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# STICKY TRADITIONS:
# ORIGIN, PERSISTENCE, AND EVOLUTION OF CULTURAL NORMS

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Sticky Traditions: Origin, Persistence, and Evolution of Cultural Norms
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## ABSTRACT

This chapter reviews the growing literature on the origin, persistence and evolution of cultural norms. I begin by examining the deep historical forces that shape the formation of cultural norms, with particular attention to the role of geography, pre-industrial societal characteristics, political institutions, and historical shocks. I then analyze the mechanisms through which cultural norms persist and evolve, emphasizing the roles of vertical, horizontal, and oblique transmission. Next, I examine the complex interaction between culture and institutions, and discuss the conditions under which cultural norms change. Several conclusions emerge. Cultural norms tend to persist over remarkably long periods, though the speed of change varies significantly across traits. Norms rooted in deep historical values are the most resistant to change, while attitudes related to pro-sociality and redistribution adapt more quickly. Understanding the origins and persistence of cultural norms has important implications for policy: policies that fail to account for local cultural context risk being ineffective or generating unintended consequences, while well-designed interventions can successfully shift cultural norms. Finally, I discuss the growing evidence on cultural mismatches — situations where norms that were adaptive in historical environments become maladaptive in new contexts — and outline directions for future research.

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## 1. Introduction

Societies around the world exhibit striking variations in their fundamental cultural beliefs—from attitudes toward women's participation in the labor force to levels of interpersonal trust, from the centrality of family structures to expectations around community cooperation. These differences persist even among nations with comparable institutional frameworks and levels of economic development. While some cultural patterns have persisted for generations, others have undergone rapid changes within relatively brief historical periods.

The economics discipline has increasingly turned its attention to understanding these cultural phenomena, drawing insights from anthropology, psychology, and evolutionary theory, to examine how cultural norms emerge, persist, change, and influence economic outcomes. This interdisciplinary approach combines theoretical modeling with empirical analysis to uncover the mechanisms behind the formation and transmission of cultural norms.

This chapter examines recent economics research that tries to understand the origin, persistence and evolution of differences in cultural norms. Where do these differences come from, and what historical and evolutionary forces account for cultural differences that we observe across societies? How deep into the past must we look to understand contemporary cultural patterns? Under what circumstances do cultural norms shift, and at what pace do these changes occur?

In economics, the standard measure of culture used refers to "those customary beliefs and values that ethnic, religious and social groups transmit fairly unchanged from generation to generation" (Guiso, Sapienza and Zingales, 2006, p. 23). This definition emphasizes the view that cultural norms are persistent. Within the cultural evolution literature, the standard definition of culture is "the transmission from one generation to the next, via teaching and imitation, of knowledge, values, and other factors that influence behavior. Cultural transmission may have a variety of structures… For example, parents may enculturate their offspring or peers may enculturate each other" (Boyd and

Richerson, 1985, p. 2). One might think about culture as a collection of rules of thumb—decision-making tools that humans have developed to navigate complex and uncertain situations. Since gathering information is costly, people rely on these mental heuristics to guide their choices efficiently. These "fast and frugal" decision-making strategies (Gigerenzer and Goldstein, 1996; Gigerenzer et al., 1999) often manifest themselves as intuitive feelings about appropriate behavior: whether to trust others, the value of honesty, attitudes toward gender roles in the workplace, or the importance of sanctioning community rule-breakers.

The evolutionary models developed by Boyd and Richerson (1985, 2005) show how these beliefs can emerge optimally through processes resembling natural selection, where different cultural traits compete based on their relative advantages. Different cultural norms evolve based on relative costs and benefits, and the processes of evolution are usually slow moving.

Before describing the empirical research on the determinants, persistence and evolution of cross-societal differences in cultural traits, I use a conceptual framework that will help in interpreting the empirical work reviewed in this chapter. The mathematical theory has been developed in anthropology by Boyd and Richerson (1985) and Rogers (1988) and recently applied by Giuliano and Nunn (2021). The theory models a situation where individuals must choose the optimal action, which is not known with certainty when the environment is variable. Individuals can either gather information independently, which is very costly (the innovators), or adopt the cultural norms that have proven successful for previous generations (the traditionalists). The process of social learning comes from copying the action of a representative (randomly chosen) person from the previous generation. The theory shows that populations will typically include both types—some who innovate and others who follow established traditions (Boyd and Richerson, 1985, 2005; Rogers, 1988). These theoretical insights reveal why culture serves such an important function: it enables societies to accumulate and preserve valuable knowledge across time through cultural transmission. Cultural norms provide

efficient decision-making shortcuts that have been refined through generations of trial and error. The models also explain culture's tendency toward persistence. Since cultural traits evolve based on their relative benefits, changes occur gradually rather than instantaneously, even when environmental conditions shift. This creates a mechanism through which historical circumstances can influence contemporary behavior—distant events may shape cultural norms that continue to affect economic development today.

Some of the existing empirical research has emphasized how cultural traits can originate in political, technological or geographical features of the very distant past, and often act as a channel through which the past can affect today's development. Other authors have suggested instead that cultural norms can change quickly. The empirical evidence supports both possibilities, suggesting that the speed of cultural evolution may depend on specific circumstances and the nature of the cultural traits in question.

This chapter provides a survey of the body of research on the origins, persistence and change of cultural norms. I begin in Sections 2 and 3 by reviewing the literature on the origin of cultural norms, focusing the chapter on the importance of geography, historical pre-industrial characteristics, political institutions and historical shocks. Sections 4 and 5 then survey the precise channels of persistence, with a special emphasis on the relationship between culture and institutions. Whereas most of the literature has documented persistence, several studies have studied the importance of changes in cultural norms, and how policies can alter them, the topics of Sections 6 and 7. Because culture evolves slowly, cultural norms may prescribe actions that are no longer optimal for present-day environments. This potential mismatch between culturally dictated and contextually appropriate behavior is the focus of Section 8. Section 9 concludes with potential implications for policy and direction of future research.

## 2. Geography and Environmental conditions

The variation in cultural traits across the globe makes it natural to ask what determines such differences. I start by discussing the deep origins of cultural norms, with particular attention to the role of geography and environmental conditions. Shaped entirely by nature and exogenous to human activity, geography represents the most primitive determinant of cultural norms, operating through factors such as pathogen prevalence, soil, and climate. An important insight from this literature is that geography can affect cultural norms either directly or through mediating factors such as agricultural technology. While its exogeneity is a key advantage for identification, the most compelling studies go beyond documenting correlations to clarify the specific causal mechanisms through which geography shapes the beliefs and practices we observe across societies today.

Alsan (2015) considers a potential explanation for Africa's low population density historically, the tsetse fly. The fly transmits the parasite trypanosomiasis, which causes sleeping sickness in humans and nagana in domesticated animals. She focuses her attention on the ecological conditions that supported the tsetse fly, constructing an index of the historical suitability for the tsetse fly at the grid-cell level, a highly non-linear function of temperature and humidity using 19$^{th}$ century climate data. Analyzing variation across African ethnic groups, she shows that ethnicities in climates favorable to the tsetse fly were less likely to employ draft animals for trade and agriculture, more likely to rely on slave labor, and more inclined toward shifting cultivation rather than intensive agricultural methods or plough-based farming. Regarding cultural norms, the absence of plough agriculture was associated with higher female participation in agricultural work. Her findings provide compelling evidence that geographic suitability for the tsetse fly fundamentally shaped social norms and economic and political outcomes across African societies. Enke (2019) shows that the prevalence of pathogens is an important component to explain variation in the strength of kinship ties. Drawing on anthropological research (Henrich, 2020), he categorizes societies by kinship tightness—the degree to which

individuals are embedded in extensive extended family networks. In societies with tight kinship structures, effective cooperation occurs primarily within the in-group, while outsiders are viewed with distrust. In loose kinship societies, people do not favor the in-group and are more likely to interact with strangers. These differences in societal organizations also lead to differences in moral systems, with strong kinship societies developing moral systems emphasizing communal rather than universal values. Geographical differences are at the core of different forms of societal organizations and moral systems. A high local prevalence of pathogens is hypothesized to facilitate local interaction and tighter kinship, because traveling increases the risk of encountering infected organisms. Enke (2019) indeed finds that measures of malaria and tsetse suitability can explain a substantial fraction of the variation in kinship systems, including within-Africa analyses.

Gorodnichenko and Roland (2017) draw on biological and epidemiological data (as developed by Fincher et al., 2008) to argue that societies facing higher historical pathogen threats developed more collectivist norms that emphasize conformity, tradition, and protection from outsiders. In contrast, regions with lower pathogen prevalence fostered more individualist, open and innovative cultures.

Buggle and Durante (2021) show that historical weather variability in Europe generated greater returns to cooperation. Analyzing monthly climate data from 1500 to 2000 across European grid cells, they find that higher year-to-year variability in temperature and precipitation correlates with higher levels of trust today. Their findings further suggest that climatic volatility encouraged intercommunal exchange and the development of inclusive political institutions, which are associated with superior government quality today.

Soil characteristics have also been linked to diverse cultural norms. Talhelm et al. (2014) establish that rice farming historically fostered interdependent cultures, while wheat cultivation promoted independent cultures. These agricultural legacies continue shaping contemporary behavior. Galor and Ozak (2016) examine the link between the potential caloric yield of crops, determined by

agroclimatic conditions, and the rate of time preference. They find that regions with agroclimatic conditions conducive to higher pre-industrial crop yields developed lower time preferences (higher long-term orientation). In their view, selection and learning processes favored long-term planning for greater economic and reproductive success. The use of the Columbian exchange as a natural experiment helps them identify the historical link between caloric yield and time preferences.

Geography has been shown to be strongly correlated with differences in gender norms, either directly or through its relationship with agricultural technology (Alesina, Giuliano and Nunn, 2011, 2013, 2018; Carranza, 2014). A comprehensive analysis of the origin of various aspects of gender norms has been written by Alesina et al. (2011, 2013, 2018). The hypothesis for their empirical analysis comes from the seminal work of Ester Boserup (1970) on the agricultural origins of contemporary gender norms. Her fascinating book argues that societies employing plough agriculture saw men dominate fieldwork because of the strength required to use the plough, while women were relegated to domestic spheres. By contrast with shifting agriculture, which uses hand-held tools such as the hoe and the digging stick, women actively participate in work outside the home. These labor patterns generated cultural values that reinforced the existing gender division of labor. Plough-based societies developed norms restricting women's work outside the home, while non-plough societies did not adopt such restrictions. Remarkably, these beliefs persisted even as economies transitioned away from agriculture. The authors begin their analysis by examining ethnographic data from the *Ethnographic Atlas*, confirming that societies using the plough historically showed lower female participation in agricultural work. They then investigate how traditional plough use affects gender equality in the present day. This analysis required linking ethnographic data from over 1,200 ethnic groups with information on contemporary global language and dialect distribution. Examining variation across countries, districts, and ethnic groups, they show that regions with a history of plough agriculture exhibit lower female labor force participation, reduced female political representation, less female

entrepreneurship in firm ownership, and weaker public support for women working outside the home.

To establish causality, the authors employ agricultural soil suitability as an instrumental variable, a factor that influenced plough adoption but is unlikely to directly affect contemporary female labor force participation through alternative channels. Specifically, they use the geoclimatic suitability of ancestral locations for cultivating crops that either benefit from plough use or do not.[1] This instrumental variable approach confirms that the link between historical plough use and present-day gender norms regarding women's employment is indeed causal.

Plough-using societies also developed complementary social norms that differentiated women's roles, including polygamy. In female farming communities, men with multiple wives could cultivate larger areas than monogamous men, making polygamy more prevalent in shifting cultivation societies. Marriage customs also varied: dowry (payments from the bride's family to the couple) versus bride price (transfers from the groom's family to the bride's family). Dowry was more common where women contributed less to agriculture. In India, dowry obligations have fueled son preference over daughters (Das Gupta et al., 2003) and reduced investment in women's human capital, sometimes resulting in dowry-related violence when payments are deemed insufficient by the groom's family (Bloch and Rao, 2002). Veiling and female seclusion also commonly characterized plough societies. Giuliano (2015) shows that these pre-industrial patterns persist until today, and are reflected in contemporary inheritance rules, mobility restrictions, dress codes, and marital arrangements.

Carranza (2014) examines soil texture as an exogenous geographic determinant of gender norms. Drawing on Basant (1987), she argues that regions requiring deep tillage generate lower demand for female labor, as these areas need less transplanting, fertilizing, and weeding, activities traditionally performed by women. Her empirical analysis reveals that soil texture explains substantial

[1] Following Pryor (1985), crops are categorized as plough-positive (wheat, teff, barley, and rye) or plough-negative (sorghum, pearl millet, and foxtail millet). These cereals were selected for their comparability as Old World grain crops.

variation in women's agricultural participation. She further investigates geography's impact on sex ratios, finding that a 10-percentage-point increase in loamy versus clayey soils corresponds to 5.1% lower female agricultural labor force participation and a 2.7% lower female-to-male child ratio. These relationships remained stable between 1961 and 2001.

Geography also influences gender norms through language. Galor et al. (2020) show that agricultural characteristics favoring distinct gender roles (measured by caloric suitability for plough-positive versus plough-negative crops) promoted the emergence and prevalence of grammatical gender in languages. Subsequently, they show that this linguistic structure facilitated the transmission of gender role norms across generations.

The literature on geography's role in shaping cultural norms reveals a complex relationship between environmental conditions and the development of social beliefs and practices. Geographic factors—ranging from pathogen prevalence and climate variability to soil characteristics and terrain—have fundamentally influenced the types of norms that emerged across societies, with effects persisting remarkably into the contemporary period. A key insight is that geography operates through multiple channels: sometimes directly, and other times indirectly through its influence on agricultural technology, subsistence strategies, and patterns of social interaction. The strength of this literature lies not merely in documenting correlations between environmental conditions and cultural traits, but in carefully identifying the specific causal mechanisms—whether through plough technology adoption, kinship structures developed in response to pathogen threats, or cooperative norms emerging in climatically variable environments. While geography provides researchers with valuable exogenous variation for identifying causal effects, the most compelling studies explain precisely how and why geography matters, revealing the different ways through which environmental conditions have shaped the diverse set of cultural norms we observe across societies today.

## 3. Beyond Geography: Society, Institutions, and Historical Shocks

Moving beyond the physical environment, pre-industrial societal structures, political institutions, and historical shocks have each played a powerful role in shaping the cultural norms we observe across societies today.

*Pre-industrial societal characteristics* Pre-industrial characteristics have been studied as important determinants of cultural norms today.[2] There are many examples of such studies showing the importance of plough agriculture (Alesina et al., 2013), the tradition of a village democracy (Giuliano and Nunn, 2013), kinship network (Enke, 2019), matrilineal kinship (Gneezy et al., 2009; Lowes, 2022), the dowry versus the bride price (Boserup, 1970; Das Gupta et al., 2003), whether family ties are strong or weak (Alesina and Giuliano, 2010, 2014), or pastoralism (Cohen et al., 1996; Grosjean, 2014; Becker, 2025; Cao et al., 2025). Several of these studies consider pre-industrial traits as a mediating factor of geography or environmental characteristics (Alesina et al., 2013; Enke, 2019). Here I briefly discuss the remaining studies that look at the direct effect of pre-industrial characteristics on cultural norms, although the role of geography is often acknowledged as in Becker (2025).

Giuliano and Nunn (2013) show that pre-industrial traditions of local democracy—measured by consensus-based leader selection rather than hereditary succession—correlate with stronger contemporary support for national democracy, which in turn influences national institutional stability.

Matrilineality, where inheritance and lineage pass through female family members, is associated with improved outcomes for women. By controlling descent, women maintain the matrilineage's continuity, granting them greater resources and kinship network support (Lowes, 2022). This structure shapes cultural norms significantly. Gneezy et al. (2009) examine competitiveness by comparing the

[2] Several studies have looked at the relevance of pre-industrial characteristics on economic outcomes, such as the importance of the bride price for human capital investment (Ashraf et al., 2020), the relationship between patrilocality and gender equality (Jayachandran, 2015); family structure and domestic violence (Tur-Prats, 2019). In this chapter, I limit the description to scholarly work on cultural norms.

matrilineal and matrilocal Khasi society in India with the patriarchal Maasai in Tanzania. In their ball-throwing experiment, participants chose between non-competitive play or competing against an anonymous village member for all rewards. The two societies exhibited contrasting gender patterns in competitive behavior. Among the Maasai, 50% of men competed versus 26% of women—similar to Western patrilineal cultures. The Khasi reversed this pattern: 54% of women competed versus 30% of men.

The strength of family ties represents another historical structure underlying cultural norms. Alesina and Giuliano (2010, 2014) show that medieval European family structures correlate with contemporary gender roles. Strong family ties foster the male-breadwinner model, where family solidarity rests on unequal division of labor—men working full-time, women managing housework. Weak family ties promote egalitarian gender roles with equal participation in employment and domestic work.

Becker (2025) explores the connection between historical pastoralism—where husbands' extended absences created infidelity risks—and norms controlling women's authority and sexuality, including veiling and female genital cutting. Instrumenting historical pastoralism with land suitability for pastoralism relative to agriculture, the author finds that pastoral ethnic groups more frequently restrict women's mobility and sexual partnerships.

Pastoralist societies, where individuals must protect their own property and where aggressive behavior is necessary to defend herds, place particular emphasis on honor culture—the defense of one's reputation through aggression and violence if required. Cohen et al. (1996) first examined honor culture by studying violence differences between the US North, settled by farming groups, and the US South, settled primarily by Celts with prehistoric herding traditions. To investigate how honor-based values influence behavior, the researchers conducted experiments comparing white men from northern and southern states. Participants were deliberately provoked when an experimenter's

assistant bumped into them and used an insult, though subjects were unaware this was intentional. Regional differences in responses to disrespect emerged clearly. Southern participants exhibited stronger biological stress responses with elevated testosterone and cortisol levels, were more likely to perceive threats to their masculinity, and showed greater inclination toward aggressive responses. This indicated that southern men reacted more strongly to challenges to their honor and reputation than northerners.

While Cohen et al. (1996) compared only North and South, Grosjean (2014) conducted a non-experimental study examining variation across all US counties using historical census data. The research shows that contemporary county-level crime rates correlate with historical settlement by Scottish and Irish herders. The proportion of Scottish-Irish immigrants serves as a proxy for the prevalence of honor culture and associated violence transmitted across generations. Importantly, this relationship appeared only in the US South—an environment with low population density and weaker formal institutions where honor culture remained advantageous and therefore persisted. These findings suggest historical persistence may depend on the interaction between culture and institutions.[3]

Existing evidence on honor culture has focused on limited geographic areas and smaller-scale aggression like assaults and homicide. A primary difficulty in assessing revenge norms' importance for conflict is that while vengeance may fuel conflict, conflict likely induces vengeance, complicating causal identification. Cao et al. (2025) examine the relationship between traditional pastoralism, cultural and psychological tendencies toward revenge and punishment of unfair behavior, and contemporary civil and non-civil conflict. The authors first show that the historical connection between herding and a culture of honor holds globally: using *Ethnographic Atlas* data covering the entire world, they show that herding societies were more likely to develop a culture of honor and consider

[3] Attitudes toward violence may also influence socioeconomic behavior and success. Michalopoulos et al. (2019) show that, across Sub-Saharan Africa, more favorable attitudes towards violence for individuals whose ancestors were more reliant on herding relative to agriculture during the preindustrial are correlated with lower levels of education and wealth.

violence morally appropriate. They then show that globally, ethnolinguistic groups with herding traditions experience more frequent and severe contemporary conflict, including civil conflict, with evidence suggesting ancestral herding links to contemporary conflict largely through retaliatory mechanisms. Finally, to identify psychological mechanisms, they use global representative survey data documenting that herder descendants exhibit significantly stronger revenge-seeking and punishment tendencies.

Le Rossignol and Lowes (2022) examine how historical reliance on transhumant pastoralism affects cultural norms. Transhumant pastoralists, characterized by seasonal migration, require strong cohesion and display hostility toward out-groups beyond extended kin—a trait defined as moral universalism. Using global data and various empirical methods, the authors find that historical transhumant pastoralism predicts higher in-group trust relative to out-group trust. This pattern is specific to transhumant pastoralism rather than other economic activities and is more pronounced in regions affected by climate shocks and conflict.

The literature on pre-industrial societal characteristics shows that organizational structures and subsistence strategies from centuries or millennia ago continue to shape contemporary cultural norms today. These studies reveal remarkable continuity in social norms across vast time spans. A key insight is that pre-industrial characteristics often interact with both geographic factors and formal institutions to determine persistence: norms appear most durable when they remain functionally adaptive in current environments or when supported by complementary institutions. The causal identification strategies employed—ranging from natural experiments to instrumental variables exploiting ancestral characteristics—provide compelling evidence that understanding contemporary societies requires looking deep into their pre-industrial past.

*Political institutions.* Political institutions have significantly influenced the subsequent development of various cultural traits. For instance, former independent medieval city-states in

Northern Italy continue exhibiting higher levels of social capital today. Putnam (1993) pioneered the tracing of regional social capital differences across Italy to medieval free city experiences. Free cities developed early participatory democracy that guaranteed protection from aggression and public goods provision. Consequently, free city citizens cultivated strong civic and cooperative behaviors, transmitted across generations. Guiso, Sapienza and Zingales (2016) formally tested this hypothesis across 400 Italian cities, finding positive relationships between social capital measures and city independence during 1000-1300. Examining European regional variation, Tabellini (2008a, 2010) also identifies strong positive relationships between trust in others, respect for others, confidence in individual effort, and average institutional quality between 1600 and 1850. Heldring (2021), studying the precolonial Nyiginya Kingdom's long-term impact in Rwanda, finds that histories of state governance are associated with stronger obedience-to-authority norms.

Institutional impacts on culture are further evidenced by studies using regression discontinuity strategies focused on historically important borders now within single countries. Becker et al. (2016) traced local government trust differences to the Habsburg Empire, known for functional bureaucracy, versus the notoriously corrupt Ottoman Empire. Studying individuals living within the same country today but within 200 kilometers of the historical Habsburg border, the authors find that those on the Habsburg side exhibit greater trust and confidence in judicial and bureaucratic institutions. Grosjean (2011) examines location pairs within Eastern Europe, showing that longer shared Empire histories correlate with greater similarity in citizens' reported social trust today.

While most research finds that state institutions and societal norms are complementary, Lowes et al. (2017) suggest the two can be substitutes. They find that individuals whose ancestors belonged to the Kuba Kingdom, which had developed formal institutions, today exhibit weaker rule-following norms and greater cheating propensity, measured through anonymous die-rolling tasks. This finding aligns with cultural transmission models where parental effort to transmit values decreases when

formal institutions enforce socially desirable behavior (Bisin and Verdier, 2001).

This subsection has emphasized the role of institutions in shaping cultural norms. Several studies have also documented the reverse channel. In *Albion's Seed*, David Hackett Fischer (1989) studies US institutional evolution, documenting how cultural beliefs brought by four original settler migration waves generated stark legal differences. The Puritans (1629-1641), arriving from East Anglia and settling Massachusetts, emphasized universal education and order maintenance, introducing laws promoting education and justice. The Cavaliers (1642-1675), arriving from Southern and Southwestern England and settling Chesapeake Bay, emphasized group inequality as natural, introducing laws with low taxes, minimal government spending, and little educational emphasis. The Quakers (1675-1725), arriving from England's North Midlands and settling the Delaware Valley, emphasized personal freedom, establishing institutions focused on equal rights and limited government intervention. Finally, the Scots-Irish (1717-1775), arriving from Northern England, Scotland, and Ireland and settling the US South's backcountry, believed in freedom from constraint, promoting minimal government intervention and limited justice systems.

Greif (1994) examines the origins of collectivist and individualist culture among the Genoese and Maghribi. He argues that differences between these groups originated in enforcement strategies medieval merchants used to prevent opportunistic behavior by overseas agents during long-distance trade. Genoese merchants employed individual punishment strategies, whereas the Maghribi relied on collective enforcement. Crucially, Greif demonstrates that cultural traits subsequently shaped the development of formal institutions. Due to individualist cultural beliefs, the Genoese developed formal legal systems and organizations facilitating exchange. The Maghribi, conversely, continued relying on informal enforcement mechanisms and never developed large organizations due to collectivist cultural beliefs.

Along these lines, the most promising research on the relationship between culture and

institutions emphasizes feedback effects between the two. Institutions can be endogenous to original cultural differences, creating potential for interesting culture-institution interactions—a topic covered in Section 4.

*Historical shocks* Several papers have explored how historical shocks explain the origin and persistence of cultural norms. Guiso, Sapienza and Zingales (2008) develop a trust evolution model where values are transmitted from parents to children while learning occurs through economic transactions. This setting gives rise to multiple equilibria. In the "no-trust-no-trade" equilibrium, mistrust beliefs are intergenerationally transmitted, economic activity is limited, and individuals never learn the population's true trustworthiness. In the "trust-trade" equilibrium, trust beliefs are intergenerationally transmitted while economic activity and learning flourish. Here, a temporary trust shock can permanently shift a society between equilibria. Due to cultural trait dynamics and learning processes, temporary shocks can produce lasting effects.

The advent and fall of Communism in Central and Eastern Europe represents one of the most studied shocks permanently impacting the formation of cultural norms. Alesina and Fuchs-Schündeln (2007) find that East Germans remain more pro-government than West Germans after reunification, possibly due to indoctrination. Campa and Serafinelli (2019) provide compelling evidence that Communism, by promoting female employment in sectors like heavy manufacturing, created values reflecting greater gender equality. Lippmann, Georgieff and Senik (2020) complement this finding by showing that East German state policies more broadly dismantled traditional gender roles, and that the resulting egalitarian norms persisted well beyond reunification.

Nunn and Wantchekon (2011) examine the Trans-Atlantic and Indian Ocean slave trades' effects on trust, finding a negative relationship between individuals' reported trust in others (neighbors, relatives, local government, co-ethnics, and other ethnicities) and the number of slaves taken from each ethnic group. In terms of mechanisms, the slave trade could have adversely affected

trust through changes in cultural norms, making individuals less trustworthy, or by worsening legal and political institutions, subsequently reducing trust today. To study institutional deterioration, the authors examine individuals' trust in local government while controlling for perceived government quality, the extent of corruption, local councilor responsiveness, and public goods provision quality. To further distinguish whether the slave trade affects trust through culture versus institutions, they construct two variables: the average number of slaves taken from individuals' current geographic locations and the average number taken from individuals' ethnic groups, which moves with individuals. The first measure captures institutions, which are external to individuals and geographically fixed, while the second captures cultural beliefs internal to individuals. The results indicate that the slave trade adversely affects trust through both cultural norms and institutions, but the culture channel's magnitude consistently exceeds the institutions channel.

Another cultural consequence of the slave trade studied in literature is polygamy and gender norms more broadly. Because significantly more men than women were enslaved during the Trans-Atlantic slave trade, African sex ratios were substantially affected. Dalton and Leung (2014) and Fenske (2015) find a positive relationship between slave exports and the prevalence of polygamy. Teso (2019) finds evidence that the Trans-Atlantic slave trade, which substantially reduced prime-age men, affected contemporary attitudes about gender roles as women were forced into employment, military, and political positions traditionally held by men. Similar results do not appear for the Indian Ocean slave trade, which shipped more equal gender mixes overseas and therefore did not create comparable male shortages.

Another shock suggesting permanent effects long beyond temporary sex imbalance episodes is the early Australian settlement, studied by Grosjean and Khattar (2018). During the 18th and 19th centuries, larger numbers of male convicts were sent to Australia, producing severely male-biased sex ratios. The authors document that in localities with more male-biased ratios, women were less likely

to participate in the labor force and less likely to hold high-ranking occupations. Today, these same places exhibit lower female labor force participation, particularly in high-ranking occupations, and less equal gender norms. Cotton production in medieval China, the primary wage-earning occupation for women, represents another shock that empowered women and led to greater contemporary gender equality (Xue, 2024), measured using male-female sex ratios at birth.

Bazzi, Brodeur, Fiszbein and Haddad (2024) show that on the US frontier, skewed sex ratios were associated with lower female labor force participation, though working women held higher-status occupations. Contemporary surveys reveal that women still have lower labor force participation without greater leisure benefits and still spend more time on household work. Their interpretation suggests that gender roles did not change in this setting because women lacked family and friend support. The American frontier migration also explains the diffusion of individualism in the United States (Bazzi et al., 2020). The frontier, already attracting individualistic types, made them more individualistic and opposed to government intervention. Harsh conditions and abundant frontier resources rewarded self-reliance and innovation, key features of an individualist culture. The paper makes the interesting point that initial cultural traits and selection patterns were reinforced by adaptation to new environmental conditions where individualistic traits proved particularly adaptive on the frontier.

The literature on historical shocks indicates that temporary events can have permanent effects on cultural norms through mechanisms that lock societies into particular equilibria or create path dependencies in belief formation. A key insight is that shocks often work through multiple channels—directly altering cultural transmission and changing institutional structures—though the cultural channel frequently dominates. The persistence of shock-induced norms depends critically on whether they remain adaptive in new environments: norms reinforced by subsequent conditions (like individualism on the American frontier) persist more strongly than those that become maladaptive,

though even maladaptive norms can last for remarkably long periods when deeply embedded in cultural transmission processes.

Most research on the origin of cultural norms combines historical data, often from primary archival sources, with contemporary cultural trait measures from surveys or researcher-implemented experiments to test hypotheses. Despite the challenges posed by historical analysis, most papers reviewed above employ empirical strategies permitting causal identification rather than potentially biased correlations from omitted factors (reverse causality is less concerning since cultural norms are measured in the present). Analysis of cultural norms' historical origins demonstrates also how examining cultural differences from historical perspectives yields insights. Specifically, the papers reviewed above show that history matters and explains part of the persistence in cultural norms. While most long-run cultural determinant studies identify convincing causal estimates of historical factors, they tend to be weaker in identifying exact mechanisms behind the estimated effects. The next section reviews the literature on historical persistence emphasizing cultural transmission mechanisms over time.

## 4. Mechanisms of persistence

The existing literature has documented persistence in cultural norms over remarkably long periods. For instance, Voigtlaender and Voth (2012) show how plague-era pogroms help explain contemporary anti-Semitism. Most persistence studies begin by collecting new data about historical societal characteristics or specific historical episodes, then connect these data to contemporary outcomes matched through societies or locations to test whether historical determinants causally affect contemporary cultural norms.[4] Methodologically, cross-country approaches often motivate the

[4] See Giuliano and Matranga (2021), for a review on the types of historical data most commonly used and how they can be linked to modern outcomes.

analysis, but while advantageous for showing results across many countries, they face severe reverse causality and omitted variable bias problems. To address endogeneity, several papers propose instrumental variable strategies, though exclusion restrictions prove problematic since it is nearly impossible to find variables that affect economic outcomes solely through culture. When within-country variation in cultural norms exists, another strategy focuses on individual-level data allowing for the inclusion of country fixed effects. A third approach examines second-generation immigrants as a natural experiment—immigrants face destination country institutional and economic environments but bring the culture from their countries of origin with them.[5] As outlined previously, historical natural experiments, difference-in-differences, and regression discontinuity techniques also address endogeneity constraints. Finally, field or laboratory experiments where participant behavior depends on cultural origin isolate mechanisms through which culture affects behavior, though with limited external validity. The strongest papers combine several approaches.

Theoretically, understanding persistence requires analyzing how cultural norms form and transmit in societies—a topic studied across anthropology, economics, and sociology (see Cavalli-Sforza and Feldman, 1981; Cavalli-Sforza, 2001; Boyd and Richerson, 1985, 2005, forthcoming; Bisin and Verdier, 2011, forthcoming).

Research distinguishes three channels of cultural transmission: vertical, horizontal, and oblique. Vertical transmission refers to the transmission of values from parents to children. Horizontal transmission involves peer influence. Oblique transmission involves other channels like role models or teachers. Cultural transmission is determined by parental socialization and social imitation and learning outside the family. Parents optimally choose vertical socialization levels by weighing marginal benefits of children sharing their values against marginal socialization effort costs. If direct and indirect

[5] See Alesina, Giuliano and Nunn (2013), Algan and Cahuc (2010), Fernandez and Fogli (2009), Giuliano (2007), Miguel, Saiegh, and Satyanath (2011) for cultural transmission of gender norms, trust, female labor force participation, living arrangements, and violence.

socialization are substitutes, cultural differences persist. If complements, populations converge toward cultural homogeneity (Bisin and Verdier, 2001).

Most empirical studies examining second-generation immigrant behavior to study cultural persistence implicitly assume vertical transmission. The importance of culture is measured by the cultural norms in the countries of origin, with strong correlations between immigrant behavior and country of origin cultural measures interpreted as parent-to-child transmission of norms.

Recent work has examined horizontal transmission by studying how migrant beliefs spread to local populations. Giuliano and Tabellini (2025) examine the long-term effects of immigration on political ideology during the US Age of Mass Migration. Using variations in European immigrant presence across counties from 1900-1930, they find that areas with higher European immigration exhibit stronger contemporary preferences for redistribution and more left-leaning political beliefs. The authors' interpretation is that immigrants brought with them the preferences for redistribution from their countries of origin (measured by years of social-welfare reforms before immigration). Supporting the importance of horizontal cultural transmission, they find that the results are stronger when immigrants intermarry and residentially integrate with US-born populations, suggesting that under certain conditions, intergroup contact can reduce prejudice and bias (Allport, 1954), making natives more receptive to migrant influence.

Bazzi et al. (2023) study how 20th-century Southern White migration was associated with the diffusion of racist and conservative beliefs, with stronger results when intermarriage and residential integration with non-Southern Whites was more common. Horizontal transmission with this migrant group proved particularly strong because Southern Whites became destination elites and sorted to frontier locations where beliefs were more malleable. In a recent review, Bazzi et al. (forthcoming) systematically analyze conditions under which immigrants shape destination beliefs, concluding that the strength of cultural identity matters, but that immigrant influence also depends on factors like

access to influential occupations, the malleability of beliefs at destination, and the group size of migrants.

An interesting form of horizontal transmission can occur when the arrival of one group can alter the cultural boundaries between others. Fouka et al. (2022) and Fouka and Tabellini (2022) show that the arrival of a culturally distant migrant group can drive greater integration between distinct groups. Fouka et al. (2022) demonstrate that during the First Great Migration, the influx of Southern Black migrants into Northern US cities led to stronger European immigrant integration into American cultural identity, bridging previously ethnically distinct but racially similar native and immigrant populations. Fouka and Tabellini (2022) find similar integration dynamics responding to the arrival of Mexican immigrants decades later, between native-born Black and White Americans—where the arrival of non-American immigrants helped bridge racial divides among American citizens.

Forced migration has also affected cultural attitudes. Becker et al. (2020) study Polish expulsion from Kresy (then part of Poland) to Western Territories (from which Germans were expelled) resulting from post-WWII territorial boundary agreements. Having to leave their possessions behind fostered a greater appreciation for education among expelled Poles, which was transmitted across generations. Kresy descendants today have higher levels of education, are more likely to aspire to higher education for their children, and believe that freedom rather than material goods is the main condition for success in life. Miho et al. (2024) use Stalin's deportation of over two million ethnic Germans and Chechens from Western USSR to Central Asia and Siberia to study how deportee groups with very different gender norms influence local cultural values. Deportee assignment was based on local manual labor demand and was orthogonal to cultural characteristics. Cefala' (2022) shows that after Algeria's 1960 independence, the arrival of about one million French Algerians with pro-colonial sentiments, nationalist views, and political conservatism (so-called "pieds noirs") was associated with electoral support for right-wing parties. Menon (2023) shows that the post-WWII ethnic German

expulsion from Eastern Europe to Germany fostered a strong group identity, increasing support for radical parties.

A third cultural transmission channel beyond family socialization and peer pressure is the oblique channel, usually referring to the influence of highly respected individuals like religious and political leaders, innovators, or teachers. The empirical evidence has shown that oblique transmission can perpetuate existing norms, but the same channel can equally work in the opposite direction, accelerating cultural change. When role models break rather than reinforce prevailing norms, oblique transmission becomes a force for cultural change.

Dippel and Heblich (2021) examine the impact of the Forty-Eighters — leaders of the failed 1848-49 German revolution expelled to the US and who became influential during the American Civil War. As elite immigrants, the Forty-Eighters helped promote democratic and anti-slavery values, often using journalism and cultural organization participation to transmit values.

On the perpetuation of existing norms through oblique transmission, Carlana (2019) shows that teachers holding strong gender stereotypes, measured using the Gender-Science Implicit Association Test, reduce girls' performance in mathematics. Identification comes from random student assignment to teachers holding different gender stereotypes. The author collects Italian middle school data and studies three outcomes: standardized test performance in mathematics and reading, high school track choice, and degree of self-confidence. For math performance, one standard deviation increase in teachers' gender stereotypes increases the gender gap by 0.03 standard deviations. Teacher gender stereotypes are particularly detrimental for girls with lower initial performance. Literature teachers' stereotypes, however, don't affect reading standardized test scores. The second outcome is high school track. At the end of middle school, Italian students choose between vocational and more academic high school tracks. Carlana (2019) finds that girls exposed to gender-biased teachers are less likely to enroll in the most demanding high school track. The last outcome is self-

confidence. After collecting information for roughly 800 students, Carlana (2019) shows that the decline in self-confidence could be an important mechanism for teacher stereotyping effects on the math gender gap.

Lavy and Sand (2018) use random teacher assignment in Israeli primary schools. Teacher bias is calculated by comparing how they grade boys' and girls' classroom exams, where student gender is known, to national exam grading, where student identities (including gender) are unknown. The authors find that gender-biased teachers affect the math gender gap by improving boys' performance and reducing girls' performance, and that having a gender-biased teacher significantly affects advanced high school math course enrollment.

In contrast, Porter and Serra (2020) show that oblique transmission can accelerate change when role models break rather than reinforce prevailing norms. They find that exposure to female role models who majored in economics at the same university increased female enrollment in advanced economics classes and the likelihood to major in the field, with no effect on male students. Olivetti et al. (2020) provide complementary evidence, showing that peers' mothers' labor force participation shapes young women's own subsequent work decision, by examining US adolescent behavior. They provide fascinating evidence on both standard vertical transmission (how mothers influence children's gender roles) and oblique transmission (peers' mothers' influence). To study this question, they examine how the share of high school peers' working mothers affects women's work likelihood years later, controlling for their own mothers' labor supply. Using data from the *National Longitudinal Survey of Adolescent Health*, the authors find that school peers' mothers' labor supply matters after controlling for vertical transmission: one standard deviation increase in peers' mothers' labor supply is associated with an 8% increase relative to mean participation rates for sample women. In terms of mechanisms, the authors conclude that for girls, seeing large shares of working women during adolescence reinforces beliefs that work and family are compatible.

Taken together, the evidence on vertical, horizontal, and oblique transmission shows that cultural persistence is reinforced through multiple, mutually reinforcing channels, yet the same mechanisms that sustain norms can equally be redirected to challenge them, as the role model evidence makes clear.

## 5. The Interaction between culture and institutions

Some studies reviewed in Section 3 outlined not only how historical political institutions shape the formation of cultural norms, but also how cultural traits subsequently influenced the development of formal institutions (Greif, 1994). While scholars initially positioned culture and institutions as alternative determinants of economic development, the most promising current research documents important interactions between these two factors.

Tabellini (2008b) provides a formal model of the interplay between culture and institutions in which both are endogenous and co-evolve. The model features two potential cultural traits: generalized morality, which values cooperation broadly, and limited morality, which emphasizes cooperation only within immediate family and clan. Vertical transmission of these values is explicitly modeled with parents exerting costly effort to instill their values. Formal institutions enforcing cooperation are chosen endogenously through majority voting. Tabellini demonstrates that the co-evolution between culture and institutions generates strategic complementarity and multiple equilibria. A culture valuing cooperation prefers institutions strongly enforcing cooperation, which in turn increase the returns to cooperation, reinforcing this cultural trait. Conversely, a culture not valuing cooperation prefers institutions weakly enforcing cooperation, which decrease the returns to cooperation, in turn reinforcing a culture that does not value cooperation. This complementarity creates possibilities for multiple equilibria—one with limited morality and one with generalized morality.

While Tabellini (2008b) offers only a theoretical framework in this paper, three other papers investigating the feedback effects between culture and institutions also added an empirical component to their theoretical predictions. These three papers share a similar theoretical structure: two cultural traits transmitted vertically, and a political mechanism where individuals choose between different types of institutions. Aghion et al. (2010) examine the interaction between generalized trust, defined as beliefs about civic-mindedness, and regulation. The political mechanism allows communities to regulate entrepreneurial entry when expected negative externalities are large. Regulation is also implemented by government officials who demand bribes when un-civic. When people expect civic communities, they anticipate low regulation and corruption levels and become civic. When expecting un-civic communities, their expectations reverse. In the empirical section, the authors test both model predictions: the link from distrust to regulation, and the link between trust and the demand for regulation. The distrust-to-regulation link is examined using the socialist transition experiment, while the trust-to-demand-for-regulation link is studied using within-country survey evidence with country fixed effects accounting for country characteristics. Although both empirical parts have drawbacks (for transition economies, the end of communism could have caused changes beyond entrepreneurial activity liberalization driving trust changes; for the within-country analysis, omitted variables could drive both regulation demand and distrust), the paper convincingly shows that both links play important roles.

Aghion et al. (2011) examine contemporary labor markets, identifying a negative cross-country correlation between the existence of cooperative labor markets and the severity of the state minimum wage regulation. Trade unions decide whether to invest in the quality of labor relations; people vote to elect governments that set minimum wages; workers decide whether to join trade unions; wages are set by employers for nonunionized workers and through negotiation for unionized workers. In this framework, higher minimum-wage regulation reduces the benefits to workers of trying to cooperate

with firms. Therefore, more stringent minimum-wage regulations crowd out the degree of cooperation between workers and firms. In turn, less cooperative firm-worker relationships increase the demand for minimum-wage regulation. To identify the effect of attitudes on institutions, the authors use historical data on state attitudes toward labor-market relations in the nineteenth century and the quality of labor relations in OECD countries in 2000.[6] The authors find that attitudes affected institutions even after controlling for unemployment rates and other labor-market institutions (including replacement rates, benefit duration, employment protection, and tax wedges). To establish the opposite institutional effects on attitudes channel, the authors look at the impact of union density in the home country in 1950 on the current unionization attitudes of first- and second-generation US immigrants born after 1950.

Alesina et al. (2015) examine the positive relationship between the strength of family ties and labor-market regulation. Flexible labor markets require geographic mobility to maximize job opportunities. In societies with strong family ties, staying close to family is important, making free labor market mobility painful. Strong family ties societies prefer stringent labor market regulations, such as minimum wages and firing restrictions, because individuals with strong ties are less mobile and need protection from firms' monopsony power. A two-way effect exists between family ties and labor-market regulation: inherited strong family tie culture leads to preferences for labor-market rigidity; the latter makes teaching and adopting strong family ties optimal. The authors show how preferences for labor-market regulation are strongly associated with family values, even within countries. They also show that culture is more primitive than institutions by looking at the family

[6] The data on historical attitudes towards unions come from Crouch (1993), who classifies countries in three categories, hostile, neutral and favorable. Countries hostile to labor relations were countries where the central government needed to establish its authority over the Catholic Church and to confront all forms of organized interests, including worker organizations (France, Italy, Spain, and Portugal). Countries neutral regarding labor organizations were Belgium, Denmark, Norway, Sweden, Finland, the United Kingdom, and Ireland. Austria, Germany, the Netherlands, and Switzerland were countries where the state encouraged union involvement in the regulation of labor markets.

values that European descendants have inherited from descendants who migrated to the United States before 1940.

These three studies share their analysis of the two-way relationship between culture and institutions. Given this interdependence, both institutions and culture co-evolve, generating multiple stable equilibria with different self-reinforcing institutions and cultural norms. Despite these contributions, causal identification remains the central challenge in this literature. [7] Since culture and institutions co-evolve and generate multiple equilibria, it is very hard to find variation that shifts one without the other, as any instrument or natural experiment that affects institutions is likely to affect culture simultaneously, and vice versa. The strategies that come closest to breaking this feedback loop are those that exploit exogenous historical discontinuities. Natural experiments such as the fall of communism or the imposition of colonial borders create sharp breaks in institutional environments that were not chosen by the populations affected, making them plausible sources of exogenous variation. Regression discontinuity designs exploiting historical borders, as in Becker et al. (2016) comparing Habsburg and Ottoman subjects, isolate institutional variation across populations that are otherwise geographically and culturally similar. Instrumental variable strategies using pre-colonial or geographic characteristics, such as soil suitability or pathogen prevalence, provide another route, though exclusion restrictions remain a concern: geographic instruments in particular may affect contemporary outcomes through multiple channels beyond the cultural or institutional one of interest. The most convincing papers in this literature tend to combine several of these approaches and directly test the proposed mechanism, rather than relying on a single identification strategy.

[7] The papers using past cultural values as main dependent variable for current institutions (Aghion, Algan, and Cahuc 2011; Alesina et al. 2015) limit the issue of reverse causality, but a common factor could have caused both persistence in cultural traits and the development of a specific institution. The use of the end of communism is Eastern Europe as a natural experiment tried to improve on this strategy, but even in this case concerns remain that communism could have changed some other variables that also could have influenced institutions and cultural variables.

## 6. Evolution and change

The persistence literature indicates that historical shocks can modify cultural traits, yet little is understood about the conditions under which culture persists or changes, and which norms are more susceptible to change. Some initial studies addressed these questions. For instance, Voigtländer and Voth (2012) document anti-Semitic values and beliefs persistence in Germany between Black Death pogrom prevalence in the 14th century and various anti-Semitic sentiment measures in the early 20th century. Their analysis reveals that anti-Semitism persistence is considerably weaker among Hanseatic cities heavily engaged in trade. Grosjean's (2014) study of Nisbett and Cohen's (1996) culture of honor hypothesis, reviewed earlier, shows the persistent impact of Scotch-Irish honor culture impact, but only within Southern US states, where underdeveloped laws and institutions made honor culture more advantageous. Cao et al. (2025) find similar results in a global context, with effects stronger in countries with weaker institutions.

Alesina and Fuchs-Schündeln's (2007) were among the first studies addressing how rapidly culture evolves, by examining how quickly preferences for redistribution converged after German reunification. Former East Germans remained more supportive of redistributive policies; however, over time, the difference with West Germans declined. Di Tella et al. (2007) study another institutional factor that generates changes in values and beliefs: the effects of property rights on preferences for redistribution. The study finds that individuals receiving land titles adopted more individualistic and market-oriented beliefs, such as placing greater importance on money for happiness and believing that success can be achieved without collective support. The effect persisted twenty years later, compared to those not receiving such titles.

Giuliano and Spilimbergo (2025) review literature from sociology, social psychology and economics to study how aggregate shocks, including both economic shocks (such as recessions, inflation and trade shocks) and non-economic shocks (such as migrations, wars, terrorist attacks,

pandemics, and natural disasters), can shape preferences and beliefs. Economic shocks contribute to changes in political preferences, risk attitudes, and institutional trust. However, only shocks experienced during young adulthood permanently change beliefs. Additionally, economic shocks shift political preferences toward the political right, while non-economic shocks generate changes that are more context-dependent.

Laws and media represent other important sources of cultural change. Schulz et al. (2019) document long-term consequences of laws forbidding cousin marriage, introduced by the Roman Catholic Church starting in the early Middle Ages. Medieval Western Church exposure (but not Eastern Church exposure, which lacked the same policies) resulted in the breakdown of collectivistic norms associated with kinship and extended family, eventually creating WEIRD (Western, educated, industrialized, rich and democratic) psychology (Henrich et al., 2010). These new norms proved instrumental in subsequent Western European economic growth and political development (Enke, 2019; Schulz, 2022). Cantoni et al. (2017) provide another example of deliberate institutional attempts to shape culture, analyzing the consequences of a textbook reform aimed at shaping youth ideology in China. The new curriculum was associated with more negative views about democracy and political participation, whereas trust in government officials and free market skepticism increased.

Whereas in most cases laws had intended effects, Fouka (2019) and Wheaton (2022) document how beliefs can move in the opposite direction to what laws intended. After World War I, US states banned German language in schools. Fouka (2019) shows that, rather than increasing attachment to the United States, the laws reinforced immigrant identity. German immigrants were more likely to intermarry with other Germans, more likely to give children German first names, and less likely to volunteer for military service. Using data from the *American National Election Survey*, the *General Social Survey*, and *Gallup*, and considering every major US social policy law of the second half of the 20th century, Wheaton (2022) finds that values move in the opposite direction from what was intended for

every law change. More research is needed to understand when law changes are associated with desired attitude changes, or when they instead generate backlash.

Media are another important source of changes in cultural norms, sometimes spreading, sometimes eroding old ones. La Ferrara et al. (2012) estimate media effects on Brazilian fertility norms, exploiting the staggered rollout of soap operas across Brazil. They show that soap operas, which featured smaller than average families, had important effects on both fertility rates and norms about family size. Similarly, the staggered introduction of 3G internet in Nigeria studied by Garcia-Hombrados et al. (2026) provides evidence that exposure to global cultural content can accelerate the erosion of harmful norms: as internet access eroded the stigma around premarital sex, female genital cutting, which in this context was practiced primarily to prevent premarital sex, declined substantially, suggesting that norms erode when their social function loses value. Media can also work in the opposite direction: Wang (2021) shows that access to radio sermons by Catholic Priest Father Coughlin resulted in the spread of anti-Semitic and xenophobic views, which increased Nazi Party support during World War II.

Another way to examine changes in cultural norms is to compare immigrant culture across different generations. Algan and Cahuc (2010) study trust among different immigrant generations, finding that trust levels inherited from origin countries persist into the third and even fourth generation: immigrant grandchildren and great-grandchildren still exhibit trust levels mirroring their ancestors' home countries. Although persistence is statistically strong and robust, it weakens gradually across generations. Recent research has turned to questions of which traits persist and which traits are instead more malleable. Giavazzi et al. (2019) examine the persistence of various cultural traits among immigrants and their descendants using the US General Social Survey. Their analysis finds that the degree of cultural persistence varies significantly across different cultural traits. Attitudes related to pro-sociality — trustworthiness, helpfulness, and fairness toward others — display the highest degree

of convergence, as successive generations adapt to the norms of the new society in which they live. By contrast, attitudes toward politics and the role of government, sexual morality, and abortion exhibit the lowest degree of convergence, followed by religious attitudes. Attitudes about gender roles occupy an intermediate position, with attitudes toward the role of women in the labor market converging faster than those related to the role of women in politics. Family attitudes also display an intermediate level of convergence on average, but with substantial heterogeneity among them. Cultural persistence among US immigrants is heterogeneous, varying with family strength in the ancestry country, the ease or difficulty of learning English, and the degree of residential segregation.

Giuliano and Nunn (2021) try to understand what determines a society's willingness to adopt new customs, beliefs, and behaviors rather than maintaining pre-existing traditions. They test a core prediction arising from theoretical evolutionary anthropology literature (Boyd and Richerson, 1985; Aoki and Feldman, 1987; Rogers, 1988; Feldman et al., 1996; Boyd and Richerson, 2005), linking environmental similarity across generations to cultural change. When environments are stable, traditions contain valuable information beneficial for the current generation. When environments are unstable, previous generation traditions are less likely to benefit the current generation. The authors start by providing a simple model illustrating this logic. They then take this prediction to data, using various datasets and empirical methods. To calculate environmental instability, they use two sources. The first is a dataset from Mann et al. (2009a, 2009b), measuring temperature anomalies at 5-degree resolution with global coverage. The second is a dataset from Cook et al. (1999) measuring drought severity, with North America-only coverage, but at very fine spatial resolution and reliable annual resolution. The authors then examine self-reported views on the importance of tradition from the *World Values Surveys*. Looking across a large set of countries, they find that groups with ancestors who experienced more climatic instability across generations have weaker beliefs in maintaining traditions and customs today. The second test involves examining the persistence of cultural traits across

countries over long periods, and tests whether the extent of cultural persistence is weaker in countries with greater ancestral instability. The cultural traits they consider are those measurable both in the distant past and today: gender norms (measured by female labor-force participation), polygamy and consanguineous marriage. They find that for all examined traits, there is less cultural persistence among countries with more ancestral environment variability. The third empirical strategy tests the persistence of tradition among US immigrant descendants who have moved from their ancestral environment. Having been moved from their ancestral environment, immigrants face new environments that tend to weaken traditional practices. They then compare behavior of individuals with different cultural backgrounds but who live in the same US city. They find that children of immigrants from countries with more unstable ancestral environments are less likely to marry someone of the same ancestry and are also less likely to speak their traditional language at home. They also find that intergenerational persistence of language, education and occupation is weaker among groups with more variable ancestral environments. The final strategy examines Indigenous populations of the US and Canada. Like immigrants, these populations are minority groups whose cultural traditions differ from majority population traditions. They are, therefore, also faced with pressure to change their traditions and customs. The authors examine relationships between cross-generational climatic instability of lands traditionally inhabited by Indigenous groups and the extent to which they still know how to speak their traditional language today. As with immigrants, they compare individuals living in the same location, but with different Indigenous ancestry (and historical climatic instability). They find that Indigenous populations with a greater history of environmental instability are less likely to speak their traditional language today. Despite differences in empirical design and studied populations, all strategies lead to the same conclusion. Tradition is less important and culture less persistent among populations with ancestors who lived in environments that were less stable across generations.

Fogli and Veldkamp (2011) and Fernandez (2013) study the importance of learning for the evolution of female labor force participation. Fogli and Veldkamp (2011) develop a model in which women learn about maternal employment effects on children by observing nearby employed women. When few women participate in the labor force, information is scarce, and participation rises slowly. As information accumulates in some regions, maternal employment effects become less uncertain and more women in that region participate. Learning accelerates, labor force participation rises more quickly, and regional participation diverges. Eventually, information diffuses throughout the economy, beliefs converge to the truth, participation flattens out and regions become more similar again. This model generates female labor participation changes that are geographically heterogeneous, locally correlated and smooth in aggregate, corresponding to trends in historical female labor force participation data. Fernandez (2013) develops a model in which the changes in beliefs about women's role in society also come from a learning process. The basic idea is that the probability individuals assign to different views of long-term consequences of married women working is updated in Bayesian fashion based on a private signal and a noisy public signal. As new information becomes available, married women compare increased consumption benefits from labor earnings with expected utility cost of working. This cost was initially unknown and women's beliefs about it evolved endogenously over time in Bayesian fashion. When the proportion of women in the labor market increases and beliefs about women working become more positive, the information content of the signal improves. A model with these features, calibrated to key statistics, gives rise to a logistic curve for women's labor force participation, corresponding to its historical US evolution over the last 120 years, and its recent leveling off. Both papers present a dynamic culture model in which people hold heterogeneous beliefs regarding relative long-run payoff for women who work in the market versus those who work at home, concluding that female labor force participation has increased over time as beliefs evolve due to intergenerational learning.

Understanding which cultural norms change, why they change, and how quickly they do so is central to understanding the evolution of cultural norms. While existing research has taken important initial steps toward this goal, much remains to be done before we can form a comprehensive picture. I will elaborate on future research directions in the conclusion.

## 7. Policies and cultural norms

The recognition that past events can exert long lasting effects on the present has potentially significant policy implications. A growing body of research examines how cultural norms interact with policies. Four papers in four different contexts highlight the potential for misguided health policies to have long-lasting effects across generations, undermining subsequent health efforts.

One study looks at the relationship between medical campaigns and trust in medicine today (Lowes and Montero, 2021). The study finds that areas in French Equatorial Africa exposed to colonial-era medical campaigns remain highly distrustful of Western medicine today. The medical campaigns were organized by the French military and often aimed at treating and preventing sleeping sickness, a lethal disease spread by the Tsetse fly. These campaigns were enforced upon people and used medications with harmful and sometimes lethal side effects (about 20% of people treated became blind). The study uses archival data documenting the location and intensity of the French colonial campaigns in Cameroon, Gabon, the Republic of Congo, Chad, and the Central African Republic between 1921 and 1956. They show that exposure to these campaigns significantly affects present-day health outcomes, explaining the refusal of beneficial treatments such as polio vaccines or Ebola therapies, and also lowering trust in modern medicine, as proxied by consent to a blood test for HIV or anemia. Moreover, the paper highlights that this historical mistrust in medicine also correlates with the lower success rate of modern health interventions, such as World Bank health projects, in the same regions. The authors also find that those exposed to these medical campaigns are more likely to use traditional medicine, and those who believe in the supernatural origin of illness are more likely to

use traditional medicine. These findings illustrate that the historical context can shape how effective health policies are in settings with mistrust in medicine and alternative (traditional) medicine systems.

Ramos-Toro (2023) focuses on the leper colony in Agua de Dios in Colombia. Between 1871 and 1961, those believed to have leprosy were forcibly relocated to and isolated in a leper colony, where mistreatment by state officials and medical doctors was not uncommon. Employing a lab-in-the-field approach and surveys conducted between 2018 and 2021 in the region surrounding the former leper colony, the paper shows that descendants of the individuals from the colony display significant mistrust towards doctors, a legacy of the historical medical mistreatment their ancestors endured, and are also less likely to take up anti-parasitic medications.

Alsan and Wanamaker (2018) examined long-term consequences of the government-run Tuskegee, Alabama experiment (the Tuskegee Syphilis Study), where, from 1932 to 1972, African American men were not informed they had syphilis and were not given treatment so researchers could observe the disease's full life course. Study participation included regular physical checkups, blood draws, spinal taps, and eventually autopsy. The authors compare health utilization and outcome changes between older Black men and other demographic groups before and after 1972, focusing on geographic proximity to Tuskegee, Alabama. The study's disclosure to the general population led to widespread healthcare system mistrust by African Americans, particularly those living closer to the study location. This has resulted in substantially higher mortality and lower life expectancy among this population, even today. The paper illustrates how cultural and historical context can shape contemporary public health intervention effectiveness.

In a subsequent study, Alsan et al. (2019) wanted to understand what could be done to reverse this historical experience of African American men with the medical system. They do so by designing a simple intervention targeting mistrust in the medical system and white doctors particularly. The authors created mobile medical clinics providing free medical services in Oakland, California. To

obtain credible estimates of the importance of race, they then randomized doctor race and find that being of the same race had a large positive effect on medical service uptake by African American men. These effects were largest for invasive services and among individuals with little medical system experience who reported mistrusting the medical system.

Another recent example is the fake vaccination campaign used by the CIA in Pakistan, in an attempt to capture Osama Bin Laden (Martinez-Bravo and Stegmann, 2022). The Taliban exploited this situation by running a propaganda campaign undermining public confidence in vaccines and health workers. To assess how these events affected immunization uptake, the authors use a difference-in-differences strategy comparing different birth cohorts and districts, showing that areas with stronger Islamist party support experienced vaccination rate declines of 12 to 20% per standard deviation. This evidence indicates that campaigns attacking public health program credibility can erode medical service trust and reduce vaccine demand. The low trust level that served a protective function when health initiatives were exploited for intelligence gathering continued to endure even after conditions changed, producing significant negative health outcome effects like vaccination coverage.

A common reaction to findings that history matters for contemporary outcomes is that this leaves little policy room. All the above papers document how there are sizeable gains to be realized from research seeking to better understand how local history and context can be leveraged to inform better policy design.

Most recently there has been interest in how policies can shape cultural trait evolution, and how cultural differences can inform optimal economic and social policy design. Bursztyn et al. (2020) have shown that policies can alter cultural norms simply by providing information. Their study context is Saudi Arabia, where female labor force participation is low and gender differences pronounced. The authors study a sample of 500 college-educated, married men, aged 18-35 from Riyadh city, conducting 30-person sessions with them, and grouping them so they shared a common social network. They

solicited views about whether women should be allowed to work outside the home, and how many of the remaining 29 men in the group they think agreed with the statement. Individuals were randomized into treatment versus control groups, with only the former obtaining information regarding the true share of men who agreed with the statement. The authors provide survey and experimental evidence that while men approve of their wives working in the market when asked privately, they substantially underestimate other men's support level, even in the same neighborhood. People were on average 24% more likely to support women working, but in the treatment group, the one receiving correct information, 32% of men signed up their wives to the online job platform, whereas in the control group the percentage was only 23%. The authors also show that providing information is reflected in actual outcomes: 5 months after the main intervention, wives of men given correct information about others were more likely to have applied and interviewed for jobs outside the home. The percentage of wives who applied was much higher in the treatment group (16.2% versus 5.8%), and the share who obtained interviews rose from 1.1% to 5.8%

Another example of policies being able to alter cultural beliefs comes from Gruber and Hungerman (2008), who identify a policy-driven change in religious participation opportunity cost based on blue law changes, state laws prohibiting retail activity on Sunday. The authors show that when a state repeals its blue laws, religious attendance falls, as do church donations and spending.

Another research strand examines how cultural practices can determine policy effectiveness. Ashraf et al. (2020) examine whether school construction program effects depend on cultural traditions. The authors study the impact on girls' female education of the Sekolah Dasar INPRES school building program in Indonesia, implemented between 1974 and 1980. The authors hypothesize that the cultural tradition of bride price, according to which grooms make payments to brides' parents at marriage, may incentivize female human capital investment by allowing brides' parents to capture a larger portion of returns to their daughters' education. To understand this tradition's effects, the

authors build an equilibrium marriage market model with bride price and human capital investment, set in a low-income country context where educated women are in short supply and education rates are low. The model generates three testable predictions: bride price payments should increase in female education, female education rates should be higher among ethnic groups with cultural traditions of bride price, and female education should increase more in response to school construction programs among bride price groups. They then bring the model to the data. After confirming the program had no overall education effect, the authors uncover a positive program impact on female education among girls from ethnic groups that traditionally engaged in bride price payments. The authors show this in two different settings, Indonesia, predominantly Muslim, and Zambia, predominantly Christian. The authors conclude that both policy evaluation and targeting must take cultural context into account.

Recognizing the importance of cultural factors can facilitate finding the optimal policy not only in developing but also in developed countries. An interesting example is provided by Alesina et al. (2011). They start with the observation that, in many societies, differences in men's and women's labor supply behavior originate within the family, because women are the ones supposed to take care of children and do household chores. The authors argue that if differences in male and female labor market participation originate inside the family, then gender-based taxation might induce a more equitable home duty allocation; by giving women a better outside option, it would increase their implicit bargaining power. Subsidized family services, however, would not induce any cultural change in that direction but would simply help women performing household tasks, which would largely remain their duty.

In a fascinating contribution, Bau (2021) studies the effect of the introduction of pension plans on matrilocality and patrilocality, and a consequent change in parental investment in children's education. Bau starts from the assumption that these traditions incentivize parents to invest in the

education of children who traditionally co-reside with them; consequently, the introduction and expansion of pension plans will crowd out the education of children targeted by the norm, and also limit norm transmission to the next generation, since the norm's benefits themselves have decreased. Bau tests her hypothesis using data on Indonesia, where matrilocality is prevalent, and Ghana, where patrilocality is the common social norm. For the Indonesia case, using a triple difference approach, she compares female cohorts of matrilocal and neolocal ethnic groups by their relative pension plan exposure. She shows that women from matrilocal ethnic groups became less likely to complete secondary school and university. Furthermore, these women cohorts became less likely to practice matrilocality and reside with their parents after marriage. The paper finds symmetric results for men from patrilocal ethnic groups in Ghana. This example shows that culture can respond rapidly within one generation, given an incentive change, and that this change can have a significant impact on economic outcomes such as human capital.

In a different context, Fetter et al. (2025) find that the introduction of Social Security in the United States, a substitute for in-kind transfers that adult children may provide to their parents, reduced the likelihood that their children live in the same location of their parents. Using a clever difference-in-difference identification strategy that exploits variation in the timing of the rollout of Social Security within occupations across industries, they also show that the children of parents affected by the social security rollout earned more and moved to higher socioeconomic status zipcodes, probably as a result of adult children being able to migrate to labor markets that provide better matches for their abilities.

Rustagi (2025) provides another example of the interaction between policies and cultural norms. He examines the management of forest commons in Ethiopia and examines the complementarity between formal grazing restrictions, which vary across ethnic groups, and civic capital (measured with public goods games experiments), finding that forest management outcomes

are significantly better (there are more trees present) when both formal rules and strong civic capital are present, indicating that rules are only effective when supported by civic capital.

The literature on culture and policy reveals a complex bidirectional relationship with important implications for policy design and implementation. Historical policy failures—particularly in healthcare—can generate persistent mistrust that undermines subsequent beneficial interventions for generations, highlighting the critical importance of understanding local historical context when designing public programs. At the same time, well-designed policies can successfully shift cultural norms, whether through information provision that corrects misperceptions, institutional changes that alter incentives for cultural transmission, or interventions that account for existing cultural practices rather than working against them. A key lesson is that policies are most effective when they either align with existing cultural beliefs or explicitly address cultural barriers, while policies that ignore or contradict deeply held norms risk failure or backlash. The emerging evidence suggests that culture and formal institutions often act as complements rather than substitutes: rules and programs work best when supported by compatible cultural beliefs, underscoring the need for policymakers to consider both cultural context and institutional design when pursuing social and economic objectives. All the studies reviewed above highlight the potential for different ways in which policy can have different consequences based on differences in societal cultural norms, and potentially reshape them, in both developed and developing countries.

## 8. Mismatches

A consequence of norms being shaped by historical environments and evolving slowly and incrementally as a result of evolutionary forces that were beneficial in past environments, is that the same norms present in society today are not necessarily optimized for new conditions. A still under-explored research area studies the consequences of cultural mismatches arising when a changing

environment induces beneficial norms to become maladaptive. Atkin (2013) showed that Indians who migrated to a different Indian state continued consuming food from their origin state due to their norms and preferences. These scarcer foods tended to be more expensive in the new location, which resulted in less food purchased and 7% fewer calories than if they had adopted local food preferences, a particularly striking result, given child stunting and the prevalence of malnutrition.

Another mismatch example can be seen in norms about modern medicine. Papers reviewed in the previous section provide many examples of modern medicine being historically inappropriately implemented, with such detrimental episodes leading to persistently lower trust levels in medical science.

Bau, Lowes, and Montero (2025) offer a comprehensive analysis of "cultural mismatches" in policy implementation, the misalignment between policy design or implementation and the local cultural context. One evidence they provide comes from the study of World Bank projects, which demonstrates that projects led by task team leaders whose country of origin matches the project location consistently achieve higher success ratings. This finding suggests that culturally aligned managers are better positioned to understand local social norms and informal governance structures, which are often opaque to outsiders.

The importance of this alignment is further demonstrated by numerous cases where policy tools that were effective in Western contexts faced unexpected barriers elsewhere. For instance, unconditional cash transfer programs in parts of Kenya experienced high refusal rates because the anonymous nature of the transfers disrupted local relational systems built on reciprocity and social obligation. Agricultural reforms have faced similar hurdles, such as in Bali, where the Green Revolution's intensive techniques failed because they ignored traditional water management systems tied to religious calendars, or in Lesotho, where policies failed to recognize that cattle held social and symbolic value far beyond their purely economic utility.

Another example of mismatch comes from McGuirk and Nunn (2024), who examine cases of "development mismatches," situations in which development projects are misaligned with local populations' traditional economic practices. Specifically, the authors study how crop agriculture projects in traditionally pastoral areas of Africa increase the risk of conflict by almost two-fold, while the same projects in traditionally agricultural areas actually reduce conflict. The mismatch occurs when commercial crop agriculture is imposed on territories where transhumant pastoralists traditionally practice mobile animal herding, disrupting their land-use systems and livelihoods. The effects are mitigated when crop projects are paired with pastoral (animal production) projects, showing that aligned development can prevent conflict.

The literature on cultural mismatches highlights a fundamental challenge: behaviors and beliefs that were adaptive in historical environments may persist even when they become counterproductive in new contexts. Cultural persistence can therefore impose substantial welfare costs when the environment changes faster than norms adapt. A critical insight is that mismatches reflect the inherent tension between cultural transmission processes favoring stability and rapidly changing environments demanding flexibility. The evidence underscores that policy effectiveness depends critically on alignment with local cultural context: interventions that work well in one setting can fail or backfire when transplanted elsewhere. Collectively, the evidence suggests that policy effectiveness is contingent on its alignment with the prevailing cultural environment.

## 9. Conclusions

What explains the origin of cultural norms, and what determines the speed of their evolution? When do cultural norms persist or not? What factors affect their persistence? In this chapter I have reviewed the evidence on the origin, persistence and evolution of cultural norms. While the causes and consequences of cultural trait differences are studied across a range of fields, this research area is

relatively new to economics. This chapter has reviewed how the economics profession has contributed to this literature. On the origins of cultural norms, economists have provided new historical data, often from archival sources, and combined these data with contemporary outcomes to test theories about long-run cultural trait determinants today. This involves linking very different data sources, through either location or ancestry. Important emphasis has also been placed on identifying causal effects rather than only conditional correlations, by exploiting natural experiments or using identification strategies such as instrumental variables, regression discontinuity or difference-in-difference estimators. Many insights that have emerged in the cultural norms literature draw from other disciplines, such as history, anthropology and psychology. One field that has been particularly instrumental is anthropology, mostly because of its empirical richness of data on pre-industrial society cultural, social and economic characteristics. Relying on databases such as the *Ethnographic Atlas* or the *Standard Cross-Cultural Sample* has allowed economists to gain insights on cross-cultural differences that matter for economic development today.

Several conclusions emerge from this literature. First, most research illustrates that cultural norm differences tend to persist and evolve very slowly, even after historical conditions have changed. This persistence is stronger when the environment is very stable, making experimenting with social learning less necessary. The mechanisms of intergenerational transmission appear to operate through multiple channels: vertical transmission from parents to children remains the primary channel, but horizontal transmission through peer networks and oblique transmission through influential role models and authority figures also play crucial roles. Research suggests that these transmission channels can act as either substitutes or complements, depending on the institutional context.

Second, culture is shaped not only by deeply rooted historical factors, but also by events that occur within a person's childhood or youth. Norms experienced during formative years—particularly during adolescence and early adulthood—may have disproportionate and lasting effects on individual

beliefs and behaviors throughout the life course. Economic shocks and major life events experienced during these critical developmental windows appear to permanently shape preferences, risk attitudes, and institutional trust in ways that shocks experienced later in life do not.

Third, persistence and change are not uniform across cultural traits. Recent empirical work examining multiple cultural dimensions simultaneously has revealed substantial heterogeneity in the degree of cultural persistence. Some norms—particularly those related to deep historical values such as religious beliefs, frequency of prayer, and fundamental moral values—exhibit remarkable stability across generations, persisting even among third- and fourth-generation immigrants who have been removed from their ancestral environments for over a century. These deeply rooted norms appear to be highly resistant to change, perhaps because they are closely tied to group identity and are reinforced through community institutions and practices. In contrast, other cultural traits display much greater malleability and converge relatively quickly to destination-country norms. Values related to pro-sociality, such as trustworthiness, helpfulness, and fairness toward others, as well as attitudes toward redistribution and the importance of effort for success, tend to adapt within one or two generations. Attitudes about family structure, gender roles, female employment, and children's independence occupy an intermediate position, showing moderate persistence but gradually shifting across generations. Understanding which norms are more or less persistent, and why, remains a critical area for future research with important implications for both theory and policy.

Fourth, a deeper understanding of the origins of cultural norms is important for policy implementation and design. Policies that fail to account for local cultural context and historical legacies risk being ineffective or generating unintended consequences. At the same time, policies can have sizeable effects on cultural norms, and the nature of these effects is often unanticipated by policymakers with unexpected consequences. The interplay between institutions and social norms is complex and bidirectional: institutions can shape the evolution of norms, but cultural beliefs also

influence which institutions societies choose to adopt and how effectively those institutions function. This feedback loop between culture and institutions can generate multiple equilibria, where societies with different cultural traits rationally choose different institutional arrangements that, in turn, reinforce those cultural differences. Recognizing this interdependence is essential for understanding why policies that work well in one context may fail in another, and for designing context-appropriate interventions that align with rather than conflict with prevailing cultural norms.

Fifth, the literature has increasingly recognized the importance of cultural mismatches—situations where norms that were adaptive in historical environments become maladaptive in new contexts. As environments change due to technological innovation, economic development, migration, or institutional reforms, norms that once served beneficial functions may persist even when they no longer promote well-being or economic efficiency. Examples of such mismatches are abundant: food preferences optimized for ancestral environments may lead to poor nutritional outcomes when individuals migrate to new locations; historical experiences with medical exploitation can generate mistrust that reduces uptake of beneficial modern healthcare; gender norms rooted in agricultural subsistence strategies may limit female labor force participation in modern service economies; and honor cultures that evolved to protect property in stateless societies may generate costly violence in settings with well-functioning legal institutions. Understanding the conditions under which cultural mismatches arise, persist, and can be addressed represents a critical frontier for research and policy.

Sixth, formal institutions—including laws, educational systems, religious organizations, and media—can reinforce existing norms or actively promote new ones, though institutional efforts to change norms sometimes backfire and generate cultural backlash when they are perceived as threatening group identity.

While substantial progress has been made in understanding cultural norm origins, persistence, and evolution, many important questions remain open. First, much more work is needed on the micro-foundations of norm change. While we have documented many instances of cultural persistence and identified some factors associated with faster or slower evolution, we still lack a comprehensive theory of what determines the speed and direction of cultural change. Why do some norms change rapidly within a single generation while others persist for centuries? What role do individual learning, social influence, and institutional change play in driving norm dynamics? Under what conditions can small groups of innovators or influential leaders successfully shift group-wide norms, and when do efforts at cultural change meet resistance?

Second, expanding research beyond Western contexts remains a critical priority. Much of the existing literature on cultural norms and economic outcomes focuses disproportionately on Western, educated, industrialized, rich, and democratic (WEIRD) societies, or uses these societies as the baseline for comparison. Yet the vast majority of human cultural diversity exists outside this narrow slice of human experience, and processes of norm emergence, enforcement, and change may operate quite differently in non-WEIRD contexts. Cross-cultural research that includes diverse populations from Africa, Asia, Latin America, and indigenous communities is essential for understanding universal features of cultural norms.

Third, research on cultural mismatches and their welfare consequences deserves much greater attention. While economists have documented numerous examples of norms persisting in contexts where they appear maladaptive, we lack systematic frameworks for identifying mismatches, measuring their welfare costs, and designing appropriate policy responses. How can we distinguish between norms that are genuinely maladaptive given current conditions and norms that appear inefficient from an outsider's perspective but actually serve important functions not captured in standard economic models? What are the welfare costs of different types of cultural mismatches—mismatches related to

health behaviors, economic production, political participation, or social cooperation—and how do these costs vary across contexts? When and how should policymakers intervene to address cultural mismatches, and what ethical principles should guide such interventions? These questions become increasingly urgent in a rapidly changing world where technological innovation, climate change, and globalization are likely to generate growing numbers of cultural mismatches.

Fourth, methodological advances will be essential for continued progress in this field. While researchers have made creative use of natural experiments, instrumental variables, and historical data to identify causal effects of culture, important limitations remain. Many historical variables used as instruments for culture may violate exclusion restrictions by affecting contemporary outcomes through multiple channels. Measurement of cultural traits remains challenging, with concerns about survey response validity, cross-cultural equivalence of survey items, and the gap between stated beliefs and actual behaviors. Panel data tracking the same populations over long time periods are rare, limiting our ability to directly observe cultural change. Experimental methods, while offering tight identification, often raise questions about external validity and scalability. Future research would benefit from investment in better measurement tools, including behavioral measures and implicit association tests that complement self-reports; panel datasets that follow populations over decades; large-scale field experiments that test cultural interventions in realistic settings; and computational methods, including agent-based models and machine learning techniques, that can handle the complexity of cultural systems with multiple interacting norms and transmission channels.

More broadly, a few practical lessons emerge from the existing evidence about what makes a causal claim more or less convincing even when a perfect experiment is unavailable. First, using multiple independent identification strategies (instrumental variables, regression discontinuity, difference-in-differences, and second-generation immigrant comparisons) substantially raises confidence when they all point in the same direction. Second, micro-level behavioral evidence that

directly measures the proposed mechanism, such as trust games, implicit association tests, or lab-in-the-field experiments, strengthens observational findings by isolating the channel of interest rather than leaving it assumed. Third, the most persuasive studies are those that not only document a significant relationship but actively test and rule out the most plausible alternative explanations, showing, for instance, that an effect runs through cultural transmission rather than institutional change, or through vertical rather than horizontal transmission. In a literature where perfect identification is rarely achievable, the cumulative weight of evidence across diverse methods and contexts is often what ultimately makes a causal interpretation credible.

Fifth, the interaction between culture and formal institutions deserves deeper theoretical and empirical investigation. While recent research has made important progress in documenting feedback effects between culture and institutions, we still lack comprehensive frameworks for analyzing their joint evolution. Under what conditions do culture and institutions act as complements that reinforce each other, and when do they act as substitutes where strong institutions can compensate for weak norms or vice versa? How do societies transition between different culture-institution equilibria, and what triggers such transitions? Can institutional reforms successfully shift cultural norms, or do cultural beliefs typically constrain which institutional changes are politically feasible and how those institutions function? These questions are particularly important for development policy, as they speak to whether development strategies should focus on reforming formal institutions, shifting cultural norms, or some combination of the two.

Sixth, research on cultural heterogeneity within societies represents an understudied but important area. Most existing research treats countries or ethnic groups as culturally homogeneous units, but substantial cultural variation often exists within these units along dimensions such as region, class, education, generation, urban-rural location, and individual life experiences. How does within-group cultural heterogeneity affect social cohesion, political polarization, and economic outcomes?

Under what conditions does cultural diversity strengthen societies by enabling experimentation and innovation, and when does it generate conflict and coordination failures? How do cultural minorities maintain their distinctive norms in the face of pressure from majority populations? As many societies become more diverse through immigration and internal migration, understanding these dynamics becomes increasingly important.

Finally, when does promotion of cultural change represent legitimate policy aimed at improving welfare, and when does it constitute unjustified interference with communities' rights to maintain their own values and traditions? How can researchers and policymakers balance respect for cultural diversity with concerns about harmful practices?

The economics literature on cultural norms has made remarkable progress over the past two decades. We now have compelling evidence that culture matters for economic outcomes, that cultural traits have deep historical roots, that they persist over long periods while also gradually evolving, and that they interact in complex ways with formal institutions and economic conditions. Yet in many ways, this progress has raised as many questions as it has answered, revealing the complexity of cultural systems and the challenges inherent in understanding and influencing them. The research agenda outlined above suggests that economists will continue to make important contributions to understanding cultural norms, but that doing so will require continued methodological innovation and deeper interdisciplinary collaboration. As societies around the world grapple with rapid change and fundamental challenges, insights from the economics of culture will be increasingly essential for designing effective and equitable policies.

**References**

Aghion, P., Algan, Y. and P. Cahuc, 2011, "Civil Society and the State: The Interplay Between Cooperation and Minimum Wage Regulation," *Journal of the European Economic Association*, 9(1),

3–42.

Aghion, P., Algan, Y., Cahuc, P. and A. Shleifer, 2010, "Regulation and Distrust," *Quarterly Journal of Economics,* 125(3), 1015–1049.

Alesina, A., Algan, Y., Cahuc, P. and P. Giuliano, P., 2015, "Family Values and the Regulation of Labor," *Journal of the European Economic Association*, 13(4), 599–630.

Alesina, A. and N. Fuchs-Schündeln, 2007, "Good Bye Lenin (or Not?): The Effect of Communism on People's Preferences", *American Economic Review,* 97 (4), 1507-1528

Alesina, A. and P. Giuliano, 2010, "The Power of the Family," *Journal of Economic Growth,* 15 (2), 93-125.

Alesina, A. and P. Giuliano, 2014, "Family Ties", in *Handbook of Economic Growth,* Vol. 2, edited by P. Aghion and S. Durlauf, 177-215, Amsterdam: Elsevier

Alesina, A., Giuliano, P. and N. Nunn, 2011, "Fertility and the Plough,", *American Economic Review Papers and Proceedings*, 101 (3), 499-503

Alesina, A., Giuliano, P. and N. Nunn, 2013, "On the Origins of Gender Roles: Women and the Plough", *Quarterly Journal of Economics,* 128 (2), 469-530.

Alesina, A., Giuliano, P. and N. Nunn, 2018, "Traditional Agricultural Practices and the Sex Ratio Today,", *PLoS ONE*, 13(1): e0190510.

Alesina, A., Ichino, A. and L. Karabarbounis, 2011, "Gender-Based Taxation and the Division of Family Chores," *American Economic Journal: Economic Policy*, 3 (2): 1-40.

Algan, Y. and P. Cahuc, 2010, "Inherited Trust and Growth," *American Economic Review*, 100 (5), 2060-92

Allport, G. W., 1954, *The Nature of Prejudice*, Addison-Wesley.

Alsan, M., 2015, "The Effect of the TseTse Fly on African Development," *American Economic Review,* 105 (1), 382-410.

Alsan, M., Garrick, O. and G. Graziani, 2019, "Does Diversity Matter for Health? Experimental Evidence from Oakland," *American Economic Review*, 109 (12): 4071-4111.

Alsan, M. and M. Wanamaker, 2018, "Tuskegee and the Health of Black Men," *Quarterly Journal of Economics*, 133(1): 407–455.

Aoki, K. and M. W. Feldman, 1987, "Toward a Theory for the Evolution of Cultural Communication: Coevolution of Signal Transmission and Reception," *Proceedings of the National Academy of Sciences*, 84, 7164–7168.

Ashraf, N., Bau, N., Nunn, N. and A. Voena, 2020, "Bride Price and Female Education", *Journal of Political Economy,* 128 (2), 591-641.

Atkin, D., 2013, "Trade, Tastes, and Nutrition in India," *American Economic Review*, 103 (5): 1629-63.

Basant, R., 1987, "Agricultural Technology and Employment in India: A Survey of Recent Research,", *Economic and Political Weekly,* 22 (31): 1297-1308.

Bau, N., 2021, "Can Policy Change Culture? Government Pension Plans and Traditional Kinship Practices,", *American Economic Review,* 12 (3), 44-75.

Bau, N., Lowes, S. and E. Montero, "Culture, Policy, and Economic Development," forthcoming, *Handbook of Culture and Economic Behavior*, edited by Enke, B., Giuliano, P., Nunn N. and L. Wantchekon, Elsevier.

Bazzi, S., Brodeur, A., Fizbein, M. and J. Haddad, 2024, "Frontier History and Gender Norms in the United States", NBER WP 31079

Bazzi, S., Ferrara, A., Fiszbein, M., Pearson, T. P., and P. A. Testa, 2023, "The Other Great Migration: Southern Whites and the New Right," *Quarterly Journal of Economics*, 138(3), 1577-1632

Bazzi, S., Fiszbein, M. and M. Gebresilasse, 2020, "Frontier Culture: The Roots and Persistence of "Rugged Individualism" in the United States", *Econometrica,* 88 (6): 2329-2368.

Bazzi, S. and M. Fiszbein, forthcoming, "When do Migrants Shape Culture?", in *Handbook of Culture and*

*Economic Behavior*, edited by B. Enke, P. Giuliano, N. Nunn and L. Wantchekon, Amsterdam: Elsevier North-Holland

Becker, A., 2025, "On the Economic Origins of Concerns Over Women's Chastity", *Review of Economic Studies,* 92 (4), 2303-2329.

Becker, S., Boeckh, K., Hainz, C. and L. Woessmann, 2016, "The Empire is Dead, Long Live the Empire! Long-Run Persistence of Trust and Corruption in the Bureaucracy,", *The Economic Journal*, 126 (590), 40-74.

Becker, S. O., Grosfeld, I., Grosjean, P., Voigtländer, N. and E. Zhuravskaya, 2020, "Forced Migration and Human Capital: Evidence from Post-WWII Population Transfers," *American Economic Review*, 110(5), 1430-1463

Bisin, A. and T. Verdier, 2001, "The Economics of Cultural Transmission and the Dynamics of Preferences,", *Journal of Economic Theory,* 97, 298-319.

Bisin, A. and T. Verdier, "Economic Models of Cultural Transmission," in *Handbook of Culture and Economic Behavior*, edited by B. Enke, P. Giuliano, N. Nunn and L. Wantchekon, Amsterdam: Elsevier North-Holland

Bloch, F. and V. Rao, 2002, "Terror as Bargaining Instrument: A Case Study of Dowry Violence in Rural India,", *American Economic Review,* 92 (4), 1029-1043.

Boserup, E., 1970, *Woman's Role in Economic Development,* London: G. Allen & Unwin.

Boyd, R., and P. J. Richerson, 1985, *Culture and the Evolutionary Process*, University of Chicago Press.

Boyd, R., and P. J. Richerson, 2005, *The Origin and Evolution of Cultures*, Oxford University Press.

Boyd, R., and P. J. Richerson, forthcoming, "The Nature of Culture," in *Handbook of Culture and Economic Behavior*, edited by B. Enke, P. Giuliano, N. Nunn and L. Wantchekon, Amsterdam: Elsevier North-Holland

Buggle, J. and R. Durante, 2021, "Climate Risk, Cooperation and the Co-Evolution of Culture and

Institutions", *Economic Journal,* 131 (637), 1947-1987

Bursztyn, L., González, A. L. and D. Yanagizawa-Drott, 2020, "Misperceived Social Norms: Women Working Outside the Home in Saudi Arabia," *American Economic Review*, 110 (10): 2997–3029

Campa, P. and M. Serafinelli, 2019, "Politico-Economic Regimes and Attitudes: Female Workers under State Socialism", *The Review of Economics and Statistics,* 101 (2), 233-248.

Cantoni, D., Chen, Y., Yang, D. Y., Yuchtman, N. and Y. J. Zhang, 2017, "Curriculum and Ideology," *Journal of Political Economy*, 125(2), 338-392.

Cao, Y., Enke, B., Falk, A., Giuliano, P. and N. Nunn, 2025, "Herding, Armed Conflict, and a Culture of Honor: Global Evidence," NBER WP 29250.

Carlana, M., 2019, "Implicit Stereotypes: Evidence from Teachers' Gender Bias," *Quarterly Journal of Economics*, 134(3), 1163–1224.

Carranza, E., 2014, "Soil Endowments, Female Labor Force Participation, and the Demographic Deficit of Women in India", 2014, *American Economic Journal: Applied Economics,* 6 (4), 197-225.

Cavalli-Sforza, L. L., 2001, *Genes, Peoples, and Languages*. University of California Press

Cavalli-Sforza, L. L. and M.W. Feldman, 1981, *Cultural Transmission and Evolution: A Quantitative Approach,* Princeton, NJ: Princeton University Press

Cefalà, E., 2022, "The Political Consequences of Mass Repatriation," D.P. 2022-05, University of Nottingham, GEP

Ciacci, R., García Hombrados, J. and D. Pérez Parra, 2026, "Shifting the Value of Norms: Fast Internet, Premarital Sex, and the Erosion of Female Genital Mutilation," mimeo, Universidad Autonoma de Madrid.

Cohen, D., Nisbett, R. E., Bowdle B. F., and N. Schwarz, 1996, "Insult, Aggression and the Southern Culture of Honor: An "Experimental Ethnography," *Journal of Personality and Social Psychology*, 70 (5), 945–960.

Cook, E. R., Meko, D. M., Stahle, D. W. et al., 1999, "Drought Reconstructions for the Continental United States," *Journal of Climate*, 12, 1145–1162.

Crouch, C., 1993, *Industrial Relations and European State Traditions*, Oxford: Clarendon Press

Dalton, J. T. and T.C. Leung, 2014, "Why is Polygyny More Prevalent in Western Africa? An Africa Slave Trade Perspective", *Economic Development and Cultural Change,* 62 (4), 599-632.

Das Gupta, M., Zhenghua J., Bohua L., Zhenming X., Chung W. and B. Hwaok, 2003, "Why is Son Preference So Persistent in East and South Asia? A Cross-Country Study of China, India and the Republic of Korea," *Journal of Development Studies*, 40, 153-187.

Dippel, C. and S. Heblich, 2021, "Leadership, Social Capital, and Incentives, *Quarterly Journal of Economics*, 136(2), 1029–1089.

Di Tella, R., Galiani, S. and E. Schargrodsky, 2007, "The Formation of Beliefs: Evidence from the Allocation of Land Titles to Squatters," *Quarterly Journal of Economics*, 122(1), 209-241.

Enke, B., 2019, "Kinship, Cooperation, and the Evolution of Moral Systems", *Quarterly Journal of Economics*, 134 (2), 953– 1019.

Feldman, M. W., Aoki, K. and J. Kumm, J. (1996), "Individual Social Learning: Evolutionary Analysis in a Fluctuating Environment", *Anthropological Science*, 104, 209–232.

Fenske, J., 2015, "African Polygamy: Past and Present", *Journal of Development Economics,* 117, 58-73.

Fernández, R., 2013, "Cultural Change as Learning: The Evolution of Female Labor Force Participation over a Century," *American Economic Review*, 103(1), 472-500.

Fernández, R. and A. Fogli, 2009, "Culture: An Empirical Investigation of Beliefs, Work, and Fertility," *American Economic Journal: Macroeconomics* 1 (1): 146-177.

Fetter, D.K., Lockwood, L.M. and P. Mohnen, 2025, "Long-Run Intergenerational Effects of Social Security," Unpublished Manuscript

Fincher, C., Thornhill, R., Murray, D. and M. Schaller, 2008, "Pathogen Prevalence Predicts Human

Cross-Cultural Variability in Individualism/Collectivism," *Proceedings Royal Society Biological Sciences*, 2008, 275, 1279–1285

Fischer, D. H., 1989, *Albion's Seed: Four British Folkways in America,* New York: Oxford University Press

Fogli, A. and L. Veldkamp, 2011, "Nature or Nurture? Learning and the Geography of Female Labor Force Participation," *Econometrica*, 79(4), 1103-1138.

Fouka, V., 2019, "How do Immigrants Respond to Discrimination? The case of Germans in the US during World War I," *American Political Science Review*, 113(2), 405-422.

Fouka, V., Mazumder, S. and M. Tabellini, 2022, "From Immigrants to Americans: Race and Assimilation during the Great Migration*", Review of Economic Studies*, 89 (1), 379–419.

Fouka, V. and M. Tabellini, 2022, "Changing In-Group Boundaries: The Effect of Immigration on Race Relations in the US," *American Economic Journal: Applied Economics*, 14(1), 241–278.

Galor, O. and Ö. Özak, 2016, "The Agricultural Origins of Time Preference," *American Economic Review,* 106 (10): 3064-3103.

Galor, O., Özak, Ö and A. Sarid, 2020, "Linguistic Traits and Human Capital Formation," *American Economic Association Papers and Proceedings,* 110, 309-313.

Giavazzi, F., Petkov, I. and F. Schiantarelli, F., 2019, "Culture: Persistence and Evolution," *Journal of Economic Growth*, 24(2), 117-154.

Gigerenzer, G. and D.G. Goldstein, 1996, "Reasoning the Fast and Frugal Way: Models of Bounded Rationality," *Psychological Review*, 103 (4), 650–669

Gigerenzer, G., Todd, P. M. and ABC Research Group, 1999, *Simple Heuristics that Make Us Smart.* Oxford University Press

Giuliano, P., 2007, "Living Arrangements in Western Europe: Does Cultural Origin Matter,?" *Journal of the European Economic Association* 5 (5): 927-952.

Giuliano, P., 2015, "The Role of Women in Society: from Preindustrial to Modern Times,", *CESifo*

*Economic Studies,* 61 (1), 33-52.

Giuliano, P. and A. Matranga, 2021, "Historical Data: Where to Find Them, How to Use Them," in *The Handbook of Historical Economics*, edited by A. Bisin and G. Federico, Amsterdam: Elsevier North-Holland, pp. 95-123

Giuliano, P. and N. Nunn, 2013, "The Transmission of Democracy: From the Village to the Nation-State," *American Economic Review: Papers and Proceedings,* 103 (3), 86-92.

Giuliano, P., and N. Nunn, 2021, "Understanding Cultural Persistence and Change," *Review of Economic Studies*, 88 (4), 1541– 1581.

Giuliano, P. and A. Spilimbergo, 2025, "Aggregate Shocks and the Formation of Preferences and Beliefs,", *Journal of Economic Literature*, 63 (2), 542-597.

Gneezy, U., Leonard, K. and J. A. List, 2009, "Gender Differences in Competition: Evidence from a Matrilineal and a Patriarchal Society," *Econometrica,* 77 (5), 1637-1664.

Gorodnichenko, Y. and G. Roland, 2017, "Culture, Institutions, and the Wealth of Nations", *Review of Economics and Statistics,* 99 (3), 402-416.

Greif, A., 1994, "Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies," *Journal of Political Economy*, 102 (5): 912–50.

Grosjean, P., 2011, "The Weight of History on European Cultural Integration: A Gravity Approach," *American Economic Review*, 101 (3): 504–08

Grosjean, P., 2014, "A History of Violence: The Culture of Honor as a Determinant of Homicide in the US South," *Journal of the European Economic Association*, 12 (5), 1285–1316.

Gruber, J., and D. M. Hungerman, 2008, "The Church Versus the Mall: What Happens When Religion Faces Increased Secular Competition? ",*The Quarterly Journal of Economics*, 123 (2), 831-862.

Guiso, L., Sapienza, L. and L. Zingales, 2006, "Does Culture Affect Economic Outcomes?," *Journal of*

*Economic Perspectives,* 20(2), 23-48

Guiso, L., Sapienza, L. and L. Zingales, 2008, "Alfred Marshall Lecture: Social Capital as Good Culture", *Journal of the European Economic Association,* 6 (2-3). 295-320.

Guiso, L., Sapienza, L. and L. Zingales, 2016, "Long-Term Persistence," 2016, *Journal of the European Economic Association,* 14 (6), 1401-1436.

Heldring, L., 2021, "The Origins of Violence in Rwanda," *The Review of Economic Studies,* 88 (2), 730-763.

Henrich, J. P., 2020, *The WEIRDest People in the World: How the West Became Psychologically Peculiar and Particularly Prosperous,* New York: Farra, Straus and Giroux.

Jayachandran, S., 2015, "The Roots of Gender Inequality in Developing Countries," *Annual Review of Economics*, 7, 63-88.

La Ferrara, E., Chong, A. and S. Duryea, S., 2012, "Soap Operas and Fertility: Evidence from Brazil," *American Economic Journal: Applied Economics*, 4(4), 1-31.

Lavy, V. and E. Sand, 2018, "On the Origins of Gender Human Capital Gaps: Short- and Long-Term Consequences of Teachers' Stereotypical Biases," *Journal of Public Economics,* 167, 263–279.

Le Rossignol, E. and S. Lowes, 2022, "Ancestral Livelihoods and Moral Universalism: Evidence from Transhumant Pastoralist Societies," NBER WP 30259.

Lippmann, Q., Georgieff, A. and C. Senik, 2020, "Undoing Gender with Institutions: Lessons from the German Division and Reunification," *Economic Journal*, 130 (629), 1445–1470.

Lowes, S., 2022, "Kinship Structure and the Family: Evidence from the Matrilineal Belt," NBER WP 30509.

Lowes, S. and E. Montero, 2021, "The Legacy of Colonial Medicine in Central Africa," *American Economic Review*, 111 (4): 1284–1314

Lowes, S., Nunn, N., Robinson, J. A. and J. L. Weigel, 2017, "The Evolution of Culture and

Institutions: Evidence from the Kuba Kingdom", *Econometrica*, 85 (4), 1065-1091.

Mann, M. E., Zhang, Z., Rutherford, S. et al. (2009a), "Global Signatures and Dynamical Origins of the Little Ice Age and Medieval Climate Anomaly", *Science*, 326, 1256–1260.

Mann, M. E., Zhang, Z., Rutherford, S. et al. (2009b), "Supporting Online Material for: Global Signatures and Dynamical Origins of the Little Ice Age and Medieval Climate Anomaly" (Online Appendix).

Martinez-Bravo, M. and A. Stegmann, 2022, "In Vaccines We Trust? The Effects of the CIA's Vaccine Ruse on Immunization in Pakistan," *Journal of the European Economic Association*, 20(1), 150-186.

McGuirk, E. F. and N. Nunn, 2024, "Development Mismatch? Evidence from Agricultural Projects in Pastoral Africa,", NBER WP 33191

Michalopoulos, Stelios, Louis Putternam, and David N. Weil, 2019, "The Influence of Ancestral Lifeways on Individual Economic Outcomes in Sub-Saharan Africa," *Journal of the European Economic Association,* 17 (4), 1186-1231.

Miguel, E., Saiegh, M. S. and S. Satyanath, 2011, "Civil War Exposure and Violence," *Economics and Politics*, 23 (1): 59-73

Miho, A., Jarotschkin, A. and E. Zhuravskaya, E., 2024, "Diffusion of Gender Norms: Evidence from Stalin's Ethnic Deportations," *Journal of the European Economic Association*, 22(2), 475-527.

Nisbett, R. E. and D. Cohen, D., 1996, *Culture of Honor: The Psychology of Violence in the South*. Boulder, CO: Westview Press.

Nunn, N. and L. Wantchekon, 2011, "The Slave Trade and the Origins of Mistrust in Africa", *American Economic Review,* 101 (7), 3221-3252.

Olivetti, C., Patacchini, E. and Y. Zenou, 2020, "Mothers, Peers, and Gender-Role Identity, *Journal of the European Economic Association*, 18(1), 266–301.

Porter, C. and D. Serra, 2020, "Gender Differences in the Choice of Major: The Importance of Female

Role Models," *American Economic Journal: Applied Economics*, 12(3), 226–254.

Pryor, F., 1985, "The Invention of the Plow," *Comparative Studies in Society and History,* 27 (4), 727-743.

Putnam, R. D., 1993, *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton: Princeton University Press

Ramos-Toro, D., 2023, "Social Exclusion and Social Preferences: Evidence from Colombia's Leper Colony," *American Economic Review*, 113 (5): 1294-1333

Rogers, A. R., 1988, "Does Biology Constrain Culture?" *American Anthropologist*, 90(4), 819-831.

Rustagi, D., 2025, "The Interdependence of Rules and Civic Capital in Commons Management," Unpublished Manuscript.

Schulz, J. F. "Kin Networks and Institutional Development," *Economic Journal*, 132, 647: 2578-2613

Schulz, J. F., Henrich, J., Bowles, S., Savage, R. J. F., Woodhead, G., Hooper, P. L., Norenzayan, A. et al. (2019). "The Church, Intensive Kinship, and Global Psychological Variation," *Science*, 366 (6466): eaau5141.

Tabellini, G., 2008a. "Institutions and Culture," *Journal of the European Economic Association*, 6 (2-3): 255-294.

Tabellini, G., 2008b, "The Scope of Cooperation: Values and Incentives," *Quarterly Journal of Economics*, 123 (3): 905–50.

Tabellini, G., 2010, "Culture and Institutions: Economic Development in the Regions of Europe," *Journal of the European Economic Association*, 8 (4): 677–716.

Talhelm, T., Zhang, X., Oishi, S., Duan, D., Lan, X. and S. Kitayama, 2014, "Large-Scale Psychological Differences Within China Explained by Rice Versus Wheat Agriculture," *Science*, 344 (6184), 603-608.

Teso, E., 2019, "The Long-Term Effect of Demographic Shocks on the Evolutions of Gender Roles: Evidence from the Transatlantic Slave Trade", *Journal of the European Economic Association*, 17

(2), 497-534.

Tur-Prats, A., 2019, "Family Types and Intimate Partner Violence: A Historical Perspective", *Review of Economics and Statistics,* 101 (5): 878-891

Voigtländer, N. and H.J. Voth, 2012, "Persecution Perpetuated: The Medieval Origins of Anti-Semitic Violence in Nazi Germany," *Quarterly Journal of Economics*, 127(3), 1339-1392.

Wang, T., 2021, "Media, Pulpit, and Populist Persuasion: Evidence from Father Coughlin," *American Economic Review*, 111(9), 3064-3092.

Wheaton, B., "Laws, Beliefs, and Backlash," UCLA Anderson, mimeo

Xue, M., 2024, "High-Value Work and the Rise of Women: The Cotton Revolution and Gender Equality in China", SSRN WP http://dx.doi.org/10.2139/ssrn.2389218