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## **The family as a cultural nexus**

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**Abstract:** This review paper focuses on the literature that studies the interactions between the family and culture. It does not attempt to be comprehensive, but instead illustrates via some representative papers the interaction between the family, its cultural beliefs and practices, and economic outcomes.

**Key words:** family, culture, beliefs, economic outcomes

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## 1 Introduction

This paper starts from the premise that people are social animals. That is, we live embedded in social fabrics and networks in which the family is the central social institution. The way the family is organized, its cultural practices, and its key role in transmitting—and therefore maintaining—social (i.e. cultural) beliefs profoundly influences economic outcomes. In this paper—which draws from my forthcoming chapter with Natalie Bau in the *Handbook of Family Economics* (Bau and Fernández forthcoming)—I give various examples from the literature that broadly examines the interrelationship between family, culture, and economic outcomes in order to illustrate why understanding this nexus is important.

Before proceeding, a few definitions are in order. First, using an anthropological perspective (Brown et al. 2020: 193) we can define a family to be ‘the smallest group of individuals who see themselves as connected to one another ... Families tend to reside together and share economic opportunities and other rights and responsibilities.’ Moreover, ‘the function of families is to fulfill basic human needs such as providing for children, defining parental roles, regulating sexuality, and passing property and knowledge between generations’ (p. 182). The forms that these take vary across space and time.

Next, for a definition of culture we turn to the dictionary and define it as ‘the customary beliefs, social forms, and material traits of a racial, religious, or social group’ and as ‘the integrated pattern of human knowledge, belief, and behavior that depends upon the capacity for learning and transmitting knowledge to succeeding generations’. These are the definitions cited by Fernández and Fogli (2009: 147), and they can encompass ‘rules of thumb’ that evolved to simplify decision-making (see Nunn 2012) but do not require these beliefs to be passed on unchanged over time because how culture evolves, and the speed with which it does so, is itself endogenous.

A natural question to ask might be whether the family is itself an institution or a set of cultural beliefs. I do not distinguish between the two in this context and instead concur with the idea that the family can be thought of as a set of ‘culturally transmitted norms that influence a broad range of social relationships by endowing individuals with sets of obligations and privileges with respect to their communities ... [and that] by shaping patterns of marriage, residence, relatedness, and alliance formation ... organize interpersonal interactions and configure social networks in ways that profoundly influence social incentives and behavior’ (Schulz et al. 2019: 1).

This paper starts by considering extensive kinship systems and how these may affect outcomes such as conflict, individual psychology, and geographic and social mobility. It next documents the family’s importance in transmitting cultural beliefs before going on to illustrate how particular family cultural practices—marriage payments—can interact with shocks, affecting the incentives of parents to invest in the human capital, health, and sex composition of their children. Lastly, it shows that culture can change, sometimes very rapidly, in response to shocks, including policies.

## 2 Extensive kinship

In this section I examine how family institutions—in particular, different forms of extensive kinship—can affect outcomes ranging from conflict to individual psychology, as well as to the degree of physical and social mobility.

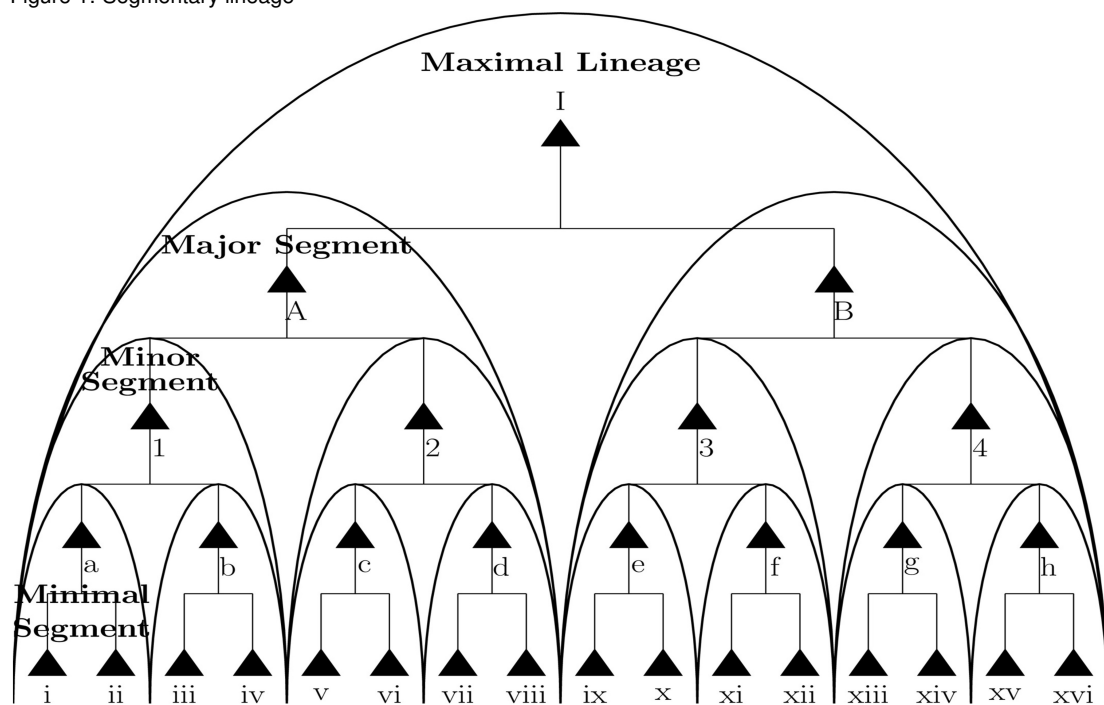
### 2.1 Kinship intensity and conflict

How might the organization of the family matter for the degree of conflict? Although in the contemporary Western world the nuclear family is the central kinship unit, in many other parts of the world people

are connected by extended kinship networks. A recent paper by Moscona et al. (2020) provides evidence that ethnic groups that are organized into a particular type of extended kin network—segmentary lineages—experience more conflict. Segmentary lineages, according to the authors, are characterized by two features: unilineal descent, which can be either matri- or patrilineal, and by the presence of subsets/segments of a full lineage that function as autonomous groups that take on a ‘range of political, judicial, and administrative functions’ (Moscona et al. 2020: 2000). Unilineal descent is defined as kinship relationships being traced exclusively from one parent, either the mother (matrilineal) or the father (patrilineal).

A long-standing hypothesis in anthropology is that segmentary kinship groups are likely to have longer-lasting and larger conflicts. To see why this might be the case, consider Figure 1, which shows a hypothetical segmentary lineage society descended from a common ancestor I. If individual iv were to enter into conflict with individual xiv, then it would be the obligation of all individuals in major segment A to support individual iv and, similarly, for all those in major segment B to support individual xiv. Thus a dispute between two individuals can become a conflict among much larger groups, thereby increasing their scale and perhaps affecting their duration.

Figure 1: Segmentary lineage

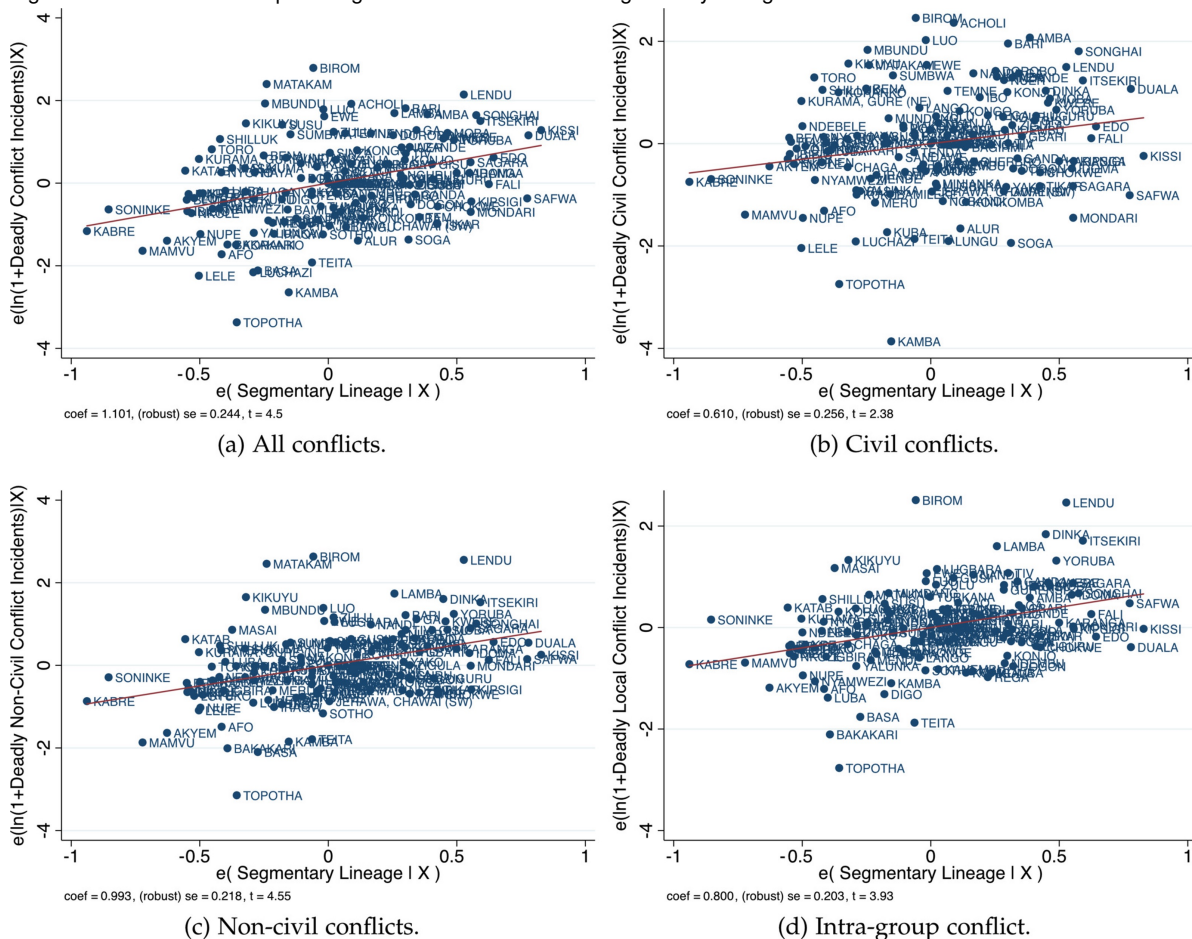


Source: Moscona et al. (2020), reused with permission from Wiley. © The Econometric Society.

The link between segmentary lineage and conflict is empirically studied by Moscona et al. (2020) using data from various sources to code African ethnic groups as either having a segmentary lineage organization or not, employing the two characteristics described above as well as location of residence to define the segmentary lineage category. They end up with a sample of 145 ethnic groups split more or less equally into the segmentary versus non-segmentary categories. Next they use geocoded conflict data from the Armed Conflict Location and Event Data Project (ACLED) for the period 1997–2014 to study the relationship between conflict and segmentary lineage.

Figure 2 reproduces their findings. For all types of conflicts (here classified as all, civil, non-civil, and intra-group conflicts), conditional on a range of historical and geographic covariates as well as country fixed effects, there is a positive relationship between segmentary lineage and all forms of conflict.<sup>1</sup>

Figure 2: Partial correlation plots: log number of conflicts and segmentary lineage



Note: these are partial correlation plots where the dependent variable is the natural log of the number of conflict incidences of the reported conflict type. All specifications include country fixed effects, geographical covariates, and historical covariates.

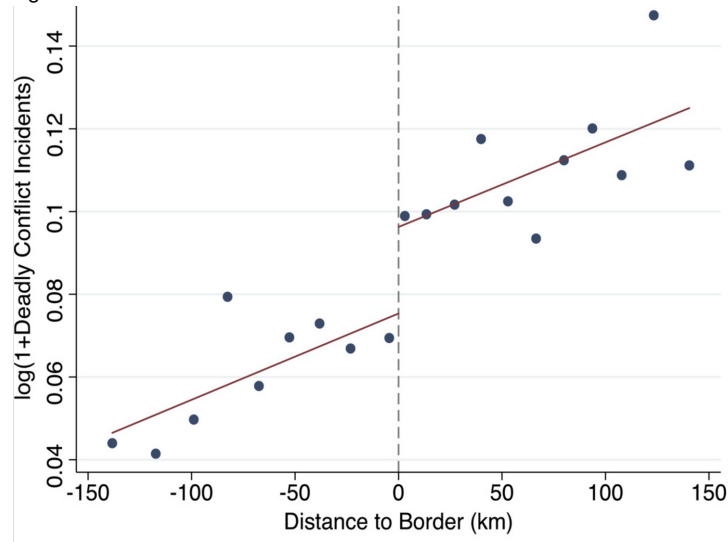
Source: Moscona et al. (2020), reused with permission from Wiley. © The Econometric Society.

The authors also employ a spatial regression-discontinuity approach to provide additional evidence for causality. They compare locations that are geographically close, but where one location is inhabited by a segmentary lineage ethnic group and the other is non-segmentary. The main idea is that while there may be differences other than social organization between the two groups, these should change only gradually from one side of the ethnic border to the other, whereas the variable of interest—conflict—should react discontinuously. As shown in Figure 3, this is indeed the case. As the distance from the border separating the two groups shrinks and then enters the segmentary lineage territory, the number of deadly conflict incidents first jumps discontinuously at the border and then continues to increase.

This evidence presented above strengthens the case that a particular form of extensive kinship—segmentary lineage—influences the incidence of conflict.

<sup>1</sup> A civil conflict is defined as fighting between the government and military and rebel groups. Intra-group conflicts are those that are geographically local and thus are more likely to be in the same village or local ethnic group. Historical covariates include variables such as pre-industrial political centralization and patrilineality.

Figure 3: Distance to the border and conflict



Note: binned scatterplot of the unconditional relationship between conflict incidence and distance from the border. The  $y$ -axis reports the natural log of 1 plus the number of deadly conflict incidents. The  $x$ -axis reports distance (in kilometres) from the borders between segmentary lineage and non-segmentary lineage societies. The border is at kilometre 0, and positive values indicate kilometres in the territories of segmentary lineage societies.

Source: Moscona et al. (2020), reused with permission from Wiley. © The Econometric Society.

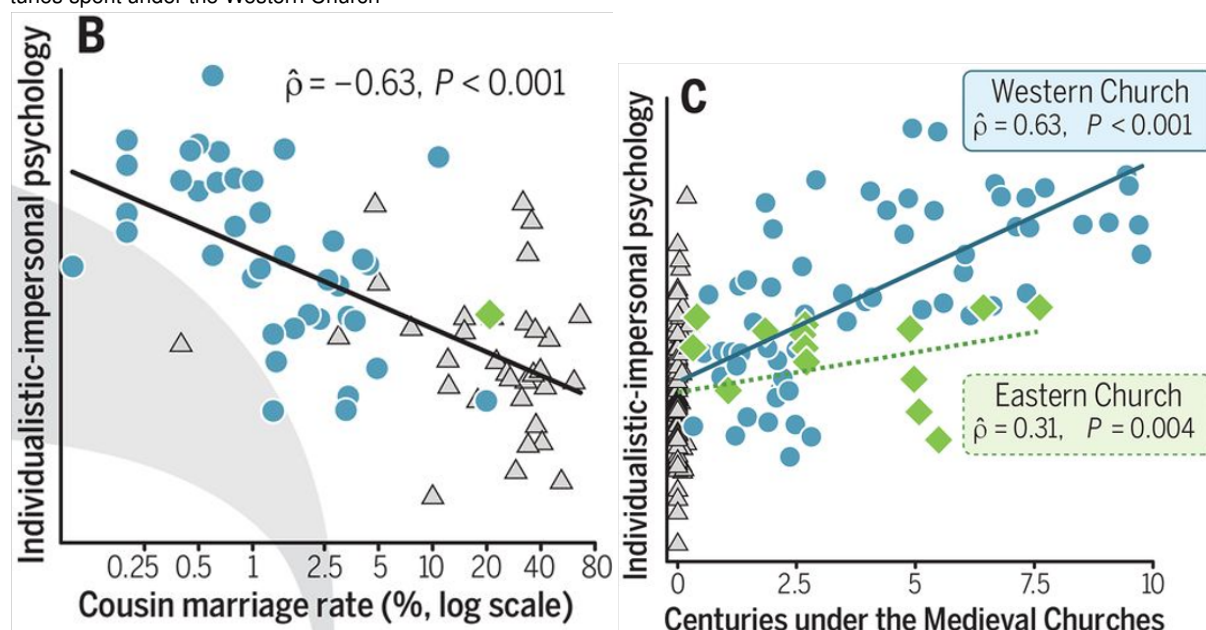
## 2.2 Cousin marriage and psychology

A recent paper by Schulz et al. (2019) argues that the Western Church transformed European kinship structure during the Middle Ages and that this ended up changing the psychological characteristics of Europeans relative to others. According to the authors, the Western Church started with targeted bans on marriage practices used to sustain alliances between families, but by the early Middle Ages it extended these bans to encompass even distant cousins. Instead, the Western Church promoted marriage by choice (rather than arranged marriages) and encouraged couples to set up independent households. In this way, instead of being embedded in intensive kinship institutions as in most of the world, by 1500 much of Europe was characterized by weak kinship ties with monogamous nuclear households, bilateral descent, and neolocal residence.<sup>2</sup>

Why might kinship structure influence individual psychology? The authors hypothesize that individuals enmeshed in intensive kinship institutions are subjected to collectivist demands that then ‘incentivize the cultivation of greater conformity, obedience, nepotism, deference to elders, holistic-relational awareness, and in-group loyalty but discourage individualism, independence, and analytical thinking’ (Schulz et al. 2019: 1). Using various psychological measures of individualism, independence, conformity, cooperation, and fairness with strangers, they create an Individualistic–Impersonal Psychology Scale and show that this index is (1) negatively correlated with the rate of cousin marriage across countries; and (2) positively correlated with the number of centuries spent under the Western Church, as shown in Figure 4.

<sup>2</sup> In bilateral descent, both parents are equally important for who is considered a relative and for inheritance.

Figure 4: The Individualistic–Impersonal Psychology Scale and correlations with the cousin marriage rate and number of centuries spent under the Western Church



Note: circles (blue) are countries exposed to the Western Church; diamonds (green) are those primarily exposed to the Eastern Church; triangles (grey) have no Church exposure.  $\rho$  denotes the Spearman correlation.

Source: Schulz et al. (2019), reused with permission from The American Association for the Advancement of Science.

Furthermore, these authors show that these relationships exist across countries and among individuals from different subnational European regions. Lastly, using the epidemiological approach developed by Fernández and Fogli (2009) and Fernández (2007), they show that this relationship also holds among second-generation immigrants from different parental origin countries living in the same European countries.<sup>3</sup>

### 2.3 Cousin marriage and income

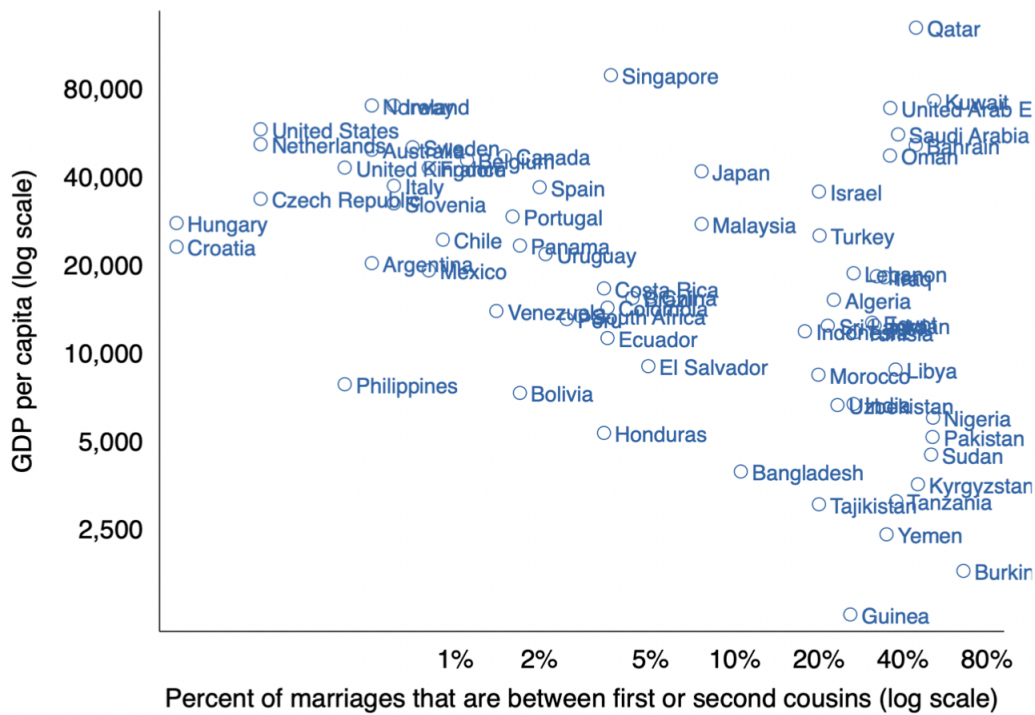
While the link between cousin marriage and psychology is interesting, how might cousin marriage affect economic outcomes? It is interesting to note, as reproduced in Figure 5, that there is a negative correlation between the rate of (first and second) cousin marriage and per capita GDP. The figure shows the (log of) the rate of first and second cousin marriages using data from [www.consanguinity.net](http://www.consanguinity.net) versus GDP per capita. While this is simply a correlation, the very interesting recent working paper by Ghosh et al. (2022) provides some causal evidence for why this might be the case.

Ghosh et al. (2022) use cross-state variation in the timing of the banning of cousin marriages in the United States to study how these bans affected a variety of outcomes. There is large variation in the timing of these bans across US states, starting in Kansas in 1858, an additional eight states in the 1860s, two in the 1880s, two in the 1890s, six in the 1900s, five in the 1910s, and six additional ones later. The authors argue that the variation is due to states entering the Union and idiosyncratic activism around this issue. There is no direct measure of the degree of cousin marriage, so the authors construct one by using US marriage records from 1750 to 1940 to calculate the excess frequency of marriages that occur between individuals with the same surname.<sup>4</sup> They then classify surnames into a ‘high cousin marriage’ category if they have a cousin marriage rate above 10 per cent prior to the first ban of 1858.

<sup>3</sup> See Section 3.1 for a fuller explanation of this approach.

<sup>4</sup> This would be in excess of the frequency predicted by random marriage across surnames.

Figure 5: Consanguinity and GDP



Source: Ghosh et al. (2022), reused with permission.

The authors use an event study specification that allows them to study the effect of these bans across decadal birth cohorts (using individual-level data from the Census 1850–1940), restricting their sample to White men as Black men were more likely to change their surnames after emancipation. They compare outcomes  $y$  from high vs low cousin surnames for men from the same state and same decadal birth cohort before and after the ban. The empirical specification is given by:

$$y_{ihstc} = \alpha_{st} + \alpha_{sh} + \alpha_c + \sum_{\substack{\tau=-6 \\ \tau \neq -1}}^6 \beta_{\tau} HighCM_h x \mathbf{1}[K_{st} = \tau] + \varepsilon_{ihstc}$$

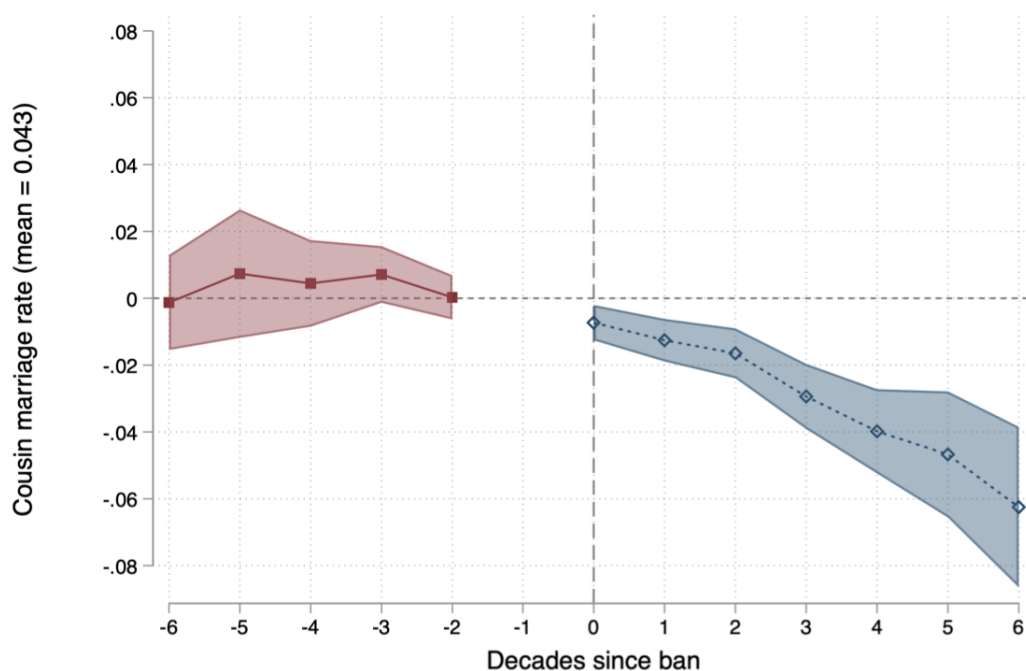
where  $ihstc$  denotes an individual  $i$  born in states  $s$ , in decade  $t$  belonging to a high- vs low-cousin-marriage surname  $h$ , in Census round  $c$ .  $\alpha_{st}$  is a birth state  $\times$  birth-decade fixed effect,  $\alpha_{sh}$  is a birth state  $\times$  high-cousin-marriage surname fixed effect, and  $\alpha_c$  is a Census round fixed effect.  $HighCM_h$  is a dummy variable for high cousin-marriage surnames and each state-and-decade-of-birth cohort is assigned a relative time indicator  $K_{st}$ , defined relative to the decade in which the ban was instituted in the state. Lastly, since cohorts born prior to a ban could be treated, the time indicator  $K_{st} = 0$  is assigned to the cohort born the decade preceding the ban.<sup>5</sup>

Below I reproduce several figures illustrating the main findings in Ghosh et al. (2022). First, as shown in Figure 6, the ban caused a disproportionately larger fall in cousin marriage rates for high-cousin-marriage surnames, and the effect increases over time. This is reassuring as it means that these bans had an effect.

<sup>5</sup> Thus,  $K_{st} = 1$  is the cohort born the decade in which the ban was passed in the state.



Figure 6: The ban and cousin marriage rates



Note: the main regressors are relative time indicators (decades) denoting the birth decade of an individual relative to a cousin marriage ban in their birth state, interacted with a dummy denoting high pre-period cousin marriage. The specification includes Census year, birth state  $\times$  birth decade and birth state  $\times$  high-cousin-marriage-surname fixed effects, whereby the coefficients should be interpreted as the differential effect of the bans on high- versus low-cousin-marriage surnames.

Source: Ghosh et al. (2022), reused with permission.

Next, the ban changed residential patterns significantly. As shown in Figure 7, after a lag of a few decades, high-cousin-marriage surnames (relative to low-cousin-marriage surnames) became: (1) more likely to live in more populated places; (2) less likely to live on a farm; (3) more likely to live in an urban location; and (4) more likely to be living in a state other than their state of birth.

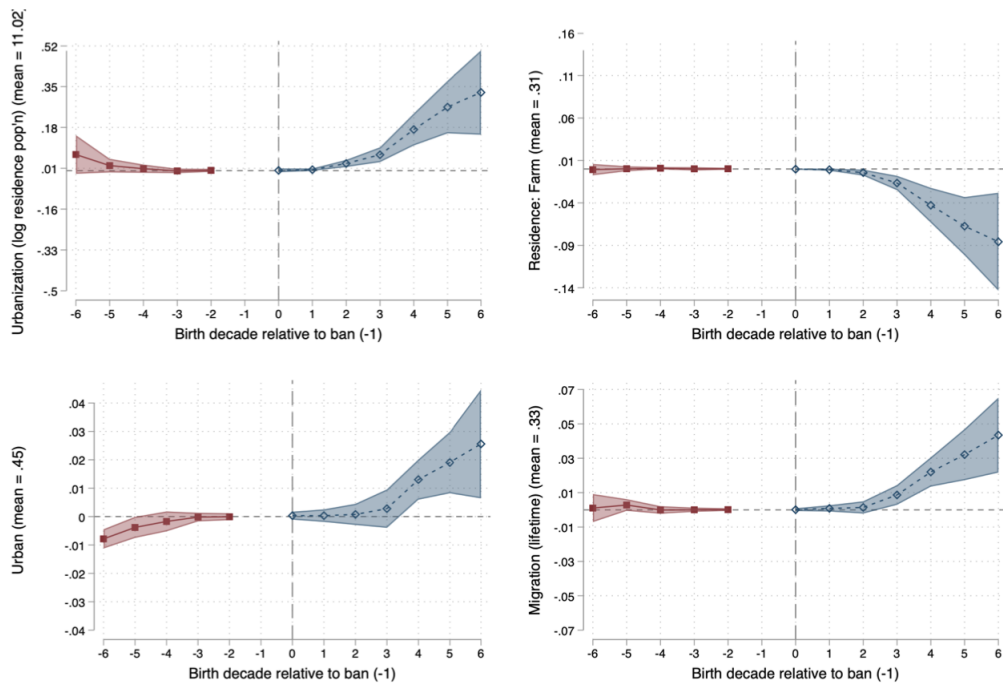
Lastly, the authors show that the cousin marriage ban led to higher imputed income.<sup>6</sup> Figure 8 shows that the log of the occupational score (defined as the median income for that occupation in 1950) increases after the ban for high-cousin-marriage surnames relative to low-cousin-marriage surnames.<sup>7</sup> One way to interpret these results is that the ban on cousin marriage allowed individuals to weaken their kinship ties. This would have allowed them to marry more freely, be more likely to move away from their extended family, and respond more to relative demand for occupations, leading to greater income mobility. This is also the story suggested by, for example, Hoff and Sen (2006).

It is important to note that the findings discussed above do not suggest that there were no benefits from cousin marriages or from being enmeshed in extensive kinship networks. Rather, they suggest that the cost of these cultural forms of family organization increased during the transition from an agricultural economy to a more urban one.

<sup>6</sup> The Census prior to 1940 does not have wages or income.

<sup>7</sup> The authors show that this pattern holds for other proxy measures of income as well.

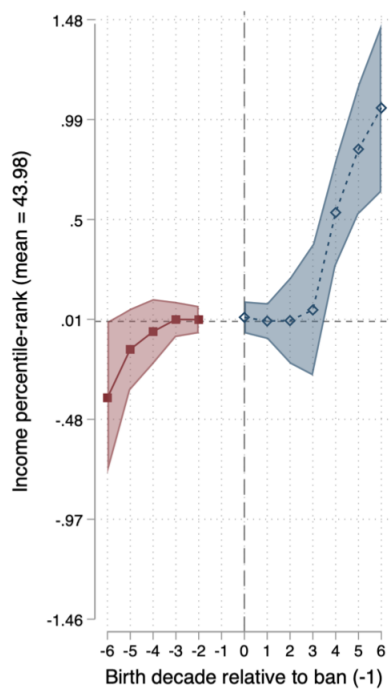
Figure 7: Impact of cousin marriage ban on location



Note: see the notes for Figure 6.

Source: Ghosh et al. (2022), reused with permission.

Figure 8: Impact of cousin marriage ban on income



Note: see the notes for Figure 6.

Source: Ghosh et al. (2022), reused with permission.

### 3 The family and cultural beliefs

In this section I discuss the key role of the family in transmitting cultural beliefs and how particular cultural practices of the family—marriage payments—can interact with shocks or policies. These papers demonstrate that it is only by understanding how culture both responds to and affects incentives that the heterogeneous effects of shocks and policies are likely to be uncovered and understood.

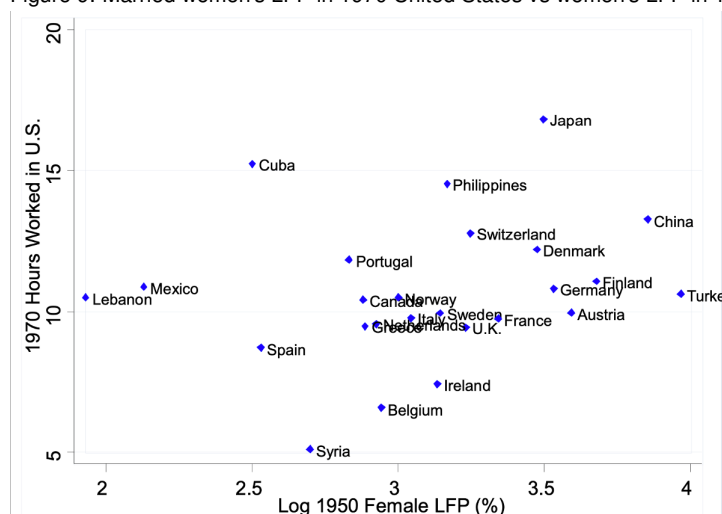
#### 3.1 The family and the transmission of culture

The family is the main transmitter of cultural beliefs. Its role has been key to showing the importance of culture in determining individual outcomes using what I have called the ‘epidemiological’ approach. The strategy used is to study outcomes for (usually) second-generation natives (i.e. those who were born in the country of residence but whose parents were born elsewhere) and to relate these to a proxy for cultural beliefs in the country of ancestry. The main idea underlying this approach is to exploit the greater transportability of the cultural beliefs of migrants relative to the transportability of their home-country institutions or economic environments in order to isolate the influence of culture (see Fernández and Fogli 2009). Here I briefly review the epidemiological approach.

To illustrate this methodology with a concrete example, take the case of women’s labour supply as studied by Fernández and Fogli (2009). In that paper, the authors examine the effect of cultural beliefs regarding gender roles by using the 1970 US Census to study the labour supply of married second-generation American women who live in the same city/town but whose parents were born in another country. Those parents will have passed on their cultural beliefs to their daughters. Given that these women face the same set of institutions and economic factors (e.g. transportation systems or the returns to women’s work by experience and education), if their choices differ in a systematic fashion by country of ancestry, this can reflect the different cultural beliefs transmitted by their parents regarding women’s roles.

The authors proxy culture using the female labour force participation rate in 1950 in the country of ancestry. Figure 9 shows the correlation between the average number of hours worked per week in the United States in 1970 by married women aged 30–40 from different countries of ancestry and female labour force participation (LFP) in 1950 in the country of ancestry.

Figure 9: Married women’s LFP in 1970 United States vs women’s LFP in 1950 by country of ancestry



Note: the y-axis shows the average number of hours worked per week for second-generation married American women aged 30–40 by country of ancestry. The x-axis shows the log of female LFP in 1950 in that country.

Source: graph compiled using data from Fernández and Fogli (2009).

Fernández and Fogli (2009) find a significant positive relationship between the individual woman's labour supply and female LFP (FLFP) in her country of ancestry. An important concern with this approach is that other variables (human capital, wealth, etc.) may also differ by country of ancestry and that these, in addition to cultural beliefs, are transportable and passed on intergenerationally. The authors allay this concern by studying a narrow age range of women and controlling for their education since the latter may reflect the human capital of their parents or income/wealth differences that differ systematically across countries. Of course, by doing so they also dampen the effect of culture since, *ceteris paribus*, women who wish to work are more likely to value education. They also control for a host of other important variables such as parental education (from a different data set), as this could also affect unobserved human capital transmitted to their daughter. They also include husband characteristics such as his age, education, and income as, although these are endogenous, they may be driving the relationship if women from backgrounds with higher FLFP also have characteristics that make them less likely to marry higher-income men (and thus be more likely to work). Lastly, they show that for women who participate in the labour market there is no relationship between the cultural proxy and wages (after controlling for age and education), making it even more unlikely that there is unobserved human capital by country of ancestry that is driving the results.

The epidemiological approach has been used to study a wide variety of outcomes such as married women's LFP and fertility (Alesina et al. 2013; Fernández 2007; Fernández and Fogli 2009), the gender gap in maths scores (Dossi et al. 2021; Nollenberger et al. 2016), the incidence of intimate partner violence (González and Rodríguez-Planas 2020), son preference and sex-selective abortion (Almond et al. 2013), and the tradition of matrilocality and patrilocality (Bau 2021), among many others.<sup>8</sup>

### 3.2 Cultural practices: marriage payments

The cultural practices of families vary across ethnicities and regions for many reasons, including that historically they may have helped compensate for missing markets. We now turn to a particular practice: marriage payments. Payments at the time of marriage were common throughout the world and can typically be classified as bride price or dowry. Bride price payments are widespread in Sub-Saharan Africa and dowry is still practised widely in South Asia and particularly India. These family institutions/practices can have important consequences for policies or how an economy reacts to an environmental or technological shock.

#### *Bride price*

Ashraf et al. (2020) provide a very nice example of how a policy can have different consequences depending on family culture. Consider a bride price practice in which a payment is made by the husband or family of the husband to the wife's parents upon marriage. One motivation for this practice is that it may allow imperfectly altruistic parents to capture the marriage market returns to education, incentivizing them to invest more in their daughters' education. The authors investigate this hypothesis in the contexts of both Indonesia and Zambia, in which there are ethnic groups that traditionally practice bride price but also ethnic groups that do not. In neither country does any group practice dowry.

The authors start by documenting that in both countries matching is assortative in education for both bride-price and non-bride-price groups, which is not surprising as that is the case everywhere. Furthermore, girls receive more education if they belong to an ethnic group that traditionally practised bride price. Lastly, the bride price increases with education.

Next, the authors examine the consequences of school expansion programmes in both countries. In Indonesia they turn to the INPRES primary school construction programme, which was initiated in

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<sup>8</sup> See Fernández (2011) and Bau and Fernández (forthcoming) for reviews.

1973. This programme had been studied previously by Duflo (2001), who found a positive effect on boys' education. First, Ashraf et al. (2020) estimate the effect of the school construction programme by including an indicator dummy for whether an individual was born in a young cohort (1968–72), who would be completely treated by the programme, as opposed to an old cohort (born 1950–62), who would be too old to be treated, and interacting this dummy with a measure of intensity of school construction in the district (as measured by the number of schools built over this period (per 1,000 school-age children)).<sup>9</sup> They also control for birth-year and district fixed effects, as well as a birth-year fixed effect interacted with district-level covariates. Examining all females, they do not find any effect of the INPRES programme on women's education. When they distinguish between women from traditional bride-price ethnicities versus other ethnicities, however, they find a robust positive effect on primary school enrolment for the former and no effect for the latter.

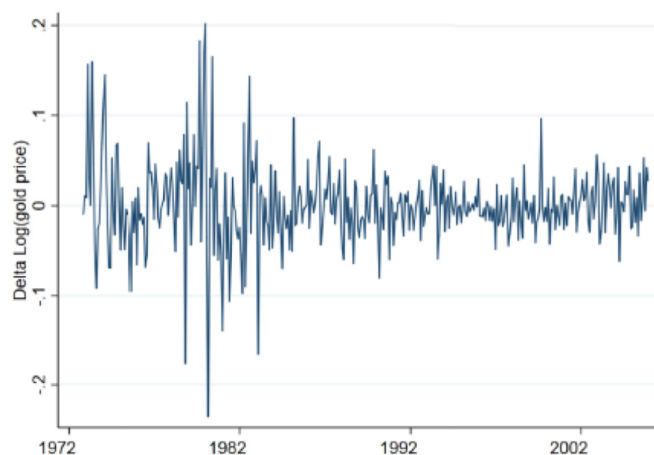
A similar exercise for Zambia using a large school construction programme that was rolled out over a longer period yields similar asymmetric results for women: those from bride-price ethnicities increase their schooling whereas others do not.

### *Dowry*

The practice of dowry has disappeared in most of the world but persists in contemporary India, despite being prohibited since 1961, and has become more common in Bangladesh, Pakistan, and Sri Lanka. Historically, dowry was primarily a bequest of parental property to the bride, but nowadays dowries are often appropriated by the groom and his family (Anderson and Bidner 2015) and thus act like a groom price. In India, these payments are large, often 4–8 times annual household income, and families start to save for the dowry upon the birth of a girl (see Anderson 2007). This 'tax' on girls is hypothesized to contribute to son preference.

Bhalotra et al. (2020) investigate this idea by studying the effects of an exogenous increase in the cost of dowry. They make use of the fact that gold is an important component of dowry with a price determined on a world market, and show that the change in its price follows a random walk, as shown in Figure 10.

Figure 10: Change in the log of the monthly real price of gold



Source: Bhalotra et al. (2020), reused with permission from Elsevier.

<sup>9</sup> The authors follow Duflo (2001) and omit the in-between cohort who might be partially treated.

The main argument put forth by the authors is that an increase in the price of gold makes daughters more expensive (and perhaps makes sons less so), potentially leading parents to want fewer girls.<sup>10</sup> Note that in order for this argument to hold, it must be that the nominal value of the dowry does not fully adjust when the price of gold changes. Indeed, the authors estimate that the price elasticity of dowries is 0.8, meaning that 80 per cent of the increase in the price of gold is passed on to the value of the dowry.<sup>11</sup>

The authors examine a series of outcomes to test whether quasi-random changes in the price of gold generate changes in the demand for boys versus girls. They estimate:

$$y_{itms} = \alpha + \beta \cdot \Delta \ln P_{tm} + \lambda \cdot \Delta \ln P_{tm} \cdot f_i + \eta'(Z_{tm} \cdot f_i) + \gamma' X_{itms} + \theta_t + \kappa_m + \theta_s + \varepsilon_{it}$$

where  $y_{itms}$  is the outcome of interest for individual  $i$  born in month  $m$  in year  $t$  in state  $s$ .  $\Delta \ln P_{tm}$  is the difference in the log of the real price of gold in the month and year of birth  $tm$ , and  $f$  indicates a female child. The vectors  $\theta_t$  and  $\kappa_m$  are year and month fixed effects, whereas  $X_{itms}$  contains the main effect for a female child, state indicators, caste, birth order, and sex of eldest sibling, and  $Z_{tm}$  includes time series controls.

The authors study outcomes for the second-born child as there is evidence that families desire one girl and there is potentially greater selection in unobservable family characteristics for families with more than two children. Importantly, they differentiate outcomes across two periods: 1972–85 and 1985–2005, where the differentiation is based on access to ultrasound in the later period, which then allows prenatal sex selection.

Bhalotra et al. (2020) show that in the earlier period an increase in the price of gold is associated with an increase in girls' neonatal mortality, whereas there is no effect in the post-1985 period in which ultrasound is available.<sup>12</sup> Turning next to the post-1985 period characterized by ultrasound availability, the authors show that increases in the price of gold (in the final trimester relative to the preceding one) are associated with a fall in the female to male sex ratio at birth.

Bhalotra et al. (2020) provide further evidence for the main mechanism. They show that excess girl mortality is driven by Hindu families. Muslim and Christian families do not have the long-standing dowry traditions of Hindus. Similarly, they show that only Hindu families practice prenatal selection in response to gold prices. Lastly, the authors show that gold price changes averaged over the year of birth of a child leads to women being shorter as adults but has no effect on men, despite the fact that girls that survive to adulthood are positively selected.<sup>13</sup>

## 4 Cultural change

Culture is not static nor are beliefs uniformly held. Shocks to an economy or simply its evolution over time (e.g. becoming more urban) that change incentives can lead some individuals to deviate from prescribed behaviour, cause others to not monitor or inflict punishment on those who do, or even incentivize people to acquire more information and rethink their beliefs. All of these create pressure

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<sup>10</sup>The authors specify an 'unexpected' increase in the price of gold, but the argument does not require it.

<sup>11</sup>Silver also plays an important role in dowry, but the price of silver closely tracks that of gold, as documented by Bhalotra et al. (2020).

<sup>12</sup>The change in the log of the price of gold is the month of birth of the child relative to the preceding month. Neonatal mortality indicates whether the child did not survive past the first month after birth.

<sup>13</sup>The potential positive selection stems from having survived infancy despite the higher gold prices and the bias towards girls.

for cultural practices and beliefs to change. In this section I examine two examples of shocks to the environment that changed culture.

#### 4.1 Cultural change: matrilocality, patrilocality, and pension policy

Bau (2021) studied the effect of introducing pension plans in two countries: Indonesia and Ghana. The first country has matrilocal and neolocal ethnic groups, whereas the second has patrilocal and neolocal ethnic groups. In matrilocal groups, upon marriage the couple goes to live with or near the parents of the bride; in patrilocal groups they live with or near the parents of the groom. In neolocal ethnic groups the couple establishes a new residence.

The author hypothesized that matrilocal and patrilocal cultural practices have two important effects. The children provide parents with care as they age and this, in turn, gives parents an additional incentive to invest in the human capital of girls (in the matrilocal case) and of boys (for patrilocal groups). The introduction of a pension plan could have unintended negative effects in that case as it could decrease the incentive of parents to invest in the human capital of their child. It could also lead to weaker incentives to continue to practice matrilocality (or patrilocality). Indeed, as Bau shows, both things happened.

The paper compares whether a daughter vs a son is enrolled in school (including college) at age 5–22 *within the same household*, interacting a dummy for a girl with a dummy for whether the household is from a matrilocal ethnicity in Indonesia (and with a patrilocal dummy in Ghana). In addition, the regression controls for geographic and age fixed effects, parental education and socioeconomic status, other ethnicity controls such as whether a group practices bride price or polygamy, etc., all interacted with the sex of the child. By examining the gender gap in schooling within the same household, the regression controls for other household-level variables or access to schooling that could be correlated with ethnicity-level cultural practices. The author finds that the household gender gap favours girls in Indonesia (matrilocal) and boys in Ghana (patrilocal), thus confirming that the practice favours the human capital investment in the child that will be living in the parental residence upon marriage.

Turning next to the impact of a pension plan, the author mostly studies the introduction of Astek (founded in 1977) in Indonesia. Astek developed insurance and pension funds for employees of medium and large firms (those with more than 100 employees). Employees were required to save 1 per cent of their earnings, which was then matched with a 1.5 per cent contribution by the employer.

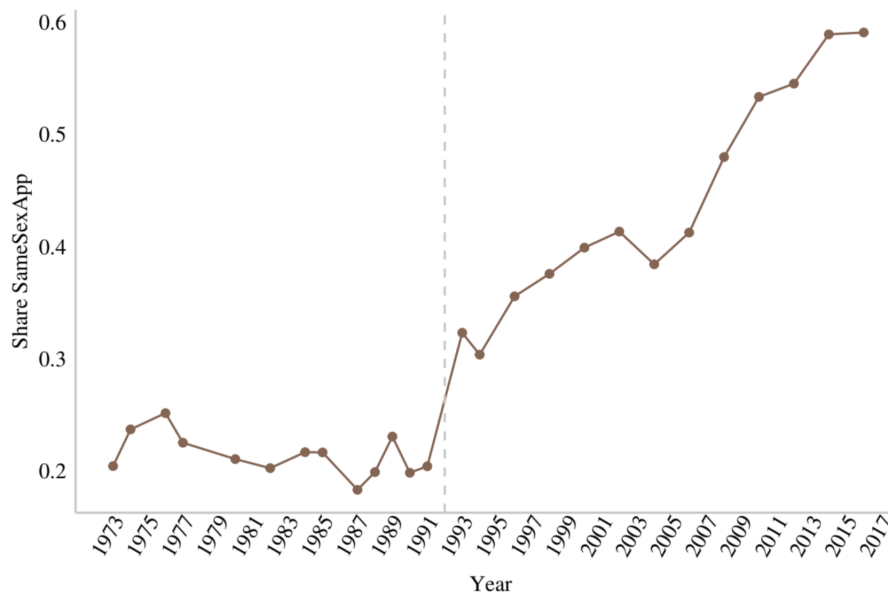
Bau uses a triple-difference strategy to study the effect of Astek on women, differentiating between (1) daughters that were too old to have their education affected by the plan and those that weren't; (2) areas that were treated more versus less intensively by the plan; and (3) whether the woman belongs to a traditional matrilocal ethnic group. The analysis finds that completion of both secondary and tertiary education falls for fully treated matrilocal females (relative to non-matrilocal females). Furthermore, the plan affected culture: the practice of matrilocality (as measured by whether the daughter resides in the same household as her parents) decreased.

Ghana provides the author with a further test of her hypothesis by allowing the study of a different pension plan (NRCD 127 in 1972) in a different country. Unable to observe geographic variation in the introduction of the plan, the author relies on cohort variation in the degree to which sons were treated (i.e. young enough to have their education affected) and whether the ethnic group practised patrilocality. She finds that exposure to the pension plan reduced primary school completion for patrilocal males as well as the practice of patrilocality. Further comparing male versus female education (a triple difference), she finds schooling was reduced for patrilocal males relative to patrilocal females.

## 4.2 Cultural change: same-sex relationships

Attitudes towards same-sex relationships have become much more positive over the last decades. As Figure 11 shows, however, this positive evolution was not always the case. Between 1973 and 1991 attitudes towards same-sex relationships in the United States, as captured by the response to the General Social Survey (GSS) question ‘Is it wrong for same-sex adults to have sexual relations?’ barely changed. Between 1991 and 1993 the share of respondents who answered either ‘never wrong’ or ‘sometimes wrong’ (instead of ‘always wrong’ or ‘almost always wrong’) to that question shot up dramatically and thereafter continued to increase over time.

Figure 11: Approval of same-sex relationships



Note: the y-axis shows the share of respondents who answered either ‘never wrong’ or ‘sometimes wrong’ (instead of ‘always wrong’ or ‘almost always wrong’) to the question ‘Is it wrong for same-sex adults to have sexual relations?’ The sum of the two shares is called SameSexApp.

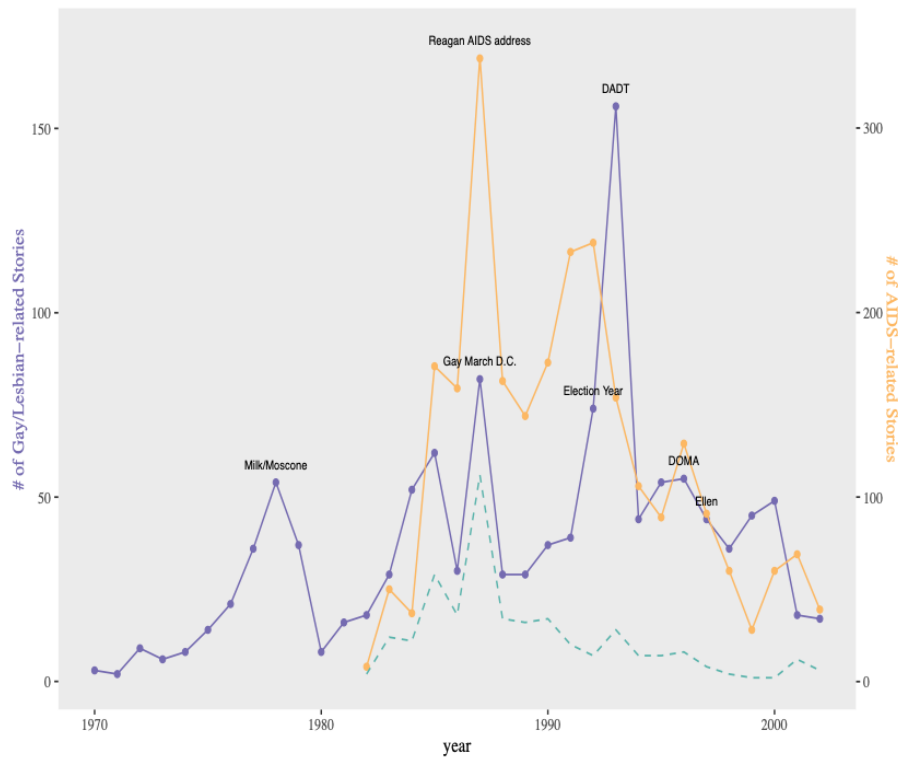
Source: Fernández et al. (2021) using GSS data.

Fernández et al. (2021) argue that this discontinuity, and the process of cultural change that followed it, was the result of the public debate that took place starting with the 1992 presidential election in the United States. More precisely, they start with a shock: the AIDS epidemic, which began in 1981. Although AIDS did not increase approval of same-sex relationships (on the contrary), it unified gay individuals behind a common cause: finding a cure for AIDS. Gay communities organized behind greater access to experimental treatments, insurance for same-sex partners, anti-discrimination legislation, etc. There was concerted effort at local levels to make the Democratic Party more responsive to their concerns, and under Bill Clinton the Democratic Party platform at the national convention in 1992 explicitly endorsed the right of gay individuals to serve openly in the military. The Republican Party platform took the opposing stand and the debate continued in Congress during the first year of Bill Clinton’s presidency, culminating at the end of 1993 with the ‘compromise’ of ‘don’t ask, don’t tell’.

The public attention given to the debate can be seen in the yearly evolution of the number of gay-related stories carried in the evening news by the main TV channels of that period (ABC, CBS, and NBC) as identified by keywords relating to the gay community (the purple line measured on the left-hand axis of Figure 12) which clearly spikes in 1993. The yellow line measures the number of news stories related to AIDS. The overlap between the two is given by the dashed line, which shows clearly that the spike is not due to more AIDS stories in that year. A similar pattern is seen in the yearly share of gay-related stories (as identified via keywords) for a panel of 59 newspapers (Figure 13). Once again, a large spike is seen in 1993.

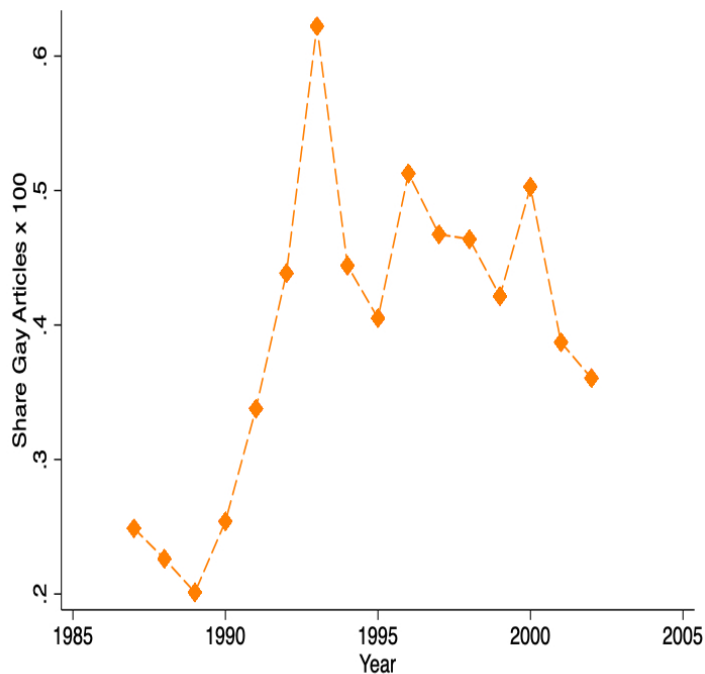


Figure 12: Evolution of the number of evening news stories on ABC, CBS, and NBC related to the gay community (left axis) and AIDS epidemic (right axis)



Source: Vanderbilt News Archive.

Figure 13: Evolution of the yearly average share of articles across newspapers on topics related to the gay community (multiplied by 100) for the same 59 newspapers



Source: Newsbank, from Fernández et al. (2021).

Fernández et al. (2021) hypothesize that the public debate in 1992–93 and the far greater salience of gay-related issues led people to reconsider their positions, initiating a process of cultural change and

diffusion of different values over time.<sup>14</sup> As the presidential election and the subsequent congressional debate occurred at the national level, the authors obtain variation via the hypothesis that individuals from places (states/counties) with greater exposure to gay individuals—and therefore to greater mobilization at the local level—to more gay friends/acquaintances, and to more local news would be more affected by the national debate. This could happen either as a result of contact theory (Allport et al. 1954), whereby the population with greater contact with gay individuals could become more sympathetic to their cause, or simply as a result of the greater salience of these issues in those places.<sup>15</sup>

To measure exposure to gay individuals, the authors use two proxies: the cumulative rate of HIV cases by 1992 (per 100,000 inhabitants) and the proportion of households in the 1990 Census with a (same-sex) partner. They show that both at the state level and at the county level, individuals who live in places with greater exposure to gay individuals saw a significantly greater increase in their approval of same-sex relationships in the 1990s (relative to the 1970s) than places with lower exposure. This conclusion holds after controlling for age, income, sex, race, education, and the (categorical) size of the city/town in which the respondent lives, and is robust to either measure of exposure to the gay community. According to their interpretation, thinking about and debating what should be the role of gay individuals in the United States led people to reconsider their beliefs, something that was facilitated by the win-win nature of the issue and the fact that being gay crossed class, race, and ethnic lines. Whether as a parent, sibling, or friend of a gay individual, there was little to be gained by continuing to discriminate against individuals based on their sexual preferences, something that made it easier for individuals to question their prior positions.

## 5 Concluding remarks

This paper has used various examples from the existing literature to illustrate the important interactions between the family, its cultural practices and beliefs, and economic outcomes. How shocks and policies affect an economy depend on more than economic ‘fundamentals’. They also depend on how the family is organized, the family institutions that are in place, and society’s cultural beliefs. Family institutions vary widely across countries, as do social beliefs—one should not ignore this diversity and ask for general ‘external validity’ of policies without understanding the social context in which they operate. Much important work remains to be done, especially to understand how changes in both culture and the form of the family may shape future outcomes.

## References

Alesina, A., P. Giuliano, and N. Nunn (2013). ‘On the Origins of Gender Roles: Women and the Plough’. *Quarterly Journal of Economics*, 128(2): 469–530. <https://doi.org/10.1093/qje/qjt005>

Allport, G.W., K. Clark, and T. Pettigrew (1954). *The Nature of Prejudice*. Reading, MA: Addison-Wesley.

Almond, D., L. Edlund, and K. Milligan (2013). ‘Son Preference and the Persistence of Culture: Evidence from South and East Asian Immigrants to Canada’. *Population and Development Review*, 39(1): 75–95. <https://doi.org/10.1007/s11558-013-9400-0>

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<sup>14</sup> The authors show that this jump did not occur for other controversial issues such as preferences for women in the home, having a female or Black president, abortion, capital punishment, gun laws, and pre- or extra-marital sex.

<sup>15</sup> Another consequence of the AIDS epidemic and the greater mobilization of the gay community is that more individuals came out as gay. Fernández et al. (2021) use poll data from various sources to show that individuals were 25 percentage points more likely to acknowledge having a gay friend or acquaintance in the 1990s than in the 1980s and that this is not a consequence of age, sex, race, or education. This is consistent with more people coming out over time and/or more people being willing to state that they were aware of their friends’/acquaintances’ sexual preferences.

org/10.1111/j.1728-4457.2013.00574.x

- Anderson, S. (2007). 'The Economics of Dowry and Brideprice'. *Journal of Economic Perspectives*, 21(4): 151–74. <https://doi.org/10.1257/jep.21.4.151>
- Anderson, S., and C. Bidner (2015). 'Property Rights Over Marital Transfers'. *Quarterly Journal of Economics*, 130(3): 1421–84. <https://doi.org/10.1093/qje/qjv014>
- Ashraf, N., N. Bau, N. Nunn, and A. Voena (2020). 'Bride Price and Female Education'. *Journal of Political Economy*, 128(2): 591–641. <https://doi.org/10.1086/704572>
- Bau, N. (2021). 'Can Policy Change Culture? Government Pension Plans and Traditional Kinship Practices'. *American Economic Review*, 111(6): 1880–917. <https://doi.org/10.1257/aer.20190098>
- Bau, N., and R. Fernández (forthcoming). 'The Family as a Social Institution'. In S. Lundberg and A. Voena (eds), *Handbook of Family Economics*. Amsterdam: Elsevier.
- Bhalotra, S., A. Chakravarty, and S. Gulesci (2020). 'The Price of Gold: Dowry and Death in India'. *Journal of Development Economics*, 143: 102413. <https://doi.org/10.1016/j.jdeveco.2019.102413>
- Brown, N., T. McIlwraith, and L.T. de González (2020). *Perspectives: An Open Introduction to Cultural Anthropology*. Arlington, VA: Society for Anthropology in Community Colleges.
- Dossi, G., D. Figlio, P. Giuliano, and P. Sapienza (2021). 'Born in the Family: Preferences for Boys and the Gender Gap in Math'. *Journal of Economic Behavior & Organization*, 183: 175–88. <https://doi.org/10.1016/j.jebo.2020.12.012>
- Duflo, E. (2001). 'Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment'. *American Economic Review*, 91(4): 795–813. <https://doi.org/10.1257/aer.91.4.795>
- Fernández, R. (2007). 'Women, Work, and Culture'. *Journal of the European Economic Association*, 5(2–3): 305–32.
- Fernández, R. (2011). 'Does Culture Matter?' *Handbook of Social Economics*, 1: 481–510. <https://doi.org/10.1016/B978-0-444-53187-2.00011-5>
- Fernández, R., and A. Fogli (2009). 'Culture: An Empirical Investigation of Beliefs, Work, and Fertility'. *American Economic Journal: Macroeconomics*, 1(1): 146–77. <https://doi.org/10.1257/mac.1.1.146>
- Fernández, R., S. Parsa, and M. Viarengo (2021). 'Coming Out in America: Thirty Years of Cultural Change'. Working Paper. Available at: [http://applied-microecon.wp.st-andrews.ac.uk/files/2021/09/comingout\\_revision\\_september2021.pdf](http://applied-microecon.wp.st-andrews.ac.uk/files/2021/09/comingout_revision_september2021.pdf) (accessed 31 December 2022).
- Ghosh, A., M. Hwang S.I., and M. Squires (2022). 'Economic Consequences of Kinship: Evidence from US Bans on Cousin Marriage'. Working Paper. Available at: <https://app.scholarsite.io/munir-squires/articles/economic-consequences-of-kinship-evidence-from-us-bans-on-cousin-marriage> (accessed 31 December 2022).
- González, L., and N. Rodríguez-Planas (2020). 'Gender Norms and Intimate Partner Violence'. *Journal of Economic Behavior & Organization*, 178: 223–48. <https://doi.org/10.1016/j.jebo.2020.07.024>
- Hoff, K., and A. Sen (2006). *Poverty Traps*. Princeton, NJ: Princeton University Press.
- Moscona, J., N. Nunn, and J.A. Robinson (2020). 'Segmentary Lineage Organization and Conflict in Sub-Saharan Africa'. *Econometrica*, 88(5): 1999–2036. <https://doi.org/10.3982/ECTA16327>
- Nollenberger, N., N. Rodríguez-Planas, and A. Sevilla (2016). 'The Math Gender Gap: The Role of Culture'. *American Economic Review*, 106(5): 257–61. <https://doi.org/10.1257/aer.p20161121>
- Nunn, N. (2012). 'Culture and the Historical Process'. *Economic History of Developing Regions*, 27(suppl. 1): 108–26. <https://doi.org/10.1080/20780389.2012.664864>
- Schulz, J.F., D. Bahrami-Rad, J.P. Beauchamp, and J. Henrich (2019). 'The Church, Intensive Kinship, and Global Psychological Variation'. *Science*, 366(6466). <https://doi.org/10.1126/science.aau5141>