How Far Does the Amendment to the Hindu Succession Act Reach? Evidence from Two-Generation Females in Urban India

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1. Introduction

Females' empowerment and gender equality not only matter for their own sake, as presented in Millennium Development Goals 3 and 5, but also contribute enormously to economic development, political choices and welfare of the future generation, as documented by a growing body of research (Chattopadhyay and Duflo 2004; Qian 2008; Udry 1996). Gender disparity that exists in intergenerational transfers explicitly controlled by parents (Quisumbing 1994; Quisumbing *et al*. 2004) could generate and widen gender gaps in other domains, as material wealth and human capital investments are determinants of children's ability to accumulate individual capital (Blinder 1973; Becker and Tomes 1979; Kotlikoff and Summers 1981; Sheshinski and Weiss 1982), which plays an important role in the development of endowments, the distribution of earnings and wealth, the status in the marriage market, bargaining power within the household, and the quantity as well as the quality of the next generation. (Thomas 1990; Behrman *et al*. 1994; Brien and Lillard 1994; Zhang and Chan 1999).

While an extensive literature concerns inequality caused by intergenerational transfers (Davies 1982; De Nardi 2004), few focus on inequality between males and females, leaving gaps to be filled. In the context of India, the Amendment to the Hindu Succession Act (HSAA) which grants daughters equal rights to inherit joint family property with sons provides an opportunity to explore whether or not the legislation empowered females in intergenerational transfers and lead to positive outcomes in other related domains. In contrast to findings that the HSAA increased the likelihood of inheriting land, educational attainment (Deininger *et al*. 2013) and autonomy within the marital family (Roy 2009) for females, other research finds a rise in female child mortality after the reform (Rosenblum 2013), demanding more empirical evidence for making a judicious evaluation.

This study contributes to the debate in two ways. First, while existing studies focus on rural population completely (Deininger *et al*. 2013) or partially (Roy 2009; Rosenblum 2013) for whom joint family property, frequently in the form of land, is the key asset that determines the economics status of an individual (Agarwal 1994), our urban sample allows us to test whether or not the HSAA remained to have some impacts if joint family property takes up a smaller portion of total property. Second, we have information on potential assets to be received by the generation whose mothers have exposed to the HSAA and may have benefited from this reform. We can therefore explore the long-term effects beyond one generation rather than focus on the intragenerational effects over time.

We use a large household survey data from the 2011 Urban Property Ownership Records (UPOR) conducted by the Indian National Council for Applied Economics Research in Karnataka. The survey contains detailed information on the timing of key life events, such as birth, death and marriage, and the level of education as well as assets received and to be received from parents by male and female individuals. Our estimation strategy is difference-in-difference after household fixed effects and gender specific year of birth fixed effects are controlled for by taking advantage of the variation in the timing of death for the fathers of household heads and their spouses, the timing of marriage for household heads, their spouses and the siblings of household heads and spouses, and the timing of decisions on primary education for the children of household heads, their spouses and the siblings of household heads and spouses. Specifically, we compare (i) the assets received by Hindu males and females whose fathers died before and after the amendment and who married before and after the amendment; (ii) the number and the ratio of female children that Hindu females had who married before and after the amendment; (iii) the assets to be received by Hindu males and females whose mothers married before and after the amendment; and (iv) primary education years gained by Hindu males and females whose education decisions were made before and after the amendment. We rely on a Muslim sample for a robustness check, given that the amendment applies to Hindus but not Muslims.

Our results suggest that the HSAA increased the assets received by Hindu females who married after the amendment by 17%. While the positive effect did not persist after ten years of the passage of the HSAA, it can be outweighed by three sets of outcomes on the next generation. First, we find no evidence that Hindu parents reduced the number or the ratio of female children after the amendment. Second, our results point towards an increase of 0.113 in the share of assets to be received by Hindu females whose mothers married after the amendment. Finally, Hindu females who would enroll in primary schools after the amendment gained 0.503 years of more primary education than males in the same cohort relative to their older siblings who completed primary education before the amendment.

The reminder of the paper is organized as follows: Section 2 provides context by reviewing India's Hindu Succession Act and its amendment. Section 3 discusses the data used and sample composition, reports descriptive statistics, and introduces the estimation strategy. Section 4 presents econometric results to quantify the impacts of the legal reform on assets received and to be received from parents, reproductive decisions, and educational attainment. Section 5 concludes by drawing out implications for policy and possible future research.

2. Background

The Hindu Succession Act 1956 (HAS) governed property rights of Hindus nationally[1], unifying two main schools of Hindu law, *Mitakshara* and *Dayabhaga*, before state governments enacted legislation to amend it between 1986 and 2005. The *Mitakshara* system classifies property as separate property and joint family property, while the *Dayabhaga* system identifies all property as separate property.[2] The 1956 HSA granted Hindu daughters equal shares of separate property as sons and spouses if the Hindus died without making wills,[3] but deprived daughters and widows of their rights to be coparceners for joint family property. On the contrary, sons not only enjoyed the right to inherit parents' separate property, but also could receive joint family property, shared only among the fathers plus his male linear descendants, and demand its partition.[4] Therefore, while daughters in *Dayabhaga* could possibly receive the same share of property from fathers dying intestate as sons, they absolutely received a smaller share in *Mitakshara* as compared to their brothers. The 1956 HAS seeking gender equality in inheritance failed to do so as *Mitakshara* dominates most of India's states.[5]

Amendments to the 1956 HSA were proposed by some southern states in the last twenty years of the twentieth century (Andhra Pradesh in 1986, Maharashtra in 1989, and Karnataka and Tamil Nadu in 1994)[6], and expanded the entire nation in 2005. These amendments are essentially identical across states, giving daughters equal rights to inherit joint family property with sons. The change introduced by the Hindu Succession Act Amendment (HSAA) provides us a natural experiment to explore various effects of females' equal inheritance rights with males.

While we expect little impact of the HSAA on urban population in terms of joint family property, the reform could affect assets of generation II individuals received from generation I if generation I individuals reallocated resources among their children after the amendment for two reasons. On the one hand, they began to be aware of inter-sibling equality after the amendment came into force, particularly equality between male and female children, as proposed by the preference model (Behrman *et al.* 1982) that parents provide more resources to the less able. On the other hand, the passage of the HSAA signaled

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[1] The Hindu Succession Act applies to Hindus, Buddhists, Jains and Sikhs but not Muslims, Christians, Parsis and Jews.
[2] According to Roy (2008) the most important distinction between these two schools was in terms of their classification of property. The *Mitakshara* system made a distinction between 'joint family property' and 'separate property'. Joint family property 'consisted principally of ancestral property (that is, property inherited from the father, paternal grandfather or paternal great-grandfather), plus any property that was jointly acquired or was acquired separately but merged into the joint property' while separate property 'included that which was self-acquired (if acquired without detriment to the ancestral estate) and any property inherited from persons other than his father, paternal grandfather or paternal great-grandfather' (Agarwal 1994). Under *Mitakshara*, four generations of male members became joint heirs or coparceners to the joint family property by birth while women had no such rights. The *Dayabhaga* system, on the other hand, treated all property as self-acquired/separate property including the person's 'notional' share of joint family property.
[3] All Hindu individuals are entitled to will their separate property to a desired beneficiary.
[4] The deceased father's notional share of joint property was allocated among all male and female heirs, normally in equal shares.
[5] *Dayabhaga* governed Bengal and Assam while *Mitakshara* dominated in the rest of the country (Agarwal 1994).
[6] Kerala abolished joint family property system and granted all family members their separate share in 1976 (Agarwal 1994). The spirit of the amendment is the same as those in other states, in favor of the inheritance of daughters.

potential improvement of economics and social status for females in general, which made generation II females more dependable for their parents than before and stimulated parents to reallocate more resources to daughters, consistent with the model of exchange-motivated bequests (Bernheim *et al*. 1985) which suggests that bequests can serve as a means of payment for services rendered by beneficiaries. Although it is beyond the scope of this study to identify these two competing mechanisms separately, we are interested in testing whether or not the HSAA increased the total assets received by generation II females from their parents.

By the same token, we hypothesize that the HSAA led to an increase in capital received from generation II for generation III females. The difference between the two-generation recipients is that generation III individuals not only will be allocated assets by their parents but also competed for human capital investments in the form of education with their siblings. While the model of exchange-motivated bequests (Bernheim *et al*. 1985) unambiguously predicts that the two types of capital are complements, they could be either complements or substitutes under the framework of the preference model (Behrman *et al.* 1982) depending on the understanding of inter-sibling equality for each generation II parent, leaving the impacts of the HSAA on generation III females an empirical issue.

3. Data and descriptive statistics

3.1 Sample composition

Our data are from the 2011 Urban Property Ownership Records (UPOR) survey conducted in Karnataka's four cities: Davagere, Gulbarga, Mysore and Shimoga. The Household survey collected detailed information on three generations of people: household heads, their spouses and the siblings of household heads and spouses, defined as generation II, the parents of generation II (generation I), and the children of generation II (generation III). We observe the timing of generation I individuals' deaths and basic characteristics of generation II and generation III individuals (i.e., age, the level of education and the year of marriage, as well as assets received or to be received from their parents). While we focus on a sample of 8,109 households with 28,699 generation II individuals to explore the direct impacts of the HSAA, we rely on a sample of 5,786 households with 25,047 generation III individuals to assess the persistent effects of the HSAA on physical capital transfers and human capital investments. In our sample, 6,652 Hindu households with 23,158 generation II individuals and 4,724 Hindu households with 19,617 generation III individuals will be the sample for our main analysis. A sample of 5,541 generation II individuals from 1,457 Muslim families and 5,430 generation III individuals from 1,062 Muslim families are used in the placebo analysis. Instead of claiming that the Hindu sample and the Muslim sample are completely comparable, we assume the relevant differences between the two samples are captured by

time-invariant household effects and time-varying cohort effects, and the religion factor only influences outcomes through the HSAA.

3.2 Descriptive statistics

Panel A of table 1 presents descriptive statistics on characteristics of interest for generation II individuals by whether or not the individual married after the amendment. Typical generation II Hindu individuals who married before and after the amendment were born in 1950s and 1970s, respectively. Our data show that generation II Hindu females typically received a smaller amount of assets than their male siblings irrespective of the timing of their marriage, but this gender gap is narrower for Hindus who married after 1994 than those married earlier (245,789 and 49,174 as compared to 141,106 and 48,826). Generation II Hindu females on average had one female child and the ratio of female children is 0.7. We do not find that generation II Hindu females who married after 1994 raised more female children than those who married before 1994. As the descriptive statistics based on the Muslim sample show an overall similar pattern, more conclusive results should be derived from an econometric analysis which controls for multiple sources of heterogeneity.

Panel B of table 1 reports the share of assets to be received by generation III individuals by whether or not their mothers married after the amendment, and the level of primary education for the old cohort (the control group) who were born between 1974 and 1979 (9% to 11% of the generation III Hindu sample) and the young cohort (the treatment group) who were born between 1989 and 1996 (26% to 30% of the generation III Hindu sample). We focus on the educational attainment of these two groups for two reasons. First, we intend to assess the impact of the HSAA on primary education decisions. Normally primary schools in India enroll children 6-14 years old, which implies that every generation III individual in the treatment group was old enough to complete primary education when the survey was conducted. Second, the control group includes individual 15-20 years old in 1994 whose primary education should have been completed before the passage of the HSAA.

Typical generation III Hindu individuals whose mothers married before and after the amendment were born in 1980s and 2000s, respectively. Our data show an increase in the share of assets to be received by generation III Hindu females but a decrease for males. It is unlikely that evidence is due to the household's demographic structure, as we normalize the share by the number of generation III individuals within the generation II households. The average primary education for generation III Hindu females in the young cohort is 8.5 as compared to 7.6 for the old cohort. In the meantime, educational attainment of generation III Hindu males also increased slightly from 8.0 years to 8.6 years. While our data show a similar pattern for generation III Muslim females (the primary schooling increased from 5.9 years to 8.2

years), educational attainment of Muslim males declined from 8.0 years to 7.8 years. The descriptive evidence based on the Muslim sample prevents us from interpreting the casual relationship between the HSAA and the increase in educational attainment of generation III Hindu females. We will rely on econometrics analysis to identify the causal relationships, which we focus in the two following sections.

3.3 Estimation strategy

To quantify the impacts of the HSAA on generation II individuals, we estimate the two equations as below:

$$S_{ij} = \alpha_j + \beta_1 F_{ij} + \beta_2 F_{ij} * D_j + \varphi_{ij} + \epsilon_{ij} \quad (1)$$

$$S_{ij} = \alpha_j + \gamma_1 F_{ij} + \gamma_2 F_{ij} * M_{ij} + \gamma_3 M_{ij} + \varphi_{ij} + \epsilon_{ij} \quad (2)$$

where I_{ij} represents either (i) the log assets of generation II individuals received from generation I; or (ii) the share of assets of generation II individuals received from generation I.[7] α_j is generation I household fixed effects controlling for time-invariant household characteristics. F_{ij}, D_j and M_{ij} are indicator variables for generation II female, whether or not the generation I male died after 1994, and whether or not the generation II individual got married after 1994. To assure that our estimation identifies the impacts of the HSAA rather than captures the long-run trends, we also include a vector of dummy variables in place of the indicator variable M_{ij}. These variables indicate whether or not the generation II female got married in the four years leading up to the amendment (between 1990 and 1993), whether or not the generation II female got married in the first ten years after the amendment (between 1994 and 2004), and whether or not the generation II female got married in the eleventh year after amendment and beyond (after 2004). φ_{ij} is a vector of gender specific year of birth fixed effects controlling for time-variant aggregate effects. β_2 in equation (1) and γ_2 in equation (2) are key parameters of interest capturing the impacts of the amendment on generation II females' assets received from generation I.

While we hypothesize that the HSAA is likely to increase the number or the ratio of generation III females, and assets to be received by generation III females, there are two channels through which the outcomes comes true. First, the amendment could change generation II individuals' attitude towards inter-sibling resource allocation for generation III individuals, the same as generation I individuals did for generation II individuals. Second, generation II females' increasing assets received from generation I, if

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[7] For the share of assets, $S_{ij} = \frac{A_{ij}}{A_{ij} + \sum_{n=1}^{N} A_{nj}} / \frac{1}{N+1}$. Let A_{ij} indicate the assets of individual i in generation I household j received from parents, and N denote the number of individual i's siblings. A_{nj} is the assets of sibling n received from parents, and $\sum_{n=1}^{N} A_{nj}$ is the aggregate assets of individual i's siblings received from parents.

any, could translate into their bargaining power within the household and alter outcomes of generation III individuals. Unfortunately, the lack of information on spouses of siblings prevents us from testing the second mechanism, as we do not know the assets received by generation II females relative to their husbands which determine the bargaining power. However, we can test the first mechanism and control for the potential effects caused by the assets received by generation II females. We estimate the two equations as below to measure the impacts of the HSAA on generation III individuals:

$$Y_{ij} = \alpha_j + \beta_1 M_{ij} + \beta_2 A_{ij} + \beta_3 X_{ij} + \mu_{ij} + \varphi_{ij} + \epsilon_{ij} \quad (3)$$

$$S_{gij} = \alpha_j + \gamma_1 F_{gij} + \gamma_2 F_{gij} * M_{ij} + \gamma_3 M_{ij} + \gamma_4 F_{gij} * A_{ij} + \gamma_5 A_{ij} + \gamma_6 X_{ij} + \mu_{ij} + \varphi_{ij} + \psi_{gij} + \epsilon_{gij} \quad (4)$$

where Y_{ij} represents either (i) the number of female children of generation II females; or (ii) the ratio of female children of generation II females. A_{ij} is the log assets of generation II females received from generation I. X_{ij} is a vector of the generation II female's characteristics including the level of education, the primary occupation and the category of monthly income[8]. μ_{ij} is a vector of dummies for age at marriage of generation II females. S_{gij} is the share of assets for generation III individuals to be received from generation II, normalized by the number of generation III individuals within the generation II household.[9] F_{gij} is an indicator variables for whether or not the generation III individual is female. ψ_{gij} is a vector of gender specific year of birth fixed effects for generation III individuals. Other variables are defined similarly as in equations (1) and (2). β_1 and γ_2 capture whether or not the amendment changes generation II individuals' attitude towards female children.

Ideally, we would test whether or not the HSAA is likely to increase human capital investments in generation III females using the same strategy as in equation (4) by taking advantage of the variation in the timing of generation II individuals' marriage. However, most of generation III individuals whose mothers married after 1994 were too young to complete primary education when the survey was conducted. We construct a treatment group including generation III individuals who were born between 1989 and 1996. Their primary education decisions are supposed to be fully affected by the HSAA. The control group is comprised of generation III individuals who were born between 1974 and 1979. They were at least 15 years old in 1994 and should have completed primary education when the amendment was implemented. We estimate the following equation:

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[8] The survey has eight categories for monthly income in rupees (<1000, 1000-4999, 5000-8999, 9000-12499, 12500-20999, 21000-50000, >50000, and no income).

[9] $S_{gij} = \frac{A_{gij}}{A_{gij} + \sum_{n=1}^{N} A_{nij}} / \frac{1}{N+1}$. Let A_{gij} indicate the assets of individual g in generation II household i to be received from parents and N denote the number of individual g's siblings. A_{nij} is the assets of sibling n to be received from parents, and $\sum_{n=1}^{N} A_{nij}$ is the aggregate assets of individual g's siblings to be received from parents.

$$E_{gij} = \alpha_j + \beta_1 F_{gij} + \beta_2 F_{gij} * G_{gij} + \beta_3 G_{gij} + \epsilon_{gij} \quad (5)$$

where E_{gij} is the education years of generation III individuals, truncated at the highest grade of primary education, grade nine. α_j and F_{gij} are defined similarly as in equations above. G_{gij} is an indicator variable for whether or not the generation III individual was born between 1989 and 1996. β_2 are the coefficients of interest, measuring the impact of the amendment on educational attainment of generation III Hindu females relative to their male siblings.

4. Econometric results

4.1 Assets of generation II received from generation I

Panel A and Panel B of table 2 report results for the log assets and the share of assets, respectively. The first column shows the estimation to equation (1) for generation II Hindu individuals whose fathers passed away and who were married when the survey was conducted. The second and third columns show the estimation to equation (2) for generation II Hindu individuals who were married when the survey was conducted irrespective of the death of their fathers. We run separate regressions based on the Hindu and the Muslim sample for the placebo tests. Results using the Muslim sample are reported in columns 4-6.

We find that generation II Hindu females received a smaller amount of assets from generation I than their male siblings before the amendment, suggesting by the negative and significant coefficients on "female" across all panels and columns. Generation II Hindu females whose fathers died after the amendment did not receive more assets than those whose fathers died before 1994 relative to their male siblings (column 1). While this result is not consistent with what others find (Deininger *et al.*, 2003), our explanation is that, for urban residents, joint family property such as land does not take up as much as for people living in the rural area. We find that generation II Hindu females who married after the amendment received more assets than those who married before the amendment relative to their male siblings by 17% in value and 9% in share (column 2), suggesting that the amendment improves urban females' access to physical capital through intergenerational transfers other than inheritance. However, they still did not receive equal amount or share as their male siblings, suggested by the fact that the sum of γ_1 and γ_2 is statistically different from zero at least at the significance level of 10%.

Three results stand out from the specification in column 3. First, the HSAA had an insignificant effect with small magnitude on assets received by females who married in the pre-amendment period, supporting that our estimation does not simply capture the long-run trend. Second, the HSAA had large impact in the first ten years, suggested by the statistically significant point estimates of 0.206 in Panel A and 0.102 in Panel B. Third, the magnitude of the effect tends to decline over time. For example, the

coefficient on females who married in the second post-amendment period in Panel A is 0.050 as compared to 0.206 for those who married in the first post-amendment period. F-tests further confirm that the coefficients from the two post-amendment periods are statistically different. The third result, on the one hand, suggests that there were no long-term positive effects within generation II females, but on the other hand, helps us allay the fear that we are identifying some effects due to the persistent inflation of dowry.

In contrast, we find the relevant coefficients based on the Muslim sample are not only statistically insignificant but also have much smaller magnitude (columns 4-6), strengthening the point that our estimation of the impact of the HSAA is indeed caused by the reform itself.

4.2 Reproductive decisions of generation II females

Panel A and Panel B of table 3 report results for the number of female children and the ratio of female children, respectively. The first two columns show the estimation to equation (3) for generation II Hindu females without their individual characteristics. The following two columns show the same estimation controlling for their individual characteristics. Placebo tests using the Muslim sample are reported in columns 5-8.

Despite statistically insignificant coefficients across all panels and columns, we find completely different trends between the Hindu and the Muslim sample. Generation II Hindu females who married after the amendment raised more female children in terms of both the absolute number and the relative ratio than their sisters who married before the amendment. In contrast, we find a reduction in the number and the ratio of female children for the generation II Muslim females who married after 1994. These results are robust to specifications with and without individual-level controls. Although we cannot make a strong conclusion with this evidence that the HSAA increased the survival rate for generation III Hindu females, the finding here at least suggests that the HSAA do not have negative effects on the desirable number of female children everywhere (in contrast to Rosenblum 2013).

4.3 Assets of generation III to be received from generation II

The first two columns of table 4 show the estimation to equation (4) for generation III Hindu individuals without their mothers' characteristics. The following two columns show the same estimation controlling for the characteristics of generation II females. Placebo tests using the Muslim sample are reported in columns 5-8.

We find that generation III Hindu females reported a lower share of assets to be received from generation II than their male siblings before the amendment, measured by mothers' marriage before 1994. The share of assets to be received by generation III Hindu females whose mothers married after the amendment is 11% higher than those whose mothers married before the amendment relative to their male siblings (column 1), but they remained to lag behind their male siblings, as we can statistically reject their equality at the significance level of 1%. Three results stand out from the specification in column 2. First, the HSAA had an insignificant effect with small magnitude on assets to be received by generation III Hindu females whose mothers married in the pre-amendment period. Second, the HSAA has had large impact since it came into force, suggested by the statistically significant point estimates of 0.146 in the first post-amendment period and 0.170 in the second post-amendment period. Third, the magnitude of the effect persists over time, suggesting by the fact that we cannot reject the equality between the coefficients from the two post-amendment periods even at the significance level of 10%. In contrast, we find the relevant coefficients based on the Muslim sample again are not only statistically insignificant but also have much smaller magnitude (columns 5-6).

We are unable to conclude whether or not the growing assets of generation II Hindu females received from generation I translated into their increasing bargaining power within the marital family by looking at the coefficients on "log mother's assets from generation I" and its interaction with the female dummy, as generation I individuals were likely to transfer more assets as dowry to daughters who married to husbands from wealthier families. However, the robust findings to controlling for the characteristics of generation II females including the assets received from generation I (columns 3 and 4) support that the HSAA affected the assets to be received by generation III individuals through altering their parents' attitude towards inter-sibling equality.

4.4 Educational attainment of generation III

In spite of a clear increase in physical capital to be received by generation III Hindu females after the HSAA came into force, how the HSAA affected human capital of generation III females relative to their male siblings is less clear. On the one hand, it is possible that generation II individuals could rebalance the overall resource allocation by investing more in education for sons than for daughters to compensate for the fact that they would allocate more physical assets to daughters than before (consistent with the hypothesis of Behrman *et al.* 1982). If this is the case, the HSAA may widen the gender gap. On the other hand, generation II individuals could invest more in their daughters' education as they believe asset transfers to daughters alone were not enough for achieving inter-sibling equality (also consistent with the hypothesis of Behrman *et al.* 1982), as we find that daughters remained to lag behind their male siblings

in terms of the share assets to be received. In addition, as suggested by the efficiency hypothesis (Bernheim *et al*. 1986), generation II individuals are likely to increase human capital investment in their daughters together with physical capital transfers so that they can take advantage of the future improved economic opportunities under the new inheritance law.

The results for estimating equation (5) are presented in table 5. For generation III Hindu females whose education decisions were made after the reform, the HSAA brought them 0.503 more years of primary schooling than their brothers in the same cohort as compared to the old cohort, and more importantly, led to equal years of primary education with their brothers in the same cohort (the sum of β_1 and β_2 is not statistically different from zero). The nearly unchanged coefficient on females born between 1989 and 1996 after mothers' characteristics including the assets received from generation I are controlled for lend support to the mechanism that the HSAA changed generation II individuals' attitude towards human capital investment in daughters. The statistically insignificant and quantitatively smaller estimates based on the Muslim sample again increase our confidence that we are identifying the causal effects of the HSAA.

5. Conclusion

A dataset containing comprehensive information on three generations of individuals in urban India allows us to explore whether or not the HSAA had more far-reaching impacts than those that have been found in existing literature. We find that the HSAA increased the assets received by generation II females and the assets to be received by generation III females where joint family property is not the most important property. At the same time, the positive findings in terms of physical capital transfers for generation III females is reinforce by their increasing educational attainment, leading to potential improvement in females' future economic and social status. These outcomes were materialized through a more equal attitude towards female children introduced by the HSAA for both generation I and generation II parents. Our study provides new evidence for a rigorous evaluation to the HSAA which is crucial for recommending and generalizing the policy to countries where females do not have equal inheritance rights with males.

As a determinant instead of a simple symptom of gender inequality, property rights affected by the HSAA and targeting the root cause of the problem could affect other strong biases against females out of our current study. Physical capital could enable females to access credit and other inputs, thus facilitating females to achieve the same productivity as males in agriculture and entrepreneurship. Human capital could allow females to break occupational segregation and to close the gender gap in labor income. Further research could identify indirect impacts of the HSAA on gender inequality in multiple domains

through females' strengthened property rights. In addition, while Roy (2009) finds the positive effect of the HSAA on females' autonomy within the marital families based on three subjective measures, objective measures of bargaining power including consumption composition, children's nutrition and health, and females' time allocation between labor market and household work would further help identify this mechanism through which the HSAA empower females and influence the next generation.

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Table 1: Descriptive statistics

	Hindu			Muslim		
	Total	**Married Before 1994**	**Married After 1994**	**Total**	**Married Before 1994**	**Married After 1994**
Panel A: Generation II						
Females						
Year of birth	1962	1958	1978	1965	1960	1979
Assets received from G I (rupees)	49,096	49,174	48,826	40,457	40,032	41,519
Number of female children	0.98	1.00	0.91	1.15	1.20	1.03
Ratio of female children	0.73	0.74	0.71	0.79	0.79	0.78
No. of observations	10,554	8,187	2,367	2,542	1,815	727
Males						
Year of birth	1960	1955	1973	1963	1957	1975
Assets received from G I (rupees)	217,168	245,789	141,106	140,402	160,696	101,608
No. of observations	12,604	9,158	3,446	2,999	1,969	1,030
Panel B: Generation III						
Females						
Year of birth	1989	1986	2002	1993	1989	2003
Normalized share of assets to be received from G II	0.48	0.48	0.51	0.41	0.40	0.43
% born between 1974-1979	8.79			5.89		
Primary education (years)	7.62			6.63		
% born between 1989-1996	29.99			34.91		
Primary education (years)	8.53			8.17		
No. of observations	8,535	6,862	1,673	2,309	1,757	552
Males						
Year of birth	1987	1984	2003	1990	1987	2003
Normalized share of assets to be received from G II	0.94	0.95	0.85	0.87	0.88	0.86
% born between 1974-1979	10.79			7.95		
Primary education (years)	8.03			6.70		
% born between 1989-1996	25.87			29.38		
Primary education (years)	8.61			7.77		
No. of observations	11,082	9,195	1,887	3,121	2,462	659

Table 2: Assets received from parents by generation II individuals

	Hindu			Muslim		
Value of assets						
Female (γ_1)	-0.564***	-0.453***	-0.465***	-0.561***	-0.312**	-0.314**
	(0.131)	(0.123)	(0.125)	(0.155)	(0.143)	(0.151)
Female*Father's death post 1994	0.077			0.053		
	(0.057)			(0.091)		
Female*Married post 1994 (γ_2)		0.170**			0.025	
		(0.081)			(0.135)	
Female*Married between 1990-1993 (γ_{21})			0.044			-0.026
			(0.076)			(0.128)
Female*Married between 1994-2004 (γ_{22})			0.206**			0.001
			(0.098)			(0.168)
Female*Married after 2004 (γ_{23})			0.050			0.227
			(0.154)			(0.243)
Married post 1994		-0.083			0.103	
		(0.051)			(0.098)	
Married between 1990-1993			-0.035			-0.034
			(0.049)			(0.085)
Married between 1994-2004			-0.112*			0.081
			(0.061)			(0.125)
Married after 2004			0.152*			-0.066
			(0.092)			(0.175)
Observations	18,164	23,158	23,158	4,272	5,541	5,541
R-squared	0.764	0.760	0.760	0.771	0.732	0.732
Test:						
$\gamma_1+\gamma_2=0$		3.60*				
$\gamma_{22}=\gamma_{23}=0$			2.98*			
Share of assets						
Female (γ_1)	-0.363***	-0.291***	-0.289***	-0.277**	-0.173*	-0.154
	(0.100)	(0.085)	(0.087)	(0.109)	(0.091)	(0.099)
Female*Father's death post 1994	0.044			-0.021		
	(0.035)			(0.063)		
Female*Married post 1994 (γ_2)		0.090*			-0.075	
		(0.046)			(0.088)	
Female*Married between 1990-1993 (γ_{21})			0.009			-0.061
			(0.043)			(0.088)
Female*Married between 1994-2004 (γ_{22})			0.102*			-0.110
			(0.054)			(0.107)
Female*Married after 2004 (γ_{23})			0.064			-0.187
			(0.091)			(0.172)
Married post 1994		0.028			0.097	
		(0.033)			(0.062)	
Married between 1990-1993			0.010			0.021
			(0.031)			(0.062)
Married between 1994-2004			0.031			0.109
			(0.038)			(0.076)
Married after 2004			0.219***			0.162
			(0.061)			(0.113)
Observations	18,164	23,158	23,158	4,272	5,541	5,541
R-squared	0.173	0.209	0.210	0.209	0.265	0.265
Test:						
$\gamma_1+\gamma_2=0$		4.41**				
$\gamma_{22}=\gamma_{23}=0$			1.87			

Female is an indicator variable for whether the individual is female. Married post 1994 is an indicator variable for whether the individual got married after the amendment of the act, i.e. after the year 1994. Married between 1990-1993 is an indicator variable for whether the individual's marriage occurred in the four years leading up to the amendment of the act. Married between 1994-2004 years is an indicator variable for whether the individual got married in the first ten years after the amendment of the act. Married after 2004 is an indicator variable for whether the individual got married in the eleventh year after amendment of the act and beyond. Father's Death post 1994 is an indicator variable for whether father died after the amendment of the act, i.e. after the year 1994. All regressions include gender specific year of birth fixed effects and generation I household fixed effects. Robust standard errors for heterogeneity are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3: Reproductive decisions of generation II females

	Hindu				Muslim			
Number of girls								
Married post 1994	0.086		0.081		-0.267		-0.260	
	(0.083)		(0.083)		(0.180)		(0.185)	
Married between 1990-1993		-0.025		-0.015		0.213		0.201
		(0.076)		(0.077)		(0.187)		(0.186)
Married between 1994-2004		0.069		0.072		-0.083		-0.089
		(0.108)		(0.109)		(0.244)		(0.244)
Married after 2004		0.168		0.164		-0.146		-0.203
		(0.183)		(0.185)		(0.361)		(0.359)
Log assets from generation I			-0.012	-0.012			-0.013	-0.012
			(0.026)	(0.026)			(0.061)	(0.060)
Individual characteristics	No	No	Yes	Yes	No	No	Yes	Yes
Observations	8,710	8,710	8,710	8,710	2,012	2,012	2,012	2,012
R-squared	0.618	0.618	0.620	0.620	0.659	0.660	0.669	0.670
Ratio of girls								
Married post 1994	0.031		0.032		-0.228		-0.231	
	(0.065)		(0.066)		(0.142)		(0.149)	
Married between 1990-1993		-0.018		-0.012		0.066		0.064
		(0.060)		(0.060)		(0.165)		(0.162)
Married between 1994-2004		0.020		0.026		-0.168		-0.176
		(0.083)		(0.084)		(0.196)		(0.198)
Married after 2004		0.111		0.113		-0.152		-0.191
		(0.140)		(0.142)		(0.283)		(0.288)
Log assets from generation I			-0.031	-0.031			0.012	0.012
			(0.019)	(0.019)			(0.041)	(0.041)
Individual characteristics	No	No	Yes	Yes	No	No	Yes	Yes
Observations	8,710	8,710	8,710	8,710	2,012	2,012	2,012	2,012
R-squared	0.596	0.596	0.599	0.599	0.630	0.630	0.638	0.638

Married post 1994 is an indicator variable for whether the individual got married after the amendment of the act, i.e. after the year 1994. Married between 1990-1993 is an indicator variable for whether the individual's marriage occurred in the four years leading up to the amendment of the act. Married between 1994-2004 years is an indicator variable for whether the individual got married in the first ten years after the amendment of the act. Married after 2004 is an indicator variable for whether the individual got married in the eleventh year after amendment of the act and beyond. Individual characteristics include the level of education, the primary occupation, the category of income, age at marriage and year of birth. All regressions include year of birth fixed effects and generation I household fixed effects. Robust standard errors for heterogeneity are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4: Share of assets to be received from parents by generation III individuals

	Hindu				Muslim			
Female (γ_1)	-0.634***	-0.636***	-0.646***	-0.648***	-0.589***	-0.583***	-0.604***	-0.592***
	(0.050)	(0.050)	(0.049)	(0.049)	(0.089)	(0.090)	(0.085)	(0.087)
Female*Mother married post 1994 (γ_2)	0.113**		0.113**		0.032		0.020	
	(0.045)		(0.046)		(0.071)		(0.072)	
Female*Mother married between 1990-1993 (γ_{21})		0.064		0.064		-0.047		-0.072
		(0.042)		(0.042)		(0.076)		(0.078)
Female*Mother married between 1994-2004 (γ_{22})		0.146***		0.150***		0.002		-0.021
		(0.051)		(0.051)		(0.079)		(0.079)
Female*Mother married after 2004 (γ_{23})		0.170*		0.162*		0.058		-0.115
		(0.094)		(0.096)		(0.166)		(0.171)
Mother married post 1994	0.075*		0.012		0.082		-0.168**	
	(0.041)		(0.047)		(0.062)		(0.078)	
Mother married between 1990-1993		0.029		0.016		0.078		0.030
		(0.038)		(0.043)		(0.073)		(0.083)
Mother married between 1994-2004		0.091*		0.042		0.121*		-0.140
		(0.047)		(0.058)		(0.072)		(0.099)
Mother married after 2004		0.250***		0.113		0.414***		0.175
		(0.086)		(0.104)		(0.156)		(0.194)
Female*Log mother's assets from generation I (log)			-0.018***	-0.018***			-0.042***	-0.043***
			(0.007)	(0.007)			(0.013)	(0.013)
Log mother's assets from generation I (log)			-0.000	-0.001			0.102***	0.102***
			(0.013)	(0.013)			(0.027)	(0.027)
Mother's characteristics	No	No	Yes	Yes	No	No	Yes	Yes
Observations	18,419	18,419	18,419	18,419	5,172	5,172	5,172	5,172
R-squared	0.524	0.525	0.539	0.539	0.529	0.531	0.569	0.570
Test:								
$\gamma_1+\gamma_2=0$	60.41***		63.61***					
$\gamma_{22}=\gamma_{23}$		0.07		0.02				

Female is an indicator variable for whether the individual is female. Mother married post 1994 is an indicator variable for whether the mother got married after the amendment of the act, i.e. after the year 1994. Mother married between 1990-1993 is an indicator variable for whether the mother's marriage occurred in the four years leading up to the amendment of the act. Mother married between 1994-2004 years is an indicator variable for whether the mother got married in the first ten years after the amendment of the act. Mother married after 2004 is an indicator variable for whether the mother got married in the eleventh year after amendment of the act and beyond. Mother's characteristics include mother's level of education, primary occupation, category of income, age at marriage and year of birth. All regressions include gender specific year of birth fixed effects and generation I household fixed effects. Robust standard errors for heterogeneity are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5: Level of primary education received by generation III individuals

	Hindu		Muslim	
Female (β₁)	-0.573***	-0.524***	0.166	0.167
	(0.152)	(0.151)	(0.334)	(0.348)
Female*Born between 1989-1996 (β₂)	0.503***	0.465***	0.352	0.292
	(0.161)	(0.159)	(0.349)	(0.369)
Born between 1989-1996	0.395***	0.266	1.094***	0.880**
	(0.143)	(0.209)	(0.307)	(0.374)
Female*Log mother's assets from generation I		0.025		-0.046
		(0.025)		(0.060)
Log mother's assets from generation I		-0.001		-0.073
		(0.055)		(0.100)
Mother's characteristics	No	Yes	No	Yes
Observations	7,373	7,373	2,107	2,107
R-squared	0.662	0.683	0.679	0.706
Test:				
β₁+β₂=0	1.88	1.29		

Female is an indicator variable for whether the individual is female. The baseline category is children born between 1974-1979 (15-20 years old in 1994). Born between 1989-1996 includes children who were 0-5 years old in 1994 and who were born in the next two years of 1994. The youngest cohort (born in 1996) was 15 years old in the surveyed year, 2011. Since primary school ages in India are 6-14 years old, all children in the sample should have completed study in primary schools. We are interested in the impact of HSAA on primary education, so education years are truncated at grade 9. Mother's characteristics include mother's education, occupation, income, age at marriage and year of birth. All regressions include generation I household fixed effects. Robust standard errors for heterogeneity are in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.