Unintended Consequences of Women's Inheritance Rights on Female Mortality in India

Daniel Rosenblum*

Dalhousie University

April 15, 2013

E-mail: Daniel.Rosenblum@dal.ca

Address: Dalhousie University, Department of Economics, Halifax, NS B3H 3J5, Canada

Phone: (902) 494-8945

Fax: (902) 494-6917

*I thank Christopher Udry, Dean Karlan, Mark Rosenzweig, and Paul Schultz for guidance. I also thank Aruna Dhara, Pinar Keskin, Michael Rosenblum, May Rostom, Sanchari Roy, and two anonymous referees for valuable comments.

Unintended Consequences of Women's Inheritance Rights on Female Mortality in India

Abstract

Before 2005, most states of India only gave sons the legal right to inherit their parents' ancestral land. However, five states in India had legal reforms giving daughters the same inheritance rights as sons. This paper examines the impact of these reforms on female child mortality and fertility. A model shows that if parents desire to maximize their bequest per son, then giving daughters inheritance rights increases the cost of daughters, causing parents to reduce investment in their daughters' health or decrease fertility. A difference-in-difference analysis shows the reforms caused an increase in female child mortality, but had no effect on fertility rates.

Keywords: Female Mortality; Fertility; Inheritance; India.

JEL Classification Numbers: J13, K11, O12

1 Introduction

Gender inequality is a substantial problem in India. One explanation for sustained inequality is the historical prevalence of legal inheritance rights for sons and not for daughters. Agarwal (1994) argues that women's lack of rights over agricultural land in India is a major cause of women's relative economic disadvantage. As a measure to improve women's land rights, in 2005 India amended the Hindu Succession Act of 1956 (HSA) in its constitution, giving women a legal claim to inherit their parents' ancestral agricultural land. This law only applies to ancestral property and not to other property acquired by the parents.[1] Parents can draft a will to bequeath their private property however they want, but cannot do so for their ancestral

[1] In practice, ancestral property is ancestral agricultural land and dwellings.

property. If daughters are denied an equal share of their parents' ancestral land by their family, they can to go to court to claim this share. It is not that parents now have the legal option to leave a share of their land to their daughters, but that they are legally required to do so. The amendment changes the situation of parents from (legally) having to divide their land amongst their sons to (legally) having to divide their land amongst all of their children. This law may have large implications in the Indian context, where most agricultural land is obtained through inheritance, not through purchases in private land markets.

The constitutional amendment is too recent to analyze. Instead, I examine the effects of legal reforms in five states in India which gave women equal inheritance rights over agricultural land prior to 2005: Kerala in 1976, Andhra Pradesh in 1986, Tamil Nadu in 1989, and Maharashtra and Karnataka in 1994. If parents wanted to give equal inheritances to their children, but were restricted by the prior law, then the reforms could be good for daughters. However, if parents prefer not to bequeath their land to their daughters and now are forced to do so, there could be unintended negative consequences. This article is the first to investigate the possibility that giving women inheritance rights increases the cost of daughters and, thus, raises female child mortality rates and/or lowers fertility rates. This is not to suggest that a rise in female child mortality is caused by parents consciously trying to kill their daughters. Rather it may be the effect of a subtle drop in nutrition or health services that slightly raises the probability of a child dying and which can only be detected in aggregate mortality estimates. This paper can say nothing about whether the net effects of the reforms were positive or negative for the welfare of India. Rather, the results of this paper can alert policy makers to a potential downside of such reforms so that additional policies can be put into place to counteract these negative outcomes.

Kerala's reform was different from the other four states in that it removed the legal status of the joint family altogether, giving parents and children equal legal shares in family property. Because of this difference and because it happened long before the other states, I omit Kerala from the analysis. I will refer to the remaining four states as "reform states" and the law changes as "the reforms" throughout the paper. The reforms only applied to Hindus, Jains, Sikhs, and

Buddhists, and I will refer to all four religions together as "Hindu" for the purposes of this paper.[2]

I present a simple model showing that an increase in women's inheritance rights increases the costs of daughters and, thus, gives parents an incentive to decrease their investment in the health of their daughters. In the long-run, parents may also adjust to the higher cost of daughters by reducing their fertility. A quadruple differences analysis is used to estimate the impact of the reforms. The four differences are: before and after the reforms, reform states versus non-reform states, Hindu households versus non-Hindu households, and landowning households versus non-landowning households. Any effect of the reforms should be seen in Hindu landowning households in the reform states after their reforms became law. My estimates show that enacting equal inheritance laws increased female mortality, but did not affect fertility.

2 Background

The history of the HSA is explained in detail in Agarwal (1994) and Agarwal (1995), and I summarize it here. In pre-colonial India there were a wide array of rules across India as to who would inherit property, including several matrilineal communities. The two major systems of legal inheritance were the Dayabhaga (mostly observed in the northeast) and the Mitakshara (observed almost everywhere else). The Mitakshara system made a distinction between between a person's private property and ancestral property. Ancestral property includes anything inherited patrilineally or private property that was merged into the ancestral property or property acquired by the joint family. This is the type of land for which only sons, grandsons and great-grandsons were considered coparceners.[3] Separately acquired property (for example if a man purchased an acre of land or an automobile on his own) could be used and bequeathed however the owner wished. In contrast, the Dayabhaga system did not make a distinction between private and ancestral property (everything was considered private property), and all heirs

[2]Given this extended definition of Hindu, non-Hindus in this paper generally refers to Muslims and Christians, but also includes the few respondents who are Jewish, Parsi, no religion or other.

[3]Widows were considered a coparcener if there were no patrilineal descendants.

(including daughters and widows) had some inheritance rights over this property. However, under the Dayabhaga system, sons were still given preferential inheritance shares. Under both systems, it was difficult for a woman to inherit land.

Under British rule the laws around inheritance became more uniform, in many cases making it even more difficult for women to inherit property. In the early 1900s, women's organizations such as the All Indian Women's Conference began lobbying for more equitable treatment. The Hindu Women's Rights Act of 1937 gave widows improved inheritance rights, but did not include rights over agricultural land. There was intense debate surrounding the reform of inheritance laws in the years before and after independence, resulting in the HSA of 1956. The HSA clarified the inheritance rights of women over private property, giving them an equal share. However, the HSA did not apply to ancestral property. The states of Kerala, Andhra Pradesh, Tamil Nadu, Karnataka, and Maharashtra later amended the law at the state level to give (Hindu) women equal inheritance rights over ancestral property.

The *World Development Report 2012* has recently made women's equality a priority for development policy. Inequality in inheritance rights for daughters is common in developing countries. 100 percent of Middle East and North African countries, 50 percent of South Asian countries, 34 percent of Sub-Saharan African countries, and 25 percent of East Asian and Pacific countries have unequal inheritance. In contrast, all OECD, Latin American, European, and Central Asian countries have equal inheritance rights (World Bank (2011)). The report explains that the inability of women to inherit land may deprive women of access to credit, reduce female bargaining power within the household, and decrease women's opportunities for income generation.

This paper is not the first to explore the effects of giving women inheritance rights in India. Roy (2008) presents evidence that the state-level reforms giving women inheritance rights helped to improve women's autonomy. Deininger, Goyal, and Nagarajan (2013) investigate the effect of these reforms in Maharashtra and Karnataka and find that the reforms increased the probability of women inheriting land, the age of marriage, and female education levels. Roy (2010) also finds that the reforms caused a rise in female education. I am not the only researcher to find that the reforms had negative consequences: Anderson and Genicot (2012) find that the reforms increased conflict within the household, raising suicide rates for both men and women. I add to this literature by investigating two other possible channels through which the reforms may have affected women: mortality and fertility.

3 Model of Inheritance and Female Mortality

A preference for giving land to sons has been found by Deera and Leon (2003) in Mexico where parents can will their land however they wish. Both male and female heads of households are significantly more likely to bequeath their land to sons instead of daughters. In India, there is no survey that asks parents their preferences over inheritance. However, Agarwal (2003), for example, explains that in many parts of India men strongly resist giving land rights to their daughters and that social taboos prevent parents from asking their daughters for help during negative economic shocks. Agarwal (1994) goes into great detail about why it has been so difficult for women in India to acquire land and the wide-spread resistance to female land inheritance rights. Thus, in the Indian context, it is likely that parents prefer to give their land to their sons over their daughters.

There are economic reasons why parents prefer to bequeath their land to sons instead of daughters. For example, parents may have strategic bequest motives (Bernheim, Shleifer, and Summer, 1985) because sons are able to provide greater economic support than daughters.[4] If parents perceive sons to be more productive farmers than daughters, then maximizing the bequest per son would maximize the returns from their land after they die, especially if there are economies of scale in farming as is found by Foster and Rosenzweig (2011) and Binswanger, Pradhan, and Singh (2011). Another reason parents may favor inheritance for sons is that married daughters' husbands may control the inherited land in practice, reducing the actual benefit for daughters.

[4]In India, where joint households are common, married sons usually remain with and support their parents. By contrast, married daughters leave their parental home and are not expected to provide financial support to their parents.

A model proposed by Rosenblum (2013)[5] assumes that in India daughters are costly when they grow up, while sons provide economic benefits, and uses the model to argue that economic incentives may be the cause of son-preferring fertility stopping rules which in turn exacerbate discrimination against daughters. I extend this model by putting it in the context of land inheritance. I assume that the economic benefits of sons derive from the size of their inherited land. For the purpose of this model, daughters are only costly in the sense that they may reduce the size of sons' inherited land through increased inheritance rights. Assume parents have B sons and G daughters and have L units of land. There are two life stages for children: childhood and adulthood. Assume parents' household income when children are young is fixed at Y. When daughters are young, parents decide whether to invest k in each of their daughters' health or spend on their own consumption, c. For simplicity, and as I find in the estimates, I assume that parents' investments in their sons' health does not change if inheritance rights change, and so remove the health investment decisions for sons from the model. Daughters survive to adulthood with probability $p(k)$, which is a positive, strictly concave function of k. α is the strength of women's inheritance rights, $0 \leq \alpha \leq 1$. Parents' optimization problem is to maximize their lifetime utility function:

$$U_T = U_1(c) + U_2\left(\frac{L}{B + \alpha p(k)G}\right) + U_S(p(k)G) \tag{1}$$

subject to the following budget constraint: $c \leq Y - Gk$

where the parents' total lifetime utility, U_T, is separable into utility from consuming when children are young, U_1, utility from sons receiving bequeathed land in adulthood, U_2, and utility from their children surviving to adulthood, U_S. Assume all of these utility functions are positive, strictly concave functions. Then the following proposition holds (proof in Appendix A).

Proposition 1. *Assuming parents are already allocating an equilibrium level of k* ($\frac{\partial U_T}{\partial k} = 0$)*,*

[5] This model is itself an extension of the models of fertility and child mortality presented in Cigno (1998) and Rosenzweig and Schultz (1982).

an exogenous increase in inheritance rights, α*, causes a reduction in investment in female children's health, k:* $\frac{dk}{d\alpha} < 0$

Ceteris parabis, in the short-run where parents cannot adjust their fertility, an increase in inheritance rights (an increase in α) will lower parents' utility by raising the cost of daughters in the future through U_2. Parents respond by reducing k, causing higher female mortality. In the long-run, where parents have time to adjust their fertility, an increase in α may lower fertility by reducing B or G, but not necessarily raise female child mortality. Thus, we may expect to see a rise in female child mortality after the inheritance reform, but this increase may fade over time as younger parents adjust their fertility decisions.

The model includes several intuitive aspects of the household decision process. For example, poorer parents (with low Y) have a greater utility cost of investing a rupee in child health. Parents with little land have a larger reduction in utility from increased land rights for daughters. For parents with fewer children, an extra daughter causes a larger reduction in the amount of land available for sons.[6]

The model does not include external inputs that reduce child mortality such as improved sanitation, health infrastructure, vaccination campaigns, positive externalities of other children being healthier, etc. In India, public health services continue to improve and child mortality has been steadily falling. Hence, a reduction in parental child health inputs can happen concurrently with a fall in mortality rates. When estimating the effects of inheritance rights on female child mortality, the estimated increase in mortality will be the increase relative to non-affected groups. In other words, girls negatively affected by the reforms may be observed to have a slower decline in mortality rates rather than an actual rise in mortality rates.

[6]This concern about daughters reducing available land for sons is similar to parents' worrying about splitting their land among too many sons. However, I do not find any affect of the reforms on son mortality, likely due to the other significant social and economic benefits that sons provide for parents.

4 Data

In order to test whether the reforms had an effect on female mortality or fertility, I use the Indian National Family Health Surveys (NFHS) from 1992-93, 1998-99, and 2005-06. The NFHS are large datasets with demographic and health information at the household level. Each NFHS round surveys a large group of ever-married women aged 15-49, and the surveys are representative at the state level. The 1992-93 round surveyed 89,777 ever-married women, the 1998-99 round surveyed 89,199 ever-married women, and the 2005-06 round surveyed 124,385 women aged 15-49 (including never-married women). The 303,361 women in the combined NFHS are asked for their full birth histories, including when children were born and, if a child died, the age at death. The combined NFHS surveys contain information on 373,521 female children of which 45,904 died by the time of the survey. The NFHS datasets are combined in order to have sufficient power to detect changes in mortality and fertility rates as well as have a large enough range of children's years of birth to cover the periods before and after the reforms.

5 Estimation Strategy

Roy (2008), Roy (2010), Deininger, Goyal, and Nagarajan (2013), and Anderson and Genicot (2012) employ difference-in-difference strategies using the state reforms as exogenous variation. I use a similar method in this paper. To understand the impact of the reforms on female child mortality, I estimate a quadruple differences equation. The four differences are before and after the reforms, reform states versus non-reform states, Hindu households versus non-Hindu households, and landowning households versus non-landowning households. The only children that would have been affected were in Hindu landowning households in the states that enacted reforms and who lived after the reforms were enacted. We can think of these children as the "treatment" group and all others as the "control" groups. The implementation of the reforms is assumed to cause an exogenous change in parents' beliefs about whether their daughter will inherit their land. As shown in the theoretical model, even a small increase in inheritance rights or the perceived probability a daughter will inherit (α) may cause a decrease in investment in female child health. I use a similar strategy to estimate the impacts of the reforms on fertility.

The OLS quadruple differences linear regression estimation equation is:

$$Y_{ijt} = \gamma_{HPL} H_i P_{it} L_i + \gamma_{HP} H_i P_{it} + \gamma_{LP} L_i P_{it} + \gamma_L L_i + \gamma_H H_i + \gamma_P P_{it} + \beta_Y YOB_i + \beta_M M_{it} + \beta_1 X_i + \delta_j + \psi_t + \varepsilon_{ijt} \tag{2}$$

where Y_{ijt} is the linear probability for child i in state j of dying in year t conditional on being alive for some part of year t. I control for year of birth, (YOB_i), mother's age in year t (M_{it}), state (δ_j) and year (ψ_t) fixed effects, demographic and wealth controls (X_i), and the set of interactions between Hindu (H_i), landownership (L_i), and exposure to the reform (P_{it}). P_{it} is 1 for any year in a reform state after the reforms were implemented and 0 otherwise. The coefficient of interest is γ_{HPL}. Robust standard errors are clustered by state. This equation estimates the change in the probability of dying in years after the reforms for the treatment group relative to the control groups.[7] There may may be a delay between implementation and behavior change because it takes time for knowledge of the reforms to diffuse throughout the population. Thus, one should consider the estimated effect of the reforms as the average intent-to-treat effect of implementing equal inheritance rights.

[7]All estimates are robust to using a Cox proportional hazard model estimation equation for the quadruple differences analysis as follows:

$$h(m) = h_0(m) exp(\gamma_{HPL} H_i P_{ijm} L_i + \gamma_{HP} H_i P_{ijm} + \gamma_{LP} L_i P_{ijm} + \gamma_L L_i + \gamma_H H_i + \gamma_P P_{ijm} + \beta_1 X_i + \delta_j + \psi_t) \tag{3}$$

where $h(m)$ is the hazard rate of a child dying by age in months, m, in household i, state j, born in year t, conditional on household characteristics and state and year of birth fixed effects. $h_0(m)$ is the baseline hazard assumed to be the same for all children in the estimation. P_{ijm} is a variable indicating exposure to the reform while alive in reform states. H_i is an indicator for Hindu and L_i is an indicator for household land ownership. State (δ_j) and year of birth (ψ_t) fixed effects are included to remove state differences in mortality risk as well as any general time trend in mortality risk. Household and child characteristics, X_i, include mother's age at time of birth, mother's education, caste, religion, and wealth quintile dummies (poorest, poorer, middle, richer, richest). γ_{HPL} is the quadruple differences Cox hazards model estimator of the effect of the reform on female mortality. Robust standard errors are clustered by state.

The timing in the hazard model is as follows: We observe when a child was born (m=0), the age at death if the child died by the time the household is surveyed (a failure in the survival analysis), and the date the survey was taken (right censoring). Another advantage of using hazard models is that the model can separate a girl's mortality risk into two segments. The "post" variable, P_{ijm}, is equal to one starting in January of the year the reform was enacted. Thus, a child who was born in Andhra Pradesh in 1984 and died in 1988 would have $P_{ijm} = 0$ from 1984 to 1985 and $P_{ijm} = 1$ from 1986 until 1988.

As in the OLS model, the Cox hazard model estimates are also robust to including linear state-year trends, state-year fixed effects, and group-year fixed effects (land owner-year and Hindu-year). However, the estimated effect on child mortality of the inheritance reforms is also significantly greater with this estimation approach, with an effect size of a 30 to 50 percent increase in mortality risk, which may not be plausible.

If equal inheritance rights reduce parents' investment in their daughters' health, we should also observe an effect on nutrition, vaccinations, or other health inputs. Unfortunately, the NFHS datasets only have child health input information for children born within a few years of the survey. This provides a limited sample compared to the full birth and death histories of children and puts the earliest year of birth observable for health inputs at 1988. The limited sample years prevent a difference-in-difference test for health inputs in Andhra Pradesh or Tamil Nadu, and a lack of a sufficiently large sample makes statistical inference over health inputs for Maharashtra and Karnataka almost impossible. Thus, this analysis focuses on mortality where there is a sufficiently large sample size over many years.

It is possible that the reforms were passed in states that have a particularly pro-female bias and which may have passed additional legislation to assist women. There does not appear to be a specific reason for the location and timing of the reforms. For example, there was not a particular party that was in power in all of these states at the time of the law change.[8] There are many politically active women's organization in India, but they are not particularly concentrated in the reform states. Indeed, if the reform states were particularly pro-female, then this would bias the estimated effect towards finding lower female mortality. Another example of an omitted variable is the differential timing in the adoption of ultrasound technology for sex-selective abortion.[9] The quadruple differences analysis reduces such omitted variables bias: In order for any omitted pro-female (or anti-female) variable to bias the estimates, it would have to differentially affect Hindu-landowning households after the inheritance rights laws were passed

[8]The majority in the state legislature for Andhra Pradesh in 1986 was the Telugu Desam Party, in Tamil Nadu in 1989 it was the Dravida Munnetra Kazhagam party, and it was the Indian National Congress in Maharashtra and Karnataka in 1994.

[9]Unfortunately, I cannot control for differential ultrasound availability over the time period of inheritance rights expansion. Bhalotra and Cochrane (2010) show that sex selection begins to become detectable in India in the mid 1980s and especially after 1994, when ultrasound began to become widely available. Ultrasound was becoming available everywhere, not just South India. However, there is little data on the actual availability of ultrasound. Bhalotra and Cochrane (2010) use the timing of the introduction of ultrasound into India as a whole, but they do not have state-level differences in the degree or timing of ultrasound availability. Akbulut-Yuksel and Rosenblum (2012), analyze data on ultrasound use starting in 1999 (surveys did not ask about ultrasound use before 1999 on a large scale), but this is well after the time period of interest. It is unclear whether differential access to sex-selective abortion would increase or decrease female mortality. For example, Rosenblum (2013) and Hu and Schlosser (2011) find evidence that sex selection in India could lower female mortality. However, Bharadwaj and Nelson (2013) argue that ultrasound that is not used for sex selection may cause parents to reduce prenatal health inputs for females, which could cause higher female mortality.

in the reform states, which is a strong condition.

I perform three robustness checks to ensure the results are not mistakenly being driven by omitted variables. The first robustness check is a falsification test focusing on births in the 1970s, before the reforms were enacted. The second robustness check extends estimation Equation 2 to include state-year linear trends, landowner*state-year trends, state-year fixed effects, Hindu-year fixed effects, landowner-year fixed effects, landowner-state fixed effects, and landowner-state-year fixed effects to control for omitted variables and Hindu-specific, landowner-specific, and state-specific time trends that may differentially affect female mortality in the reform states. Third, I restrict the sample to only the reform states and use the variation in the timing of the reforms to compare how early reforms affected female child mortality relative to later reforms. This last approach directly eliminates the possibility of omitted variables in the non-reform states from affecting the estimates.

6 Parallel Trends Assumption

The identifying assumption in a differences analysis is that, controlling for observables, trends in child mortality would have been the same between the treatment and control groups if the inheritance law reforms had not taken place. This section addresses the validity of this assumption by comparing average household characteristics of reform states to non-reform states. In addition, this section shows aggregate pre-reform trends in female child mortality for reform states versus non-reform states, as well as comparing the reform states to each other. Last, this section presents a falsification test for children born in the 1970s.

Table 1 shows that households are different in the reform states compared to the non-reform states. Women in the reform states are older, have more education and fewer total children. In addition, households in the reform states are less likely to own land. That the reforms were passed in only some states may reflect that landowners are not as politically strong or wealthy in the reform states. Although I control for observable differences (including wealth quintiles) between households, there is always the potential for unobserved variation between households in the reform and non-reform states. Recall, however, that the identification assumption is not that groups are similar, but rather that mortality trends would have been the same over time if not for the inheritance reforms.

Table 1: Descriptive Statistics: Mean Household Characteristics by Inheritance Reform

Variable	Reform States	Non-Reform States	Difference
Mother's Education (Years)	2.266	1.900	0.367***
	(0.009)	(0.005)	(0.010)
Mother's Age (Years)	30.333	30.225	0.108***
	(0.036)	(0.034)	(0.041)
Total Children	2.337	2.735	-0.398***
	(0.007)	(0.005)	(0.010)
Hindu (0/1)	0.822	0.712	0.110***
	(0.002)	(0.001)	(0.002)
Rural (0/1)	0.526	0.599	-0.073***
	(0.002)	(0.001)	(0.002)
Own Land (0/1)	0.382	0.502	-0.121***
	(0.002)	(0.001)	(0.002)
Acres of Land	7.711	10.226	-2.515***
	(0.152)	(0.127)	(0.263)
Scheduled Caste (0/1)	0.165	0.138	0.026***
	(0.001)	(0.001)	(0.002)
Scheduled Tribe (0/1)	0.052	0.138	-0.086***
	(0.001)	(0.001)	(0.001)
Observations	63305	252403	

Notes: Standard errors in parentheses. Sample size smaller for land, total children, mother's age and education due to missing values. T-tests used to test differences in means for continuous variables, Pearson chi-squared tests used for binary variables. Kerala omitted. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.
(* p<0.1, ** p<0.05, *** p<0.01)

All of the reforms, except for Maharashtra, are in southern India, which generally has better child outcomes than the rest of India. Table 2 shows that mortality rates are substantially lower in the reform states compared to the rest of India, which should give us some caution in comparing the two groups. As an initial check to see if mortality trends are similar, Figure 1 shows average child mortality rates (1-60 months) smoothed over 5 year averages. The graph compares the non-reform states to the reform states before the laws were enacted. Because the reforms happened in different years, all the reform states are included up to 1985. In 1986 Andhra Pradesh's reform was enacted and is therefore dropped from the comparison group.

Table 2: Descriptive Statistics: Female mortality rates, reform vs. non-reform states

Variable	Reform States	Non-Reform States	Difference
Dead 1-60 Months	0.056	0.083	-0.027***
	(0.001)	(0.001)	(0.001)
Observations	64302	224480	
Dead 0 Months	0.038	0.047	-0.009***
	(0.001)	(0.000)	(0.001)
Observations	82837	301867	

Notes: Standard errors in parentheses. Pearson chi-squared tests used to test differences in proportions. For deaths between 1 and 60 months, children who died in month 0 or who were under age 60 months at the time of the survey are not included. Kerala omitted. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.
(* p<0.1, ** p<0.05, *** p<0.01)

Similarly, Tamil Nadu is dropped in 1989 when its reform was made law. While the mortality rates are lower in the reform states, the trend in mortality rates over time is similar. Mortality rates drop more quickly in reform states for the 1977-81 through 1979-83 birth cohorts, but otherwise the trends are close to parallel.

The more rapid pre-reform decline in mortality rates in the reform states may bias the estimated effect of the reforms so that I underestimate the true increase in child mortality. To account for this possibility a robustness check is performed in which the sample is restricted to only the reform states. Figure 2 shows that the trends in pre-reform mortality rates are similar within the reform states. Because the reforms happened at different times, the reforms states can act as controls for each other, which will reduce the bias of differential mortality trends that may exist in the all-India sample. For example, between 1986 and 1988, exposure to the reforms would only be for Hindu landowners in Andhra Pradesh who I would be comparing to Hindu landowners in Karnataka, Maharashtra, and Tamil Nadu over that period. For 1989 through 1993, only Andhra Pradesh and Tamil Nadu would be exposed to the reforms, and are thus compared to Maharashtra and Karnataka.

As an additional test of the parallel trends assumption, I report a falsification test which restricts the sample to children born in the 1970s, when child mortality should be unaffected by the later changes to inheritance laws. The false reforms in this test treat January 1975 as the date inheritance laws were implemented. These estimates are reported in Table 3. For

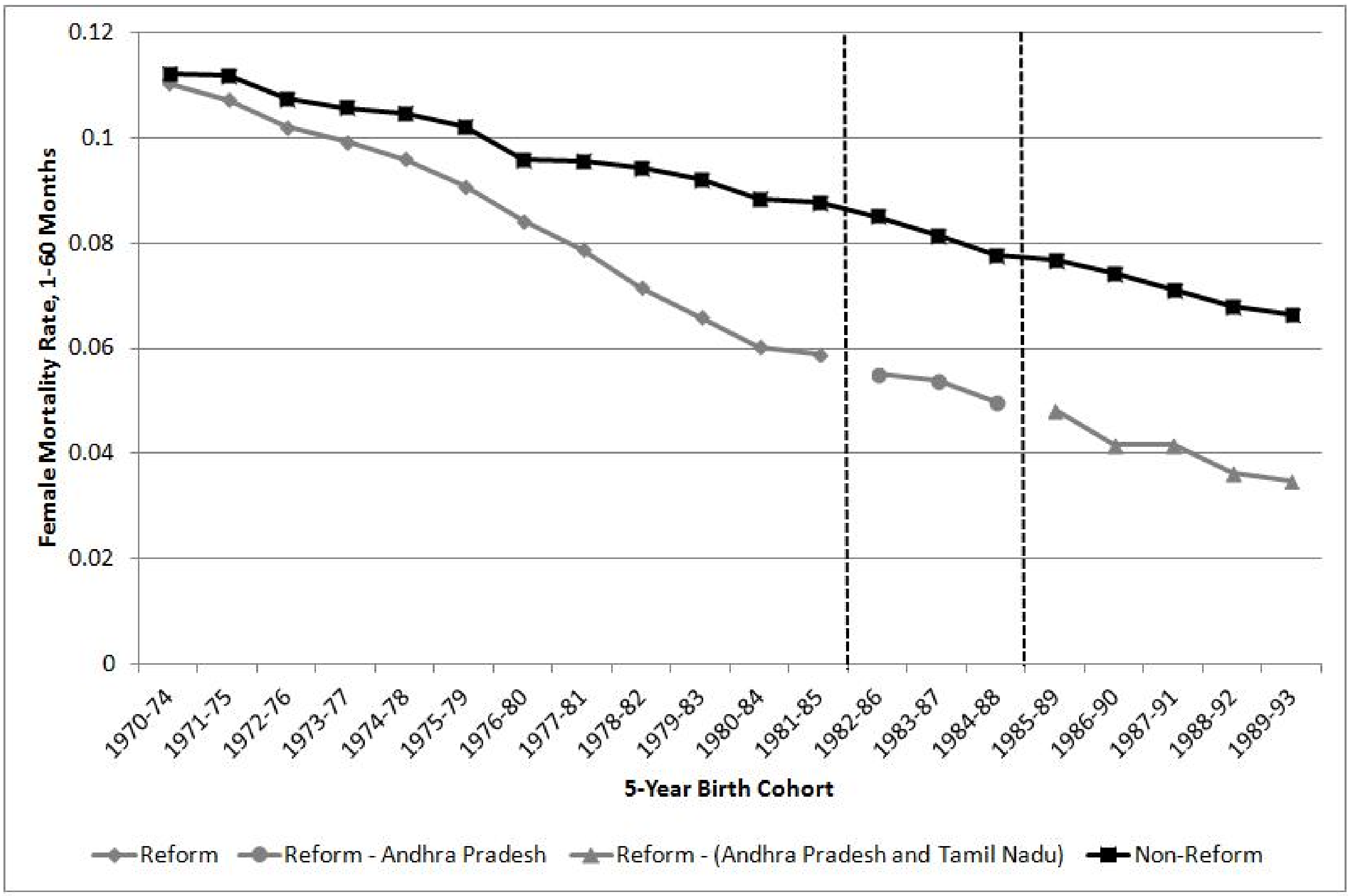

Figure 1: Female Mortality Trends in Reform and Non-Reform States Before Reforms Enacted. Birth cohorts are dropped if children are born after 1985 in Andhra Pradesh (represented by births to the right of the rightmost dashed line) and if children are born after 1988 in Tamil Nadu (represented by births to the right of the leftmost dashed line). Kerala is omitted. 5-year birth cohorts. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.

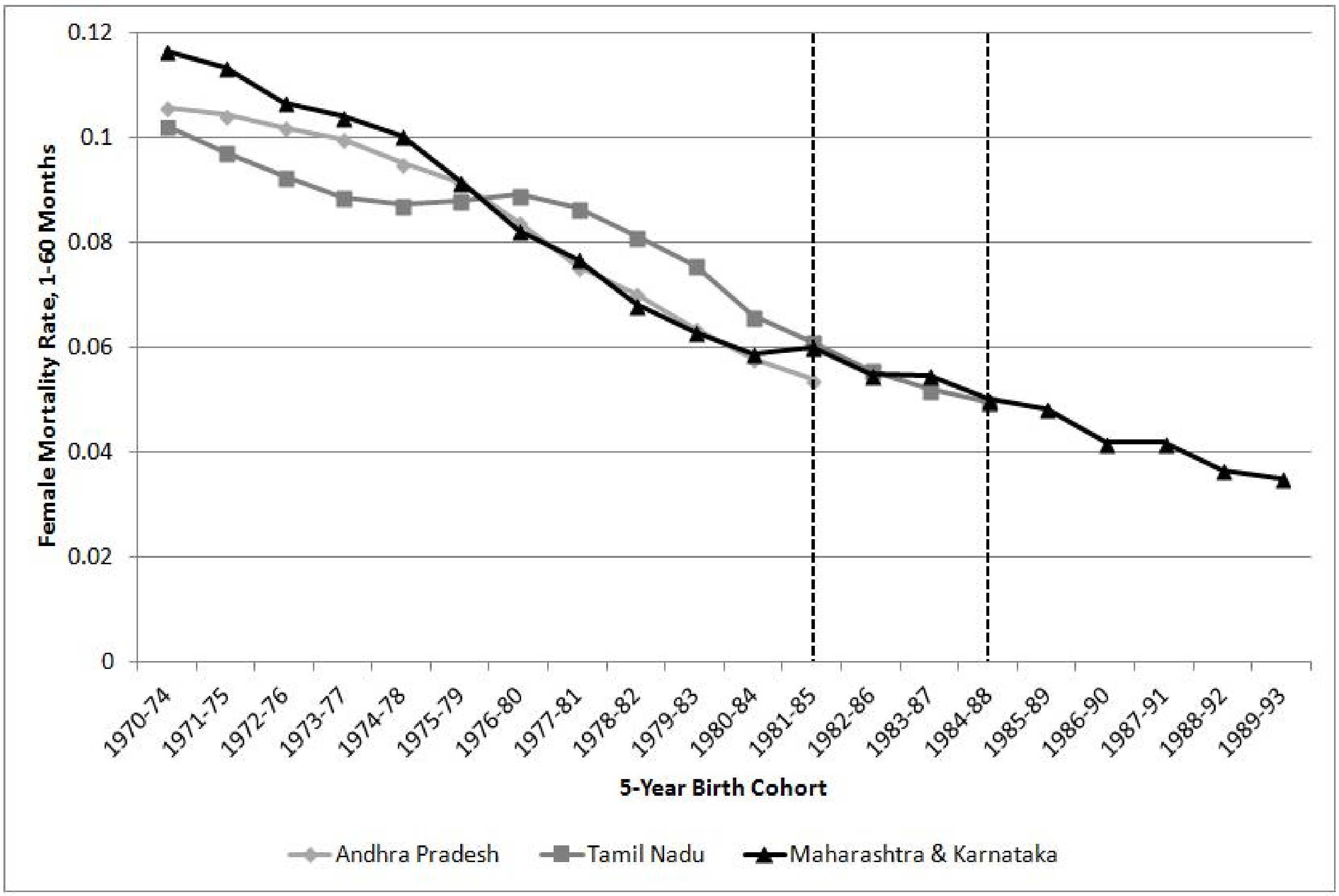

Figure 2: Female Mortality Trends in Reform States Before Reforms Enacted. Birth cohorts are dropped if children are born after 1985 in Andhra Pradesh (represented by births to the right of the rightmost dashed line) and if children are born after 1988 in Tamil Nadu (represented by births to the right of the leftmost dashed line). Kerala is omitted. 5-year birth cohorts. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.

columns (1) to (5), the treatment is exposure to the false reform in a household that owns land and is Hindu in the reform states. Column (1) groups all of the reform states together, while columns (2) to (5) separate out the individual reform states. There is no statistically significant increase or decrease to the risk of dying from exposure to the false reforms for Tamil Nadu or Maharashtra or the reform states as a whole. However, Andhra Pradesh and Karnataka's pre-trends show a statistically significant faster decline in mortality (at the 10% and 5% level respectively). Thus, as previously shown in Figure 1, some of the reform states had a faster decline in child mortality rates before the inheritance law reforms.

In columns (6) to (9) the reform states are individually compared to one another. Here the treatment is being exposed to the false reform in a household that owns land and is Hindu in a specific reform state. When each state is compared to the others, there is no statistically significant difference in pre-reform mortality trends. This finding gives additional support for using the reform states as controls against themselves to reduce bias in the estimates.

7 Preliminary Evidence

Figure 3 provides preliminary evidence of the effect of the inheritance reforms on child mortality. Female mortality rates of the treatment (Hindu and landowner) versus control (non-Hindu and/or non-landowner) households are shown for Andhra Pradesh as well as for the combined mortality rates of Karnataka and Maharashtra. This preliminary evidence focuses on the earliest and latest states that implemented inheritance reforms to show the largest possible contrast.[10] The mortality rates for the Andhra Pradesh control group closely tracks the mortality rates for Karnataka and Maharashtra's control group in the early 1980s. However, starting with the 1986-1990 birth cohort (the first birth cohort born entirely after the reform in Andhra Pradesh), the mortality rates of the treatment groups begin to diverge: Andhra Pradesh's treatment group's

[10] Tamil Nadu shows a similar pattern with the treatment and control groups having a roughly parallel fall in female mortality before the inheritance reforms of 1989 and a divergence afterward with relatively higher female mortality for the treatment compared to the control group. Since the NFHS data ends in 2006 and the graph is for child mortality at age 1 to 60 months, I am unable to extend the birth cohort years beyond 2001. Hence, I cannot extend the graph to visualize the mortality rate divergence for Maharashtra and Karnataka. The estimation strategy allows flexible age ranges for mortality, so this is not a concern with the main estimates.

Table 3: OLS: Falsification test. Effect of false reforms on female mortality for children born 1970-1979.

	Reform vs. Non-Reform (1)	AP vs. Non-Reform (2)	TN vs. Non-Reform (3)	KA vs. Non-Reform (4)	MH vs. Non-Reform (5)
Post*Land*Hindu	-0.0009	-0.0011*	-0.0003	-0.0016**	-0.0001
	(0.0007)	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Observations	1125692	944357	942348	945404	948802
		AP vs. Reform (6)	TN vs. Reform (7)	KA vs. Reform (8)	MH vs. Reform (9)
Post*Land*Hindu		0.0004	0.0017	0.0006	0.0035
		(0.0017)	(0.0015)	(0.0014)	(0.0026)
Observations		240619	240619	240619	240619
Demographic and Wealth Variables	Yes	Yes	Yes	Yes	Yes
State and Year Fixed Effects	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors, clustered at the state level, are reported in parentheses. Kerala omitted. Sample includes children born between 1970 and 1979. The full set of Post/Land/Hindu interaction terms are included in the estimations. In columns (1) to (5), Post indicates alive after January 1975 in a reform state. In columns (6) to (9), Post indicates alive after January 1975 in one specific reform state. Control variables are mother's age and education, caste, rural/urban, and wealth quintiles. AP is Andhra Pradesh, TN is Tamil Nadu, KA is Karnataka, and MH is Maharashtra. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.

(* $p<0.1$, ** $p<0.05$, *** $p<0.01$)

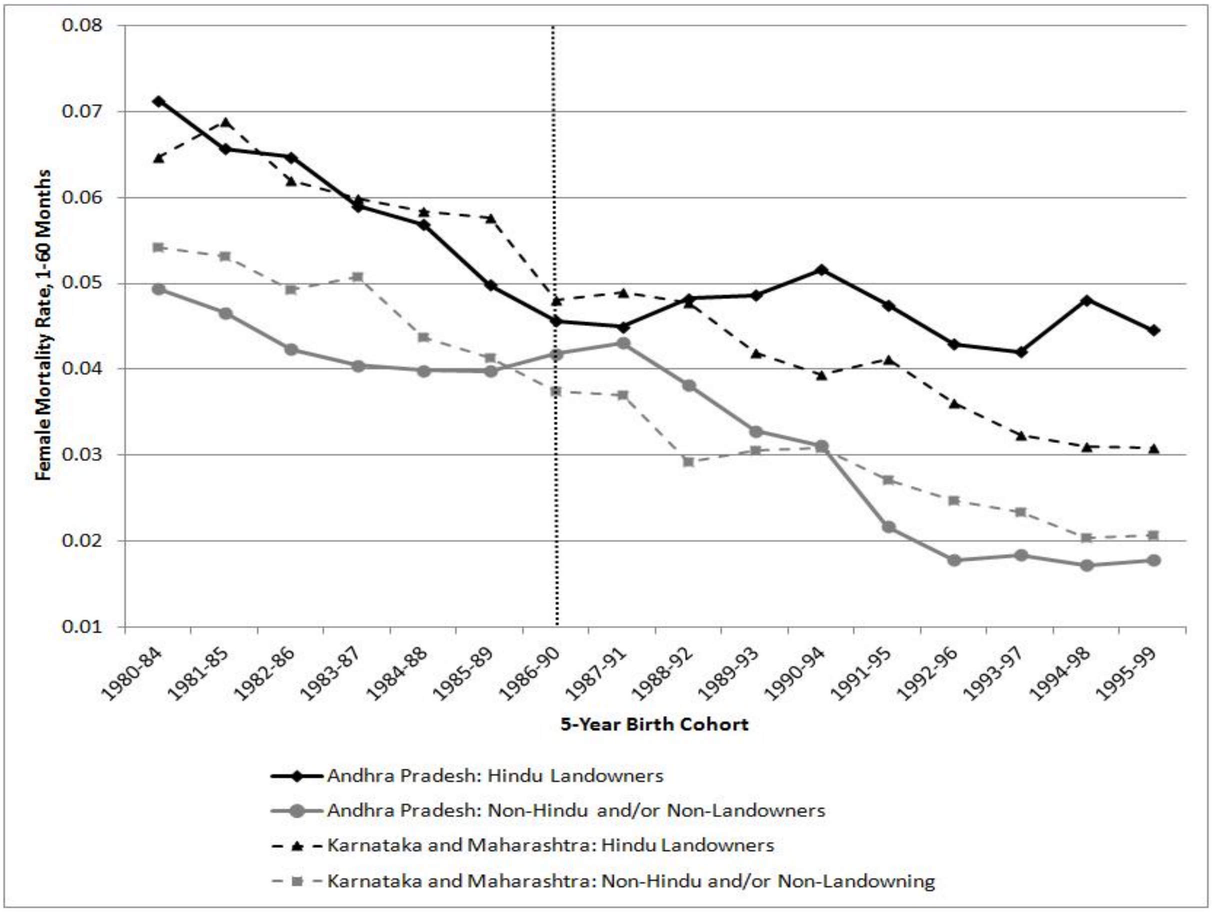

Figure 3: Mortality Trends in Andhra Pradesh versus Mortality Trends in Karnataka and Maharashtra. Sample is divided into Hindu landowning households (treatment) and non-Hindu and/or non-landowning households (control). 5-year birth cohorts. Vertical dotted line indicates the first birth cohort in Andhra Pradesh to be born completely after the inheritance reform was implemented (1986-1990). Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.

mortality rate increases until the 1990-1994 birth cohort and then remains higher than all of the other groups. By contrast, the mortality rates for the treatment group in Maharashtra and Karnataka and the control groups continued to steadily decline. Mortality rates were falling at similar rates before the reform, which supports the parallel trends assumption needed for a differences analysis. The trend reversed only for the treatment group in Andhra Pradesh after the inheritance reforms went into effect. The graph shows that the reforms may have caused a substantial relative rise in female mortality after the reforms. In the following section I provide a rigorous statistical test of the effect of the reforms.

8 Main Estimation Results

The estimates from Equation 2 are presented in Table 4. Columns (1) and (2) report estimates which include all the states of India as controls. $\hat{\gamma_{HPL}}$ in column (2) shows that the reforms caused a 0.17 percentage point higher probability of female death. Table 4 columns (3) and (4) show the estimates which restrict the sample to only the reform states. These estimates reduce the bias from the relatively faster decline in female mortality for the reform states relative to the non-reform states before the inheritance laws were enacted. As expected, $\hat{\gamma_{HPL}}$ is larger for this subsample, with the reforms estimated to cause a 0.32 percentage point increase in a girl's probability of death. The estimates show that there was a small, but meaningful increase in female mortality caused by the inheritance rights reforms.

One may be concerned that instead of biasing the estimates downwards, the faster decline in mortality before the inheritance laws were implemented actually bias the estimates up because the non-reform states were able to catch up to the lower mortality rates of the reform states after the reforms were implemented. If there was catch up, it should have occurred for both genders. Appendix B presents the falsification test and main results for male mortality. The falsification test shows that similar pre-trends exist for male mortality. However, there is no effect of exposure to the reforms on male mortality. Thus, catch up is an unlikely explanation.

The main estimates for female mortality are robust to individually testing each state's exposure to the reforms, ruling out the possibility that the effects are driven by a single state (estimates not shown). As an additional robustness check I include state-year linear trends, landowner*state-year trends, state-year fixed effects, Hindu-year fixed effects, landowner-year fixed effects, landowner-state fixed effects, and landowner-state-year fixed effects to reduce or eliminate bias from pre-trends in mortality rates or omitted variables. These estimates are shown in Table 5. The estimates are robust to these expanded specifications.

The estimates may also suffer from an additional problem. I estimate the average effect on mortality across all ages of death in the sample. There may be a particularly high effect on the mortality rate of younger children compared to older children. The estimates in columns (3)

Table 4: OLS: Effect of inheritance law reforms on female child mortality, 1975-2005.

	All India		Reform States	
	(1)	(2)	(3)	(4)
Post*Land*Hindu	0.0013**	0.0017***	0.0032**	0.0032***
	(0.0006)	(0.0005)	(0.0006)	(0.0005)
Post*Hindu	0.0003	-0.0008	-0.0024*	-0.0026*
	(0.0008)	(0.0007)	(0.0009)	(0.0008)
Post*Land	-0.0017**	-0.0021***	-0.0040***	-0.0037**
	(0.0007)	(0.0005)	(0.0006)	(0.0007)
Land*Hindu	-0.0001	0.0000	-0.0022**	-0.0018**
	(0.0005)	(0.0003)	(0.0004)	(0.0005)
Hindu	0.0011	0.0009**	0.0034*	0.0029**
	(0.0007)	(0.0004)	(0.0011)	(0.0008)
Land	0.0015**	-0.0002	0.0040**	0.0021**
	(0.0006)	(0.0003)	(0.0009)	(0.0006)
Post	0.0029	0.0040*	0.0022*	0.0020
	(0.0023)	(0.0020)	(0.0009)	(0.0009)
Demographic and Wealth Variables	No	Yes	No	Yes
State and Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	3235453	3234904	658829	658813

Notes: Robust standard errors, clustered at the state level, are reported in parentheses. Kerala omitted. Children born in 1975 or later. Demographic and wealth variables are mother's age and education, caste, rural/urban, and wealth quintiles. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.

(* p<0.1, ** p<0.05, *** p<0.01)

Table 5: OLS: Effect of inheritance law reforms on female child mortality, 1975-2005. Robustness checks.

	All India							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post*Land*Hindu	0.0016***	0.0019***	0.0016***	0.0017***	0.0016***	0.0021***	0.0017***	0.0018***
	(0.0004)	(0.0005)	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0006)	(0.0005)
Demographic and Wealth Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State and Year Fixed Effects	Yes	No	No	Yes	Yes	Yes	No	No
State-Year Linear Trends	Yes	Yes	No	No	No	No	No	Yes
Land*State-Year Linear Trends	No	Yes	No	No	No	No	No	Yes
State-Year Fixed Effects	No	No	Yes	No	No	No	Yes	Yes
Hindu-Year Fixed Effects	No	No	No	Yes	No	No	Yes	Yes
Land-Year Fixed Effects	No	No	No	No	Yes	No	Yes	Yes
Land-State Fixed Effects	No	No	No	No	No	Yes	Yes	Yes
Observations	3234904	3234904	3234904	3234904	3234904	3234904	3234904	3234904
	Reform States							
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Post*Land*Hindu	0.0032***	0.0032***	0.0032***	0.0033**	0.0033**	0.0033**	0.0033**	0.0033**
	(0.0005)	(0.0005)	(0.0005)	(0.0007)	(0.0006)	(0.0006)	(0.0007)	(0.0006)
Demographic and Wealth Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State and Year Fixed Effects	Yes	No	No	Yes	Yes	Yes	No	No
State-Year Linear Trends	Yes	Yes	No	No	No	No	No	Yes
Land*State-Year Linear Trends	No	Yes	No	No	No	No	No	Yes
State-Year Fixed Effects	No	No	Yes	No	No	No	Yes	Yes
Hindu-Year Fixed Effects	No	No	No	Yes	No	No	Yes	Yes
Land-Year Fixed Effects	No	No	No	No	Yes	No	Yes	Yes
Land-State Fixed Effects	No	No	No	No	No	Yes	Yes	Yes
Observations	658813	658813	658813	658813	658813	658813	658813	658813

Notes: Robust standard errors, clustered at the state level, are reported in parentheses. Kerala omitted. The full set of Post/Land/Hindu interaction terms are included in the estimations. Children born in 1975 or later. Demographic and wealth variables are mother's age and education, caste, rural/urban, and wealth quintiles. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.

(* $p<0.1$, ** $p<0.05$, *** $p<0.01$)

and (4) in Table 4 are robust to restricting the sample to children born at least five years before the household's survey date and restricting the ages of death to be between 0 and 5 years. The estimates are also robust to excluding neonatal mortality. In either case, the coefficients are of a similar magnitude as the main estimates (estimates not shown).

9 Fertility

If the reforms cause parents to want fewer daughters, it is possible that the inheritance reforms reduced fertility. Figure 4 shows the trends in fertility rates for mothers aged 15-25, divided into the reform and non-reform states and into Hindu landowners and non-Hindu and/or non-landowners. In the figure, fertility rates are defined as the proportion of women aged 15 to 25 in year X who gave birth in year X. The fertility rates are falling and close to parallel as the years progress. Thus, it is not immediately clear that the treatment group had a reduction in fertility rates compared to the control groups.

I use a quadruple differences model, as above, to estimate the effect of the reforms on fertility:

$$Y_{ijt} = \gamma_{HPL} H_i P_{it} L_i + \gamma_{HP} H_i P_{it} + \gamma_{LP} L_i P_{it} + \gamma_L L_i + \gamma_H H_i + \gamma_P P_{it} + \beta_C C_{it} + \beta_M M_{it} + \beta_1 X_i + \delta_j + \psi_t + \varepsilon_{ijt} \quad (4)$$

where Y_{ijt} is the linear probability of giving birth to a child in year t conditional on the number of children born before year t (C_{it}), state and year fixed effects, demographic and wealth controls as above, and the set of interactions between Hindu, landownership, and exposure to the reform. Again, the coefficient of interest is γ_{HPL}. This equation estimates the average intent-to-treat effect of the reforms on the probability of giving birth. Households with twins are dropped from the analysis. I include years from 1975-2005 and begin including women as observations at age 15. $\gamma_{\hat{HPL}}$ is reported in Table 6. I find that $\gamma_{\hat{HPL}}$ is not statistically different from zero. One may be concerned that including older mothers in the sample, who have already completed most of their fertility, may mask an effect on younger mothers. However, the

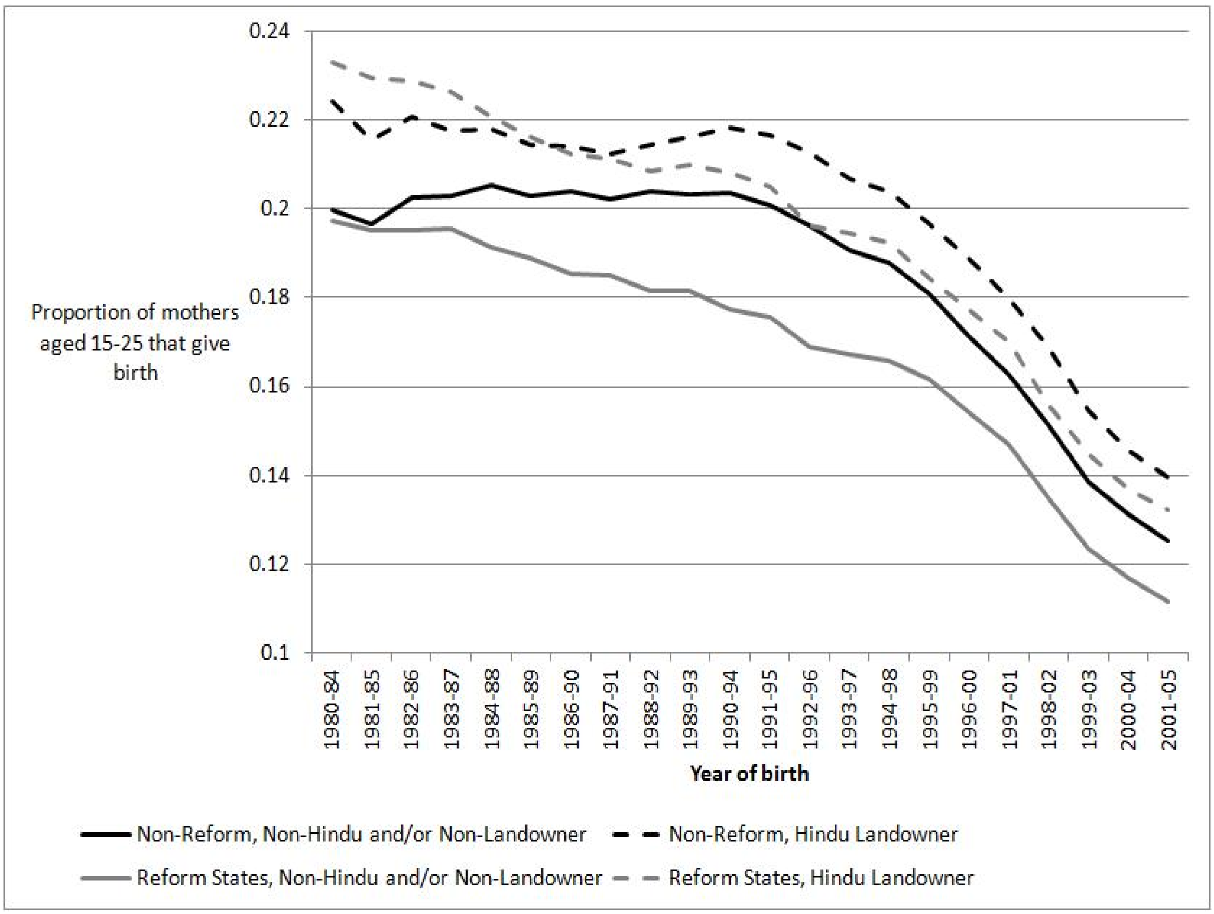

Figure 4: Fertility trends by treatment and control groups. Mean proportion of mothers who gave birth in year X conditional on being aged 15-25 in year X. Data is smoothed by five-year averages. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.

estimates are robust to restricting the sample to younger mothers (age 15 to 25).[11]

Even if the reforms raised the cost of daughters, it may not be the case that parents will want or are able to reduce their number of children through lower fertility. For a variety of reasons, parents may still want at least one son to whom they can give their land. Thus, they will continue to follow a son-preferring fertility stopping rule which has been established as a common fertility practice in India (Clark, 2000). Following such a stopping rule will still push some parents to have many daughters in the pursuit of a son, regardless of the extra cost of daughters.

It is also possible that parents may not use family planning technologies. The main form of birth control in India is female sterilization. Thus, families may have difficulty increasing the interval between births even if they can easily decide to stop having children altogether. Furthermore, if the priority is having one or more sons survive, it may take many years before parents think there is a high probability of their sons surviving to adulthood. In that time parents may opt to not use sterilization and have more children. Hence, it is not clear that fertility should be affected by the reforms. Other research has found that child mortality may be more easily changed than fertility. For example, Breirova and Duflo (2004) estimate the impact of increased education on child mortality and fertility in Indonesia. They find a substantial reduction in child mortality, but a small effect on fertility. That fertility is unaffected could mean that the estimated relative increase in female mortality will persist for a long period of time.

[11] Portner (2010) uses hazard models to estimate fertility and the determinants of sex selection in India. As noted by Portner (2010), the advantage of using a hazard model is that it jointly estimates birth spacing and fertility. As a robustness check I use a similar estimation technique, using the risk of giving birth as an outcome, conditional on parity. Here a failure in the survival models is giving birth conditional on already having a child of a specific parity, and the start time is the birth month of the previously born child. Observations are censored at the time of interview. There is no statistically significant change in the risk of having an additional child in the hazard model specifications.

Table 6: OLS: Effect of inheritance law reforms on fertility, 1975-2005.

	All India		Reform States	
	(1)	(2)	(3)	(4)
Post*Land*Hindu	0.001	0.001	-0.006	-0.007
	(0.005)	(0.005)	(0.006)	(0.006)
Post*Hindu	0.012***	0.010***	0.016***	0.016***
	(0.002)	(0.002)	(0.001)	(0.001)
Post*Land	-0.011***	-0.010***	-0.008	-0.007
	(0.003)	(0.003)	(0.005)	(0.005)
Land*Hindu	-0.005***	-0.005***	0.004	0.003
	(0.001)	(0.001)	(0.003)	(0.002)
Hindu	-0.009***	-0.008***	-0.014***	-0.015***
	(0.001)	(0.001)	(0.002)	(0.002)
Land	0.004***	0.001	0.002	0.002
	(0.001)	(0.001)	(0.004)	(0.004)
Post	0.003	0.004	-0.006	-0.006
	(0.006)	(0.006)	(0.003)	(0.003)
Demographic and Wealth Variables	No	Yes	No	Yes
State and Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	4254257	4253393	926291	926257

Notes: Robust standard errors, clustered at the state level, are reported in parentheses. Kerala omitted. Children born in 1975 or later. Demographic and wealth variables are mother's age and education, caste, rural/urban, and wealth quintiles. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.

(* $p<0.1$, ** $p<0.05$, *** $p<0.01$)

10 Conclusion

This paper highlights the unintended adverse consequences of constraining household economic decisions. If parents have strong son preferences and are forced to give equal inheritances to sons and daughters, this can drive up the cost of daughters and lead to higher child mortality. The results from this paper should not be misconstrued to argue that women should not be given equal inheritance rights. Indeed, as shown in prior research on inheritance rights in India, it is likely that many women are made better off by having access to inheritance later in life. However, if policy makers can anticipate the potential downside of a policy they can react by counteracting the downside before it occurs. For example, the government could enact policies to increase spending on child health care or directly subsidize the survival of girls through transfer payments. Increasing gender equality in India is an important and necessary policy goal. However, household incentives must be taken into consideration when trying to anticipate the effects of new legislation.

References

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

———. 1995. "Gender and Legal Rights in Agricultural Land In India." *Economic and Political Weekly* 30 (12):A39–A56.

———. 2003. "Gender and Legal Rights Revisited: Exploring New Prospects via the State, Family and Market." *Journal of Agrarian Change* 3 (1 and 2):184–224.

Akbulut-Yuksel, Mevlude and Daniel Rosenblum. 2012. "The Indian Ultrasound Paradox." IZA Discussion Paper No. 6273.

Anderson, Siwan and Garance Genicot. 2012. "Suicide and Property Rights in India." Working Paper.

Bernheim, Douglas B., Andrei Shleifer, and Lawrence H. Summer. 1985. "The Strategic Bequest Motive." *Journal of Political Economy* 93 (6):1045–1076.

Bhalotra, Sonia and Tom Cochrane. 2010. "Where Have All the Young Girls Gone? Identification of Sex Selection in India." IZA Discussion Paper No. 5381.

Bharadwaj, Prashant and Leah K. Nelson. 2013. "Discrimination Begins in the Womb: Evidence of Sex-Selective Prenatal Investments." *Journal of Human Resources* 48 (1):71–113.

Binswanger, Hans P., Kailash C. Pradhan, and Sudhir K. Singh. 2011. "Impact of changing prices and rising wages of Indian agriculture, 19992007." Background paper to Centennial Group 2012.

Breirova, Lucia and Esther Duflo. 2004. "The Impact of Education on Fertility and Child Mortality: Do Fathers Really Matter Less Than Mothers." NBER Working Paper No. 10513.

Cigno, Alessandro. 1998. "Fertility decisions when infant survival is endogenous." *Journal of Population Economics* 11:21–28.

Clark, Shelley. 2000. "Son Preference and Sex Composition of Children: Evidence from India." *Demography* 37 (1):95–108.

Deera, Carmen Diana and Magdelena Leon. 2003. "The Gender Asset Gap: Land in Latin America." *World Development* 31 (6):925–947.

Deininger, Klaus, Aparajita Goyal, and Hari Nagarajan. 2013. "Women's Inheritance Rights and Intergenerational Transmission of Resources in India." *Journal of Human Rseources* 48 (1):114–141.

Foster, Andrew D. and Mark R. Rosenzweig. 2011. "Are Indian Farms Too Small? Mechanization, Agency Costs, and Farm Efficiency." Mimeo.

Hu, Luojia and Analia Schlosser. 2011. "Prenatal Sex Selection and Girls' Well-Being: Evidence from India." IZA Discussion Paper No. 5562.

Portner, Claus C. 2010. "Sex Selective Abortions, Fertility and Birth Spacing." University of Washington, Department of Economics, Working Paper NO. UWEC-2010-4.

Rosenblum, Daniel. 2013. "The effect of fertility decisions on excess female mortality in India." *Journal of Population Economics* 26 (1). DOI: 10.1007/s00148-012-0427-7.

Rosenzweig, Mark and T. Paul Schultz. 1982. "Market Opportunities, Genetic Endowments, and Intrafamily Resource Distribution: Child Survival in Rural India." *The American Economic Review* 72 (4):803–815.

Roy, Sanchari. 2008. "Female Empowerment through Inheritance Rights: Evidence from India." Mimeo.

———. 2010. "Empowering Women: Inheritance Rights and Female Education in India." Mimeo.

World Bank. 2011. *World Development Report 2012: Gender Equality and Development*. Washington, DC: World Publishers.

APPENDIX

A Proof of Proposition 1

First, substitute the budget constraint into Equation (1):

$$U_T = U_1(Y - Gk) + U_2(\frac{L}{B + \alpha p(k)G}) + U_S(p(k)G) \tag{5}$$

$\frac{\partial U_T}{\partial \alpha} = -U_2' \frac{Lp(k)G}{(B+\alpha p(k)G)^2} < 0$

Assume the household is already in equilibrium, such that $\frac{\partial U_T}{\partial k} = -U_1'G - U_2' \frac{L\alpha G}{(B+\alpha p(k)G)^2} + U_S' p'(k)G = 0$, then a small increase in α will cause:

$\frac{\partial U_T}{\partial k} = -U_1'G - U_2' \frac{L\alpha G}{(B+\alpha p(k)G)^2} + U_S' p'(k)G < 0$

To see that this is true, taking the partial derivative of $\frac{\partial U_T}{\partial k}$ with respect to α gives you:

$U_2'' \frac{L\alpha G}{(B+\alpha p(k)G)^2} - U_2' [\frac{LGB}{(B+\alpha p(k)G)^3}] < 0$, since U_2 is strictly concave.

By the implicit function theorem:

$$\frac{dk}{d\alpha} = -\frac{\frac{\partial U_T}{\partial \alpha}}{\frac{\partial U_T}{\partial k}}$$

Thus,

$$\frac{dk}{d\alpha} < 0$$

B Male Mortality Pre-Trends and Main Estimates

Table 7: Falsification test. Effect of false reforms on male mortality for children born 1970-1979.

	Reform vs. Non-Reform (1)	AP vs. Non-Reform (2)	TN vs. Non-Reform (3)	KA vs. Non-Reform (4)	MH vs. Non-Reform (5)
Post*Land*Hindu	-0.0004	0.0013**	-0.0023***	0.0013**	-0.0011**
	(0.0008)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Observations	1236656	1044948	1038192	1043010	1047659
		AP vs. Reform (6)	TN vs. Reform (7)	KA vs. Reform (8)	MH vs. Reform (9)
Post*Land*Hindu		0.0006	-0.0035**	0.0009	-0.0033*
		(0.0008)	(0.0007)	(0.0005)	(0.0013)
Observations		257605	257605	257605	257605
Demographic and Wealth Variables	Yes	Yes	Yes	Yes	Yes
State and Year Fixed Effects	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors, clustered at the state level, are reported in parentheses. Kerala omitted. Sample includes children born between 1970 and 1979. The full set of Post/Land/Hindu interaction terms are included in the estimations. In columns (1) to (5), Post indicates alive after January 1975 in a reform state. In columns (6) to (9), Post indicates alive after January 1975 in one specific reform state. Control variables are mother's age and education, caste, rural/urban, and wealth quintiles. AP is Andhra Pradesh, TN is Tamil Nadu, KA is Karnataka, and MH is Maharashtra. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.

(* $p<0.1$, ** $p<0.05$, *** $p<0.01$)

Table 8: OLS: Effect of inheritance law reforms on male mortality, 1975-2005.

	All India		Reform States	
	(1)	(2)	(3)	(4)
Post*Land*Hindu	0.0008	0.0010	0.0037	0.0036
	(0.0010)	(0.0012)	(0.0017)	(0.0016)
Post*Hindu	0.0000	-0.0011	-0.0036*	-0.0038*
	(0.0010)	(0.0007)	(0.0015)	(0.0015)
Post*Land	-0.0006	-0.0009	-0.0026*	-0.0022
	(0.0012)	(0.0013)	(0.0011)	(0.0012)
Land*Hindu	-0.0015***	-0.0013***	-0.0046*	-0.0040*
	(0.0005)	(0.0004)	(0.0016)	(0.0014)
Hindu	0.0012		0.0046*	
	(0.0007)		(0.0019)	
Land	0.0022***	0.0006	0.0041**	0.0022
	(0.0006)	(0.0004)	(0.0012)	(0.0011)
Post	0.0017	0.0027	0.0017	0.0016
	(0.0023)	(0.0020)	(0.0008)	(0.0008)
Demographic and Wealth Variables	No	Yes	No	Yes
State and Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	3498543	3497898	698161	698136

Notes: Robust standard errors, clustered at the state level, are reported in parentheses. Kerala omitted. Children born in 1975 or later. Demographic and wealth variables are mother's age and education, caste, rural/urban, and wealth quintiles. Data source: Indian NFHS 1992/92, 1998/99, and 2005/06.

(* $p<0.1$, ** $p<0.05$, *** $p<0.01$)