No Room of One's Own: Inherited Norms and Women's Lifetime Labor Market Non-Participation

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March 2026

Abstract

Female labor force participation in India remains low despite sustained economic growth, with a large literature pointing to restrictive social norms as an important constraint on women's labor market participation. We study the role of inherited gender norms in shaping women's lifetime labor market participation and the consequences associated with these roles later in life. Using data on older women from India and ethnolinguistic measures of ancestral characteristics, we show that women from groups with historically greater female participation in production are less likely to stay outside the labor force over their lifetime. However, conditional on never working, these women experience worse later-life outcomes, including higher mistreatment and poorer psychological well-being. A conceptual framework distinguishes between inherited norms that shape lifetime roles and how these roles are evaluated, as reflected in individual outcomes such as mistreatment, financial support, and psychological well-being. The results suggest that gender norms influence not only whether women work, but also how the non-working role is valued within households.

Keywords: Ancestral norms; Female labor force participation; Social enforcement; India

JEL Codes: J16, J21, D10, Z13

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1 Introduction

Female labor force participation in India remains unusually low and has shown little improvement despite sustained economic growth and rising levels of female education. This pattern has received considerable attention in the literature. Existing explanations point to a range of factors, including the structure of labor demand, household responsibilities such as childcare, concerns around safety, and gender norms that influence women's roles within the household and the labor market (Chakraborty et al., 2018; Fletcher et al., 2017; Goldin, 1995; Klasen and Pieters, 2015). In particular, norms that assign women primary responsibility for domestic work or limit their mobility are frequently cited as important barriers to labor force participation (Afridi et al., 2018; Alesina et al., 2013; Bernhardt et al., 2018). However, much of this research examines labor supply at a point in time. As a result, we know very little about how gender norms shape women's labor market trajectories over the life course and the longer-run consequences associated with these roles.

Further, while a substantial body of research shows the persistence of gender norms and their influence on labor market outcomes, there is less evidence on how realized labor market roles are evaluated within households. One reason is that the same family and kin networks that influence what is considered appropriate behavior for women also shape how that behavior is judged and treated. This makes it difficult to isolate the effect of inherited norms from the way these norms are reinforced through repeated interactions and bargaining within households.

In this paper, we examine how inherited gender norms shape women's lifetime labor market participation, and how these roles are evaluated in later life. Using data on older women in India, we link ancestral ethno-linguistic characteristics to both women's lifetime work histories and their well-being in later life. Building on a conceptual framework, the empirical approach allows us to separately examine how ancestral characteristics shape a woman's decision to never participate in the labor market and how this non-working role is valued within households later in life.

A growing body of research uses ancestral characteristics as proxies for persistent cul-

tural norms to study their long-run effects on economic outcomes (Gennaioli and Rainer, 2007; Michalopoulos and Papaioannou, 2013; Michalopoulos et al., 2019). This literature links ancestral norms to a host of economic outcomes, including education (Ashraf et al., 2020), land reforms (La Ferrara and Milazzo, 2017), institutional development and legal outcomes (Bargain et al., 2024), and female labor force participation (Alesina et al., 2013; Righetto, 2023; Tur-Prats, 2019, 2021). The main idea behind this literature is that historical norms and cultural practices can persist across generations and continue to shape economic behavior even after the original conditions that produced them have disappeared.

Within this literature, norms are often conceptualized as operating through two related but distinct channels. Cortés et al. (2026) distinguishes between first-order beliefs, or internalized gender norms, which reflect an individual's own beliefs about appropriate behavior, and second-order beliefs, or external gender norms, which shape behavior through expectations about what others believe one ought to do.

A large literature shows that historical institutions and cultural practices continue to shape gender norms and women's economic outcomes. For example, Alesina et al. (2013) finds that regions with a history of plough-based cultivation have lower female labor force participation today, consistent with Boserup (1970), who links such technologies to more restrictive gender roles. Similarly, Carranza (2014) shows that variation in soil conditions affects women's agricultural employment by altering the demand for female labor. Other work examines how cultural institutions such as endogamy (Righetto, 2023), patrilineality (Deininger et al., 2013), patrilocal residence (Dyson and Moore, 1983), bride price and dowry (S. Anderson, 2007; Ashraf et al., 2020), stem family system (Tur-Prats, 2019, 2021), and polygamy (Tertilt, 2005) shape gender equality and female labor force participation.[1]

Another strand of literature examines the role of second-order beliefs and the social processes through which norms are reinforced. These include peer effects, family

[1]Internalized gender norms are also influenced by role models. For instance, Deininger et al. (2022) show that political reservations for women in India increased female labor supply, while Beaman et al. (2012) document positive effects on educational attainment.

networks, and institutional constraints that shape how behavior is evaluated and sanctioned. In many settings, restrictions on mobility and concerns around social reputation limit women's economic participation (Chakraborty et al., 2018; Chen, 1995; Jayachandran, 2015), often reinforced by caste and kin-based structures (Luke and Munshi, 2011). At the same time, exposure to different peer environments can shift norms and behavior. For example, Boelmann et al. (2025) and Blau et al. (2013) show that individuals adapt to more egalitarian environments, while Nicoletti et al. (2018) highlights the importance of family peer networks in shaping female labor supply. Experimental evidence also supports the role of perceived social expectations: Bursztyn et al. (2020) and Bernhardt et al. (2018) show that social sanctions and misperceptions can constrain work decisions among women, whereas Fernández et al. (2004) emphasizes the role of intergenerational transmission.

In this paper, we examine the relation between inherited gender norms, women's lifetime labor market participation, and later-life measures of well-being. Rather than focusing on women's employment at a point in time, we study whether women ever engaged in market work over the course of their lives. This measure captures long-run economic roles that are more likely to be shaped by inherited norms. We combine individual-level data from the Longitudinal Ageing Study of India (LASI) with ethnolinguistic information on ancestral characteristics that reflect historical gender-role structures, including the gendered division of production, production technologies, and marriage institutions.

We first study the association between inherited gender norms and women's lifetime attachment to market work in India. Next, we study whether the later-life consequences of lifetime non-participation (measured through mistreatment within the household, financial support from relatives, and psychological well-being) vary systematically across ancestral normative environments. Our conceptual framework distinguishes between inherited gender norms that shape women's lifetime economic roles and the social processes through which these roles are evaluated and enforced within households and kin networks. This distinction allows us to examine both how norms influence role formation and how the realized roles are treated later in life.

Our findings point to a consistent pattern across two margins. First, inherited ancestral norms continue to determine women's lifetime labor market attachment. In particular, women from ancestral settings that historically incorporated them into productive activities are less likely to remain outside the labor force over their lifetime. Second, conditional on never having worked, the consequences of this economic role differ across these same normative environments. Women from backgrounds where female economic participation was historically expected experience worse later-life outcomes suggesting stronger social penalties for non-participation. To address potential endogeneity in the non-participation decision, we use an instrumental variables strategy that exploits variation in local female labor demand during prime working ages. Although the IV estimates are less precisely estimated, the direction of the effects is largely unchanged, supporting the view that the social consequences of not participating in the labor force depend on the normative environments in which they are embedded. Taken together, our results suggest that policies aimed at increasing female labor force participation need to account for the social context in which women's work is evaluated, rather than focusing solely on expanding economic opportunities.

This paper contributes to the literature on gender norms and labor markets in several ways. First, we move beyond contemporaneous measures of labor supply and study women's complete non-participation in market work over the life course. This margin better captures life-cycle economic roles that typically occur early in adulthood, rather than short-run responses to wages or changing household constraints. Second, by focusing on older women whose labor market histories are largely complete, we are able to study the long-run social consequences associated with these roles. Third, our results suggest that the consequences of gender norms extend beyond cases of norm violation. Even among women who never engage in market work—consistent with inherited expectations—the treatment they receive within the household and their psychological well-being vary across normative environments. This suggests that norms operate not only by discouraging certain behaviors, but also by assigning roles that differ in social valuation and bargaining power within households. Finally, by linking ancestral characteristics to

later-life outcomes among ageing women, we bridge the literature on the persistence of historical gender norms with work on household bargaining and social enforcement.

The remainder of the paper is organized as follows. In Section 2, we present a simple conceptual framework to guide the empirical specification. Section 3 describes our data, including LASI and ethnographic histories, and presents descriptive statistics. Section 4 describes our empirical framework, followed by results in Section 5. Finally, Section 6 concludes the analysis.

2 Conceptual Framework

Much of the existing research on gender disparities in labor markets focuses on labor supply at a single point in time. This work has been crucial in showing how gender norms influence women's economic behaviour, especially around life events like marriage and childbirth. In contrast, lifetime non-participation from market work is more likely to reflect sustained patterns of economic behaviour and is particularly informative in settings such as India, where gender roles are deeply embedded and socially enforced within families and kin networks. This interpretation also aligns with identity-based models where norms enter utility directly by assigning socially appropriate roles that generate persistent patterns of behaviour over the life time (Akerlof & Kranton, 2000).

2.1 Gender Norms, Lifetime Non-Participation, and Social Enforcement

In our conceptual framework, following Cortés et al. (2026), we distinguish between two related but conceptually distinct aspects of gender norms: inherited norms and social enforcement of norms. Inherited norms refer to gender-role expectations transmitted across generations through ancestry, language, and cultural history. These norms shape beliefs about appropriate roles for women and are internalized through early socialization, identity, and preferences. Social enforcement of norms, on the other hand, refers to how these norms are evaluated and enforced in practice through interactions within households

and kin networks, including approval, disapproval, and sanctions imposed by others.

Inherited norms primarily influence the probability that women adopt particular lifetime labor market roles earlier in life. Once a role is realized, social enforcement governs how these realized roles are valued and responded to over time. Note that compliance with inherited norms does not necessarily imply the absence of social penalties. Even when women conform to prescribed roles, those roles may carry lower social valuation and reduced bargaining power within the household (Lundberg & Pollak, 1996).

Inherited norms and the social environments in which these norms are enforced do not necessarily coincide. Individuals may internalize gender-role beliefs shaped by their ancestry while interacting with households or peer groups who belong to a different normative background. In our empirical setting, however, strong endogamy implies that households and kin networks are largely formed within the same ethno-linguistic groups. In the conceptual framework that follows, we therefore treat ancestral ethno-linguistic background as a proxy for the normative environment in which social enforcement takes place.

2.2 Lifetime Labor Market Attachment

Consider individual i who belongs to ancestral ethno-linguistic group g and current social environment s, where s denotes the household and kin context in which social norms are evaluated and enforced. We characterize a woman's lifetime labor force non-participation by the indicator N_i, defined as:

$$N_i = \begin{cases} 1 & \text{if the woman never worked over her lifetime,} \\ 0 & \text{if she worked at some point in her life} \end{cases}$$

Following Cortés et al. (2026), we model the lifetime labor force non-participation decision as a threshold outcome that depends on economic incentives, lifecycle constraints, and inherited gender norms:

$$N_i = \mathbf{1}\left\{W_i - C_i - \phi_g A_g \leq 0\right\}. \tag{1}$$

Here, W_i captures the private returns to market work, reflecting the woman's education and skills, expected wages, taste for market work, and access to employment opportunities. C_i represents lifecycle constraints on participation, and may include caregiving responsibilities, household resources, health limitations, and mobility. The term A_g captures inherited gender norms regarding women's work in ancestral group g. One can interpret higher values of A_g as reflecting norms that are less supportive of women's participation in market work. Under this interpretation, ancestral characteristics associated with more restrictive gender roles increase the likelihood that women remain outside the labor market over their lifetime. The parameter $\phi_g \geq 0$ governs the strength with which these norms enter the decision to not participate in the labor force.

Although the outcome reflects a woman's lifetime work history, Equation 1 should be interpreted as a reduced-form representation of participation decisions made over the life course. The variables W_i and C_i therefore capture the cumulative influence of expected returns and constraints that evolve over time. An immediate implication of this framework—one that we later test empirically—is that ancestral norms predict the likelihood of lifetime non-participation in the labor market, consistent with empirical evidence on the persistence of historical and cultural norms (Alesina et al., 2013; Baranov et al., 2023).

2.3 Social Interactions and Norm Enforcement

Over the life course, the evaluation and enforcement of gender roles take place primarily within households and kin networks. This enforcement may take the form of sanctions, approval, disapproval, neglect, or mistreatment. Such responses arise because norms assign individuals to roles that differ in status and authority, and social interactions reinforce these role-based hierarchies (Akerlof and Kranton, 2000; Lundberg and Pollak, 1996). For instance, male backlash in response to women's labor market participation can be interpreted within this framework as a form of social sanction.

Conditional on a woman's lifetime non-participation decision, N_i, her long-term well-being outcomes depend on how the realized role is evaluated within the social environ-

ment. Accordingly, we model later-life outcomes as:

$$Y_i = H_i - \psi_{gs} \cdot L(N_i, S_{gs}) + \varepsilon_i. \tag{2}$$

where, Y_i denotes later-life outcome measures of well-being. H_i captures baseline well-being determined by health and resources. S_{gs} represents prevailing social norms regarding women's work for group g in social environment s. The parameter $\psi_{gs} \geq 0$ measures the strength of social norm enforcement, while the function $L(\cdot)$ captures the social loss arising when a realized role is devalued or opposed within the household or kin network. The social loss function allows for the possibility that even when a woman follows the prescribed role ($N_i = 1$), she may still experience a loss if that role is inherently devalued within the hierarchy. The error term ε_i captures idiosyncratic shocks.

In the above equation, the social loss $L(\cdot)$ increases with the extent to which a given lifetime role N_i deviates from prevailing gender norms S_{gs}. The parameter ψ_{gs} captures the strength with which such deviations are translated into outcomes. As a result, the same lifetime work history can generate different social consequences across normative environments depending both on how it aligns with prevailing norms and on the strength of enforcement.[2]

3 Data

We leverage two sources of data for the analysis. The first is Wave 1 (2017-2018) of the Longitudinal Ageing Study of India (LASI) that gives us information on lifetime labour supply and long-run socioeconomic and psychological outcomes of individuals above the age of 45 in India. We combine this data with ethnolinguistic information from Giuliano and Nunn (2018), which is based on the Ethnographic Atlas, a worldwide ethnicity-level database constructed by George Peter Murdock that contains ethnographic information

[2]It is worth noting that we do not attempt to separate the direct economic consequences of lifetime work histories—such as differences in income, savings, or health—from the way these outcomes are evaluated within households. In practice, these effects are interconnected, as differences in work histories shape both economic circumstances and how individuals are treated. Our empirical approach instead examines whether the same lifetime role is associated with different outcomes across inherited normative environments.

on the pre-industrial characteristics of 1,265 ethnic groups. The Ethnographic Atlas is a widely used dataset in the literature, including studies on economic history, culture, and economic development (Alesina et al., 2013; Michalopoulos and Papaioannou, 2013; Michalopoulos et al., 2019).

The ethnographic dataset includes 7,510 language groups worldwide, mapped to ethnographic variables described in the Ethnographic Atlas. These ancestral characteristics include information on subsistence dependence, modes of production, jurisdictional hierarchy, and marital, residential, and kinship patterns, and related characteristics. The dataset identifies 313 languages spoken in India and maps the corresponding ethnic traits to the populations that speak them. We use this data to map pre-industrial ancestral traits to the languages and dialects spoken by current populations in the LASI data. The underlying data and the data construction process is described in detail below.

3.1 Dataset Construction

The Giuliano and Nunn (2018) ethnolinguistic data assign each language an ISO 639-3 code, which is matched to geopolitical boundaries at the country level.[3] While the dataset provides the latitude and longitude of the area in which a language is spoken, this information is available only at coarse, degree-level precision. A direct spatial mapping using these coordinates is therefore not feasible in our case, as LASI does not provide geocoded data. In addition, respondents may have migrated from the areas with which their historical dialect or language is associated. Taken together, these limitations lead us to rely on a mapping based on respondents' mother tongue.

LASI collects information on the mother tongue of each individual from a list of 19 mainstream languages spoken in the country.[4] In addition, the survey provides respondents with the option to report a specific mother tongue if they do not identify with any of the mainstream languages listed. This feature offers a unique advantage for our analysis. In the data, approximately 15 per cent of respondents report a specific mother

[3]ISO 639-3 is a three-letter code uniquely identifying languages. See Giuliano and Nunn (2018) for a detailed description of the construction of these data.

[4]The 19 languages are Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Rajasthani, Sindhi, Tamil, Telugu, Urdu, and English.

tongue.

However, this portion of the data exhibits substantial variation in data entry, rendering the matching process non-trivial. For example, the language Chhattisgarhi appears in more than 30 distinct variants. We therefore manually standardized these entries, ultimately identifying approximately 130 unique dialects or languages for roughly 11,000 respondents. Many of these entries correspond to dialects or alternative names of a primary language. To identify the appropriate unique identifier for each language, we relied on the Ethnologue database and its language index.[5] For each variant, we identified the ISO 639-3 code and mapped it to the primary language to which the language or dialect belongs.[6]

Once we identified the primary language and its unique ISO code, we merged the Giuliano and Nunn (2018) data with the LASI individual and household rosters. This process yields a match rate of 98.99 per cent, allowing us to identify 110 unique language groups and their associated ancestral characteristics.[7] Figure 1 and Figure 2 shows the diversity of these languages across states and districts in India.[8]

3.2 LASI: Outcome and Control Variables

The LASI is a nationally representative survey of 73,396 individuals aged 45 and above, covering all states and union territories of India. The survey investigates the health, economic, and social determinants and consequences of population ageing in India. LASI is internationally harmonised with the Health and Retirement Study (HRS), and its main

[5]Ethnologue provides a comprehensive listing of the world's known living languages. The language index documents over 55,000 distinct names used for languages and their dialects and indicates the country in which each name is used. It also provides information on primary languages, alternative names, dialects, and alternative dialect names. Read more here: Ethnologue Database.

[6]For example, the language Kok Borok has nine alternate names, three dialects, and one dialect alternate, all of which are mapped to the unique ISO 639-3 code 'trp'.

[7]We are unable to match 740 respondents because we could not identify their primary language or their reported mother tongue due to data entry issues. In addition, we were unable to match respondents who reported English as their mother tongue. There are eight observations reporting Bantawa or Rai (BAP) (six), Gurung (GVR), and Bishnupriya (BPY) (one each). While these languages are not identified within India, BAP and GVR are associated with Nepal and BPY with Bangladesh. We retain these observations, as most of these respondents report birth districts in the North Eastern states of India, and we reasonably presume that the cultural transmission of ethnic traits is similar across this region.

[8]The figure depicting diversity across districts is available only for 264 districts. This is because LASI does not provide survey district identifiers directly, and the district matching is done manually.

objective is to provide comprehensive scientific evidence on demographics, household economic status, physical and mental health, biomarkers, health insurance and healthcare utilisation. The data also provides detailed information on family and social networks, social welfare programmes, work and employment, retirement, life satisfaction, and measures of mental health. We restrict the sample to women and, after mapping with ethnographic data, the final sample includes 41,847 female respondents.

The primary outcome of interest is the individual's lifetime labour supply decision. LASI identifies individuals who did not work for a minimum of three months at any point in their lives. The definition of work includes agricultural work, wage employment, self-employed activities, and unpaid work in family businesses. It covers all forms of labour, excluding one's own housework, regardless of whether wages were earned. We refer to this measure as "Never Worked", which can be interpreted as lifetime non-participation in market work. The variable Never Worked takes the value one if the respondent did not work for at least three months at any point in her life and zero otherwise. Descriptive statistics reported in Panel A of Table 1 show that 49 per cent of women in the sample have never worked, resulting in a relatively even distribution between workers and non-workers.

To assess social status, the survey asks whether respondents experienced any form of ill-treatment in the past year, including physical abuse, verbal or disrespectful treatment, economic exploitation, emotional or psychological abuse, or neglect. The outcome variable "Ill Treated" is a binary indicator equal to one if the respondent reports any form of ill-treatment and zero otherwise. In the sample, 3.9 per cent of women report experiencing ill-treatment.

The family and social networks module provides information on social support received and provided by individuals. We define economic security as whether the respondent received financial support. LASI defines financial support as receiving money, assistance with bill payments, or payment of specific expenses such as medical care or insurance, education, family marriages, religious events, down payments for housing purchases, and rent, excluding costs shared for housing and food. In the sample, 14.3 per cent of women

report economic dependence on relatives.[9]

Psychological well-being is assessed using the Composite International Diagnostic Interview (CIDI) module. Respondents are asked whether they experienced depression for two consecutive weeks or more during the past year. We construct a binary indicator, "Depression", which equals one if the respondent reports depressive symptoms. Descriptive statistics indicate that 17 per cent of women report depression in our sample. We also compute a summary index of life satisfaction following M. L. Anderson (2008) to measure current living satisfaction and overall life satisfaction.[10] The Anderson index combines several indicators into a single measure using a generalized least squares weighting procedure, which improves efficiency by assigning lower weight to highly correlated indicators. Higher values of the index correspond to higher levels of life satisfaction.

Panel B of Table 1 reports descriptive statistics for the control variables used in our empirical analysis. More than half of the women in the sample are aged between 40 and 60, and approximately 69 per cent are currently married. The distribution across MPCE quintiles is relatively even, with about 20 per cent of respondents in each quintile. Around three-quarters of the sample identify as Hindu and 12 per cent as Muslim. The majority of respondents reside in rural areas (64 per cent), and about 78 per cent of households are male-headed. In terms of educational attainment, 38 per cent of women have completed 5–8 years of schooling, while only about 8.5 per cent have attained higher levels of education.

3.3 Ethnic Traits

We classify ancestral characteristics into two categories: economic characteristics and marriage and family norms. Economic characteristics are further classified into two components: gender-equal division of production activities and modes and intensity of agricultural production.

Murdock's Ethnographic Atlas documents how actively each sex contributed to a production activity. Gender-equal division of production activities refers to societies in

[9]Financial support includes monetary support for which the annual amount exceeds Rs.1,000.
[10]The summary index is created using a procedure as proposed by Schwab et al. (2021).

which women were actively engaged in production and contributed economic resources to the household. Such societies exhibit a more gender-equal division of labour, as women were historically involved in the production process. For each production activity, gender participation is classified into five categories: males only; males appreciably more; equal participation; females appreciably more; and females only. We construct an indicator variable equal to one if gender participation was equal, if women contributed more than men, or if women were the sole participants in the activity, and zero otherwise. Table 2 shows that 31 per cent of the ancestral population exhibited gender-equal division of labour in fishing and 24.5 per cent in animal husbandry. Descriptive statistics also indicate that 23 per cent of the population exhibited gender-equal participation in agriculture and pottery. In contrast, leather work remains largely male-dominated.

With respect to modes and intensity of agricultural production, we examine whether societies historically practiced plough cultivation and intensive agriculture. Alesina et al. (2013) show that descendants of populations that practiced plough agriculture prior to industrialisation are characterized by more unequal gender norms today, suggesting long-run persistence of gendered production roles. We find that a large majority of the ancestral population, approximately 90 per cent and 86 per cent, engaged in plough cultivation and intensive agriculture, respectively.[11]

The second category of ancestral traits captures marriage and family norms, including whether societies practiced bride price, patrilocal or virilocal residence, polygyny, and endogamy and a family pattern of patrilineal descent and stem family system. In our sample, 32 per cent of ancestors practiced bride price, a system involving monetary or in-kind payments to the bride's family at marriage. Approximately 90 per cent of ancestors followed a virilocal or patrilocal residence system, in which the wife moves to the husband's household after marriage. Only 11 per cent of the population exhibits the ancestral trait of endogamy, defined as the custom of marrying exclusively within a specific ethnic or social group. Summary statistics further show that polygyny, a form of plural marriage in which a man is permitted to have multiple wives, is observed for

[11] A detailed description of the construction of these ancestral characteristics is provided in the supplementary material.

approximately 90 per cent of the ancestral population.[12]

The conceptual framework assumes that the normative environment governing social evaluation largely reflects inherited ancestral characteristics. This assumption is particularly plausible in settings with strong marital endogamy, where spouses share similar cultural backgrounds. Moorjani et al. (2013) document that extensive population admixture occurred across the subcontinent between roughly 4200 and 1900 years ago, followed by a marked shift toward endogamy, coinciding with the consolidation of caste-based social stratification in post-Vedic India. To assess the extent of such sorting in our data, we examine the degree of concordance in ancestral characteristics within married couples. We were able to match 24,263 currently married women to their spouses in the LASI data.[13] We report Cohen's Kappa, which measures the agreement between two variables, after removing the agreement that would occur purely by chance.[14] The statistics reported in Table 2 show that assortative mating exists and that marriages are nearly endogamous. The kappa coefficients range from 0.94 to 0.97, indicating near-perfect agreement in cultural characteristics.

In our sample, nearly half of the ancestral population followed a patrilineal system of descent, and 33 per cent practiced a stem family system. The stem family system refers to a small extended family arrangement in which two generations cohabit within the same homestead, with one son remaining in the parental household with his wife and children.

4 Empirical Methodology

To study the role of inherited gender norms in shaping women's lifetime labor market attachment, we estimate the following specification:

[12]This is consistent with Alesina et al. (2021) where 98 per cent of the ancestral population practised polygyny in Africa.

[13]We have only considered women who reported a single spouse.

[14]Cohen's Kappa (κ) is defined as:

$$\kappa = \frac{P_o - P_e}{1 - P_e}$$

where P_o is the observed agreement and P_e shows the expected agreement by chance.

$$N_{igs} = \alpha + \beta\, A_g + \gamma\, X_{igs} + \delta_s + u_{igs} \tag{3}$$

where N_{igs} is Never Worked, denoting the lifetime non-market participation for woman i belonging to ethnicity g and residing in state s. A_g denotes the ancestral characteristic of interest associated with ethnicity g. X_{igs} is a vector of individual-level controls, including age cohort, current marital status, religion, region of residence, years of education, household wealth quintile, and the sex of the household head. δ_s represents state fixed effects, and u_{igs} is the error term. We cluster standard errors at the ethnicity level.[15]

Ancestral norms shape lifetime labor market attachment through internalized preferences and anticipated social consequences, while later-life outcomes—such as mistreatment, financial support, and mental health—reflect social responses to realized lifetime roles. The framework in Section 2 and Equation 2 guide our empirical strategy for norms and later-life outcomes. Interacting lifetime labor market histories with ancestral norms therefore provides a reduced-form test of whether the social consequences of women's lifetime roles vary systematically across inherited normative environments. Specifically, we estimate:

$$Y_{igs} = \phi + \nu N_i + \lambda A_g + \eta(N_i \times A_g) + X_i'\zeta + u_{igs} \tag{4}$$

where A_g captures the inherited (ancestral) normative environment and X_i includes controls for individual and household characteristics. Y_i denotes later-life outcomes and includes (i) mistreatment by a member of the household or kin, (ii) whether the elderly woman receives financial support from members of the household, and (iii) measures of mental health.

In this specification, λ captures differences in outcomes associated with inherited norms, ν captures the association between lifetime non-participation and later-life well-being, and η captures whether the social consequences of lifetime non-participation vary across normative environments.

[15] Our results are also robust to alternate clustering strategies of PSU and multi-way clustering at PSU-Ethnicity level. Refer to Supplementary Material for results.

A potential concern is that lifetime non-participation may be correlated with unobserved individual characteristics. For example, even within groups characterized by conservative ancestral norms, women with greater agency or determination may be more likely to engage in market work, and the same unobserved traits could also affect long-run outcomes such as economic dependence and mental health.

Several features of our setting mitigate this concern. First, lifetime non-participation reflects decisions made earlier in life, often under parental or marital authority, rather than contemporaneous optimization based on individual specific factors. Second, outcomes are measured in later adulthood, long after labor market roles were realized, ruling out reverse causality. We also report specifications with district fixed effects, which absorb persistent local conditions correlated with both labor market opportunities and social environments. Moreover, our primary coefficient of interest exploits differential associations between the same lifetime role and later-life outcomes across inherited normative environments, which is less sensitive to individual-level unobservables unless such traits vary systematically with ancestry within districts.

Nevertheless, to further address concerns about selection into lifetime non-participation, we complement our baseline analysis with an instrumental variables strategy that exploits exogenous variation in local female labor demand at young ages. This approach isolates variation in lifetime labor market attachment driven by early labor market conditions rather than individual preferences, providing an additional check on the interpretation of our results. For each woman in the sample, we identify the district in which she spent most of her childhood. We merge the LASI data with district-level census data compiled by Vanneman (2003), which harmonizes Indian census information for the period 1961–1991 using the 1961 district boundaries. To ensure consistent geographic units over time, we follow Dasgupta (2018) in identifying the 1961 district equivalents of the 2011 census districts.[16]

Using the harmonized census data, we construct district-level female labor force par-

[16]In constructing this correspondence, we drop districts that were created by bifurcating more than one parent district, since they cannot be uniquely mapped to a single historical district. The final analytical sample consists of 30,227 women out of 31,157 women who reported the district in which they spent most of their childhood.

ticipation rates, measured as the share of employed women relative to the total female population in a district:

$$FLFP_{dt} = \frac{\text{Female Workers}_{dt}}{\text{Female Population}_{dt}}$$

where d indexes districts and t indexes census years.

To instrument women's lifetime labor market participation, we construct a cohort-specific shift–share exposure measure that assigns individuals the district-level female employment rate prevailing when they were approximately in their prime labor market entry ages of 15-25 years. Specifically, the instrument is defined as:

$$Z_{id} = \sum_{t \in T} s_{it} FLFP_{dt}$$

where Z_{id} denotes the instrument for individual i who grew up in district d and $T = \{1961, 1971, 1981, 1991\}$ is the set of census years. The term $FLFP_{dt}$ is the female employment rate in district d observed in census year t, and s_{it} represents the exposure weight that links individual i's birth cohort to the relevant census year. In practice, s_{it} is an indicator that equals one for the census corresponding to the period when individual i was roughly between ages 15 and 25, and zero otherwise.[17] As a result, each individual is assigned the female employment rate in her childhood district during the census period when her labor market expectations and norms about women's work were likely to be formed. The identifying assumption is that these early labor market conditions influence whether women ever participated in market work, but do not directly affect later-life outcomes except through their effect on lifetime labor market participation.

[17] Our baseline exposure window corresponds to birth cohorts 1936–1975, which places individuals approximately between ages 15 and 25 during the 1961–1991 census years used to construct the instrument. To preserve the maximum sample size, we extend the lower bound of the first cohort to 1920 and the upper bound of the final cohort to 1983.

5 Results

5.1 Norms and Lifetime Labor Market Non-Participation

We first study the relation between norms and lifetime labor market decisions as shown in Equation 3. Tables 3 to 5 report the correlates of inherited ancestral characteristics and women's lifetime labor market participation.

We begin by examining how economic characteristics correlate with lifetime non-participation in market work. Table 3 examines the relation between gender-equal production activities and women's lifetime labor market participation. We find negative and statistically significant coefficients for gender-equal participation in agriculture (10 percentage points (pp)), weaving (9 pp), and leather work (22 pp). These estimates indicate that women whose ancestors practiced more egalitarian production processes in these activities are less likely to have remained outside the labor market. Weaving represents a home-based and skill-transmitting activity compatible with female labor, while leather work, often caste-restricted but skill-intensive, may have enabled selective but economically meaningful female participation. These patterns are consistent with the inheritance of more egalitarian production norms, translating into higher female labor market participation.

Table 4 reports the correlation between modes of agricultural production and women's lifetime labor market participation. Specifically, we examine plough cultivation and intensive agriculture. Consistent with prior research (Alesina et al., 2013), we expect positive coefficients on these variables, as plough-based production systems are typically associated with norms less conducive to female labor force participation. The estimated coefficients are positive for both plough cultivation and intensive agriculture; however, neither is statistically significant. This likely reflects the limited cross-ethnic variation in these variables within our sample, as shown earlier.

We next examine the relation between women's lifetime labor market participation and ancestral marriage norms and family settlement patterns. Table 5 presents the correlates of marriage norms and lifetime entry into the labor market. We find that

women who are descendants of populations that practiced bride price are 5.6 pp less likely to experience lifetime labor-market non-participation. A potential explanation is that bride price has historically been interpreted as a payment made by the husband's family in recognition of a woman's labor and reproductive capabilities, thereby explicitly acknowledging women's economic value (S. Anderson, 2007). Women who inherit such norms are plausibly more likely to participate in the labor force.

We do not find statistically significant effects for virilocal residence or polygyny. By contrast, women from communities that practiced endogamous marriage are more likely to engage in labor market activities. The estimates indicate a 12.6 pp reduction in the probability of never having worked for these women, significant at the 5 per cent level. Although some studies show that endogamous communities tend to follow more conservative social norms that restrict women's outside employment (Righetto, 2023), such restrictions need not imply economic inactivity. Endogamous communities are often closely knit and characterized by strong links between family identity and production. In these contexts, women's work within family enterprises and agricultural production may be expected. Given that our definition of work includes unpaid family business and agricultural work, women in endogamous communities may be more likely to participate within the household production system.

In column (5), we show that women who inherit patrilineal descent norms are 4.7 pp more likely to have worked at some point in their lives. In hierarchically structured environments, economic production is often organized at the household level. Thus, while decision-making authority remains largely male-dominated within patrilineal inheritance systems, women's productive contributions may be expected in agricultural and family-based activities.

Finally, women whose ancestors followed a stem family organization are 6.1 pp more likely to have never worked. This finding differs from evidence from Spain, where Tur-Prats (2019, 2021) shows higher female labor force participation in historically stem-family-dominated regions. In that context, co-residence with an older woman may free younger wives from certain domestic responsibilities, thereby enabling greater engage-

ment in economically productive activities. However, in the Indian context, where hierarchical family structures may be stronger, this mechanism may operate differently. Domestic responsibilities may instead be primarily allocated to younger women, while older women gradually withdraw from active household work, thereby limiting younger women's participation in market activities.

The results thus far suggest that inherited normative environments are closely linked to women's lifetime labor market attachment. In particular, ancestral settings that historically valued female participation in productive activities—such as gender-equal production processes, and bride-price marriage regimes—are associated with a lower likelihood of lifetime non-participation. These patterns suggest that inherited role structures affect the extensive margin of women's economic engagement by embedding female labor within household and family production systems. By contrast, environments characterized by more hierarchical household structures—such as stem-family systems tend to exhibit higher rates of lifetime non-participation, in line with norms that place greater emphasis on women's domestic roles relative to market-oriented work.

5.2 Norm Enforcement and Later Life Outcomes

We start by examining later-life outcomes for women who never worked and belong to communities whose ancestors engaged in gender-equal production. Table 6 indicates that, on average, women who never worked experience lower levels of ill-treatment. However, the interaction terms reveal important heterogeneity across normative environments. We observe increases in ill-treatment of approximately 1 to 2 pp for never-worked women from ancestral backgrounds characterized by gender-equal participation in fishing, agriculture, and weaving. In communities where women historically participated equally in productive activities, non-participation may represent a deviation from established norms of economic contribution, thereby attracting social penalties. Although fishing is often male-dominated, those communities that exhibited gender-equal participation may have developed norms that expect women's active engagement in production. A similar interpretation applies to weaving, which is typically skill-intensive and compatible with female

labor. We do not find significant effects on the ill-treatment of women from communities with gender-equal production in animal husbandry or pottery. An interesting exception concerns leather work. We find a 6.5 pp reduction in ill-treatment for women who never worked and come from communities with gender-equal leather production, significant at the 1 per cent level. Column (2) further shows a 36 pp (1 per cent significance level) increase in financial support for such women from this community. A possible explanation is that the declining economic relevance of traditional leather production may have weakened the social salience of women's productive roles in this activity, thereby reducing the stigma associated with non-participation, and increasing financial support.

In columns (3)-(5), we find differential effects of psychological well-being across egalitarian production environments. Never-worked women from fishing and agriculture backgrounds exhibit reductions in current living satisfaction, consistent with penalties for norm deviation. Similarly, we observe declines in emotional well-being for women from weaving and pottery backgrounds characterized by gender-equal production. These activities are often skill-intensive and institutionally embedded within household production systems, which may reinforce expectations of women's economic contribution. Consistent with this interpretation, we find an increase in depression (3.7 pp, significant at the 1 per cent level) among never-worked women from pottery communities and a reduction in current living satisfaction for women from weaving backgrounds. In the case of leather work, we observe reductions in satisfaction indices, although these women are 2.8 pp less likely to report depression in the last 12 months.

Next, we consider the differential association between lifetime non-participation and later-life outcomes across modes of production. Table 7 shows that women who never worked and belong to communities that historically practiced plough cultivation or intensive agriculture experience a reduction in ill-treatment of approximately 2 pp, significant at the 1 per cent level. This finding is consistent with the literature documenting lower female labor force participation in plough-based production systems. In such environments, adherence to traditional gender roles may be socially rewarded. However, we do not find robust interaction effects for other later-life outcomes in these production systems.

Table 8 examines how ancestral marriage norms shape later-life outcomes for women who never worked. We begin with the custom of bride price. Women from communities with a historical practice of bride price are 2.2 pp more likely to report ill-treatment in later life if they never worked, significant at the 1 per cent level. This finding is consistent with the norm-deviation interpretation, as bride-price societies have historically recognized women's economic and reproductive contributions, and non-participation may therefore attract social sanctions. While we do not observe significant interaction effects for economic security or psychological distress, we find a 0.10 SD reduction in current living satisfaction, significant at the 5 per cent level. The virilocal residence patterns show evidence of adverse psychological outcomes for women who never worked. The interaction coefficients indicate that these women are approximately 2 pp more likely to report depression. This pattern is consistent with the hierarchical and patriarchal structure embedded in virilocal systems, where women who deviate from expected productive roles may experience psychological strain along with the increase in ill-treatment (2.6 pp).

For polygyny, the results suggest a different pattern. We observe a 2.2 pp reduction in depression for women who never worked, significant at the 5 per cent level. In addition, there is a positive and statistically significant association with current living satisfaction. Given that polygyny is considerably less prevalent today, deviations from historical marital structures may alter contemporary expectations, potentially mitigating social sanctions in later life. The interaction coefficient for ill-treatment is negative but statistically insignificant.

Further, for endogamous communities, women who never worked are 1.5 pp more likely to report ill-treatment and experience a reduction in current living satisfaction. Note that, as shown earlier, women from endogamous ancestral backgrounds are more likely to work. This is consistent with female labor being embedded in the family production structure in endogamous or tightly structured kin systems. At the same time, the interaction effects suggest that in tightly knit communities, where economic roles are closely linked to family identity, non-participation may attract social penalties. Overall, while certain

marriage norms exhibit differential associations with specific later-life outcomes, their effects appear more modest than those observed for production-related norms.

The last two panels of Table 8 examine the differential effects between family settlement patterns, lifetime non-participation, and later-life outcomes. In patrilineal communities, women who never worked are 2.2 pp more likely to report ill-treatment, significant at the 1 per cent level. This finding is consistent with patterns observed in other hierarchically structured environments, where deviation from expected productive roles may attract social penalties. However, we do not find statistically significant interaction effects for financial support or psychological well-being in patrilineal settings.

Finally, in stem-family systems, we find reductions in depressive symptoms (2.5 pp, significant at the 5 per cent level) among women who never worked. We do not observe significant interaction effects for ill-treatment, financial support, or satisfaction measures in these settings. One possible interpretation is that multigenerational household structures may provide continued social engagement and role continuity for older women, for example, through childcare and intergenerational support, even if they withdraw from active productive responsibilities.

To summarize, the results reveal considerable heterogeneity in the later-life consequences of lifetime non-participation across inherited normative environments. Conditional on never having worked, women from ancestral contexts that historically relied more heavily on female economic contribution tend to experience worse later-life outcomes, including higher reported ill-treatment and poorer psychological well-being. In environments where women's productive roles were historically expected or socially embedded, lifetime non-participation carries greater social or psychological costs. By contrast, in production systems where female labor was historically less central (such as plough-based agriculture) the non-working role appears more norm-conforming and is less likely to attract adverse social responses.

Further, while much of the evidence is consistent with a norm-deviation interpretation, the patterns observed in more tightly structured kin environments, such as virilocal and endogamous systems, point to an additional channel. In these settings, expectations

of women's economic contribution appear to coexist with closer social monitoring and stronger role enforcement. As a result, the social costs associated with lifetime non-participation are particularly pronounced.

5.3 Heterogeneity Analysis

Next, we examine heterogeneity in our results. Our conceptual framework suggests that the evaluation of gender roles primarily arises within household and kinship networks, which can generate social sanctions and penalties in later life. In this context, we test whether the relation between women's lifetime labor market participation and later-life outcomes is weaker for women living in urban areas compared with those in rural settings, and for women residing only with their spouses rather than within extended kin networks. In such environments, where traditional kin-based monitoring may be weaker, we expect the estimated effects to attenuate or potentially move in the opposite direction relative to the baseline estimates.

Figure 3 presents the heterogeneity analysis based on place of residence. Across the three panels of the figure, we observe a consistent pattern in which the magnitude of the baseline estimates is attenuated in urban environments. For gender-equal production activities, the association between ancestral norms and lifetime non-participation becomes weaker in urban settings across most outcomes. In particular, the effects on lifetime non-participation appear less pronounced among women from communities historically engaged in pottery and leatherwork.

We also observe that penalties for deviations from historically egalitarian production norms are reflected in outcomes related to economic security and psychological well-being. One notable exception is among women from leather-working communities, where there is an increase in depressive symptoms among urban residents. As discussed earlier, leather-working communities historically expected women's participation in economic activities. However, the declining economic relevance of this occupation—often caste-restricted and male-dominated—may have reduced the social penalties associated with non-participation among rural women. By contrast, women in urban environments,

who may be exposed to broader economic opportunities, may face stronger penalties for deviations from expected productive roles. The results for current living satisfaction and overall life satisfaction also point to similar patterns.

For production technologies, the heterogeneity analysis indicates that the associations between plough-based or intensive agricultural systems and later-life outcomes either weaken or reverse in urban areas. Since these production technologies historically shaped gender divisions of labor within agrarian communities, their influence appears to diminish once individuals move into urban labor markets where production structures differ from traditional agricultural systems.

A similar pattern emerges for marriage norms. While the baseline estimates suggest that certain marriage institutions, such as bride price or endogamy, are associated with differential later-life outcomes for women who never worked, these effects become smaller and less precisely estimated in urban contexts. The attenuation of these relationships suggests that the enforcement of inherited norms may be weaker when women are integrated into more dynamic urban environments.

We next examine heterogeneity by living arrangements, focusing on women who reside only with their spouses rather than within extended kin networks, potentially weakening the influence of extended kin networks and attenuating the social penalties associated with lifetime labor market non-participation.

Across the panels in Figure 4, we observe that several of the baseline associations either reverse, weaken, or become less precisely estimated among women living in secluded households. For gender-equal production activities, we observe some heterogeneity in economic outcomes. In particular, women from leather-working communities who live only with their spouses receive higher levels of financial support relative to the baseline group. This may reflect a shift in the source of economic security toward spousal support when extended family members are not present. At the same time, the patterns for psychological well-being remain mixed, suggesting that the absence of kin-based monitoring may reduce explicit social sanctions without fully eliminating the long-term effects of norm deviations on well-being. However, most estimates of later-life outcomes become

statistically insignificant for production technologies and marriage norms.

Overall, when women live either in urban settings or only with their spouses, the social mechanisms that enforce traditional gender roles appear to weaken, leading to smaller or less consistent associations between lifetime labor market participation and later-life well-being.

5.4 Instrumental Variable Regression Results

Tables 9 - 11 present the IV regression results corresponding to Equation 4. Overall, the IV estimates broadly confirm the qualitative patterns observed in the OLS specifications, although the magnitudes are larger in some cases.

For agricultural production systems characterized by gender-equal participation, we find that women who never worked are 28.6 pp more likely to report ill-treatment in later life, a substantially larger effect than the 2.2 pp estimate from the OLS specification. We also find a consistent decline in current living satisfaction for these women, supporting the interpretation that deviations from historically egalitarian production norms may attract social penalties in later life. For weaving communities, the interaction estimates are not statistically significant in the IV specification. However, the direction of the coefficients remains broadly consistent with the OLS results, suggesting qualitatively similar patterns despite the loss of statistical precision.

In leather-working communities, the IV results mirror the OLS findings in terms of direction. Women who never worked are less likely to report ill-treatment and more likely to receive financial support, consistent with the OLS estimates. However, the IV specification additionally indicates an increase in overall life satisfaction for these women, suggesting that social and household arrangements in these communities may provide material or emotional support in later life. Finally, the IV estimates for pottery communities appear less stable relative to the OLS results. In particular, the interaction coefficients for psychological well-being outcomes are not statistically significant, indicating that these effects are sensitive to the identification strategy.

Table 10 reports the IV estimates for the relation between modes of agricultural pro-

duction and later-life outcomes. The interaction effects for ill-treatment are not statistically significant for either plough cultivation or intensive agriculture (column 1). However, column (2) suggests that women whose lifetime behavior conforms to traditional gender roles in plough-cultivating communities receive greater financial support in later life, with an estimated increase of 29 pp. We also observe evidence of improved current living satisfaction for women who never worked in communities historically characterized by intensive agriculture.

Further, Table 11 presents the IV regression results for marriage norms and family settlement patterns. The interaction estimates for ill-treatment and financial support in columns (1) and (2) are statistically insignificant across the various marriage norms and family settlement patterns. However, we observe consistent patterns for certain psychological well-being outcomes.

Women who never worked and inherit a virilocal residence pattern exhibit a higher likelihood of reporting depression. The IV estimate indicates an increase of 29 pp, which is substantially larger than the corresponding OLS estimate of 2.4 pp. In column (4), the interaction estimates for current living satisfaction among women from communities that historically practiced polygyny and endogamy are consistent with the OLS findings. Specifically, we observe an increase of 1.2 SD in current living satisfaction for women from polygynous communities and a reduction of 1.09 SD for women from endogamous communities.

In addition, the interaction estimates for patrilineal descent and stem-family organization become statistically significant in the IV specification, whereas they were insignificant in the OLS results. We find a reduction of approximately one standard deviation in current living satisfaction for women from patrilineal communities who never worked. By contrast, consistent with the interpretation that multigenerational household structures may provide continued social engagement for older women, the IV estimates indicate an increase of 1.32 SD in current living satisfaction for women from stem-family systems.

Overall, the IV estimates differ from the OLS results in magnitude, but the direction of the effects remains largely unchanged across outcomes. The larger coefficients in the

IV specifications are consistent with attenuation in the OLS estimates due to measurement error, and may also reflect that the instrument captures variation in participation from environments where expectations around women's work were stronger. Accordingly, the IV results can be interpreted as identifying the Local Average Treatment Effects for women whose labor market participation was shaped by early-life economic conditions. The loss of statistical significance in some cases is likely driven by the smaller estimation sample and the limited variation in the instrument. Taken together, these findings support the view that the relation between lifetime labor market roles and later-life outcomes differs systematically across inherited normative environments.

5.5 Robustness Checks

We assess the robustness of our results in this section. In Section 4, we discussed potential concerns that local conditions may influence lifetime labor market decisions. For the subset of 31,385 women who report their birth district, we include birth-district fixed effects to account for early-life local environments. We report the results in Figure A1. While our results remain broadly consistent with the baseline specification, we find that coefficients that were only marginally significant at the 10 percent level lose statistical significance in this specification. This attenuation is consistent with a reduction in statistical power due to the smaller estimation sample and the additional variation absorbed by the fixed effects. Further, we lose statistical significance for the interaction estimates of weaving and leatherwork for ill treatment, while the estimates for pottery become statistically significant. We also find that the results related to marriage systems and family settlement patterns are more sensitive to the inclusion of birth-district fixed effects relative to the baseline specification.

We also estimate probit models as an alternative specification, given that most of our dependent variables are binary indicators, except for current living satisfaction and life satisfaction. The results are reported in Figure A2 and are qualitatively similar to those obtained from the baseline linear probability models.

6 Conclusion

A large literature documents the role of gender norms in shaping women's labor market outcomes, with a particular emphasis on how norms influence labor supply decisions at a point in time. We contribute to this literature by focusing on women's lifetime labor market attachment, which provides a more informative measure of persistent role assignment shaped by norms over the life course. Using data on older women in India, we combine individual work histories with ethnolinguistic measures of ancestral characteristics that capture historical gender-role structures, including subsistence patterns, the division of production, and marriage institutions. We develop a simple conceptual framework that distinguishes between inherited norms that shape women's lifetime roles and the processes through which these roles are evaluated within households and kin networks. This distinction allows us to separately identify the relation between ancestral norms and lifetime non-participation, on the one hand, and the social consequences associated with this non-participation role, on the other hand.

Our results point to a consistent pattern across these two margins. Women from ancestral settings in which female participation in productive activities was historically more common are less likely to remain outside the labor force over their lifetime. At the same time, among women who never worked, those from such backgrounds experience worse later-life outcomes, including higher mistreatment and poorer psychological well-being. This suggests that the consequences of non-participation depend on the expectations embedded in the surrounding normative environment. Taken together, these findings show that gender norms shape not only whether women work, but also how the roles they occupy are valued within the household.

A key implication of our study is that policies to increase female labor force participation must account for the normative context in which women's work is embedded. Expanding labor market opportunities alone may be insufficient, as the social consequences of women's economic roles vary across inherited environments. In settings where female work is historically expected, improving access to employment is likely to enhance welfare. On the other hand, in more restrictive contexts, increased participation may

be accompanied by social penalties unless norms and intra-household bargaining conditions also shift. This suggests that effective policies need to combine labor market interventions with norm-sensitive approaches—such as information campaigns and role models—as well as measures that strengthen women's position within the household, including greater control over earnings, increased say in work and mobility decisions, and improved access to financial resources.

Declaration of Generative AI Use

During the preparation of this work, the authors used generative artificial intelligence (ChatGPT) strictly as a tool to support language refinement and improve clarity of writing. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data

All data are publicly available.

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Tables and Figures

Table 1: Summary Statistics: Outcome and Control Variables

Variables	Mean	SD	N
Panel A: Outcome Variables			
Never Worked	0.486	0.500	41,842
Ill Treated	0.039	0.194	40,911
Financial Support Received	0.143	0.350	41,283
Depression	0.172	0.378	41,146
Life Satisfaction	-0.026	0.997	41,461
Current Living Satisfaction	-0.022	1.001	41,065
Panel B: Control Variables			
Age Groups			
18–39	0.052	0.223	41,847
40–59	0.555	0.497	41,847
60–79	0.349	0.477	41,847
80–99	0.042	0.201	41,847
100+	0.001	0.029	41,847
Marital Status			
Currently married	0.686	0.464	41,847
Widowed	0.283	0.450	41,847
Divorced	0.004	0.061	41,847
Separated	0.007	0.083	41,847
Deserted	0.005	0.072	41,847
Live-in relationship	0.006	0.075	41,847
Never married	0.009	0.094	41,847
MPCE Quintile			
Poorest	0.197	0.398	41,847
Poorer	0.202	0.402	41,847
Middle	0.202	0.402	41,847
Richer	0.203	0.402	41,847
Richest	0.196	0.397	41,847
None	0.002	0.043	41,844
Religion			
Hindu	0.734	0.442	41,844
Muslim	0.121	0.326	41,844
Christian	0.096	0.294	41,844
Sikh	0.027	0.161	41,844
Buddhist / Neo-Buddhist	0.011	0.106	41,844
Jain	0.002	0.049	41,844
Jewish	0.000	0.008	41,844
Parsi / Zoroastrian	0.000	0.008	41,844
Others	0.006	0.080	41,844
Years of Education			

Continued on next page

Variables	Mean	SD	N
1–4 years	0.222	0.415	18,089
5–8 years	0.384	0.486	18,089
9–12 years	0.310	0.462	18,089
13–16 years	0.062	0.241	18,089
17+ years	0.023	0.149	18,089
Household Sex			
Male-headed	0.779	0.415	41,819
Female-headed	0.221	0.415	41,819
Region			
Rural	0.638	0.480	41,847
Urban	0.362	0.480	41,847

Notes: This table reports summary statistics for outcome and control variables used in the analysis. The sample is restricted to women.

Table 2: Summary Statistics: Ethnic Traits

Variables	Mean	SD	N
Gender Equal Production			
Fishing	0.317	0.465	25,396
Animal Husbandry	0.247	0.431	39,056
Agriculture	0.232	0.422	40,776
Weaving	0.333	0.471	31,012
Leather Works	0.020	0.139	28,170
Pottery	0.236	0.424	32,181
Mode of Production			
Plough	0.905	0.294	40,778
Intensive agriculture	0.866	0.341	40,778
Marriage Norms			
Bride price	0.319	0.466	41,845
Virilocal	0.894	0.307	41,847
Polygyny	0.907	0.291	40,845
Endogamy	0.108	0.310	40,920
Patrilineal	0.479	0.500	41,847
Stem family	0.316	0.465	40,942

Notes: This table reports summary statistics for ethnic trait variables used in the analysis. The sample is restricted to women.

Table 3: Cultural Correlates of Never Worked: Gender Equal Participation

	(1) Fishing	(2) Animal husbandry	(3) Agriculture	(4) Weaving	(5) Leather work	(6) Pottery
Never Worked	-0.002	-0.001	-0.101***	-0.092***	-0.220***	0.025
	(0.037)	(0.046)	(0.029)	(0.029)	(0.034)	(0.020)
Controls	✓	✓	✓	✓	✓	✓
State FE	✓	✓	✓	✓	✓	✓
R-squared	0.179	0.153	0.166	0.169	0.146	0.166
Observations	12306	16790	17860	13263	11399	13666

Notes: The dependent variable is an indicator for whether a woman has *never worked*. Each column reports estimates from separate OLS regressions. All specifications include individual controls and state fixed effects. Clustered standard errors are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 4: Cultural Correlates of Never Worked: Mode of Production

	(1) Plough cultivation	(2) Intensive agriculture
Never Worked	0.079	0.067
	(0.051)	(0.043)
Controls	✓	✓
State FE	✓	✓
R-squared	0.164	0.164
Observations	17862	17862

Notes: The dependent variable is an indicator for whether a woman has *never worked*. Each column reports estimates from separate OLS regressions. All specifications include individual controls and state fixed effects. Clustered standard errors are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 5: Cultural Correlates of Never Worked: Marriage and Family Norms

	(1) Brideprice	(2) Virilocality	(3) Polygyny	(4) Endogamy	(5) Patrilineal	(6) Stem family
Never Worked	-0.056**	0.013	0.091	-0.126**	-0.047**	0.061**
	(0.027)	(0.029)	(0.060)	(0.062)	(0.020)	(0.026)
Controls	✓	✓	✓	✓	✓	✓
State FE	✓	✓	✓	✓	✓	✓
R-squared	0.164	0.164	0.164	0.165	0.164	0.164
Observations	18074	18074	17904	17918	18074	17921

Notes: The dependent variable is an indicator for whether a woman has *never worked*. Each column reports estimates from separate OLS regressions. All specifications include individual controls and state fixed effects. Clustered standard errors are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 6: OLS Regressions: Gender-Equal Production and Later-Life Outcomes

	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Fishing					
Never Worked	-0.025***	-0.028***	-0.030**	0.101**	0.160***
	(0.006)	(0.010)	(0.013)	(0.047)	(0.026)
Fishing	-0.018**	-0.067**	-0.007	0.063*	0.141***
	(0.007)	(0.025)	(0.012)	(0.034)	(0.047)
Never Worked*Fishing	0.021***	0.019	-0.007	-0.101**	-0.094**
	(0.007)	(0.018)	(0.014)	(0.050)	(0.036)
R-squared	0.039	0.056	0.052	0.094	0.143
Observations	12049	12099	12106	12079	12244
Animal Husbandry					
Never Worked	-0.021***	-0.010	-0.039***	0.080*	0.134***
	(0.006)	(0.011)	(0.010)	(0.041)	(0.018)
Animal Husbandry	-0.008	0.014	-0.039**	-0.015	0.031
	(0.005)	(0.016)	(0.015)	(0.039)	(0.055)
Never Worked*Animal Husbandry	0.011	-0.013	-0.003	-0.057	-0.048
	(0.008)	(0.015)	(0.014)	(0.045)	(0.045)
R-squared	0.032	0.051	0.049	0.109	0.134
Observations	16458	16525	16547	16509	16717
Agriculture					
Never Worked	-0.022***	-0.015	-0.041***	0.090**	0.142***
	(0.006)	(0.011)	(0.010)	(0.038)	(0.018)

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	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Agriculture	-0.013***	0.004	-0.033**	0.096**	0.104***
	(0.005)	(0.023)	(0.017)	(0.038)	(0.031)
Never Worked*Agriculture	0.022***	-0.000	0.010	-0.106**	-0.036
	(0.006)	(0.017)	(0.012)	(0.049)	(0.037)
R-squared	0.033	0.053	0.053	0.110	0.134
Observations	17508	17587	17600	17561	17775
Weaving					
Never Worked	-0.018***	-0.012	-0.036***	0.060**	0.130***
	(0.007)	(0.015)	(0.013)	(0.029)	(0.019)
Weaving	-0.018***	-0.026	-0.037**	0.054	0.104***
	(0.006)	(0.019)	(0.018)	(0.043)	(0.035)
Never Worked*Weaving	0.013*	-0.007	0.009	-0.082*	-0.044
	(0.007)	(0.019)	(0.016)	(0.044)	(0.036)
R-squared	0.027	0.060	0.057	0.116	0.131
Observations	13016	13068	13084	13058	13205
Leather Work					
Never Worked	-0.015***	-0.015	-0.038***	0.047**	0.120***
	(0.005)	(0.011)	(0.010)	(0.022)	(0.022)
Leather	0.102***	0.041**	-0.023	0.290***	-0.109**
	(0.016)	(0.017)	(0.024)	(0.020)	(0.047)
Never Worked*Leather	-0.065***	0.357***	-0.028***	-0.223***	-0.135***
	(0.005)	(0.011)	(0.009)	(0.021)	(0.027)
R-squared	0.027	0.063	0.047	0.136	0.143

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	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Observations	11177	11228	11248	11215	11355
Pottery					
Never Worked	-0.010**	-0.011	-0.046***	0.020	0.121***
	(0.004)	(0.012)	(0.006)	(0.018)	(0.022)
Pottery	0.009	0.025*	-0.030	-0.034	-0.014
	(0.007)	(0.015)	(0.018)	(0.034)	(0.047)
Never Worked*Pottery	-0.015*	-0.015	0.037***	0.065*	0.027
	(0.009)	(0.017)	(0.007)	(0.035)	(0.048)
R-squared	0.027	0.059	0.053	0.124	0.135
Observations	13400	13457	13477	13446	13608

Notes: Each panel reports estimates from regressions of later-life outcomes on gender-equal production indicators, the indicator for never worked, and their interaction. All regressions include individual controls and state fixed effects. Clustered standard errors are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 7: OLS Regressions: Mode of Production and Later-Life Outcomes

	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Plough Cultivation					
Never Worked	0.003	-0.010	-0.026**	-0.036	0.169**
	(0.004)	(0.025)	(0.012)	(0.081)	(0.064)
Plough	0.024***	0.028	0.032	-0.137*	-0.099*
	(0.005)	(0.038)	(0.023)	(0.074)	(0.055)
Never Worked*Plough	-0.022***	-0.007	-0.013	0.108	-0.041
	(0.006)	(0.027)	(0.015)	(0.087)	(0.066)
R-squared	0.033	0.053	0.053	0.109	0.134
Observations	17510	17589	17602	17563	17777
Intensive Agriculture					
Never Worked	0.004	-0.009	-0.026***	-0.024	0.160***
	(0.003)	(0.018)	(0.009)	(0.062)	(0.046)
Intensive Agriculture	0.023***	0.024	0.024	-0.130**	-0.105**
	(0.005)	(0.031)	(0.019)	(0.063)	(0.044)
Never Worked*Intensive Agriculture	-0.024***	-0.008	-0.014	0.099	-0.033
	(0.006)	(0.021)	(0.013)	(0.070)	(0.049)
R-squared	0.033	0.053	0.053	0.109	0.134
Observations	17510	17589	17602	17563	17777

Notes: Each panel reports estimates from regressions of later-life outcomes on production technology indicators, the indicator for never worked, and their interaction. All regressions include individual controls and state fixed effects. Clustered standard errors are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 8: OLS Regressions: Marriage and Settlement Practices and Later-Life Outcomes

	Neglect	Economic Security	Psychological Well-Being		
	(1)	(2)	(3)	(4)	(5)
	Ill Treated	Financial Support	Depression	Living Satisfaction	Life Satisfaction
Bride Price					
Never Worked	-0.023***	-0.013	-0.045***	0.090**	0.144***
	(0.006)	(0.011)	(0.010)	(0.039)	(0.018)
Brideprice	-0.016**	-0.005	-0.025	0.027	0.049
	(0.006)	(0.015)	(0.016)	(0.036)	(0.033)
Never Worked*Brideprice	0.022***	-0.011	0.017	-0.102**	-0.036
	(0.007)	(0.015)	(0.013)	(0.046)	(0.035)
R-squared	0.033	0.053	0.053	0.109	0.133
Observations	17721	17800	17813	17774	17988
Virilocality					
Never Worked	-0.038***	0.007	-0.060***	0.151*	0.140***
	(0.009)	(0.020)	(0.006)	(0.090)	(0.047)
Virilocal	-0.012	-0.015	-0.015	0.074	-0.073
	(0.010)	(0.032)	(0.029)	(0.115)	(0.060)
Never Worked*Virilocal	0.026**	-0.028	0.024**	-0.108	-0.008
	(0.010)	(0.021)	(0.010)	(0.088)	(0.048)
R-squared	0.033	0.054	0.053	0.109	0.133
Observations	17721	17800	17813	17774	17988
Polygyny					
Never Worked	-0.006	-0.026	-0.019***	-0.022	0.112***
	(0.008)	(0.024)	(0.006)	(0.035)	(0.035)

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	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Polygyny	0.012	0.032	-0.003	-0.135**	-0.096**
	(0.007)	(0.032)	(0.016)	(0.066)	(0.040)
Never Worked*Polygyny	-0.012	0.011	-0.022**	0.092**	0.023
	(0.009)	(0.026)	(0.010)	(0.045)	(0.039)
R-squared	0.033	0.053	0.053	0.109	0.134
Observations	17552	17632	17644	17605	17819
Endogamy					
Never Worked	-0.018***	-0.014	-0.039***	0.072**	0.133***
	(0.005)	(0.009)	(0.008)	(0.034)	(0.020)
Endogamy	-0.017**	-0.027	0.036	0.167***	0.054
	(0.007)	(0.030)	(0.024)	(0.063)	(0.057)
Never Worked*Endogamy	0.015*	-0.017	0.011	-0.105**	-0.004
	(0.008)	(0.025)	(0.014)	(0.045)	(0.040)
R-squared	0.033	0.053	0.053	0.110	0.134
Observations	17566	17645	17658	17619	17833
Patrilineal					
Never Worked	-0.027***	-0.019**	-0.045***	0.089*	0.142***
	(0.006)	(0.008)	(0.012)	(0.049)	(0.021)
Patrilineal	-0.017***	-0.032*	-0.029*	0.032	0.022
	(0.005)	(0.016)	(0.015)	(0.056)	(0.033)
Never Worked*Patrilineal	0.022***	0.004	0.010	-0.065	-0.019
	(0.008)	(0.015)	(0.014)	(0.049)	(0.032)
R-squared	0.034	0.054	0.054	0.109	0.133

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	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Observations	17721	17800	17813	17774	17988
Stem Family					
Never Worked	-0.016***	-0.014	-0.033***	0.065*	0.128***
	(0.006)	(0.010)	(0.009)	(0.036)	(0.023)
Stem Family	0.001	0.019	0.035**	0.031	-0.051
	(0.005)	(0.017)	(0.017)	(0.045)	(0.042)
Never Worked*Stem Family	0.000	-0.007	-0.025**	-0.023	0.019
	(0.006)	(0.011)	(0.012)	(0.043)	(0.024)
R-squared	0.033	0.053	0.053	0.109	0.134
Observations	17569	17648	17661	17622	17836

Notes: Each panel reports estimates from regressions of later-life outcomes on marriage norm indicators and family settlement patterns, the indicator for never worked, and their interaction. All regressions include individual controls and state fixed effects. Clustered standard errors are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 9: IV Regression Results: Gender-Equal Production and Later-Life Outcomes

	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Fishing					
Never Worked	0.108	0.228	0.228	-0.383	-0.612
	(0.106)	(0.193)	(0.217)	(0.483)	(0.511)
Fishing	-0.077	0.047	0.199	-0.218	-0.421
	(0.071)	(0.141)	(0.140)	(0.283)	(0.346)
Never Worked*Fishing	0.139	-0.104	-0.328	0.276	0.802
	(0.121)	(0.232)	(0.233)	(0.457)	(0.554)
F-stat	5.87	5.62	5.99	5.75	6.08
AR p-value	0.090	0.421	0.174	0.630	0.117
Observations	8472	8507	8509	8489	8622
Animal Husbandry					
Never Worked	0.086	0.241*	0.153	0.029	-0.357
	(0.070)	(0.128)	(0.154)	(0.360)	(0.371)
Animal	-0.014	0.099	0.088	0.101	-0.163
	(0.051)	(0.115)	(0.115)	(0.249)	(0.267)
Never Worked*Animal	0.037	-0.185	-0.240	-0.262	0.305
	(0.099)	(0.220)	(0.216)	(0.460)	(0.494)
F-stat	13.38	14.16	13.79	13.32	13.82
P-value	0.142	0.100	0.423	0.828	0.588
Observations	12123	12172	12189	12159	12329
Agriculture					
Never Worked	0.044	0.202*	0.067	0.242	-0.205

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	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
	(0.059)	(0.113)	(0.122)	(0.343)	(0.303)
Agriculture	-0.124*	0.049	-0.116	0.570**	0.285
	(0.065)	(0.106)	(0.126)	(0.288)	(0.329)
Never Worked*Agriculture	0.286**	-0.060	0.183	-1.198**	-0.534
	(0.145)	(0.221)	(0.267)	(0.608)	(0.712)
F-stat	6.86	6.95	6.49	6.86	6.80
P-value	0.000	0.151	0.592	0.093	0.517
Observations	12604	12660	12670	12640	12814
Weaving					
Never Worked	0.126	0.190	0.054	0.328	0.116
	(0.079)	(0.137)	(0.150)	(0.453)	(0.388)
Weaving	0.051	0.116	0.105	0.253	0.368
	(0.063)	(0.117)	(0.118)	(0.324)	(0.340)
Never Worked*Weaving	-0.074	-0.214	-0.247	-0.501	-0.566
	(0.114)	(0.213)	(0.214)	(0.574)	(0.617)
F-stat	8.19	7.89	7.84	8.22	8.20
P-value	0.171	0.237	0.519	0.613	0.632
Observations	9103	9137	9151	9132	9249
Leather Work					
Never Worked	0.122*	0.253*	0.082	0.219	-0.022
	(0.073)	(0.133)	(0.148)	(0.421)	(0.373)
Leather Work	1.021***	-0.210	-0.274	-0.047	-0.956**
	(0.159)	(0.193)	(0.216)	(0.456)	(0.404)

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	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Never Worked*Leather Work	-1.262***	0.990***	0.459	-0.204	0.844*
	(0.318)	(0.316)	(0.430)	(0.579)	(0.440)
F-stat	9.46	9.25	9.66	9.32	9.68
AR p-value	0.000	0.002	0.220	0.837	0.009
Observations	8136	8167	8190	8163	8278
Pottery					
Never Worked	0.122*	0.242*	0.108	0.056	-0.278
	(0.072)	(0.134)	(0.153)	(0.393)	(0.377)
Pottery	0.133	0.176	0.247	-0.572	-0.857
	(0.151)	(0.190)	(0.214)	(0.565)	(0.545)
Never Worked*Pottery	-0.203	-0.254	-0.370	0.871	1.258
	(0.226)	(0.286)	(0.315)	(0.849)	(0.830)
F-stat	3.12	3.55	3.35	3.19	3.34
P-value	0.106	0.122	0.449	0.440	0.281
Observations	9318	9352	9373	9350	9479

Notes: Each panel reports IV estimates of Gender-Equal Production, the indicator for never worked, and their interaction on later-life outcomes. All regressions include individual controls and state- and cohort-fixed effects. Standard errors clustered at the district level. Kleibergen–Paap weak instrument F-statistics and Anderson–Rubin p-values are reported. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 10: IV Regression Results: Mode of Production and Later-Life Outcomes

	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Plough Cultivation					
Never Worked	0.043	-0.102	-0.027	-0.804	-0.543
	(0.059)	(0.142)	(0.147)	(0.667)	(0.512)
Plough	-0.035	-0.153	-0.079	-0.472	-0.224
	(0.045)	(0.094)	(0.098)	(0.316)	(0.299)
Never Worked*Plough	0.054	0.290**	0.144	0.833	0.248
	(0.068)	(0.143)	(0.161)	(0.637)	(0.506)
F-stat	15.53	15.43	15.81	15.29	15.69
P-value	0.211	0.060	0.545	0.186	0.373
Observations	12606	12662	12672	12642	12816
Intensive Agriculture					
Never Worked	0.180*	0.056	0.315	-1.522**	-1.177
	(0.095)	(0.140)	(0.222)	(0.751)	(0.756)
Intensive Agriculture	0.054	-0.069	0.126	-0.991***	-0.655*
	(0.053)	(0.086)	(0.124)	(0.367)	(0.392)
Never Worked*Intensive Agriculture	-0.093	0.136	-0.219	1.672**	0.950
	(0.089)	(0.134)	(0.206)	(0.728)	(0.701)
F-stat	16.10	16.03	16.38	15.87	16.30
P-value	0.020	0.160	0.174	0.000	0.070
Observations	12606	12662	12672	12642	12816

Notes: Each panel reports IV estimates of Mode of Production, the indicator for never worked, and their interaction on later-life outcomes. All regressions include individual controls and state- and cohort-fixed effects. Standard errors clustered at the district level. Kleibergen–Paap weak instrument F-statistics and Anderson–Rubin p-values are reported. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 11: IV Regression Results: Marriage and Settlement Practices and Later-Life Outcome

	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Bride Price					
Never Worked	0.063	0.227*	0.066	0.139	-0.184
	(0.062)	(0.120)	(0.128)	(0.336)	(0.311)
Brideprice	-0.058	0.101	-0.072	0.270	0.208
	(0.039)	(0.076)	(0.089)	(0.201)	(0.237)
Never Worked*Brideprice	0.113	-0.181	0.118	-0.554	-0.358
	(0.071)	(0.126)	(0.150)	(0.355)	(0.419)
F-stat	16.13	16.13	16.56	15.90	16.37
P-value	0.005	0.082	0.454	0.233	0.421
Observations	12761	12817	12827	12797	12971
Virilocality					
Never Worked	-0.033	0.189	-0.169	-0.150	-0.785*
	(0.106)	(0.221)	(0.178)	(0.522)	(0.467)
Virilocal	-0.091	-0.039	-0.211**	-0.021	-0.341
	(0.059)	(0.128)	(0.101)	(0.311)	(0.262)
Never Worked*Virilocal	0.143	-0.031	0.299*	0.163	0.537
	(0.097)	(0.197)	(0.168)	(0.478)	(0.415)
F-stat	17.67	17.73	17.98	17.38	17.91
P-value	0.032	0.252	0.172	0.936	0.128
Observations	12761	12817	12827	12797	12971
Polygyny					
Never Worked	0.088	0.192	0.438	-1.116**	-1.225*

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	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
	(0.124)	(0.164)	(0.286)	(0.527)	(0.706)
Polygyny	-0.004	0.021	0.221	-0.750**	-0.661
	(0.073)	(0.117)	(0.174)	(0.329)	(0.416)
Never Worked*Polygyny	0.008	0.000	-0.376	1.220**	1.016
	(0.117)	(0.170)	(0.270)	(0.511)	(0.661)
F-stat	17.00	16.86	17.35	16.72	17.34
P-value	0.178	0.122	0.109	0.021	0.082
Observations	12630	12686	12696	12666	12840
Endogamy					
Never Worked	0.093	0.208*	0.069	0.122	-0.187
	(0.059)	(0.112)	(0.123)	(0.311)	(0.306)
Endogamy	-0.006	0.059	-0.064	0.686***	0.484
	(0.056)	(0.087)	(0.117)	(0.238)	(0.325)
Never Worked*Endogamy	0.009	-0.122	0.188	-1.099***	-0.838
	(0.094)	(0.134)	(0.189)	(0.390)	(0.528)
F-stat	16.23	16.13	16.59	15.95	16.60
P-value	0.184	0.134	0.315	0.009	0.069
Observations	12639	12695	12705	12675	12849
Patrilineal					
Never Worked	0.128	0.207	0.117	0.564	-0.430
	(0.087)	(0.159)	(0.163)	(0.362)	(0.432)
Patrilineal	0.037	0.029	0.007	0.603***	-0.138
	(0.050)	(0.091)	(0.093)	(0.223)	(0.255)

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	Neglect	Economic Security	Psychological Well-Being		
	(1) Ill Treated	(2) Financial Support	(3) Depression	(4) Living Satisfaction	(5) Life Satisfaction
Never Worked*Patrilineal	-0.048	-0.092	-0.036	-1.001***	0.223
	(0.078)	(0.138)	(0.145)	(0.353)	(0.396)
F-stat	11.92	12.23	11.97	11.43	11.92
P-value	0.160	0.307	0.714	0.012	0.555
Observations	12761	12817	12827	12797	12971
Stem Family					
Never Worked	0.059	0.157	0.047	-0.293	-0.236
	(0.053)	(0.096)	(0.112)	(0.281)	(0.285)
Stem Family	-0.123	-0.094	-0.161	-0.802**	0.232
	(0.084)	(0.159)	(0.171)	(0.375)	(0.422)
Never Worked*Stem Family	0.187	0.153	0.279	1.329**	-0.364
	(0.131)	(0.241)	(0.263)	(0.571)	(0.649)
F-stat	5.39	5.28	5.01	5.04	5.18
P-value	0.086	0.165	0.406	0.010	0.566
Observations	12641	12697	12707	12677	12851

Notes: Each panel reports IV estimates of Marriage Norms and Family Settlement Patterns, the indicator for never worked, and their interaction on later-life outcomes. All regressions include individual controls and state- and cohort-fixed effects. Standard errors clustered at the district level. Kleibergen–Paap weak instrument F-statistics and Anderson–Rubin p-values are reported. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

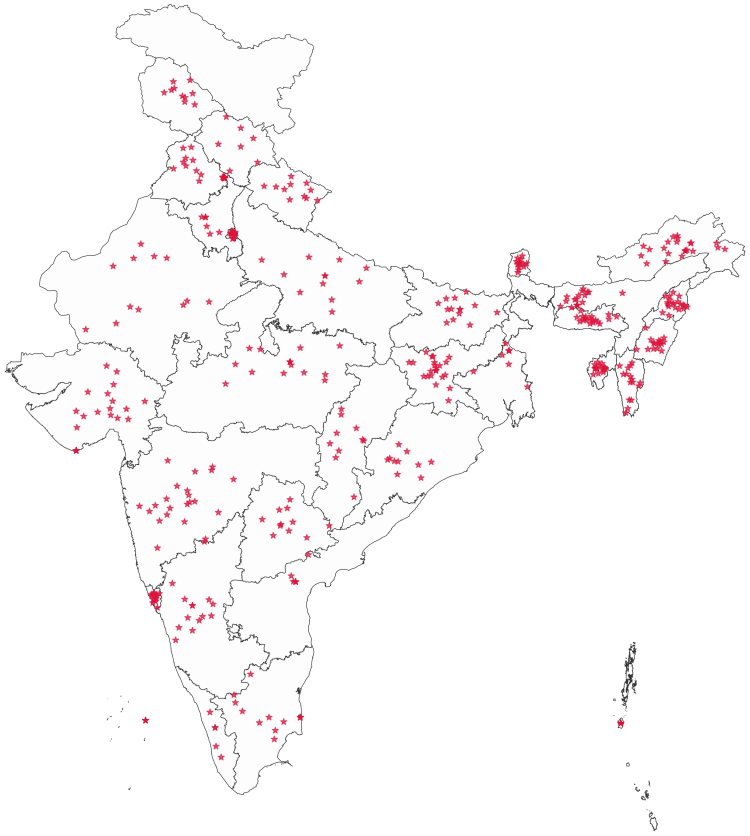

Figure 1: Linguistic Diversity across States in India

Note: The figure maps the distribution of 110 languages across India. Visible stars do not necessarily correspond to the number of distinct languages spoken in a state. In the Andaman and Nicobar Islands, multiple languages appear as a single star due to overlapping geographic coordinates at the degree-level resolution. A random jitter has been applied to the markers to reduce overlap and improve visibility. Refer Table A1 for the exact number of languages in each state.

Figure 2: Linguistic Diversity across districts in India

Note: The figure maps the distribution of 110 unique linguistic identities across 294 districts. LASI do not provide survey districts. The current identification is done manually using the community module and tracing the PSU to the respective districts based on Census data. The visible markers do not necessarily correspond to the number of distinct languages spoken in a district. A spatially constrained random jitter has been applied to the markers to reduce point stacking and improve visibility.

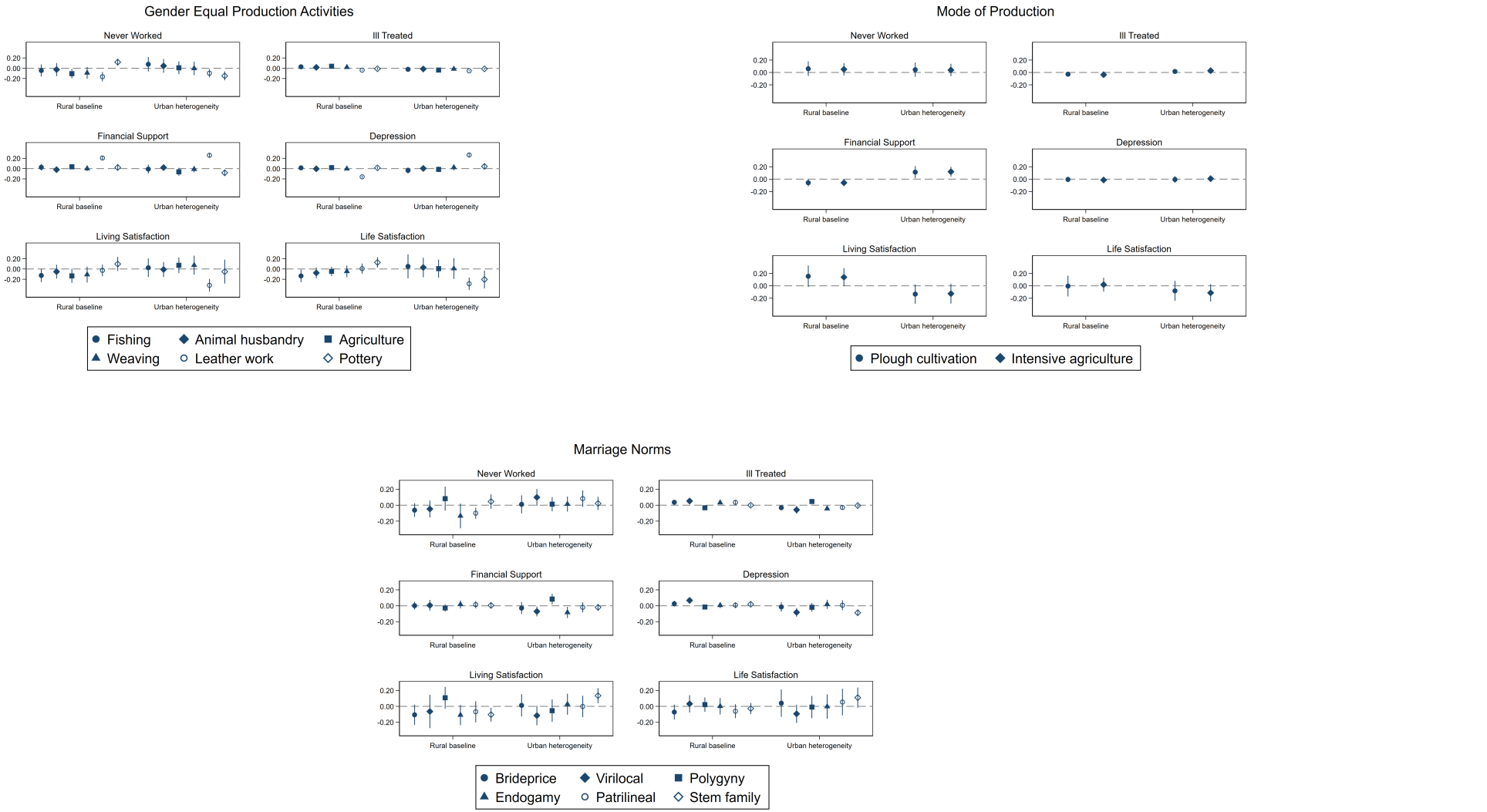

Figure 3: Heterogeneity Analysis - Urban Residence

Note: The figure plots coefficient estimates from regressions that interact lifetime non-participation, ancestral traits, and an indicator for urban residence. For the *Never Worked* outcome, the urban heterogeneity corresponds to the interaction between the ancestral trait and the urban residence indicator. For later-life outcomes, the "Rural baseline" corresponds to the interaction between the ancestral trait and the indicator for *Never Worked*. The "Urban heterogeneity" points represent the additional effect captured by the triple interaction between the ancestral trait, lifetime non-participation, and the urban residence indicator. All regressions include individual controls and state fixed effects, with standard errors clustered at the ethnicity level.

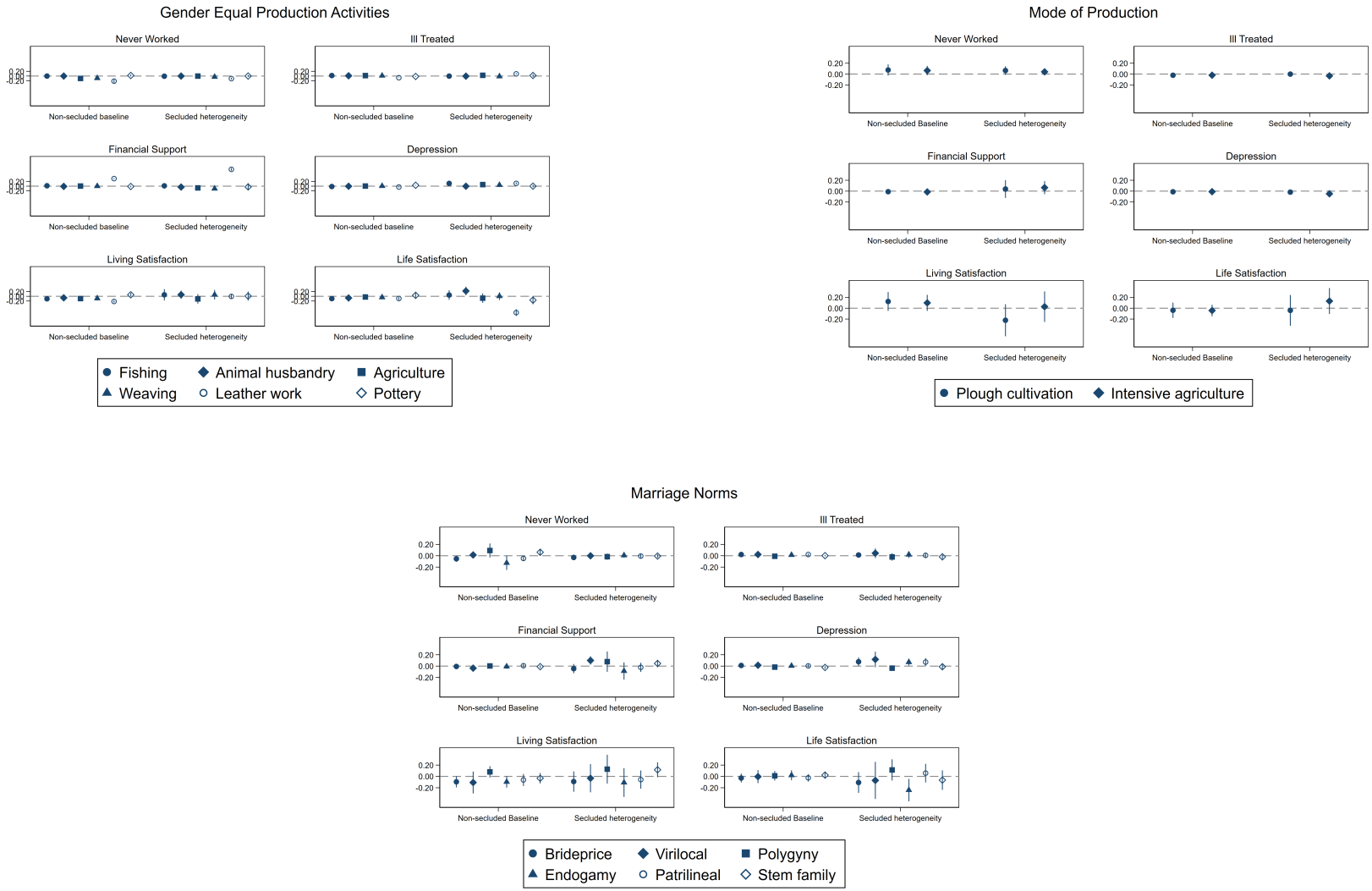

Figure 4: Heterogeneity Analysis - Living with spouse only

Note: The figure plots coefficient estimates from regressions that interact lifetime non-participation, ancestral traits, and an indicator for living alone with spouse. For the *Never Worked* outcome, the secluded heterogeneity corresponds to the interaction between the ancestral trait and the secluded indicator. For later-life outcomes, the "Non-secluded baseline" corresponds to the interaction between the ancestral trait and the indicator for *Never Worked*. The "Secluded heterogeneity" points represent the additional effect captured by the triple interaction between the ancestral trait, lifetime non-participation, and the secluded indicator. All regressions include individual controls and state fixed effects, with standard errors clustered at the ethnicity level.

A1 Appendix: Tables

Table A1: Linguistic Diversity by State and Union Territory

State/UT	Number	State/UT	Number	State/UT	Number
Arunachal Pradesh	26	Manipur	16	Andhra Pradesh	10
Assam	24	Bihar	14	Chhattishgarh	10
Jharkhand	23	Delhi	14	Jammu and Kashmir	10
Maharashtra	23	Sikkim	14	Odisha	10
Daman and Diu*	21	Andaman & Nicobar	13	Punjab	10
Nagaland	20	Karnataka	13	Tamilnadu	9
Meghalaya	19	West Bengal	13	Haryana	7
Tripura	17	Rajasthan	12	Himachal Pradesh	7
Chandigarh	17	Uttar Pradesh	12	Kerala	5
Gujarat	16	Telengana	11	Puducherry	5
Goa	16	Uttarakhand	11	Lakshadweep	3
Madhya Pradesh	16				
Mizoram	16				

Note: The table shows the number of languages spoken in these States and UTs. Note that the number does not necessarily correspond to the total number of distinct languages spoken within a state or UT. *Daman and Diu and Dadra and Nagar Haveli.

Table 2: Assortative Mating in Ancestral Characteristics

Ancestral characteristic	Observed agreement (%)	Expected agreement (%)	Cohen's kappa
Subsistence Dependence: Gathering	99.09	81.65	0.950
Subsistence Dependence: Hunting	98.58	72.13	0.949
Subsistence Dependence: Fishing	97.79	37.60	0.965
Subsistence Dependence: Animal husbandry	98.86	64.91	0.968
Subsistence Dependence: Agriculture	97.32	28.35	0.963
Sex differences: leather working	97.12	38.93	0.953
Sex differences: pottery making	97.16	39.04	0.953
Sex differences: gathering	98.01	63.40	0.946
Sex differences: hunting	97.56	50.08	0.951
Sex differences: fishing	96.71	25.15	0.956
Sex differences: animal husbandry	96.86	30.75	0.955
Sex differences: agriculture	97.42	32.40	0.962
Intensity of agriculture	97.51	46.49	0.954
Animals and plow cultivation	98.79	78.07	0.945
Mode of marriage	97.16	26.78	0.961
Marital residence with kin: after first years	99.09	77.56	0.959
Marital composition: monogamy and polygamy	98.75	77.42	0.945
Community marriage organization	97.32	26.81	0.963
Descent: major type	97.63	41.44	0.960
Domestic organization	96.82	22.82	0.959
Settlement patterns	97.49	35.36	0.961

Notes: The table shows the Cohen's kappa statistics, which measure the agreement between wives' and husbands' ancestral cultural characteristics. Expected agreement denotes the agreement under random matching. Kappa adjusts for agreement expected by chance. Kappa values above 0.80 indicate near-perfect agreement and suggest the prevalence of endogamous marriage. We use the original ethnographic variables in the ethnolinguistic dataset explained in the supplementary material to construct this table.

A2 Appendix: Figures

Figure A1: Robustness Check: Birth District Fixed Effect

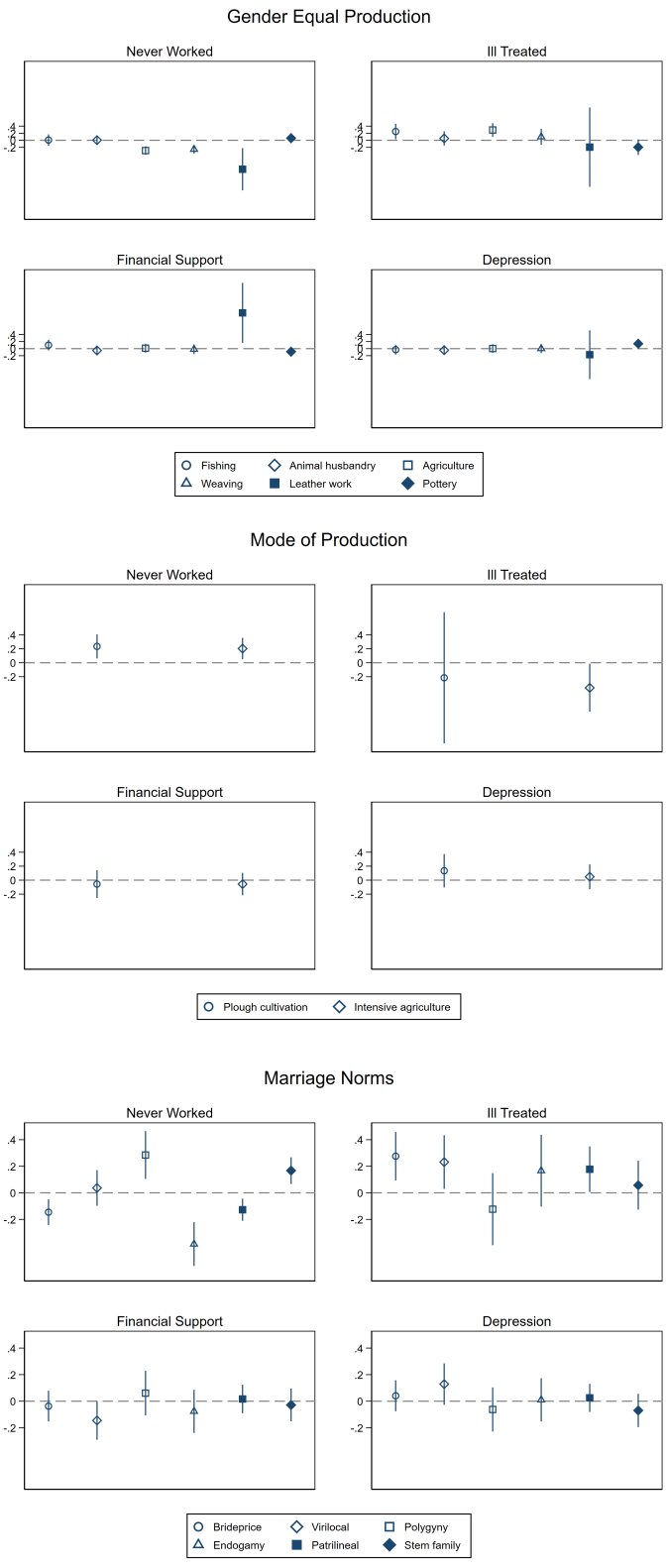

Figure A2: Robustness Check: Probit Estimation