

Gender Equity and Inheritance Reform: Evidence from Rural India

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September 6, 2012

Abstract

Do reforms equalizing women's land inheritance rights improve gender equity in rural India? By exploiting temporal variation in legal implementation, I find no evidence that "gender blind" land inheritance laws increased amounts of land inherited by eligible women. I argue that reform failed for two reasons: first, gender-equalizing legislative changes failed to take into account the full cost-benefit calculation of rural Indian women who would rather forgo their legal rights than relinquish access to a familial "safety net" and second, local officials remained more responsive to male household heads who sought to subvert reform than rural women who stood to benefit from the reforms. However, institutional changes that increase women's representation in local government also increase local officials' responsiveness to women, with significant positive benefits on inheritance reform's ability to improve gender equity. Overall, this research suggests the importance of local politics – officials' responsiveness to local stakeholders – as one pathway through which gender-equalizing land inheritance reform can alter or reinforce social conventions, both in rural India and beyond.

* PhD Candidate, Department of Political Science, Stanford University. Email: rebrule@stanford.edu. I am grateful to Jonathan Bendor, James Fearon, Saumitra Jha, and Beatriz Magaloni for their support of this project throughout its evolution. I heartily thank Rikhil Bhavnani, Lisa Blaydes, Teddy Brett, Pradeep Chhibber, Jean-Paul Faguet, Avner Greif, Bethany Lacina, Francesca Refsum Jensenius, Hari Nagarajan, Jai Pal Singh, and members of the Comparative Politics Workshop at Stanford University, the South Asia Colloquium at Berkeley, and workshops at the Institute of Food and Resource Economics at Copenhagen University, the Peace Research Institute, Oslo, the Department for International Development at the London School of Economics, and the Department of Politics and International Studies at the School of Oriental and African Studies, University of London for feedback on prior versions of this paper. This project would not have been possible without inspired assistance in research design and translation by Aruna, Anupam Chatterjee, Vaibhav Chamoli, Niharika Chaube, D Gopi, Jamuna Pachuri, Santosh Srivastava, and Chenchula Sudanagunta, and the institutional support of the Society for the Elimination of Rural Poverty based in Hyderabad, Andhra Pradesh, India. All errors are entirely my own fault. This research was supported financially by a Doctoral Dissertation Fellowship from the National Council of Applied Economic Research (India) and the International Development Research Center (Canada), the Truman Scholarship, and Graduate Summer Research Grants from the Center for the Study of South Asia at Stanford University.

“People don't resist change. They resist being changed” (Senge 1990, 155).

Does gender-equalizing reform of land inheritance rights improve gender equity in rural India? Is reform, alternatively, a tool for organizing resistance against gender equity? Across south Asia, over 70 percent of the population is dependent on agriculture and the rural economy.¹ As access to land becomes increasingly scarce, gender inequality in who owns vs. cultivates land is rising. In India, this gap is particularly wide: 85 percent of women are agricultural workers, compared to 71 percent of men, yet women own only 10 percent of land.² Land ownership is significant not only as a source of economic income but also of ‘entitlements’ to security and power in both social and political realms.³

An influential conventional wisdom states that legal reform can be a powerful tool to change social conventions by shifting the costs and benefits of action.⁴ In this case, land inheritance reform may improve daughters’ land inheritance by increasing the costs of supporting traditional, gender-inegalitarian norms, while increasing the benefits of egalitarian inheritance distribution.⁵ Contrary to conventional wisdom, a growing literature highlights the dangers of using law to transform social conventions without addressing the political economy of support for norms.⁶ Accordingly, inheritance reform may have serious unintended consequences by generating fierce resistance amongst *status quo* stakeholders against attempts to change patrilineal norms and the related household-level political economy of investments in sons and daughters.⁷ This paper focuses on one channel of potential resistance to gender-equalizing land inheritance reform: political action. A related paper focuses on the family as an alternate channel of resistance to reform (Brulé 2012). Resistance to gender-equalizing land inheritance reform may actually reduce the land entitlements of the population whom the law is intended to help: women.

The magnitude of resistance to gender-equitable land inheritance emerged across 692 focus group interviews:

“Post marriage, a woman will traditionally go to a new village. Where her property is situated, in her mother’s village, these people will get the property mutated in their name ... Revenue inspectors can give so many types of certificates as ‘alternative registration’: *warrangal, pani*, certificates, passbooks, etc. [Since] both owner and

¹ Rao 2005, 4701.

² Government of India 2000; Rao 2011.

³ Agarwal 1994; Rao 2008; Roy and Tisdell 2002; Sen 1981.

⁴ Aldashev et al. 2012; Mackie 1996; Posner 2000; Schelling 1960.

⁵ Agarwal 1994; Ambrus, Field, and Torero 2010; Fafchamps and Quisumbing 2008; Field 2007; Goyal, Deininger, and Nagarajan 2012; Panda and Agarwal 2005; Qian 2008; Roy and Tisdell 2002; Roy 2012; Udry 1996.

⁶ Ambrus, Field, and Torero 2010; Blaydes and Linzer 2008; Ellickson 1991; Helmke and Levitsky 2004; Margetts, 6, and Hood 2010.

⁷ Abirafeh 2009; Anderson 2003; Goodhart 1975; Harriss 1979; Kay 2011; Klarman 1994; Kranton and Swamy 1999; Mackie 1996; Mayaram 2002; Platteau and Peccoud 2011; Quisumbing 2004; Rao 2005, 2008; Rosenblum 2011; Scott 1998; World Bank 2012.

possessor are entered into the registry, they manipulate the records such that the owner's name is changed."⁸

"In principle, this right [to inheritance, absent a will] is supposed to be gender neutral but ground reality is different. Women are definitely discriminated against and [this legal right is] especially used to divest the female heirs in States where they do not [traditionally] stand a share to the property."⁹

How can we assess the impact of gender-equalizing inheritance reform? I use a difference-in-differences research design to assess the impact of laws aimed at equalizing women's rights to inherit land. Between 1976 and 1994, four states equalized Hindu daughters' rights to inherit their parents' ancestral land. 'Treatment' by reform is conditional on two major factors: marriage after reform's implementation and the death of one's father post-implementation.¹⁰ In an ideal comparison, daughters would be randomly-assigned to treatment and control groups, such that their only significant difference is their inheritance rights (equal or unequal). In reality, legal reform created a quasi-random "natural experiment". Although the first criterion - the timing of father's death - is arguably uncorrelated with individual characteristics; the second criterion - the date of one's marriage - is potentially open to manipulation by individuals, either to evade or benefit from reform.

Gender-equalizing inheritance reforms were passed in different years in different states; I exploit this temporal variation in addition to comparisons of individuals across state borders and within families to construct plausible counterfactuals. Using panel survey data for 8,569 households collected by the National Council of Applied Economic Research's Rural Economic and Demographic Survey (REDS), I identify two sets of comparison groups. The first set leverages the geography of state boundaries to identify individuals from geographically- and culturally-similar districts where reform's year of implementation varies due to individuals' location on a given side of state boundaries (see Figure 1).

[Figure 1 about here.]

People in border districts of south India's linguistically-determined states share not only a common geography, climate, languages, and social traditions, but also have common experiences of history, having been a part of common administrative entities for more than two centuries (Ban, Jha, and Rao 2012). I analyze individuals in eleven districts at

⁸ Author's interview of 18 February, 2011 with property lawyers in Vijayawada, Krishna District.

⁹ Statement by Shrimati D. Purandeswari, MP from Visakhapatnam, Andhra Pradesh and daughter of NT Rama Rao, the first Chief Minister to legislate gender-equalizing inheritance reform via the Hindu Succession Act Amendment of 1986, National Lok Sabha debate of 29 August, 2005.

¹⁰ Legislators limited daughters' legal eligibility in response to the custom of dowry: already-married women were excluded from reform on the grounds that they had "already received" their share of property as dowry (Government of India 2005). Altogether, there are four conditions for legal eligibility: the death of one's father after reform's implementation, the absence of a will specifying ancestral property's distribution, the absence of ancestral property's partition, and marriage after reform's implementation. These criteria are discussed at length in the Empirical Methodology & Analysis section.

the tri-state border. I exploit reform's differential timing in the three neighboring states with a common border, pictured in Figure 1.¹¹

Secondly, I create comparison groups by exploiting variation within families that have treated and untreated daughters and live in the four south Indian states to implement reforms at varied times (the three states above and Maharashtra, located north of Karnataka and Andhra Pradesh). In multi-daughter families where fathers pass away after reform, variation in daughters' 'treatment' status is based on whether daughters marry before or after inheritance reform. Comparisons of daughters within the same family allow for measurement of legal impact while controlling for a range of opportunities and values transmitted from parents to children in the family. Most importantly, parents' attitudes towards women's empowerment and legal compliance are unlikely to change as they consider different daughters. Within-family comparisons are essentially a test of inheritance reform's ability to alter families' attitudes toward gender equality in two ways: directly, via ancestral land transfers, and indirectly via daughters' willingness to bear daughters vs. sons.

I find that there is little to no sign of any positive impact of the law on amounts of land inherited by eligible women. Qualitative analysis of the mechanisms behind resistance to reform, based on interviews women, their husbands, local officials and lawyers in the south Indian state of Andhra Pradesh, confirms the widespread ineffectiveness of inheritance reform.

Interviews occurred in districts selected to represent the state's diverse geography, culture and economy, including isolated, hilly Srikakulam and Visakhapatnam districts in the Northern Coastal Andhra region; highly-connected and well-irrigated Krishna district in Central Coastal Andhra; the water-scarce Telangana region's Naxal-affected Khammam district as well as the urban-fringe Ranga Reddy district; and water-scarce, politically-energetic Anantapur district in Ryalseema (Figure 3).

[Figure 3 about here.]

Empirical evidence suggests that local officials' resistance to the law is one of the key reasons for land reform's weak net impact in rural India. Legal enforcement depends on local officials' willingness to act in accordance with the law – both by facilitating the equitable distribution of land inheritance absent wills, and by sanctioning individuals who violate the law. Intuitively, we would expect officials' enforcement to vary in rigor depending on their perception of the law's salience and enforcement's cost, as well as the local institutional environment in which they operate.¹² Questions in NCAER's REDS allow me to measure one key factor determining the cost of enforcement: local

¹¹ NT Rama Rao's Telugu Desam Party initially implemented the Hindu Succession Act Amendment in Andhra Pradesh as of 1986, followed in 1989 by the Dravida Munnetra Kazhagam under Muthuvel Karunanidhi in Tamil Nadu, and subsequently, in 1994, by the Indian National Congress led by M. Veerappa Moily in Karnataka and led by Sharad Pawar in Maharashtra.

¹² A forthcoming paper will examine which socio-political factors explain village-level gender-bias in officials' accountability.

officials' accountability to men vs. women. Local officials' potential for complicity in resisting reform is high where officials are accountable to male household heads, who benefit from the *status quo*. Officials' potential for compliance with reform is high where they are accountable to women who may benefit from changing the *status quo*.

To assess gender bias in official accountability more systematically, I leverage two survey questions about local officials' responsiveness: (1) How easy it is for male household heads to hold officials accountable?¹³ And (2) How easy it is for a mother to hold the local government head [*Pradhan*] accountable?¹⁴ I find that where officials are responsive to the demands of male household heads, collusion to subvert the law is evident. Daughters receive shares of inherited land that decline, at the margin, by twenty percent relative to equality as a result of local officials' accountability to household heads. However, where local officials are perceived as responsive to women's demands, reform results in an increase of 20 to 40 percent in the equity of daughters' land inheritance shares, which is statistically-significant when accounting for time trends using fixed effects for the household head's year of birth. Secondary analysis's initial findings confirm that measures of officials' accountability are exogenous to potential changes in local officials' behavior induced by inheritance reform itself.¹⁵

This paper fills a gap in existing theories of the political economy of gender and land rights reform. Prior work has identified the informal power of political networks in realizing land rights, but has yet to capture formal local politics' influence on gender-equalizing land inheritance reform.¹⁶ These results suggest that resistance to gender equity in land inheritance is highly political and highlight the importance of local political institutions in legal implementation. In particular, this paper demonstrates that legislative reform's ability to create gender-equal land inheritance depends on *the identity of the citizens to whom* local officials are accountable. Put differently, legal implementation is a political rather than a mechanical process: changing the letter of the law is meaningless without understanding the political dynamics of legal enforcement at the local level. I interpret these findings to emphasize the importance of engaging both political institutions and the stake-holders who support existing social norms in order to make gender-equalizing legal reform effective.

¹³ NCAER's 2006/8 REDS asks: "How easy is it for you to hold local officials accountable for the functions they are supposed to be performing?" Responses are based on a discrete scale that ranges from 1 (impossible) to 5 (no problem at all). Figures are averaged at the household level, based on all available resident household members' responses.

¹⁴ NCAER's 2006/8 REDS asks: "Meenakshi, the four-year-old daughter of Rajesh fell ill after eating the food provided by the noon meal programme. When Lakshmi, the wife of Rajesh went to complain to the school, she was rebuked and asked to talk to the *Pradhan* [Panchayat President]. She has since asked Rajesh to talk to the *Pradhan*. [ASK] How easy is it for Lakshmi to hold the local officials accountable for performing their functions?" Responses are based on the same scale as the first accountability question (above).

¹⁵ Subsequent work to identify the sources of local officials' accountability to women vs. male household heads will be presented in another paper by the author, on which work is underway. Instrumental variables analysis to preclude concerns of endogeneity is described in the paper's concluding discussion.

¹⁶ Dunning and Nilekani 2009; Goldstein and Udry 2008; Luke and Munshi 2011; Pande and Udry 2005.

Assessing Reform's Impact

An influential body of scholarship on law and society claims that the law can be a powerful tool for altering social conventions via its ability to make the costs of non-compliance with progressive law greater than the net benefit of support for social norms.¹⁷ If so, Indian states' reforms equalizing daughters' right to inherit their parents' ancestral land on par with sons' – via amendments of India's Hindu Succession Act of 1956 – should roughly equalize daughters' inheritance shares. These amendments, hereafter collectively referred to as either the HSAA or 'reform', equalized daughters' right *upon birth* to inherit a share of joint family property.¹⁸ The HSAA's reform of inheritance is significant because the majority of land in rural India remains jointly owned, and because pre-reform, sons were the only children entitled *by birth* to inherit independent shares in jointly owned land.¹⁹

Prior analysis of reform's impact supports the conventional wisdom, finding a significant, positive impact of the HSAA on daughters' inheritance (Goyal, Deininger, and Nagarajan 2012). In contrast to the contemporary consensus, I find that there is little-to-no sign of any positive impact of reform on the equity of land shares inherited by eligible women (Table 1). This finding runs counter to prior work by Goyal et al. (2012), due to three important improvements in estimating reform's impact. First, I employ a dependent variable which allows a precise test of reform's ability to alter *gender equality* of inheritance shares, rather than using rough indicators of equality such as changes in daughters' net probability of inheriting land. Second, I use measures of legal eligibility that conform to the letter of the law, which includes conditions not acknowledged in prior work. Third, I create comparison groups that construct relatively more plausible counterfactuals of daughters' inheritance absent reform.

[Table 1 about here.]

The paper proceeds by outlining the relevant data, quantitative strategies of assessing reform's direct impact, and findings. Its next section uses qualitative work to explain the finding of reform's null impact on the equality of daughters' inheritance shares as a result of political and social resistance to reform. The qualitative section concludes by outlining the potential heterogeneous effects of reform based on the nature of local political resistance. The final two sections analyze and discuss the heterogeneous effects of reform on daughters' land inheritance, conditional on local political officials' accountability to men vs. women. Using both qualitative and empirical analysis, this paper is able to confirm and explain findings by an emerging body of work that hints at inheritance reform's inability to move daughters' land inheritance shares significantly closer to equality (Roy 2012) and suggests reform's significant potential to harm women (Rosenblum 2011).

¹⁷ Aldashev et al. 2012; Mackie 1996; Posner 2000; Schelling 1960.

¹⁸ For the legal text and precedents, see Desai 2010. For additional interpretation, see Agarwal 1994 and Roy 2012. Amendments were passed by Andhra Pradesh (1986), Tamil Nadu (1989), and Karnataka and Maharashtra (1994).

¹⁹ Roy and Tisdell 2002; Roy 2012.

Data

Following prior work on the HSAA, my primary data set is drawn from the National Council of Applied Economics (NCAER)'s Rural Economic and Demographic Survey (REDS).²⁰ This nationally-representative panel survey covers 8,659 households from 240 villages in 17 states of rural India in its most recent 2006/8 round. In addition to the standard set of demographic questions, the survey records all land transfers across three generations: the household head's parents, the head along with his siblings and spouse, and children. A third, relevant segment of the questionnaire individually asks the household head, spouse, and additional adults residing in the household about their participation in, and perceptions of local governance.

The dependent variable of interest is the equality of an individual daughter's land inheritance share. This is measured as the difference between the fraction of parental landholdings a given daughter, i , inherits and the fraction of landholdings she would inherit upon equal division of the deceased head's land amongst his inheritors,²¹ within a given natal household h , living in state s , where the natal household head (the father) is born in year t : $\frac{\text{Acres inherited}_{ist}}{\text{Acres inheritable}_{hst}} - \frac{1}{\#\text{inheritors}_{hst}}$. This variable ranges between -1 and 1. The difference between daughters' actual and fair share approaches -1 if daughters inherit nothing but constitute nearly all of inheritors. It approaches 1 if daughters inherit all land and constitute virtually none of the inheritors. Across households in the tri-district border region, the average difference between daughters' actual and fair share is -0.18. This means that women inherit 18 percent less of the household's land than they would under a fair distribution of inheritance, in line with reform. If reform increases gender equity, the difference between daughters' actual and fair share should move towards zero (equality).

For intra-household comparisons of daughters married before vs. after reform, I simplify the dependent variable of interest to account for the fact that comparisons occur within the same household, with a constant number of inheritors. The dependent variable of interest becomes the share of land that a given daughter, i , inherits, relative to another daughter in the same natal household, h , based in state s , with the natal household's head born in year t : $\frac{\text{Acres inherited}_{ist}}{\text{Acres inheritable}_{hst}}$.

The independent variable of interest, eligibility for legal reform, is based on the HSAA's conditions. Specifically, state amendments equalized rights to inherit ancestral land for Hindu women (80 percent of India's population)²² who meet four conditions: their

²⁰ Both Goyal et al. (2012) and Roy (2012) analyze data from NCAER's REDS. This paper follows Goyal et al. in using the most recent round of REDS with the most comprehensive questions on women's landholdings, from 2006/8.

²¹ I calculate the number of persons legally-entitled to inherit the household head's land as the sum of the family's daughters, sons, and the surviving spouse. Technically, inheritance for a jointly-owned property extends across three generations. When dividing a father's inheritance amongst his successors, this would mean that a head's children and his children's children inherit. I simplify this scenario to consider only the first generation of descendants.

²² India's personal, or religion-specific law, defines Hindu law as applicable to all individuals of Hindu, Buddhist, Sikh or Jain religions. For the sake of simplicity, I refer to this group of individuals by their legal status, e.g. as collectively "Hindu".

fathers pass away after the law's implementation, absent a will specifying the distribution of ancestral property and absent partition of the father's ancestral property, and who marry after the law's implementation (Desai 2010). Given that partition is nearly-always completed by inheritors after a fathers' death and will-writing remains an infrequent practice, there are two key conditions for eligibility: the timing of fathers' death and of daughters' marriage. I measure legal eligibility as a dummy variable, set to one if fathers pass away post reform and marriage occurs post-reform, and zero otherwise. In order to avoid bias induced by culture, wealth, or the experience of a fathers' death, I limit comparisons to the subset of siblings in Hindu, landholding families whose father has passed away prior to survey collection (2006/8).²³ However, in order to deal with additional sources of bias, I tightly construct comparison groups that create plausible counterfactuals regarding behavior in the absence of reform, as explained below.

A second dataset is drawn from qualitative interviews with rural women, their husbands, lawyers, activists, and local officials within land revenue departments, the judiciary, the police, panchayats, and other, locally-appointed bodies. These interviews were primarily conducted in the south Indian state of Andhra Pradesh, which pioneered inheritance reform. I selected six districts in which to conduct my interviews in order to represent the state's diverse geography, culture and economy. Districts include isolated, hilly Srikakulam and Visakhapatnam districts in the Northern Coastal Andhra region; highly-connected and well-irrigated Krishna district in Central Coastal Andhra; the water-scarce Telangana region's Naxal-affected Khammam district as well as the urban-fringe Ranga Reddy district; and water-scarce but politically-energetic Anantapur district in Ryalaseema region.

Villages were selected to represent varied access to information (high and low education levels) and levels of women's equality (relatively high and low ratios of women-to-men). Village selection was based on census data, such that villages were first stratified according to the criteria explained above, and then randomly selected within each stratum. Interviews occurred in subsets of the randomly selected villages, based on access generously provided by the Society for the Elimination of Rural Poverty (SERP). I also attempted to balance numbers of landless and landed women, educated and uneducated women, women from upper and Scheduled Castes, and members vs. non-members of village associations. Focus group interviews usually consisted of approximately 8 women, with a mix of closed and open-ended questions to gauge resource distribution and attitudes towards reform. Altogether, I conducted interviews in 48 villages, including small, focus-group or individual-level interviews with 692 individuals, and large group interviews with just over 500 individuals.²⁴ The following section begins by presenting quantitative strategies of analysis and findings, followed by

²³ Additionally, to avoid bias due to national, gender-equalizing inheritance reform in 2005, I limit the sample to siblings whose father passes away prior to 2005.

²⁴ Large group interviews range from 35-100 people, and represent the early portions of fieldwork, mainly between 5-16 April, 2010, when I was still working to formulate appropriate coordination and communication strategies in gathering *small* focus groups.

the paper's qualitative analysis and its findings on gender-equalizing inheritance reform's limitations.

Empirical Strategy & Analysis of Reform's Impact

The ideal measure of reform would assess the impact of random assignment into treatment groups, with gender-equal inheritance rights, and control groups, with the prior status quo of gender-unequal rights. Random assignment would create two comparable groups whose only significant difference is their legal inheritance rights. In this case, we could definitively isolate the causal impact of 'treatment' by inheritance reform. In reality, inheritance reform created a quasi-random "natural experiment," where women's inheritance rights were determined by a combination of both nearly-random and potentially non-random factors. I assume that eligibility criteria for gender-equal inheritance rights such as the marriage date can be manipulated, whereas the date of fathers' death is indeed random. To account for potential manipulation of partition and marriage dates, I select comparison groups that are highly unlikely to be biased by manipulation.²⁵ With regard to fathers' potential 'legal' manipulation of daughters' eligibility via writing wills, the paucity of data on this phenomenon make it difficult to measure. A significant practice of will-writing would bias estimates of legal impact downward, towards a null effect. As a result, this investigation can be viewed as a hard test for legal impact – any measured effect is unlikely to capture the full magnitude of legal impact. Interviews indicate that will-writing is infrequent enough to introduce at most a minor downward bias on estimates of legal impact.²⁶

In order to create comparable groups of women that approximate the balanced sets of individuals that would result from random assignment to treatment and control groups, this paper proposes two major strategies: (1) utilizing geographic boundaries, and (2) family structures, which are described in the following sections.²⁷ Once we have constructed appropriate comparison groups, we use difference in differences OLS regression analysis, comparing the equality of land inheritance amongst daughters with fathers who died before and after reform across groups of women who marry before and after reform. The difference in differences estimate can be interpreted as the causal impact of legal reform, under the assumption that daughters in treatment vs. control

²⁵ Partition post-reform may not be random if male inheritors pre-date partitions such that they appear to occur pre-reform. Fraudulent partitions should become increasingly-difficult to enact beyond the first year of reform's implementation. To exclude such manipulation, the smallest window of time in which the paper examines reform's impact is in the five around reform. Marriage post-reform is potentially non-random if reform was expected to be significant and implementation's timing was well-known in advance. If so, parents with daughters of marital age wishing to evade the law could arrange daughters' marriages pre-reform. To avoid treatment bias due to strategically-timed marriages, this paper limits "treatment" and "control" groups to the most comparable individuals and families possible.

²⁶ Written wills appear extremely rare. In contrast, the practice of making *sada beinama* or oral contracts formalized in the presence of village elders is popular in Andhra Pradesh. Use of these informal contracts in court is complex and contested.

²⁷ A third strategy, leveraging groups ineligible for reform based on their landholding status as a placebo group, yields the same results as the two major strategies for constructing comparison groups. Results are available upon request.

groups would arguably be subject to similar constraints determining inheritance distribution absent reform. In regressions, the control group consists of daughters with fathers' deaths and/or marriages prior to reform.²⁸ The descriptive statistics presented in Figures 3-5 suggest this assumption is valid. Standard errors are clustered at the village level, which was the unit at which survey teams operated.

Fixed effects are included to control for persistent differences across states. Time fixed effects, based on a given daughter's year of birth, are used to control for regional time trends in the distribution of inheritance to daughters. Control variables are based on the characteristics that vary significantly according to the descriptive statistics. These variables include indicators of daughters' years of schooling, caste status, the level of monetary dowry paid by a daughter's family to her husband's family upon marriage, and the number of daughters in a given family. The remainder of this section explains each strategy of creating appropriate comparison groups and describes the results of OLS regression analysis for each comparison group.

Geographically-based Comparison Groups

The geography of state boundaries provides an ideal method for constructing a sample of individuals from geographically- and culturally-similar districts with different timing of reform's implementation. The 1956 demarcation of territory once contained in the British Colonial provinces of Bombay, Madras, Coorg and Cochin as well as in the Princely states of Mysore and Hyderabad into linguistically-based states was particularly messy along the multi-lingual, multi-cultural borders of the resultant South Indian states, as explained by Radu Ban and his co-authors (Ban, Jha, and Rao 2012, 7-10). As a result of the messiness of state formation at these border zones, the population residing in border districts shares not only a common geography, climate, languages and social traditions associated with languages. They also have a common experience of history, having been a part of common administrative entities for over two centuries (Ibid).²⁹

The neighboring states of Andhra Pradesh, Tamil Nadu and Karnataka, whose territories intersect around Andhra Pradesh's southern and south-western borders (respectively), enacted inheritance reform in different years (1986, 1989 and 1994, respectively). Reform's differential timing is driven by the challenges of assembling political coalitions for reform, rather than by fundamentally different political, social or economic institutions. In each state, social reformers were able to build political consensus that gender-equalizing inheritance reform was an effective tool for capturing the increasingly-important female vote (Kohli 1994; Nelson 2011). Once elites observed reform's vote-garnering potential, reform's implementation hinged on the time-consuming process of assembling legislative coalitions. Reform's differential timing is thus best-understood as a reflection of the transmission time required to observe and

²⁸ Analysis follows Goyal et al., Roy, and Rosenblum in using difference in difference estimations.

²⁹ Radu Ban, Saumitra Jha and Vijayendra Rao provide a much tighter comparison of "mistakes" on the borders of modern South Indian states. Unfortunately, exact replication of their methodology is not possible with REDS data.

replicate effective vote-garnering strategies by similar political parties across state borders.

Comparing individuals in neighboring districts at the tri-state border creates a group of people from similar places whose exposure to inheritance rights depends solely on their placement relative to state borders. State borders' location is based primarily on the dominant linguistic group in a given region (Telegu speakers in Andhra Pradesh, Tamil in Tamil Nadu and Kanada in Karnataka). However, the groups at these regional borders share significant linguistic and cultural characters which make the placement of state borders essentially random as cultural markers.

The National Council of Applied Economics' Rural Economic and Demographic Survey (REDS) allows for comparison of eleven districts around the three states' borders: Chittoor and Anantpur in south western Andhra Pradesh; Chennai, Vellur and Kancheepuram districts in northern Tamil Nadu; and Raichur, Bellary, Bangalore, Bangalore-Rural, Chitradurga and Kolar districts in eastern and south-eastern Karnataka, as identified in Figure 1. The district's specific locations are shown in figure 2.

[Figure 2 about here.]

Additionally, the descriptive statistics presented in Figure 4 confirm that families living at these state borders do not differ significantly based on whether or not they are "treated" by reform.³⁰ "Treated" and "untreated" daughters are born into families with statistically-similar characteristics, particularly in terms of the characteristics that are likely to drive their ability and interest in complying with inheritance law, including: mothers' and fathers' levels of education (according to years of schooling), number of children, and the acreage of land owned. Members of Scheduled Castes and Tribes are a minority in both groups.

[Figure 4 about here.]

Overall, Figure 4's descriptive statistics confirm that the geography of state borders allows us to create a statistically-similar group of individuals 'treated' and 'untreated' by reform such that we can create a reasonable approximation of random assignment to treatment and control groups. This subset of REDS data provides one way to measure reform's impact independent of variation in culture, geography, and political and economic institutions.

Geographically-bounded Comparison Groups' Analysis

The analysis of inheritance reform's direct impact across families, for the sample of households living in districts at the tri-state border, calculates the following OLS regression:

³⁰ "Treated" individuals are those who are eligible for gender-equal inheritance rights, e.g. women whose fathers die after inheritance reform and who marry after reform.

$$\frac{\text{Acres inherited}_{i\text{st}}}{\text{Acres inheritable}_{h\text{st}}} - \frac{1}{\#\text{inheritors}_{h\text{st}}} = \beta_0 + \beta_1 \text{Death}_{i\text{st}} + \beta_2 \text{Marriage}_{i\text{st}} + \beta_3 \text{Death}_{i\text{st}} * \text{Marriage}_{i\text{st}} + \sum_s \text{State Effects}_s + \sum_t \text{Time Effects}_t + \gamma \text{Controls}_{i\text{st}} + \varepsilon_{i\text{st}} \quad (1)$$

As explained in the data section, the dependent variable is equality of a given daughters' land inheritance share, for a given daughter i , from natal household, h , living in state s , and born in year t . Negative fractions indicate a daughters' share is smaller than equality, and positive fractions indicate her share is greater than equality. The independent variable of interest is the interaction of the "Death" and "Marriage" indicator variables, which is set to one when a daughter is eligible for gender-equal inheritance rights and zero otherwise. As such, β_3 is the coefficient of interest, which measures the effect of eligibility on the equality of a given daughter's share of her family's land inheritance.

The results presented in Table 1 provide a useful comparison of the contrast between prior measures of reform and the innovations applied in this paper. The first column presents the measure of reform used by Goyal et al. (2012), based solely on the timing of fathers' death (pre- or post-reform). When ignoring the second eligibility criterion – the timing of one's marriage – and comparing behavior within the full sample of states, reform's impact is positive, as Goyal and her coauthors find.³¹ Reform's impact remains positive but becomes statistically insignificant when using geographically-bounded comparison groups (Column 1). The result remains unchanged after applying the legally-appropriate measure of reform (Column 2). Columns 3-7 attempt to capture the immediate impact of reform on behavior by narrowing the sample to include only those daughters whose fathers pass away within five years of reform. Although reform appears to have a significant, positive impact for this narrower group (Column 3), the result is neither robust to inclusion of controls for individual characteristics nor inclusion of state fixed effects to capture state-specific inheritance trends. Overall, Table 1's difference in difference estimates indicate that reform has a positive but insignificant direct impact on daughters' inherited share of their natal family's land.

Family-based Comparison Groups

An alternate means of creating as-if randomly-selected groups of individuals who are treated and untreated by reform is to compare daughters within the same families. In multi-daughter families where fathers pass away after reform, there may be variation in daughters' 'treatment' status based on whether daughters marry before or after inheritance reform. Comparisons of daughters within the same family allow for measurement of legal impact while controlling for a range of opportunities and values transmitted from parents to children in the family. Most importantly, parents' attitude towards women's empowerment and legal compliance are unlikely to change as they consider different daughters. Within-family comparisons are essentially a test of inheritance reform's ability to alter families' attitudes towards daughters' empowerment – directly, via transferring ancestral land inheritance to daughters, and indirectly via daughters' willingness to bear and raise future generations of daughters vs. sons. In order to compare daughters who are as alike as possible, and hence who are most likely to be

³¹ Results available upon request.

treated equally within the family, the sample is restricted to daughters who marry within five years of reform. To ensure that the families compared have similar levels of exposure to legal reform, the sample is further-restricted to those families where the father, e.g. the household head, passes away within five years following state-level inheritance reform.

The descriptive statistics presented in Figure 5 indicate that the sub-samples of daughters who are treated and untreated by inheritance reform are balanced in terms of their parents' characteristics (education, number of children, landholding, and membership in scheduled castes and tribes) as well as in terms of daughters' characteristics (education, the educational gap between daughters and their spouses, the monetary dowry received at marriage, and land ownership).

[Figure 5 about here.]

Intra-family Comparison Groups' Analysis

We run the following regression on the sample of households with fathers who pass away in the five years following inheritance reform, for those daughters who marry within five years before or after reform:

$$\frac{\text{Acres inherited}_{ist}}{\text{Acres inheritable}_{hst}} = \beta_0 + \beta_1 \text{Death}_{ih} + \beta_2 \text{Marriage}_{ih} + \beta_3 \text{Death} * \text{Marriage}_{ih} + \sum_h \text{Family Effects}_h + \varepsilon_{ih} \quad (2)$$

where the three indicator variables follow those in Equation 1. In this case, family fixed effects are substituted for state and time fixed effects. Family fixed effects control for the influence of natal family's characteristics on daughters' inheritance. The coefficient of interest remains β_3 , which measures the effects of eligibility for gender-equal inheritance rights on a given daughter's inherited share of her natal family's land, relative to daughters within the same family who are not eligible for gender-equal inheritance rights.

[Table 2 about here.]

Reform's direct, intra-family impact is positive yet insignificant for nearly all specifications in Table 2, confirming the results presented in Table 1. Reform's impact is insignificant for both the over-simplified and well-specified estimates of reform (Columns 1-2). Columns 3-7 report reform's impact for subsets of daughters. Reform is insignificant in most cases: for daughters without any education vs. with at least one year of education (Columns 3-4), whose fathers have at least one year of education (Column 5), and who report dowries of at least Rs. 1,000 (20 USD) (Column 7). Notably, reform has a positive, significant impact for daughters who receive dowries less than Rs. 1,000 (Column 6). This may indicate parents' willingness to substitute land for monetary dowry if daughters marry with little-to-no dowry. Such behavior makes sense if parents distribute land bequests and dowries as incentives to optimize children's investment in agricultural production and minimize free-riding (Botticini and Siow 2003). However,

given the growing popularity and size of monetary dowries in India, the set of women who benefit from such substitution is likely to be very small (Anderson 2003).

Overall, Table 2's estimates indicate that inheritance reform rarely alters the intra-family distribution of daughters' inheritance shares. Given the insignificance of reform's impact across nearly every specification in Tables 1 and 2, it is highly unlikely that reform has a direct impact on either the inter- or intra-family distribution of daughters' inheritance shares.³²

Qualitative Strategy & Analysis of Reform's Impact

To investigate the roots of gender-equalizing land inheritance reform's limited ability to alter behavior, it is necessary understand the political process of legal enforcement in rural south India and its social context. This section analyzes qualitative fieldwork gathered in six districts of Andhra Pradesh (Figure 3). Districts were selected to represent the range of local capacities to supply and demand legal enforcement – based on location near the state government's center (Ranga Reddy) vs. periphery (Srikakulam and Visakhapatnam), as well as in resource-rich regions (Krishna) and resource-poor regions (Khammam and Ryalseema), with various histories of support for vs. contestation of the state (Krishna vs. Khammam).

[Figure 3 about here.]

This section focuses on interviews conducted with local and national political officials, lawyers, academics and activists, with secondary support from interviews with rural agriculturalists, to capture the strategic logic behind enforcement of inheritance reform law. Specifically, this section presents evidence of local officials' strategic calculation of gender-equalizing inheritance reform's enforcement, based on two sets of factors: their ability and willingness to supply enforcement; and local citizens' and groups' demand for enforcement that supports vs. subverts gender-equalizing land inheritance reform. For the sake of expositional clarity, I address these factors independently but request readers to bear in mind the interlinked nature of these phenomena.

Supply-side Enforcement

The relevance of legal title to inherit land begins – and often ends – with access to the Village Revenue Official (hereafter VRO).³³ Indeed, at the village level it is difficult to distinguish the “State” from the land revenue bureaucracy. As Andhra Pradesh's most recent Special Chief Secretary, Smt. Minnie Mathew, IAS explains to VROs: “you are

³² As mentioned in the Data section, an additional counterfactual analysis is possible by considering a ‘placebo group’: daughters who are never exposed to inheritance reform because they are born into landless households, for whom land inheritance reform is irrelevant. Analysis of hypothetical treatment and control groups (based on the timing of fathers' death and daughters' marriage) confirms the results presented in Tables 1 and 2, and is available upon request.

³³ VROs' title varies: *karnam*, *lekpai*, *munsiff*, *Panchayat* secretary, *patwari*, village assistant, village land revenue officer, or *watandar* are also used, depending on the region and the type of land revenue bureaucracy that existed pre-Independence.

the eyes, the ears, and the face of the government, because at the village level you *are* the government” (Mathew 2012).

Officially, the village revenue officer is responsible for maintaining, monitoring, and transferring records of land titles and land cultivation and collecting relevant taxes (Baden-Powell 1882; Government of India 2008).³⁴ The VRO’s enforcement of gender-equal land inheritance arises as a result of individual requests to transfer land title to their name.³⁵ Unofficially, enforcement varies greatly with “local understandings of the law. This includes whether or not the *patwari* [VRO] is willing to write down women’s [ancestral land] shares and whether women can demand partition or not.”³⁶ Officials’ willingness to transfer land titles may be influenced by pressure from local political officials or community groups such as elders or organized constituencies, as well as officials’ related analysis of a given transaction’s costs versus its benefits, based both on the request’s salience amidst a wide range of official duties, and its informal implications: the potential for side-payments from related parties and its ability to alter an official’s reputation for efficacy and fairness.

How much do expectations of personal rewards color officials’ legal “understanding” and enforcement? One high-ranking land revenue administrator acknowledged that although the official fees associated with ‘mutation’, e.g. transferring land title following a family member’s death are only Rs. 10 (25 cents), the process is “actually very expensive”.³⁷ Enforcement’s expenses, both for officials and individuals, extend beyond time costs – the 30-45 days required for officials to issue circulars announcing a mutation and the associated process of soliciting and considering family members’ objections. They also encompass a range of informal side-payments that could include money required to convince the VRO to locate, update, sign, and share the relevant files (title deeds, cultivation records, and/or passbooks) and, outside the revenue system, to convince a range of intermediaries to move a given case forward as expediently as possible within India’s unwieldy bureaucracy (Galanter and Dhavan 1989; Reddy and

³⁴ When applicable, village land revenue officers also collect land taxes and record cultivators’ payment.

³⁵ Ancestral land acquired by succession is jointly-held by all eligible family members (coparceners) until partition is requested. If partition is agreed upon by all, the individuals requesting partition acquire their shares of ancestral land as privately-held property. State-level amendments to the Hindu Succession Act require the local VRO to transfer (mutate) equal shares of ancestral land to daughters, sons and the surviving spouse, for all legally-eligible individuals (based on father’s date of death, daughters’ marriage date, the absence of a will and the absence of the land’s prior partition). Transfers are initiated upon a surviving family member’s request to register a land acquisition. To formalize land titles, individuals are required to register land acquired by succession and other means with the VRO, within 90 days of their acquisition (Andhra Pradesh 1993). Following a request, the VRO is required to publish the request and solicit objections from the other coparceners – that is, all family members entitled to jointly own the ancestral property (Andhra Pradesh 1993). Disputes about land title and succession are adjudicated within the land revenue bureaucracy’s judicial system. In principle, the VRO’s default procedure would be to register all coparceners as joint owners absent valid legal objections.

³⁶ Personal interview with Bina Agarwal, New Delhi, India, 8 December, 2009.

³⁷ Personal interview with Joint Collector for Warrangal District, Andhra Pradesh, 8 November, 2010.

Haragopal 1985).³⁸ In fact, local land revenue officials have historically been vilified as the “white ants that eat away at the umbrella of the state” (Frykenberg 1965).

Strikingly, interviews with land revenue officials suggest that the root of variation in “local understandings of the law” is not corruption but rather the disjuncture between legal principles and social norms. As Indian legal scholar Marc Galanter explains: “a high value is put on the symbolic outputs of the law, and there is a broad tolerance of the discrepancy between the law on the books and social practice” (Galanter 1978, 496). This discrepancy was especially clear after I spoke at length with a longstanding member of the land revenue bureaucracy in Andhra Pradesh who claimed that “post-1986 [after the Hindu Succession Act Amendment] all daughters are getting equal shares of land so contestation [of inheritance] is not necessary”.³⁹ Yet once the interview concluded and I had left the official’s office, his subordinates –VROs– explained their reluctance to transfer land inheritance to daughters unless all family members agreed, “to avoid causing discord or trouble in the family”.⁴⁰

VROs’ reluctance to enforce inheritance reform is widespread: out of 1,192 interviews across Andhra Pradesh, no one reported receiving ancestral land due to a VRO-initiated land transfer. VRO’s absence in transferring ancestral land to women appears pointed, given that their responsibility to enforce women’s inheritance rights has existed for a quarter century in Andhra Pradesh. The absence of legal enforcement is particularly astonishing throughout a time period when the “Andhra model” has become synonymous with “smart governance,” which increases local government’s transparency, effectiveness, and engagement with marginalized groups (Mooij 2003).⁴¹ Indeed, as of 2005 Transparency International ranks Andhra Pradesh as the fourth-to-least corrupt state in India out of the 20 ranked states (Bussell 2012). In light of the relative strength of Andhra Pradesh’s state capacity, this divergence between officials’ enforcement behavior and the letter of the law begs the question: how does the law alter the local *demand* for enforcement from rural landholders? The next section seeks to answer this question.

Demand-side Enforcement

Gender-equalizing land inheritance reform alters two facets of individual-level demand for enforcement by local officials, as seen through the lens of my fieldwork in Andhra Pradesh: first, within the law, landholders demand local officials’ collusion in manipulating inheritance law. In contrast, daughters’ individual-level demands for enforcement of gender-equal inheritance rights are nearly non-existent, due to their cost-benefit assessment, where the costs of breaking relationships with the natal family as a result of demanding legal inheritance rights outweigh the benefits of legal rights. Second,

³⁸ Confirmed by personal interview with Joint Collector for Warrangal District, Andhra Pradesh, 8 November, 2010.

³⁹ Personal interview with a Land Revenue Administrator, Khammam District, Andhra Pradesh, 25 March, 2010.

⁴⁰ Ibid.

⁴¹ SMART governance refers to “simple, moral, accountable, responsive and transparent” governance.

individuals aggregate in groups to informally demand enforcement in light of women's legal rights.

Demand for enforcement by heads of landholding households, who seek to manipulate reform's impact via collusion with local officials, appears to have grown as a result of inheritance reform. Such demand, while legal, is aimed at legal evasion through either an increased focus on the registration of oral wills or by selectively-consulting family members before registering transfers of land inheritance. Wills enable their writers – household heads – to make daughters ineligible for gender-equalizing inheritance reform, as reform only equalizes daughters' land rights if the prior household head (father) dies without a will. Low levels of literacy are a barrier to widespread writing of formal wills for all but the most lucrative plots of land.⁴² However, oral wills are recognized within Andhra Pradesh as *sada beinama* (white papers) with legal standing (SERP 2010). One land revenue administrator in the Telangana region of Andhra Pradesh claims to have seen a significant increase in the registration of oral wills over the past decade, following rising land prices and growing legal awareness.⁴³ Enforcement of oral wills, when they are contested, generally requires collusion with local officials to ensure respect for the implicit, unwritten contract between the household head and his inheritor(s).

Although the content of wills need not disempower women, it often does.⁴⁴ As explained by Sharad Joshi, a member of Maharashtra state's Legislative Assembly who spearheaded the *Lakshmi Mukti Karyakram* campaign for women's land rights: "Hindu society started created wills when they learned that they could use them to disinherit daughters."⁴⁵ In legislative debates over passage of national inheritance reform, the daughter of Andhra's reformer NT Rama Rao, Shrimati D. Purandeswari, explicitly argues that wills are a means of using legal institutions to abnegate women's inheritance rights: "In principle, this right [to draft a will] is supposed to be gender neutral but ground reality is different. Women are definitely discriminated against and [this right is] especially used to divest the female heirs in States where they do not [customarily] stand [to receive] a share to the property (Government of India 2005).

VROs frequently collude with male family members, transferring land records to sons after fathers' deaths.⁴⁶ VRO collusion with sons is possible due to two factors – distance and a dearth of records. Daughters usually move away from home to a distant village upon their marriage, making coordination with them at the time of mutation easy to overlook. Additionally, "since there is still no compulsory registration for wills", VRO's discretion is paramount in determining family preferences for the distribution of

⁴² Personal focus group interviews conducted with rural agriculturalists in Rangapuram Village, Konchikarcherla Mandal, Krishna District, 16 April, 2010.

⁴³ Personal interview with Land Revenue Administrator, Khammam, Andhra Pradesh, 25 March, 2010.

⁴⁴ Personal interview with Ex-Deputy Collector, Raja Rao, on 24 March, 2010. This interview confirmed widespread consensus across interviews with current and former land revenue officials, political officials, lawyers, and extensive review of land revenue records.

⁴⁵ Personal interview with Sri Sharad Joshi, MLA, Maharashtra, in Delhi, India, 20 January, 2012.

⁴⁶ Personal interview with S. Sambasiva Reddy, LLM, and Ms. Radhika, LLM." Vijayawada, Krishna District, Andhra Pradesh, 18 February, 2011.

inheritance.⁴⁷ VRO's actions to undermine daughters' inheritance constitute collusion to manipulate, and resist, inheritance reform.

Daughters' demands for enforcement of their legal rights could plausibly counterbalance male household heads' frequent demands for VROs to collude in manipulating inheritance reform. As mentioned above, absent daughters' demand for their legal share of inheritance, VROs are highly reluctant to transfer inheritance to them, but this doesn't explain the absence of daughters' requests for inheritance.⁴⁸ Yet, in over 80 percent of nearly 1,200 interviews with rural agriculturalists, both women and men described attempts to equalize daughters' inheritance rights as intractable. Why?

Daughters' reluctance to demand inheritance is based on the understanding that this request – as a dramatic departure from current norms – would sever all ties with their natal family. Nearly every woman interviewed claimed they would never demand land inheritance from parents. In one woman's words: “if we raise a case [for land inheritance] then we'll lose the relationship, so it's better to let it be”⁴⁹

According to popular customs, marriage normatively and physically displaces women from their natal family to their husband's family. The gift of dowry, despite its illegality, severs parents' material obligations to daughters. Although this money is mainly consumed by wedding celebrations, the dowry is traditionally regarded as a daughter's “fair” share of her parents' inheritance. In fact, dowry is often expensive enough that: “soon after the birth of the girl most parents are terrified thinking about the responsibility of marrying her...”⁵⁰ In addition, the physical distance between daughters' natal and marital homes is usually wide enough to limit the maintenance of social ties. At the same time, dowry seals a husband's family's responsibility for the bride's security.

Despite the symbolic security of marital vows and dowry exchanges, most daughters work to maintain their natal family's good will as a secondary source of security, should less deeply-rooted ties with their marital family be uprooted by widowhood, abandonment, or abuse. The knowledge that rising dowries are associated with rising mistreatment of brides makes such concerns eminently practical.⁵¹ One woman from a small village at the edge of Andhra Pradesh's capital explains the cost-benefit analysis precisely: “Relations are more important than money [via land inheritance]. Money is needed now, but relations are important in the future. This is why we don't fight with our parents. We lose our security if we fight with our parents, if [I then] have a problem with my in-laws. This is why everyone keeps quiet”.⁵²

The worst-case scenario of daughters' demands is vividly portrayed in one story:

⁴⁷ Ibid.

⁴⁸ Personal interview with a Land Revenue Administration, Khammam, Andhra Pradesh, 25 March, 2010.

⁴⁹ Personal interview in Chakkapalli, Musumur, Krishna District, Andhra Pradesh, 10 April, 2010 (R1).

⁵⁰ Pal Chowdhury (1914: 42-43) Sachitra Panapratha, c.f. Majumdar 2009: 114.

⁵¹ On the association of dowry payments and violence against women (dowry harassment), see Bloch and Rao (2002). On the rising price of dowries, see Anderson (2003).

⁵² Personal interview in Rayaprolu, Ranga Reddy, Andhra Pradesh, 17 February, 2011.

“A woman from K_ village, Amma, filed a case in the court against her brothers and parents, seeking share in their property. She got her share through the court. But, when she dragged them to the court, her elder brother died of cardiac arrest, while [her] parents suffered badly. They severed the relationship with Amma. They don't allow her visit them nor do they visit her. The people say that she had won the property but had lost the parents. Some people say that [a] daughter can stake claim for her share from parents' property but not at the cost of the relationship. It was a lesson for all of us in the village.”⁵³

In light of the significant relational and security-based cost of demanding property rights, daughters' widespread decision not to 'rock the boat' is rational. In the words of one woman in the relatively empowered north-eastern region of Andhra Pradesh: “We know we have equal rights, but they [parents] won't give, so we won't ask.”⁵⁴

Parents' support for patrilineal inheritance reform is undergirded by a household-level political economy of extensive capital investment in sons to secure long-term support for elder parents.⁵⁵ Over ninety percent of the 692 women in focus groups planned to live with sons. Mothers frequently made the connection between sons' care and inheritance explicit: “Because I have to stay with sons only, not with daughters, so I [will] give to sons only.”⁵⁶ The normative and physical constraints that break parents and daughters' bonds at marriage also make adult daughters unable to credibly commit to support elder parents. As a result of these 'sticky' norms and the household-level political economy that supports them, inheritance reform rarely alters parents' reluctance to transfer land to daughters.

Given the limited demand for daughters' inheritance due to the combination of daughters' rational assessment of inheritance's cost and male household heads' collusion with local officials, why do some women inherit land? Outside the law's formal domain, pressure groups may organize, sometimes to demand land on behalf of daughters who have no alternative for survival, and other times to evade reform's impact.

Social pressure is regularly used by a range of coalitions forged due to common political or socio-economic goals, who leverage reform to consolidate local control.⁵⁷ For example, Matthew Nelson describes pressure groups unified by “kinship-based notions of ... 'custom', tied to specific expressions of kinship-based economic and political solidarity” who use legal reform as a tool for consolidating patrilineal inheritance and political power (2011, 3).⁵⁸ Pressure groups also include women's solidarity groups who

⁵³ Author's survey with SERP, 21 February, 2011; TS, Krishna District.

⁵⁴ Personal interview in Chompi, Araku Valley, Vishakhapatnam, 11 November, 2010 (R13).

⁵⁵ This logic is developed at length in a companion paper on reform's unintended consequences. Additionally, evidence of a relationship between care for elder parents and patrilineal inheritance, both in India and more globally, can be found in Anderson (2003), Botticini and Siow (2003), Fafchamps and Quisumbing (2008) and Roy and Tisdell (2002).

⁵⁶ Personal interview in Chennampalli, Bukkarayasamudram, Anantapur, 30 November, 2010 (GroupI.R2).

⁵⁷ Elders are also frequently consulted to resolve inheritance disputes within families. However they generally do not act as “pressure groups” unless the relevant family and village elders share a common goal beyond conciliation. In such cases, they could be classified as a coalition seeking to consolidate local control.

⁵⁸ Although Nelson's cases are based on extensive research in Pakistan's Sialkot District, they also explain the phenomenon Nelson calls “lineage politics” in India.

advocate for women's inheritance rights. These groups can provide significant leverage to women seeking inheritance rights, as is clear from nationally-publicized inheritance cases (*Mrs. Mary Roy Etc. Etc vs State Of Kerala & Ors on 24 February, 1986; Madhu Kishwar & Ors. Etc vs. State of Bihar & Ors on 17 April, 1996; Jane Antony, Wife of Antony vs. V.M.Siyath, Velloparambil on 25 September, 2008; George 2010; Kishwar 1999*).

The solidarity organization that women most frequently cited as their vehicle for legal information and empowerment grew out of Andhra's Self Help Group (SHG) movement, which began in 1979.⁵⁹ As one high-ranking female land revenue administrator explained, "women act differently as individuals versus as groups. As individuals, women [all] face the same social pressures that create the same [patriarchal] dynamics within households. As members of Self Help Groups, women are able to gain a great deal of power."⁶⁰ Specifically, women in SHGs are more powerful because in addition to the pressure of their combined voices, they "operate with large sums of money, have high levels of access to public officials, and have direct access to formal financial capital" (Ibid). Whereas women acting alone rarely have the combination of financial, legal, and social resources to claim inheritance shares in the formal, legal arena, women within SHGs or other "collective vehicles for empowerment" frequently use a combination of social pressure, legal threats and suits to realize inheritance rights.⁶¹

Overt pressure is the most frequent means to secure daughters' land inheritance. Groups often intimidate unwilling family members into relinquishing property through a combination of legally-based threats and implicit, physically-based force evidenced by a group's very presence. The following story encapsulates such pressure:

"Kiran of S__ village was given one acre of land at the time of her marriage. But, when her father, Raju died, her brothers grabbed this one acre from her and refused to give it back. She pleaded with her brothers to give her back the land in vein. Then, she had sought the help of the self-help group in the village. The group members met her brothers and explained to them the legal complications, if they refuse to return her land. They finally agreed and we took them to the registrar office at T__ and got the land registered

⁵⁹ SHGs have a long history in AP, beginning with UNICEF and the Government of India's partnership to implement the Integrated Rural Development Program (IRDP) targeting the poorest of the poor as of 1979. IRDP focused on women as of 1982/3, with the government's creation of the Development of Women and Children in Rural Areas program (DWCRA). DWCRA aimed to provide women with self-employment, empowerment, and a voice in the development process, in part by providing grants for the formation of SHGs as women's-only micro-credit groups. As of 2000, DWCRA's SHGs had evolved to become the core of Andhra Pradesh's *Velegu* (light) project, which sought to reduce poverty via social mobilization. *Velegu* created a parallel set of "self-managed grass-root level institutions" tied to SHGs, and managed by the newly-created Society for the Elimination of Rural Poverty (SERP). One such institution is a set of women's groups organized by SERP's Gender Unit, which will eventually include a representative in every SHG, supported by locally-elected, SERP-trained staff at the village, mandal, block, district, and state level. Currently women's groups are operational in 14 of Andhra Pradesh's 23 districts.

⁶⁰ Personal interview with a Land Revenue Administrator, Khammam District, Andhra Pradesh, 25 March, 2010.

⁶¹ Personal interview with Prof. Vindya, Andhra University, Dept. of Sociology, Visakhapatnam, Andhra Pradesh, 15 November, 2011.

on her name. Today, she is happy with the property. The women in the village have appreciated the initiative of the group in restoring Kiran's land.”⁶²

It is notable that collective action is an equally-amenable means of empowering groups demanding enforcement of social norms in resistance to, rather than in support for, inheritance reform. Given the infrequency of daughters' direct demands for inheritance, it is unsurprising that resistance to their inheritance is generally indirect. Most resistance focuses on precluding daughters from inheritance rather than pressuring women to relinquish inheritance. In extreme cases, women have been “beaten and even murdered under the false pretext of witchcraft to prevent them from exercising their rights to [inherit] land” (Roy and Tisdell 2002, 322).

Overall, this qualitative investigation suggests that political institutions meant to enforce reform are subject to widespread manipulation by local officials who calculate context- and case-specific cost-benefit analyses before determining whether or not to supply enforcement in line with gender-equalizing reform. Additionally, manipulation in the demand for enforcement originates from male household heads (fathers or their surviving sons) who act to collude with officials in manipulating their exposure to reform. Widespread collusion between legal agents and male family members suggests that rather than reforming behavior, new legal rights provide the impetus for new forms of legal manipulation. In contrast, daughters' cost-benefit analysis of inheritance rights makes demand for the law's enforcement irrational. Finally, extra-legal pressure groups can, and often do organize to demand that local officials enforce a particular distribution of inheritance rights. Such collective action may either support or contradict reform's goals.

These findings of reform's large-scale manipulation by local officials in the context of significant pressure by local, male stakeholders and the absence of pressure by individual daughters warrant a closer investigation of inheritance reform's impact. Specifically, qualitative work suggests that reform's impact should vary based on local stakeholders' demands, which can significantly influence local officials' calculation of the costs and benefits of legal enforcement in support of or resistance to reform. The next section operationalizes these findings by examining reform's impact on the equality of daughters' inheritance shares conditional on local officials' varied accountability to men's vs. to women's demands.

Assessing Reform's Impact Conditional on Local Accountability

Contrary to conventional wisdom, this paper's qualitative evidence suggests that legal reform may not only be an ineffective tool for transforming social conventions, but may actually foster resistance that diminishes women's inheritance if the political economy of support for norms remains unchanged. Analysis of officials' strategic behavior suggests that local political officials' resistance to the law is a key explanatory factor for gender-equalizing land inheritance reform's weak net impact in rural India. This section returns

⁶² Author's survey with SERP, 21 February, 2011: VL, Krishna district.

to NCAER's REDS survey data to test the extent to which local officials' interests – based on their accountability to male household heads vs. to women – determines reform's impact.

This analysis is based on the assumption that enforcement depends on local officials' willingness to act in accordance with the law – both by facilitating the equitable distribution of land inheritance absent wills, and by sanctioning individuals who violate the law. Intuitively, we would expect officials' enforcement to vary in rigor depending on their perception of the law's salience and enforcement's cost, as well as the local institutional environment in which they operate. REDS allows analysis of one key factor determining the cost of enforcement: local officials' accountability to men vs. women. Local officials' potential for complicity in resisting reform is high where officials are accountable to male household heads who benefit from the *status quo*. Officials' potential for compliance with reform is high where they are accountable to women who may benefit from changing the *status quo*.

To assess gender bias in official accountability more systematically, I rely on two survey questions to measure local officials' varied responsiveness to men vs. women: (1) How easy it is for male household heads to hold officials accountable?⁶³ and (2) How easy it is for a mother to hold the local government head [*Pradhan*] accountable?⁶⁴ The following two figures summarize regression results, which show a significant, negative correlation between official's responsiveness to the demands of male household heads and reform's impact on daughters' inheritance share (Figure 6). In contrast, reform results in an increase of 20 to 40 percent in the equity of daughters' land inheritance shares when local officials are perceived as responsive to women's demands (Figure 7).⁶⁵

[Figures 6 and 7 about here.]

I interpret these results to indicate that the identity of the individuals to whom local officials are accountable is highly predictive of variation in gender-equalizing land inheritance reform's impact. In contrast to the initial empirical evidence of reform's null net impact, this evidence suggests that reform's impact is actually heterogeneous: it may significantly decrease or increase daughters' inheritance, depending on the nature of local officials' accountability.

⁶³ NCAER's 2006/8 REDS asks: "How easy is it for you to hold local officials accountable for the functions they are supposed to be performing?" Responses are based on a discrete scale that ranges from 1 (impossible) to 5 (no problem at all). Figures are averaged at the household level, based on all available resident household members' responses.

⁶⁴ NCAER's 2006/8 REDS asks: "Meenakshi, the four-year-old daughter of Rajesh fell ill after eating the food provided by the noon meal programme. When Lakshmi, the wife of Rajesh went to complain to the school, she was rebuked and asked to talk to the *Pradhan* [Panchayat President]. She has since asked Rajesh to talk to the *Pradhan*. [ASK] How easy is it for Lakshmi to hold the local officials accountable for performing their functions?" Responses are based on the same scale as the first accountability question (above).

⁶⁵ Figure 8's finding is statistically-significant when accounting for time trends via fixed effects for the household head's year of birth.

Analysis of Reform's Impact Conditional on Accountability to Men

Analysis is presented using the sample of households located at the tri-state border (as in Table 1).⁶⁶ The initial estimation of reform's impact on the equality of daughters' land inheritance shares, conditional on local officials' accountability to men follows the same form as Equation 1. Equation 3 modifies the first equation in order to capture the household-level impact of reform. OLS regression analysis uses the following equation:

$$\frac{\text{Acres daughters inherited}_{hst}}{\text{Acres inheritable}_{hst}} - \frac{\# \text{ daughters}_{hst}}{\# \text{ inheritors}_{hst}} = \beta_0 + \beta_1 \text{Legal Eligibility}_{hst} + \beta_2 \text{Accountability}_{hst} + \beta_3 \text{Legal Eligibility}_{hst} * \text{Accountability}_{hst} + \gamma + \varepsilon_{hst} \quad (3)$$

where the dependent variable of interest is the extent to which the share of household land inherited by daughters approaches a "fair share" for household h in state s , whose head is born in year t . Daughters' "fair share" is calculated as the difference between the fraction of parental landholdings that daughters inherit and the fraction of the household head's inheritors that daughters constitute. The number of persons legally-entitled to inherit the household head's land is the sum of the family's daughters, sons, and the surviving spouse. This variable ranges between -1 and 1, with the same interpretation as Equation 1's dependent variable, aggregated to measure the equity of daughters' collective inheritance share within a given natal family.

Equation 3's independent variable of interest is a household-level indicator of the interaction of eligibility for reform and local officials' accountability to the male household head. $\text{Legal Eligibility}_{hst}$ is set to one if a given natal household's head passed away after reform and at least one daughter in the family married after reform, and is zero otherwise. $\text{Accountability}_{hst}$ is a continuous variable ranging between 1 (impossibility of holding local officials accountable) and 5 (no problem in holding local officials accountable), based on the following question: "How easy is it for you to hold local officials accountable for the functions they are supposed to be performing?" The results presented here are based solely on the household head's assessment. Findings are consistent for a range of alternative specifications of accountability, including averaging all adult respondents in a given household's assessment.⁶⁷ The interaction of the prior two variables, $\text{Legal Eligibility}_{hst} * \text{Accountability}_{hst}$ indicates the household head's assessment of local officials' accountability for households with at least one daughter who is eligible for reform, and is zero otherwise. As such, β_3 is the coefficient of interest, which captures the effect of legal eligibility of a household's daughter for gender-equal inheritance rights on the extent to which daughters' inheritance share approaches a gender-equal distribution.

⁶⁶ Results of intra-household regression analysis are available upon request.

⁶⁷ Results available upon request. Future regressions will test the robustness of this result when assessing local officials' accountability to a given household members as based on all respondents within a given village except the respondents from the given household. This will address the potential problem of a mechanical correlation between the errors of the dependent and independent variables.

As in Equations 1 and 2, state fixed effects are included to control for persistent differences in daughters' inheritance across states. Time fixed effects are based on the household head's year of birth. These are included to control for time-specific trends in daughters' inheritance –for example based on parental approaches to raising children and distributing opportunity – that are constant across the region under study. In order to account for the two large sources of variation in family-level attributes noted in Figure 4, we estimate the regression with controls for membership in a Scheduled Caste and landholding status (parents' owning less than 2 acres of land). As in prior regressions, standard errors are clustered at the village level to account for variation in survey teams' approach.

Table 3's regressions consistently find that where local government officials are more accountable to male household heads, daughters' inheritance shares shrink relative to an equal share. This result is robust to better specification of the sample by inclusion of only those households whose heads pass away within five years of reform (Columns 3-7), inclusion of controls for family characteristics (Columns 4-7), fixed effects for state-level trends in gender-specific inheritance distribution (Columns 5,7) and fixed effects for time trends in inheritance (Columns 6-7).

[Table 3 about here.]

Additionally, Table 3's findings indicate a significant, negative relationship between local officials' accountability to men and the extent to which reform equalizes daughters' land inheritance shares (Columns 3-5). This holds for the broadest specification of reform's impact, in Column 3. The finding is robust to better-specification of the sample (Column 4), controlling for family characteristics which might alter families' gender-specific inheritance distribution (scheduled caste and landholding). The result also holds when controlling for state-level trends in inheritance distribution (Column 5). Notably, the negative relationship between officials' accountability and reform's impact on the equality of daughters' inheritance shares disappears after controlling for time trends based on household heads' year of birth (Columns 6-7). This may suggest that officials resist *implementing* inheritance reform only to the extent dictated by the attitudes popular amongst a particular age group of household heads, such as those heads whose age makes them particularly suited for high levels of involvement in local politics.

Analysis of Reform's Impact Conditional on Accountability to Women

This final empirical section attempts to capture the impact of officials' perceived accountability to women, who may benefit from changing the *status quo*, on reform's ability to improve the equity of daughters' land inheritance. I use an innovative question on accountability from REDS surveys, which asks respondents to evaluate what would happen if a relatively mundane, hypothetical scenario occurred in their village:

“Meenakshi, the four-year-old daughter of Rajesh fell ill after eating the food provided by the noon meal programme. When Lakshmi, the wife of Rajesh went to complain to the school, she was rebuked and asked to talk to the *Pradhan* (Panchayat President). She has since asked Rajesh to talk

to the *Pradhan*.” [SURVEYOR THEN ASKS:] “How easy is it for Lakshmi to hold the local officials accountable for performing their functions?”

As in the prior measure of officials’ accountability, evaluations range between 1 (“impossible”) and 5 (“not a problem at all”). Assessments of officials’ accountability to women vary significantly between villages and within villages.

Amongst households at the tri-state border, 25 percent consider officials extremely unaccountable to women (a rank of 2.5 or lower, e.g. accountability is “quite difficult” to “impossible”) and 33 percent rank officials as highly accountable to women (a rank of 4 or higher, e.g. accountability is “very easy” to “no problem”). When responses are averaged at the state level, accountability rankings are quite similar to Transparency International’s 2005 assessment of corruption (Bussell 2012): Kerala has the highest average score (4.09), and Bihar has the second-to-lowest (3.07). However in REDS, the state with the lowest average accountability of local officials to women is actually West Bengal (2.70).⁶⁸

[Table 4 about here.]

Table 4’s results are notable for two reasons. First, as in Table 3, there is a persistent negative, significant relationship between local officials’ accountability and the equity of daughters’ land inheritance shares. This increases confidence in the nature and magnitude of officials’ resistance to enforcing a gender-equitable distribution of land inheritance. Second, the relationship between local officials’ accountability *to women* and the impact of reform on daughters’ land inheritance shares’ equity is completely reversed from Table 3’s findings. In fact, in the best-specified regressions (Columns 6-7), there is a significant, positive relationship between officials’ accountability to women and the equity of daughters’ land inheritance shares.

Overall, Table 4’s findings indicate that as local officials are more accountable *to women*, reform is an increasingly-effective tool in equalizing daughters’ inheritance shares. The regression results in Columns 6 and 7 indicate that a one-unit increase in officials’ perceived accountability to women is correlated with an increase in the equity of daughters’ inheritance shares by 40 percent, at the margin. Overall, columns 6 and 7 suggest a net improvement of 39.5 percent in the equity of daughters’ land inheritance shares as a result of inheritance reform that is implemented in locations where officials are perceived as accountable to women.

To understand how reform’s impact varies with local officials’ accountability to women, I examine the estimated interaction effect graphically (Figure 8). The figure illustrates that reform is able to improve the equality of eligible daughters’ land inheritance shares where local officials are moderate-to-highly accountable to women (values of 3-5). Amongst this set of daughters, the higher the assessment of local officials’ accountability

⁶⁸ Within the sample of districts at the tri-state border, Chennai, Tamil Nadu has the highest average score (3.85), followed by Chittoor, Andhra Pradesh (3.51). The districts with the two lowest average rankings are Bellary, Karnataka (2.08) and Vellore, Tamil Nadu (1.67).

to women, the more reform is able to improve the equality of their land inheritance share. In contrast, reform has a statistically insignificant impact where local officials are assessed to be extremely unaccountable to women. In other words, where it is “impossible” or “very difficult” for women to hold local officials accountable (values of 1 and 2), reform is an ineffective tool for improving the gender-equality of daughters’ land inheritance.

[Figure 8 about here.]

This section’s findings raise questions about the conditions under which local officials are more likely to be responsive to women. A unique policy experiment conducted by India’s central government allows me to examine the impact of one method of increasing local officials’ accountability to women: setting aside randomly-chosen seats in local governments for women, one election at a time.⁶⁹ As a result of these “reservations,” only female candidates can run for election in localities reserved for women, which means that women are exclusively elected for these seats. Prior work describes the “silent revolution” in women’s political representation that followed: women’s share of elected seats in government rose from 3 to 9 percent in state and national legislatures pre-1992, to over one third of seats in local bodies post-1992 (Bhavnani 2009). Evidence shows that in the presence of reservations, local governments increase their provision of women’s preferred public goods (Chattopadhyay and Duflo 2004). Additionally, reservations’ positive impact on women’s electability is shown to persist after they are withdrawn (Bhavnani 2009). In sum, prior work provides reason to believe that a village’s randomly-assigned experience with women’s reservations may increase local officials’ accountability to women.

Patterns in NCAER’s REDS confirm a significant, positive relationship between a village’s experience of reservations and local officials’ accountability to women: officials in villages where elected seats have been reserved for women are 30 percent more likely to be highly-responsive (vs. poorly-responsive) to women. Based on this relationship, I re-examine inheritance reform’s impact on the equality of daughters’ land inheritance in light of reservations, as an exogenous source of officials’ accountability to women. OLS regressions take the same form as Equation 3, with the measure of accountability being a village-level variable that indicates whether or not any of the prior three elections had been randomly-selected, at the state-level, as reserved for women.

[Table 5 about here.]

The findings presented in Table 5 show a consistent, strong relationship between local officials’ accountability to women, as a function of village-level reservations for women officials, and improved gender equality in households’ distribution of land inheritance to

⁶⁹ I refer to the 72nd and 73rd constitutional amendments, passed in 1992, which directed India’s state governments to conduct elections at local levels, devolved expenditure and oversight powers to these elected bodies, and mandated the reservation of one-third of seats in these bodies for women. The amendments also reserve seats for members of the scheduled castes and tribes, which are less relevant for this paper’s analysis.

children. This relationship's statistical significance holds across all regressions using the well-specified sample of families whose fathers pass away within five years of reform (Columns 3-7), and is robust to inclusion of controls for caste and landholding status (Columns 4-7) as well as fixed effects for households' state of residence (Columns 5, 7) and time fixed effects based on the household head's year of birth (Columns 6-7). Overall, Table 5 provides evidence of inheritance reform's ability to improve gender equity when institutional changes increase local officials' responsiveness to women.

Conclusion

This paper employs a difference-in-difference research design to assess whether gender-equalizing reform of land inheritance rights actually improves gender equity in rural India, as intended. I exploit temporal variation in the law's passage and in intra-household behavior which affects household members' eligibility for equal land inheritance rights. Counter to an influential conventional wisdom, which holds that the law can be a powerful tool to change social conventions, I find that reform has no direct impact on the equality of daughters' land inheritance. These results also contradict prior work by Goyal et al. (2012), which finds evidence of a significant, positive impact of reform on women's inheritance. This paper's analysis represents an improvement on prior work by creating more precise measures of reform's impact on gender equality of land inheritance, using more accurate measures of legal eligibility, and by constructing comparison groups that provide more plausible counterfactuals of daughters' inheritance absent reform.

Extensive qualitative research provides suggestive evidence that local officials' resistance, specifically in inheritance reform's enforcement, is one of the key reasons for land reform's weak net impact in rural India. Questions in NCAER's REDS allow me to measure one major factor determining local officials' interest in enforcing reform: their accountability to men vs. women. Local officials' potential for complicity in resisting reform is high where officials are accountable to male household heads, who benefit from the *status quo*. Officials' potential for compliance with reform is high where they are accountable to women who may benefit from changing the *status quo*. Regression analysis presented in Tables 3 and 4 indicates strong support for the hypothesis that the nature of officials' accountability influences reform's impact. Where officials are perceived as accountable to male household heads, reform has a significant, negative impact on the equity of daughters' land inheritance shares. In contrast, where officials are perceived as accountable to women, reform's impact on gender equity is reversed. In the best-specified cases, an increase in perceptions of officials' accountability to women by one unit (on a five-unit scale) is correlated with an increase in the equity of daughters' land inheritance shares by nearly 40 percent.

Future work will identify the root causes of variation in local officials' accountability to women versus men. This is important both to better-specify exogenous measures of

officials' accountability⁷⁰ and to understand the mechanisms by which local, political support for women's interests have developed, through formal and informal channels. Analysis will rely on three types of data: historical political debates, interviews with political officials, activists, and rural agriculturalists, and geo-spatial analysis of panel survey data. Initial analysis provides evidence of spatial variation in state officials' accountability to women vs. men that transcends states' willingness to reform inheritance law. This suggests that local officials' accountability is unlikely to be directly determined by reform, despite its significant influence over the magnitude and direction of reform's impact on gender equity.

In conclusion, this paper presents evidence of significant, heterogeneous effects of gender-equalizing land inheritance reform on the equity of daughters' land inheritance shares. The nature of local officials' accountability – to men vs. to women – provides significant leverage in explaining variation in reform's ability to diminish vs. improve daughters' access to land inheritance and the significant entitlements such inheritance entails. In particular, institutional changes that increase women's representation in local government also increase local officials' responsiveness to women, with significant positive benefits on inheritance reform's ability to improve gender equity. Overall, this research suggests the importance of understanding the political roots of officials' responsiveness to local stakeholders in capturing gender-equalizing land inheritance reform's ability to alter social conventions, both in rural India and beyond.

⁷⁰ One concern with identification of local officials' accountability via NCAER's 2006/8 round of REDS is caused by the potential endogeneity of households' assessments of officials' accountability and their willingness to distribute land inheritance to women. The most plausible culprit for endogeneity would be due to an omitted variable, which may drive post-reform changes in assessments of official accountability and changes in gender-specific land inheritance shares. Future robustness checks will address this problem via two strategies. To avoid endogeneity due to post-reform changes in households' methods of assessing officials' accountability, I will use pre-reform accountability as an instrument for post-reform accountability and verify that the regression results are consistent, conditional on a strong correlation between REDS' objective measures of pre-reform accountability to men vs. women and the appropriate post-reform, subjective measures of officials' accountability. To avoid endogeneity which is due to a variable that jointly determines officials' accountability and reform's impact, I will test the influence of an exogenous source of accountability to women – randomly-assigned reservations, which require that 30 percent of local government heads (Pradhans) are reserved for women in every election (since 1993).

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Table 1: Reform's impact on the equality of daughters' land inheritance share, for comparison groups at the border of Andhra Pradesh, Karnataka and Tamil Nadu

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Father Death	0.017	0.014	0.009	0.033	0.021	0.039	0.032 ⁺
Post-Reform	(0.012)	(0.012)	(0.022)	(0.026)	(0.031)	(0.024)	(0.017)
Marriage		-0.025 [*]	-0.038	0.001	0.036	-0.040	-0.014
Post-Reform		(0.011)	(0.037)	(0.043)	(0.030)	(0.069)	(0.063)
Reform		0.018	0.105 ^{**}	0.059	0.015	0.140 ⁺	0.103
Applies		(0.021)	(0.033)	(0.037)	(0.028)	(0.080)	(0.092)
Constant	0.021 ⁺	0.025 [*]	0.038	0.047	0.007	-0.048	-0.059
	(0.011)	(0.011)	(0.037)	(0.039)	(0.019)	(0.057)	(0.035)
<i>N</i>	618	605	100	100	100	100	100
<i>Reform</i> ±5yrs			Yes	Yes	Yes	Yes	Yes
<i>Controls</i>				Yes	Yes	Yes	Yes
<i>State Fixed Effects</i>					Yes		Yes
<i>Time Fixed Effects</i>						Yes	Yes
adj. <i>R</i> ²	0.009	0.017	0.023	0.071	0.108	0.159	0.155

OLS regressions. Robust standard errors are clustered at the village level in parentheses: ⁺ $p < 0.10$, ^{*} $p < 0.05$, ^{**} $p < 0.01$, ^{***} $p < 0.001$. The sample includes Hindu landholding families from the tri-state border. "Reform applies" refers to the interaction of "Father Death Post-Reform" & "Marriage Post-Reform" indicator variables. "Reform ±5yrs" refers to the subsample of families whose fathers pass away within five years before/after reform. "Time fixed effects" refer to fixed effects for the year of the Controls include: membership in a Scheduled Caste (Y/N), dowry (Rs.), years of schooling, and the number of daughters in the natal family.

Table 2. Reform's impact on the equality of daughters' land inheritance share, comparison of daughters within households

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Death	5.99e-16 (1.08e-14)	-1.12e-15 (5.19e-15)	-4.99e-15 (1.03e-14)	6.99e-16 (1.49e-15)	-0.500*** (2.98e-08)	-0.355*** (6.41e-15)	2.50e-15 (4.54e-15)
Marriage Post-Reform		-2.03e-15 (2.53e-15)	-2.74e-15 (8.69e-15)	-1.94e-16 (4.08e-16)	-0.286 (2.435)	-0.355*** (7.52e-15)	3.31e-16 (3.96e-16)
Reform Applies		8.13e-15 (1.60e-14)	6.07e-15 (1.15e-14)	-8.15e-16 (2.35e-15)	0.071 (2.435)	0.455*** (1.06e-14)	7.52e-16 (2.71e-15)
Con.	-3.68e-15 (8.31e-15)	4.23e-16 (4.87e-15)	3.32e-15 (8.88e-15)	-4.16e-16 (1.23e-15)	0.500*** (2.98e-08)	0.355*** (5.80e-15)	-7.10e-16 (1.02e-15)
<i>N</i>	120	99	39	60	77	27	72
<i>Sample</i>	All	All	No Ed	Some Ed	Dad w/Ed	Dowry<1000	Dowry≥1000
adj. <i>R</i> ²	0.907	0.873	1.000	0.815	-0.278	0.795	1.000

Robust standard errors clustered at the village level in parentheses: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The sample includes Hindu landholding families with fathers who pass away within five years following inheritance reform, and daughters who marry within five years before or after reform. "Death" refers to a father's death post-reform. "Reform applies" refers to the interaction of "Death" & "Marriage Post-Reform" indicator variables. "Con." refers to the constant. "No Ed" refers to the sample of women with zero years of schooling. "Some Ed" refers to women with at least one year of schooling. "Father w/Ed" refers to women whose fathers have at least one year of schooling. "Dowry<1000" refers to women who report having received less than Rs. 1,000 as monetary dowry. "Dowry≥1000" refers to women who report having received at least Rs. 1,000 as monetary dowry.

Table 3. Reform's Impact on the Equality of Daughters' Inheritance Share, Conditional on Local Official's Accountability to the (Male) Household Head

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Reform	0.0183	0.393	0.841***	0.855***	0.856***	0.208	0.204
Applies	(0.083)	(0.374)	(0.193)	(0.170)	(0.165)	(0.859)	(0.885)
Accountability to Men (Head)	-0.136**	-0.127*	-0.189**	-0.185**	-0.176**	-0.225**	-0.219***
	(0.049)	(0.050)	(0.057)	(0.056)	(0.053)	(0.058)	(0.051)
Reform* Accountable		-0.130 (0.096)	-0.203** (0.070)	-0.202* (0.075)	-0.210* (0.076)	0.049 (0.345)	0.051 (0.354)
Constant	0.236	0.186	0.377	0.372	0.242	0.711**	0.713**
	(0.239)	(0.242)	(0.234)	(0.233)	(0.218)	(0.242)	(0.245)
<i>N</i>	583	452	111	111	111	111	111
<i>Reform</i> ±5yrs			Yes	Yes	Yes	Yes	Yes
<i>Controls</i>				Yes	Yes	Yes	Yes
<i>State FE</i>					Yes		Yes
<i>Birth Year FE</i>						Yes	Yes
adj. R^2	0.161	0.152	0.331	0.325	0.330	0.704	0.698

Robust standard errors clustered at the village level in parentheses: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The sample is restricted to Hindu landholding families living in REDS districts at the tri-state border. "Reform applies" refers to the interaction of "Father Death Post-Reform" & "Marriage Post-Reform" indicator variables. "Reform*Local officials accountable" is the interaction of "reform applies" & "local officials accountable" variables. "Reform ±5yrs" refers to the subsample of families whose fathers pass away within five years before/after reform. Controls are: membership in a Scheduled Caste (Y/N) and whether or not parents own less than 2 acres of land (Y/N). All members of STs excluded

Table 4. Reform's Impact on Equality of Daughters' Household Land Inheritance Share, Conditional on Local Official's Accountability to Women

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Reform Applies	0.067 (0.088)	0.573 (0.445)	0.018 (0.661)	-0.060 (0.675)	-0.108 (0.674)	-0.681* (0.282)	-0.685* (0.292)
Accountable to Women	-0.096* (0.043)	-0.082+ (0.048)	-0.060 (0.063)	-0.062 (0.062)	-0.0595 (0.056)	-0.150** (0.048)	-0.154** (0.044)
Reform* Accountable		-0.144 (0.110)	0.120 (0.178)	0.165 (0.179)	0.165 (0.171)	0.389*** (0.095)	0.381** (0.099)
Constant	0.078 (0.223)	0.034 (0.243)	-0.076 (0.286)	-0.044 (0.291)	-0.225 (0.212)	0.837* (0.393)	0.865* (0.334)
<i>N</i>	584	584	111	111	111	111	111
<i>Reform</i> ±5yrs			Yes	Yes	Yes	Yes	Yes
<i>Controls</i>				Yes	Yes	Yes	Yes
<i>State FE</i>					Yes		Yes
<i>Birth Year FE</i>						Yes	Yes
adj. <i>R</i> ²	0.063	0.073	0.050	0.066	0.097	0.598	0.619

Robust standard errors clustered at the village level in parentheses: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The sample is restricted to Hindu landholding families living in REDS districts at the tri-state border. "Reform applies" refers to the interaction of "Father Death Post-Reform" & "Marriage Post-Reform" indicator variables. "Reform*Accountable" is the interaction of the "reform applies" and "accountable to women" variables. "Reform ±5yrs" refers to the subsample of families whose fathers pass away within five years before/after reform. Controls are: membership in a Scheduled Caste (Y/N) and whether or not parents own less than 2 acres of land (Y/N). All members of STs excluded.

Table 5. Reform's Impact on Equality of Daughters' Household Land Inheritance Share, Conditional on Reservations for Women Local Officials

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Reform	0.003	-0.107	-0.258	-0.274	-0.659***	-0.643*	-
Applies	(0.090)	(0.074)	(0.213)	(0.219)	(0.090)	(0.244)	0.902*** (0.173)
Reservations	-0.157	-0.173	-0.211	-0.192	-0.579***	-0.431 ⁺	-
for Women	(0.172)	(0.170)	(0.227)	(0.225)	(0.124)	(0.223)	0.646*** (0.117)
Reform* Reservations		0.195 (0.155)	0.868* (0.307)	0.932** (0.303)	1.297*** (0.221)	1.259*** (0.269)	1.492*** (0.202)
Constant	-0.177 (0.156)	-0.169 (0.157)	-0.144 (0.213)	-0.128 (0.219)	-0.436*** (0.0846)	0.715* (0.255)	0.395* (0.169)
<i>N</i>	454	454	111	111	111	111	111
<i>Reform ± 5yrs</i>			Yes	Yes	Yes	Yes	Yes
<i>Controls</i>				Yes	Yes	Yes	Yes
<i>State FE</i>					Yes		Yes
<i>Birth Year FE</i>						Yes	Yes
adj. <i>R</i> ²	0.038	0.041	0.120	0.132	0.366	0.618	0.725

Robust standard errors clustered at the village level in parentheses: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The sample is restricted to Hindu landholding families living in REDS districts at the tri-state border. "Reform applies" refers to the interaction of "Father Death Post-Reform" & "Marriage Post-Reform" indicator variables. "Reservations for Women" refers to whether the elected seat of village head (*Pradhan*) has been reserved for women in any of the three most recent elections (since reserved seats were mandatory in a randomly-selected 30% of every cycle of village elections). "Reform*Reservations" is the interaction of the "Reform Applies" and "Reservations for Women" variables. "Reform ± 5yrs" refers to the subsample of families whose fathers pass away within five years before/after reform. Controls are: membership in a Scheduled Caste (Y/N) and whether or not parents own less than 2 acres of land (Y/N). All members of STs excluded.

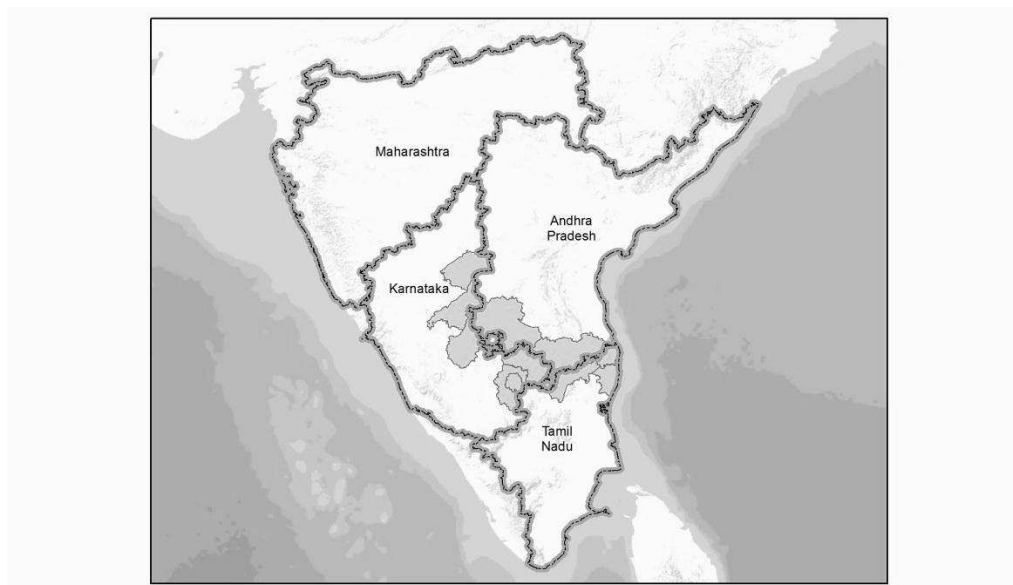


Figure 1: Geospatial representation of data sample drawn from districts at the intersection of three south Indian state borders: Andhra Pradesh, Karnataka, and Tamil Nadu according to the population sample in NCAER’s REDS 2006/8 round.

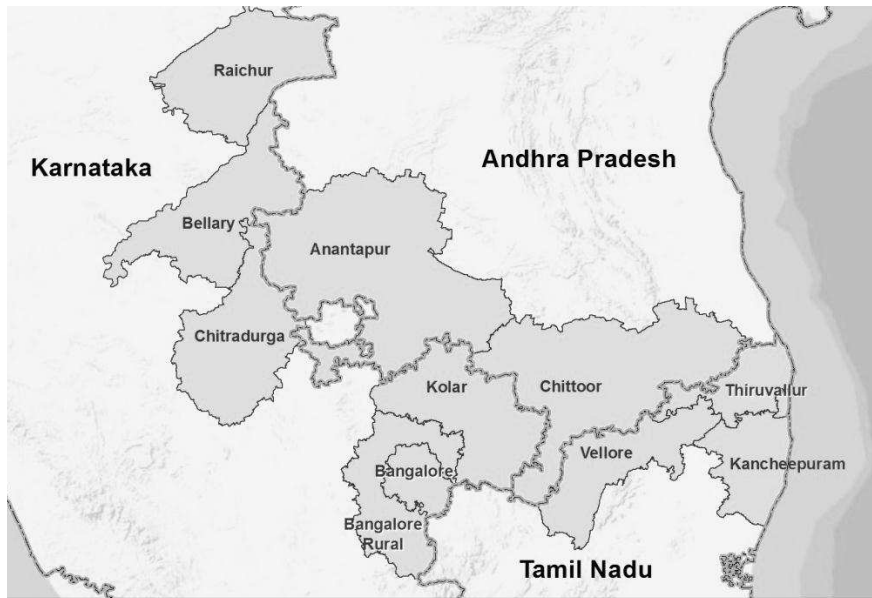


Figure 2. Detailed geospatial representation of districts from which the tri-state border sample of data taken from NCAER's REDS 2006/8 round was drawn.



Figure 3: Location of field research districts in Andhra Pradesh, south India.

Figure 4. Descriptive Statistics: Women at the Tri-state Border

Variable	Non-Treated		Treated		Difference	
	mean	N	mean	N	mean	s.e.
Mother's Education (Yrs)	0.31	880	0.49	73	-0.19	0.168
Father's Education (Yrs)	0.82	880	0.82	73	-0.00	0.268
Number Siblings	5.80	881	5.44	73	0.36	0.268
Parents Own Land (%)	0.63	881	0.35	73	0.28	0.059***
Parents' Land (acres)	6.82	859	2.85	71	3.97	3.521
Marriage Year	1975	865	1994	73	-19.27	8.006***
Father Alive (%)	0.19	881	0.03	73	0.16	0.046***
"Hindu" (Legal Subject)	1.00	881	1.00	73	-0.00	0.006
Scheduled Caste	0.14	881	0.27	73	-0.14	0.043*
Scheduled Tribe	0.19	881	0.10	73	0.09	0.047*
Own Education (Yrs)	2.37	881	4.95	73	-2.57	0.436***
Dowry (Rs.)	1598	881	3451	73	-1853	901.66**
Number Children	2.92	881	2.10	73	0.82	0.216**
Sex Ratio (daughter : son)	1.11	881	1.08	73	0.02	0.129
Own Land (%)	0.02	881	0.00	73	0.02	0.017
Own Family's Land (acres)	2.59	881	1.31	73	1.28	1.178

Significance of difference in means: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figure 5. Descriptive Statistics: Intra-family Comparisons

Variable	Non-Treated		Treated		Difference	
	<u>mean</u>	<u>N</u>	<u>mean</u>	<u>N</u>	<u>mean</u>	<u>s.e.</u>
Mother's Education (years)	0.340	94	0.218	55	0.122	0.262
Father's Education (years)	1.085	94	0.400	55	0.685	0.366 *
Number Siblings	5.340	94	5.000	55	0.340	0.348
Parents Own Land (%)	0.532	94	0.527	55	0.005	0.085
Parents' Land (acres)	3.526	93	6.628	53	-3.103	2.382
Marriage Year	1989	94	1994	55	-4.270	0.605***
Father Alive (%)	0.000	94	0.000	55	0.000	0.000
"Hindu" (Legal Subject)	1.000	94	1.000	55	0.000	0.000
Scheduled Caste	0.160	94	0.145	55	0.014	0.062
Scheduled Tribe	0.106	94	0.055	55	0.052	0.048
Own Education (years)	4.691	94	5.255	55	-0.563	0.731
Dowry (Rs.)	5454	94	7471	55	-2016	2314
Number Children	2.479	94	2.018	55	0.461	0.203*
Sex Ratio (daughters: sons)	1.016	94	1.291	55	-0.275	0.182
Own Land (%)	0.011	94	0.036	55	-0.026	0.024
Own Family's Land (acres)	1.641	94	1.064	55	0.578	0.346 *

Significance of difference in means: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

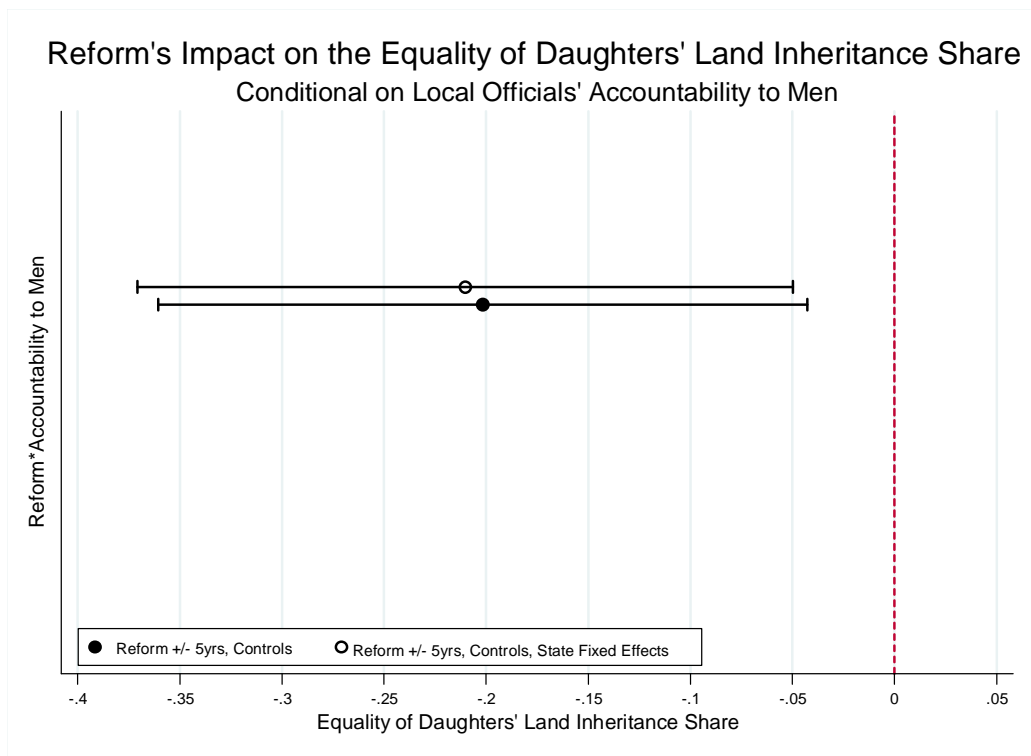


Figure 6. Reform's impact on the equality of daughters' land inheritance shares, conditional on local officials' accountability to men, REDS 06/08 tri-state border sample.

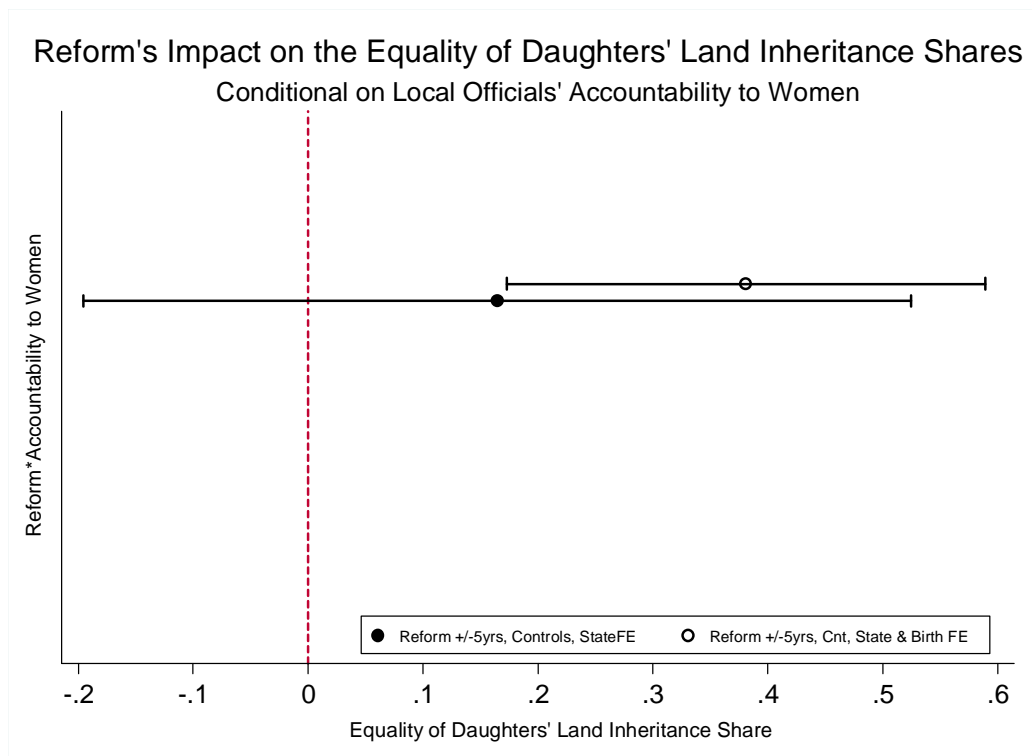


Figure 7. Reform's impact on the equality of daughters' land inheritance shares, conditional on local officials' accountability to women, REDS 06/08 tri-state border sample.

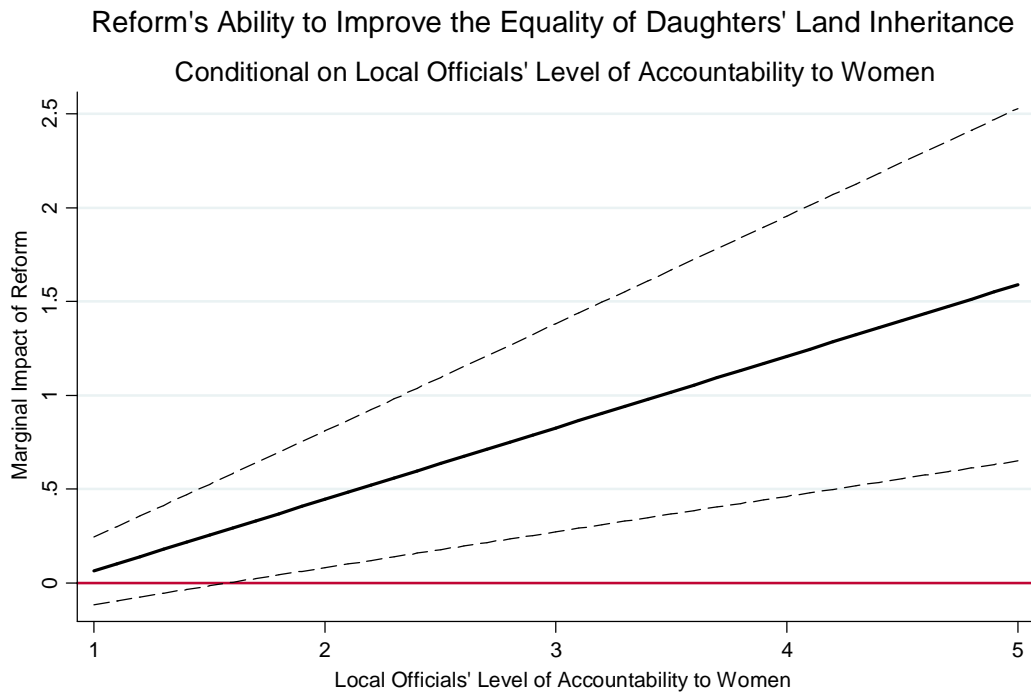


Figure 8. Size of reform's impact on the equality of legally-eligible daughters' land inheritance share, conditional on the level of local officials' accountability to women.