Shifting Grounds: Social Norms and the Intergenerational Transmission of Wealth

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Abstract

How do social norms shape the intergenerational allocation of land, particularly regarding gender equity? We combine experimental and administrative data from Senegal with a model of social interactions to study how parental preferences and community norms influence land allocation to sons and daughters. A choice experiment that randomizes land allocations and normative cues reveals that parents are more responsive to community norms when allocating land to daughters—a pattern subsequently borne out in administrative records. Simulations show that this asymmetry can generate multiple equilibria in land allocation to daughters but not sons, so even modest shifts in perceived norms can meaningfully reduce gender gaps.

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1 Introduction

How wealth is transmitted across generations plays a fundamental role in shaping economic opportunities and influencing both household and individual well-being. In rural areas across the developing world, land stands out as the most valuable and enduring form of wealth. It provides not only economic security and productive potential, but also confers social status and bargaining power within the household and the broader community (Boserup, 1965). However, despite decades of legal and policy efforts aimed at strengthening women's property rights, gender disparities in land ownership and inheritance remain widespread (Doss et al., 2013; Ali et al., 2014). While institutional barriers and weak legal enforcement contribute to these gaps, they cannot fully account for their persistence. Deeply embedded social norms and customary practices continue to shape household behavior, determining whether—and how—land is allocated among family members. Daughters, in particular, often remain disadvantaged in both lifetime access to land and inheritance rights (Deininger and Castagnini, 2006; Deininger et al., 2013).[1]

This paper investigates the role of social norms in shaping household land allocation decisions, with a focus on how parents' intrinsic preferences and conformity motives interact to produce systematic disparities in the allocation of land to sons and daughters.[2] We combine experimental and administrative data from Senegal with a model of intra-household land allocation under social interactions to explore these dynamics. In our model, parents derive utility not only from their intrinsic preferences but also from aligning their behavior with that of others in their community. When individuals place weight on prevailing community practices (or perceptions thereof), coordinated behavior can arise (Brock and Durlauf, 2001). As a result, even modest intrinsic preference differences can lead to persistent gender gaps in land allocation across generations. Yet, the model also predicts that small shifts in perceived norms may trigger large, discontinuous behavioral changes, potentially reducing gender disparities.

To empirically examine these predictions, we designed and fielded a novel survey and hypothetical choice experiment with a representative sample of rural Senegalese households. The survey collected detailed data on household landholdings, titling practices, and beliefs about norms surrounding the allocation of land within families. In particular, it elicited nuanced measures of perceived social norms, distinguishing between *descriptive norms*—beliefs about what others in the community actually do—and *injunctive norms*—beliefs about what others consider appropriate—as well as personal attitudes (Cialdini et al., 1991; Bueno de Mesquita and Shadmehr, 2023). Respondents also completed a series of hypothetical choice tasks in which they ranked alternative land allocation profiles under experimentally varied scenarios. These profiles differed in the total amount of titled land, its distribution among household members—including the household head, spouses, daughters, and sons—and, crucially for our analysis, in the information provided about prevailing community practices regarding the inclusion of children on land titles.

[1] A meta-analysis by Doss et al. (2013) finds that although many women report some form of land ownership (individually or jointly), the incidence, area, and value of land solely owned by women are significantly lower than those for men. According to FAO data from eight SSA countries, women account for an average of 24% of agricultural landholders, ranging from just 3.1% in Mali to 50.5% in Cape Verde. Ten DHS surveys show that, on average, 39% of women and 48% of men report land ownership (sole or joint); sole ownership rates are 12% for women and 31% for men. LSMS-ISA data from six countries indicate that the share of total land area solely owned by women ranges from 31% in Malawi to under 1% in Nigeria. In most cases, men own between 1.1 and 6.9 times more land area than women.

[2] Conformity motives may arise from reputational concerns, perceived social approval, or the desire to maintain relative standing—particularly in settings where land allocation is publicly visible and may influence marriage market outcomes.

The experimental design offers several innovations. It allows us to identify and estimate preferences for formally allocating land to sons and daughters, separately capturing intrinsic valuations and responsiveness to social norms. By exogenously varying the normative context and attributes of the land title, we address the endogeneity and simultaneity problems that typically confound observational data. The experiment design also maps into our theoretical framework, allowing for counterfactual simulations of equilibrium behavior when intrinsic preferences, conformity motives, or (perceived) aggregate behavior change. Finally, because formal land titling remains relatively limited in our study area, observational data provide little variation to study how such decisions interact with social norms; our experimental approach helps overcome this limitation.[3]

The estimates from our hypothetical choice experiment provide clear evidence on how social norms and parental preferences may jointly shape intra-household land allocation decisions. Respondents consistently prefer land titles that allocate more land to themselves and some to their spouses, with little variation across individuals. Systematic gender asymmetries, however, emerge in land allocations to children: under *weak* norms—when the behavior is relatively uncommon in the community—respondents prefer titles that allocate more land to sons than to daughters. However, parents' valuation of hypothetical titles including daughters is substantially more responsive to perceived community behavior: when others are seen as including daughters on the land titles, respondents' likelihood of doing so increases sharply. Additional analyses reveal no systematic differences between village- and family-based norms or between the allocation of inherited and purchased land, though parents appear slightly more responsive to the behavior of extended family members when deciding whether to allocate land to sons.

To better quantify the strength of these preferences, we construct *willingness-to-pay* (WTP) measures that indicate how much land parents would be willing to forgo for themselves in order to make sons or daughters equal co-owners of the household's land. The results reveal substantial resistance to including daughters on land titles under weak norms, with negative WTP estimates often exceeding two times the mean household landholding in absolute value. As normative support increases, however, WTP for daughters becomes positive—indicating that respondents are willing to give up land to align with prevailing community behaviors. By contrast, WTP for sons remains relatively stable across normative contexts, reflecting stronger intrinsic preferences and lower sensitivity to social influence.

We use the estimates from the hypothetical choice experiment to calibrate a theoretical model of land allocation under social interactions and simulate equilibrium behavior under different normative environments and counterfactual scenarios. The simulations reveal that modest shifts in community behavior—or perceptions of such behavior—can trigger large, discontinuous increases in the likelihood that land is allocated to daughters. This pattern is consistent with the existence of multiple equilibria: a *low-inclusion* equilibrium, in which few daughters receive land because individuals expect others not to include daughters on titles, and a *high-inclusion* equilibrium, in which land is more commonly allocated to daughters due to widespread perceived support. By contrast, for sons, such multiplicity is unlikely to arise: stronger intrinsic preferences and weaker conformity motives produce a unique equilibrium characterized by high

[3]Our hypothetical choice experiment belongs to the broader class of stated preference methods, such as conjoint analysis and contingent valuation, widely used to estimate preferences over multidimensional options. Recent studies indicate that well-designed hypothetical tasks can predict real-world behavior (Hainmueller et al., 2015; Wiswall and Zafar, 2018; Adams and Andrew, 2025).

prevalence of land allocated to sons. Our simulations further show that reducing conformity pressures or removing gender gaps in parents' intrinsic preferences may help eliminate the low-inclusion equilibrium for daughters, aligning behavior across the population around more gender-equitable outcomes.

Our survey data reveal widespread misperceptions about community support for gender-equitable land rights, echoing patterns documented in other settings (Bursztyn et al., 2020). Many respondents personally support including daughters on land titles and granting girls equal inheritance rights, yet underestimate how commonly these views are shared by others in their community. This divergence between private attitudes and perceived social norms is much less prominent in the case of sons, where individual views closely align with perceptions of prevailing norms. Taken together with insights from our simulation exercises, these findings suggest that interventions designed to correct social misperceptions could help shift communities out of low-inclusion equilibria and accelerate progress toward more equitable land rights for daughters. More broadly, disentangling the roles of intrinsic preferences, conformity pressures, and the role of norms misperception provides actionable guidance for designing interventions to promote gender equity in property rights. Our results also underscore that the effectiveness of such interventions depends critically on the surrounding normative environment.

Our study is embedded within the broader context of the World Bank's Senegal Cadastre and Land Tenure Improvement Project (PROCASEF), a national initiative aimed at increasing formal land titling and reducing gender disparities in property rights. Our primary data come from the baseline survey of a larger study testing interventions to increase the inclusion of adolescent girls as co-owners on land titles. Our analysis uses data collected at baseline to explore how prevailing social norms and parental preferences jointly shape intra-household decisions over land allocation to sons and daughters, providing important insight into the behavioral mechanisms and normative dynamics that PROCASEF ultimately seeks to influence and yielding policy-relevant insights for other land certification efforts throughout the region.

To assess whether the patterns identified through our experiment and simulations also manifest in actual land titling decisions, we complement our main analysis with evidence from newly available administrative data on land titles issued during the early stages of the PROCASEF roll-out. The administrative data reveal that sons are more likely than daughters to appear on newly issued formal land titles overall, and that daughters' inclusion is highly sensitive to local norms and their perception. Although this study focuses on Senegal, the mechanisms we highlight are likely relevant across rural settings where land is a central vehicle for intergenerational wealth transmission and social networks strongly shape individual behavior. In these contexts, carefully designed interventions that push beliefs or practices past key thresholds may offer a powerful path toward reducing persistent gender gaps in land ownership.

Related Literature. This paper contributes to and bridges four key strands of literature. First, it relates to the theoretical and empirical study of social interactions and the challenges involved in identifying them empirically. Seminal work by Akerlof (1997) and Brock and Durlauf (2001, 2002) formalized models of social influence and coordination, showing how conformity pressures can generate multiple equilibria and discontinuous behavioral shifts.[4] More recently, Gulesci et al. (2025) extended this framework to assess how

[4]While Brock and Durlauf (2001, 2002) formalized social interactions in discrete choice settings using methods from statistical mechanics, and Akerlof

partial norm compliance can facilitate or block social change. Our model and application follow this social interaction structure but apply it to the intergenerational allocation of land. Manski (1993) and Moffitt (2001) emphasize the empirical difficulties of separating social interactions from correlated effects and endogenous group formation. Our experimental approach directly addresses these challenges by randomly varying community norms, thereby exogenously shifting the social environment.

Second, we build on the expanding use of hypothetical choice experiments to study preferences in economics. By experimentally varying choice attributes, this approach yields identification in settings where revealed preference data are limited or confounded by equilibrium behavior. Wiswall and Zafar (2018) and Wiswall and Zafar (2021), for instance, use such designs to study preferences over job and family attributes in the U.S. and Pakistan. Adams and Andrew (2025) and Calvi et al. (2024) apply the same methodology to examine parental preferences over girls' marriage and education outcomes in India and Pakistan. We extend this approach to a new domain: eliciting intra-household land allocation preferences under experimentally varied community norms.

Third, we contribute to a large literature on gender norms and economic outcomes in low- and middle-income countries. Ashraf et al. (2020), for instance, demonstrate that the impacts of school construction programs in Indonesia and Zambia on girls' outcomes depend critically on prevailing social norms around marriage. Calvi and Keskar (2023) examine dowries, intra-household resource allocation, and domestic violence in India, showing how social norms surrounding marital dissolution can amplify or dampen the effects of legal reforms. In rural Bangladesh, Munshi and Myaux (2006) model the fertility transition as a coordination process among women constrained by social norms, where new equilibria (lower fertility) emerge only once enough women deviate from traditional behavior. Bursztyn et al. (2020) document widespread misperceptions about gender norms in Saudi Arabia, where young married men privately support women's employment but underestimate others' support, leading to inefficiently low female labor force participation. While this prior work highlights how social norms—and perceptions thereof—shape individual behavior, our analysis advances this literature by experimentally disentangling intrinsic preferences from conformity motives and documenting how social coordination mechanisms may perpetuate gender inequality in land ownership.

Finally, we connect these insights to a large body of work on gender and land rights in low-income settings. Prior research documents persistent gender gaps in land ownership, tenure security, and agricultural productivity, highlighting the role of both legal barriers and customary norms in limiting women's access to land (Deininger and Castagnini, 2006; Goldstein and Udry, 2008; Ali et al., 2014; Kilic et al., 2015). We build on this work and separately identify the roles of parental preferences and conformity motives in shaping gender disparities in land allocation and titling. In addition, carefully tailored survey questions allow us to provide a rich description of prevailing social norms around land allocation within families in our study area. A related literature shows that strengthening tenure security—particularly through formal titling—can increase investment, labor force participation, and child human capital (Field, 2007; Do and Iyer, 2008; Goldstein et al., 2018). By bringing tools from the social interactions literature to the study of

(1997) incorporated conformity and identity motives in a continuous choice model, both built on a longer line of work. Earlier contributions include Schelling (1971) on neighborhood segregation and tipping points, Jones (1984) on conformism, and Becker (1991, 1993) on social influences in economic behavior.

land rights, our analysis provides a behavioral foundation for understanding the persistence of gender gaps and the potential impact of policy interventions.

The remainder of the paper is organized as follows. Section 2 provides background on land rights and social norms in Senegal. Section 3 describes the survey design, experimental framework and empirical strategy. Section 4 offers a descriptive analysis of landholdings and associated social norms in our study area. Section 5 presents the main estimation results. Section 6 introduces a theoretical model of intra-household land allocation under social interactions. Section 7 uses the model to simulate counterfactual scenarios and explores policy implications. Section 8 explores administrative data from the early roll-out of PROCASEF. Section 9 concludes. Additional analyses and supplementary material are provided in the Appendix.

2 Background

2.1 Senegal's Land Tenure System

Land tenure in Senegal is governed by a dual system that combines formal legal institutions with entrenched customary practices. Under the 1964 *Loi sur le Domaine National*, all land not formally registered as private property is classified as part of the national domain and legally owned by the state. Local governments (communes) are responsible for allocating usage rights through deliberation by municipal councils and land commissions. In practice, however, land access and distribution remain heavily influenced by customary authorities—village chiefs, family elders, and other informal actors—who continue to play a central role in local land governance. Particularly in rural areas, formal land registration is rare, and tenure security is typically derived from continuous occupation, oral agreements, or community recognition rather than legal documentation. Urban and peri-urban areas are somewhat more likely to feature titled plots and formal transactions, though cadastral coverage remains partial and uneven.

Efforts to modernize land governance and enhance tenure security are underway. Launched in 2021 with support from the World Bank, the *Projet Cadastre et Sécurisation Foncière* (PROCASEF) aims to establish a national cadastre, digitize land records, and formalize land rights across rural and peri-urban Senegal. By producing geo-referenced land data and supporting systematic land registration, PROCASEF seeks to reduce land-related conflict and promote legal certainty (PROCASEF, 2021a). Moreover, the project seeks to capitalize on a recent national decree—Decree No. 2022-2307—which permits the allocation of formal land rights to and co-ownership by multiple household members.

Traditionally, land rights have been exercised and transmitted within families even when plots are not formally registered. Parents typically retain effective control over family land during their lifetime, while children access land through cultivation rights, family membership, and expectations of future inheritance. Upon a parent's death and in the absence of conflicts or disputes, land transmission is governed by a combination of statutory law, Islamic inheritance principles, and customary practices.[5] Importantly, inheritance

[5]Individuals may choose between civil law and Islamic inheritance regimes. Under civil law, sons and daughters inherit equal shares. Under Islamic law, sons typically inherit twice the share of daughters. Under Senegalese law, minors may possess land regardless of gender, but property must be administered on their behalf by parents or legal guardians until they reach adulthood.

and land titling are distinct institutions. In the absence of formal co-titling, children's claims to family land are typically mediated through use rights and inheritance expectations. Including children on a land title therefore represents more than a promise of future inheritance: it confers legally recognized ownership rights prior to the parent's death and may strengthen claims to land both during the parent's lifetime and in the eventual division of family assets.

2.2 Gender Gaps in Land Titling and Allocation

Despite legal guarantees of equal access, gender-based disparities in land tenure remain stark. Women in Senegal continue to hold a disproportionately small share of registered land rights, and customary norms often favor the patrilineal transmission of land. Daughters possess legally recognized inheritance rights under both civil and Islamic law. Yet the transmission of land frequently results in substantial gaps between women's legal entitlements and their effective access to land.

These disparities are reinforced by barriers to formal ownership. Land registration procedures can be costly and difficult to navigate, particularly for women with limited financial resources, social capital, or political influence. As a result, women often access land through male relatives and face a heightened risk of dispossession in cases of divorce, widowhood, or family conflict (World Bank, 2024). Land insecurity has important consequences for women's economic autonomy, bargaining power, and vulnerability to gender-based violence, particularly in the form of economic and psychological abuse linked to inheritance disputes and housing precarity (PROCASEF, 2021b).

A number of civil society organizations and donor-funded initiatives have sought to improve women's access to land. The Association des Juristes Sénégalaises (AJS), for example, has implemented legal clinics and awareness campaigns in rural communes (Scales-Trent, 2010), while World Bank-supported pilots have experimented with allocating a share of irrigated land to women. These initiatives have had some success in expanding land security for women, particularly married women through joint titling arrangements or family farming schemes. However, most interventions are not designed with daughters in mind—especially unmarried or young adult women—who remain largely absent from the policy discourse.

This exclusion may have important intergenerational consequences. Daughters often grow up without a formally recognized claim to family land and with limited expectations of obtaining ownership rights in adulthood, particularly before marriage. The absence of formal recognition during the transition from the natal family to adulthood may reinforce gender inequality across generations and deepen women's dependence on male relatives. Despite its importance, there has been limited quantitative analysis of how land is allocated within families across generations, or how social norms and personal preferences shape these intrahousehold decisions. Understanding these dynamics is essential not only to ensure that land formalization efforts do not inadvertently reinforce existing inequalities, but also to design complementary interventions capable of reducing persistent gender gaps in land ownership.

3 Empirical Strategy

3.1 Survey Design and Experimental Approach

The data are drawn from a baseline survey implemented prior to the roll out of PROCASEF. The survey was conducted in four regions—Thiès, Fatick, Diourbel, and Louga—and targeted households that met two criteria: (i) they owned at least one plot eligible for titling (that is, not already titled and not located in a protected area); and (ii) they had at least one daughter aged 13–18, as identified in a pre-baseline listing exercise.

The survey collected detailed data on landholdings, land use and titling practices. Respondents identified all parcels they possessed or used—whether for residential, agricultural or pastoral purposes—and reported on their current use and legal status. In particular, they were asked whether they were familiar with formal land titles (referred to as *titres fonciers* or *titres d'affectation*), whether any of their parcels were formally titled, and which household members—such as wives, sons, or daughters—were included on the titles–as well as who held customary rights over the land.

The survey carefully elicited respondents' beliefs about prevailing social norms regarding land allocation within families.[6] Respondents were asked what they believed most people in their village actually did when allocating land to different household members (daughters, sons and spouses), and their preferences regarding land allocation (what they wished to do). Additional survey modules collected information on personal attitudes about various aspects of land titling and intra-household land allocation, allowing for a comparison between individuals' opinions and their perception of the opinions of others in their community.

In addition, respondents completed a hypothetical choice experiment designed to disentangle their intrinsic preferences for land allocation to sons and daughters from their desire to conform to the respective prevailing community norms. In the experiment, each respondent was presented with four distinct choice tasks.[7] In each task, they were shown three hypothetical land titling profiles and asked to indicate their most and least preferred option, thereby generating a full ranking of the three alternatives.

Each profile described three central attributes: (i) the total amount of titled land, (ii) the distribution of land shares across the respondent, spouses, sons, and daughters, and (iii) information about the behavior of others in the community regarding land titling practices. To reduce cognitive burden and enhance comparability, the normative context was conveyed using simple categorical indicators: each scenario specified whether *very few*, *some*, or *most* people in the relevant community (randomized to be either the village or the extended family) included children of a given gender on land titles. We restricted this normative information to refer to either sons (in what we later call Choice Experiment "S") or daughters (Choice Experiment

[6] The selected respondent was randomly chosen to be either the household head, the spouse, or the household head and spouse together–with equal probability–prior to the the social norms and hypothetical choice experiment module.

[7] These choice tasks were assigned during dedicated phone surveys and respondents were sent vignettes to review through MMS or Whatsapp. Enumerators would read the question prompt and also describe each vignette in details. Each phone number received up to three attempts on different days within a week, with 2–3 attempts per day spaced at least three hours apart. If a respondent could not be reached after three days of attempts, the enumerator submitted a non-response form via the tablet. This happened in 15% of cases. When the call reached the intended respondent, agents confirmed that they were alone and could answer privately. If the respondent's phone could not receive images (which was an extremely rare occurrence), an alternate number was requested. Respondents were asked to delete all received images after the call. Feedback from the survey team confirmed that this was a successful approach and that respondents were able to understand the task and respond accurately to the choice questions.

"D") but not both within a task, enabling respondents to focus on a single dimension of social comparison.[8] These design choices helped ensure that the decision tasks remained intuitive and tractable.

To enable meaningful comparisons across the three hypothetical land titling profiles in each choice set, respondents were explicitly instructed to assume that all other factors—beyond the experimentally varied attributes—remained constant. The total land amounts used in the scenarios were calibrated to reflect the empirical distribution observed among our respondents. Table A1 in the Appendix summarizes the distribution of characteristics across all choice scenarios. For all hypothetical choices, we used pie-chart visuals with color codes to help respondents grasp the land allocation profiles, and visual aids to illustrate how common a specific behavior was in a community. Figures A3 and A4 provide an example of how the vignettes were presented to respondents. The vignette format was generally well-received, with enumerators reporting that it helped respondents distinguish and compare the alternative profiles without causing significant decision fatigue.

Four dimensions were randomized at the respondent level and held constant across all tasks completed by a given individual: whether the land was described as inherited or purchased; whether the relevant social reference group was the village or extended family; whether the normative information referred to sons or daughters; and whether the intended respondent was the household head, a spouse, or both. For consistency, our main analysis focuses on male heads of household and assesses sensitivity to this dimension as a robustness check.

It is important to recognize that in observational data, realized land allocation decisions reflect the combined influence of individual preferences and prevailing social norms. However, these forces are jointly determined and often difficult to disentangle in practice. A household's decision to formally allocate land to daughters or sons may be driven by intrinsic preferences, desire to conform to community norms, or a combination of both. Moreover, behavior and norms are typically endogenously linked and mutually reinforcing, which poses a significant empirical challenge: without exogenous variation in the normative environment—or data on how the same individuals behave under systematically different normative contexts—it is not possible to recover the underlying drivers of observed behavior. Our experimental design addresses this identification problem by independently varying the strength of social norms across otherwise comparable scenarios. Moreover, in settings like ours where formal titling is limited, there may be substantial pent-up demand for titling that is never realized due to institutional constraints. In such cases, observed land titling patterns may reflect feasible options rather than actual preferences. Our experiment helps overcome this limitation as well, by offering respondents unconstrained hypothetical scenarios in which their choices reflect intent rather than constraints.

Our hypothetical choice methodology falls within the broader class of "stated choice" approaches, which include conjoint analysis and contingent valuation methods commonly used in marketing and environmental economics to estimate preferences over multidimensional alternatives. These methods elicit choices in hypothetical scenarios to recover the relative importance of different attributes and the tradeoffs individuals are willing to make. While concerns about external validity are sometimes raised, recent work has helped

[8] The literature on conjoint analysis suggests that respondents often struggle to process more than six attributes and compare more than four options at a time (Johnson and Orme, 1996). We thus designed hypothetical choice tasks in which respondents were asked to compare three land profiles, each defined by a subset of five independent attributes (total land, intra-household shares summing to one, and normative context).

address these critiques (see e.g. Hainmueller et al. (2015); Wiswall and Zafar (2018); Adams and Andrew (2025)).[9]

3.2 Empirical Model

Our empirical specification closely mirrors the structure of the choice experiment and adopts a linear utility specification. As noted above, each respondent was presented with four sets of three hypothetical land titling profiles, with each profile describing the total amount of land on a formal title, a specific distribution of land among family members, and a short vignette with varying descriptive norms—that is, what others in the respondent's community typically do when allocating land. Respondents were asked to identify both their most and least preferred profile within each set.

Let $R_i = (r_{i1}, r_{i2}, r_{i3})$ denote the ranking provided by respondent i, where r_{ij} indexes the profile ranked in position j. Under standard revealed preference assumptions, this implies the utility ordering: $U_{r_{i1}} > U_{r_{i2}} > U_{r_{i3}}$. Following the Luce and Suppes Ranking Choice Theorem (Luce and Suppes, 1965), we interpret the observed rankings as a sequence of discrete choices. That is, the respondent is assumed to first select the most preferred profile from the full choice set, then choose their most preferred among the two remaining options. This approach aligns closely with the actual design of the survey task, in which respondents first identified their most preferred profile and then selected the least preferred among the remaining two, implicitly revealing a full ranking.

We assume that the utility U_{ij} that respondent i derives from land profile j is additively separable into observed and unobserved components:

$$U_{ij} = \boldsymbol{X}'_{ij}\tilde{\boldsymbol{\beta}}_{\boldsymbol{i}} + \boldsymbol{Z}'_{j}\tilde{\boldsymbol{\gamma}}_{\boldsymbol{i}} + \boldsymbol{W}'_{ij}\tilde{\boldsymbol{\alpha}}_{\boldsymbol{i}} + \varepsilon_{ij},$$

where $\boldsymbol{X}_{ij}$ includes the amount of land allocated to self, sons, spouses, and daughters, and, in some specifications, indicators for whether the land to self or sons exceed certain thresholds (for instance, whether the respondent is allocated more than their spouses or children, or whether sons are allocated more than daughters).[10] The vector $\boldsymbol{Z}_j$ includes indicators for the behavior of others in the community, as exogenously varied in our experiment, capturing the prevailing social norms around allocating land to sons or daughters. The vector $\boldsymbol{W}_{ij}$ includes terms that interact the allocated land to daughters or sons with corresponding norm indicators, allowing the valuation of land allocations to depend on the strength of social norms.[11] Finally, ε_{ij} is an unobserved preference shock, assumed to follow an i.i.d. Type I extreme value distribution.

[9] Hainmueller et al. (2015) conduct a rare validation study comparing conjoint-based estimates of immigration preferences with actual voting behavior in Switzerland, finding that conjoint designs can closely replicate real-world decisions. In the context of higher education choices in the United States, Wiswall and Zafar (2018) find a strong and systematic relationship between preferences estimated using a hypothetical choice experiment and later actual workplace characteristics. Adams and Andrew (2025) also show that preferences recovered using a state choice experiment correctly predict realized marriage and schooling trajectories of young girls in rural India.

[10] To avoid multicollinearity stemming from the fact that land shares to different household members must sum to one by construction, we include the amount of land allocated to the respondent, along with the shares allocated to spouses, sons, and daughters. To ensure comparability across households, we normalize these shares by the number of spouses, sons, and daughters, respectively. Hence, $\boldsymbol{X}$ and $\boldsymbol{W}$ vary across i and j. Our results are robust to omitting this normalization; results are available upon request.

[11] While community norms are likely fixed (and thus not chosen) in reality, we experimentally vary them across alternatives to identify whether respondents have systematic preferences over different normative environments. This design allows us to distinguish preferences for the allocation profile itself, preferences for the normative context in which that allocation occurs, and the interaction between the two.

Following Beggs et al. (1981), the probability that respondent i provides the ranking $R_i = (r_{i1}, r_{i2}, r_{i3})$ is given by:

$$\Pr(R_i) = \prod_{h=1}^{2} \left[\frac{\exp\left(\boldsymbol{X}'_{ir_{ih}}\tilde{\boldsymbol{\beta}}_{\boldsymbol{i}} + \boldsymbol{Z}'_{r_{ih}}\tilde{\boldsymbol{\gamma}}_{\boldsymbol{i}} + \boldsymbol{W}'_{ir_{ih}}\tilde{\boldsymbol{\alpha}}_{\boldsymbol{i}}\right)}{\sum_{m=h}^{3} \exp\left(\boldsymbol{X}'_{ir_{im}}\tilde{\boldsymbol{\beta}}_{\boldsymbol{i}} + \boldsymbol{Z}'_{r_{im}}\tilde{\boldsymbol{\gamma}}_{\boldsymbol{i}} + \boldsymbol{W}'_{ir_{im}}\tilde{\boldsymbol{\alpha}}_{\boldsymbol{i}}\right)} \right].$$

We estimate two versions of the model to examine both average preferences and heterogeneity across individuals. The first is a fixed-coefficient rank-ordered logit specification, estimated by maximum likelihood, which provides baseline estimates of the direction and magnitude of average preferences in the sample. The second version allows for random coefficients, enabling preference parameters to vary across individuals and capturing unobserved heterogeneity in how respondents evaluate different land allocation profiles. This more flexible specification is estimated using maximum simulated likelihood, allowing us to quantify not only the average influence of social norms but also the extent of individual-level variation in responsiveness to these norms. Standard errors are clustered at the respondent level to account for potential correlation across the multiple choice tasks completed by each individual. The baseline models are estimated on a restricted sample of male household heads with at least one son, one daughter, and one spouse. To explore potential sources of heterogeneity in preferences, we also estimate the model on subsamples defined by key socio-economic and demographic characteristics as well as details of the experiment itself. Finally, we estimate the model based on responses of female heads of household and wives of male heads of household, to assess heterogeneity in preferences by gender.

4 Sample and Data Description

4.1 Study Sample

Table 1 presents key characteristics of the surveyed households. Just over one-quarter of households are polygamous, and 16 percent are headed by women. Families are relatively large, with an average of 2.7 sons and 2.9 daughters per household, and approximately 1.7 sons and 2.4 daughters under the age of 18.[12] More than half of household heads are literate in at least one language, though literacy among wives remains lower.[13] Most households own basic assets such as a mobile phone and a mat or bed, while fewer possess costlier or less essential items: 30 percent own a refrigerator, 53 percent a television, and 22 percent a motorized vehicle. Livestock remains an important household asset, with 88 percent of households reporting ownership. As a result of the focus of the parent study discussed above, nearly all households in our sample report owning land (though almost entirely informally).

Plot-level data in Panel B of Table 1 offers deeper insight into patterns of land use and management. Most plots have been used for a long time—an average of 27 years—and are typically located close to the household. Plot sizes average 1.2 hectares (though households tend to hold multiple plots) and the vast majority—95 percent—lack formal land titles, underscoring the predominance of informal tenure arrangements. The majority of plots (63 percent) were obtained through family members, while a smaller share

[12] This is the result of the sampling design of the parent study, which oversamples families with teenage daughters.

[13] Note that respondents never had to read the survey instrument themselves—enumerators read and explain all questions.

originate from NGOs or companies (21 percent); allocations by official or traditional authorities are rare. Marked gender disparities persist in land ownership, with only 28 percent of plots reported as being owned by women, either jointly or individually.

4.2 Social Norms about Land Titling and Allocation

Figure 1 presents respondents' perceptions of land titling and intra-family allocation practices in their communities. For each outcome—whether households hold a formal land title (Panel A), include sons on a title (Panel B), or include daughters (Panel C)—respondents were asked both what they believe others in their village currently do and what they believe others would like to do. Following Cialdini et al. (1991), we interpret the former as a measure of *descriptive norms* (perceived common practice) and the latter as a measure of *injunctive norms* (perceived social approval). In this context, gaps between the two likely reflect not only normative expectations but also institutional constraints.

The gap is especially pronounced for actual land titling: while few respondents believe that most households currently do hold formal titles, a substantial majority report that others in the community would like to. This disconnect points to high latent demand constrained by institutional frictions—such as administrative bottlenecks or limited access to cadastral services—and aligns with PROCASEF's goal of expanding land registration and streamlining the titling process. The sizable divergence between perceived practices and perceived preferences suggests that strengthening administrative capacity could help bring behaviors in line with underlying demand.

Turning to the central focus of this paper, beliefs about the inclusion of children on land titles reveal a distinct pattern. For both sons and daughters, respondents perceive that formal inclusion is relatively rare—likely reflecting the broader lack of formal titling just described. However, perceptions of others' preferences diverge by gender: while most respondents believe that community members want to include sons on titles, perceived support for including daughters is considerably lower. This asymmetry underscores the potentially powerful role of social norms in shaping intergenerational land allocation, and raises the concern that, absent targeted efforts, the removal of formal barriers to titling could inadvertently reinforce rather than reduce gender gaps in land ownership.[14]

4.3 Personal and Perceived Attitudes about Land Titling and Allocation

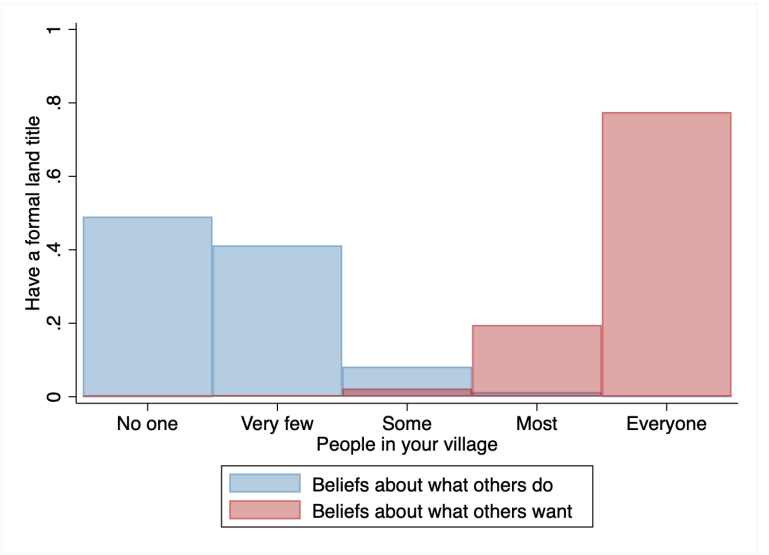
In addition to the belief-based questions analyzed above—designed to elicit perceptions of descriptive and injunctive norms—respondents were asked whether or not they personally agreed with three statements related to gendered inheritance and land titling practices. These questions, embedded in a broader module on gender norms, aim to capture personal attitudes toward gender equity in land rights. To assess beliefs about others' attitudes, respondents were then asked to estimate how many out of ten men—and separately, how many out of ten women—in their community would agree with each of the same statements. Together, these data allow us to directly compare individuals' personal views with their perceptions of prevailing

[14] A similar pattern emerges when respondents are asked about the inclusion of wives on land titles: responses closely mirror those observed for daughters, suggesting that norms surrounding female exclusion extend beyond intergenerational transfers.

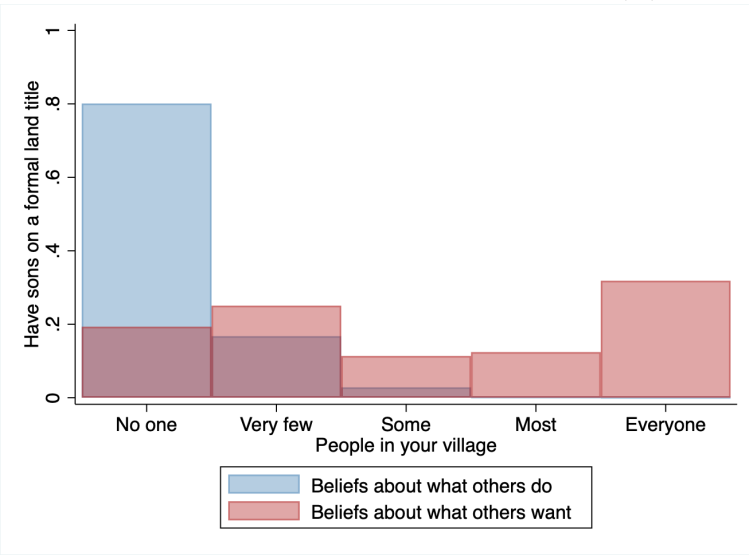
Table 1: Summary Statistics

	Mean	St. Dev.	Median	Min	Max
Panel A: Household-Level Characteristics (Obs: 4,034)					
Number of sons	2.695	1.931	2.000	0.000	12.000
Number of sons ≤18	1.735	1.574	1.000	0.000	11.000
Number of daughters	2.855	1.551	3.000	0.000	13.000
Number of daughters ≤18	2.400	1.430	2.000	0.000	12.000
Polygamous household	0.271	0.444	0.000	0.000	1.000
Female-headed household	0.163	0.369	0.000	0.000	1.000
HH head literate in any language	0.521	0.500	1.000	0.000	1.000
Wife(s) literate in any language	0.342	0.474	0.000	0.000	1.000
Land Ownership:					
Owns land	0.992	0.089	1.000	0.000	1.000
Area of agricultural plots (ha)	3.113	5.057	1.500	0.000	94.500
Area of residential plots (ha)	0.157	0.480	0.080	0.000	15.000
Area of plots for other uses (ha)	0.610	2.957	0.000	0.000	88.000
Number of plots	3.338	2.012	3.000	0.000	22.000
Number of agricultural plots	1.862	1.803	1.000	0.000	21.000
Other Assets:					
Owns a refrigerator	0.300	0.458	0.000	0.000	1.000
Owns a mat/bed	0.926	0.262	1.000	0.000	1.000
Owns a radio	0.455	0.498	0.000	0.000	1.000
Owns a television	0.529	0.499	1.000	0.000	1.000
Owns a mobile phone	0.979	0.143	1.000	0.000	1.000
Owns a bicycle	0.155	0.362	0.000	0.000	1.000
Owns a motorized vehicle	0.218	0.413	0.000	0.000	1.000
Owns jewelry/watches	0.115	0.319	0.000	0.000	1.000
Owns animals	0.878	0.327	1.000	0.000	1.000
Panel B: Plot-Level Characteristics (Obs: 13,467)					
No formal land title	0.952	0.214	1.000	0.000	1.000
Plot is owned by women	0.276	0.447	0.000	0.000	1.000
Years land has been used	26.589	20.768	20.000	1.000	100.000
Distance to plot (km)	1.695	10.357	1.000	0.000	700.000
Plot size (ha)	1.174	2.388	0.500	0.000	85.000
Actors involved in land transaction:					
Family members	0.634	0.482	1.000	0.000	1.000
Other (e.g. NGO, company)	0.212	0.409	0.000	0.000	1.000
Other villagers	0.083	0.276	0.000	0.000	1.000
Traditional authorities	0.051	0.219	0.000	0.000	1.000
Official authorities	0.020	0.141	0.000	0.000	1.000

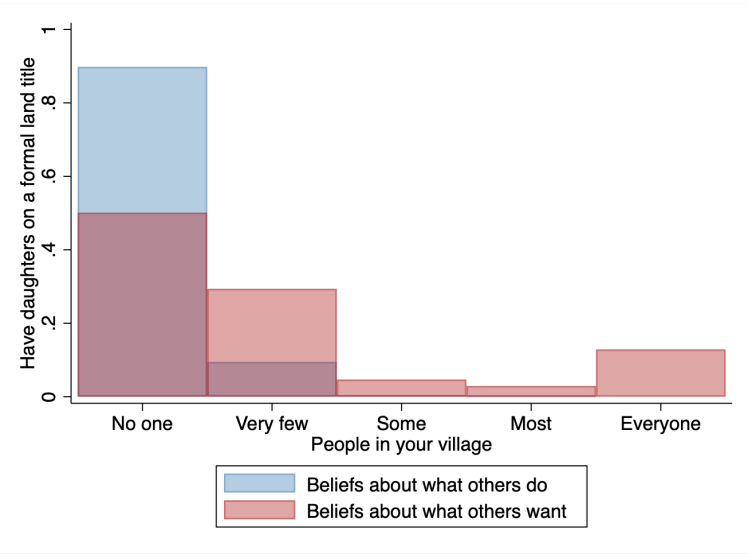
Figure 1: Social Norms about Land Titling and Allocation



(A) Formal Land Title



(B) Land to Sons



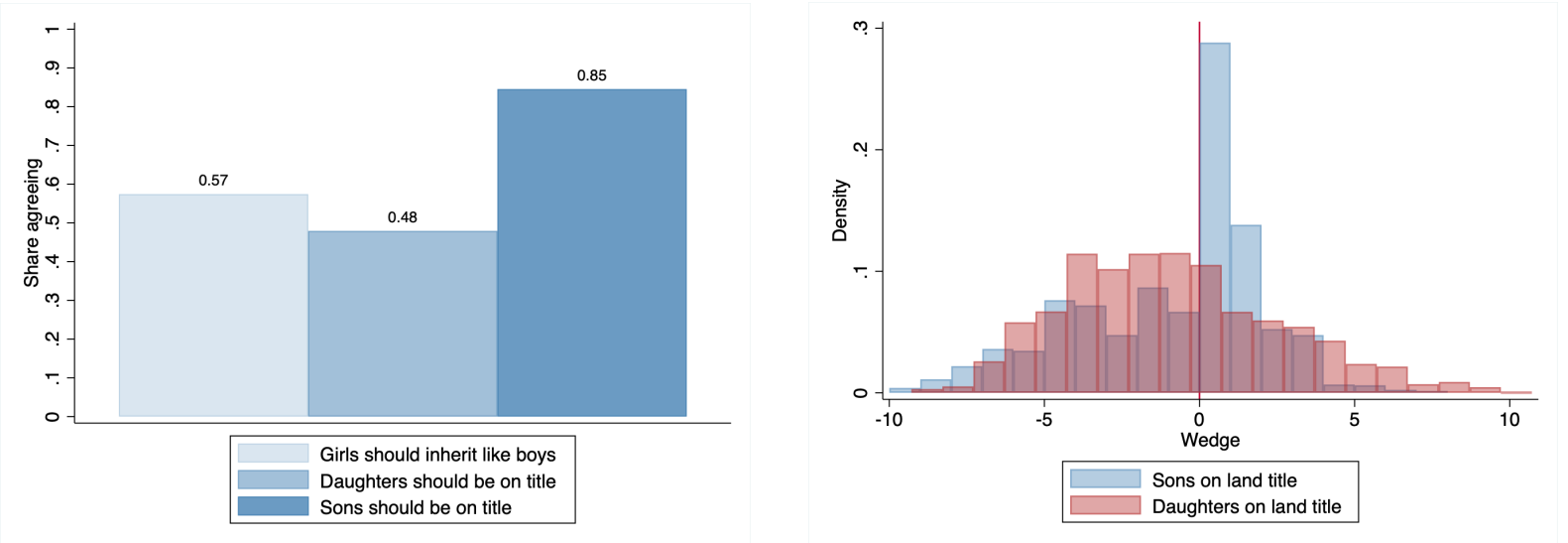
(C) Land to Daughters

NOTES: This figure presents respondents' beliefs about prevailing land titling practices in their communities. Panel (A) shows beliefs about whether households in the village hold any formal land title. Panel (B) depicts beliefs about the inclusion of sons on formal land titles, and Panel (C) shows beliefs about the inclusion of daughters. For each outcome, respondents were asked two separate questions: what they believe most other people in their village *currently do*, and what they believe most others *would want to do*.

attitudes in their local social environment. These questions were asked to both heads of household and their spouses. For simplicity, we focus here on male heads of household and analyze the responses of spouses and female-headed households in the Appendix.

Figure 2, Panel A, displays respondents' agreement with the three normative statements: (i) girls ought to have the same right to inherit land as boys, (ii) daughters should be included on land titles, and (iii) sons should be included on land titles. Roughly half of respondents support gender-equal inheritance and titling for daughters, while near-universal agreement is observed for sons' inclusion. Appendix Figure A6 illustrates how widely respondents believe these views are shared in their communities. The distributions reveal substantial heterogeneity and uncertainty regarding support for girls' inheritance and daughters' titling. For instance, men estimated that 4.4 out of 10 men and 6.1 out of 10 women would agree that girls should inherit like boys (medians: 5 and 7, respectively), with striking mass at both 0 and 10. A similar pattern appears for daughters' inclusion on land titles. By contrast, perceived support for sons' inclusion shows much stronger consensus: respondents estimated that 7.4 out of 10 men and 7.9 out of 10 women

Figure 2: Personal and Perceived Attitudes on Land Titling and Allocation



(A) Personal Attitudes

(B) Wedge

NOTES: Panel A displays the share of male heads of household who personally agree with three gender-related statements on land rights. Panel B shows the distribution of wedge values for the two statements regarding the inclusion of children on land titles. The wedge is defined as the difference between a respondent's estimate of how many out of 10 men in their village would agree with the statement and the actual village-level agreement rate (rescaled to a 0–10 scale). Negative values indicate that the respondent underestimates community support, while positive values indicate overestimation. The vertical line marks a wedge of zero.

would agree, with a modal response of 10 in both cases.[15]

Based on this data, we can examine the presence of *pluralistic ignorance* in our setting. Pluralistic ignorance arises when individuals privately reject or support a norm but mistakenly believe that most others hold the opposite view. As a result, they may conform to perceived group attitudes that are not actually prevalent. Following the terminology and approach of Bursztyn et al. (2020), we construct a "wedge" variable to measure the gap between each respondent's perception of community support for a given statement and the actual average agreement in their village (rescaled to a 0–10 scale). A negative wedge implies that the respondent underestimates local support—believing they are more supportive than their peers—while a positive wedge implies overestimation. We compute wedges at the village level to capture local variation in beliefs; results are robust to using commune-level aggregates.[16]

Panel B of Figure 2 shows the distribution of wedge values for the two statements regarding the inclusion of children on land titles. The left-skewed distribution for daughters reveals a median wedge of –1.2, suggesting that many respondents believe they are more supportive of this practice than their community. For sons, by contrast, the median wedge is exactly zero and the distribution is more concentrated, indicating closer alignment between personal attitudes and perceived norms. The distribution of the wedge associated with the statement that girls should inherit land like boys is similarly skewed towards negative values and centered around -1.3.

Taken together, these findings point to an asymmetry in social norms and their (mis)perception. Respondents tend to accurately perceive widespread support for including sons on land titles, but systematically

[15] As shown in Figures A5–A8 in the Appendix, female heads of household are slightly more likely than male heads or spouses to report that most community members support girls' land rights. Across all respondent types (male heads of household, their wives and female heads of household), perceived support is consistently higher for boys' land rights than for girls', and respondents tend to perceive greater agreement among women in the community than among men. A similar pattern emerges in respondents' own views: support for girls' inheritance and the inclusion of daughters on land titles is highest among female heads, followed by spouses, and lowest among male heads.

[16] The sample includes 90 distinct communes and 263 villages.

underestimate community support for including daughters. This misalignment may discourage behavioral change by leading individuals to suppress progressive views they believe are unpopular. In Section 6, we incorporate such misperceptions into a coordination framework and examine how pessimistic beliefs about prevailing norms may affect equilibrium outcomes.

4.4 Hypothetical Choice Experiment: Choice Distributions

To conclude the description of our data, Figure A9 in the Appendix displays the distribution of ranks assigned to the three hypothetical land titling profiles presented to respondents in each of the four choice tasks in the hypothetical choice experiment. As described in Section 3.1, the experiment presented respondents with repeated hypothetical scenarios that systematically varied key attributes—such as the total amount of land, how it was distributed among household members, and the reported behavior of others in the community. In each task, respondents were asked to identify their most and least preferred profile, generating a complete ranking of the three alternatives. Notably, each profile was assigned all three ranks with non-zero frequency, indicating that no option was universally preferred or dismissed. The distribution of responses shows meaningful heterogeneity in rankings, consistent with respondents making deliberative choices rather than answering following a systematic pattern. This variation supports the internal validity of our experimental design (Wiswall and Zafar, 2018).

5 Estimation Results

This section presents baseline estimates of respondents' preferences over hypothetical land titling profiles and quantifies their willingness to trade off personal land holdings in order to include sons or daughters on formal land titles. We examine how these preferences vary systematically with the strength of prevailing social norms and differ by the gender of the child. Throughout the analysis, we define a "weak norm" environment as one in which few or no households in the community formally allocate land to their children, and a "strong norm" environment as one where most or all do. A "moderate norm" environment corresponds to a setting in which community behavior is roughly evenly split. In line with the theoretical framework of Section 6, we interpret preferences under moderate norms as a measure of respondents' intrinsic preferences.

5.1 Baseline Estimates and Willigness-to-Pay Measures

Table 2 reports estimates of respondents' preferences over various attributes of hypothetical land titles. As a reminder, the choice experiments randomly varied key features of the land title and information about land allocation practices in the respondent's community. The first experiment we present (Choice Experiment "D") varied descriptive norms related to including daughters on land titles, while the second (Choice Experiment "S") did the same for sons. For each, we report results from a fixed-coefficient rank-ordered logit model (Columns 1 and 4), as well as a random coefficient model that allows for unobserved heterogeneity in preferences (Columns 2–3 and 5–6, respectively).

Table 2: Preferences over Land Titling Profiles

	Choice Experiment "D"			Choice Experiment "S"		
	Fixed	Random Coefficients		Fixed	Random Coefficients	
	Coeff.	Mean	SD	Coeff.	Mean	SD
	(1)	(2)	(3)	(4)	(5)	(6)
Daughters' land share	-2.064***	-2.326***	1.289	1.316**	1.216*	0.463
	(0.710)	(0.775)	(1.611)	(0.596)	(0.664)	(0.917)
Daughters' share × Moderate norm	2.842***	3.229***	2.287			
	(0.792)	(1.053)	(1.635)			
Daughters' share × Strong norm	4.464***	4.488***	0.333			
	(0.892)	(0.948)	(0.352)			
Sons' land share	0.600*	0.640*	0.859	-0.714	-1.231**	0.192
	(0.318)	(0.345)	(0.568)	(0.474)	(0.537)	(0.156)
Sons' share × Moderate norm				2.346***	3.415***	0.304
				(0.654)	(0.697)	(0.185)
Sons' share × Strong norm				2.718***	3.952***	3.251***
				(0.881)	(1.034)	(1.125)
Land to self (hectares)	0.015***	0.012***	0.000	0.018***	0.016***	0.000
	(0.004)	(0.004)	(0.001)	(0.004)	(0.005)	(0.001)
Spouses' land share	0.669***	0.727***	0.411	0.354	0.353	0.222
	(0.249)	(0.272)	(0.502)	(0.255)	(0.273)	(0.556)
Moderate norm	-0.459***	-0.469***	0.127	-0.487***	-0.566***	0.310***
	(0.072)	(0.084)	(0.176)	(0.078)	(0.084)	(0.088)
Strong norm	-0.832***	-0.917***	0.678***	-0.752***	-0.954***	0.849***
	(0.090)	(0.103)	(0.096)	(0.108)	(0.131)	(0.104)

NOTES: The base category for the interaction terms is "weak norm". Columns (1) and (4) report coefficients from a fixed-coefficient rank-ordered logit model. Columns (2) and (5) report means of the random coefficients, and columns (3) and (6) report their estimated standard deviations. Standard errors clustered at the respondent level are shown in parentheses. The estimation sample includes only male household heads. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Across both experiments, respondents consistently placed value on land allocated to themselves, with strongly positive and precisely estimated coefficients and no detectable individual-level heterogeneity. The share of land allocated to spouses was also valued positively, though with more variable coefficients, indicating some degree of altruism or preference for a more inclusive allocation of land.

Systematic gender asymmetries emerge in preferences for allocating land to children. Under moderate normative conditions, we find no statistically significant differences in the intrinsic valuation of sons' and daughters' land shares (p-value = 0.621), although daughters' allocations carry lower point estimates. Strikingly, daughters' inclusion is more responsive to prevailing community norms. Under weak norms (our base category), the share of land allocated to daughters is associated with significantly more negative utility values relative to sons. When respondents perceive that many others include daughters on titles, the utility of doing so increases sharply. Sons' land shares also respond to normative cues, but to a more limited degree. Interaction effects between land shares and community norms in both experiments confirm that

respondents derive additional utility from making choices that align with local behavior, consistent with conformity motives. These effects are precisely estimated and especially strong for daughters under high norm salience (either under weak or strong norms). With the exception of strong norms favoring sons, we find little evidence of heterogeneity in norm-contingent responsiveness across individuals.

The utility values associated with prevailing norms are negative and highly significant. These estimates indicate that respondents derive lower utility from hypothetical profiles in which community norms favoring allocations to sons or daughters are stronger, particularly when these strong norms are paired with scenarios that allocate little or no land to children. This finding further reinforces the idea that complementarities exist between internal motivations and the desire to conform. Moreover, the large estimated standard deviations suggest substantial heterogeneity in individuals' preferences, potentially reflecting differences in how respondents value community behavior and gender norms regarding intra-family land allocations more broadly.

Based on these estimates, Figure 3 provides a graphical illustration of how the marginal utilities of allocating land to daughters and sons vary with the intensity of prevailing community norms. When norms are weak, increasing children's land shares yields little—if any—utility gain and may in fact be negatively valued for daughters. We can interpret the marginal utilities under moderate norms as reflecting intrinsic preferences: while there is a positive and statistically significant value attached to allocating land to sons, the value for daughters is not statistically different from zero. As norm intensity rises further, the utility associated with allocating land to children increases sharply, especially for daughters. This pattern suggests that respondents' willingness to include daughters on formal land titles is more sensitive to the social environment than their willingness to include sons, underscoring the central role of community behavior in shaping gendered land allocation preferences.

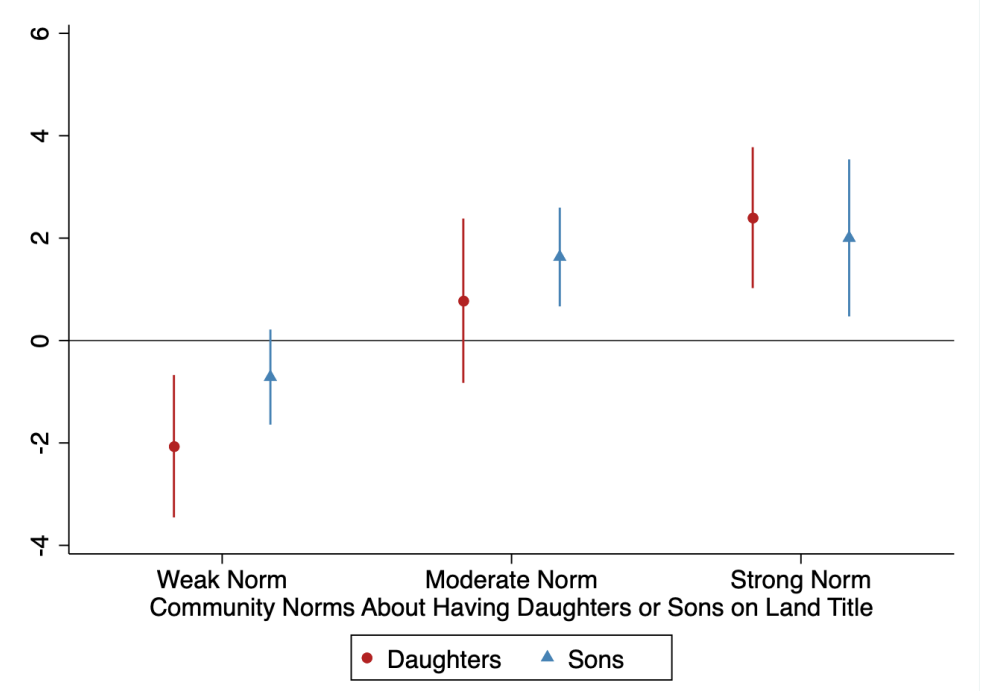
To better quantify the strength of respondents' preferences for allocating land to their children, we compute willingness-to-pay (WTP) measures for increasing the share of land allocated to sons or daughters by 50 percentage points. These measures express the value respondents place on children's land shares in terms of forgone land for themselves, measured in hectares.[17] A 50 percentage point increase is both substantively meaningful and realistic in our setting: it represents a shift from zero inclusion to making one daughter (or one son) equal co-owners of the land alongside the respondent, assuming no other individuals are added to the title. This benchmark aligns closely with the kinds of changes contemplated in real-world titling reforms and helps anchor the interpretation of the estimated utility terms.[18] Note that these are large shifts in land shares, so the associated tradeoffs in utility, and hence the magnitude of the WTP estimates, are expected to be substantial.

Figure 4 presents the estimated willingness-to-pay (WTP) values for making a son or a daughter a co-owner of the land, disaggregated by normative context. Under weak norms, the average WTP for daughters is approximately (negative) 17 hectares—meaning that respondents would require 17 additional hectares

[17] Specifically, we calculate the ratio of the marginal utility of allocating land to a child (i.e., the estimated coefficient on the child's land share, normalized per child) to the marginal utility of land allocated to oneself. We then multiply this ratio by 0.5 to reflect a 50 percentage point increase in the child's total land share.

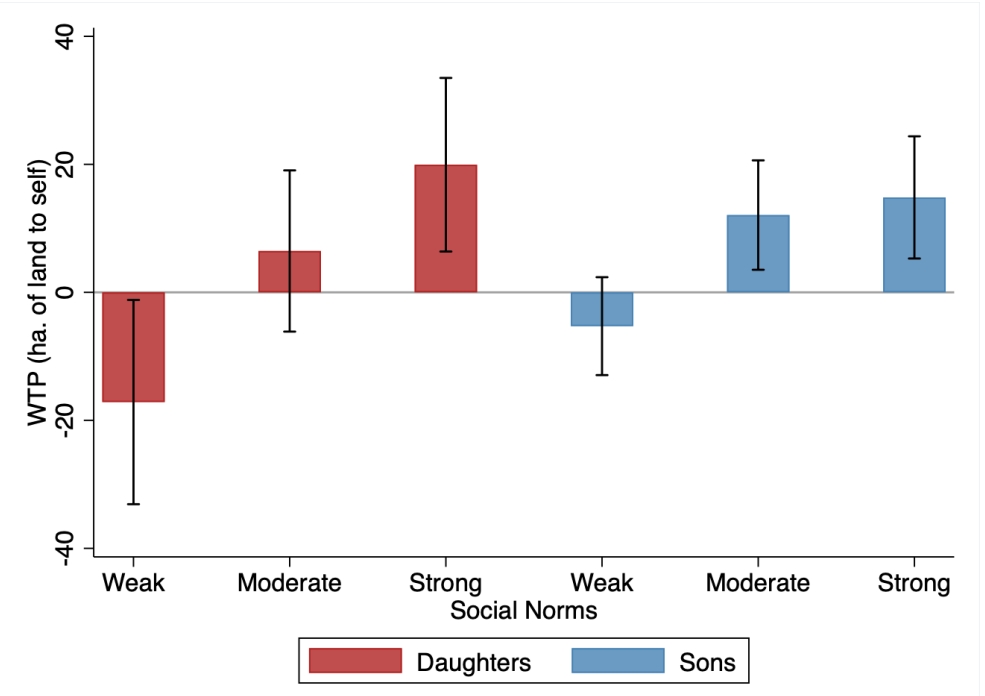
[18] The PROCASEF program aims to expand land registration and improve tenure security, including through the introduction of *collective* land titles—a formal legal mechanism that records land ownership jointly among multiple household members. These titles can help ensure that spouses or children, including daughters, are formally recognized as co-holders of land rights.

Figure 3: Norm-Contingent Preferences for Land Allocation to Daughters and Sons



NOTES: This figure illustrates the estimated marginal utility of allocating land to daughters (red) and sons (blue) under varying levels of norm intensity, based on the estimates reported in Table 2. Vertical lines represent 95% confidence intervals.

Figure 4: Norm-Contingent Willingness-to-Pay for Equal Ownership



NOTES: This figure displays the estimated willingness-to-pay (WTP) to allocate land to children, disaggregated by child gender and the strength of prevailing community norms. Estimates are based on the coefficients reported in Table 2. Each bar represents the WTP for increasing a child's share of titled land by 50 percentage points, expressed in terms of land (in hectares) the respondent is willing to forgo for themselves. Vertical lines denote 95% confidence intervals.

in order to make a daughter co-owners. This negative value—roughly double the average landholding in our estimation sample in absolute terms—reflects strong resistance to including daughters on land titles in the absence of social support. As normative support strengthens, the WTP for daughters increases sharply, eventually becoming positive, indicating that respondents are increasingly willing to give up land in order to align with prevailing social norms. In contrast, WTP estimates for sons are smaller in magnitude and vary less with the strength of norms, consistent with stronger intrinsic preferences and a weaker role for conformity motives.

It is worth noting that the specification in Table 2 accounts for interdependencies in land allocations across sons, daughters, and other household members only implicitly, through an additive constraint on land shares. For comparison, Appendix Table A2 presents a richer model that includes the detailed intra-household land shares, their interactions with social norms, and additional indicators capturing preferences for allocating more land to oneself, for achieving a more inclusive distribution within the family, and for sons receiving more land than daughters. Gendered preferences emerge clearly: profiles where sons receive more land than daughters are viewed more favorably, and these preferences display relatively little variation across individuals.

5.2 Additional Results

5.2.1 Type of Land and Type of Community

To assess the robustness of our findings across different reference groups and land types, we disaggregate the analysis by the source of social norms and by the nature of the land being allocated, both of which were randomized across respondents. Figure A11 in the Appendix displays disaggregated utility values by whether the norm featured in the hypothetical choice vignette reflects the behavior of others in the respondent's village versus extended family. Figure A10 compares responses for hypothetical inherited versus purchased land. While the estimates become noisier in these smaller subsamples, the core findings remain qualitatively and quantitatively robust. We do not detect significant differences between village- and family-based norms or between inherited and purchased land. However, in the case of sons, we observe a slightly stronger desire to conform to extended family behavior—particularly when most relatives include sons on land titles. This may reflect a desire to secure a place within the patrilineal lineage, a salient concern in a context like Senegal, where inheritance and social identity are predominantly traced through the male line.

5.2.2 Respondents' Gender

As part of our randomization protocol, a subset of households were assigned to have the female spouse—rather than the household head—complete the hypothetical choice experiment, allowing us to examine whether preferences over land titling differ by respondent identity.[19] Panel A of Figure A12 presents norm-contingent marginal utilities for daughters and sons based on spouse-reported choices. While conformity motives re-

[19] As discussed in Section 3, interviews were conducted by phone, and we were not able to directly monitor who was responding in real time. As a result, we cannot rule out the possibility that male heads were present during spouse interviews or influenced their responses, particularly in households with more hierarchical gender dynamics. This limitation should be kept in mind when interpreting differences across respondent types.

main strong and positive, the pronounced gender asymmetry observed in the main sample disappears: female spouses appear equally responsive to community norms when evaluating land allocations to daughters and sons. Panel B shows the corresponding estimates for female heads of household. Their responses also exhibit a symmetric sensitivity to norms across child gender, similar to spouses. However, the magnitudes of conformity effects for female heads are smaller and estimated with less precision, possibly reflecting greater heterogeneity or smaller sample size.

5.2.3 Other Group Heterogeneity

To explore whether norm-contingent preferences for allocating land to sons and daughters vary across households in systematic ways, we estimate our main specification separately using different subsamples. These are defined by the number of spouses, the number of children, the age of the household head, size of landholdings, and whether the household holds a formal land title. We also compare respondents living in regions with historical matrilineal rather than patrilineal traditions.

Figure A13 in the Appendix presents results from this analysis. Across most comparisons, the basic structure of preferences—namely, stronger responsiveness to community norms for daughters than for sons—remains intact. However, point estimates vary meaningfully across groups in several dimensions. For instance, polygamous households display greater conformity motives for both sons and daughters compared to monogamous ones. Households with younger heads are more reluctant to include daughters on land titles under weak norms and, perhaps surprisingly, tend to display the highest gap in intrinsic preferences for allocating land to sons versus daughters. Older household heads show greater willingness to include daughters on land titles when norms are strongly supportive, possibly reflecting heterogeneity by the age of their daughters. The estimated utility values are also markedly larger in absolute terms among households with an above-median number of children. While this pattern arises mechanically due to the normalization of land shares by the number of children (see footnote 10), it may also reflect genuine differences in how complex it is to allocate land across more offspring. We detect no meaningful heterogeneity by the total size of actual landholdings.

Since only a small fraction of respondents possess a formal land title, it is unsurprising that our main findings largely mirror the estimated preferences of households without formal land documentation. In these households, the preference gap between sons and daughters is most pronounced, and conformity motives appear to play a stronger role. Interestingly, both intrinsic preferences and responsiveness to social norms differ systematically in the (admittedly small and very selected) subsample of respondents with formal titles.

The final comparison exploits historical variation in kinship systems across Senegal. Specifically, we compare respondents residing in communes located in the Serer heartland, where maternal clan institutions have historically played an important role, to respondents residing in predominantly Pulaar and Toucouleur areas of northern Senegal characterized by strongly patrilineal kinship systems. While these classifications do not imply that contemporary inheritance practices are strictly matrilineal or patrilineal (indeed, inheritance is overwhelmingly patrilineal throughout Senegal), they capture meaningful historical differences in lineage organization and family institutions. Respondents in the Serer areas exhibit substantially stronger

responsiveness to social norms regarding daughters' inclusion on land titles. Under weak norms, they display a particularly strong reluctance to allocate land to daughters, but under supportive norms their willingness to do so increases sharply. As a result, the utility differences associated with normative variation are considerably larger than those observed in the northern regions. Interestingly, the response of land allocations to sons is relatively similar across the two groups, suggesting that historical kinship systems primarily affect attitudes toward daughters' land rights rather than land allocations to children more generally.

6 A Model of Land Allocation with Social Norms

To further understand how social norms may shape intergenerational land allocation decisions, we develop a simple model of social interactions in which land-owning parents decide whether to allocate land to a child. In the spirit of Brock and Durlauf (2001) and in line with our empirical findings, these decisions are shaped by both private preferences and prevailing practices in the surrounding community.[20] When conformity pressures are strong, social interactions can generate self-reinforcing outcomes, potentially sustaining gendered patterns of wealth transmission even in the absence of large differences in private preferences.

For clarity, we consider a simple environment in which each household has a single child of type $k \in \{s, d\}$, where s denotes sons and d denotes daughters. The household decides whether to include that child on a land title. This formulation isolates the role of social norms in a single binary inclusion decision and allows us to characterize equilibrium behavior transparently. More complex household environments involving multiple children and joint allocation decisions are discussed in Appendix A.2.

6.1 Setup

We assume a finite population of land-owning parents, each with a child of type $k \in \{s, d\}$. Parent i chooses whether to formally allocate land to that child. These decisions are made in a social environment in which land-allocation behavior is at least partially observable and may be influenced by prevailing community norms. We abstract from within-household bargaining and treat the household as a unitary decision-maker motivated by both private preferences and social considerations.

Let $\ell_{ik} \in \{-1, +1\}$ denote the land-allocation decision of household i for a child of type k, where $\ell_{ik} = +1$ indicates inclusion of the child on the land title and $\ell_{ik} = -1$ indicates non-inclusion.[21]

The household's utility from its allocation decision is given by

$$U_{ik}(\ell_{ik}) = \ell_{ik} \left(\beta_k + \alpha_k \, \mathbb{E}[\ell_{ik}]\right) + \varepsilon_{ik}(\ell_{ik}), \tag{1}$$

where β_k captures the household's private preference for allocating land to a child of type k. This parameter reflects the utility derived from making the allocation in a norm-neutral environment—that is, when

[20] This class of social interaction models draws on tools and analogies from statistical mechanics, where individual decisions under social influence are modeled similarly to interacting particle systems and collective behavior may exhibit phase transitions or multiple equilibria. See Durlauf (1996a,b) for applications of these methods in economics.

[21] This normalization centers aggregate behavior at zero and preserves symmetry between the two actions, making it particularly convenient for studying conformity dynamics (Brock and Durlauf, 2001). Although mathematically equivalent to a scaled binary logit model, it simplifies both the analytical characterization of equilibria and the graphical interpretation of tipping behavior.

community behavior is evenly split between allocating and not allocating land to children of type k. A positive value of β_k implies that, absent social influence, the household prefers to include the child on the title, whereas a negative value implies the opposite. Private preferences may reflect beliefs about the economic returns to land ownership, fairness concerns, inheritance motives, or internalized customs.

The parameter α_k captures the strength of conformity motives: the extent to which utility is enhanced by aligning with prevailing social behavior.[22] Conformity motives may arise from reputational concerns, fear of social sanctions, or the perceived importance of maintaining status within the community or marriage market.

The term $\mathbb{E}[\ell_{ik}]$ denotes the expected average behavior of other households in the community with respect to allocating land to children of type k. When most households allocate land to daughters, for example, $\mathbb{E}[\ell_{id}]$ is close to 1; when few do, it is close to -1. Finally, $\varepsilon_{ik}(\ell_{ik})$ is an idiosyncratic preference shock assumed to follow a Type I Extreme Value distribution. This shock captures household-specific factors affecting the desirability of allocating land and introduces randomness into individual behavior.

As in standard logit models, utility coefficients are identified only up to scale. Our notation absorbs the usual logit scale normalization, so that β_k and α_k correspond to the composite preference and social-interaction parameters governing equilibrium behavior.

6.2 Equilibrium

Following Brock and Durlauf (2001), the probability that a household allocates land to a child of type k is

$$\Pr(\ell_{ik} = +1) = \frac{1}{1 + \exp[-2\,(\beta_k + \alpha_k \mathbb{E}[\ell_{ik}])]} = \frac{1 + \tanh(\beta_k + \alpha_k \mathbb{E}[\ell_{ik}])}{2}. \tag{2}$$

Under rational expectations, households' beliefs about community behavior must be consistent with actual aggregate behavior. Since $\ell_{ik} \in \{-1, +1\}$,

$$\mathbb{E}[\ell_{ik}] = 2\Pr(\ell_{ik} = +1) - 1.$$

Substituting equation (2) yields the equilibrium condition

$$\bar{\ell}_k = \mathbb{E}[\ell_{ik}] = \tanh(\beta_k + \alpha_k \bar{\ell}_k)\,, \tag{3}$$

where $\bar{\ell}_k$ denotes average community behavior toward children of type k.

Equation (3) characterizes a self-consistent equilibrium in the sense of Brock and Durlauf (2001): households form expectations about average community behavior, choose optimally given those expectations, and in equilibrium those expectations coincide with actual aggregate behavior. Since $\tanh(\cdot)$ is continuous and maps $[-1, 1]$ into itself, Brouwer's Fixed Point Theorem guarantees the existence of at least one equilibrium.

[22] While the model does not impose that α_k be positive, the interpretation of α_k as a conformity parameter naturally focuses on the case $\alpha_k > 0$, in which households derive utility from aligning their behavior with prevailing community norms. Negative values would instead capture anti-conformist motives, whereby households gain utility from behaving differently from others. For expositional clarity, and because conformity rather than anti-conformity is empirically more relevant in our context, we focus on the case $\alpha_k \geq 0$.

Proposition 1. *Consider the equilibrium condition in Equation* (3)*. Then, if* $\alpha_k \leq 1$*, the equilibrium is unique; if* $\alpha_k > 1$*, the number of equilibria depends on* β_k*. Specifically,*

- *If* $|\beta_k| < \beta_k^*$*, there are three equilibria.*[23]
- *If* $|\beta_k| = \beta_k^*$*, there are two equilibria (one of which is a double root).*
- *If* $|\beta_k| > \beta_k^*$*, the equilibrium is unique.*

Proposition 1 states that when the desire to conform is low, equation (3) admits a single fixed point. In this case, there exists a unique equilibrium in which behavior is primarily shaped by parents' intrinsic preferences for allocating land to sons or daughters, and social norms exert little influence. In contrast, when conformity pressure is high, the equation may feature up to three distinct fixed points, which we denote by $\bar{\ell}_k^{\text{low}} < \bar{\ell}_k^{\text{mid}} < \bar{\ell}_k^{\text{high}}$. These capture distinct patterns of land-allocation decisions in equilibrium, with varying rates of inclusion of children on land titles. Figure 5 illustrates these predictions under varying values of β_k (intrinsic preferences) and α_k (desire to conform). The figure shows how the probability of allocating land to daughters or sons (or more precisely the expected value of the choice) varies with the average behavior observed in the community under different underlying preference parameters.

To assess the local stability of the equilibria characterized by equation (3), we posit that community expectations about land-allocation behavior evolve myopically, with the perceived norm at time $t+1$ equal to the average behavior observed at time t (Brock and Durlauf, 2001) :

$$\bar{\ell}_{k,t+1} = \tanh(\beta_k + \alpha_k \bar{\ell}_{k,t}). \tag{4}$$

Local stability is then determined by the slope of the expected choice function evaluated at the fixed points:

$$\frac{d\,\bar{\ell}_{k,t+1}}{d\,\bar{\ell}_{k,t}}\Big|_{\bar{\ell}_{k,t}=\bar{\ell}_k} = \alpha_k \operatorname{sech}^2(\beta_k + \alpha_k \bar{\ell}_k). \tag{5}$$

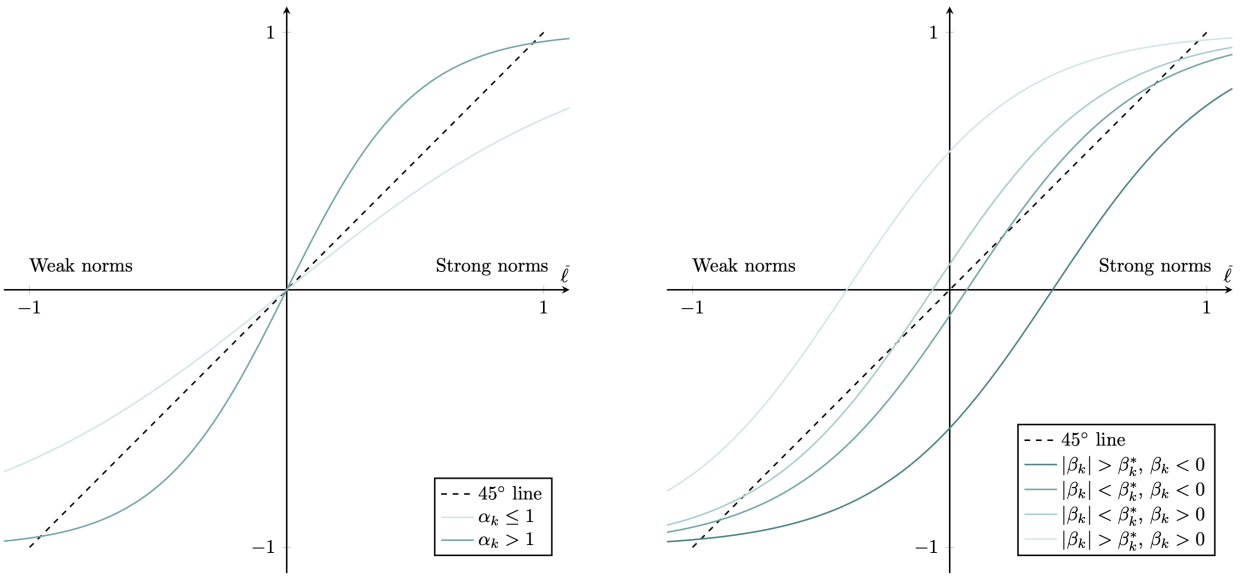
Specifically, an equilibrium is *locally stable* if small deviations from it decay over time (that is, if $\alpha_k \operatorname{sech}^2(\beta_k + \alpha_k \bar{\ell}_k) < 1$) and *unstable* otherwise.

Proposition 2. *Let the equilibrium condition be given by equation* (3)*, and suppose that the adaptive dynamics follow equation* (4)*. If the equilibrium is unique, it is locally stable. If there are three equilibria, the two outer equilibria,* $\bar{\ell}_k^{low}$ *and* $\bar{\ell}_k^{high}$*, are locally stable, while the intermediate equilibrium,* $\bar{\ell}_k^{mid}$*, is locally unstable. If there are two equilibria, one is stable and the other one is semi-stable.*

Proposition 2 states that, when social interactions are sufficiently strong relative to intrinsic preferences, small perturbations in expectations can push the community toward either a high-inclusion or a low-inclusion equilibrium, generating tipping behavior between distinct self-reinforcing norms. In such environments, even small changes in community behavior (or perceptions thereof) can generate large, discontinuous shifts in aggregate outcomes.

[23] The threshold β_k^* is a function of the strength of conformity preferences: $\beta_k^* \equiv \alpha_k \sqrt{1 - \frac{1}{\alpha_k}} - \tanh^{-1}\left(\sqrt{1 - \frac{1}{\alpha_k}}\right)$.

Figure 5: Equilibria with Varying Degrees of Intrinsic Preferences and Conformity Pressure



(A) Varying Conformity Pressure (with $\beta_k = 0$)

(B) Varying Intrinsic Preferences (with $\alpha_k > 1$)

NOTES: This figure shows how expected choice behavior (the expected value of the choice) varies with changes in conformity motives and intrinsic preferences. Panel A shows expected choice functions under different values of the conformity parameter α_k, holding intrinsic preferences $\beta_k = 0$ fixed. Panel B varies the intrinsic preference β_k while holding conformity strength constant ($\alpha_k > 1$). In each panel, the horizontal axis represents the average behavior in the community, and the vertical axis shows the expected choice. Intersections with the 45-degree line represent potential equilibrium outcomes.

6.3 Extension to Misperceived Social Norms

So far, we have assumed that parents correctly perceive average community behavior in equilibrium. In practice, however, social norms may be systematically misperceived. Our survey evidence documents substantial pluralistic ignorance regarding land allocation to daughters: many respondents underestimate the extent to which others in their community support daughters' inclusion on land titles or, if given the opportunity through land registration, would include daughters on such titles.

To capture this possibility, we extend the model to allow for persistent misperceptions of social norms. Let $\hat{\ell}_k$ denote perceived average community behavior toward children of type k. Rather than assuming $\hat{\ell}_k = \bar{\ell}_k$, suppose that households systematically misperceive average community behavior:

$$\hat{\ell}_k = \bar{\ell}_k - \delta_k,$$

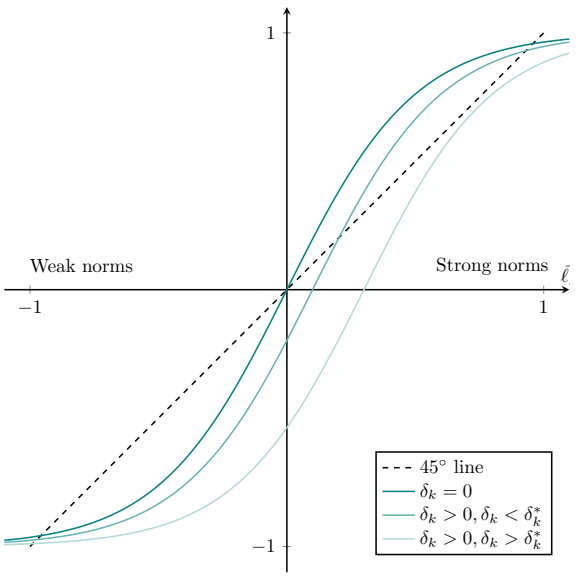
where δ_k captures the degree and direction of informational distortion. Positive values of δ_k correspond to systematic underestimation of prevailing support for inclusion, while negative values correspond to overestimation.[24] If $\delta_k > 0$, parents systematically underestimate the extent to which other parents allocate land to children of type k.

The household's utility and equilibrium condition then become:

$$U_{ik}(\ell_{ik}) = \ell_{ik}(\beta_k + \alpha_k \hat{\ell}_k) + \varepsilon_{ik}(\ell_{ik}),$$

[24]Because expected choices are normalized to lie in the interval $[-1, 1]$, perceived social norms must satisfy $-1 \leq \hat{\ell}_k \leq 1$. Throughout the analysis, we focus on values of δ_k that preserve these bounds. An alternative specification would model misperceptions multiplicatively, for example $\hat{\ell}_k = (1 - \delta_k)\bar{\ell}_k$, effectively attenuating the strength of conformity motives while automatically preserving the support of the expected-choice variable.

Figure 6: Extension to Misperceived Social Norms



NOTES: The figure shows expected-choice functions—the expected value of the choice as a function of average community behavior—for varying degrees of persistent misperception regarding others' behavior in equilibrium. For simplicity, $\beta_k = 0$ and $\alpha_k > 1$.

$$\bar{\ell}_k = \tanh(\beta_k + \alpha_k(\bar{\ell}_k - \delta_k)).$$

As illustrated in Figure 6, introducing a wedge between actual and perceived norms shifts the expected-choice function downward as δ_k increases. As a result, larger wedges make low-inclusion equilibria more likely and, if sufficiently large ($\delta_k > \delta_k^*$), can eliminate high-inclusion equilibria altogether.

This extension highlights an important distinction between coordination frictions and informational frictions. In the baseline model, misperceptions may affect the transition path toward equilibrium without altering the equilibrium set itself. Under persistent misperceptions, by contrast, biased beliefs can directly alter equilibrium outcomes and the nature of the equilibrium set.

The extension therefore highlights two closely related channels through which policy interventions may affect land allocation behavior. First, interventions may directly alter actual community behavior. Second, they may reduce informational distortions by correcting pessimistic beliefs about prevailing social norms. In environments characterized by strong conformity motives, even modest changes in perceived norms may generate large shifts in aggregate behavior through endogenous social reinforcement.

6.4 Other Extensions

The framework presented thus far is intentionally simple, yet it yields important insights into the potential drivers of inter-generational land allocation decisions. Appendix A.1 extends the model to incorporate heterogeneity in intrinsic preferences and the desire to conform to others' behavior. We show that a unique equilibrium may still arise even when $\mathbb{E}[\alpha_{ik}] > 1$, provided that the heterogeneity in β_{ik} is sufficiently large. Conversely, in the absence of substantial heterogeneity in β_{ik}, the characterization in Proposition 1 continues to apply, with the relevant threshold determined by whether the average desire to conform satisfies $\mathbb{E}[\alpha_{ik}] \leq 1$ or $\mathbb{E}[\alpha_{ik}] > 1$ (Brock and Durlauf, 2001). So, heterogeneity in intrinsic preferences and desire to conform modifies but does not fundamentally overturn the logic of our basic model.

While our baseline framework models land allocation to one son or one daughter separately, the underlying coordination structure can naturally be extended to a multinomial setting in which parents of two children, one daughter and one son, jointly choose among multiple allocation profiles (e.g., neither child, son only, daughter only, or both). Such a formulation, following Brock and Durlauf (2002) and discussed in Appendix A.2, would allow for richer interactions between preferences and conformity motives across child types. This extension introduces additional interactions between sons' and daughters' inclusion decisions and allows complementarities in land allocation across child types. Fully characterizing this equilibrium set, however, requires additional assumptions on the magnitudes of conformity motives and complementarities and lies beyond the scope of the present paper.

Moreover, our experimental design was intentionally structured to limit cognitive burden: respondents are exposed to randomized normative cues regarding either sons or daughters, but not both simultaneously. As a result, the experiment identifies marginal responsiveness to perceived community behavior for each child type separately, but does not provide the variation required to identify joint conformity effects across sons' and daughters' inclusion decisions. Accordingly, the baseline binary coordination model should be interpreted as a parsimonious representation of norm-contingent land allocation decisions rather than a fully joint structural model of intra-household land allocation.

7 Simulations

This section uses the parameter estimates from our hypothetical choice experiment to further explore the implications of our model through a series of counterfactual simulations. We examine how varying levels of conformity motives and intrinsic preferences affect equilibrium land allocation decisions to sons and daughters. We also study how shifts in community behavior and perceived social norms, holding preferences constant, can influence both household behavior and aggregate outcomes.

In the first set of simulations, we abstract from norm misperceptions and focus on the equilibrium implications of conformity motives and intrinsic preferences alone. We then extend the analysis to consider information interventions that correct misperceived social norms, using the framework developed in Section 6.3.

7.1 Linking Empirical and Theoretical Models

While our empirical and theoretical models share a common behavioral foundation, they differ in the scaling and interpretation of some key variables. In the theoretical model described above, individual behavior is discrete and perceived norms are centered at zero and defined on the -1 to 1 interval. In the empirical model, variables such as the share of land allocated to daughters or sons are defined on a 0 to 1 scale. To align our empirical data with the theoretical structure, we must rescale these key experimental variables. To generate a continuous measure of perceived norms, we start with the categorical variable from the hypothetical choice experiment and map these categories to values centered at 0.2, 0.5, and 0.8, respectively. We then add normally distributed noise within each category. This procedure smooths the discrete jumps between norm

levels and better captures variation in how respondents may interpret categories like "very few", "some" or "most people."[25] The resulting variable is then transformed to lie in the $[-1, 1]$ interval.

Using the rescaled variables and responses to the hypothetical choice experiment, we estimate a rank-ordered logit specification designed to recover marginal responsiveness to experimentally varied social norms. We then use the estimated preference and conformity parameters to calibrate the binary coordination framework developed above and study the equilibrium implications of social interactions.[26] In the rescaled specification, the estimated coefficients capture the marginal utility associated with a one-unit increase in the transformed share variable—that is, a 50 percentage point increase in the land share allocated to a child, which conveniently mirrors the WTP calculations described in Section 5. The resulting estimates, reported in Table A3 in the Appendix, confirm the patterns observed in our main empirical analysis and serve as inputs for the calibration and simulation exercises that follow.

Figure 7 displays the expected-choice functions implied by the estimated parameters for sons and daughters—that is how the expected value of the land-allocation decision varies with average community behavior under the estimated levels of intrinsic preferences and conformity motives. The horizontal axis represents the average prevalence of daughters' and sons' inclusion on land titles in the community—scaled from -1 (nobody does) to 1 (everyone does)—while the vertical axis shows the predicted household behavior, also scaled from -1 to 1. The red and blue curves refer to the decision to include daughters or sons on a land title, respectively, and the 45-degree dashed line helps identify the possible equilibria.

A few patterns in Figure 7 are particularly informative. Consistent with our results of Section 5, the estimated expected choice curve for daughters (in red) is markedly steeper around the midpoint of the horizontal axis, indicating that land allocation decisions for daughters are more responsive to perceived community behavior. Second, this curve intersects the vertical axis closer to the origin, suggesting that when community behavior is evenly split—that is, under a *moderate* norm environment—intrinsic preferences for allocating land to daughters are relatively weak. By contrast, the expected choice curve for sons (in blue) is smoother, less steep, and consistently lies above the diagonal line, even at lower levels of community behavior. This pattern reflects stronger intrinsic preferences for including sons on land titles and a weaker role for conformity motives in shaping those decisions.

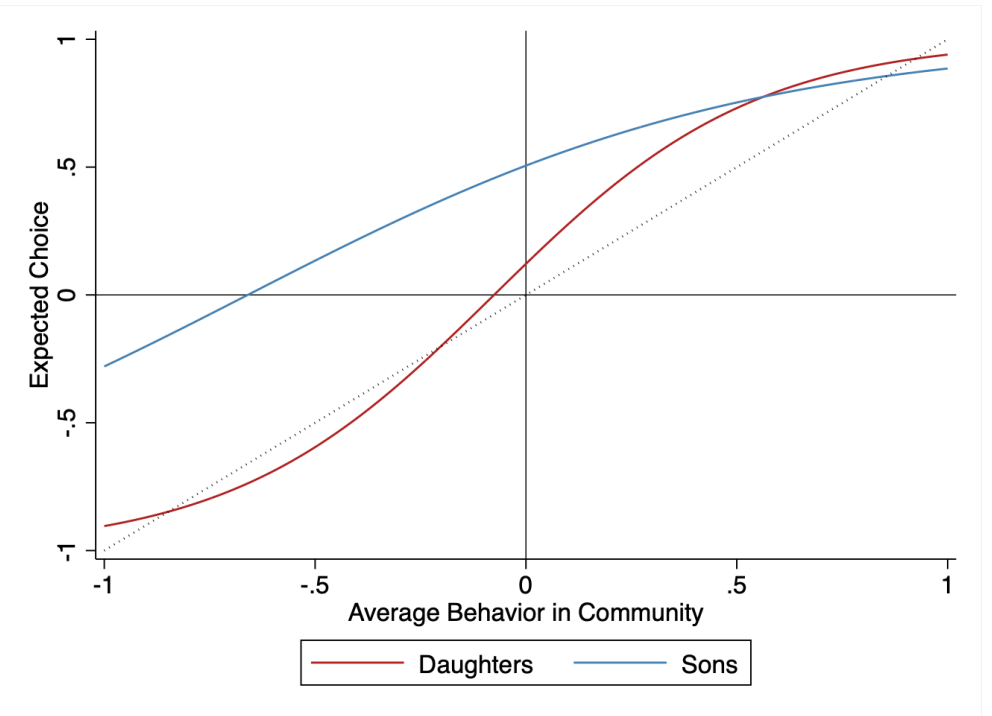
These gender differences have implications for the equilibrium properties. The daughter-specific curve intersects the 45-degree line at three points, indicating that the estimated marginal conformity forces are sufficiently strong to generate multiple locally stable equilibria within our simple binary coordination framework. By contrast, the son-specific curve intersects the 45-degree line only once, indicating a unique high-inclusion equilibrium.

We formally test the conditions outlined in Proposition 1 using one-sided tests on the estimated parameters. For sons, we cannot reject the null hypothesis that the conformity parameter is less than or equal to

[25] We assess the robustness of our results to alternative transformations of the categorical measure of perceived norm prevalence into a continuous variable. Our main specification adds normally distributed noises with mean zero and a standard deviation of 0.1. In addition, we estimate models under four alternative specifications: (i) a lower-variance specification (mean-centered at 0.2, 0.5, and 0.8 for the three norm categories, respectively, with a standard deviation of 0.05); (ii) a higher-variance normal specification with the same means and a standard deviation of 0.2; (iii) a uniform specification in which values are drawn uniformly from the intervals $[0.00, 0.33]$, $[0.33, 0.66]$, and $[0.66, 1.00]$ for the three categories; and (iv) a midpoint specification that assigns fixed values of 0.2, 0.5, and 0.8 to the three categories. Across these alternative constructions, we find that the estimated preference and conformity parameters, as well as the qualitative shape of the expected choice functions, remain stable. See Figure A15 for details.

[26] Given the limited heterogeneity in preferences detected in our baseline estimates, we estimate a parsimonious specification with fixed coefficients.

Figure 7: Estimated Relationship Between Expected Choice and Community Behavior



NOTES: This figure displays the estimated expected choice functions, i.e., the estimated relationship between expected choice and community behavior for allocating land to daughters (red) and sons (blue), using coefficients from the rank-ordered logit model that incorporates experimentally varied social norms. The horizontal axis shows the perceived average prevalence of land allocation behavior in the community, rescaled to the $[-1, 1]$ interval. The vertical axis indicates the expected choice. Each curve is constructed using the estimated parameters for intrinsic preferences (β_k) and conformity motives (α_k). Points where the functions intersect the 45-degree line represent equilibrium outcomes.

one ($\alpha_s \leq 1$, p-value $= 0.5776$). For daughters, in contrast, we reject the null $\alpha_d \leq 1$ at the 5 percent level (p-value $= 0.0124$), indicating stronger conformity pressures. Whether multiple equilibria could actually arise depends jointly on these conformity motives and the strength of intrinsic preferences. For daughters, we test the condition $\beta_d < \beta_d^*$ and fail to reject the null (p-value $= 0.7318$), which supports the possibility of multiple equilibria in land allocation to daughters.[27]

Finally, we can compute the tipping point for daughters—that is, $\bar{\ell}_d^{mid}$, the intermediate equilibrium in the calibrated model where the daughters' expected choice curve crosses the 45-degree line from below. Based on our estimates, this tipping point occurs at $\bar{a} = -0.15$ on the rescaled $[-1, 1]$ axis, which corresponds to approximately 0.425 on the original $[0, 1]$ scale. In practical terms, this implies that when around 42.5 percent of households in a community are perceived as allocating land to their daughters, the system may transition from a persistent low-inclusion equilibrium to a high-inclusion one. For sons, by contrast, no such threshold exists: their expected choice function intersects the 45-degree line only once, from above, at a high level of inclusion, indicating that shifts in perceived norms alone are unlikely to affect aggregate outcomes for sons. As with the simulation results that follow, these numerical thresholds should be interpreted with caution: they are derived from a stylized model under specific functional-form assumptions and parameter calibrations and should therefore be viewed as illustrative rather than precise quantitative predictions.

[27] As a robustness check, we consider expected choice functions for varying intensities of land allocation to sons and daughters. We scale the estimated coefficients for intrinsic preferences and conformity motives to reflect different land shares—ranging from small to full allocations. Figure A14 in the Appendix plots these results for daughters and sons in Panels A and B, respectively.

7.2 Changing Preferences

To explore how variation in intrinsic preferences and conformity motives shape land allocation decisions within families, we conduct a set of four counterfactual simulations. Each simulation systematically varies either the intrinsic preference parameter (β_k) or the conformity motive parameter (α_k) for allocating land to sons and daughters. In our first experiment, we double the estimated values of α_d and α_s, while keeping intrinsic preferences constant, to simulate a setting where individuals are highly responsive to the prevailing behavior of others in their community. The second counterfactual scenario does the opposite: we reduce α_d and α_s to reflect a weaker influence of social norms on decisions regarding the allocation of land to children. In the third scenario, we simulate the removal of the gender gap in intrinsic preferences by setting $\beta_d = \beta_s$, effectively equalizing respondents' baseline willingness to allocate land to daughters and sons. Finally, the fourth simulation equalizes conformity motives between daughters and sons by setting $\alpha_d = \alpha_s$, holding intrinsic preferences constant. This last exercise isolates the effect of removing the stronger social pressure previously observed for daughters while retaining existing differences in intrinsic preferences.

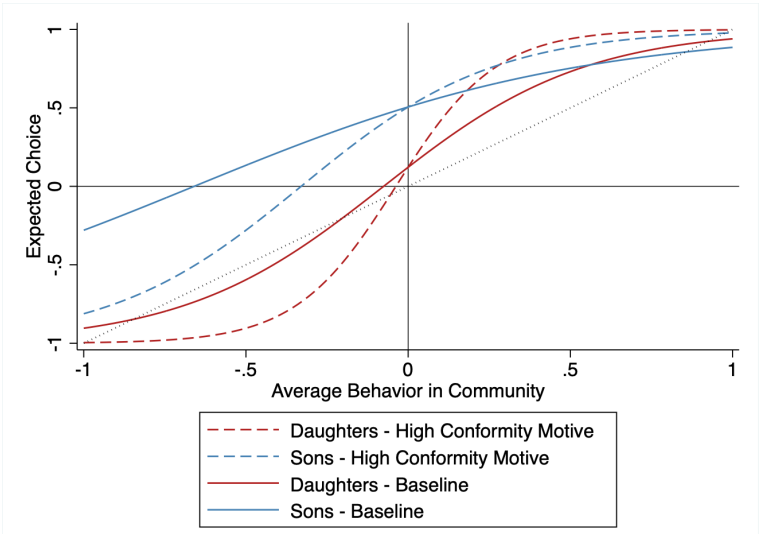
The simulation results reveal several key patterns. Increasing conformity motives (Panel A of Figure 8) sharply steepens the expected choice functions, especially for daughters, amplifying the likelihood of multiple equilibria. This is consistent with the higher estimated conformity parameter for daughters in our data. In contrast, even doubling α_s for sons does not generate multiple equilibria, reflecting the empirically weaker role of social norms regarding sons' inclusion on land titles. Lowering conformity motives (Panel B) has the opposite effect: we simulate a 50 percent reduction in α_d and α_s, which flattens the expected choice functions and eliminates multiple equilibria for daughters. The result is smoother curves and relatively high rates of inclusion of both daughters and sons on formal land titles. Notably, fully removing conformity motives (i.e., setting $\alpha_k = 0$) would yield completely flat expected choice curves, as decisions would no longer depend on others' behavior but would be solely determined by intrinsic preferences.

In Panel C, we simulate the removal of the gender gap in intrinsic preferences by setting $\beta_d = \beta_s$. This adjustment shifts the expected choice function for daughters so that it intersects the vertical axis at the same value as the expected choice function for sons. The effect of this symmetry is also to eliminate multiple equilibria for daughters, despite the fact that conformity motives remain considerably stronger for them. In Panel D, we instead equalize conformity motives by setting $\alpha_d = \alpha_s$, while leaving intrinsic preferences unchanged. This scenario results in a flatter curve for daughters compared to baseline, and crucially, it enforces a high-inclusion equilibrium for daughters by removing the conditions that previously allowed for multiple equilibria.

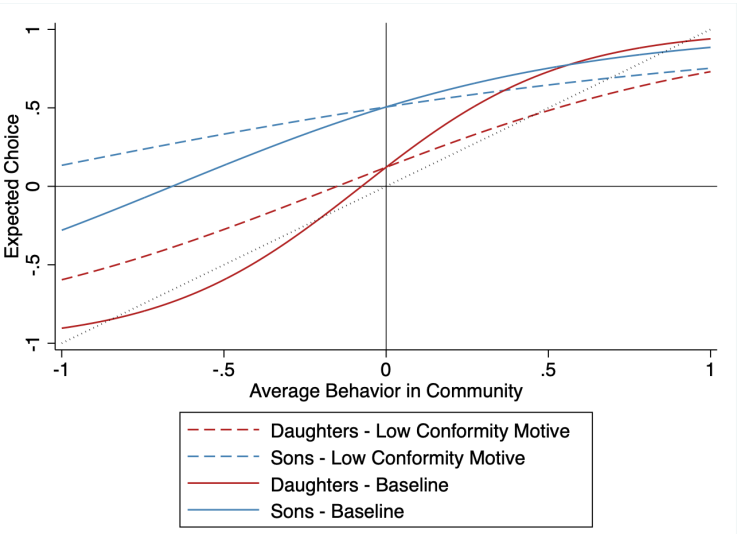
7.3 Correcting Norms Misperceptions

An alternative counterfactual simulation examines the effect of shifting individuals' beliefs about what others in their community do, while holding underlying preferences fixed. In the simulations above, we assumed that perceived community behavior coincides with actual community behavior. However, the survey evidence in Section 3.1 suggests that respondents systematically underestimate support for daughters' inclusion on land titles. Although formal land titles are uncommon in our setting, it is reasonable to expect

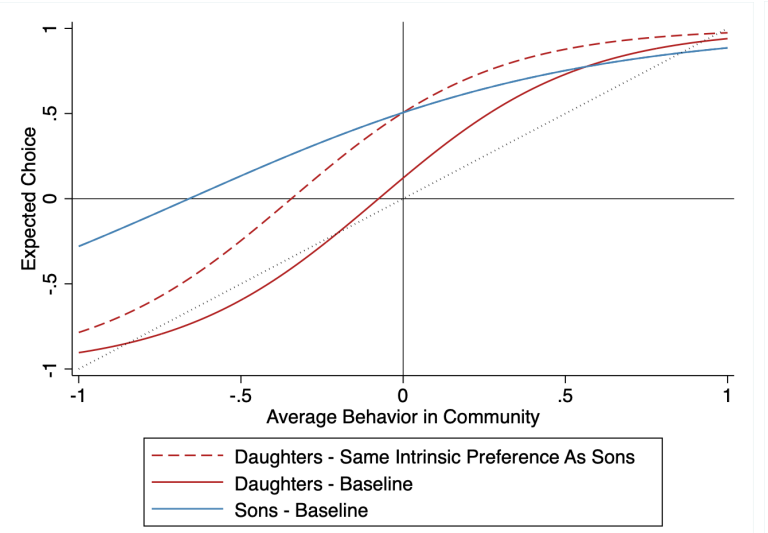
Figure 8: Counterfactual Simulations



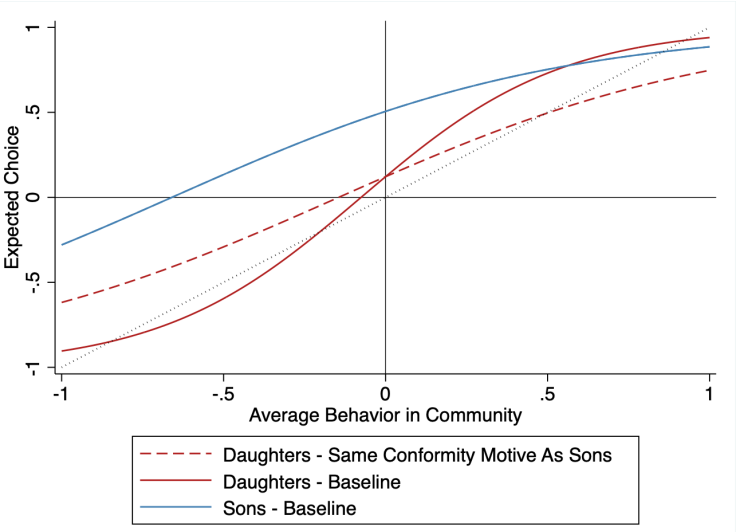
(A) High Conformity Motive



(B) Low Conformity Motive



(C) Same Intrinsic Preference



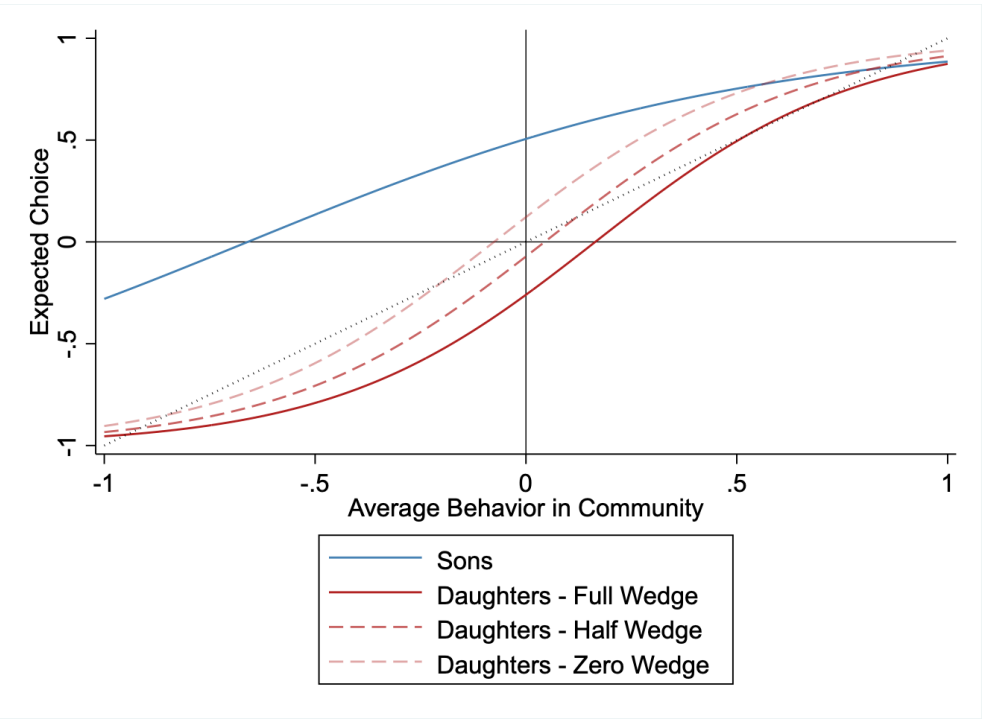
(D) Same Conformity Motive

NOTES: This figure presents a series of simulated expected choice functions for land allocation decisions, based on estimated parameters from the empirical model. Each panel displays expected choices as a function of perceived average community behavior. The solid lines show the baseline estimates derived from the rank-ordered logit model, while dashed lines represent alternative counterfactual scenarios. These scenarios vary either the strength of intrinsic preferences (β_k) or conformity motives (α_k), holding other parameters constant. Specifically, we consider four cases: (i) a "high conformity" scenario in which both α_s and α_d are doubled; (ii) a "low conformity" scenario in which both are halved; (iii) a "same intrinsic preference" scenario where daughters are assigned sons' intrinsic preference parameter ($\beta_d = \beta_s$); (iv) a "same conformity motive" case where both genders share the same conformity strength ($\alpha_d = \alpha_s$).

that misperceptions regarding community attitudes toward daughters' land rights would translate into misperceptions regarding actual land-allocation behavior once titling opportunities become available but not fully observable.

Based on the model extension developed in Section 6.3, we first ask how large the degree of social norms misperception (that is, the wedge δ_d) would need to be to eliminate the high-inclusion equilibrium for daughters. Let δ_d^* denote the critical level of misperception at which the high-inclusion equilibrium disappears. Values of $\delta_d > \delta_d^*$ imply that pessimistic beliefs are sufficiently severe to sustain only a low-inclusion equilibrium, while reductions in δ_d can restore the possibility of a high-inclusion equilibrium under unchanged preferences. Based on our estimated parameters, we obtain $\delta_d^* = 0.24$. Because the model is normalized to the $[-1, 1]$ scale, this corresponds approximately to a 12 percentage point downward distortion in perceived community support for daughters' inclusion. Such pessimistic beliefs are sufficient to

Figure 9: Counterfactual Simulations: Correcting Norms Misperceptions



NOTES: This figure displays simulated expected-choice functions for daughters under different degrees of norm misperception. The solid red curve corresponds to the baseline level of pessimistic misperception calibrated from the survey data ($\delta_d = 0.24$); the dashed curve corresponds to a partial and full correction of the wedge. The dashed 45-degree line identifies equilibrium outcomes.

eliminate the high-inclusion equilibrium altogether. This result highlights how even moderate informational distortions may substantially alter equilibrium outcomes in environments characterized by strong conformity motives.[28]

Next, we simulate expected-choice functions under different degrees of norm misperception while holding intrinsic preferences and conformity motives fixed. We calibrate the wedges using the median survey-based misperceptions observed in the data. For sons, the median wedge is approximately zero, so we set $\delta_s = 0$. As shown in Section 4, for daughters, respondents underestimate prevailing support by 1.2 points on a 0–10 scale. Rescaling this quantity to the model's $[-1, 1]$ support yields $\delta_d = 0.24$. We then examine how equilibrium behavior changes as δ_d gradually declines toward zero.[29]

Figure 9 shows that pessimistic beliefs shift the expected-choice function downward relative to the no-misperception benchmark. Under the calibrated wedge, the model predicts a unique low-inclusion equilibrium for daughters. As the wedge shrinks, however, the expected-choice function shifts upward and the high-inclusion equilibrium reemerges.

These simulations illustrate how informational distortions alone, even in the absence of changes in intrinsic preferences or conformity motives, may substantially alter equilibrium outcomes in environments characterized by strong social interactions. More broadly, they suggest that interventions correcting pessimistic beliefs about prevailing social norms may generate large behavioral responses through endogenous social reinforcement, potentially helping communities transition out of self-reinforcing low-inclusion equi-

[28] For $\alpha_k > 1$, multiple equilibria arise when $|\beta_k - \alpha_k \delta_k| < \beta_k^*$. Accordingly, the critical level of pessimistic bias above which the high-inclusion equilibrium disappears is given by $\delta_k^* = \frac{\beta_k + \beta_k^*}{\alpha_k}$. For $\delta_k > \delta_k^*$, the economy admits only a low-inclusion equilibrium.

[29] Interestingly, the survey-based wedge for daughters, once rescaled to the model's $[-1, 1]$ support, is nearly identical to the model-implied threshold $\delta_d^* = 0.24$ above which the high-inclusion equilibrium disappears. This suggests that the degree of pessimistic misperception observed in the data is of the same order of magnitude as the level required to eliminate the high-inclusion equilibrium.

libria for daughters.

7.4 Insights for Policy

The simulations described above provide conceptual analogues for a range of policy interventions relevant to our context. Programs that promote public information campaigns or visibly engage community leaders could increase individuals' responsiveness to prevailing social norms, corresponding to an increase in the conformity parameter α_k. As our results show, the effects of such interventions depend critically on both prevailing community behavior and households' intrinsic preferences. Gender-sensitive legal reforms or advocacy efforts aimed at strengthening support for daughters' land rights would align with the scenario in which parents' intrinsic preferences for sons and daughters become more similar. A complementary strategy would involve reducing gender differences in conformity pressures by promoting more balanced normative expectations regarding sons' and daughters' land rights.

Our findings also suggest that increasing the visibility of women's land ownership—for instance through public registries, community mapping, or information campaigns—may shift perceived community behavior and reinforce the belief that allocating land to daughters is socially accepted.[30] Policies that reduce institutional or financial barriers to land registration—such as simplifying procedures or subsidizing titling costs—may similarly increase average community behavior by enabling households to act on pre-existing preferences that are otherwise constrained. In environments characterized by strong social interactions, such changes can move communities past tipping points and trigger transitions toward higher-inclusion equilibria for daughters.

More broadly, our analysis highlights the importance of informational frictions alongside coordination frictions. We document substantial pluralistic ignorance regarding daughters' inclusion on land titles: many respondents who privately support gender-equitable land allocation underestimate support for these views within their communities. Our simulations show that such pessimistic beliefs can substantially alter equilibrium outcomes. Informational interventions that correct these misperceptions—for instance by publicly sharing average attitudes or examples of daughters' inclusion—may therefore generate large behavioral responses through endogenous social reinforcement (Bursztyn et al., 2020). In settings where conformity motives are strong, low-cost belief-targeted interventions may thus complement institutional reforms in promoting more equitable land allocation between sons and daughters.

8 Evidence from Administrative Data

To test whether the mechanisms identified in our experiment and simulations also manifest in actual land titling decisions, we draw on newly available administrative data from the early stages of the PROCASEF land registration program. These records provide objective information on all newly issued land titles, including

[30] Vardani (2024) provides supporting evidence from rural Maharashtra, where a reform adding married women's names to home-ownership documents was followed by a randomized information campaign about women's co-ownership rights. Making women's property stakes visible led to measurable improvements in women's private consumption and reductions in men's alcohol use, consistent with the idea that increased visibility of female ownership can alter social norms and intrahousehold dynamics.

the names of household members listed on each title.[31] This allows us to directly observe whether new titles include daughters or sons, providing a rare opportunity to examine how actual titling practices vary with local social norms and perceptions. Because PROCASEF also included parallel interventions aimed at encouraging households to include daughters on land titles, we restrict attention to 95 control villages. This ensures that the observed differences in titling patterns reflect pre-existing social conditions rather than the influence of these interventions.

The measures of social norms and attitudes are drawn from the baseline survey, conducted before the start of PROCASEF activities and mirror those described in Section 4. We aggregate this information at the village level and link it to the administrative data to study how the inclusion of daughters and sons on formal titles varies with the normative environment in which households operate. Specifically, we regress the number of newly issued titles listing daughters or sons on baseline village-level measures of social norms and perceptions thereof. All regressions control for the total number of plots in each village as measured at baseline.

We first classify villages by the strength of baseline norms supporting daughters' inclusion on land titles, which we define relative to the average village-level perceived support for including daughters (and, analogously, for sons).[32] The results, shown in Panel A of Figure 10, reveal two key findings. First, sons are far more likely than daughters to appear on the new land titles overall, regardless of the prevailing social norms. Second, consistent with our experimental findings, the responsiveness to the normative environment is much stronger for daughters: in villages where baseline perceived norms in favor of daughters' inclusion are stronger, the number of new titles listing daughters is substantially higher (more than double, in fact). By contrast, the strength of perceived norms regarding sons' inclusion shows little or no association with the number of new titles listing sons.

We also examine the role of pluralistic ignorance and misperception about prevailing norms by comparing villages where individuals, on average, underestimated how supportive others were of including daughters on land titles to those where beliefs were broadly accurate or overly optimistic. As in Section 4, *underestimation* is defined as cases where the perceived local norm was less progressive than the actual average reported attitudes in the same village. As shown in Panel B of Figure 10, new titles listing daughters are considerably less frequent in communities where such underestimation occurred.

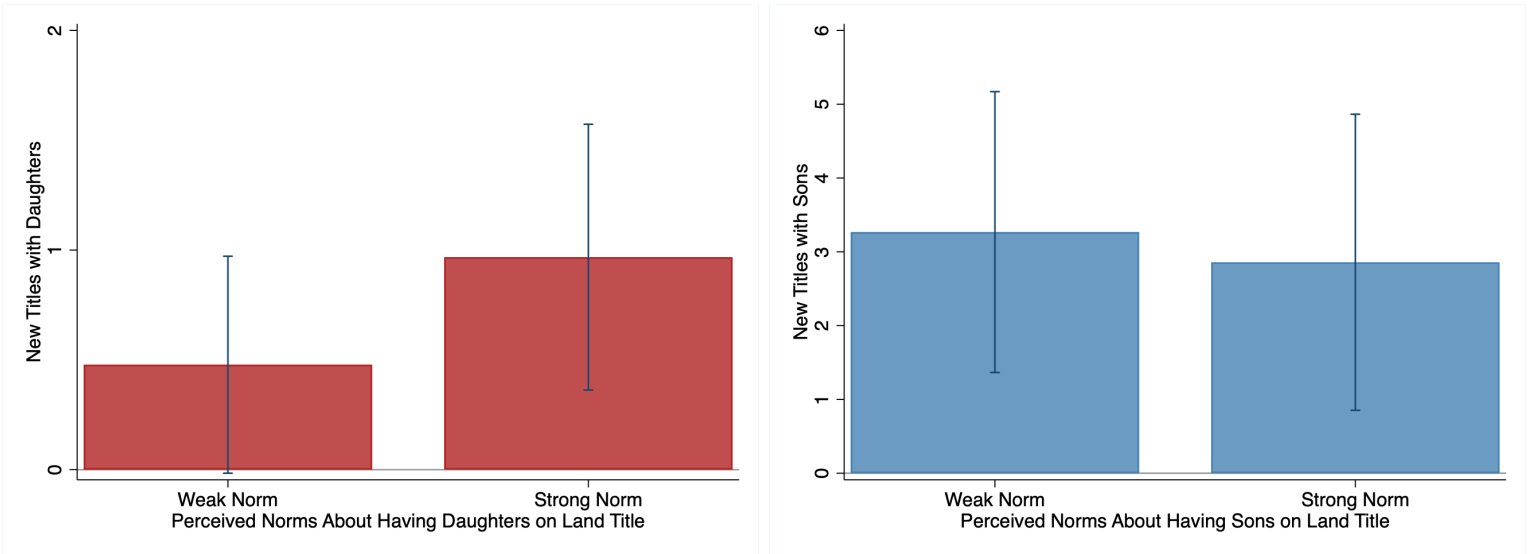
These results mirror the patterns emerging from both the hypothetical choice experiment and the theoretical model: actual land titling behavior responds to social norms and perceived attitudes, with the responsiveness markedly stronger for daughters. When communities recognize broad support for daughters' inclusion, households are more likely to act accordingly. By contrast, land allocations to sons are largely insensitive to social norms.

These patterns suggest that the impact of land registration programs like PROCASEF is likely heterogeneous across contexts. Where norms are supportive and accurately perceived, registration may promote

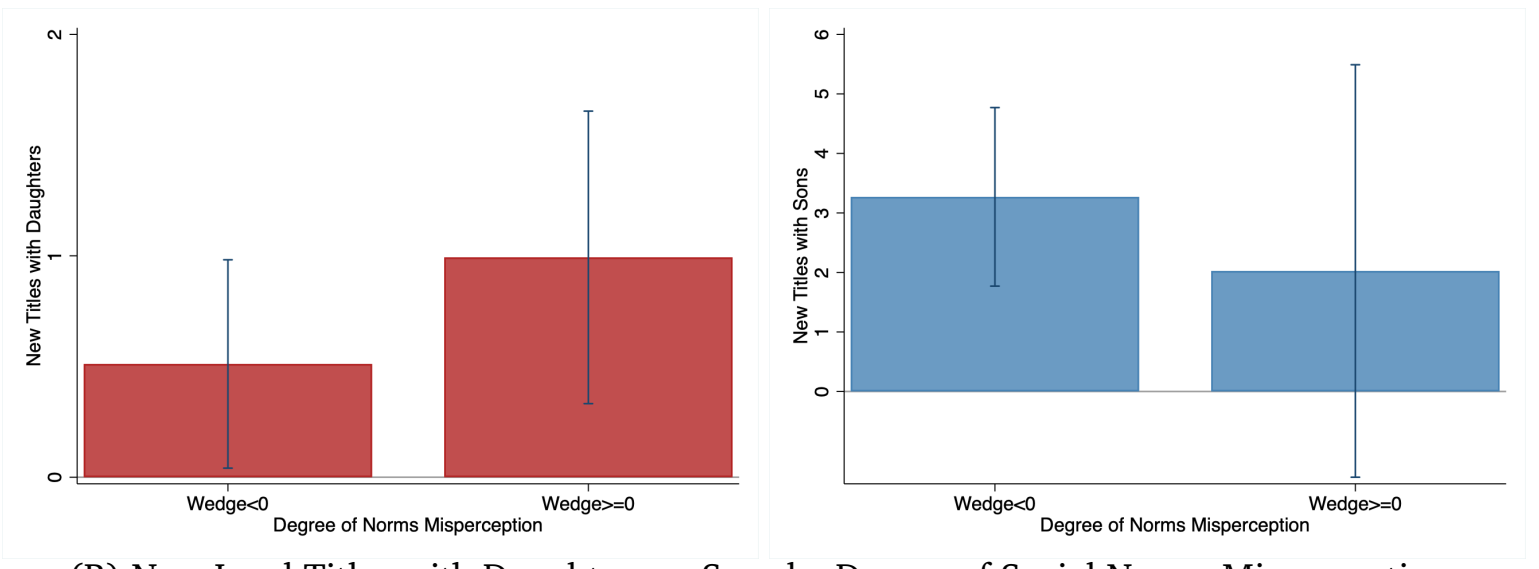
[31] The data correspond to land inventories conducted by land operators between October 2024 and December 2025. Formalization of the titles requires a few additional, albeit relatively straightforward, administrative steps. Since all plots within visited villages are expected to be registered, these inventories provide a close proxy for finalized titles. Nonetheless, some inconsistencies or omissions may remain.

[32] The results shown here are based on answers to the questions, "Out of ten men [or women] in your community, how many do you think would agree that daughters [or sons] should be included on land titles?" Results are robust to alternative definitions and available upon request. The average village-level perceived support is 3.9 for daughters and 7.6 for sons.

Figure 10: Evidence from Administrative Data



(A) New Land Titles with Daughters or Sons by Strength of Social Norms



(B) New Land Titles with Daughters or Sons by Degree of Social Norms Misperception

NOTES: Each panel plots estimated coefficients from regressions of the number of newly issued land titles including daughters (left) or sons (right) on indicators for the strength of local social norms (Panel A) or the degree of misperception about others' attitudes (Panel B), with 90% confidence intervals. All regressions control for number of plots in each village as measured at baseline. Measures of social norms and perceptions are taken from the baseline survey. "Strong" and "Weak" norm categories are defined relative to the village-level means of perceived support for including daughters or sons on land titles. In Panel B, a negative wedge refers to communities where individuals perceived others to be less supportive of daughters' inclusion on land titles than they actually were, based on the comparison between perceived and average reported attitudes in the same village. The sample is restricted to control villages that did not receive any of the gender-targeted sensitization or incentive interventions of the parent study.

more gender-equitable outcomes. But in settings where restrictive norms persist or individuals underestimate others' support, formalization may instead reinforce or even widen existing gender gaps in land ownership.

9 Conclusion

This paper investigates potential sources of gender disparities in the intergenerational allocation of land in rural lower-income contexts, focusing on how parents' intrinsic preferences and conformity motives interact to shape decisions about allocating land to sons and daughters. Drawing on original data from Senegal, we combine a hypothetical choice experiment and detailed information on perceived social norms and atti-

tudes with a theoretical model of social interactions to better understand how social norms and perceived community behavior influence household choices.

Our experimental setting allows us to explore intent and preferences in a context of constrained institutional infrastructure. The experimental design also enables us to separately identify intrinsic preferences and social conformity motives, revealing an interesting gender asymmetry. Parents exhibit slightly stronger preferences for allocating land to sons, and these preferences are less responsive to the normative context. By contrast, decisions involving daughters are more malleable: conformity pressures are stronger and expected choice behavior depends more heavily on perceptions of others' choices. Simulations based on our calibrated model show that small shifts in perceived community behavior can trigger large, discontinuous changes in land allocation to daughters—consistent with the presence of multiple equilibria. Such multiplicity is less likely to arise for sons.

Land-titling initiatives such as Senegal's PROCASEF, by reducing administrative frictions and expanding access to formal land registration, can help communities reach a tipping point simply by removing procedural and financial barriers. In settings where there is already latent demand for gender-equitable titling, lowering these barriers may allow households to bring their behavior into closer alignment with both their own preferences and the actual normative environment. However, the effects of such programs are context-dependent: in communities where prevailing expectations strongly favor sons or where critical tipping points cannot be reached, expanding access to titling may reinforce rather than reduce gender disparities in land ownership. These heterogeneous impacts suggest that a one-size-fits-all approach may be ill-suited, and that program design should account for local preferences and normative conditions. Administrative data from the early roll-out of PROCASEF corroborate our experimental and theoretical findings, highlighting that daughters' inclusion on land titles is strongly shaped by local norms and the perception of community behavior and attitudes.

While many respondents in our sample personally support including daughters on land titles or granting them inheritance rights, they systematically underestimate how commonly these views are shared. This divergence between personal attitudes and perceived norms can inhibit social change by making individuals less likely to act on their own progressive views. Informational interventions aimed at correcting such misperceptions could shift perceived norms enough to push communities from a low-inclusion to a high-inclusion equilibrium for daughters. Increasing the public salience of women's land rights—for example, by highlighting female landowners in community forums or showcasing women's names on title documents—could likewise strengthen the visibility of inclusive practices and help normalize them within the community.

Although our study focuses on one country, the mechanisms we highlight are relevant to many rural contexts where land remains the primary vehicle for intergenerational wealth transfer and where social norms exert strong influence on household behavior. The framework developed here offers a lens to understand both the persistence of gender gaps and the levers through which they may be addressed.

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Online Appendix (Not for Publication)

A A Model of Land Titling under Social Norms: Extensions

A.1 Extension to Heterogeneous Preferences

In the main text, we assumed homogeneous preferences across households—i.e., a common intrinsic preference β_k and conformity strength α_k for each child type $k \in \{s, d\}$. We now generalize the model to allow for heterogeneity in both parameters across households. Specifically, let β_{ik} and α_{ik} denote the intrinsic preference and conformity strength of household i with respect to child type k. The utility associated with household i's binary allocation decision $\ell_{ik} \in \{-1, +1\}$ is:

$$U_{ik}(\ell_{ik}) = \ell_{ik}(\beta_{ik} + \alpha_{ik}\bar{\ell}_k) + \varepsilon_{ik}(\ell_{ik}), \tag{A1}$$

where $\bar{\ell}_k = \mathbb{E}_i[\ell_{ik}]$ denotes the expected average allocation behavior in the community. As before, we assume the idiosyncratic shocks ε_{ik} follow a Type I Extreme Value distribution, yielding the household-specific choice probability:

$$\mathbb{E}[\ell_{ik}] = \tanh(\beta_{ik} + \alpha_{ik}\bar{\ell}_k). \tag{A2}$$

Aggregating across the population of households, the fixed-point condition becomes:

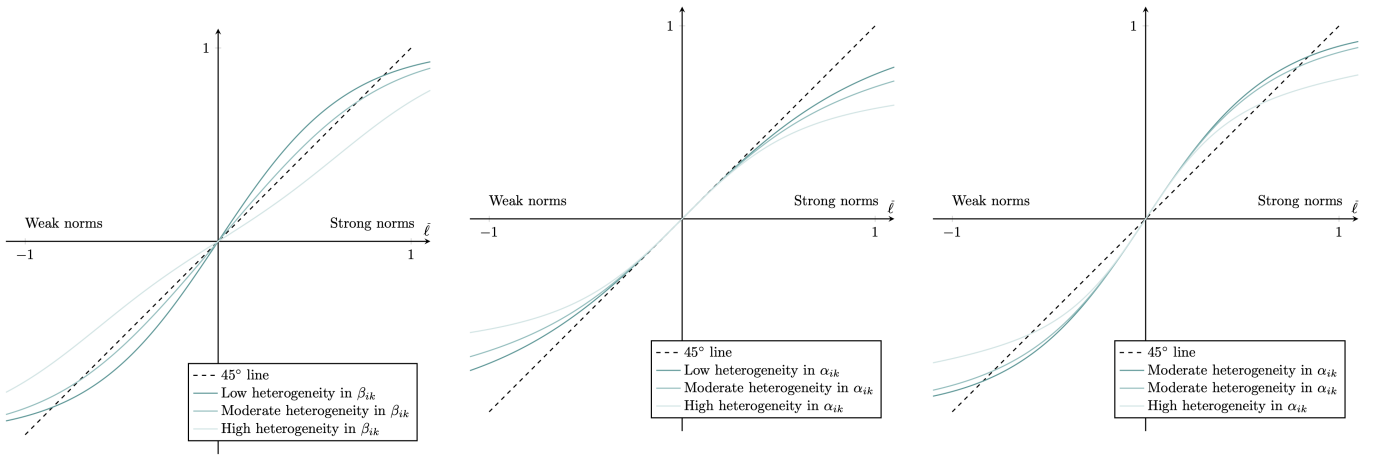
$$\bar{\ell}_k = \mathbb{E}_i\left[\tanh(\beta_{ik} + \alpha_{ik}\bar{\ell}_k)\right], \tag{A3}$$

which defines the aggregate behavior as a weighted average of individual expected choices.

The possibility of multiple equilibria in this setting depends on the shape and slope of the aggregate response function defined in Equation (A3). In particular: if $\alpha_{ik} = \alpha_k$ and $\beta_{ik} = \beta_k$ for all i, Equation (A3) reduces to the homogeneous case, and Proposition 1 applies: a unique equilibrium exists if and only if $\alpha_k \leq 1$, while multiple equilibria are possible if $\alpha_k > 1$. If $\beta_{ik} = \beta_k$ is constant across households, but conformity parameters α_{ik} vary, multiplicity depends on the average conformity pressure. In particular, the slope of the aggregate expected choice at $\bar{\ell}_k = 0$ is $\mathbb{E}[\alpha_{ik}]$, so multiple equilibria are only possible if $\mathbb{E}[\alpha_{ik}] > 1$. Conversely, if conformity strengths α_{ik} are fixed but households differ in intrinsic preferences β_{ik}, the aggregate response function becomes a smoothed average of shifted tanh curves. In this case, even when $\alpha_k > 1$, high dispersion in β_{ik} can dampen the slope of the aggregate response function, restoring uniqueness. Finally, when both β_{ik} and α_{ik} vary across households, the emergence of multiple equilibria depends on their joint distribution. For example, a small subgroup with very steep conformity responses (high α_{ik}) concentrated around $\beta_{ik} = 0$ may create tipping behavior even if most households are insensitive to social influence.

Figure A1 illustrates how heterogeneity in intrinsic preferences (β_{ik}) and conformity strength (α_{ik}) affects the aggregate response function and the existence of multiple equilibria. In all panels, the dashed line denotes the 45-degree line, and equilibria correspond to intersections between the aggregate response function and this line. The curves are generated by assuming two equally sized groups of households. Panel (A) varies the dispersion of intrinsic preferences while holding conformity strength fixed at $\alpha_{ik} = 1.5$.

Figure A1: Extension to Heterogeneous Preferences



(A) Heterogeneity in β_{ik} (with $\alpha_k > 1$)

(B) Heterogeneity in α_{ik} (with $\mathbb{E}[\alpha_{ik}] \leq 1$ and $\beta_k = 0$)

(C) Heterogeneity in α_{ik} (with $\mathbb{E}[\alpha_{ik}] > 1$ and $\beta_k = 0$)

NOTES: The figure shows expected choice functions (the expected value of the choice as a function of the average choice in the community) under preference heterogeneity.

Households are assumed to have preferences $\beta_{ik} \in \{-0.05, 0.05\}$, $\{-0.5, 0.5\}$, and $\{-1, 1\}$, respectively. Greater heterogeneity in intrinsic preferences smooths the aggregate response function and reduces the scope for multiple equilibria. Panel (B) varies conformity strength while holding intrinsic preferences fixed at $\beta_{ik} = 0$. Households are assumed to have conformity parameters $\alpha_{ik} \in \{0.8, 1.2\}$, $\{0.5, 1.5\}$, and $\{0.2, 1.8\}$, respectively. Panel (c) considers stronger average conformity, with $\alpha_{ik} \in \{1.25, 1.75\}$, $\{1, 2\}$, and $\{0.5, 2.5\}$. The figure illustrates that heterogeneity in intrinsic preferences tends to dampen aggregate responsiveness and promote uniqueness, whereas sufficiently strong conformity motives can sustain multiple self-consistent equilibria even in the presence of heterogeneity.

In sum, heterogeneity in intrinsic preferences and conformity strength modifies but does not fundamentally overturn the logic of the baseline model. When preferences are sufficiently dispersed, especially in β_{ik}, uniqueness can prevail even under moderate social influence. But when conformity is highly concentrated or average pressure is strong, multiple equilibria may still emerge. Because our baseline estimates reveal only limited heterogeneity in conformity responses, the calibration exercises in the main text focus on the homogeneous benchmark.

A.2 Extension to a Multinomial Choice Model

While our baseline framework models land allocation to one child, either a son or a daughter, the underlying coordination structure can be extended to households with multiple children in a multinomial setting following Brock and Durlauf (2002). Consider parents with one son and one daughter who jointly choose among four mutually exclusive allocation profiles:

$$a_i \in \{(-1,-1),(1,-1),(-1,1),(1,1)\},$$

corresponding respectively to allocating land to neither child, the son only, the daughter only, or both the son and the daughter.

Let $\ell_s(a) \in \{-1, +1\}$ and $\ell_d(a) \in \{-1, +1\}$ denote whether the son and the daughter are included under allocation profile a. Utility from choosing profile a is given by:

$$U_i(a) = \beta_s \ell_s(a) + \beta_d \ell_d(a) + \gamma \ell_s(a) \ell_d(a) + \alpha_s \ell_s(a) \bar{\ell}_s + \alpha_d \ell_d(a) \bar{\ell}_d + \varepsilon_i(a),$$

where β_s and β_d capture intrinsic preferences for allocating land to the son and the daughter; γ captures complementarities or substitutabilities between the two inclusion decisions; α_s and α_d measure conformity motives associated with perceived average inclusion behavior toward sons and daughters; $\bar{\ell}_s$ and $\bar{\ell}_d$ denote perceived average community behavior regarding sons' and daughters' inclusion on land titles; and $\varepsilon_i(a) \sim$ Type-I Extreme Value is an idiosyncratic preference shock.

Under these assumptions, the probability that household i selects allocation profile a follows the standard multinomial logit form:

$$\Pr(a_i = a) = \frac{\exp(V_i(a))}{\sum_{a'} \exp(V_i(a'))},$$

where $V_i(a)$ denotes the deterministic component of utility.

An equilibrium is characterized by a pair of fixed points $(\bar{\ell}_s, \bar{\ell}_d)$ such that perceived and realized average inclusion behavior coincide:

$$\bar{\ell}_s = \sum_a \ell_s(a) \Pr(a_i = a),$$

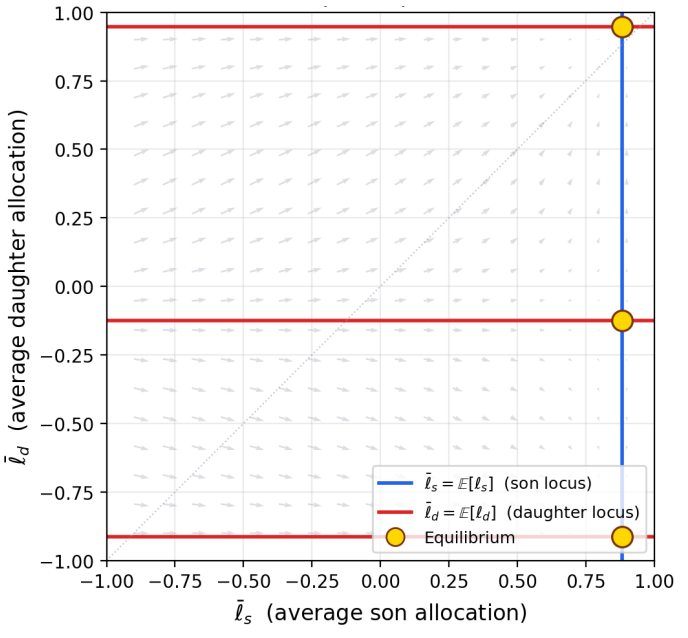
$$\bar{\ell}_d = \sum_a \ell_d(a) \Pr(a_i = a).$$

Relative to the binary framework developed in the main text, this multinomial extension allows for richer interactions between sons' and daughters' land allocation decisions. Positive values of γ generate complementarities between the two inclusion decisions: households derive additional utility from allocating land to both children jointly, inducing positive within-household correlation between sons' and daughters' inclusion. As a result, beliefs regarding daughters' inclusion may affect incentives to include sons, and beliefs regarding sons' inclusion may affect incentives to include daughters. The joint model therefore introduces an additional channel through which social interactions can reinforce land-allocation behavior.

The multinomial framework nests the binary coordination logic of the main text but makes the equilibrium problem multidimensional. Strong conformity motives (α_s, α_d) can generate self-reinforcing behavior within each child type, while complementarities in utility can create reinforcement between the two inclusion decisions. Thus, positive complementarities may enlarge the set of parameter values for which multiple self-consistent equilibria arise. Fully characterizing this equilibrium set, however, requires additional assumptions on the magnitudes of conformity motives and complementarities and lies beyond the scope of the present paper.

Our experimental design was not set out for the identification of a full multinomial coordination structure. To limit cognitive burden, respondents were exposed to randomized normative cues regarding either sons' or daughters' land allocation, but not both simultaneously. As a result, the experiment identifies marginal responsiveness to perceived community behavior separately for sons and daughters, but does not provide sufficient variation to identify richer set of conformity effects across genders. Accordingly, the simulations in Section 7 focus on the parsimonious binary coordination framework, which provides a transparent

Figure A2: Equilibria in a Simple Multinomial Model



Notes: The figure plots the equilibrium loci implied by the multinomial model extension. Parameters are calibrated using the baseline estimates from the separate son and daughter experiments and impose no complementarities between sons' and daughters' inclusion decisions ($\gamma = 0$). Equilibria occur at the intersections of the son and daughter loci.

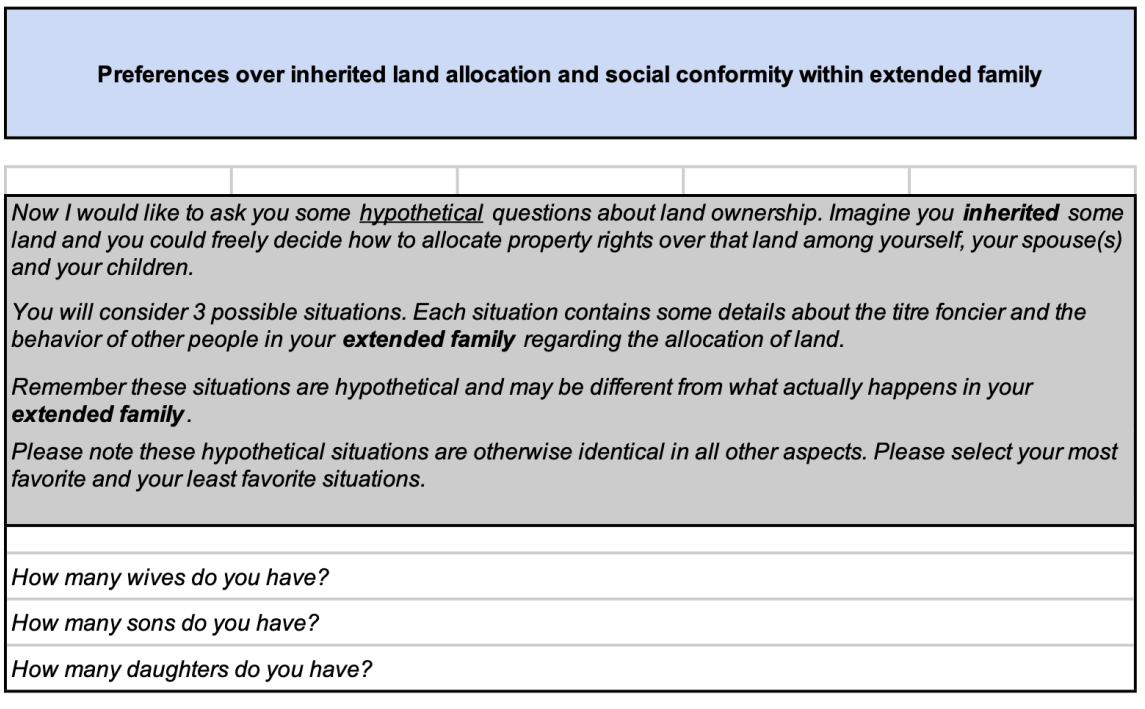
representation of child-type-specific conformity dynamics while remaining closely connected to the experimental variation in perceived social norms.

Nevertheless, it is informative to examine the equilibrium implications of the estimated preference and conformity parameters when embedded in a simple multinomial model. Figure A2 illustrates the equilibrium structure a multinomial model, calibrated using the preference and conformity parameters estimated in our experiments and with $\gamma = 0$. The horizontal axis plots average land allocation to sons, while the vertical axis plots average land allocation to daughters, $\bar{\ell}_d$. The two curves represent the loci of points satisfying each equilibrium condition separately. The son locus traces combinations of $(\bar{\ell}_s, \bar{\ell}_d)$ for which perceived and realized average son allocation coincide, while the daughter locus traces combinations for which perceived and realized average daughter allocation coincide. Equilibria occur at the intersections of the two loci, where both fixed-point conditions are simultaneously satisfied.

Consistent with the predictions of our binary coordination models, equilibrium outcomes differs markedly across sons and daughters. Land allocation to sons remains high across all equilibria, reflecting relatively strong intrinsic support for allocating land to sons and comparatively modest conformity effects. In contrast, land allocation to daughters can sustain both low- and high-allocation equilibria.

B Additional Figures

Figure A3: Example from Hypothetical Choice Experiment: Question Prompt



Preferences over inherited land allocation and social conformity within extended family
*Now I would like to ask you some hypothetical questions about land ownership. Imagine you **inherited** some land and you could freely decide how to allocate property rights over that land among yourself, your spouse(s) and your children.* *You will consider 3 possible situations. Each situation contains some details about the titre foncier and the behavior of other people in your **extended family** regarding the allocation of land.* *Remember these situations are hypothetical and may be different from what actually happens in your **extended family**.* *Please note these hypothetical situations are otherwise identical in all other aspects. Please select your most favorite and your least favorite situations.*
How many wives do you have?
How many sons do you have?
How many daughters do you have?

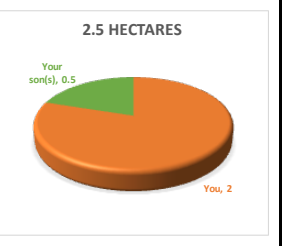
NOTES: The figure displays the question prompt shown to respondents in the hypothetical choice experiment. Each respondent completes four distinct choice tasks, with attribute values and normative contexts systematically varied across tasks to capture preferences under different scenarios.

Figure A4: Example from Hypothetical Choice Experiment: Choice Set Example

Choice Scenario 1 v1

Situation 1

TITRE FONCIER	
Total land (hectares)	2.5
Your own property (hectares)	2
Your wives' property (hectares)	0
Your sons' property (hectares)	0.5
Your daughters' property (hectares)	0

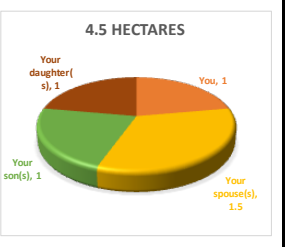


and

Very few people in your extended family have daughters on their land title.

Situation 2

TITRE FONCIER	
Total land (hectares)	4.5
Your own property (hectares)	1
Your wives' property (hectares	1.5
Your sons' property (hectares)	1
Your daughters' property (hectares)	1



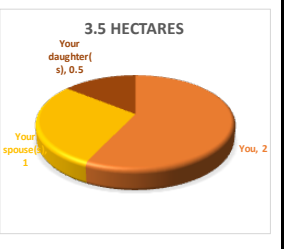
and

Most people in your extended family have daughters on their land title.

Situation 3

TITRE FONCIER

Total land (hectares)	3.5
Your own property (hectares)	2
Your wives' property (hectares	1
Your sons' property (hectares)	0
Your daughters' property (hectares)	0.5



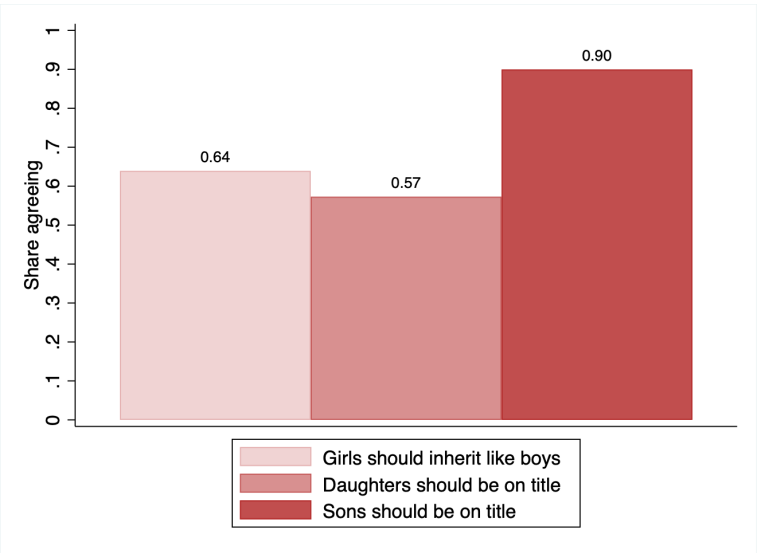
and

Some people in your extended family have daughters on their land title.

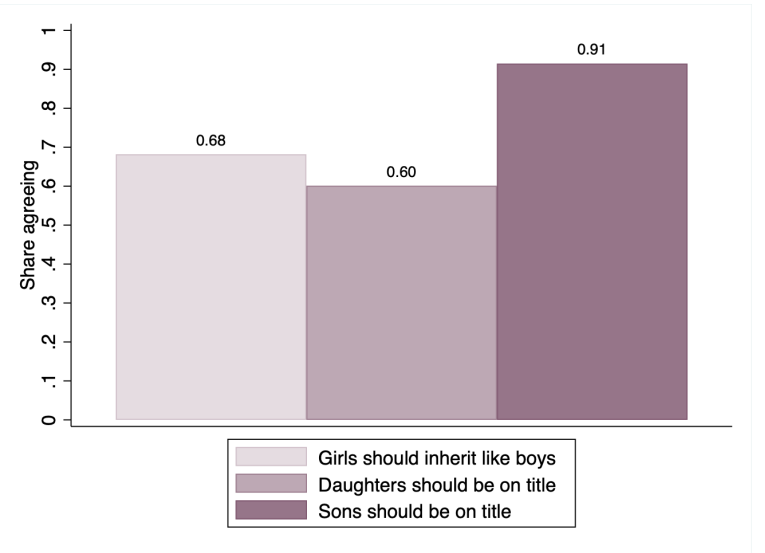
Which of the situations above is your
Which of the situations above is your

NOTES: The figure presents an example choice set in which the land in question is inherited, and prevailing norms in the extended family concern the allocation of land to daughters together with the visual aids utilized. The figure displays the question prompt shown to respondents in the hypothetical choice experiment. Each respondent completes four distinct choice tasks, with attribute values and normative contexts systematically varied across tasks to capture preferences under different scenarios.

Figure A5: Personal and Perceived Attitudes on Land Titling and Allocation



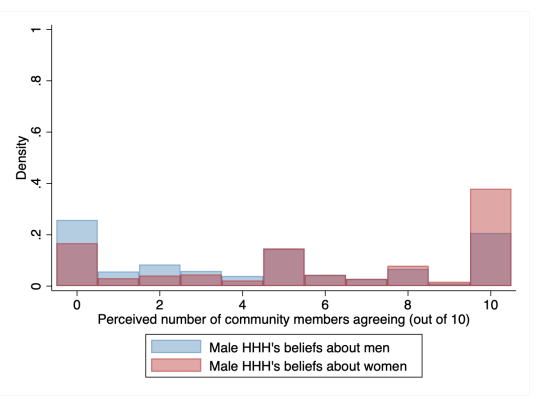
(A) Wives of Heads of Household



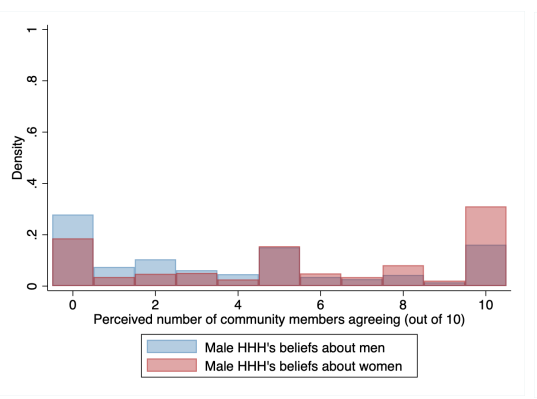
(B) Female Heads of Household

NOTES: Panel A displays the share of wives of heads of household who personally agree with three gender-related statements on land rights. Panel B displays the share of female heads of household who agree with three gender-related statements on land rights.

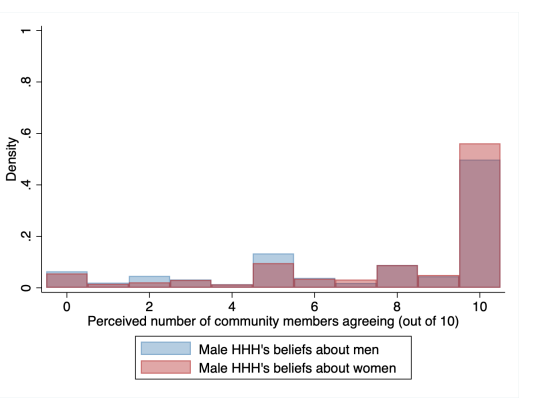
Figure A6: Perception of Others' Attitudes (Male Heads of Household)



(A) Girls should inherit like boys



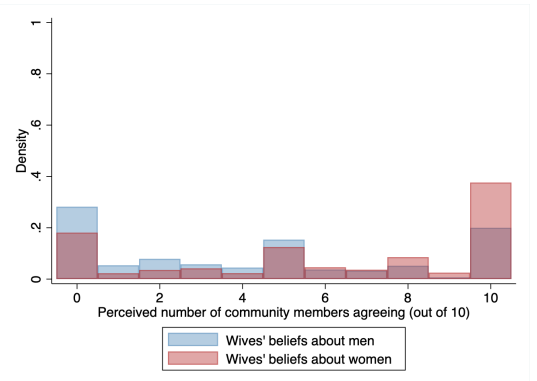
(B) Daughters should be on title



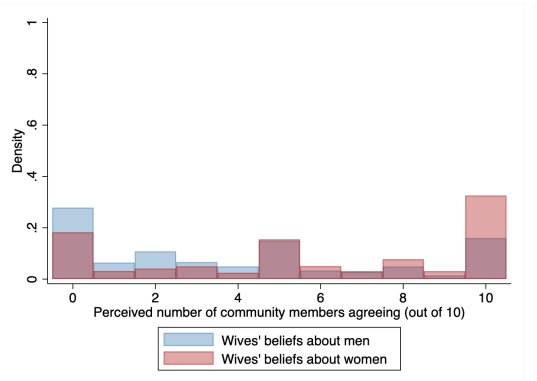
(C) Sons should be on title

NOTES: The figures show the distribution of male heads of household's beliefs about how many other men and women in their community (out of 10) agree with three statements related to land rights. In each figure, the blue bars represent perceived agreement among men, and the red bars represent perceived agreement among women.

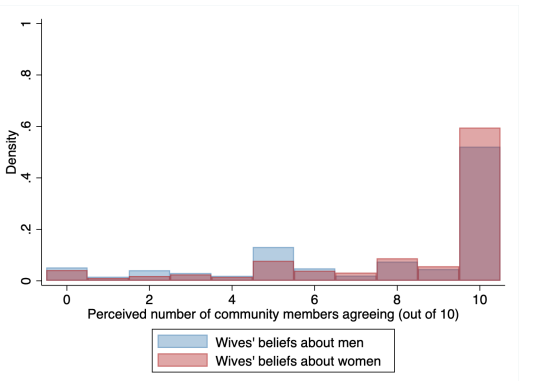
Figure A7: Perception of Others' Attitudes (Wives of Heads of Household)



(A) Girls should inherit like boys



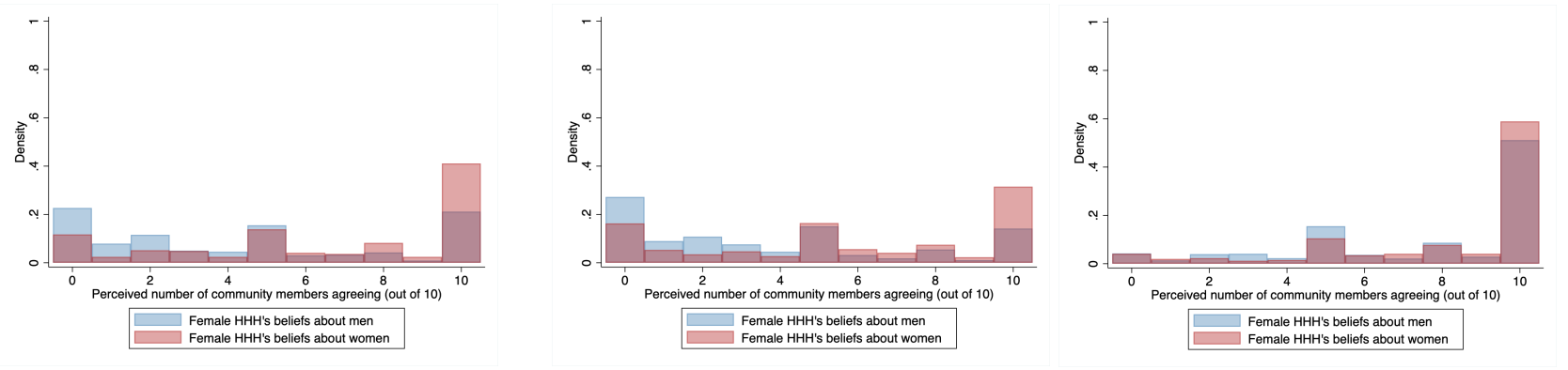
(B) Daughters should be on title



(C) Sons should be on title

NOTES: The figures show the distribution of wives' beliefs about how many other men and women in their community (out of 10) agree with three statements related to land rights. In each figure, the blue bars represent perceived agreement among men, and the red bars represent perceived agreement among women.

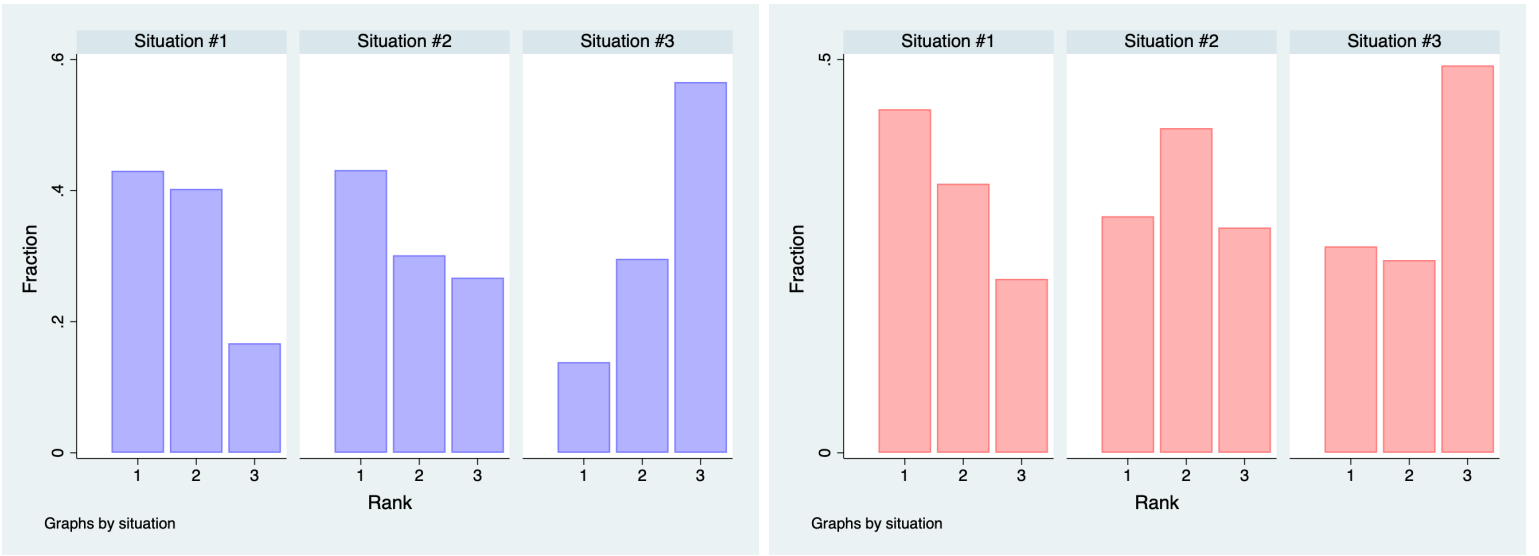
Figure A8: Perception of Others' Attitudes (Female Heads of Household)



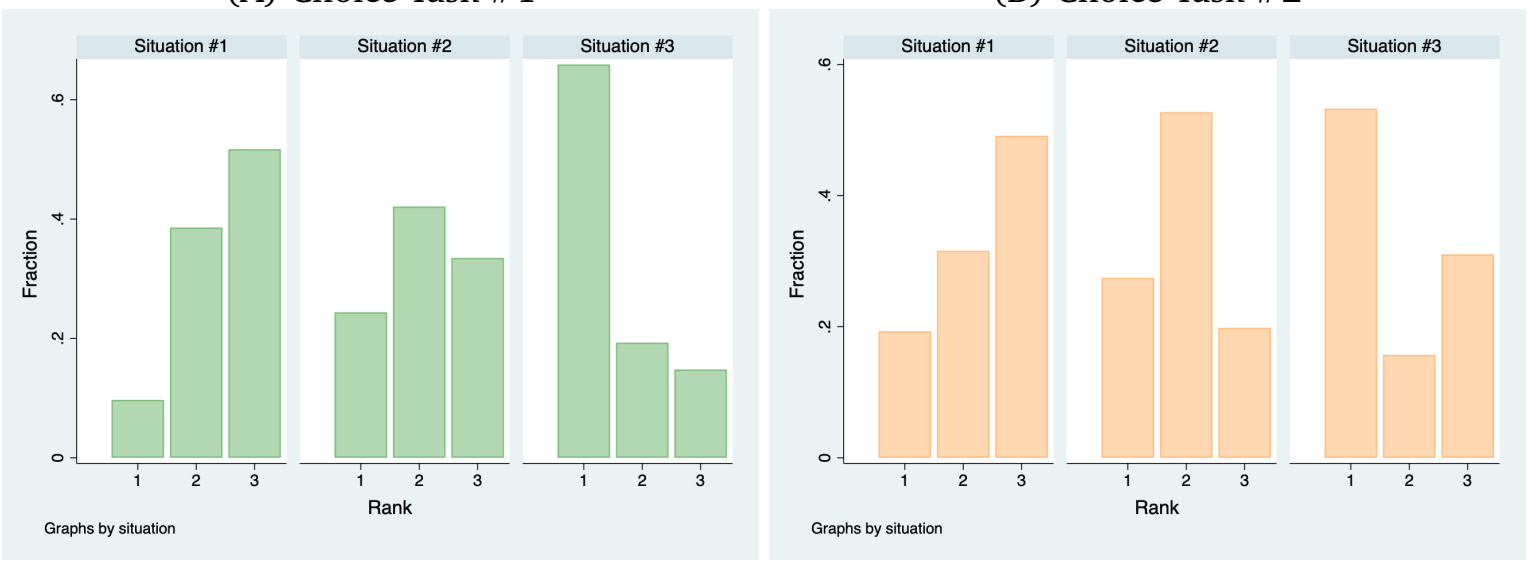
(A) Girls should inherit like boys (B) Daughters should be on title (C) Sons should be on title

NOTES: The figures show the distribution of female heads of household's beliefs about how many other men and women in their community (out of 10) agree with three statements related to land rights. In each figure, the blue bars represent perceived agreement among men, and the red bars represent perceived agreement among women.

Figure A9: Rank Distributions



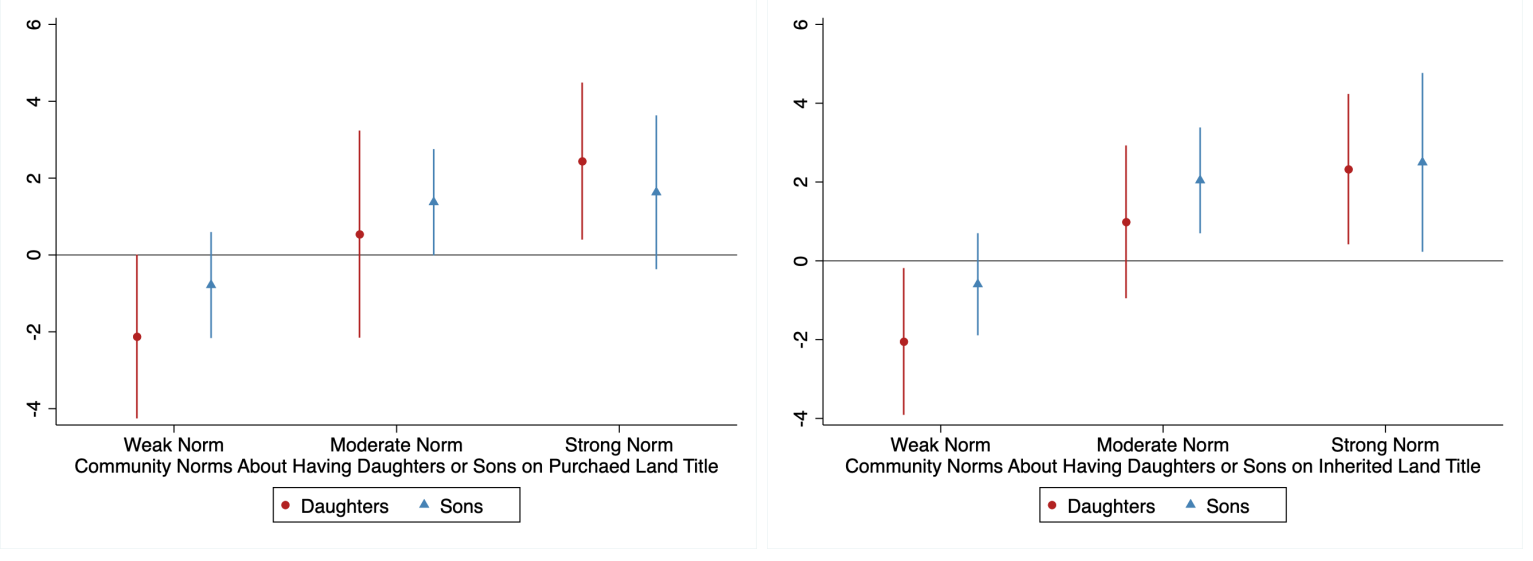
(A) Choice Task #1 (B) Choice Task #2



(C) Choice Task #3 (D) Choice Task #4

NOTES: Distribution of ranks assigned by respondents to three hypothetical land profiles in each of the four choice task.

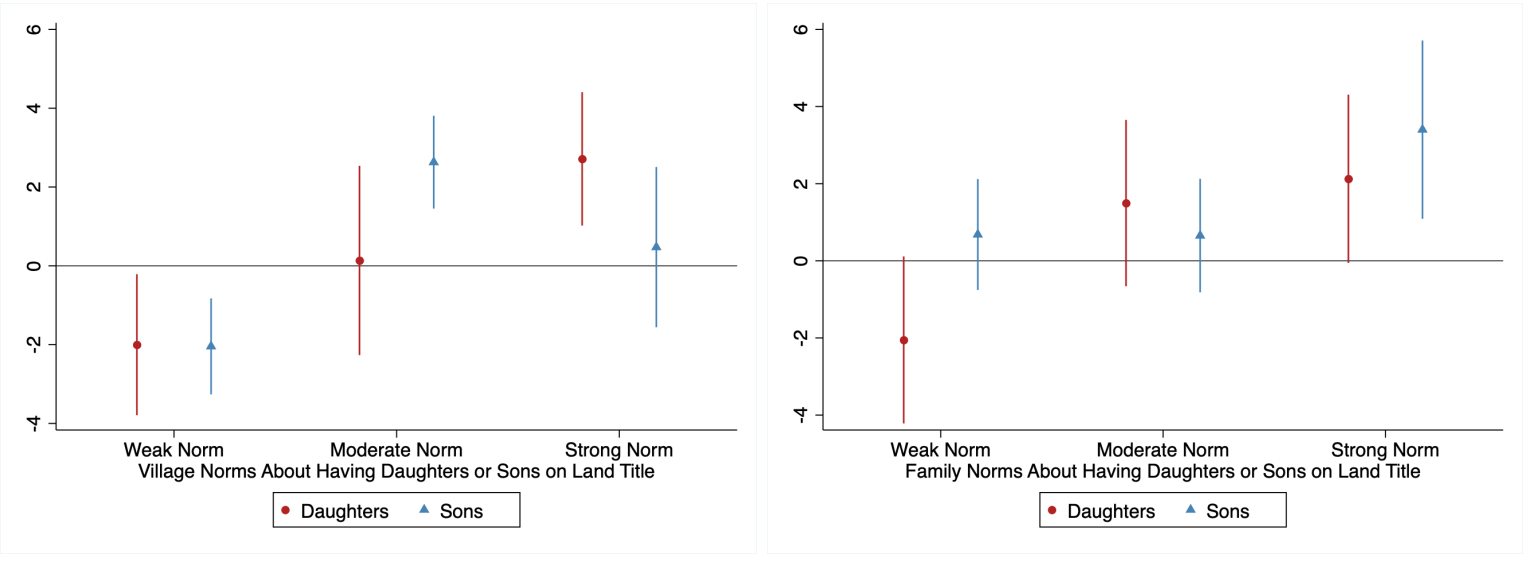
Figure A10: Norm-Contingent Preferences: Purchased vs. Inherited Land



(A) Purchased Land (B) Inherited Land

NOTES: This figure displays the estimated marginal value of allocating land to children, disaggregated by child gender, the strength of prevailing community norms, and type of land to be allocated. Vertical lines denote 95% confidence intervals.

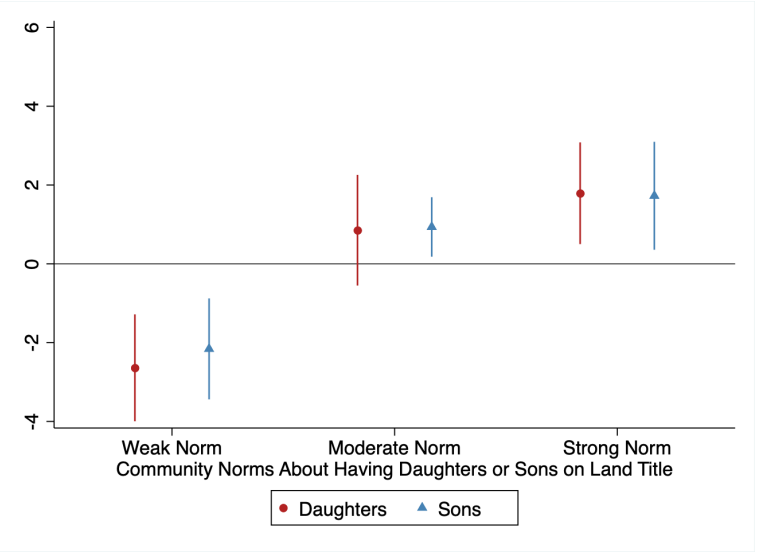
Figure A11: Norm-Contingent Preferences: Village vs. Extended Family



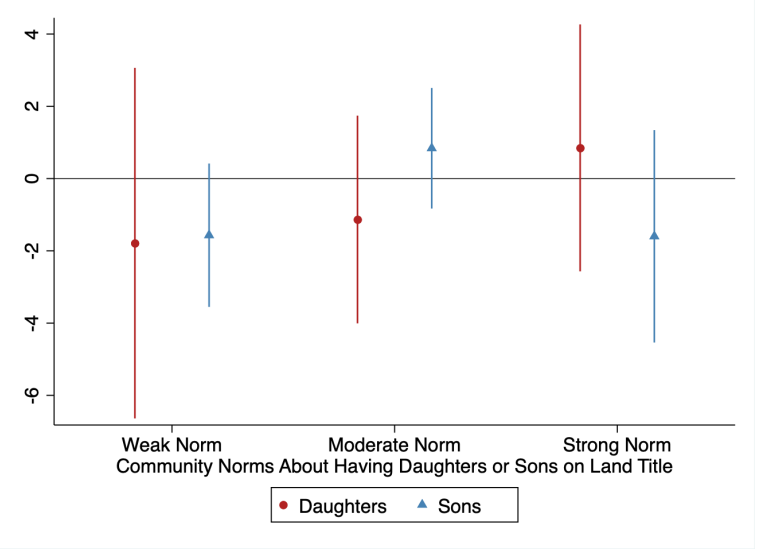
(A) Village (B) Extended Family

NOTES: This figure displays the estimated marginal value of allocating land to children, disaggregated by child gender, the strength of prevailing community norms, and type of community of reference. Vertical lines denote 95% confidence intervals.

Figure A12: Norm-Contingent Preferences: Women



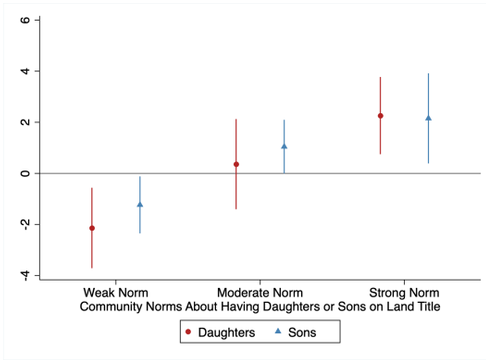
(A) Wives of Heads of Household



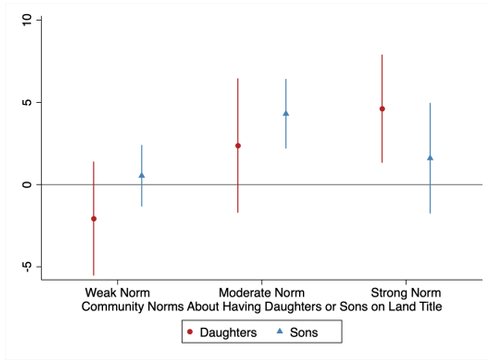
(B) Female Heads of Household

NOTES: This figure displays the estimated marginal value of allocating land to children, disaggregated by child gender and the strength of prevailing community norms. Vertical lines denote 95% confidence intervals.

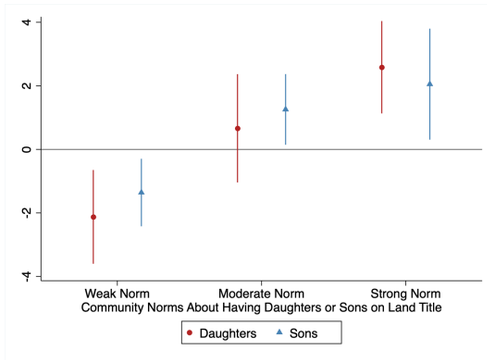
Figure A13: Norm-Contingent Preferences: Group Heterogeneity



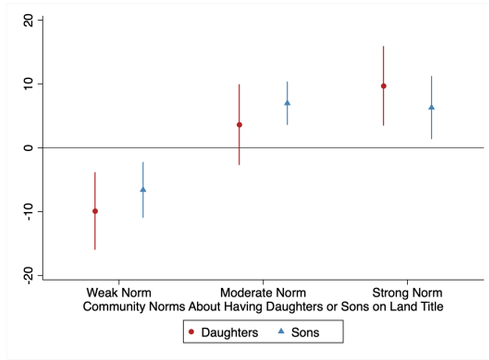
(A1) Monogamous HHs



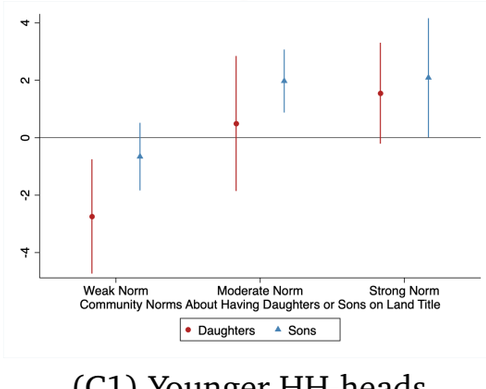
(A2) Polygamous HHs



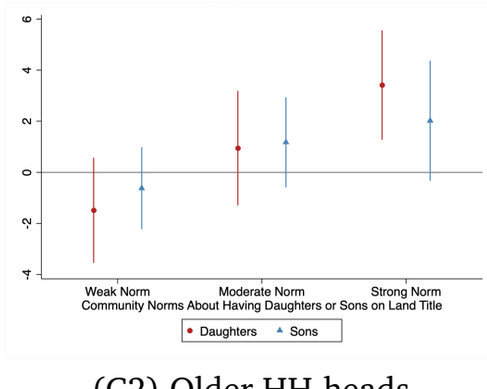
(B1) Smaller HHs



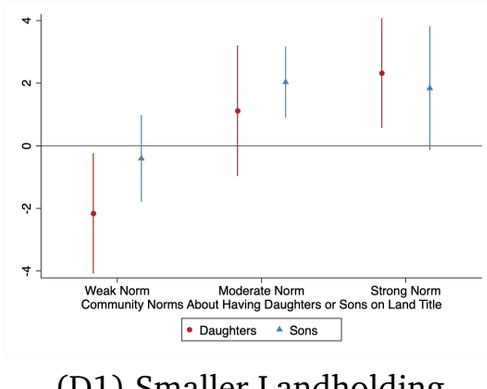
(B2) Larger HHs



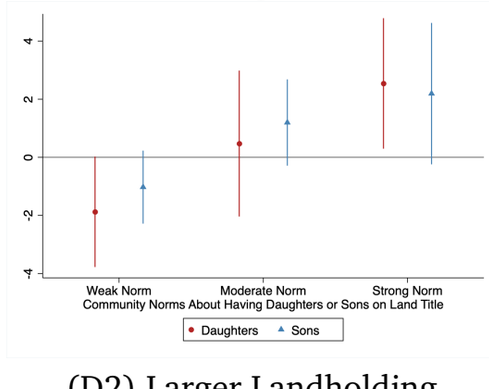
(C1) Younger HH-heads



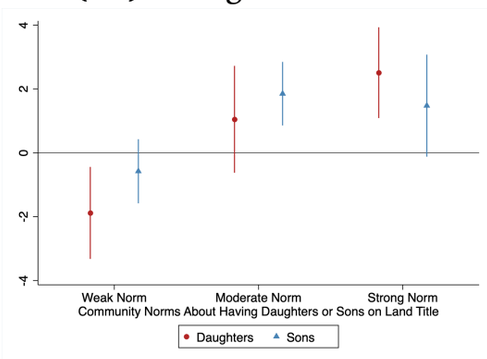
(C2) Older HH-heads



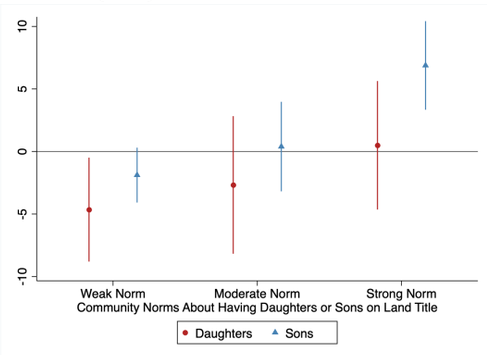
(D1) Smaller Landholding



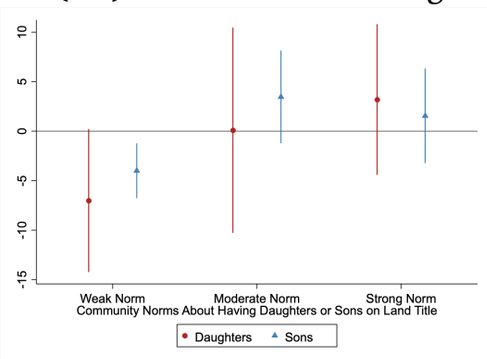
(D2) Larger Landholding



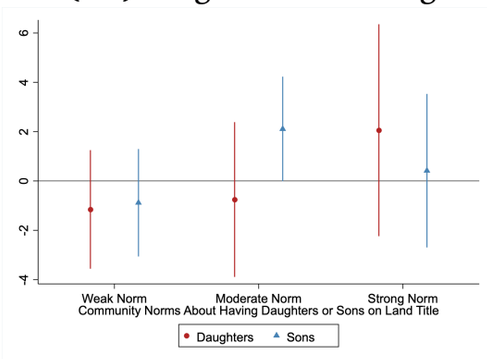
(E1) No Formal Land Title



(E2) Formal Land Title



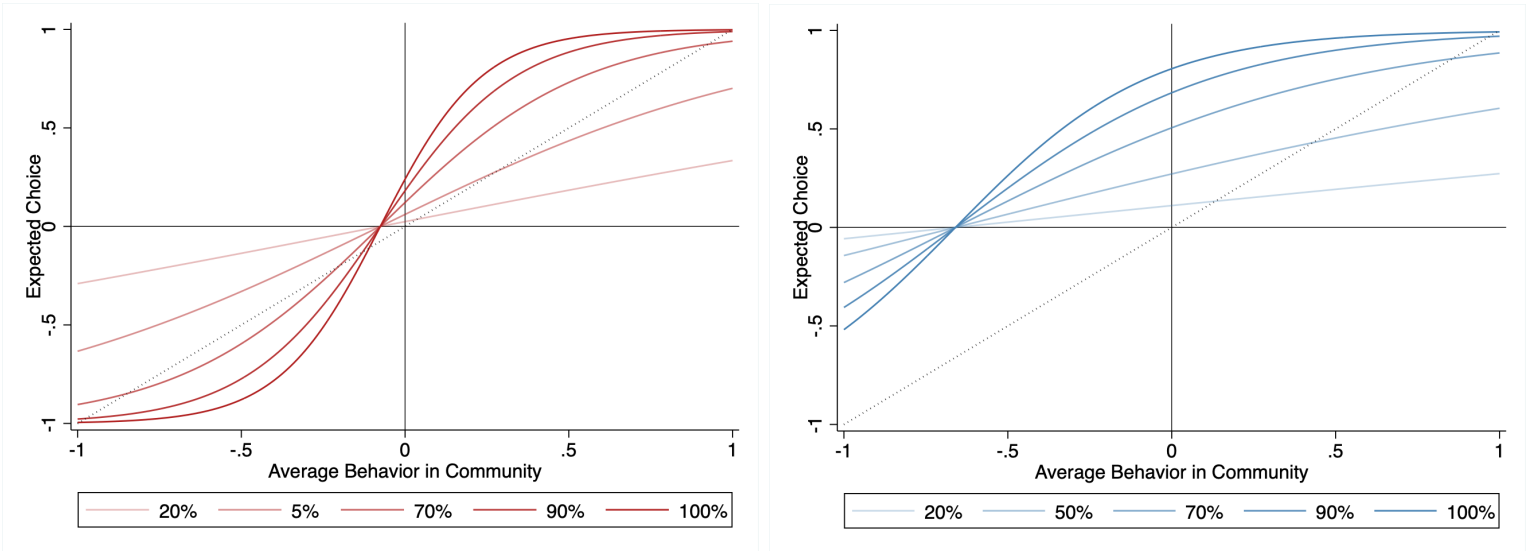
(F1) Historically Matrilineal



(F2) Historically Patrilineal

NOTES: This figure displays the estimated marginal value of allocating land to children, disaggregated by child gender, the strength of prevailing community norms, and various socio-economic and demographic traits of the respondents. Vertical lines denote 95% confidence intervals.

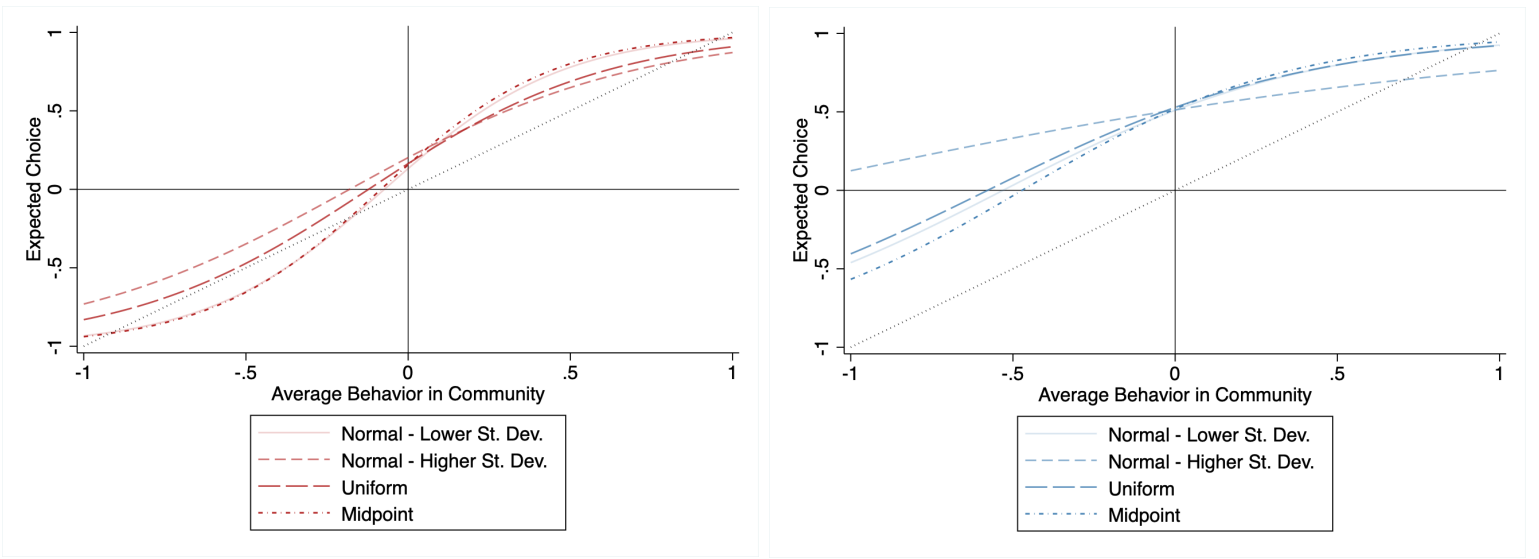
Figure A14: Expected Choice Functions for Varying Shares of Allocated Land



(A) Daughters (B) Sons

NOTES: This figure shows how the steepness and curvature of expected choice functions vary with the magnitude of land allocated to sons (right panel) and daughters (left panel). We plot expected choice behavior using estimated intrinsic preference and conformity parameters from the rank-ordered logit model, scaling both parameters proportionally by factors of 0.2, 0.5, 1, 1.5, and 2. These rescalings correspond to hypothetical shifts in land allocations of increasing intensity, implicitly capturing changes ranging from modest (10–25 percentage point increases) to full transfers (100 percentage point increases).

Figure A15: Expected Choice Functions for Varying Specifications of the Continuous Norms Variable



(A) Daughters (B) Sons

NOTES: This figure illustrates the robustness of estimated expected choice functions to alternative constructions of the continuous norm prevalence variable used in the empirical model. We compare four specifications: (i) lower-variance normal distributions centered at 0.2, 0.5, and 0.8 for the three norm categories, respectively, with standard deviation 0.05 (solid line); (ii) higher-variance normal distributions with standard deviation 0.2 (dashed line); (iii) uniform distributions with values drawn randomly from $[0.00, 0.33]$, $[0.33, 0.66]$, and $[0.66, 1.00]$ for the three categories (long-dashed line); and (iv) a midpoint specification assigning fixed values of 0.2, 0.5, and 0.8 to each category (short-dash-dot line). In all cases, the resulting variables are linearly transformed to the $[-1, 1]$ interval to align with the theoretical model. The plots show the resulting expected choice functions for land allocation decisions to daughters (left panel) and sons (right panel).

C Additional Tables

Table A1: Summary Statistics for Choice Scenarios

	Mean	Std. Dev.	Median	Min	Max
Land Allocation Scenarios					
Total land (hectares)	5.073	2.750	4.500	1.000	11.000
Land to spouse(s) (hectares)	1.745	1.384	1.250	0.000	8.000
Wives	1.214	0.869	1.000	0.000	3.000
Land to son(s) (hectares)	1.073	0.908	1.000	0.000	3.000
Land to daughter(s) (hectares)	1.042	0.985	1.000	0.000	3.000
Social Norms on Land Titling					
Weak norms	0.333	0.472	0.000	0.000	1.000
Moderate norms	0.375	0.485	0.000	0.000	1.000
Strong norms	0.292	0.455	0.000	0.000	1.000

Notes: This table summarizes the distribution of attributes across the full set of hypothetical land titling scenarios presented in the choice experiment. Each profile varies in the allocation of titled land across household members and in the strength of prevailing community norms, which reflect respondents' beliefs about the extent to which others in their community include sons or daughters on land titles. There are eight versions of the experiment, varying norms about sons or daughters on land title, inherited vs. purchased land and village vs. extended family norms. While the structure of the choice task is held constant across versions, the specific values of the attributes are varied to introduce additional choice variation and improve identification, leading to a total of 384 hypothetical land profiles.

Table A2: Preferences over Land Titling Profiles: Inter-dependencies

	Choice Experiment "D"			Choice Experiment "S"		
	Fixed	Random Coefficients		Fixed	Random Coefficients	
	Coeff.	Mean	SD	Coeff.	Mean	SD
	(1)	(2)	(3)	(4)	(5)	(6)
Daughters' land share	-0.909	-1.520	0.447	1.391*	1.208	0.386
	(0.856)	(1.014)	(0.596)	(0.837)	(0.936)	(0.639)
Daughters' share × Moderate norm	3.030***	3.832***	1.538			
	(0.875)	(1.117)	(1.973)			
Daughters' share × Strong norm	4.312***	5.531***	0.689			
	(0.929)	(1.146)	(0.543)			
Sons' land share	-0.007	-0.208	0.945*	-1.246**	-1.993***	0.054
	(0.361)	(0.386)	(0.566)	(0.526)	(0.630)	(0.188)
Sons' share × Moderate norm				2.069***	3.052***	0.146
				(0.649)	(0.741)	(0.366)
Sons' share × Strong norm				2.810***	3.899***	2.947**
				(0.867)	(1.074)	(1.403)
Land to self (hectares)	0.015***	0.016***	0.001	0.020***	0.022***	0.001
	(0.004)	(0.004)	(0.001)	(0.004)	(0.005)	(0.002)
Spouses' land share	0.736***	0.687**	0.290	0.182	-0.023	0.358
	(0.257)	(0.299)	(0.315)	(0.285)	(0.324)	(0.403)
Self receives the largest share	0.001	-0.079	0.475***	0.003	-0.122	0.307***
	(0.062)	(0.074)	(0.104)	(0.063)	(0.076)	(0.103)
All members receive some land	0.063	-0.016	0.329	0.243***	0.220***	0.380**
	(0.069)	(0.084)	(0.248)	(0.072)	(0.080)	(0.165)
Sons receive more than daughters	0.324***	0.374***	0.426**	0.217***	0.235**	0.227
	(0.078)	(0.090)	(0.170)	(0.083)	(0.093)	(0.302)
Moderate norm	-0.481***	-0.542***	-0.092	-0.501***	-0.562***	0.020
	(0.072)	(0.090)	(0.099)	(0.077)	(0.087)	(0.123)
Strong norm	-0.841***	-1.044***	0.792***	-0.832***	-1.057***	0.913***
	(0.091)	(0.127)	(0.107)	(0.111)	(0.141)	(0.109)

NOTES: Columns (1) and (4) report coefficients from a fixed-coefficient rank-ordered logit model. Columns (2) and (5) report means of the random coefficients, and columns (3) and (6) report their estimated standard deviations. Standard errors clustered at the respondent level are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A3: Preferences over Land Titling Profiles: Rescaled Variables

	Choice Experiment "D"		Choice Experiment "S"	
	(1)	(2)	(3)	(4))
Daughters' land share	0.123	0.699**	0.676**	0.776*
	(0.249)	(0.339)	(0.286)	(0.415)
Daughters' land share × Norm Prevalence	1.799***	1.754***		
	(0.356)	(0.377)		
Sons' land share	0.287*	-0.008	0.563***	0.236
	(0.159)	(0.179)	(0.165)	(0.192)
Sons' land share × Norm Prevalence			0.938***	0.942***
			(0.318)	(0.312)
Land to self (hectares)	0.013***	0.013***	0.016***	0.018***
	(0.004)	(0.004)	(0.004)	(0.004)
Spouse's land share	0.331***	0.368***	0.204	0.127
	(0.126)	(0.129)	(0.128)	(0.144)
Self receives the largest share		-0.002		-0.010
		(0.061)		(0.060)
All members receive some land		0.048		0.206***
		(0.066)		(0.069)
Sons receive more than daughters		0.317***		0.223***
		(0.074)		(0.083)
Norm Prevalence	1.179***	1.130***	0.446*	0.407
	(0.315)	(0.336)	(0.269)	(0.264)
Observations	4560	4560	4260	4260

NOTES: Coefficients estimated from a fixed-coefficient rank-ordered logit model. Standard errors clustered at the respondent level are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.