newpaper articles have put the number at a much higher 80% (see `http://timesofindia.indiatimes.com/Avoid-disputes-write-a-Will/articleshow/802650.cms` and `http://www.fpgindia.org/2011/07/writing-a-will-know-some-facts.html`). The main reason cited for such low prevalence of wills in India is that people often find it uncomfortable discussing a will in their lifetime because of the air of fatality and gloom that surrounds it. Thus, all this would suggest that the HSA 1956 is what ultimately determines inheritance patterns within the family.

[14]The "notional" portion of the father's share in the joint family property would be ascertained under the assumption of a "notional" or hypothetical partition of that property, as if the partition had taken place just before his death.

[15]In case of a Hindu woman dying intestate, all her property devolves equally upon her sons and daughters and husband, if alive. If she has no children or other heirs with first right to her property, then the property devolution takes place according to the source of acquisition.

[16]In addition to inheritance, sons could also demand partition of the joint family property while daughters could not. E.g. if the joint family property was a dwelling house, sons (as part of the coparcenary) could demand a partition of the same but daughters were only allowed right of residence but no right of ownership or possession. For more details on the rules of inheritance under the HSA 1956, please see the working paper [Roy, 2011].

1.2   State Amendments to the HSA 1956

The topic of inheritance in India is a "concurrent" one, i.e. one over which both the central and the state governments have legislative authority. Thus, although the HSA 1956 is a central law, some of the states have subsequently amended the HSA 1956. In particular, Kerala amended in 1976, Andhra Pradesh in 1986, Tamil Nadu in 1989, Maharashtra and Karnataka in 1994 (see Figure 1), following which daughters were granted direct inheritance rights and the right to a share by survivorship in joint family property, equal with their brothers, but only if they were unmarried at the time of the reform.[17] Such a reform opened up the entry of women into what had till now been an exclusively male preserve and sought to, at least partially, redress the concern of gender bias inherent in the original central law. I exploit these legislative amendments as a "natural experiment" to study the impact of a potential improvement in female inheritance rights on female outcomes in India.

2   Data and Identification Strategy

2.1   Data

I use the 1999 wave of the Rural Economic and Demographic Survey (REDS), which is a representative survey of rural households in the 17 major states of India.[18,19] The REDS 99 contains detailed retrospective information on individual characteristics of all members of the household, including daughters who have married and left the household, provided by the household head. I focus on women who are daughters of the head of the household and at least 22 years of age at the time of survey (this ensures that women in the sample have completed their education). In addition, I restrict the sample to Hindu, Buddhist, Sikh and Jain women (i.e. those who were governed by the original HSA 1956 and thereby were affected by the reform), since almost 92 percent of the women in this dataset belong to these religions. I also restrict the sample to only landed households, since land is the most commonly held form of joint family/ancestral property in India. Finally, some of the mothers of these women may themselves have been young enough to have been exposed to

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[17]Kerala passed a slightly different amendment in the form of the Kerala Joint Hindu Family System (Abolition) Act that recognized all family members with an interest in the undivided family estate as being independent full owners of their shares from then onwards, i.e. abolished joint family property altogether. But since the spirit of this amendment was similar to those passed by the other reforming states, and could be expected to favourably affect the inheritance of the daughter, I club them together. However, the key findings of this paper are robust to the exclusion of Kerala, as shown in Appendix Table A1 below.

[18]REDS 99 can be obtained from `http://adfdell.pstc.brown.edu/arisreds_data/`

[19]HSA 1956 did not apply to Jammu and Kashmir [Agarwal, 1994], and is hence dropped, leaving me with 16 major states.

the reform. To avoid any confounding impact on outcomes of daughters through their mothers, I restrict the sample to only those mothers who were unexposed to the reform i.e. were 44 years or older at the time of survey.[20] Hence my sample comprises of daughters who were at least 22 years old at survey and whose mothers were at least 44 years old at survey in landed, Hindu households. This leaves me with a sample size of 4,207 women.

Descriptive statistics are presented in Table 1. Mean age for this sample of women is 32.74 years, while average level of education is 4.43 years (6 years of education corresponds to completion of primary schooling). More than half live in low caste households.

Table 2 carries out the pre-reform balance test, both between reforming and non-reforming states in Panel A as well as within reforming states, between families where grandfather died before reform (treated group) and families where grandfather died after reform (control group). This is to examine whether there exists any pre-existing differential in observables between these groups. In Panel A, I use women who were born on or before 1955, i.e. who were 21 years or older in 1976 when the first state to reform, Kerala, passed its amendment. There is no evidence of any systematic differences between the reforming and non-reforming states prior to the reform. In Panel B, the sample is restricted to only reforming states and to daughters who were 21 years or older at the time of reform in their *respective* states. Evidently, the only differences between the treated and control group is in terms of parental age, since families where the grandfather dies later are likely to be younger than those where he dies earlier. Parental age, along with other household characteristics, are controlled for in the regression analysis.

2.2 Identification Strategy

The identification strategy in this paper uses the fact that exposure to the inheritance reform is determined by a woman's state of birth, year of birth and timing of her paternal grandfather's death. In order to benefit from the reform, a woman not only had to be born in a reforming state[21] and be young enough to be unmarried when the reform is passed, but also have a living grandfather at the time. This is because household property in the woman's parental family should not already

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[20]The cut-off for mothers is calculated as follows: to be unexposed to the reform, a mother had to be married by the time it was passed. Since most women in my dataset are married by the time they are 21, this implies that she has to be 21 or older in 1976 (when the first reform was passed by Kerala. Thus, at the time of survey in 1999, she would be 44 years or older.

[21]Although REDS 99 contains data on state of current residence of the parental household of the daughter, approximately 97% of the heads of these households (typically, the father) report having lived in this same village since birth. This mitigates any concerns regarding endogeneous migration.

have been partitioned by the time of the reform. As stated in Agarwal [1994], the HSA 1956 stipulates that, "a person's share in ancestral property was deemed to be that which the person would get if the property were partitioned ... on a *per capita basis* among *all* family members holding an interest in the [ancestral] property." This implies that when the ancestral property is partitioned (typically at the death of the patriarch of the family i.e. say the grandfather), all members of the coparcenary (which includes the grandfather's children as well as the eligible grandchildren) would inherit (or at least delineate) their individual shares at that same point in time. Thus, exposure to the inheritance reform is defined by the timing of the grandfather's death in a key way.[22] Only if her grandfather died after the reform was passed would she stand to benefit from the reform, since only in such families would bequests be determined according to the new rules.

Therefore, I identify the causal impact of the inheritance reform by using a triple differences methodology that exploits variation in women's state of birth, year of birth and timing of grandfather's death. Whether or not the woman's grandfather died after the reform constitutes the key treatment in this context. Of those whose grandfather died after the reform, the 'most treated' group consists of women who were 10 years or younger at the time the reform was passed in their state; women who were 11-15 years old at the time the reform was passed in their state comprise a 'partially treated' group, since approximately 16% women in my dataset get married within this age band; women who were 16-20 years old at the time the reform was passed in their state are 'least treated', since close to 60% of women in this age-group would already have been married by then. Women who were 21 years or older constitute the omitted category. The identifying assumption is that, in the absence

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[22]I argue that this is also the main reason why my findings on women's inheritance differ from that of Goyal et al. [2013], who use timing of father's death to define treatment status and report a positive impact. I replicate my results using their data REDS 2006 and their results using my data REDS 1999, and find that my results hold for 2006 as do theirs for 1999 (see Appendix Table A2). However, I argue that their finding does not constitute the effect of the reform *per se* but rather could be driven by unobserved characteristics of fathers who live longer because when I add father's year of death fixed effects to their estimation, their positive coefficient disappears (see Appendix Table A2 column 6). Now, it has been shown that although historically land markets in India have been thin, there has been increased activity in the recent past, especially in the south [Deininger et al., 2007, Deininger and Goyal, 2012]. Hence the positive impact that Goyal et al. [2013] find could merely be proxying for the fact that fathers who lived longer were more likely to acquire land in the rapidly changing economic climate of the country, and leave a share to their daughters. But this would have nothing to do with the reform, since daughters had rights to father's self-acquired property even before the reform. I do find that the coefficient on Treatment is positive and significant for REDS 2006 (columns 3 and 4 in Appendix Table A2), indicating that for women who were 20 or older at the time of reform, the death of their grandfather did induce an increase in land inherited. This is not the case for REDS 99. However, what is important to note is that there is no evidence of a differential impact for the treated groups of women who were unmarried at the reform and hence eligible to benefit from the reform, which is consistent across results from both REDS 99 and REDS 2006.

of the reform, any difference between women in households where the grandfather died before reform and those where he died after reform would have been the same across all age-groups.

Inclusion of the 'least treated' group serves as a form of test for an implication of the identifying assumption, whereby one can compare outcomes of women in this group with those in the omitted category. Since so many of the women in the 'least treated' group would have already been married by the time of the reform and hence ineligible to benefit from it, the difference between the outcomes of this group relative to the omitted category should not, therefore, vary systematically by treatment status in any significant way.

Within a regression framework, I therefore estimate the following equation:

$$y_{isk} = \alpha_s + \beta_k + \gamma_s k + \delta_1 D_{is,(k \geq k'-10)} + \delta_2 D_{is,(k'-15 \leq k \leq k'-11)} + \delta_3 D_{is,(k'-20 \leq k \leq k'-16)}$$

$$+ \delta_1' D_{is,(k \geq k'-5)} * GF_i + \delta_2' D_{is,(k'-15 \leq k \leq k'-11)} * GF_i + \delta_3' D_{is,(k'-20 \leq k \leq k'-16)}' * GF_i$$

$$+ \mu GF_i + X_{isk} \eta + \epsilon_{isk} \quad (1)$$

The dependent variable y_{isk} denotes the relevant outcome of woman i in state s born in year k. Let the reform be passed in year k' in state s. Then $D_{is,(k \geq k'-10)}$ is a binary variable indicating whether woman i belonging to cohort k was 10 years old or younger when the reform was passed in her state. Similarly, $D_{is,(k'-15 \leq k \leq k'-11)}$ is a binary variable indicating whether she was between 11 and 15 years old and $D_{is,(k'-20 \leq k \leq k'-16)}$ indicating whether she was between 16 and 20 years old respectively. As mentioned earlier, the group consisting of women who were 21 years or older at the time of the reform constitute the omitted category. GF_i is a binary variable that equals 1 if the grandfather died after the reform and zero otherwise. α_s represents state fixed effects which accounts for state-specific characteristics that do not vary across cohorts, β_k represents year of birth fixed effects which accounts for the fact that individuals born in different years may be exposed to different macro shocks, while $\gamma_s k$ captures state-specific linear trends by year of birth.[23] X_{isk} is a vector of household level control variables, including parental age, parental education, number of children in family, household income, caste status, etc. ϵ_{isk} is the error term. To address serial correlation concerns and to allow for heteroscedasticity, the standard errors are clustered at the state level.

The coefficients of interest are δ_1' and δ_2', which capture the differential impact of the reform on women belonging to the 'most treated' and 'partially treated' groups, respectively, relative to control group. As discussed above, the 'least treated' group

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[23]I also present regression results using a more rigorous specification that includes state-year of birth fixed effects instead of state linear trends, but in that case, the level effects of the reform, i.e. the δ_is, can no longer be identified.

is included as a falsification test, and hence δ'_3 is expected to be close to zero.

3 Impact on Inheritance

3.1 Inheritance of Daughters

In this section, I analyse the impact of the inheritance reform on the likelihood of women actually inheriting property. The results are presented in Table 3. The dependent variable is a binary variable that takes the value 1 if the daughter inherits any land and zero otherwise.

Column 1 indicates that there is no differential impact of the reform on the likelihood of inheriting land for any of the 'treated' groups relative to control group. I cannot reject the equality of the coefficient for the 'most treated' group (δ'_1) with those for the 'partially treated' (δ'_2) or the 'least treated' (δ'_3). This implies that the likelihood of inheritance for daughters did not increase even after the reform was passed, and that they continued to be disinherited from what was their rightful share in ancestral property. This is consistent with existing evidence obtained from ethnographic and mixed qualitative-quantitative studies conducted in the various reforming states, which find that the amendment to HSA 1956 had no impact on the likelihood of inheritance by daughters [Bates, 2004, Brown et al., 2002, Brule, 2012]. This result is robust to the inclusion of household controls (Column 2) as well as state-specific linear trends (Column 3). However, with state-specific linear trends, identification of the level effects of the reform (i.e. the δ_is) may be somewhat problematic since both vary over state and year such that the estimates of the δ_is may not be perfectly reliable. I also present results with state-year of birth fixed effects to test for the robustness of the coefficients for the treated groups i.e. δ'_is (Column 4). With the inclusion of state-year of birth fixed effects, the level effects of the reform can no longer be identified, but the findings for the triple-difference coefficients remain robust.

One possible way to ensure that daughters did not get any inheritance would be for the father to write a will to this effect, since the rules of the HSA 1956 only applies in the absence of a will (intestate succession). Although my dataset does not contain information on wills, I do have information on transfer(s) of land made by the father to his son(s) in the form of a "gift", along with the year in which such a transfer was made. Using this, I create a binary variable "land gift to son", which captures whether or not such a "land gift" was made by the father to any of his sons after the death of the grandfather, for each woman in my sample. As mentioned above, the death of the grandfather is the likely trigger for partition of joint family property. If the grandfather died before the reform, the partition would

have taken place along the lines of the original HSA 1956 rules, where only the men of the family had the direct right to inherit joint family property. If, on the other hand, the grandfather died after the reform, the partition would take place along the lines of the amended rules whereby even the women, in this case daughters, could inherit a share of joint family property. Hence, if fathers did not want to give their daughters their rightful share in joint family property, they would be more likely to will or "gift" away their entire share of joint family property to their sons in the latter case, so as to bypass the law.[24]

3.2   Land Gift to Sons

The results for land gift to sons are presented in Table 4. For all specifications, I find that in families where the grandfather died after the reform, the likelihood of a "land gift" being made to a brother of a treated woman increased significantly, relative to control, for all the age groups. For instance, in the specification including state linear trends (Column 3), the impact on brothers of the 'most treated' group is a relative increase of 13 percentage points while that on the brothers of the 'least treated' groups is 7 percentage points, statistically significant at 5 percent level or more; and while that for the brothers of the 'partially treated' group is insignificant, its magnitude is quite similar to that of the 'least treated' group (the F-tests fail to reject the equality of these two coefficient, with the p-value being 0.93). I interpret this as indicating that in these families, fathers were strategically circumventing the law by "gifting" their share of the coparcenary (joint family) property to their son(s) in order to avoid having to give property to their daughter. The overall effect for these treated groups is not significantly different from zero, given the negative and significant level effect of the treatment variable μ. However, once state-year of birth fixed effects are controlled for (Column 4), μ becomes insignificant, while the other coefficients remain qualititatively similar.

Hence, the evidence on "land gifts" to sons suggests that the reason why no first order effect of the reform is observed on land inheritance of daughters is because fathers were behaving strategically to avoid having to comply by the rules of the amendment and give inheritance to their daughters. Indeed the Law Commission of India, in a report prepared in relation to the Hindu Succession (Amendment) Act, explicitly notes the occurrence of such strategic behaviour on the part of some families in Tamil Nadu following the Tamil Nadu Amendment, including even fraudulent pre-dated partition of joint family property, to defeat the rights of the daughter [Law

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[24]Theoretically speaking, the father could will or "gift" his share of joint family property to anybody he wishes, but it is natural to expect he would give it to his son so as to retain the property within his own nuclear family.

Commission of India, 2000].

A potential reason for disfavouring property inheritance by daughters may be related to the existence of incentives for parents to prevent fragmentation of household property, especially land.[25] In India, daughters typically leave the household of their parents after marriage and live with their husband's family, known as virilocality. This creates two problems: firstly, parents may fear loss of control over their household land to the daughter's husband's family if the daughter is allowed to inherit a share. This maybe further reinforced by the notion of women being "guests" in their natal (parental) home till they are married and that they really only belong to their husband's family [Kramarae and Spender, 2000]. Secondly, Botticini and Siow [2003] discuss how giving daughters equal share in household property would create disincentives for sons (who have a comparative advantage in working with family assets compared to their married sisters) regarding provision of optimal effort in extending family wealth, as they would no longer be able to enjoy the full benefits of their effort. Hence, household land is typically passed along the male line alone so as to keep it within the family, while daughters are paid dowries at the time of their marriage, which constitutes their share of household property in the form of a "pre-mortem" bequest. Indeed, Botticini and Siow [2003] discuss how parents' decision to give dowries to their daughters and bequests (of e.g. assets like land) to their sons constitute an optimal incentive scheme when married daughters leave the parental household after marriage while sons stay back and enjoy a comparative advantage in working with family assets.

Hence it may be argued that prior to the inheritance reform, parents were compensating daughters for disinheriting them from household property by paying them dowries at the time of their marriage. But what happened after the reform? Given that I find that daughters continued to be disinherited from their rightful share of household property after the reform, did compensation still take the form of dowries or were parents using other forms of transfer? To answer these question, I now turn to the analysis of alternative transfers in the form of dowry payments and education.

4 Alternative Forms of Transfer

4.1 Dowry Payments

REDS 99 contains information on nominal dowry payments made by parents at the time of the daughter's marriage. The nominal dowry payments in the dataset

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[25]In fact, fragmentation was one of the key arguments presented against extending equal rights of inheritance to joint family property for women in India in the original HSA 1956 [Agarwal, 1994].

are converted to real values using the Indian Consumer Price Index (base: 1966 = 100).[26]

Table 5 presents the results relating to the impact of the inheritance reform on log of real dowry payments at the time of marriage. Across various specifications, I find that relative to control group, mean dowry payment at marriage increased for women belonging to the 'partially treated' group while it declined for those belonging to the 'most treated' group. For instance, in the specification including state linear trends (Column 3), mean dowry payment increased by 50 percent for the 'partially treated' but fell by 28 percent for the 'most treated'. Impact on the 'least treated' group of women is also negative but marginally significant at 10 percent. Moreover, once state-year of birth fixed effects are controlled for (Column 4), the coefficient for the 'least treated' group becomes much smaller in magnitude and statistically insignificant, while that for 'most treated' group becomes even larger and that for 'partially treated' remains unchanged.

This indicates that following the reform, parents were compensating daughters who were close to marriageable age (i.e. 11-15 years old at reform) using the traditional form of dowries. They offered no compensation to daughters who are already married (16 years or older at reform) since they are not eligible to benefit from the reform. But why did dowries decline for younger daughters (i.e. 10 years or younger at reform)? Were these daughters getting more of an alternative form of transfer, and hence less dowries? To explore this further, let us turn to the analysis of the impact of the inheritance reform on educational attainment of these women.

4.2 Education

The results for education are presented in Table 6. The dependant variable is the number of years of education attained by the woman. Across various specifications, we find that women belonging to the 'most treated' group have on average 1.2-1.7 additional years of education relative to control group, significant at 5 percent level (except for column 1). However, there is no statistically significant impact on the mean education levels of the 'partially treated' group, relative to control. In other words, the inheritance reform significantly impacted overall educational attainment of those women in the treated group who were of primary school-going age at the time of reform (10 years or younger),[27] but not those who were past

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[26]I use Consumer Price Index for Agricultural Workers as the deflator since the REDS dataset focuses on a rural sample. This is obtained from the LSE EOPP Indian States Dataset at `http://sticerd.lse.ac.uk/eopp/_new/data/indian_data/default.asp`. Also, over 90 percent of the families in my sample pay dowry and receive nothing, hence I only focus on dowry payments.

[27]In India, children normally attend primary school between the ages of 5 and 10, middle school between ages 11 and 13 and secondary school between ages 14 and 15.

this age (11-15 years). One possible interpretation for such a finding could be that following the reform, parents enabled their primary school-aged daughters to complete their primary education instead of dropping out, so as to compensate them for their disinheritance with more schooling. However, if the daughter was 11-15 years old at the time of reform, she was already of marriageable age,[28] and in order to protect their reputation, parents face pressure to marry off these girls, which curtails their education.[29] This did not change after the reform, hence we find no significant impact on mean educational levels for this group of women relative to control. With state-year of birth fixed effects, the coefficient for this group becomes positive (Column 4), but still remains insignificant. Finally, although the coefficient for the 'least treated' group is negative, it is only marginally significant with state linear trends, and insignificant with state-year of birth fixed effects. This is expected since a lot of these women were most likely to be have been married by the time the reform was passed and thereby unlikely to inherit a share in joint family property under the new rules. Thus, the need for compensation for this group is minimal.

Coupled with the dowry results presented earlier, these findings suggest that parents appear to be compensating their daughters for disinheriting them from their rightful share in joint family property as stipulated by amendments to the HSA 1956, by giving them either higher dowries or more education. Dowry has traditionally constituted the most common form of such compensation, as noted by Goody (1976) and Botticini and Siow (2003), and this is the form of compensation enjoyed by women who were past primary school-going age and had entered marriageable at the time of reform (i.e. the 'partially treated' group). For women who were of primary school-going age at the time of reform (i.e. the 'most treated' group), the compensation took the form of higher education, and consequently lower dowries.[30]

The observed trade-off between dowries and education may be explained in two ways: parents choose to compensate daughters only along one dimension, and since the 10 or younger group gains in terms of education in exchange of inheritance rights,

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[28]In rural India, girls are considered to be of marriageable age once they attain puberty, which typically happens around 10-11 years of age.

[29]I thank a referee for this suggestion.

[30]It is unlikely that this observed dowry effect is driven by general trends in the marriage market, e.g. a rising mean age at marriage for females [Government of India, 2001]. If such trends are common for all households in my sample, then they would differenced out by triple differencing by timing of grandfather's death. According to Anderson [2007], rising female mean age at marriage would lead to non-increasing (even decreasing) average dowry payments at marriage in a dynamic modelling framework, which is what I find for my control groups of households where the grandfather died before reform, and which is also consistent with the evidence presented in Arunachalam and Logan [2008]. If, on the other hand, the reform itself led to an increase in mean age at marriage for women, then one might expect the triple-interaction coefficients for the treated groups to be biased. However, I find no significant impact of the reform on mean female age at marriage (see Appendix Table A5), which serves to alleviate this concern.

they are paid less pre-mortem bequest in the form of dowries. This explanation views education and dowry payments as competing channels of compensating daughters for disinheriting them from their rightful share in ancestral property. Alternatively, if dowry is interpreted as a price that clears marriage markets, then higher education could substitute for dowry payments as more educated brides enjoy higher valuation in the marriage market[31] and hence have to pay lower dowries to secure the groom of their choice.

However, the question remains as to why parents switch from dowry to education as a means of compensating daughters across cohorts. One potential explanation could be that although dowry is often interpreted as a pre-mortem bequest given to the daughter at the time of her marriage, it hardly remains under the control of the daughter after her marriage, and hence does not necessarily improve her welfare in reality [Suran et al., 2004]. Education, on the contrary, is inalienable as an investment in the daughter and hence may be preferred by parents as a means of compensation when available. However, it cannot be ruled out that parents may also be responding to a scenario of changing returns to female education in a growing Indian economy.[32]

4.3 Robustness Check using Alternative Dataset

The REDS 99 dataset that I have used so far is a rural dataset. To test the robustness of the findings of this paper, I use a nationally representative dataset in the form of the National Family Health Survey (NFHS), which covers both rural and urban areas.[33] NFHS consists of multiple waves conducted in 1992, 1998 and 2005 as repeated cross-sections, and covers all the states of India.[34] NFHS contains individual level information on household members including daughters, e.g. their educational attainment, but unfortunately, none on inheritance or dowry payments. Hence, I am able to test the robustness of the education results alone using the NFHS.

In case of the NFHS too, I focus on women who are daughters of the head of

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[31]Behrman et al. [1999] finds that educated brides are valued more by the grooms family and command a premium in the marriage market, arguably due to the advantage of home schooling by mothers as an input in the production of child education

[32]Such changes in labour market returns may arise either due to increased opportunities for labor force participation and higher returns to schooling, or due to lower costs of education owing to expansion of publicly provided education, or both.

[33]The NFHS is carried out by the Ministry of Health and Family Welfare, Government of India, and is designed along the lines of the Demographic and Health Surveys (DHS) that have been conducted in many developing countries around the world.

[34]Here too, I drop Jammu and Kashmir since HSA 1956 does not apply. Also, the results are robust to restricting the NFHS sample to the 16 major states, as in REDS 99.

the household, at least 22 years old at the time of survey[35] and whose mothers were unexposed to the reform.[36] In addition, I also restrict the sample to women belonging to "Hindu" households. This leaves me with a sample size of 9,264.

Summary statistics for this sample are presented in Appendix Table A3, while the pre-reform balance test is conducted in Appendix Table A4. In Appendix Table A4, Panel A uses all the states and "pre-reform" is defined as being 21 years or older in 1976, the earliest reform year (Kerala). Panel B uses all states apart from Kerala, i.e. the reforming group now consists of the late reformers - AP, TN, Maharashtra and Karnataka - and "pre-reform" is defined as being 21 years or older in 1986, the earliest reform year in this sub-group (AP). Panel C uses all states apart from the late reformers, i.e. the reforming group now comprises only of Kerala, and "pre-reform" is defined as being 21 years or older in 1976, the year Kerala reformed. "Non-reform" indicates states that never reformed throughout the table. Panels A and B indicates that there is relatively little systematic differences between the late reforming states and the non-reforming states prior to the reform. I control for these covariates in the regressions. However, Panel C indicates that Kerala was different from the non-reforming states on certain dimensions even before the reform. Therefore, I also present results excluding Kerala in Appendix Table A7.

Unlike REDS, NFHS does not contain data on the year of the death of the paternal grandfather of the woman. Hence, I use a coarser definition of treatment status for the triple-difference strategy: land ownership. Only if the natal household of the woman owns any joint family property would the reform have any bite. Land is the most commonly held form of joint family/ancestral property, hence it makes sense to exploit variation along the dimension of land ownership of the woman's household for identification. Now, since a household's land ownership status is obtained at the time of survey, the underlying assumption is that this status has remained unchanged over time. If this assumption does not hold in reality, then measurement error would lead to attenuation bias in the triple differences estimates.[37] A

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[35]This could potentially give rise to a concern over sample selection as, unlike REDS, NFHS interviews the daughter herself who is present in the household. Given that mean age of marriage for females in India is 18 years and girls typically leave their parents' household after marriage, this might lead to a biased sample. However, the main concern in this context is that the reform itself could have introduced differential selection into the sample along the dimension of education e.g if educated younger daughters may have been systematically more or less likely to stay behind in their parents' household following the reform. However, given that staying back in parents' house is synonymous with remaining unmarried in India due to virilocality norms, I test for the potential endogeneity of female age at marriage to the reform, but find no significant effect (see Appendix Table A5).

[36]Since the latest round of NFHS is conducted in 2005, the minimum age that mothers need to be in order to be unexposed to the reform is 50 years at the time of survey.

[37]To elaborate on this, two possibilities could arise: one, it could be that the woman's family did not own land when she was young but does own land now (at the time of survey) and second, the family owned land when she was young but does not now. In the first case, reform would not have

bigger concern, however, is that land ownership status maybe correlated with the reform. The identifying assumption of the triple-differences strategy here is that the difference in educational outcomes between women belonging to the "treated" and "control" groups is on account of the reform. However, if gender progressive parents had acquired additional land in anticipation of the reform, then this assumption would be violated. But it is important to note here that the reform relates to ancestral property, and not to separate property acquired by the father in his lifetime, which allays fears of strategic land procurement by parents that could bias the results.[38]

Regarding caste status, the NFHS only contains SC/ST status rather than the finer caste categorization that is obtained in REDS 99. Hence, for the sake of comparison with NFHS, I also present the results for education with REDS 99 data using a dummy for SC/ST rather than the full set of caste dummies in Table 6 (columns 5 and 6). The results for education using NFHS data are presented in Table 7, and are qualitatively similar to those obtained in columns 5 and 6 of Table 6, although smaller in magnitude in some specifications. For example, with the inclusion of state linear trends (Column 3), the reform is found to have increased mean educational attainment of women belonging to the 'most treated' group by 1.02 years relative to control group, significant at 5% level. The impact on those belonging to the 'partially treated' group, although somewhat large and positive, is not statistically significant, while that the 'least treated' group is negative and insignificant. All the results are robust to replacing state linear trends with state-year of birth fixed effects (Column 4).[39]

Given the well-known problem of rising sex-selective abortion in India over the years, a concern that may arise while interpreting the above education results with NFHS is that families that decide to raise a daughter are more gender-progressive

had any impact on the woman's education and including her as being landed introduces downward bias in my estimates. Moreover, the fact that the family did not own land earlier implies that the land was in most probability newly acquired and hence cannot represent ancestral property. In the second case, the reform would have had an impact on the woman's education and excluding her also leads to downward bias.

[38]One could still think of the case where gender-progressive parents acquire "separate" land and claim it to be "ancestral" property (fungibility) that would bias the estimates. The NFHS does not contain any information on land transactions by parents, but the REDS 1999 does. Regressing a binary variable, which equals 1 if the father has engaged in any land purchase/sale after becoming head and zero otherwise, on the treatment groups, I find no differential effect in propensity to buy or sell land between families with "treated" girls and those with control girls, shown in Appendix Table A6. If the opposite were true, i.e. gender-regressive parents turn "ancestral" land into "separate" land in anticipation of the reform, then my results would provide a lower bound for the true effect.

[39]Testing the robustness of these results to the exclusion of Kerala, I find that the impact on women belonging to the 'most treated' group is no longer significant at conventional levels, but the magnitude of the coefficients are broadly comparable with those for the full sample (see Appendix Table A7).

and thereby more likely to invest in her education. This may introduce sample selection bias in the education estimates since only those daughters survived who were more valued by their families and hence given more education. However, this concern is less salient in the context of the current analysis since most of the daughters included in my sample were already born by the time the reform was passed (i.e. the decision to have/abort them was already taken). Hence, an upward bias in the estimates due to selection bias is unlikely to be driving the education results. Moreover, the results remain qualitatively unchanged if I use women born on or before the year of reform (i.e. change the 'most treated' group from "aged 10 years or younger at reform" to "aged 0-10 years at reform").

5   Conclusion

This paper studies the impact of an improvement in female property inheritance rights on women's outcomes, by using state-level amendments to the central inheritance law of India. The key treatment is whether a woman's paternal grandfather died after the amendment was passed in her state, since death of the grandfather serves as the main trigger for partition of ancestral property of her natal household. I use a triple-differences approach to estimate the impact of the reform, whereby I analyze the outcomes of women in reforming states that were young enough to be unmarried at the time of reform in households where the grandfather died after the reform, relative to control groups. I find that even though the reform entitled daughters to inherit equal shares in joint family property as sons, in reality, this did not happen. In other words, I find no impact of the reform on likelihood of inheritance by women. Instead, the likelihood of a "land gift" being made to a brother of a treated woman increased relative to the control group. I interpret this as indicating that fathers were circumventing the law by "gifting" their share of the coparcenary (joint family) property to the son in order to avoid having to give property to the daughter, and which was made possible due to the intestate nature of the HSA 1956. Therefore, the reason why no first order effect of the reform is observed on land inheritance of daughters is because parents were behaving strategically to avoid having to comply by the rules of the amendment and give inheritance to their daughters.

Instead, the findings of my paper indicate that parents appear to be compensating their daughters for such disinheritance, by either giving them higher dowries or more education after the reform. Dowry has traditionally constituted the most common form of such compensation, and this is the form of compensation enjoyed by women who were past primary school-going age but entering marriageable age at

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the time of reform. For women who were of primary school-going age at that time of reform, the compensation took for form of higher education, and lower dowry. Finally, women who were old enough to have already been married at the time of reform received nothing.

The broader question that the findings of this paper raise is whether policy reforms can successfully bring about change in existing social norms. In the case of inheritance in India, this does not appear to be the case, at least in the short run, and a potential explanation may be that the social norm in question is too deeply entrenched. This would, however, not be the first example of a gender progressive law biting the dust when it comes to actual implementation - the Dowry Prohibition Act (1961) made dowries illegal in India, but such payments continue to be made at the time of marrying daughters even today. However, it is also important to note that although the inheritance reform did not have its desired first order impact on women's inheritance, the increase in investment in their human capital, even if undertaken for compensatory reasons, is nevertheless encouraging. Hence, the interesting question that arises in this context is whether, even in the face of sticky social norms, other factors may emerge to reinforce gender-progressive legislation and aid the evolution of social norms. Further research on the nature of such factors (e.g. labour market changes) would help deepen our understanding of the process of social change in general.

References

Bina Agarwal. *A Field of One's Own: Gender and Land Rights in South Asia.* Cambridge University Press, 1994.

Siwan Anderson. Why dowry payments declined with modernization in europe but are rising in india? *Journal of Political Economy*, 111(2):269–310, 2003.

Siwan Anderson. Dowry and property rights. BREAD Working Paper No. 080, 2004.

Siwan Anderson. The economics of dowry and brideprice. *Journal of Economic Perspectives*, 21(4):151174, 2007.

Raj Arunachalam and Trevon Logan. Is there dowry inflation in south asia? NBER Working Paper No. 13905, 2008.

Abhijit Banerjee, Paul Gertler, and Maitreesh Ghatak. Empowerment and efficiency: Tenancy reform in west bengal. *Journal of Political Economy*, 110(2), 2002.

Karine Bates. The hindu succession act: One law, plural identities. *Journal of Legal Pluralism*, nr. 55, 2004.

Jere R. Behrman, Robert A. Pollak, and Paul Taubman. Parental preferences and provision for progeny. *Journal of Political Economy*, 90(1):52–73, 1982.

Jere R. Behrman, Andrew D. Foster, Mark R. Rosenzweig, and Prem Vashishtha. Women's schooling, home teaching and economic growth. *Journal of Political Economy*, 107(4):682–714, 1999.

Timothy Besley. Property rights and investment incentives: Theory and evidence from ghana. *Journal of Political Economy*, 103(5):903–937, 1995.

Maristella Botticini and Aloysius Siow. Why dowries? *The American Economic Review*, 93(4):1385–1398, 2003.

Jennifer Brown, Kripa Ananthpur, and Renee Giovarelli. Women's access and rights to land in karnataka. Rural Development Institute Report on Foreign Aid and Development No. 114, 2002.

Rachel Brule. Gender equity and inheritance reform: Evidence from india. Mimeo, Department of Political Science, Stanford University, 2012.

Carmen Diana Deere and Magdalena Leon. The gender asset gap: Land in latin america. *World Development*, 31(6):925–947, 2003.

Klaus Deininger and Aparajita Goyal. Going digital: Credit effects of land registry computerization in india. *Journal of Development Economics*, 99(2):236–243, 2012.

Klaus Deininger, Songqing Jin, and Hari Nagarajan. Determinants and consequences of land sales market participation: Panel evidence from india. World Bank Policy Research Working Paper No. 4323, 2007.

Lena Edlund. The price of marriage: Net vs. gross flows and the south indian dowry debate. *The Journal of the European Economic Association, Papers and Proceedings*, 4(2-3):542–551, 2006.

Jonna P. Estudillo, Agnes R. Quisumbing, and Keijiro Otsuka. Gender differences in land inheritance, schooling and lifetime income: Evidence from rural philippines. *Journal of Development Studies*, 37(4):23–48, 2001.

Erica Field. Entitled to work: Urban property rights and labor supply in peru. *Quarterly Journal of Economics*, 122(4):1561–1602, 2007.

Jack Goody. Bridewealth and dowry in africa and eurasia. In Jack Goody and Stanley J. Tambiah, editors, *Bridewealth and Dowry*, pages 1–58. Cambridge University Press, 1973.

Government of India. *Census of India 2001*. 2001.

Aparajita Goyal, Klaus Deininger, and Hari Nagarajan. Women's inheritance rights and intergenerational transmission of resources in india. *Journal of Human Resources*, 48(1), 2013.

Simon Johnson, John McMillan, and Christopher Woodruff. Property rights and finance. *American Economic Review*, 92(5):1335–1356, 2003.

Cheris Kramarae and Dale Spender. *Routledge International Encyclopedia of Women: Global Women's Issues and Knowledge*. Routledge, New York, 2000.

Eliana La Ferrara and Annamaria Milazzo. Customary norms, inheritance and human capital: Evidence from a reform of the matrilineal system in ghana. mimeo, Bocconi University, 2012.

Law Commission of India. 174th report on property rights of women: Proposed reforms under the hindu law. Technical report, Law Commission of India, New Delhi, 2000.

Agnes Quisumbing and K. Otsuka. Land inheritance and schooling in matrilineal societies: Evidence from sumatra. *World Development*, 21(12), 2001.

Agnes R. Quisumbing. Intergenerational transfers in philippine rice villages: Gender differences in traditional inheritance customs. *Journal of Development Economics*, 43(12):167–195, 1994.

Agnes R. Quisumbing, Jonna P. Estudillo, and Keijiro Otsuka. *Land and Schooling: Transferring Wealth Across Generations*. Johns Hopkins University Press for the International Food Policy Research Institute, 2004.

T. C. A. Ramanujam. Daughters better off than sons. *The Hindu Business Line*, 2005. Saturday 1 October.

M.R. Rosenzweig and K. Wolpin. Specific experience, household structure, and intergenerational transfers: Farm family land and labor arrangements in developing countries. *Quarterly Journal of Economics*, 100(supplement):961–87, 1985.

Sanchari Roy. Empowering women: Inheritance rights and female education in india. CAGE Working Paper Series No. 46, University of Warwick, 2011.

B. Sivaramayya. Coparcenary rights to daughters: Constitutional and interpretational issues. *SCC*, 25(3), 1997.

Luciana Suran, Sajeda Amin, Lopita Huq, and Kobita Chowdhury. Does dowry improve life for brides? a test of the bequest theory of dowry in rural bangladesh. Population Council Policy Research Division Working Paper No. 195, 2004.

Caroline Sweetman. How title deeds make sex safer: Womens property rights in an era of hiv. *From Poverty to Power: How Active Citizens and Effective States Can Change the World*, 2008. Oxfam International.

World Bank. *World Development Report 2012: Gender Equality and Development*. World Bank Publications, Washington, 2012.

Table 1: Descriptive Statistics for REDS 99 Dataset

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	Non-Reforming	Reforming states				
	states	states	All	<=10	11-15	16-20	>=21
Age	32.74	32.72	32.78	27.04	28.18	27.40	36.39
	(8.47)	(8.59)	(8.23)	(3.40)	(5.70)	(5.56)	(7.99)
Father's education	3.69	3.76	3.57	4.77	4.54	3.83	3.13
	(3.42)	(3.59)	(3.09)	(3.27)	(3.50)	(3.21)	(2.85)
Father's age	63.32	63.03	63.83	60.88	61.96	59.99	66.01
	(9.49)	(9.58)	(9.32)	(8.69)	(8.13)	(8.54)	(9.21)
Mother's education	1.97	1.78	2.36	4.21	3.03	2.31	1.92
	(1.95)	(1.84)	(2.09)	(2.87)	(2.08)	(2.06)	(1.66)
Mother's age	57.36	58.18	55.79	55.22	53.77	52.23	57.62
	(19.09)	(22.87)	(7.59)	(7.07)	(6.98)	(6.64)	(7.54)
Inheritance	0.07	0.08	0.04	0.04	0.05	0.06	0.03
	(0.25)	(0.27)	(0.19)	(0.19)	(0.22)	(0.24)	(0.17)
Land Gift to Son after GF's death	0.11	0.12	0.10	0.02	0.09	0.06	0.13
	(0.31)	(0.32)	(0.30)	(0.14)	(0.29)	(0.24)	(0.33)
Log(Dowry Payments)	7.62	7.42	8.13	8.43	8.30	7.84	8.15
	(1.37)	(1.37)	(1.21)	(1.27)	(1.27)	(1.31)	(1.13)
Years of education	4.43	3.86	5.49	9.34	7.59	5.72	4.41
	(4.68)	(4.53)	(4.76)	(4.39)	(4.58)	(4.80)	(4.35)
Log(income)	3.38	3.46	3.23	3.63	3.48	3.20	3.14
	(0.93)	(0.97)	(0.82)	(0.70)	(0.78)	(0.81)	(0.82)
No. of daughters	3.19	3.24	3.09	2.53	2.61	3.12	3.25
	(1.55)	(1.58)	(1.49)	(1.27)	(1.30)	(1.54)	(1.49)
No. of sons	2.51	2.63	2.29	2.02	2.08	2.15	2.42
	(1.49)	(1.51)	(1.41)	(1.55)	(1.43)	(1.35)	(1.39)
Low caste	0.58	0.47	0.77	0.62	0.73	0.83	0.77
	(0.49)	(0.50)	(0.42)	(0.49)	(0.45)	(0.37)	(0.42)
Observations	4207	2735	1472	162	120	313	877

Notes: Standard deviations are in parentheses. This table uses the REDS 99 dataset. Low caste indicates Scheduled Caste, Scheduled Tribe or other backward caste. The binary variable "inheritance" indicates whether the woman received land inheritance after grandfather's (GF) death.

Table 2: Pre-reform Balance Test for REDS 99 Dataset

	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: Year of birth<=1955			Panel B: Age >=21 at reform		
	Non-reforming state	Reforming state	Difference (2)-(1)	Reforming states		
				GF died before reform	GF died after reform	Difference (5)-(4)
Age	50.56	49.64	-0.92	36.45	36.04	-0.41
	(0.67)	(0.67)	[0.36]	(0.78)	(0.78)	[0.84]
Father's education	2.61	3.20	0.58	3.13	3.11	-0.02
	(0.28)	(0.28)	[0.45]	(0.28)	(0.28)	[0.97]
Father's age	75.23	76.85	1.62	66.62	62.35	-4.27**
	(0.87)	(0.87)	[0.19]	(0.89)	(0.89)	[0.05]
Mother's education	1.38	2.20	0.83	1.85	2.53	0.67
	(0.21)	(0.21)	[0.25]	(0.23)	(0.23)	[0.15]
Mother's age	69.98	67.74	-2.24	57.94	54.54	-3.40***
	(1.00)	(1.00)	[0.13]	(1.02)	(1.02)	[0.01]
Log(income)	3.46	3.41	-0.05	3.14	3.14	0.00
	(0.09)	(0.09)	[0.83]	(0.08)	(0.08)	[0.99]
No. of daughters	3.14	3.45	0.31	3.19	3.58	0.38
	(0.15)	(0.15)	[0.18]	(0.14)	(0.14)	[0.16]
No. of sons	2.29	2.39	0.10	2.39	2.59	0.20
	(0.14)	(0.14)	[0.62]	(0.13)	(0.13)	[0.41]
Low caste	0.54	0.58	0.05	0.79	0.66	-0.13
	(0.05)	(0.05)	[0.77]	(0.04)	(0.04)	[0.15]
Observations	301	166		754	123	

Notes: * p<0.10, ** p<0.05, *** p<0.01; Standard errors are in parentheses while p-values of differences are in brackets, with standard errors clustered at state level. This table uses the REDS 99 dataset. To examine pre-reform characteristics, in Panel A, the sample of daughters born on or before 1955, i.e. who were 21 years or older in 1976 when the first state (Kerala) reformed, are used. Total number of such daughters is 467. In Panel B, the sample is restricted to only reforming states and to daughters who were 21 years or older at the time of reform in their *respective* states. Hence, total number of such daughters (754+123=877) is equal to the sample in column 7 of Table 1.1 above. Low caste indicates Scheduled Caste, Scheduled Tribe or other backward caste.

Table 3: Impact of Inheritance Reform on Likelihood of Inheritance by Landed Hindu Women

	(1)	(2)	(3)	(4)
	Inheritance			
Aged 10 or less at time of reform	-0.19***	-0.19***	-0.07*	
	(0.04)	(0.04)	(0.03)	
Aged 11-15 at time of reform	-0.03	-0.03	-0.02	
	(0.05)	(0.05)	(0.04)	
Aged 16-20 at time of reform	0.02*	0.02*	0.01	
	(0.01)	(0.01)	(0.01)	
Aged 10 or less at time of reform*Grandfather died after reform	0.00	0.00	0.00	-0.01
	(0.04)	(0.04)	(0.03)	(0.04)
Aged 11-15 at time of reform*Grandfather died after reform	-0.04	-0.04	-0.02	-0.02
	(0.04)	(0.04)	(0.04)	(0.04)
Aged 16-20 at time of reform*Grandfather died after reform	0.02	0.03	0.04	0.03
	(0.04)	(0.04)	(0.05)	(0.05)
Grandfather died after reform	0.04	0.04	0.03	0.04
	(0.04)	(0.04)	(0.04)	(0.05)
State fixed effects	Yes	Yes	Yes	Yes
Year of birth fixed effects	Yes	Yes	Yes	Yes
State linear trends	No	No	Yes	No
State*Year of birth fixed effects	No	No	No	Yes
Household controls	No	Yes	Yes	Yes
Adj R-sq	0.09	0.08	0.09	0.12
No. of observations	4206	4054	4054	4054

Notes: * p<0.10, ** p<0.05, *** p<0.01; Standard errors are in parentheses and clustered at the state level. This table uses the REDS 99 dataset. The dependent variable is a dummy that equals 1 if the woman has inherited any land in her parental household and 0 otherwise. "Aged 10 or less at the time of reform" equals 1 if a woman was 10 years or younger at the time of reform in a reforming state and 0 otherwise. Similarly for the rest. Household controls include the number of children in the family, household income, total number of land transactions undertaken by the father and caste categories, which include Brahmin, non-Brahmin upper caste, Scheduled Caste, Scheduled Tribe, other backward castes and non-classified Hindus. The omitted category is Brahmin, the highest in the caste ladder.

Table 4: Impact of Inheritance Reform on Likelihood of Land Gifts Received by Brothers of Landed Hindu Women

	(1)	(2)	(3)	(4)
	Land Gift to Son after GF's death			
Aged 10 or less at time of reform	-0.12***	-0.07	-0.10*	
	(0.03)	(0.05)	(0.05)	
Aged 11-15 at time of reform	-0.06	-0.06	-0.05	
	(0.04)	(0.05)	(0.04)	
Aged 16-20 at time of reform	-0.05*	-0.02	-0.03	
	(0.02)	(0.02)	(0.02)	
Aged 10 or less at time of reform*Grandfather died after reform	0.07*	0.07*	0.13**	0.11**
	(0.04)	(0.04)	(0.05)	(0.05)
Aged 11-15 at time of reform*Grandfather died after reform	0.04	0.06	0.07	0.05
	(0.06)	(0.07)	(0.05)	(0.05)
Aged 16-20 at time of reform*Grandfather died after reform	0.06	0.06	0.07***	0.05**
	(0.04)	(0.04)	(0.02)	(0.02)
Grandfather died after reform	-0.10**	-0.10**	-0.11*	-0.09
	(0.04)	(0.04)	(0.05)	(0.05)
State fixed effects	Yes	Yes	Yes	Yes
Year of birth fixed effects	Yes	Yes	Yes	Yes
State linear trends	No	Yes	Yes	No
State*Year of birth fixed effects	No	No	No	Yes
Household controls	No	No	Yes	Yes
Adj R-sq	0.07	0.07	0.28	0.30
No. of observations	4207	4207	4055	4055

Notes: * p<0.10, ** p<0.05, *** p<0.01; Standard errors are in parentheses and clustered at the state level. This table uses the REDS 99 dataset. The dependent variable is a dummy that equals 1 if the *brother* of a woman has inherited any land after their grandfather's death in her parental household and 0 otherwise. "Aged 10 or less at the time of reform" equals 1 if a woman was 10 years or younger at the time of reform in a reforming state and 0 otherwise. Similarly for the rest. Household controls include the number of children in the family, number of household members, household income, total number of land transactions undertaken by the father and caste categories, which include Brahmin, non-Brahmin upper caste, Scheduled Caste, Scheduled Tribe, other backward castes and non-classified Hindus. The omitted category is Brahmin, the highest in the caste ladder.

Table 5: Impact of Inheritance Reform on Dowry Payments of Landed Hindu Women

	(1)	(2)	(3)	(4)
	Log(Dowry Payments)			
Aged 10 or less at time of reform	0.06	-0.29	-0.29	
	(0.18)	(0.42)	(0.28)	
Aged 11-15 at time of reform	-0.30	-0.33	-0.31	
	(0.22)	(0.21)	(0.22)	
Aged 16-20 at time of reform	-0.26	-0.14	-0.10	
	(0.15)	(0.17)	(0.18)	
Aged 10 or less at time of reform*Grandfather died after reform	-0.38***	-0.37***	-0.28***	-0.35***
	(0.10)	(0.09)	(0.08)	(0.09)
Aged 11-15 at time of reform*Grandfather died after reform	0.49**	0.49**	0.50**	0.50**
	(0.19)	(0.23)	(0.24)	(0.23)
Aged 16-20 at time of reform*Grandfather died after reform	-0.19*	-0.21*	-0.22*	-0.04
	(0.11)	(0.11)	(0.11)	(0.14)
Grandfather died after reform	0.17	0.18	0.14	0.13
	(0.13)	(0.12)	(0.12)	(0.13)
State fixed effects	Yes	Yes	Yes	Yes
Year of birth fixed effects	Yes	Yes	Yes	Yes
State linear trends	No	Yes	Yes	No
State*Year of birth fixed effects	No	No	No	Yes
Household controls	No	No	Yes	Yes
Adj R-sq	0.27	0.29	0.34	0.33
No. of observations	2663	2663	2538	2538

Notes: * p<0.10, ** p<0.05, *** p<0.01; Standard errors are in parentheses and clustered at the state level. This table uses the REDS 99 dataset. The dependent variable is log of real dowry payments (in 1966 rupees) made at the time of a woman's marriage. "Aged 10 or less at the time of reform" equals 1 if a woman was 10 years or younger at the time of reform in a reforming state and 0 otherwise. Similarly for the rest. Household controls include the number of female children in the family, household income and caste categories, which include Brahmin, non-Brahmin upper caste, Scheduled Caste, Scheduled Tribe, other backward castes and non-classified Hindus. The omitted category is Brahmin, the highest in the caste ladder.

Table 6: Impact of Inheritance Reform on Education of Landed Hindu Women

	(1)	(2)	(3)	(4)	(5)	(6)
	Years of education					
Aged 10 or less at time of reform	-1.00*	-0.18	-0.53		-0.81	
	(0.55)	(0.44)	(0.90)		(1.00)	
Aged 11-15 at time of reform	0.40	0.41	0.29		-0.04	
	(0.65)	(0.53)	(0.92)		(0.97)	
Aged 16-20 at time of reform	0.09	0.28	0.02		-0.21	
	(0.45)	(0.43)	(0.50)		(0.55)	
Aged 10 or less at time of reform*Grandfather	1.19	1.16**	1.20***	1.41**	1.48***	1.75***
died after reform	(0.83)	(0.41)	(0.39)	(0.53)	(0.44)	(0.53)
Aged 11-15 at time of reform*Grandfather died	-1.38	-0.57	-0.57	0.46	-0.24	0.81
died after reform	(1.34)	(0.85)	(1.00)	(1.12)	(1.02)	(1.12)
Aged 16-20 at time of reform*Grandfather died	-1.70**	-1.11*	-1.03*	-0.77	-0.99*	-0.63
after reform	(0.58)	(0.52)	(0.50)	(0.53)	(0.51)	(0.50)
Grandfather died after reform	-0.49	-0.54	-0.59	-0.55	-0.85*	-0.88
	(0.75)	(0.42)	(0.40)	(0.51)	(0.46)	(0.53)
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year of birth fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
State linear trends	No	No	Yes	No	Yes	No
State*Year of birth fixed effects	No	No	No	Yes	No	Yes
Household controls	No	Yes	Yes	Yes	Yes	Yes
Adj R-sq	0.19	0.42	0.42	0.40	0.41	0.40
No. of observations	2942	2814	2814	2814	2926	2926

Notes: * $p<0.10$, ** $p<0.05$, *** $p<0.01$; Standard errors are in parentheses and clustered at the state level. This table uses the REDS 99 dataset. The dependent variable is the number of years of education attained by a woman. "Aged 10 or less at the time of reform" equals 1 if a woman was 10 years or younger at the time of reform in a reforming state and 0 otherwise. Similarly for the rest. To maintain symmetry with the education results using NFHS dataset presented in Table 7 below, the list of household controls is kept as similar as possible in both tables, and includes father's education, father's age, mother's education, mother's age, number of children in the family, household income and caste categories, which include Brahmin, non-Brahmin upper caste, Scheduled Caste, Scheduled Tribe, other backward castes and non-classified Hindus. The omitted category is Brahmin, the highest in the caste ladder. However, NFHS data only contains SC/ST status rather than the finer caste categorization that is obtained in REDS 99. Hence, in column (5) and (6) of the above table, we run the same specification as in columns (3)-(4), but using the SC/ST dummy to control for caste rather than all caste categories, in order to maintain consistency with NFHS results in Table 7 below. Since the REDS 99 is a rural dataset, and the sample in this table has been restricted to landed households, there is no need to control for rural residence or land ownership.

Table 7: Impact of Inheritance Reform on Education of Hindu Women: Triple Differences by Land

	(1)	(2)	(3)	(4)
	Years of education			
Aged 10 or less at time of reform	0.12	0.11	-0.30	
	(0.69)	(0.87)	(0.65)	
Aged 11-15 at time of reform	-0.30	-0.48	-0.56	
	(0.77)	(0.67)	(0.59)	
Aged 16-20 at time of reform	-0.11	-0.19	-0.41	
	(0.45)	(0.43)	(0.25)	
Aged 10 or less at time of reform*Owns land	2.25*	2.26**	1.02**	0.98**
	(1.15)	(1.14)	(0.38)	(0.38)
Aged 11-15 at time of reform*Owns land	0.59	0.71	0.57	0.54
	(0.94)	(0.89)	(0.56)	(0.53)
Aged 16-20 at time of reform*Owns land	0.17	0.18	-0.05	-0.14
	(0.57)	(0.57)	(0.31)	(0.35)
Owns land	-2.22***	-2.18***	-0.16	-0.09
	(0.53)	(0.53)	(0.18)	(0.19)
State fixed effects	Yes	Yes	Yes	Yes
Year of birth fixed effects	Yes	Yes	Yes	Yes
State linear trends	No	Yes	Yes	No
State*Year of birth fixed effects	No	No	No	Yes
Household controls	No	No	Yes	Yes
Adj. R-sq	0.22	0.22	0.62	0.62
No. of observations	9237	9237	7789	7789

Notes: * p<0.10, ** p<0.05, *** p<0.01; Standard errors are in parentheses and clustered at the state level. This table uses the NFHS dataset. "Aged 5 or less at the time of reform" equals 1 if the woman was 5 years or younger at the time of reform in a reforming state and 0 otherwise. Similarly for the rest. To maintain symmetry with the REDS 99 education results presented in Table 6 above, the list of household controls is kept similar to the extent possible in both tables, and includes father's education, father's age, mother's age, a dummy to indicate whether the parental household of the woman owns land, a dummy to indicate whether the parental household resides in an urban area, number of children in family, a dummy for Scheduled Caste/Scheduled Tribe status. NFHS does not contain data on household income, so I control for asset ownership (TV, radio, clock and motorcycle) instead. A control for different NFHS rounds is added.

Appendix Table A1: Impact of Inheritance Reform on Outcomes of Landed Hindu Women, Excluding Kerala

	(1)	(2)	(3)	(4)
	Inheritance	Land Gift	Dowry	Education
Aged 10 or less at time of reform	-0.02	-0.11**	0.40	0.86
	(0.02)	(0.04)	(0.25)	(1.11)
Aged 11-15 at time of reform	0.01	-0.09**	-0.28	0.51
	(0.02)	(0.03)	(0.28)	(1.12)
Aged 16-20 at time of reform	0.01	-0.03	-0.20	-0.04
	(0.01)	(0.02)	(0.18)	(0.54)
Aged 10 or less at time of reform*Grandfather died after reform	-0.02	0.10***	-0.73***	1.65***
	(0.02)	(0.03)	(0.08)	(0.41)
Aged 11-15 at time of reform*Grandfather died after reform	-0.03	0.06	0.48	0.59
	(0.02)	(0.07)	(0.38)	(0.39)
Aged 16-20 at time of reform*Grandfather died after reform	0.00	0.06***	-0.23	-0.82*
	(0.03)	(0.01)	(0.16)	(0.45)
Grandfather died after reform	0.01	-0.07*	0.03	-0.77**
	(0.02)	(0.03)	(0.07)	(0.33)
State fixed effects	Yes	Yes	Yes	Yes
Year of birth fixed effects	Yes	Yes	Yes	Yes
State linear trends	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes
Adj R-sq	0.08	0.28	0.33	0.38
No. of observations	3770	3771	2379	2675

Notes: * $p<0.10$, ** $p<0.05$, *** $p<0.01$; Standard errors are in parentheses and clustered at the state level. This table uses the REDS 99 dataset. "Aged 10 or less at the time of reform" equals 1 if a woman was 10 years or younger at the time of reform in a reforming state and 0 otherwise. Similarly for the rest. Household controls are as described in Tables 3-6 above.

Appendix Table A2: Robustness Check of Inheritance Results using Different Waves of REDS Dataset and Different Treatment Definitions

	(1)	(2)	(3)	(4)	(5)	(6)
	Inheritance					
	REDS 1999		REDS 2006			
Treatment status defined by:	GF's death	F's death	GF's death	GF's death	F's death	F's death
Aged 10 or less at time of reform	-0.07*	-0.05	-0.07*	-0.06	-0.10	-0.01
	(0.03)	(0.05)	(0.04)	(0.04)	(0.07)	(0.09)
Aged 11-15 at time of reform	-0.02	0.11	-0.02	-0.00	-0.06	-0.01
	(0.04)	(0.08)	(0.04)	(0.05)	(0.06)	(0.06)
Aged 16-20 at time of reform	0.01	0.02	0.03	0.03	0.04	0.05
	(0.01)	(0.01)	(0.04)	(0.05)	(0.04)	(0.04)
Aged 10 or less at time of reform*Treatment	0.00	0.21***	-0.10	-0.11*	0.12	-0.12
	(0.03)	(0.05)	(0.06)	(0.06)	(0.10)	(0.08)
Aged 11-15 at time of reform*Treatment	-0.02	-0.08	-0.01	-0.04	0.16**	0.04
	(0.04)	(0.08)	(0.04)	(0.05)	(0.06)	(0.04)
Aged 16-20 at time of reform* Treatment	0.04	0.02	-0.03	-0.05	-0.01	-0.04
	(0.05)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)
Treatment	0.03	-0.03	0.11**	0.14***	0.07	0.07
	(0.04)	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year of birth fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
State linear trends	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes	Yes	Yes
Grandfather's year of death fixed effects	No	No	No	Yes	No	No
Father's year of death fixed effects	No	No	No	No	No	Yes
Adj R-sq	0.09	0.12	0.04	0.04	0.07	0.09
No. of observations	4054	7559	2228	2128	5054	4313

Notes: * p<0.10, ** p<0.05, *** p<0.01; Standard errors are in parentheses and clustered at the state level. This dataset uses the REDS 99 and REDS 06 datasets. "GF" denotes grandfather while "F" denotes father of the woman. Death of the former is used to define treatment status in my paper while death of the latter is used in Goyal et al, (2013). "Aged 10 or less at the time of reform" equals 1 if a woman was 10 years or younger at the time of reform in a reforming state and 0 otherwise. Similarly for the rest. Household controls include number of children in family, household income and caste categories, which include Brahmin, non-Brahmin upper caste, Scheduled Caste, Scheduled Tribe, other backward castes and non-classified Hindus. The omitted category is Brahmin, the highest in the caste ladder.

Appendix Table A3: Descriptive Statistics for NFHS Dataset

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	Non-Reforming	Reforming states				
	states	states	All	<=10	11-15	16-20	>=21
Age	28.22	27.92	28.96	25.68	26.74	27.75	33.37
	(6.02)	(5.91)	(6.22)	(3.74)	(4.07)	(4.44)	(7.09)
Years of education	7.83	7.70	8.15	10.27	9.18	7.96	6.13
	(5.98)	(6.11)	(5.64)	(4.80)	(5.39)	(5.74)	(5.57)
Father's age	63.49	63.22	64.14	62.45	62.82	63.20	66.72
	(7.91)	(7.85)	(8.03)	(7.31)	(7.35)	(6.99)	(8.86)
Mother's age	56.91	57.04	56.60	55.23	55.52	55.74	58.96
	(5.87)	(5.88)	(5.81)	(5.12)	(5.12)	(4.99)	(6.51)
Father's education	5.84	5.88	5.74	6.05	6.02	6.19	5.07
	(5.29)	(5.45)	(4.87)	(4.76)	(4.90)	(5.01)	(4.76)
Mother's education	3.29	3.10	3.78	4.83	4.45	3.70	2.55
	(4.54)	(4.58)	(4.39)	(4.61)	(4.63)	(4.35)	(3.73)
Owns land	0.50	0.55	0.40	0.32	0.36	0.37	0.49
	(0.50)	(0.50)	(0.49)	(0.47)	(0.48)	(0.48)	(0.50)
No. of children	1.66	1.67	1.62	1.63	1.65	1.63	1.58
	(0.89)	(0.90)	(0.85)	(0.83)	(0.88)	(0.85)	(0.84)
Urban	0.42	0.40	0.47	0.44	0.53	0.52	0.44
	(0.49)	(0.49)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)
SC/ST	0.22	0.22	0.21	0.21	0.21	0.22	0.19
	(0.41)	(0.42)	(0.40)	(0.41)	(0.41)	(0.42)	(0.39)
Observations	9264	6614	2650	661	502	585	902

Notes: Standard deviations are in parentheses. This table uses the NFHS dataset.

Appendix Table A4: Pre-Reform Balance Test for NFHS Dataset

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Panel A			Panel B			Panel C		
	Non-reform	Reform	Diff (2)-(1)	Non-reform	Reform	Diff (5)-(4)	Non-reform	Reform	Diff (8)-(7)
Age	44.74	43.61	-1.13	36.23	37.12	0.88**	44.74	43.29	-1.45**
	(0.60)	(0.60)	[0.14]	(0.37)	(0.37)	[0.03]	(0.98)	(0.98)	[0.01]
Years of education	4.29	4.87	0.58	5.33	5.31	-0.02	4.29	5.49	1.20**
	(0.58)	(0.58)	[0.41]	(0.33)	(0.33)	[0.98]	(0.96)	(0.96)	[0.02]
Father's age	71.66	71.67	0.01	67.52	68.79	1.27**	71.66	72.40	0.74
	(1.06)	(1.06)	[0.99]	(0.51)	(0.51)	[0.02]	(1.79)	(1.79)	[0.36]
Mother's age	65.69	63.75	-1.94	60.78	60.47	-0.31	65.69	66.20	0.51
	(1.01)	(1.01)	[0.14]	(0.44)	(0.44)	[0.39]	(1.85)	(1.85)	[0.63]
Father's education	4.52	4.54	0.02	4.68	4.83	0.16	4.52	3.86	0.67*
	(0.54)	(0.54)	[0.97]	(0.29)	(0.29)	[0.76]	(0.90)	(0.90)	[0.07]
Mother's education	1.62	2.01	0.40	1.93	1.99	0.06	1.62	2.50	0.88**
	(0.42)	(0.42)	[0.41]	(0.22)	(0.22)	[0.89]	(0.77)	(0.77)	[0.04]
Owns land	0.63	0.47	-0.16***	0.61	0.48	-0.12*	0.63	0.40	-0.23***
	(0.05)	(0.05)	[0.01]	(0.03)	(0.03)	[0.07]	(0.09)	(0.09)	[0.00]
No. of siblings	1.50	1.61	0.12	1.54	1.50	-0.05	1.50	1.77	0.27***
	(0.10)	(0.10)	[0.32]	(0.05)	(0.05)	[0.55]	(0.16)	(0.16)	[0.00]
Urban	0.32	0.35	0.03	0.34	0.41	0.08	0.32	0.20	-0.12***
	(0.05)	(0.05)	[0.67]	(0.03)	(0.03)	[0.20]	(0.08)	(0.08)	[0.00]
SC/ST	0.22	0.13	-0.09**	0.19	0.16	-0.03	0.22	0.12	-0.10**
	(0.04)	(0.04)	[0.04]	(0.02)	(0.02)	[0.37]	(0.07)	(0.07)	[0.01]
Observations	239	127		1170	429		239	35	

Notes: * p<0.10, ** p<0.05, *** p<0.01; Standard errors are in parentheses while p-values of differences are in brackets, with standard errors clustered at state level. This table uses the NFHS dataset. To examine "pre-reform" characteristics, unexposed daughters – i.e. those at least 21 years of age at the time of reform – are used. Panel A uses all the states and "pre-reform" is defined as being 21 years or older in 1976, the earliest reform year (Kerala). Panel B uses all states apart from Kerala, i.e. the reforming group now consists of the late reformers – AP, TN, Maharashtra and Karnataka – and "pre-reform" is defined as being 21 years or older in 1986, the earliest reform year in this sub-group (AP). Panel C uses all states apart from the late reformers, i.e. the reforming group now comprises only of Kerala, and "pre-reform" is defined as being 21 years or older in 1976, the year Kerala reformed. In all the panels, "non-reform" indicates states that never reformed.

Appendix Table A5: Impact of Inheritance Reform on Age at Marriage of Hindu Women

	(1)	(2)
	Age at marriage	
Aged 10 or less at time of reform	-0.25	-0.03
	(0.44)	(0.63)
Aged 11-15 at time of reform	-0.09	0.02
	(0.32)	(0.38)
Aged 16-20 at time of reform	0.25	0.31
	(0.17)	(0.22)
State fixed effects	Yes	Yes
Cohort fixed effects	Yes	Yes
State linear cohort trends	No	Yes
Adj. R-sq	0.19	0.20
No. of observations	7466	7466

Notes: * $p<0.10$, ** $p<0.05$, *** $p<0.01$; Standard errors are in parentheses and clustered at the state level. This table uses the NFHS dataset.

Appendix Table A6: Checking for Potential Endogeneity of Land Ownership

	(1)	(2)	(3)
	Father's land transactions		
Aged 10 or less at time of reform	0.06	-0.06	
	(0.08)	(0.08)	
Aged 11-15 at time of reform	-0.12	-0.19	
	(0.09)	(0.12)	
Aged 16-20 at time of reform	0.00	-0.05	
	(0.03)	(0.08)	
Aged 10 or less at time of reform*Owns land		0.08	0.10
		(0.07)	(0.07)
Aged 11-15 at time of reform*Owns land		0.08	-0.05
		(0.11)	(0.05)
Aged 16-20 at time of reform*Owns land		0.06	0.04
		(0.08)	(0.04)
State fixed effects	Yes	Yes	Yes
Cohort fixed effects	Yes	Yes	Yes
State linear cohort trends	Yes	Yes	No
State*Year of birth fixed effects	No	No	Yes
Adj R-sq	0.14	0.20	0.19
No. of observations	4897	4897	4897

Notes: * p<0.10, ** p<0.05, *** p<0.01; Standard errors are in parentheses and clustered at the state level. This table uses the REDS 99 dataset.

Appendix Table A7: Impact of Inheritance Reform on Education of Hindu Women: Triple Differences by Land, excluding Kerala

	(1)	(2)	(3)	(4)
	Years of education			
Aged 10 or less at time of reform	0.39	-0.25	-0.98*	
	(0.72)	(0.92)	(0.50)	
Aged 11-15 at time of reform	-0.18	-0.93	-1.19**	
	(0.82)	(0.79)	(0.46)	
Aged 16-20 at time of reform	-0.07	-0.48	-0.70***	
	(0.45)	(0.45)	(0.12)	
Aged 10 or less at time of reform*Owns land	0.32	0.36	0.77	0.89
	(0.94)	(0.95)	(0.75)	(0.74)
Aged 11-15 at time of reform*Owns land	-0.16	-0.03	0.40	0.38
	(0.70)	(0.66)	(0.64)	(0.63)
Aged 16-20 at time of reform*Owns land	0.02	0.00	0.10	-0.03
	(0.55)	(0.54)	(0.31)	(0.36)
Owns land	-2.23***	-2.20***	-0.10	-0.03
	(0.53)	(0.53)	(0.18)	(0.18)
State fixed effects	Yes	Yes	Yes	Yes
Year of birth fixed effects	Yes	Yes	Yes	Yes
State linear trends	No	Yes	Yes	No
State*Year of birth fixed effects	No	No	No	Yes
Household controls	No	No	Yes	Yes
Adj. R-sq	0.22	0.23	0.62	0.62
No. of observations	8702	8702	7305	7305

Notes: * p<0.10, ** p<0.05, *** p<0.01; Standard errors are in parentheses and clustered at the state level. This table uses the NFHS dataset. "Aged 5 or less at the time of reform" equals 1 if the woman was 5 years or younger at the time of reform in a reforming state and 0 otherwise. Similarly for the rest. Household controls include father's education, father's age, mother's age, a dummy to indicate whether the parental household of the woman owns land, a dummy to indicate whether the parental household resides in an urban area, number of children in family, a dummy for Scheduled Caste/Scheduled Tribe status and a control for the different rounds of NFHS. NFHS does not contain data on household income, so I control for asset ownership (TV, radio, clock and motorcycle) instead.

Appendix Table A8: Distribution of Sample Women by Age at Reform in Reforming States in REDS 99

Age at reform	Andhra Pradesh	Karnataka	Kerala	Maharashtra	Tamil Nadu	Total
-1	0	0	12	0	0	12
0	0	0	11	0	0	11
1	0	0	11	0	0	11
2	0	0	14	0	0	14
3	0	0	11	0	0	11
4	0	0	18	0	0	18
5	0	0	17	0	0	17
6	0	0	10	0	0	10
7	0	0	15	0	0	15
8	0	0	11	0	0	11
9	6	0	10	0	0	16
10	6	0	10	0	0	16
11	6	0	11	0	0	17
12	9	0	7	0	6	22
13	4	0	3	0	17	24
14	4	0	10	0	14	28
15	1	0	9	0	19	29
16	5	0	12	0	14	31
17	4	21	6	9	14	54
18	2	22	7	17	20	68
19	3	21	10	24	17	75
20	2	34	3	24	22	85
21	5	26	12	20	14	77
22	3	23	3	16	19	64
23	1	27	3	28	13	72
24	1	19	6	15	13	54
25	1	27	3	27	15	73
26	5	20	9	16	12	62
27	5	17	1	22	8	53
28	0	18	2	7	9	36
29	1	20	3	16	9	49
30	1	14	2	19	15	51
31	1	12	3	16	6	38
32	3	7	0	13	3	26
33	0	19	1	12	2	34
34	2	10	2	13	5	32
35	0	9	2	9	3	23
36	2	6	3	6	1	18
37	0	4	0	5	1	10
38	0	4	0	8	0	12
39	0	11	0	2	4	17
40	0	3	0	4	4	11
41	1	4	0	1	0	6
42	0	2	0	6	0	8
43	0	2	0	3	2	7
44	0	3	0	3	0	6
45	0	2	1	3	3	9
46	0	0	0	3	0	3
47	1	0	0	3	0	4
48	0	0	0	4	0	4
49	0	0	0	0	1	1
50	0	0	0	2	1	3
51	0	0	0	1	2	3
52	0	0	0	2	1	3
53	0	0	0	1	0	1
54	0	0	0	1	1	2
55	0	0	0	3	0	3
56	0	0	0	1	0	1
58	0	0	0	1	0	1
Total	85	407	284	386	310	1472

Notes: I restrict the REDS 99 sample to women aged 22 or more at survey, so that the youngest cohort of women in my sample are 1977 born, and the 'most treated' group is obtained from Kerala and AP. However, the findings of this paper using REDS 99 are robust to restricting the sample to women aged 20 or more at survey, such that the youngest cohort of women are 1979 born, in which case the 'most treated' group is obtained from Kerala, AP and Tamil Nadu. Both sets of findings are also robust to the exclusion of Kerala.

Appendix Table A9: Distribution of Sample Women by Age at Reform in Reforming States in NFHS

Age at reform	Andhra Pradesh	Karnataka	Kerala	Maharashtra	Tamil Nadu	Total
-8	0	0	8	0	0	8
-7	0	0	10	0	0	10
-6	0	0	9	0	0	9
-5	0	0	13	0	0	13
-4	0	0	10	0	0	10
-3	0	0	11	0	0	11
-2	0	0	11	0	0	11
-1	0	0	20	0	0	20
0	0	0	27	0	0	27
1	0	0	15	0	0	15
2	17	0	30	0	0	47
3	7	0	20	0	0	27
4	9	0	10	0	0	19
5	14	0	26	0	13	53
6	18	0	31	0	27	76
7	7	0	33	0	18	58
8	12	0	25	0	26	63
9	14	0	28	0	13	55
10	25	24	23	43	14	129
11	13	19	20	34	13	99
12	11	20	19	28	31	109
13	10	19	18	39	28	114
14	8	20	19	30	25	102
15	13	12	18	20	15	78
16	16	20	10	22	25	93
17	11	23	8	34	15	91
18	24	38	10	57	22	151
19	26	17	13	34	28	118
20	11	37	5	49	30	132
21	9	16	5	25	22	77
22	16	17	6	23	19	81
23	7	32	5	35	15	94
24	11	23	1	24	10	69
25	9	39	3	28	15	94
26	9	28	5	16	12	70
27	3	16	3	25	11	58
28	3	23	3	12	11	52
29	12	10	1	10	7	40
30	6	18	1	18	4	47
31	2	10	1	8	6	27
32	5	9	0	5	10	29
33	0	12	1	7	1	21
34	12	8	0	3	6	29
35	2	9	0	6	2	19
36	2	5	0	4	4	15
37	1	8	0	5	6	20
38	2	4	0	6	3	15
39	4	2	0	4	1	11
40	0	10	0	1	1	12
41	0	2	0	3	1	6
42	0	3	0	3	1	7
43	0	0	0	1	0	1
45	0	2	0	0	0	2
46	0	0	0	2	0	2
47	0	2	0	0	0	2
48	0	0	0	1	0	1
49	0	0	0	1	0	1
Total	381	557	535	666	511	2650

Appendix Table A10: Impact of Inheritance Reform on Outcomes of Landed Hindu Women: Pooling REDS 1999 and 2006

	(1)	(2)	(3)
	Inheritance	Education	Dowry
Aged 10 or less at time of reform	-0.02	-0.71	-0.28
	(0.03)	(0.73)	(0.37)
Aged 11-15 at time of reform	0.00	-0.07	-0.25
	(0.03)	(0.84)	(0.27)
Aged 16-20 at time of reform	0.02*	-0.12	-0.17
	(0.01)	(0.71)	(0.19)
Aged 10 or less at time of reform*Grandfather died after reform	-0.00	0.74	-0.31***
	(0.03)	(0.49)	(0.07)
Aged 11-15 at time of reform*Grandfather died after reform	0.03	-0.20	0.39
	(0.07)	(0.81)	(0.27)
Aged 16-20 at time of reform*Grandfather died after reform	0.04	-0.72	-0.10**
	(0.04)	(0.60)	(0.04)
Grandfather died after reform	0.03	-0.51	0.11
	(0.03)	(0.58)	(0.12)
State fixed effects	Yes	Yes	Yes
Cohort fixed effects	Yes	Yes	Yes
State linear cohort trends	Yes	Yes	Yes
Household controls	Yes	Yes	Yes
Adj R-sq	0.08	0.41	0.28
No. of observations	4684	3445	3035

Notes: * $p<0.10$, ** $p<0.05$, *** $p<0.01$; Standard errors are in parentheses and clustered at the state level. This table pools the REDS 99 and REDS 2006 datasets together. "Aged 10 or less at the time of reform" equals 1 if a woman was 10 years or younger at the time of reform in a reforming state and 0 otherwise. Similarly for the rest. The definition of dowry is not consistent across the two waves: REDS 1999 contains data on dowry payments made at the time of marriage at current prices, while REDS 2006 contains data on "gifts made at the time of marriage" in current prices.

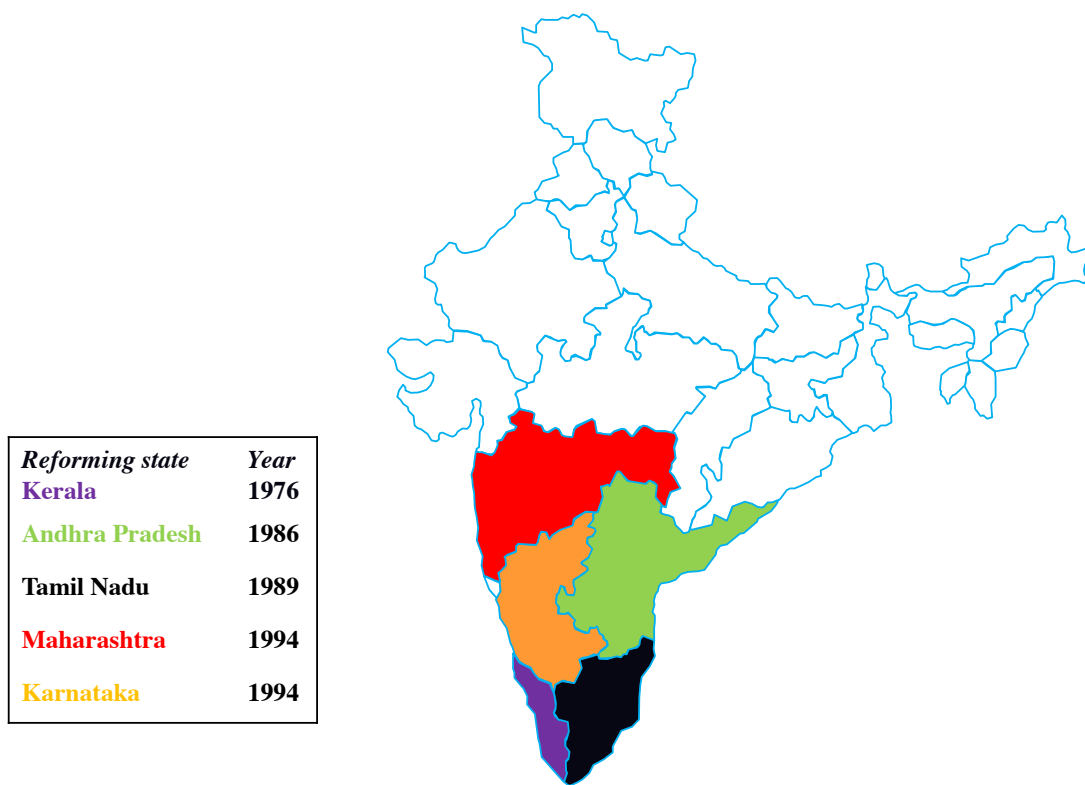| Reforming state	Year
Kerala	1976
Andhra Pradesh	1986
Tamil Nadu	1989
Maharashtra	1994
Karnataka	1994

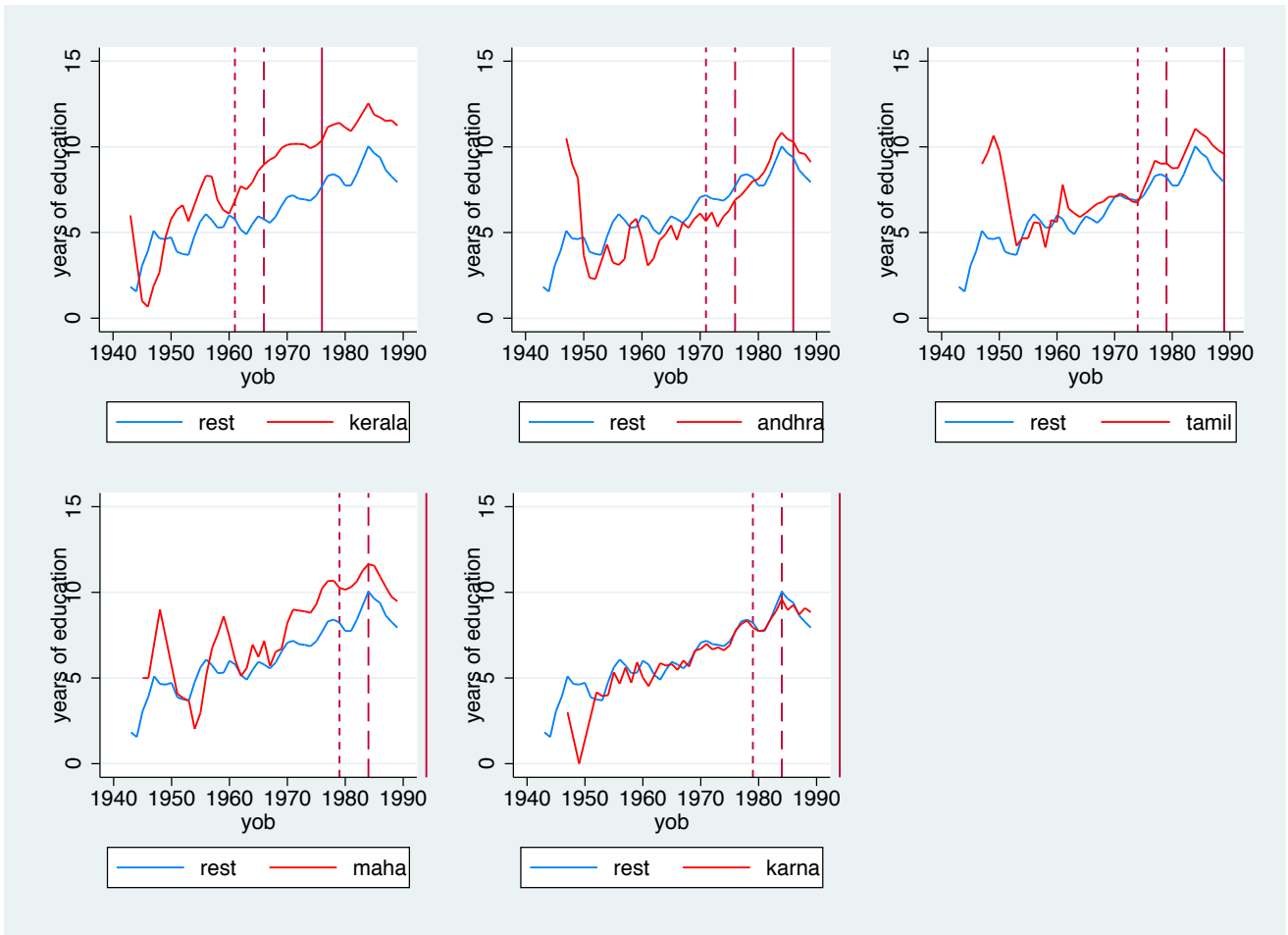Figure 1: States of India that passed amendments to the HSA 1956 with Year of Amendment

Figure 2: Education of Hindu Women in Reforming and Non-Reforming States in NFHS: 3-year moving averages