NBER WORKING PAPER SERIES

CULTURE AND INSTITUTIONS

Alberto Alesina
Paola Giuliano

Working Paper 19750
http://www.nber.org/papers/w19750

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
December 2013

We thank Benjamin Friedman and Andrei Shleifer for useful conversations and Janet Currie and six anonymous referees for excellent comments on an early draft. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

Culture and Institutions
Alberto Alesina and Paola Giuliano
NBER Working Paper No. 19750
December 2013
JEL No. P16,Z1

ABSTRACT

A growing body of new empirical work has measured different types of cultural traits, showing that culture matters for a variety of economic outcomes. This paper focuses on one specific aspect of the relevance of culture: its relationship with institutions. Evidence from theoretical, empirical, and historical examples is reviewed to critically asses the presence of a two-way causal effect between culture and institutions.

Alberto Alesina
Department of Economics
Harvard University
Littauer Center 210
Cambridge, MA 02138
and IGIER
and also NBER
aalesina@harvard.edu

Paola Giuliano
Anderson School of Management
UCLA
110 Westwood Plaza
C517 Entrepreneurs Hall
Los Angeles, CA 90095-1481
and IZA
and also NBER
paola.giuliano@anderson.ucla.edu

1. Introduction

Recent research convincingly shows that certain cultural variables determine many economic choices and even affect the speed of development and the wealth of nations.[2] Researchers have now turned their attention to better understanding the mechanisms linking culture to various economic outcomes, the speed of the evolution of culture over time, and the relationship between cultural variables with others such as institutions and human capital. This paper investigates what we know about one specific aspect of the relevance of culture: the relationship between culture and institutions. Both terms are often vague in the literature; we will devote some space to defining them properly, and we will be very clear about how various authors have defined them differently.

To begin with, both culture and institutions are endogenous variables, determined, possibly, by geography, technology, epidemics, wars, and other historical shocks. The question that one may try to answer is, however, "Which moves more slowly and which is more persistent?" In other words, can we say that cultural values (wherever they come from) are so deeply ingrained that institutional changes would not affect them, or on the contrary, that the types of institutions need to "fit" with the prevailing culture? Or, instead, would an institutional change somehow exogenously imposed, say because of conquest or a war, rapidly change the prevailing culture? How do culture and institutions interact? What leads to what?

One "notable" example illustrates the complexity associated with this issue. Consider the work by Putnam et al. (1993) on social capital in Italy. Putnam and his colleagues took advantage of a natural experiment involving an institutional reform in Italy: in the early 1970s, a decision taken at the national level introduced new regional governments.[3] They showed that these regional governments, designed to function identically everywhere in Italy, worked very differently in different parts of the country. The discrepancy was most pronounced between the center-north and the south. He hypothesized that the difference was due to differences in cooperation, participation, social interaction, and trust, which can be labeled as "social capital." They also argued that regional differences in social capital had their roots centuries ago, as a function of whether or not different parts of Italy had experienced the institution of free cities, dating back to at least the twelfth century. Free cities developed some form of early participatory democracies, generating a feeling of

---

[2] Several economics papers have investigated what are the cultural traits relevant for development, their persistence and their historical origins. Several surveys have analyzed some of these aspects (see Guiso, Sapienza, and Zingales (2006) and Fernandez (2008, 2011)). For an informal treatment of the question of how cultural values affect development, see Landes (1998).

[3] The reform implemented a Constitutional article originally approved in the 1945 Constitution and can be reasonably thought as independent of regional development.

belonging to a polity, whose functioning could guarantee protection from aggression and the provision of public goods. As a result, free cities developed a deep sense of civic and cooperative behavior amongst their citizens, cultural traits that were transmitted from generation to generation. Guiso, Sapienza, and Zingales (2013) formally tested this hypothesis, finding considerable support for it. An Italian city's level of social capital today, a "cultural" variable determining the success or failures of today's institutions, is correlated with its historical experience as a free city in the Middle Ages. Thus, an institutional variable, the free-city arrangement, influenced a long-lasting cultural change that still affects the functioning of local governments in Italy. If cultural values were not so persistent, being a free city in the twelfth century would have nothing do with today's institutions. At the same time, this long-lasting cultural trait was sparked by early forms of local self-determination, an institutional feature.

However, the experience of a free city in the Middle Ages is clearly not an exogenous variable. Southern cities did not become free, because they remained subjugated by strong Norman kings. Conversely, the crumbling Carolingian Empire was weak in the northern parts of Italy. Even within central and northern cities, there is variation regarding which cities could more easily become free, due to geographic features that made them more or less capable of defending themselves against the emperor. Shocks could also change cities' initial geographical endowment. Belloc, Drago, and Galbiati (2013), for example, show that earthquakes, and their associated disorder, favored the continuation of the status quo and made it more difficult for Italian cities to free themselves from their feudal lords.

Can we therefore conclude that geography and earthquakes are the "cause" of the relative efficiency of local governments today in Italy? In some sense yes, but obviously the complex interactions between culture and institution linking geography to today's policies cannot be dismissed as uninteresting "intermediate variables"!

Those who study culture are well aware of the importance of institutions and, as we shall document below, they try as well as they can to isolate the effect of culture from institutions. This is probably because the importance of institutions is fairly well established.[4] Since cultural economics is in its infancy, often those who write about institutions do not seem to worry about whether institutions are well identified and isolated from cultural influences, which may be quite problematic. Some may argue that culture is a vague variable, difficult to measure and full of errors. This is in part true, but as we shall demonstrate below, some institutional features suffer from the same

[4] Various controversies remain regarding how, where, and in what sense institutions matter. See Glaeser et al. (2004).

measurement problem; many cultural traits can be measured at least as well as institutions. There is also often confusion in the literature about what is a cultural variable and what is an "institution"; one ancillary goal of this paper is to try to clarify these definitional issues.

Our paper is structured as follows. At the outset, we specify what it is meant in the literature by culture, and how it is measured. Many new contributions to the literature have been added from the last two surveys on the relevance of culture on economic outcomes. Accordingly, we provide a map of the main cultural traits used in economics and their correlations. Next, we turn to the main goal of this survey: assessing the relationship between culture and institutions. To do this, we first review the existing empirical and theoretical literature that shows how culture can affect formal institutions. Second, we review recent studies that show how formal institutions affect culture. Finally, we document the interplay between culture and institutions and review the literature on how they jointly determine economic development.

2. What is culture and how do you measure it?

2.1. Definitions of culture

Economists have used two different definitions of culture. One refers to the social conventions and individual beliefs that sustain Nash equilibria as focal points in repeated social interactions or when there are multiple equilibria. This view is due to Greif (1994), who defines cultural beliefs as "the ideas and thoughts, common to several individuals, which govern the interactions between them … and other groups and differ from knowledge in that they are not empirically discovered or analytically proven." Particularly important, according to Greif (1994), are rational cultural beliefs, which are those "that capture expectations that others will take in certain circumstances."

Based on this insight, several authors have developed models where culture on the one hand is considered as beliefs about the consequences of one's actions, but which can be manipulated by earlier generations or by experimentation. For example, Guiso, Sapienza, and Zingales (2008b) show how individuals' beliefs are initially acquired through cultural transmission and then slowly updated through experience from one generation to the next. They do so by using an overlapping generation model in which children absorb their trust priors from their parents and then, after experiencing the real world, transmit their updated beliefs to their own children.

The second definition of culture views it as a more primitive sentiment, such as individual values and preferences (see, for example, Akerlof and Kranton, 2000). This definition, also used in psychology, emphasizes the role of emotions in motivating human behavior (Pinker (1997) and Kaplow and Shavell (2007)). This definition is also consistent with models in anthropology (Boyd and Richerson (1985, 2005)) that define culture as decision-making heuristics or "rules of thumb" used in an uncertain or complex environment. The use of rules of thumb in decision making can arise optimally, if acquiring information is either costly or imperfect. Those decision-making heuristics also very often manifest themselves as "gut feelings" about what the "right" or "wrong" thing to do is in certain circumstances. These gut feelings are cultural values—for example, the extent to which others can be trusted, whether women should work outside the home, or how important hard work is versus leisure.

Thus the first definition of culture stresses beliefs; the second is closer to preferences, if one wants to adopt standard economic terminology. The two interpretations are not mutually exclusive. Benabou (2008) shows that values and beliefs interact systematically. He incorporates "mental constructs" into a political-economy model and shows that these mental constructs interact with institutions to generate different beliefs, which could persist over time.

Indeed, it is hard to distinguish empirically between the two interpretations. Most empirical papers in literature follow the definition given in Guiso, Sapienza, and Zingales (2006), where culture is defined as "those customary beliefs and values that ethnic, religious and social groups transmit fairly unchanged from generation to generation." By focusing on both beliefs (i.e., priors) and values (i.e., preferences), this definition merges the two described above. The existence of these two components of culture may also be useful in reconciling the empirical finding of the existence of both a slow-moving part of culture and a component that instead changes as a result of policies or institutions, as we shall discuss extensively below.

As an example, take the case of views about inequality and redistribution. Luttmer and Singhal (2011) highlight a strong cultural persistence in the formation of preferences for redistribution by documenting a correlation between preferences for redistribution among second-generation immigrants and preferences for redistribution in the country of origin. Alesina and Glaeser (2004) relate this view to long-lasting differences in views about poverty that differentiate, for instance, Americans from Europeans. Meanwhile, Alesina and Fuchs-Schundeln (2007) and Giuliano and Spilimbergo (forthcoming) have shown that preferences for redistribution can be affected by political regimes or macroeconomic shocks. Alesina, Giuliano, and Nunn (2013) show that today's attitude about women's participation in the labor force is still affected by the adoption of certain agricultural technologies hundreds of years ago, and that the role of women in society can evolve very quickly as a result of technological progress in home production, like dishwashers (Greenwood, Seshadri and Yorugoklu (2005)), medical progress (Albanesi and Olivetti, (2009)) or learning (Fogli and Veldkamp (2011) and Fernandez (2013)).

So, while on the one hand culture can be slow-moving, inherited from past generations and shaped by historical shocks, because the underlying beliefs are transmitted from parents to children (Bisin and Verdier, 2001), culture can also be shaped by the current social, economic, or political environment.

The prevalence of one of the two views depends on the two theoretical assumptions behind the evolution of culture: as belief about others that can be updated depending on the environment where individuals live, or as ingrained preferences and moral values, transmitted in early childhood, that take a long time to adjust. Therefore, it would be tempting to conclude that preferences (or gut feelings, or deep moral values, or ingrained social norms) are persistent and beliefs evolve over time more quickly. Unfortunately, as we discuss below, it is often hard to empirically disentangle beliefs from preferences.

2.2. Empirical measures of culture

How do we measure cultural traits? Below, we review those cultural traits that have received the most attention so far in the empirical literature.

a. Generalized trust

The most studied cultural trait is a measure of generalized trust toward others. The importance of this trait cannot be overemphasized. For instance, Arrow (1972) writes, "Virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time. It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence."

This variable is measured in two ways: with survey questions and with laboratory experiments. In surveys, the question typically is, "Generally speaking, would you say that most people can be trusted or that you can't be too careful when dealing with others?" Possible answers are typically either "Most people can be trusted" or "Need to be very careful." This question can be found in such surveys as the World Values Survey (WVS), the General Social Survey, and the European Social Survey, and in most of the Barometers (the Latinobarometer, the Afrobarometer, the Asianbarometer, etc.). In most studies, this measure has been used as a proxy for social capital, i.e., "those persistent and shared beliefs and values that help a group overcome the free rider problem in the pursuit of socially valuable activities" (see Fukuyama (1995), Putnam (2000) and

Guiso et al. (2011)). Note that this is a measure of generalized trust; it refers to people the respondent doesn't know. We discuss the issue of trust within a family below, in the context of our treatment of cultural values regarding the family.[5]

Individual characteristics such as education are positively correlated with trust. Being a member of a historically discriminated-against minority (say, African Americans) is negatively correlated with trust (Alesina and La Ferrara (2000)). Uslaner (2005) has shown that trust is a very persistent individual feature correlated with charitable contributions and volunteering. An important and robust result is that trust travels less well across than within racial or nationality groups. The level of trust is lower in ethnically diverse U.S. cities (Alesina and La Ferrara (2000, 2002). Also, individuals tend to trust more members of their own nationality relative to their trust of foreigners (Guiso, Sapienza, and Zingales (2009)).[6]

Trust has been shown to be relevant as an explanatory variable of economic development (Knack and Keefer (1997)) and individual performance (Butler et al. (2013)),[7] financial development, participation in the stock market and trade (see Guiso, Sapienza, and Zingales (2004, 2008a, 2009)), innovation (Fukuyama (1995)) and firm productivity (Bloom, Sadun, and Van Reenen (forthcoming) and La Porta et al. (1997)). For a general review of the impact of trust on various economic outcomes, see the work of Algan and Cahuc (2013).

The second way of measuring trust is by means of experiments, where subjects play trust games. The most common trust game is a two-player, sequential-moves game of perfect information in which the first mover, the "sender" is endowed with some fixed amount of money, and chooses how much of this endowment to send to the second mover, the "receiver." Any money sent is increased by the experimenter according to a commonly known function before being allocated to the receiver. The receiver then chooses to return any amount to the sender, ending the game. With purely own-money-maximizing players, the Subgame Perfect Nash Equilibrium of this one-shot game is simple: receivers never return any money and consequently senders never send any money.

[5] Many of the surveys listed above also ask questions regarding trust towards various institutions such as parliaments, governments, large corporations, and banks. While in part the response to these questions may reflect cultural biases, they may simply measure the efficiency or corruption of these institutions. We don't consider these variables in the present paper.

[6] These authors also show that this feature of trust may explain various forms of "home bias" observed in portfolio composition and various financial transactions.

[7] Whereas at the aggregate level there is a positive correlation between trust and economic development, at the individual level the relationship is hump-shaped. The interpretation given by Butler et al. (2013) is that highly trusting individuals tend to assume too much social risk and to be cheated more often, ultimately performing less well than those with a belief close to the mean trustworthiness of the population. On the other hand, individuals with overly pessimistic beliefs avoid being cheated but give up profitable opportunities, and thus underperform.

Only with "trust" and trustworthiness can the pair take advantage of the possibility of increasing profits. In fact, in many experiments individuals "trust" each other and cooperate.[8]

A large experimental literature has distinguished between trust towards group members versus out-group members or trust within and outside the clan. In the myriad studies on trust towards group members versus out-group members, participants are divided into groups, with trivially defined distinctions. A common finding in this literature is that participants are willing to share more money or cooperate more with in-group members than with out-group members (Eckel and Grossman, 2005; Charness, Rigotti, and Rustichini, 2007; Chen and Li, 2009; Chen and Chen, 2010; and Butler, 2013).

The classical study of trust in the clan is Fershtman and Gneezy (2001). In this study, participants play a trust game with opponents of distinct ethnic affiliations. The two ethnic groups in the game are Ashkenazic Jews and Eastern Jews. The authors find that the amount of money transferred to players of Eastern origin was significantly lower than that transferred to players of Ashkenazic origin. The mistrust of players of Eastern origin was however common not only among Ashkenazic players but also among Eastern players, who also discriminate among players from their own group.[9] Glaeser et al. (2000) also find that trust and trustworthiness travel much more easily across the same ethnic, racial, and social groups in experiments performed with Harvard undergraduates from different backgrounds. Thus one of the strongest results that emerges both from surveys and from experiments is that familiarity, defined as belonging to the same social, ethnic, racial, or religious group, holding everything else constant, greatly increases interpersonal trust.

The latter point is consistent with another measure of trust that some surveys offer, namely how much individuals of country *i* trust those of country *j*. The data show a "home bias" but also significant differences in how a certain country is "trusted" on average by foreigners. Guiso, Sapienza, and Zingales (2009) make both points using Eurobarometer data and relate bilateral trust to various types of international financial transactions and trade.

b. Individualism versus collectivism

Individualism, in Hofstede's (2001) definition, is the degree to which individuals are integrated into groups. In individualistic societies, the stress is put on personal achievements and

[8] For a discussion on the correlation between survey measures of trust and laboratory measures of trust, see Glaeser et al. (2000) and Fehr et al. (2002).

[9] Other studies where the trust game is played among observable cultural groups are Bornhorst et al. (2010), Fershtman et al. (2005), and Willinger et al. (2003).

individual rights. People are expected to stand up for themselves and their immediate family, and to choose their own affiliations. In contrast, in collectivistic societies, individuals act predominantly as members of a lifelong, cohesive group or organization.

Hofstede (2001) measures the degree of individualism in different societies by interviewing employees of IBM in 80 countries.[10] He argues that individualism spurs innovation, whereas collectivism spurs cooperation and makes it easier to diffuse innovations developed elsewhere. One implication of his finding is that societies close to the technological frontier, where innovation is critical for growth, suffer from collectivism much more than societies that are still in the "imitation" stage. On the contrary, the latter may benefit more from some degree of collectivism.

In collectivist environments, people have large extended families, which offer protection in exchange for loyalty. If an individual acquires wealth, he is supposed to share it with his extended family, or even with an entire clan or village. These arrangements substitute for the lack of safety nets and publicly provided social insurance.[11]Another measure of individualism has been developed by cross-cultural psychologist Shalom Schwartz (1992). He calls the measure of individualism "mastery"; this expresses the importance of getting ahead by being self-assertive.[12]

Individualism versus collectivism is the main cultural ingredient in the theoretical work by Greif (1994, 2006a). In empirical analysis, it has been used by Roland et al. (2013a) as a main cultural trait that could spur economic growth. Their work is discussed below.

---

[10] In addition to individualism, Hofstede (2001) also studies four other orthogonal cultural dimensions: power distance, masculinity, uncertainty avoidance, and long-term orientation. Power distance focuses on the degree of equality, or inequality, between people in a given country. It represents the extent to which the less powerful members of organizations and institutions accept that power is distributed unequally. Masculinity reflects the degree to which the society does or does not reinforce the traditional masculine-work role model of male achievement, control and power. The assertive pole has been called "masculine" and the caring pole "feminine." Uncertainty avoidance captures the society's attitude towards uncertainty, while long-term orientation is associated with such values as thrift and perseverance as opposed to respect for tradition and fulfilling social obligation, which are associated with short-term orientation. While Hofstede's measures have not been free from criticism, they constitute by far the most used and cited cultural framework in international business, management, and applied psychology.

[11] See Olken and Singhal (2011) and Baland et al. (2011), among others.

[12] Schwartz (1992) identified a set of 45 individual values recognized across cultures, covering all value dimensions necessary to explain intercountry cultural variation. He subsequently surveyed school teachers and college students from 67 countries, averaged the scores on each of the 45 values and identified seven dimensions along which national cultures could differ. These dimensions are conservatism, intellectual autonomy, affective autonomy, hierarchy, egalitarian commitment, mastery, and harmony. Conservatism represents a culture's emphasis on maintaining the status quo, and on restraining actions or desires that may disrupt the solidarity of the group or the traditional order. Intellectual and affective autonomy refer to the extent to which people are free to independently pursue their own ideas and intellectual directions, and their affective desires, respectively. Hierarchy denotes the extent to which it is legitimate to distribute power, roles, and resources unequally, while egalitarian commitment refers to the extent to which people are inclined to voluntarily put aside selfish interests to promote the welfare of others. Mastery expresses the importance of getting ahead by being self-assertive, while harmony denotes the importance of fitting harmoniously into the environment.

c. Family ties

Another important cultural value is the relevance of family ties in society. Becker (1991) provides an economic treatment of the organization of the family, but without accounting for any cultural variable. Banfield (1958) and Coleman (1990) focus on different cultural traits regarding family values. Both authors notice that societies based on strong ties among family members tend to promote codes of good conduct within small circles of related persons (family or kin); in these societies, selfish behavior is considered acceptable outside the small network. On the contrary, societies based on weak ties promote good conduct outside the small family/kin network, enabling one to identify oneself with a society of abstract individuals or abstract institutions.

Alesina and Giuliano (2010) measure the strength of family ties using three WVS questions, capturing beliefs on the importance of the family in an individual's life, the duties and responsibilities of parents and children, and the love and respect for one's own parents. The first question asks how important the family is in one person's life and can take values from 1 to 4 (with 1 being not important at all and 4 being very important). The second question asks whether the respondent agrees with one of two statements and can take the value of 1 or 2, respectively: (1) One does not have the duty to respect and love parents who have not earned it; (2) Regardless of what the qualities and faults of one's parents are, one must always love and respect them. The third question prompts respondents to agree with one of the following statements (again taking the value of 1 or 2, respectively): (1) Parents have a life of their own and should not be asked to sacrifice their own well-being for the sake of their children; (2) It is the parents' duty to do their best for their children, even at the expense of their own well-being. This measure is used to study the impact of culture on a variety of outcomes, including labor-force participation of women, young adults, and the elderly; political participation; measures of generalized trust; household production; and geographical mobility (see Alesina and Giuliano (2010, 2011b, 2013)). The main idea is that societies that rely too much on the family have a lower level of generalized trust and lower civic sense. In addition, according to the "male breadwinner hypothesis," societies with strong family ties tend to have a higher level of home production, which is mostly done by women, young adults, and older people. Additional measures of family ties can be derived by objective measures based on frequency of contact between family members or how close to the parents children live after they leave their parental house. For instance, in Spain, Greece, and Italy about 70% of children live less than five kilometers from their parents' home, while in Denmark the figure is less than 30%.[13]

Strong family ties are also at the core of industrial structures based on family firms. Using a measure of family ties similar to Alesina and Giuliano (2010), Bertrand and Schoar (2006) indeed show that in cultures with strong family ties family capitalism is more common and that a larger fraction of firms are family businesses.[14] The authors show that this industrial structure is suboptimal: nepotism in hiring normally decreases the average quality of the firm; in addition managers, who are normally family members, tend to be too risk-averse. Finally, on average, family firms tend to remain smaller. Several studies looking at European and Latin American countries show that, on average, family firms perform less well than nonfamily firms.

Greif (2005, 2006b) uses the distinction between nuclear family and extended kinship groups to study how the nuclear family in medieval times facilitated the establishment and growth of corporations. Extended kinship groups helped facilitate trade and establish trust-based relationships. Greif and Tabellini (2012) show that the presence of the nuclear family in Europe as opposed to the clan (a group consisting of families that traced their patrilineal descent back to one common ancestor who settled in a given locality) in China was a key to explaining patterns of urbanization in Europe and not in China.

Todd (1983, 1990) argues that different forms of family structures explain the diffusion or resistance to social changes in Europe, including Protestantism, secularism, and the acceptance and diffusion of communism. Todd characterizes family types along two dimensions. The first dimension is the vertical relationship between parents and children. This relationship is said to be "liberal" if children become independent from their parents at an early age and leave their parental home as soon as they get married, or "authoritarian" if children continue to depend on their parents in adulthood and still live with them after marrying. Todd's second dimension is the horizontal relationship between siblings, based on inheritance laws or practices. The relationship is considered to be egalitarian if siblings receive an equal share of family wealth after their parents' death, or nonegalitarian when parents can favor one offspring at the expense of the others and transmit family wealth only to one targeted child.

---

[13] See Alesina, Algan, Cahuc, and Giuliano (2013).

[14] The latter can be defined as a company in which a family holds control of a company, either by not trading it publicly or by holding majority stakes if it is a publicly traded company. See also Caselli and Gennaioli (2011) for evidence regarding inefficiencies in the management of family firms.

Todd's two dimensions yield four possible family types of family organization. The *absolute nuclear family*, characterized by a relatively loose relationship between parents and children and by nonegalitarian inheritance rules. The *egalitarian nuclear family*, with relatively liberal relationships between parents and children and egalitarian inheritance rules among children. The *stem family*, characterized by an authoritarian vertical relationship and a non-egalitarian horizontal relationship. Finally, the *communitarian family*, characterized by cohabitation of parents and children and egalitarian inheritance rules.[15] Absolute nuclear families are widespread in the United States, the United Kingdom, Australia, New Zealand, the Netherlands, and Denmark. Egalitarian nuclear families are prevalent in Italy, Spain, Greece, Portugal, Romania, Poland, Latin America, and Ethiopia. Stem families are common in Austria, Germany, Sweden, Norway, the Czech Republic, Belgium, Luxembourg, Ireland, Japan, Korea, and Israel, whereas communitarian families are common in Russia, Bulgaria, Finland, Hungary, Albania, China, Vietnam, Cuba, Indonesia, and India.[16]

Duranton et al. (2009) use Todd's classification to explain regional disparities across Europe in household sizes, educational attainment, social capital, labor force participation, sectoral structure, wealth, and inequality. Galasso and Profeta (2012) use Todd's classification to show that family structures are crucial for explaining different types of pension systems, and that Todd's definition of nuclear and extended family is strongly correlated to the measure of family ties as defined in Alesina and Giuliano (2010).[17]

[15] Todd's family classification is based on historical monographs dating back to the Middle Ages, in different regions of Western European countries. These monographs were collected by the church or other legal powers to track their local population and levy taxes. Todd combined these historical monographs with census data in the 1950s and found a very strong persistence of the family arrangement across European regions since the Middle Ages.

[16] In his provocative book *On the Origin of English Individualism*, Macfarlane (1978) distinguishes two "ideal types" of societies based on different family structures: the peasant society, based on the extended household, self-sufficient villages, limited geographical and social mobility, early marriage arranged by the family, high fertility because children are an economic asset, and patriarchal and communal moral values; and the modern society, based on the nuclear family, production for the purpose of trade, interdependence of towns, controlled fertility, late marriage, and moral individualism. His main idea was that England displayed most of the features of modernity at least as far back as the fourteenth century. Therefore there was no transition to modernity.

[17] A voluminous literature in anthropology has focused on other types of societal organizations, such as the clan (a unilineal group of relatives living in one locality), the kin group (a collection of various clans that comprises "socially recognized relationships based on supposed as well as actual genealogical ties" (Winick, 1956, page 302)) or the ethnic group ("a group that entertains a subjective belief in their common descent because of similarities of physical type or of customs or both, or because of memories of colonization and migration. This belief must be important for group formation; furthermore it does not matter whether an objective blood relationship exists" (Weber, 1978, page 389)). For more on the relationship between kinship groups and economic outcomes, see La Ferrara and Milazzo (2011) on how kinship differences in inheritance rules can affect economic outcomes; Fafchamps (2000) and Fisman (2003) on how belonging to the same clan has an impact on credit access; Luke-Munshi (2006) on how belonging to the same clan increases the probability of employment and of finding high-paying jobs. For a review on the relevance of kinship ties in development, see La Ferrara (2010). There is also interesting experimental evidence on how differences in kinship ties affect behavior in trust and ultimatum games. Barr (2004), for example, studies various villages in Zimbabwe. She

d. Generalized vs. limited morality

Tabellini (2008a, 2010) builds a measure of generalized morality as opposed to limited morality as a cultural trait relevant in fostering economic development. "Limited morality" exists where cooperative behavior is extended only towards immediate family members, whereas "generalized morality" exists where cooperative behavior is extended toward everyone in society. The idea comes from Platteau (2000), who posited that in hierarchical societies, codes of good conduct and honest behavior are confined to small circles of related people (such as members of the family or the clan). Outside this small network, opportunistic and highly selfish behavior is regarded as natural and morally acceptable. By contrast, in modern democratic societies the rules of good conduct are valid in all social situations, not only in a small network of friends and relatives. This idea is related to that of (possibly extended) family ties.[18]

To measure generalized morality, Tabellini (2008) uses two questions taken from the WVS: a measure of generalized trust (as described above) and the value attached to respect for other people as one of the fundamental beliefs that should be transmitted from parents to children. This second measure, in particular, comes from an answer to the following question: "Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?" The variable "respect for other people" is defined as the percentage of people in a country who mentioned that tolerance and respect for other people is important. In a companion paper, Tabellini (2010) adds to the measures of trust and respect for other people the importance of obedience as one of the qualities that parents should transmit to their children (the good value is lack of obedience). He also adds a general measure of individualism as given by answers to the following question: "Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them." Respondents answer on a scale from 1 to 10, where 1 means "none at all" and 10 means "a great deal." Measures of generalized morality are relevant in explaining economic development across countries and among regions of Europe.

---

compares two groups: a group of new villages set up in 1997 as resettlements consisting almost entirely of unrelated households and a control group of non-resettled villages made up almost exclusively of kins. She finds lower levels of trust in resettled villages, which she interprets as a result of lower density in kinship ties.

[18] Greif and Tabellini (2012) associate generalized morality with the diffusion of the nuclear family in Europe, whereas limited morality was typical of China, where the clan was more diffused.

e. Attitudes toward work and perception of poverty

Cultural attitudes towards work are obviously crucial. The Weberian theory of the birth of capitalism in a sense relies on this trait: the Protestant revolution, according to Weber, implied a different attitude towards hard work and success in the current life relative to the Catholic doctrine predominant in Europe at the time. This belief is measured using a question from the World Values Survey or the General Social Survey. The question typically asks the respondent to choose on a scale from 1 to 10 between the following two statements: "In the long run, hard work usually brings a better life" versus "Hard work does not generally bring success — it is more a matter of luck and connections."

Recent research has emphasized different views about the role of hard work in people's life. Some people believe that hard work is the avenue for success, a road available to many, which leads to a relatively high level of social mobility. Others believe that success is determined instead mostly by luck and personal connections; as a result social mobility is low. These views tend to be deeply ingrained: people whose views differ may face the same reality and maintain for a long time different opinions about whether hard work is the key to success (Alesina and Glaeser (2004)). Several papers have shown that beliefs concerning the income-generating process could be central in determining the form of economic organization (Piketty (1995), Benabou and Ok (2001), Alesina, Glaeser, and Sacerdote (2001), Benabou and Tirole (2006), and Di Tella, Galiani, and Schargrodsky (2007)). Doepke and Zilibotti (2008) define a "middle class" belief using the work-versus-luck variable defined above as well as a variable regarding the importance of thriftiness as a value to be transmitted to children. These authors argue, similarly to Weber in a sense, that these two values were relevant for explaining the industrialization process and the demise of the landed aristocracy.

A related issue concerns views about poverty. One question from the WVS asks whether the respondent believes that the poor could become rich if they tried hard enough.[19] This statement could also imply a moral value regarding the poor: are they lazy or unfortunate[20]? Alesina and Giuliano (2011a), using WVS data, show that expectations about social mobility are strongly correlated to views about the poor. Alesina and Glaeser (2004) document the chasm between Americans and Europeans regarding this value judgment. They discuss the evolution of this

[19] The WVS asks respondents their opinion about whether most people in the country have a chance of escaping from poverty or very little chance of escaping from it.

[20] The WVS asks respondents their opinion about why there are people in the country who live in need. There are two different opinions: People are poor because of laziness and lack of will power, or people are poor because of an unfair society.

difference, and they relate this difference to the relative generosity of the respective welfare states. They also emphasize that poverty is viewed with less sympathy when it is correlated with racial differences, namely when the poor are disproportionately racial (or, more generally, linguistic or religious) minorities.[21]

f. Religion

The literature on religion as a country's primary expression of cultural norms is vast (see Guiso, Sapienza, and Zingales (2003) for a review). Several aspects of religion have been considered relevant for economic outcomes: Weber attributes the emergence of the spirit of capitalism to the development of a Protestant ethic, although recent empirical studies do not confirm this hypothesis (see Becker et al. (2009)). Putnam et al. (1993) focus on trust and claim that the Catholic tradition, which emphasizes the vertical bond with the Church rather than a horizontal bond with fellow citizens, negatively affects people's average level of trust in others.

There are two relevant issues related to religion. One is religiosity, namely the extent to which people devote time to attending religious services or, more generally, their involvement in religious activities. The second is whether different religious doctrines have different implications for economic behavior. These two issues have different implications. For example, Barro and McCleary (2003) find that economic growth responds positively to the extent of religious beliefs (beliefs in heaven or hell) but negatively to religiosity as measured by church attendance.

Empirically, the relevance of religion has been measured in different ways, for example by looking at the fractions of religious denominations in a country; by focusing on specific beliefs, such as belief in heaven or hell; and by measuring the Weberian value of effort and self-determination. It is therefore difficult to summarize religion with a single, unique variable; for this reason, we exclude it in the correlations among different cultural traits analyzed below. Guiso, Sapienza, and Zingales (2003), however, show a positive correlation between religiosity and trust, and a negative correlation between religiosity and tolerance, among different cultures.

g. Using evidence from migrants to measure the impact of culture

One way of studying the role of preferences and cultural values, holding institutions constant, is to look at the behavior of immigrants from different countries in the same destination country, typically, but not exclusively, the United States. This is a sort of "natural experiment," in which institutions are held constant (immigrants are born and raised in the United States and

[21] For more on this point, see Alesina, Michalopoulos, and Papaioannu (2013).

therefore face the same institutional environment). Second-generation immigrants constitute a more appropriate sample compared to first-generation immigrants because issues of disruption and selection due to migration are more limited.[22] This methodology implies running regressions where the left-hand-side variable is the outcome among second-generation immigrants and the dependent variable is the same outcome in the country of origin. The regressions show the relevance of culture, holding institutions constant, since immigrants face the same institutional environment.

Persistence of cultural traits among second-generation immigrants has been found for female labor-force participation (Alesina and Giuliano (2010), Fernandez and Fogli (2010)).[23] Giuliano (2007) shows that living at home with parents is also a cultural trait that immigrants bring with themselves. Luttmer and Singhal (2011) look at preferences for redistribution and find that immigrants from societies where the welfare state is more generous maintain those preferences in different destination countries.[24] Grosjean (2011b)[25] shows that the level of crime in U.S. counties today correlates to the settlement of the counties by herders from Scotland. The fraction of Scottish-Irish immigrants is a proxy for the relevance of a "culture of honor" and the associated violence that was transmitted from generation to generation. In this case, the fraction of immigrants of a certain origin can be seen as a proxy for a certain cultural belief.

By isolating the importance of institutions, the evidence coming from the study of second-generation immigrants implicitly shows that some cultural traits travel with individuals when they move to a society with different institutions and values. Therefore cultural values are persistent, and moving to a place with different institutions does not change them immediately, certainly not within the timeframe of two generations. This finding does not contradict the possibility that the "melting pot" could work; the empirical question is, at what speed do cultural values converge? Perhaps, as hinted above, there may be parts of cultural traits that converge and adapt to different circumstances more quickly than others.

h. Correlations among cultural traits

Below, we report the cross-country correlations among most of the cultural traits highlighted above. As is apparent in Table 1, most traits are correlated, but not perfectly, as one would expect. In one case, the high correlation is built-in by construction: the one between trust and generalized

[22] Also, it is not often obvious how self-selection would bias the results.
[23] Fernandez and Fogli (2010) find similar results for fertility.
[24] The authors use data from the European Social Survey and study immigrants in 26 destination countries.
[25] On the relationship between a culture of honor in the United States and the presence of Scottish-Irish immigrants, see Nisbett et al. (1996).

morality, since the latter includes trust amongst its components. In other cases, the correlation is expected, for instance the one between family ties and individualism.

Though all of these variables measure different types of cultural traits, they could also reflect various aspects of an underlying cultural belief of individualism, self-reliance, and independence on the one hand, versus collectivism, reliance on the extended family, and lower trust. Of all the cultural traits, the one that appears to be less systematically correlated with others is the relevance of hard work versus luck as a driver of economic success in life.

Table 1. Correlations among cultural traits

	Family ties	Generalized morality	Individualism	Trust	Work-luck	Middle-class beliefs
Family ties	1					
Generalized morality	-0.49***	1				
Individualism	-0.48***	0.60***	1			
Trust	-0.57***	0.83***	0.50***	1		
Work-luck	0.33***	-0.08	-0.24*	-0.02	1	
Middle-class beliefs	-0.34***	-0.01	-0.14	0.06	-0.68***	1

Data on *individualism* comes from Hofstede (2001). All the remaining variables are authors' calculation using five waves of the World Value Survey. *Family ties* is the principal component of the following three questions: a) How important the family is in one person's life (on a scale from 1 to 4); b) the second question asks the respondent to agree with one of two statements-one does not have the duty to respect and love parents who have not earned it versus regardless of what the qualities and faults of one's parents are, one must always love and respect them; c) the third question prompts respondents to agree with one of two statements: parents have a life of their own and should not be asked to sacrifice their own well-being for the sake of their children versus it is the parents' duty to do their best for their children even at the expense of their own well-being; generalized morality is the principal component of the following two questions. *Generalized morality* is obtained as a principal component of three questions: a measure of trust (defined below) and the answer to two different questions asking the respondent whether respect and obedience are qualities that children should be encouraged to learn at home. For *trust* the respondent is asked the question: "Generally speaking, would you say that most people can be trusted or that you can't be too careful when dealing with others? Possible answers are either "Most people can be trusted" or "Need to be very careful". For the question *work-luck* the respondent needs to choose between two statements: In the long run, hard work usually brings a better life or Hard work does not generally bring success, it is more a matter of luck and connections. *Middle-class beliefs* are calculated as a principal component of the *work-luck* belief and the question regarding the importance of thriftiness as a value to be transmitted to children.

Figure 1 shows world maps depicting the geographical distribution of the various cultural traits. Northern European countries, together with the United States, Australia, and New Zealand, have high levels of trust, individualism, and generalized morality. The United States also emphasizes effort (as opposed to luck) as the main driver of economic success, whereas this belief is less prevalent in Northern European countries. Since this belief is strongly related to preferences for redistribution, the difference could be due to the vastly differing U.S. and European welfare systems (Alesina and Glaeser (2004)).

The Scandinavian countries have the lowest measure of family ties while the measures for African, Latin American, and some Asian countries are among the highest. Southern Europe measures high, but not among the highest. Similarly, the United States appears to have strong family ties, although the magnitude of the score is driven mostly by the question asking the importance of the family in a person's life and not by strong links between parents and children (as summarized by the other two questions).

Individualism is particularly high in the United States, Australia, and Northern Europe.[26] Middle-class beliefs (as measured by Doepke and Zilibotti (2008)) seem to be strong in some emerging markets, such as China, Russia, and Brazil, and most of the Eastern European countries, together with Germany.

Within each country, there is often substantial heterogeneity across regions. For instance, Guiso, Sapienza, and Zingales (2004), Tabellini (2010), and Alesina and Giuliano (2013) take advantage of regional differences regarding generalized morality, trust, and family values inside the regions of Italy, Europe, and the whole world, respectively. This regional heterogeneity is quite useful empirically, as we shall see below, since it allows studying the correlation of culture with various economic variables, holding national institutions constant. Regional variations, often large, also implicitly demonstrate that national institutions in general do not automatically generate a uniform culture, even though national rulers often try to enforce (sometimes aggressively) homogeneity amongst regions and populations.[27]

2.3. Where does culture come from?

We argued above that neither culture nor institutions are exogenous. The Marxian view, for instance, would imply that cultural values, as well as institutions, are the result of the organization of production, technology, and class divisions.

As far as culture is concerned, many recent papers have investigated the relevance of geography, natural disasters, or revolutions as determinants of culture. This paper is not the place to review in detail this literature, which in many ways is in its infancy, but still, a few examples are useful. Alesina et al. (2013) show that differences in female labor-force participation or, more generally, the role of women in society are related to the agricultural technologies used in

[26] Italy, despite having strong family ties and a relatively low level of trust, appears to have a high score on this value, which is somewhat surprising.

[27] See Laitin (2007) and Alesina and Reich (2013) for a recent discussion of this point.

preindustrial times, namely the use of the plow, which is determined by the geographical suitability of land to certain types of crops.

Engerman and Sokoloff (1997) also emphasize the role of geography and endowments of land in explaining cultural differences between South and North America. Voigtlander and Voth (2013) show how the Black Death in Europe increased the need for labor and generated a shift in marriage age in some (but not all) parts of Europe.[28] Voigtlander and Voth (2012) show the relevance of the presence of plague-era pogroms for the determination of anti-Semitism. Nunn et al. (2011) relate slave trading to current levels of mistrust in Africa. They argue that due to various geographical features, certain tribes more easily fell prey to slave traders, who were often helped by other African tribes.

As well, Nunn (2009, 2013) provides excellent reviews of the role of history in the determination of cultural traits.

3. The definition and measurement of "institutions"

3.1 Definition

There are two main definitions of institutions: institutions-as-equilibria and institutions-as-rules. The concept of institutions-as-equilibria is provided in Greif (2006a): "An institution is a system of 'institutional elements,' particularly beliefs, norms, and expectations that generate a regularity of behavior in a social situation. These institutional elements are exogenous to each decision-maker whose behavior they influence, but endogenous to the system as a whole. The social 'rules' which emerge correspond to behavior which is endogenously motivated — constrained, enabled, and guided by self-enforcing beliefs, norms, and expectations. In addition, for an institution to be perpetuated, its constituent elements must be confirmed by observed outcomes, reinforced by those outcomes, and inter-temporally re-generated by being transmitted to new comers."

The example given by the author describes the difference in institutions developed by Genoese and Maghribi traders in Medieval Europe. The Genoese society, characterized by individualistic cultural beliefs, experienced a higher demand for legal-contract enforcement than the collectivistic, kin-based community of the Maghribi traders. The Genoese developed formal institutions, including codified contract laws, double-entry bookkeeping, bills of lading, and other precursors of modern business practices.

[28] See Alesina (2013) for a connection between this effect, the Protestant revolution, and the birth of capitalism.

The definition of institutions-as-rules dates back to Montesquieu (1749) and in more recent times to North (1990). It implies that institutions are the rules-of-the-game in a society, or more formally, the humanly devised constraints that shape human interactions. Institutions can be either formal rules — explicit, written documents such as laws and constitutions — or informal constraints, such as conventions and norms. In North's theory, formal rules are created by the polity, whereas informal norms are "part of the heritage that we call culture."

An application of institutions-as-rules is the functioning of states. The state is the most important source of formal rules, including laws and constitutional mandates. Acemoglu and Robinson (2006) emphasize the difficulty in choosing efficient rules, due to commitment problems. The difficulty is also compounded because the rules might be "efficient" in a static sense but suboptimal in a dynamic sense. Acemoglu et al. (2001, 2002), for example, show that in places where Europeans found settlement difficult, they created "extractive states" aimed at transferring resources to the mother country. In areas more conducive to European settlement, they found it more profitable to build institutions aimed at protecting private property and encouraging investment. These institutions persisted even after independence and led to several reversals of fortune in the nineteenth century, because regions that had previously been poor inherited institutions that later enabled the societies to industrialize.

The main difference between the two approaches is that in the institutions-as-rules approach, since rules are exogenous, institutions work best where there are well-functioning, transparent enforcement institutions and where the rules are easy to observe. If these conditions are not met, then the institutions-as-equilibria approach is a better model, because enforcement is endogenous and motivation is provided by norms and beliefs. In other words, the content of the rules and their enforcement are all determined endogenously (see Greif, 2011).

In Greif's work the connection between culture (beliefs and social norms) and institutions (rules and the working of society) is implicit in his definition. Culture and institutions are deeply interconnected and together determine a social equilibrium. His path-breaking work on medieval trade illustrates that well. North's definition isolates institutions-as-rules in a way that is independent from cultural variables. In this respect, in principle, one could ask what causes what or which of two separate variables evolves more slowly. Needless to say, this is a daunting task. The two definitions of institutions are sometimes confused and opaque in the empirical literature.

3.2 Measurement

It is, of course, difficult to provide "measures" of institutions in the definition of institutions-as-equilibria. However, many variables have been constructed to measure institutions-as-rules. One of the most common is an index of protection against expropriation (see Acemoglu et al. (2001)). These data, collected from Political Risk Services, report a value between 0 and 10 for each country and year, with 0 corresponding to the lowest protection against expropriation. Glaeser et al. (2004), however, object to this variable as a measure of institutions. They argue that this is a policy outcome and not an institution. They also argue that many regimes which would be clearly very different, such as democracies versus dictatorships, exhibit the same level of "protection of property rights."

Other measures of political institutions are those indicating constraints on the executive coded from the Polity IV dataset, and an index of democracy from the same source. Many other variables have been constructed to measure the "quality of government," which broadly speaking can be viewed as a measure of well-functioning of the public sector, such as control of corruption and efficiency of the bureaucracy. However, though these variables are used as institutions, they are mostly policy outcomes.[29]

Another type of institution has to do with legal aspects. La Porta et al. (1997, 1998) have underscored the importance of "legal origins" as the critical rules that determine, for instance, investors' protection and the development and efficiency of financial markets.

Finally, there are regulatory institutions, such as labor-market regulations, regulations of markets for goods and services, antitrust laws, and various regulatory-environment indices that have been coded and assembled by the OECD, the World Bank, Djankov et al. (2002), and Botero et al. (2004), among others.

A good summary of the institutional qualities discussed above is the World Bank's Worldwide Governance Indicator (WGI). The WGI reports on six dimensions of governance for 215 countries from 1996 to 2011.[30] Different aspects of institutional features are strongly correlated

[29] See La Porta et al. (1999).

[30] These six dimensions are voice and accountability (the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media), political stability and absence of violence (measuring perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism), government effectiveness (about the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies), regulatory quality (the ability of the government to formulate and implement sound policies and regulations that permit and promote private-sector development), rules of law (capturing perceptions of the extent to

among each other, for example the correlation among the various WGI indicators is at least 0.8. Easterly and Levine (2003) also show that they are strongly correlated with the standard measure of protection of property rights, one of the most used measure of institutions.

Various datasets, such as the Quality of Government Dataset compiled by the Quality of Government Institute at Goteborg University, have combined a large set of measures of institutional features (including property rights, rule of law, etc.) for a large set of countries from 1946 to today.

4. From culture to institutions

4.1 Culture and financial institutions

An important literature emphasizes the importance of "legal origin" or, more generally, of financial institutions for the development of financial markets and their functioning (La Porta et al. (1998), Glaeser and Shleifer (2002)). However financial and trade-related institutions may themselves originate, evolve, and be shaped by cultural variables.

A historical example of the relevance of culture on shaping institutions is provided by Greif (1994) in his analysis of the cultural differences between medieval Maghribi and Genoese traders. Maghribis held "collectivist" Judeo-Muslim beliefs and norms, which led them to develop different institutions from their "individualistic" Christian counterparts. The prevalence of collective relationships within a closely knit, exclusive group implied for the Maghribis an informal enforcement mechanism and therefore the lack of effective legal contract enforcement. The Genoese society, characterized by individualistic cultural beliefs, experienced a higher demand for legal contract enforcement than the collectivistic, kin-based community of the Maghribi traders. The Genoese developed formal institutions, including codified contract laws, double-entry bookkeeping, bills of lading, and other precursors of modern business practices.

In Greif's view, therefore, different cultural values were at the origin of the feasibility of private alternatives to the public legal system as a basis for economic transactions.

Another extensively investigated case is the relevance of trust for various aspects of financial institutions. Different levels of trust may imply different needs regarding investors' protections or other regulatory variables. Financial institutions would not "cause" financial development if deep cultural variables would work against it. The legal system could enforce financial contracts, but

---

which agents have confidence in and abide the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence), and control of corruption (the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests).

without trust it would be extremely costly to involve courts in financial transactions. Thus cultural values (especially trust) lead to the development of financial markets and the type of regulation adopted.

This is the argument made by Guiso, Sapienza, and Zingales (2004, 2008a, 2008b), in their examination of the role of trust in determining attitudes towards financial transactions and the development of financial markets — in short, the "financial depth" of a country.

In their series of papers, the authors show many results. First, trust is strongly related to how individuals invest and participate in financial markets. The variation is large within the same legal system; in fact, they analyze within-country variation. For instance, use of cash, participation in the stock market, and use of bank loans versus loans from friends are all variables that affect the financial structure of a country, and these authors show that cultural values affect them much more than "standard" variables like risk aversion.

The authors also assert that, at the macroeconomic level, the inclusion of cultural values could shed light on several puzzles in finance. For instance, stock-market participation is higher in countries with a higher level of trust; differences in the levels of trust could therefore explain low participation rates in various countries. Also, trust is much higher among citizens of the same country, thus investors hold a higher percentage of domestic assets than they "should" based on pure theories of portfolio diversification. The same authors show that a bilateral matrix of trust across countries explains a remarkable amount of cross-border holding of equities and Foreign Direct Investment.

How does this work relate to the emphasis of La Porta et al. (1997, 1998) on legal institutions as determinants of financial development? Perhaps this is an example of what Greif defines as the social equilibrium including a combination of legal institutions and cultural variables. The interaction of certain legal origins (Anglo-Saxon ones) and a high level of trust present in those countries (as discussed above) lead to financial development.

Guiso, Sapienza, and Zingales (2004) also show that differences in bilateral trust across pairs of countries have strong explanatory power in a standard gravity equation for trade flows. This correlation is robust to the inclusion of legal origins and institutions.[31] Obviously, issues of reverse

[31] Differences in the legal system could originate, in turn, from differences in cultural values, such as religious beliefs. Kuran (2005) shows that Islamic inheritance laws were an obstacle to the formation of the modern corporation, as emerged in Italy during the Renaissance. Community-building was central to Islam's mission. At the birth of Islam, the Arabian Peninsula was divided into tribes bound together by blood ties. The strong bonds within one's own tribe implied that intertribal alliances formed for defensive purposes were inherently unstable, with strong insecurity and harm

causation are a first-order problem here. Bilateral trade may increase bilateral trust rather than the other way around. The authors address this issue using instrumental variables. As an instrument for trust, they use commonality of religion and a measure of somatic distance.[32] They also show an additional supporting piece of evidence: the correlation of bilateral trust and trade is strong for differentiated products and absent for standardized ones, like oil. Mutual trust is in fact more likely to be relevant only in markets where quality control, tastes, and diffusion of information are more important relative to a standardized market.

4.2 Culture, politics, and political regimes

Can culture explain the diffusion of ideology? Why, for example, did only certain countries adopt Communism? The question is intriguing, since Marx and Engels predicted that Communism would "win" in industrialized Western Europe in the nineteenth century. Instead, it prevailed in agricultural, backward China and Russia, the exact opposite of the Marxist prediction and theory. Why?

Todd (1990) offers a provocative answer: different economic ideologies found fertile ground, "won," and developed political institutions in places where the underlying family structures, which go back at least to medieval times, were consistent with the ideology. Todd argues that communism prevailed in societies with communitarian families (authoritarian in the relationship between parents and children, and egalitarian among siblings). This is because individuals were accustomed, within the family, to the same authoritarian system adopted at the level of government institutions. On the contrary, the absolute nuclear family of England was a fertile ground for the development of nonegalitarian capitalism, individualism, and market freedom. What is amazing in Todd's remarkable analysis is the presence of within-country heterogeneity, despite the existence of national institutions. For instance, in the case of Italy he relates the traditional prevalence of communist votes in central Italy with a specific type of family relationship in that part of the country. Note the connection between Todd's argument regarding the extended egalitarian family and the prevalence of communism with the "collectivist" society in Greif (1994). In both cases, a horizontal line (the clan in Greif, the communitarian family in Todd) interferes with the value of

to wealth creation. Islam responded to this broad need by promoting communal bonds based on religion rather than descent. The formation of these communal bonds was guaranteed by the presence of the waqs, a type of unincorporated trust. The reason for such an institution was based on the need to have an institution based on an individual instead of one involving self-governance by an organized group, such was the case of corporations during the Renaissance, for example.

[32] The measure of somatic distance is based on the average frequency of three specific traits in the indigenous population, taken by Biasutti (1954): height, hair color (pigmentation), and cephalic index (the ratio of the length and width of the skull).

individualism, which brought about modern forms of capitalism. Alesina and Glaeser (2004) also relate the lack of development of a communist party in the United States with, among other things, the culture of individualism and the views about poverty discussed above.

Roland et al. (2013b) study the importance of culture as a determinant of democratization. The authors construct a simple model of democratization that includes individualist and collectivist cultures. They show that countries having a more individualistic culture, despite potentially being less able to overcome collective-action problems, are more likely to end up adopting democracy faster than countries with a collectivistic culture. Empirically, they show that there is a strong causal effect from individualistic cultures to average polity scores, controlling for other determinants of democracy. To prove causality, the authors use (alternatively or together) two instrumental variables. The first is a measure of genetic distance between countries based on differences in frequencies of blood types within countries. This instrument is used as a proxy for vertical cultural transmission from parents to children. The second is a measure of historical pathogen prevalence. This variable has been argued to have a direct effect on the choice of collectivist culture because stronger pathogen prevalence created better survival prospects for communities that adopted more collectivist values, putting stronger limits on individual behavior, showing less openness towards foreigners, and strongly emphasizing tradition and stability of social norms.

Not only the establishment of a democracy but also its functioning may depend on cultural variables.[33] Nannicini et al. (2012) show that in localities with a higher level of social capital, citizens are more likely to hold politicians accountable for the aggregate social welfare of the community. They will punish politicians who pursue vested interests and grab rents for some specific groups. In contrast, uncivic agents vote based on their own or group-specific interest and are more tolerant with amoral politicians. Nannicini et al. (2012) convincingly test the prediction of their model by using cross-district variation in the criminal prosecution of members of the parliament in Italy. They find that these members are much less frequently reelected in districts with higher social capital. These results confirm the intuition by Banfield (1958). In his study of a village in Southern Italy, the author argued that the lack of social capital made villagers completely uninterested in checking up on self-interested politicians. In fact, these checkups constitute a public good, which like any other is undersupplied when social capital is low.

Well-functioning political institutions also need citizens who are interested in and participate in politics, including not only voting occasionally but also engaging in time-consuming activities, in

[33] Glaeser et al. (2007) argue that human capital is another precondition for democratic institutions to work.

addition to remaining informed. Alesina and Giuliano (2011) show that strong family ties are negatively correlated with political participation. Once again, this is consistent with the argument by Banfield (1958).

4.3 Religious values and institutions

The most famous argument linking religion to the development of market-based capitalism is in the Weberian hypothesis of the protestant spirit of capitalism. In a similar vein, several authors have linked the specific nature of laissez-faire American capitalism to certain specificities of the American form of religiosity (Berkovitch (2011), McKenna (2007), Noll (2002)). These authors argue that specific traits of North American Protestantism and Calvinism lead to a close connection with religious beliefs and the role of the free market as almost a religious dogma.

McKenna (2007) argues that being a nation of immigrants, Americans were kept together by religion (Protestantism and Calvinism) and by the principles of the Declaration of Independence. This is in contrast with European countries, where the glue was based upon similarity of norms and affinities built over centuries of coexistence. These religious views in the United States turned into a sense of patriotism, which accompanied the development of market institutions and accompanied this country for its entire history.

Noll (2002) notes that between independence and the Civil War, "the expansion of market economies especially when linked to liberal principles about the rights of individuals certainly became a theological as well as a social factor." He adds that in the same period, "the basic Protestant stance remained an uncomplicated acceptance of commercial society." This would be in contrast with the Catholic Church, which has repeatedly warned against the excess of market freedom and professed antipathy (up until the present time) for Anglo-Saxon forms of capitalism.

Differences in religious beliefs and religiosity may then also affect preferences for the redistributive role of the state. For instance, individuals belonging to the low-middle class may vote for laissez-faire, anti-redistributive policies if preferences for redistribution are linked to religious beliefs.[34] So religiosity, cultural values, and preferences for welfare policies are strongly intertwined; Protestants may be more accepting of inequality than, say, Catholics.[35]

Certainly, even the Protestants and the Calvinists showed antipathy for excessive wealth and the immoral behavior associated with it, but they never abandoned the religious value of hard work,

---

[34] Roemer (2001) argues that anti-redistributive politicians can then use religiosity and religious beliefs to bundle to their advantage the preferences of the voters.

[35] Guiso, Sapienza, and Zingales (2003), however, show inconclusive evidence on this point.

commerce, and acquisition of prosperity. There is no sense of contradiction between these principles. Noll (2002) writes that "Protestants, regularly, consistently, and without sense of contradictions both enunciated traditional Christian exhortations about careful financial stewardship and simply took for granted the workings of the expanding United States' commercial society."

Fisher (1989) also emphasized the relevance of differences in cultural beliefs in determining the institutional evolution of the United States. He describes the four migration waves of the original settlers and documents the laws that different groups established as a result of specific cultural values and beliefs. The Puritans, the first group, arrived in Massachusetts from East Anglia; they were known for their beliefs in the importance of education and for maintaining order. They established institutions consistent with these beliefs: they introduced laws promoting universal education and justice, together with town meetings and town covenants mimicking those of their country of origin. The Virginia Cavaliers, the second group, arrived from the South and Southwest of England and settled in the Chesapeake Bay; they believed that group inequality was a natural state of the world. Accordingly, they introduced laws with low taxes and low government spending; they didn't emphasize the importance of education. For the Quakers, the third group, arrived from England's North Midlands and settled in the Delaware Valley; their fundamental belief was the relevance of personal freedom. As a result, they established institutions emphasizing equal rights and limited government intervention. The final wave, the Scottish-Irish, arrived from Northern England, Scotland, and Ireland and settled in the backcountry of the U.S. South; they believed in freedom from any constraint. They espoused minimal government intervention and a very limited justice system. As this fascinating book shows, the beliefs brought to the United States by the various groups, who placed differing emphasis on freedom, equality, and government intervention, were crucial determinants in the establishment and subsequent development of the first institutions in the United States.

Baltzell (1996) also compares the New England Puritans with the Philadelphia Quakers. The former were driven to intellectual and economic success. The latter displayed a culture of adaptation and indolence and were not especially prone to accumulate human capital and wealth.

The historical narrative about the role of Protestantism on the development of capitalism in Europe and in the United States, with its special features, is quite convincing; however two recent papers raise some empirical issues. Cantoni (2013) studies the economic success of German cities, comparing those whose prince adopted Protestantism with those that remained Catholic. His empirical evidence is mixed at best. Becker and Woessman (2009) argue that the channel linking

Protestantism to the development of capitalism is the result not of the Weberian argument but rather of human capital. In fact, Martin Luther preached that everybody had to read the Bible (which he translated in German for that purpose). Thus everybody had to learn how to read, spurring the accumulation of knowledge. Guiso, Sapienza, and Zingales (2003) find a small, Weberian-type difference in attitudes between Protestants and Catholics in recent years, whereas they document the presence of an effect of religiosity on several attitudinal variables.[36]

5. From institutions to culture

5.1 Exogenous institutional changes and shocks

In order to isolate the effect of institutions (as rules) on culture, one needs to identify institutional changes that are reasonably exogenous to cultural evolution. Not an easy task. Empirically, the effect of institutions on culture has been isolated in various ways.

One possible source of institutional change for which we have data is the advent and the fall of Communism in Central and Eastern Europe. Roland (2004) argues that the culture of these countries has changed very little as a result of Communism. He documents that cross-country comparisons of various views as captured by the WVS do not change that much across countries as a result of Communism. Shiller et al. (1992) exploited the collapse of the Soviet Union and East Germany and explored the potential impact of socialism on individual attitudes. By using surveys on six countries, they found little evidence of the so-called Homo Sovieticus.

Alesina and Fuchs-Schundeln (2007) develop a more stringent identification procedure, using the separation and reunification of Germany. Both events can be considered vastly exogenous to the preferences of Germans: separation due to a military defeat (and the actual border determined by postwar agreements between the Allies) and reunification due to the collapse of the Soviet Union. Taking advantage of the fact that before the separation the inhabitants of the two parts of Germany were ex ante uniform, these authors explore, using German opinion surveys after reunification, the effect of fifty years of Communism on Germans' beliefs and preferences. The focus is on people's views about the role of the state in the economy and in providing services and social insurance. They find that East Germans after reunification remain more pro-government than West Germans, possibly as a result of indoctrination or more simply because they had gotten used to an intrusive

[36] Clingingsmith et al. (2009) document various effects of a religious experience, namely the pilgrimage to Mecca (the Hajj) by Pakistani Muslims.

government.[37] Alesina and Fuchs Schundeln (2007) show that the convergence of preferences between former East Germans and West Germans is proceeding relatively quickly and should be complete in two generations.

Becker et al. (2011) focus on the Hapsburg Austrian Empire. This regime was relatively benign and in fact developed modern state institutions and enforced the rule of law. They compare similar populations close to the historical borders of the empire and study whether today there is a difference in attitude towards the state of populations that were historically in and out of the empire. They find some effect on various measures of trust towards the government, but not all measures of trust show significant differences, so the results are interesting but a bit inconclusive.

In a similar vein, Grosjean (2011a) examines location pairs within Eastern Europe and shows that the longer a pair was under the same empire historically, the more similar the reported social trust of the locations' citizens today. Peisakhin (2010) surveys 1,675 individuals living in 227 villages located within 25 kilometers of the Habsburg-Russian border that divided Ukraine between 1772 and 1918. Relying on information on cultural traits based on answers to survey questions, Peisakhin (2010) documents a wide range of statistically significant cultural differences between the two groups.

An interesting example of how a political shock could shape religious differences is analyzed by Botticini and Eckstein (2005, 2012). The authors have an intriguing interpretation of why Jews are so highly educated. A common explanation notes the religious norm for reading the Torah. But the authors instead posit that this trait developed after the destruction of the Second Temple in the first century. The Pharisees used education to limit the influence of the Sadducees over the Jewish community, when Jews were still farmers.

Wars and economic shocks can also shape values and beliefs. The research into wars' effect on attitudes has explored how a recent history of violence could shape norms of fairness. Whitt and Wilson (2007), for example, look at how people treat their in-group and how they treat the out-group. They do so by observing how much money individuals send in a dictator game to an anonymous but ethnically identifiable counterpart. The sample comprises 681 Muslims, Croats, and Serbs in postwar Bosnia-Herzegovina. Although the results indicate preferential in-group treatment, the incidence and magnitude of out-group bias is much less than expected. In a similar vein, Bauer et al. (2011) test the specific prediction that the experience of intergroup conflict shifts individual

[37] Obviously, the authors control for the fact that former East Germans may be more pro-government than former West Germans simply because they are on average poorer.

psychological motivations to favor in-group egalitarianism. The authors administered a series of social-choice tasks, designed to isolate in-group egalitarian motivations from selfish or generalized egalitarian and altruistic motivations, to over a thousand children and adults who were differentially affected by war in both the Republic of Georgia and Sierra Leone. The authors show that exposure to conflict-related violence between the ages of 7 and 20 shifts people's motivations to greater equality for in-group members. Overall, their results suggest that psychological reactions triggered by war during a particular developmental window generate more in-group-oriented egalitarian motivations. Other studies use behavioral games to link war and social motivations; in one, an ultimatum game conducted before, during, and after the Israel-Hezbollah conflict demonstrates that living in a society under an active, ongoing external threat temporarily increases the willingness of senior citizens to punish non-cooperators and reward cooperation (Gneezy and Fessler (2011)). Voors et al. (2012) reveal that in Burundi, people who have experienced war-related violence share more with their neighbors.[38]

Giuliano and Spilimbergo (forthcoming) look at how experiencing macroeconomic shocks when young affects beliefs regarding the role of luck versus effort as a determinant of economic success, as well as preferences for redistribution and political behavior. The authors show that individuals who grew up during a recession tend to support more government redistribution, believe that luck is more relevant than effort in determining economic success in life, and vote more for left-wing parties.[39]

The authors combine evidence from three data sources. First, they identify the effect of recessions on beliefs, exploiting time and regional variation in macroeconomic conditions using data from the 1972–2010 General Social Survey, which allows them to control for nonlinear time-period, life-cycle, and cohort effects, as well as a host of background variables. Second, they use longitudinal evidence drawn from the National Longitudinal Survey of the High School Class of 1972 (NLS72) to corroborate the age-period-cohort specification and look at heterogeneous effects of experiencing a recession during early adulthood. Finally, they confirm their findings with a sample of 37 countries whose citizens experienced macroeconomic disasters at different points in history, using data from the WVS.

[38] Acemoglu et al. (2011) study the effect of the Napoleonic conquest on the institutions of the regions that fell under French domination. This paper, however, does not investigate cultural effects.
[39] Malmendier and Nagel (2011) show that recessions make individuals more risk-averse and lower their propensity to invest in the stock market.

5.2 Experimental evidence

An alternative approach for identifying the effect of institutions on culture is to observe in lab experiments how individuals behave in different institutional settings. In his seminal work, Henrich et al. (2001) study 15 small, preindustrial societies and show that group-level differences in economic organization and the degree of market integration explain much of the behavioral variation across societies: the higher the degree of market integration and the higher the payoffs of cooperation, the greater the level of cooperation in experimental games. Gneezy, Leibbrandt, and List (2012) look at the evolution of trust, cooperation, and coordination in different Brazilian fishing villages that differ along one major dimension: in one society, located by the sea, fishermen work in teams, whereas in the other society, located around a nearby lake, fishing is an individual activity. The authors find that the sea fishermen trust and cooperate more and have greater ability to coordinate group actions than their lake fishermen counterparts. Herrmann et al. (2008) conduct large-scale cooperation games with and without punishment opportunities in 16 cities (which should be a proxy for a different institutional environment). They find that cooperation and antisocial punishment is highest in Boston and Melbourne and the lowest in Athens and Muscat. The order is highly correlated with the rule of law and the transparency of institutions in the corresponding country.

In the context of experimental games, a more sophisticated approach consists of mimicking and manipulating formal and legal rules. Compared to the simpler approach of observing individuals in a different institutional environment, this approach allows for a controlled experiment to estimate how people change their culture depending on exogenous variation in the rules of the games. The drawback is that formal and legal rules in experimental games differ from real-world institutions.

Dal Bo et al. (2010) design a laboratory experiment to study how democracy affects cooperation. In particular, they are able to distinguish how cooperation changes when a policy is imposed endogenously through a democratic process or imposed exogenously. In their study, subjects participate in several prisoners' dilemma games and may choose, by simple majority, to establish a policy that could encourage cooperation by imposing fines on non-cooperators. In some cases the experimental software randomly overrides the votes of the subjects and randomly imposes the policy. Before proceeding to play again with either the original or the modified payoffs, the subjects are informed of whether payoffs are modified and whether it was decided by their vote or by the computer. The authors show that the effect of the policy on the percentage of cooperative actions is 40% greater when the policy is democratically chosen by the subjects than when it is imposed by the computer.

5.3 Culture and the market

Bowles (1998) emphasizes the role of the fundamental economic institution, the market, in the formation of preferences/culture. This author develops a model in which the basic intuition is that the distribution of cultural traits in a population is determined as the equilibrium of a system whose exogenous elements are subject to the long-term influence of markets and other economic institutions. Economic institutions affect the evolution of preferences by changing these exogenous determinants of the cultural equilibrium.

His main conclusion is that economic institutions (for him the market) may affect preferences through five different channels: their direct influence on situational construal, forms of rewards, the evolution of norms, and task-related learning, as well as their indirect effects on the process of cultural transmission itself. His main point is that "the production and distribution of goods and services in any society is organized by a set of rules, among which are allocation by fiat in states, firms, and other organizations. … Particular combinations of these rules give entire societies modifiers such as "capitalist," "traditional," "communist." … One risks banality, not controversy, in suggesting that these allocation rules therefore influence the process of human development, affecting personality, habits, tastes, identities, and values." He concludes that "the argument that economic institutions influence motivations and values is plausible, and the amount of evidence consistent with the hypothesis is impressive." In particular, several ethnographic and historical studies recount the impact of modern economic institutions on traditional or indigenous cultures (see Bowles (1998) for a review of these studies). He also argues that the rise of feminist values, the reduction in family size, and the transformation of sexual practices coincided with the extension of women's labor force participation.

This last point has been more formally developed recently by Fernandez (2013) and Fogli and Veldkamp (2011), who show how women learn about the long-run payoff from working by observing nearby employed women. Culture would then quickly evolve over time as a result of this process: when few women participate in the market, information is scarce and participation rises slowly. As information accumulates, the effect of maternal employment becomes less uncertain and female labor force participation increases.

5.4 Regulation and culture

Political institutions, regulation, and internal labor-market organizations are among other institutional characteristics that could shape differences in values.

Gruber and Hungerman (2008) study the effect of changes in regulation (shopping hours) on religious practices (church attendance). The authors identify a policy-driven change in the opportunity cost of religious participation based on changes in state laws that prohibit retail activity on Sunday, known as "blue laws." Many states have repealed these laws in recent years, raising the opportunity cost of religious participation. The authors show that when a state repeals its blue laws, religious attendance falls and that church donations and spending fall as well. Di Tella et al. (2007) use an experiment among squatters in Buenos Aires who randomly received land titles. The author show that receiving land titles changes a wide range of beliefs and values (such as individualism, the role of merit, and trust).

Another interesting example, which also deals with the endogeneity issue, is a study done by Kohn et al. (1990) over a period of three decades. The authors, using evidence from Japan, the United States, and Poland based on a sample of male employees, show that one's position in an occupation hierarchy has a strong impact on the individual's valuation of self-direction and independence in their children, intellectual flexibility, and personal self-directness. These results are not driven by selection. In a series of related studies using longitudinal data, they use two-stage least squares to address the question of reciprocal causation, finding a substantial casual effect of occupationally determined values on other people's values, orientation, and cognitive functioning.

6. The interaction between culture and institutions

The most promising approach, both theoretically and empirically, to studying the interaction between culture and institutions acknowledges a two-way effect between the two to explain economic development and other types of economic outcomes. Rather than stressing the causal impact in one direction or the other, recent contributions have looked at the co-evolution of culture and institutions, leading, in some cases to multiple equilibria characterized by a combination of some types of culture and some types of formal institutions. The general idea underlying this approach is that a country (or a region, or an ethnic group, for example) shares certain cultural values, which lead to the choice of certain institutions. In turn, certain institutions lead to the survival (and transmission across generations) of certain cultural values. In a way, this exemplifies Greif's view of "institutions" that is not only a set of rules-of-the-game but also a social equilibrium, in which institutions-as-rules and culture as preferences/beliefs are jointly determined in equilibrium.

6.1 Regulation and culture

Aghion et al. (2010) examine the relationship between trust and regulation. In countries where trust is low, regulation is, ceteris paribus, higher. Institutionally fixed rules of behavior, prohibitions, and regulation are substitutes for trust and mutual respect as a way of guaranteeing a social contract when trust is low. Unfortunately, regulation has many additional costs, and therefore the lack of trust has negative effects on efficiency. However, when reciprocal trust and social capital are low, individuals prefer the corruption and inefficiency brought about by regulation in exchange for "protection" against non-cooperative behavior. When instead social capital is high, regulation is less necessary and people demand less of it and invest more in keeping up the level of social capital. Thus there are two equilibria, one with high social capital and low regulation, and one with low social capital and high regulation. The authors try to establish the presence of a feedback effect between trust and regulation.

For the link from trust to regulation, they show that low trust explains not only the actual level of regulation but also higher demand. Their idea is that they can find a causal link from distrust to regulation working through popular demand. They prove their points by showing that results hold using three different datasets: the World Values Survey (WVS), the International Social Survey Program (ISSP), and the Life in Transition Survey (LITS). The WVS poses general questions concerning attitudes towards competition or state intervention. The ISSP contains specific questions on the regulation of wages and prices. The LITS provides evidence on 28 post-Communist countries in Europe and Central Asia, and it has questions on preferences for market versus planned economies. Independently of the surveys, the authors find consistent evidence that distrust leads to support for government regulation. Although the exercise uses within-country variation, since the authors can include country fixed effects, the drawback of their empirical strategy is that some other individual omitted variables could drive both the demand for regulation and distrust.

To identify the effect of regulation on distrust the authors look at the change in attitudes from 1990 and 2000 in transition economies relative to OECD countries. The authors conclude that liberalization of entrepreneurial activity in transition economies starting from a low level of civic behavior increased demand for greater state control of economic activity and reduced trust. The drawback of this approach is that the end of Communism could have caused other changes in addition to the liberalization of entrepreneurial activity that could also be driving the change in trust.

Similar conclusions have been reached by Pinotti (2012), Carlin, Dorobantu, and Viswanathan (2009), and Francois and Ypersele (2009). Pinotti (2012) looks at the correlation between trust and regulation. He shows that variations in entry regulations around the world mostly reflect demand pressures from people at large, as captured by differences in trust. His contribution, when compared to Algan et al. (2010), is to address the implications of these findings for the cross-country pattern of trust, regulation, and market failures. He shows that, keeping constant the trust-driven component of demand for government intervention across countries, regulation is no longer associated with worse economic outcomes. Carlin et al. (2009) look at how trust evolves in the markets, what the optimal level of government regulation is, and how this intervention affects trust and economic growth. They show that when the value of social capital is high, government regulation and trustfulness are substitutes. In this case, government intervention decreases economic growth. On the other hand, when the value of social capital is low, regulation and trust may be complements. Francois and Ypersele (2009), using data from the General Social Survey, found a strong positive relationship between individual trust and the competitiveness of the sector in which an individual works. Their idea is that competition mitigates incentives for free-riding by imposing a costly shutdown on poor-performing firms, making employees more trustworthy, which increases trust.

Aghion, Algan, and Cahuc (2011) also have a model of interaction between regulations and culture. In particular, higher-minimum-wage regulation reduces the benefits to workers of trying to cooperate with firms. Therefore, more stringent minimum-wage regulations crowd out cooperation between firms and workers. In turn, less cooperative firm-worker relationships increase the demand for minimum-wage regulation. Thus, this interdependence explains the observed negative relationship between minimum wage and cooperative labor relations.

To identify the effect of attitudes on institutions, the authors use historical data on state attitudes towards labor-market relations from Crouch (1993), who classifies states in three different categories regarding labor-market relations. The first category comprises states that were most hostile to the development of unions and consequently more prone to directly regulating labor markets and settling disputes through centralized decisions. This group includes the main Catholic countries in Europe, namely France, Italy, Spain, and Portugal. In these countries, the central government needed to establish its authority over the Catholic Church and to confront all forms of organized interests, including worker organizations. The second category comprises seven countries where the state was neutral regarding labor organizations: Belgium, Denmark, Norway, Sweden, Finland, the United Kingdom, and Ireland. The third category comprises countries where the state would encourage union involvement in the regulation of labor markets: Austria, Germany, the Netherlands, and Switzerland.

The left-hand-side variable of Aghion et al. (2011) specification is the quality of labor relations in OECD countries in 2000 as a function of the attitudes of the state towards unions in the nineteenth century. The authors find that attitudes affected institutions even after controlling for the unemployment rate and other labor-market institutions (including replacement rate, benefit duration, employment protection, and tax wedge). To establish the opposite channel of the effect of institutions on attitudes, the authors look at the impact of union density in home country in 1950 on the current unionization attitudes of first- and second-generation immigrants in the United States born after 1950.

Alesina et al. (2013) study the interaction between family ties and the regulation of labor markets. Labor-market institutions tend to be very different across countries, and regulation in the labor market still abounds and persists despite being considered inefficient in various degrees by most economists. Flexible labor markets require that individuals move geographically in order to maximize their opportunities, find the best match with a firm and get the best-paying job. This is efficient when mobility is painless. However, in certain cultures, staying close to the family is important, and the mobility required by a free labor market can be painful. With unregulated labor markets, local firms would have a monopolistic power over immobile workers, who would demand labor regulation to counteract this power. This can lead to two different equilibria. One is laissez-faire, with high mobility and unregulated labor markets; this occurs when family ties are weak. When family ties are strong, the other equilibrium evinces labor-market rigidity with minimum-wage and firing restrictions. Given the cultural value placed on family ties, labor-market regulation is preferable to laissez-faire. Even though laissez-faire produces higher income per capita, it rarefies family relations. If family ties are sufficiently strong, this relaxation of family relationships can reduce individual utility so much that welfare can be higher with a regulated labor market. These authors show how preferences for labor-market institutions are strongly associated with family values, even within countries.

An innovative feature of Alesina et al.'s (2013) model is that individuals can choose the degree of family ties, or to be more realistic, they can educate their children in a certain way. This implies a two-way effect between family ties and labor-market regulation. An inherited culture of strong family ties leads to a preference for labor-market rigidities, but the latter in turn makes it optimal to teach and adopt strong family ties. In fact, a regulated market creates unemployment and lower wages, and the family provides the necessary social insurance. In other words, the benefits of a strong family enjoying the pleasures of living together necessitate an inefficient institution: labor-market regulations with firing costs and binding minimum wages. Regulated labor markets survive despite their obvious economic costs. Incidentally, this explains why in large parts of Europe where family ties are stronger, labor-market deregulation is one of the most difficult reforms to implement. In Northern European countries, a system of "flex security" has proven successful: unemployment is lower and participation in the labor force higher than in Southern Europe.

In their empirical section, the authors show that culture is more primitive than institutions by looking at the family values that European descendants have inherited from their forebears who migrated to the United States before 1940 and study the effect on institutions. They found a strong effect of culture in the determination of labor-market institutions.

6.2 The culture of work and the redistributive state

Alesina and Angeletos (2005) highlight a feedback effect based on the idea of fairness and redistribution. They develop a model in which income could derive from effort or luck. Voters, in addition to caring about their own income, dislike the notion of inequality not deriving from effort and ability. Multiple equilibria can occur. In one equilibrium, income taxes are high, effort low, the share of individual income due to luck is high, and desired taxes are high, since luck-generated inequality is viewed negatively by voters. In the other equilibrium, taxes are low, effort is high, the fraction of income explained by luck is low, and desired taxes are relatively low.[40] The motivation was to capture a U.S. versus Europe difference along the lines suggested informally by Alesina, Glaeser, and Sacerdote (2001) and Alesina and Glaeser (2004).[41] The feedback here is from cultural values (views about poverty) to choice of certain redistributive policies, which reinforce cultural values. An extensive literature based upon answers to surveys (see the review by Alesina and Giuliano (2011a)) shows that individuals who believe that the poor are unfortunate are much more likely to support redistributive policies.

Alesina, Cozzi, and Mantovan (2012) develop these ideas by tracing the evolution over time of ideas of fairness, measured inequality, and preferences for redistribution. They show that long-lasting differences in welfare policies result from initial cultural differences about what is fair and what is not in terms of the initial level of inequality. Imagine a society where "at the beginning"

[40] Benabou and Tirole (2006) present a different model that, however, leads to similar conclusion, though based on different behavioral assumptions.
[41] Using happiness data, Alesina, Di Tella, and MacCulloch (2004) show that Americans are less sensitive to inequality.

wealth inequality was all due to birth, nobility, and the like. Compare it to another society where initial wealth distribution was the result of effort, entrepreneurship, and so on. We can think of the former as Europe, where hundred years of feudal instructions created deeply rooted class divisions based on birth. We can think of the latter as the United States, where the initial distribution of wealth was much more the result of successes and failures of entrepreneurs, and of new waves of immigrants. The United States did not have feudal institutions, and wealth inequality was accepted as more fair than in Europe. Precisely for this reason, the absence in the United States of preindustrial feudal institutions lead Marx and Engels to doubt the success of the communist ideology across the Atlantic.

Alesina, Cozzi, and Mantovan (2012) show that these different initial conditions at the birth of capitalism, due to different preindustrial institutions, lead to long-lasting cultural differences regarding the perception of poverty, the need for extensive government intervention, and the (lack of) respect for the wealthy. These early differences in cultural values still determine policy choices today. These beliefs became self-sustaining: the more wealth is allocated by redistributive intervention from the government, the less some people may see it as fair, because it is not the market but politicians, special interests, and various pressure groups that determine where public money goes.

While an element of long-term persistence is pretty evident, also certain shocks may lead to rapid changes in attitudes. For instance, the cultural revolution of the 1960s (this is not the place to discuss its origins) generated a more favorable attitude towards redistribution, even in the United States. And, the recent financial crisis, which exposed enormous wealth accumulated in the financial sector, may have created an antimarket cultural shift, with the associated rhetoric of the "top 1 percent."

This is another example of our argument above regarding slow- and fast-moving components of culture. The effect of (or lack of) feudalism generated differences between the United States and Europe for centuries, and these differences in perception of poverty will probably continue for a long time. This is compatible with the view that certain shocks could lead to a rapid evolution of beliefs and attitudes during some "special" times, like the Sixties or the recent financial crisis.

6.3 Individualism and institutions

Roland et al. (2013a), in the paper looking at the relevance of individualism for economic growth, formally test for the existence of two casual channels from culture and institutions by employing two econometric specifications:

$$INST_i = v_0 IND_i + \beta_0 X_i + e_i$$
$$IND_i = v_1 INST_i + \beta_1 X_i + u_i$$

Where $INST_i$ is a measure of institutions given by the protection against expropriation risk (also used in Acemoglu et al. (2001)), IND_i is a measure of individualism (taken by Hofstede (2001)) and described in Section 2, X_i is a vector of controls, and e_i and u_i are error terms. The controls include measures of geography (longitude and latitude, and a dummy variable for being landlocked), a dummy for continents, and the percentages of population practicing major religions.

The authors use an instrumental-variable strategy for both specifications. Individualism is instrumented using a specific measure of genetic markers, given by Mahalanobis distance between the frequency of blood types in a given country and the frequency of blood types in the United States (the most individualistic country in their sample). The idea behind the instrument is the following: to the extent that culture is transmitted mainly from parents to children, so are genes.[42]

Institutions are instrumented with settler mortality (see Acemoglu et al. (2001)). From the above specification: if v_0 is significant whereas v_1 is not, one can conclude that culture is causing institutions. If v_1 is significant whereas v_0 is not, one can conclude that institutions are causing culture. The authors find a positive and significant effect of individualism on institutions, thus implying a flow of causality from individualistic culture to institutions. However, the effects of institutions on culture are not significant when using the instrument of settler mortality as constructed by Albouy (2012) and when one introduces various controls. The authors conclude that the effect of institutions on culture might be less robust than the other way round, with the caveat that the conclusions are drawn from a sample of only 35 observations.

6.4 Cooperation and institutions

Tabellini (2008b) provides a formal model of the interplay between culture and legal institutions, which enforce contracts.[43] He argues that individuals face moral costs if they do not cooperate in a prisoner's dilemma game, even when the game is played only once. These costs are

[42] For a critical view of the use of genetic distance in economics see Giuliano, Spilimbergo, and Tonon (forthcoming).

[43] Tabellini (2008b) builds upon Dixit (2004) and also on Bisin and Verdier (2001) for the model of intergenerational transmission of values.

decreasing in the distance between players. Thus cooperation between the immediate family and the clan is relatively easy (this is the case of localized morality). On the other hand, cooperation amongst distant (i.e., less connected) players (generalized morality) is more difficult to sustain. Clearly, the larger the share of cooperative players, the more it is in everybody's interest to cooperate and the more parents will teach children to cooperate. This kind of complementarity gives rise to the possibility of multiple equilibria, one with limited morality one with generalized one. Well-functioning legal institutions may increase the cost of noncooperation and the number of cooperative players. This effect combined with the complementarity described above may switch a society from an equilibrium with limited morality to one with generalized morality. On the other hand, with generalized morality the need for institutional interventions to punish cheating is less frequent, making institutions more functioning and less cluttered with cases. Good institutions and generalized morality are therefore self-reinforcing. Good institutions foster generalized morality, reducing the number of legal cases and court crowding. Poor institutions do the opposite, decreasing morality and making people more litigious, cluttering the legal system. The paper also implies that the need for good legal enforcement and generalized morality are especially important with globalization, when economic interactions are more and more common amongst distant players.[44]

Acemoglu and Jackson (2012) on the other hand, in part dissent, and argue that norms of cooperation may evolve quickly and sometimes respond to leaders or institutional changes. The motivation from their paper comes from the historical observational differences in cultural, social, and political behavior between Northern and Southern Italy. Whereas the existing literature has emphasized that "amoral familism" and lack of "generalized trust" are at the origin of the "inability of the villagers to act together for their common good" (Banfield (1958)), these differences are not set in stone. The authors refer to Locke (2002), who provides examples both from the south of Italy and northeastern Brazil, where starting from conditions similar to those emphasized by Banfield, trust and cooperation emerged at least in part as a result of "leadership" and certain specific policies. In addition to leadership by prominent agents, social norms could also be affected by institutions or policies that encourage more cooperative behavior.

The interaction of culture and institutions has also been studied using cultural-evolution models (see Bowles and Gintis (2010)). The authors define culture as the set of preferences and beliefs that are acquired by means other than genetic transmission. What distinguishes in their

[44] Jackson (2013) extends the Tabellini model to a case of joint production. For a related model, in which the law and morality can be substituted, see Bonhet, Fey, and Huck (2001).

models humans from animals is the process of information acquisition. For most animals, genetic transmission and individual learning are the only means for acquiring information. Humans, by contrast, also acquire information through social learning. Social learning, or cultural transmission, as opposed to individual learning, takes the forms of vertical (parents to children), horizontal (peer to peer), and oblique (non-parental elder to younger) transfer of information.

The authors use institutions to explain the evolution of altruistic behavior over time. In particular, their idea is that group competition and culturally transmitted group differences in institutional structures are crucial in explaining the evolution of cooperative behavior among humans. Group differences in institutional structures persist over long periods due to the nature of institutions as "conventions." A convention is a common practice that is adhered to by virtually all group members because the relevant behaviors are mutual best responses, conditioning on the expectation of similar behaviors by most others.

The conventional nature of institutions accounts for their long-term persistence and also their occasional rapid change under the influence of shocks. In their model, when new members of the population mature or immigrate, they adhere to the existing institutions, not because of conformist learning but because this is a best response, as long as most others do the same. In that sense, institutions are group-level characteristics; successful institutions, like the European national states, produce many replicas, while unsuccessful institutions disappear. Replication of institutions may take place when a successful group grows or when a group with unsuccessful institutions succumbs to a military, ecological, or other challenge. The novelty of their evolutionary approach is that institutions, as individual characteristics, are subject to selection. For example, food sharing beyond the family, which reduces within-group differences in material well-being, attenuates within-group selective pressures. Groups adopting institutions like food sharing contribute to the proliferation of group-beneficial individual traits, including altruism.

6.5 Culture, institutions, and economic outcomes

The feedback effect between culture and institutions is particularly relevant in explaining economic growth or other economic outcomes, such as participation in the labor market or the provision of public goods.

Doepke and Zilibotti (2008) model the interaction between economic opportunities and preference formation through parental investments (concerning the rate of time preferences and the taste for leisure) around the Industrial Revolution. The idea is simple but powerful. Prior to the Industrial Revolution (when capital markets are imperfect), the rich could rely on rental income and therefore develop a taste for leisure. The middle class, working instead in occupations requiring effort, skill, and experience, had to invest in two cultural values: patience (low discount factor) and work ethic. The specific attitudes of the middle class, in turn, became the key determinant of economic success once the Industrial Revolution transformed England. Perhaps the only limitation of the paper is why this pattern happened only in England and not in other countries.

Tabellini (2008a and 2010) explores the interconnection between institutions and generalized morality to explain differences in development in Europe. He studies regions in eight countries in Europe that developed different levels of generalized morality as a result of different historical experiences. Comparing regions within today's countries, the author shows that different levels of generalized morality are persistent, correlated with the good functioning of current institutions and favorable to economic development. Current morality is related to the level of human capital accumulated in the eighteenth century, to the level of democratization and independence that different regions gained from absolute monarchs. Thus institutions in the distant past led to the development of a culture of generalized morality, which in turn facilitated the development of well-functioning current institutions.

This argument is related to the work by Putnam et al. (1993) and Guiso, Sapienza, and Zingales (2013) on the development of social capital in free medieval cities in Italy. In this case as well, ancient institutions led to long-lasting cultural changes, which affected the functioning of current institutions, as we discussed in the introduction.

Michalopoulos and Papaioannou (2013a, 2013b) study the relative importance of culture and institutions in Africa. In their first paper, the authors look at the spatial distribution of ethnicities before colonization in Africa and show that historical local institutions,[45] in particular measures of precolonial political centralization and not national institutions, can explain within-ethnicity differences in economic performance, using as a proxy satellite images of light density at night. To rule out the possibility that precolonial political centralization is capturing some other omitted variable, the authors control for geographical, ecological, and natural-resource endowment at the ethnic level. In addition, they also show that the results do not depend on observable ethnic differences in culture, occupational specialization, and the structure of economic activity before colonization.

In their second paper, the same authors reached a more nuanced conclusion. They claim that one cannot disentangle institutional features of a society from its long-term cultural traits, which are

[45] For the relevance of historical local institutions, see also Gennaioli and Rainer (1997).

transmitted intergenerationally within ethnic groups. Those deeper ethnic and cultural traits, and not national institutions, affect economic outcomes in Africa. For their main identification strategy, they exploit the fact that political boundaries on the eve of African independence partitioned more than 200 ethnic groups across adjacent countries. The authors then compare the economic performance of the same ethnic groups, but falling in different countries and therefore subject to different national institutions. With this identification strategy, they can hold constant geographical and ethnicity-specific cultural traits. The cross-border differences in national institutions do not systematically translate into differences in economic performance within partitioned ethnicities. In particular, they show that the positive correlation between national institutions and development disappears with the inclusion of ethnicity fixed effects.

The authors highlight two additional results: first, they show that conditioning on the degree of precolonial centralization and the dependence on agriculture and pastoralism weakens substantially the cross-sectional coefficient on the national institutions proxy. This finding is consistent with studies of the African historiography downplaying the role of national institutional structures and stressing instead the key role of ethnicity-specific traits related to the role of chiefs, culture, and precolonial organization. Second, they find evidence of substantial heterogeneity. In particular, national institutions do correlate with subnational development, but only when both partitions are close to the respective capital cities. They claim that this is consistent with insights from the African historiography, stressing the inability of states to broadcast power in regions far from the capital.[46]

Engerman and Sokoloff (1997) give a different interpretation of the role of culture and institutions in the determination of development: they both represent an indirect mechanism through which geography affects economic outcomes. In their work, different factor endowments — in particular the soil suitability for growing sugar, coffee, rice, and in general crops characterized by high market value and economies of scale — helped foster the creation of a small elite, the diffusion of slavery, and the implementation of policies and institutions that perpetuated such inequality, lowering incentives for investment and innovation. This was in contrast with societies that were based on the cultivation of small-scale crops (grain and livestock), which had a more equal distribution of wealth and better long-term economic performance.

---

[46] This result is consistent with models of country formation and geographical and cultural distance from the capital (Alesina and Spolaore (2004) and Alesina and Reich (2013)).

Giavazzi et al. (forthcoming) look at the relative importance of culture and institutions in the determination of three different labor-market outcomes: the employment rate of women, the average hours worked, and the employment rate of the young. The authors find that culture matters in two of the three outcomes; however, policies and other institutional characteristics also matter when one considers their endogeneity. Attitudes towards women's role in the family and attitudes toward leisure are statistically and economically important determinants of the employment rate of women and average hours worked. The measure of attitudes towards youth independence does not appear to be important in explaining the employment rate of the young. The policy variables that are significant for female employment rate/hours worked are the index of employment protection legislation/tax wedge and benefits. To reach their conclusions, the authors use a GMM framework that allows them to obtain consistent estimates when labor-market outcomes exhibit a degree of persistence over time. Religious beliefs are used as predetermined variables in the GMM framework, and their lagged values as an instrument. They also test the robustness of their analysis using as an instrument the attitudes of second- (or higher-) generation immigrants to the United States who arrived from different countries at different points in time.

Padro-Y-Miguel, Qian, and Yo (2013) study the joint interaction of political institutions and social capital in determining the provision of public goods in Chinese villages. The authors argue that elections in Chinese villages are more effective at choosing politicians who provide more public goods in villages where social capital is higher and generalized trust is high relative to personalized trust. They measure social capital with the presence of village temples, considered as a form of voluntary organization. They collect data showing that the presence of temples is correlated with the presence of other voluntary organizations. Identification comes from time variation in the introduction of village elections, as the village had no voice in choosing when or whether to hold elections. In particular, with a difference-in-differences strategy, they look at the presence of public goods before and after elections in various villages. The main result is that elections have very little effect in villages with low social capital and a big effect in villages with high social capital. In an interesting part of the paper, they try to distinguish kinship trust versus generalized trust. As a proxy for kinship trust, they use the presence of ancestral halls, where people go to venerate the dead relatives of their extended family. The authors show that this proxy is inversely related to the smooth functioning of democracy.

7. Conclusions

Culture and institutions are interconnected. According to Greif, the two are so deeply intertwined that one cannot even tell them apart. But with a more standard definition of institutions-as-rules (legal rules, political rules, regulatory systems, and so on), we hope to have provided enough evidence of the links between the two. At the very least, we hope that we have convinced readers that it is difficult to study the effect of one without taking into account the other.

Neither institutions nor culture are exogenous. The question is, which moves more slowly? That is, are cultural traits so persistent that institutions have to adapt to them and develop as a function of cultural evolution? Or do institutions (as rules) determine cultural evolution? This is a hard question to answer. Certain deeply held traits, norms of behavior, views about what is right or wrong, and views about the family are often very persistent. Other views and beliefs may evolve more quickly.

We have shown how certain institutions need to "fit" with the dominant culture, such as regulatory policies regarding, for instance, the welfare state, financial regulations, or the functioning of the labor market. On the other hand, certain institutions can determine trust and social capital, as is the case for the presence of free city states in Italy in medieval times.

Therefore, statements like "only institutions matter" or "only culture matters" are unnecessarily single-minded and clearly incorrect.

References

Acemoglu, D., Cantoni, D., Johnson, S., and J.A. Robinson, 2011, "The Consequences of Radical Reforms: The French Revolution," *American Economic Review*, 101: 3286–3307.

Acemoglu, D. and M. Jackson, 2012, "History, Expectations, and Leadership in the Evolution of Social Norms," MIT mimeo.

Acemoglu, D., Johson, S. and J. Robinson, 2001, "The Colonial Origins of Comparative Development: An Empirical Investigation," *American Economic Review,* 91: 1369–1401.

Acemoglu, D., Johnson, S., and J. Robinson, 2002, "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution," *Quarterly Journal of Economics,* 117: 1231–1294.

Acemoglu, D. and J. Robinson, 2006, *Economic Origins of Dictatorship and Democracy,* Cambridge University Press, Cambridge.

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," *The Quarterly Journal of Economics,* 125(3): 1015–1049.

Akerlof, G. and R. Kranton, 2000, "Economics and Identity," *The Quarterly Journal of Economics,* 115(3), 715–753.

Albanesi, S. and C. Olivetti, 2009, "Gender Roles and Medical Progress," NBER WP 14873.

Albouy, D.Y., 2012, "The Colonial Origins of Comparative Development: An Empirical Investigation: Comment," *American Economic Review,* 3059–3076.

Alesina A., 2013, "Women, Fertility and the Rise in Modern Capitalism," *Science*, 342(6157): 427–428.

Alesina, A. and G.M. Angeletos, 2005, "Fairness and Redistribution," *American Economic Review,* 95(4), 960–980.

Alesina, A., Algan, Y., Cahuc, P, and P. Giuliano, 2013, "Family Values and the Regulation of Labor," UCLA mimeo.

Alesina, A., Cozzi, G., and N. Mantovan, 2012, "The Evolution of Ideology, Fairness, and Redistribution," 2012, *The Economic Journal,* 122 (565), 1244–1261.

Alesina, A., R. Di Tella, and R. MacCulloch, 2004, "Inequality and Happiness: Are Europeans and Americans Different?" *Journal of Public Economics*, 2004, 88(9–10), 2009–2042.

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

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

Alesina, A. and P. Giuliano, 2011a, "Preferences for Redistribution," *Handbook of Social Economics,* in J. Behnabib, A. Bisin and M.O. Jackson (eds.).

Alesina, A. and P. Giuliano, 2011b, "Family Ties and Political Participation," *Journal of the European Economic Association,* 9(5): 817–839.

Alesina, A. and P. Giuliano, 2013, "Family Ties," in *Handbook of Economic Growth,* P. Aghion and S. Durlauf (eds.), North Holland, Elsevier.

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

Alesina, A. and E. Glaeser, 2004, *Fighting Poverty in the US and Europe: A World of Difference,* Oxford University Press.

Alesina, A., Glaeser, E., and B. Sacerdote, 2001, "Why Doesn't the United States Have a European-Style Welfare State?" *Brookings Papers on Economic Activity,* 2, 187–254.

Alesina, A. and E. La Ferrara, 2000, "Participation in Heterogeneous Communities," *Quarterly Journal of Economics*, 115, 857–904.

Alesina A. and E. La Ferrara (2002) "Who Trusts Others?" *Journal of Public Economics*, 85, 207–234.

Alesina A., Michalopoulos, S., and E. Papaioannou, 2013, "Ethnic Inequality," NBER WP.

Alesina A. and B. Reich, 2013, "Nation Building," NBER WP 18839.

Alesina A. and E. Spolaore, 2004, *The Size of Nations,* MIT Press, Cambridge, Mass.

Algan, Y. and P. Cahuc, 2010, "Inherited Trust and Growth," *American Economic Review,* 100(5): 2060–2092.

Algan, Y. and P. Cahuc, 2013, "Trust, Growth, and Well-Being: New Evidence and Policy Implications," in *Handbook of Economic Growth,* P. Aghion and S. Durlauf (eds.), North Holland, Elsevier.

Arrow, K., 1972, "Gifts and Exchanges," *Philosophy & Public Affairs,* 1(4), 343–362.

Baland, J-M, C. Guirkinger, and C. Mali, 2011, "Pretending to Be Poor: Borrowing to Escape Forced Solidarity in Cameroon," *Economic Development and Cultural Change*, 60: 1–16.

Baltzell, D., 1996, *Puritan Boston and Quaker Philadelphia.* New Brunswick, N.J.: Transaction Publishers.

Banfield, E., 1958, *The Moral Basis of a Backward Society,* Free Press, New York.

Barr, A., 2004, "Kinship, Familiarity, and Trust: An Experimental Investigation," in *Foundation of Human Sociality: Economic Experiments and Ethnographic Evidence from Fifteen Small-Scale Societies,* Henrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., and H. Gintis (eds.), Oxford University Press.

Barro, R. and R. McCleary, 2003, "Religion and Economic Growth Across Countries," *American Sociological Review,* 68(5), 760–781.

Bauer, M., Cassar, A., Chytilova, J., and J. Henrich, 2011, "War's Enduring Effects on the Development of Egalitarian Motivations and In-group Biases," mimeo, CERGE-EI.

Becker, G., 1991, *A Treatise on the Family,* Cambridge, Mass. Harvard University Press.

Becker, S. O., Boeckh, K., C. Hainz, and L. Woessmann, 2011, "The Empire Is Dead, Long Live the Empire," CAGE WP 40.

Becker, S.O. and L. Woessmann, 2009, "Was Weber Wrong? A Human-Capital Theory of Protestant Economic History," *Quarterly Journal of Economics,* 124 (2), 531–596.

Belloc M., F. Drago, and R. Galbiati, 2013, "Earthquakes, Universities, and the Transition to Self-Government in Italian Cities," University of Rome, La Sapienza, mimeo.

Benabou, R., 2008, "Ideology," *Journal of the European Economic Association,* 6(2–3), 321–352.

Benabou, R. and E. Ok (2001), "Social Mobility and the Demand for Redistribution: The POUM Hypothesis," *The Quarterly Journal of Economics,* 116, 447–487.

Benabou, R. and J. Tirole, 2006, "Beliefs in a Just World and Redistributive Politics," *The Quarterly Journal of Economics*, 121(2), 699–746.

Bercovitch, S., 2011, *The Puritan Origins of the American Self.* New Haven: Yale University Press.

Bertrand, M. and A. Schoar, 2006, "The Role of Family in Family Firms," *Journal of Economic Perspectives,* 20 (2), 73–96.

Biasutti, R., *Le Razze e i Popoli della Terra,* UTET, Torino.

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

Bloom, N., R. Sadun, and J. Van Reenen, "The Organization of Firms Across Countries," *Quarterly Journal of Economics,* forthcoming.

Bonhet I., B. Frey, and S. Huck, 2001, "More Order with Less Law: On Contract Enforcement, Trust, and Crowding" *American Political Science Review*, 95(1), 131–144.

Bortnhorst, F., Ichino, A., Kirchkamp, O., Schlag, K.H., and E. Winter, 2010, "Similarities and Differences When Building Trust: The Role of Cultures," *Experimental Economics,* 1(3), 260–283.

Botero, J., Djankov, S., La Porta, R., Lopez-de-Silanes, and A. Shleifer, 2004, "The Regulation of Labor," *Quarterly Journal of Economics*, 119 (4), 1339–1382.

Botticini, M. and Z. Eckstein, 2005, "Jewish Occupational Selection: Education, Restrictions, or Minorities?" *Journal of Economic History,* 65(4), 922–948.

Botticini M. and Z. Eckstein, 2012, *The Chosen Few,* Princeton University Press, Princeton N.J.

Bowles, S., 1998, "Endogenous Preferences: The Cultural Consequences of Markets and Other Economic Institutions," *Journal of Economic Literature,* 26: 75–111.

Bowles, S. and H. Gintis, 2010, "A Cooperative Species: Human Reciprocity and Its Evolution," Princeton University Press.

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

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

Butler, J., 2013, "Trust, Truth, Status and Identity," EIEF, mimeo.

Butler, J., Giuliano, P., and L. Guiso, 2013, "The Right Amount of Trust," UCLA, mimeo.

Cantoni, D., 2013, "The Economic Effects of the Protestant Reformation: Testing the Weber Hypothesis in the German Lands," Munich DP, 2013–2014.

Carlin, B. I., Dorobantu, F., and Viswanathan, S., 2009, "Public Trust, the Law, and Financial Investment," *Journal of Financial Economics,* 92(3), 321–341.

Caselli, F. and N. Gennaioli, 2011, "Dynastic Management," *Economic Inquiry,* 51(1), 971–996.

Charness, G., Rigotti, L., and A. Rustichini, 2007, "Individual Behavior and Group Membership," *American Economic Review,* 97(4), 1340–1352.

Chen, R. and Y. Chen, 2011, "The Potential of Social Identity for Equilibrium Selection," *American Economic Review,* 101(6): 2562–2589.

Chen, Y. and S.X. Li, 2009, "Group Identity and Social Preferences," *American Economic Review,* 99(1): 431–457.

Clingingsmith, D., A. Khwaja, and M. Kremer, 2009, "Estimating the Impact of the Hajj: Religion and Tolerance in Islam's Global Gathering," *Quarterly Journal of Economics*, 124(3): 1133–1170.

Coleman, J.S., 1990, *Foundations of Social Theory,* Harvard University Press, Cambridge, Mass.

Dal Bo, P., Foster, A., and L. Putterman, "Institutions and Behavior: Experimental Evidence on the Effects of Democracy," *American Economic Review,* 100 (5), 2205–2229.

Di Tella, R., Galiani, S.F., and E.S. Schargrodsky, 2007, "The Formation of Beliefs: Evidence from the Allocation of Land Titles to Squatters," *The Quarterly Journal of Economics,* 22(1), 209–241.

Dixit A., 2004, *Lawlessness and Economics: Alternative Models of Governance,* Princeton University Press, Princeton, N.J.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., and A. Shleifer, 2002, "The Regulation of Entry," *Quarterly Journal of Economics,* 117(1), 1–37.

Doepke, M. and F. Zilibotti, 2008, "Occupational Choice and the Spirit of Capitalism," *The Quarterly Journal of Economics*, 123(2), 747–793.

Duranton, G. and Rodriguez-Pose, A., 2009, "Family Types and the Persistence of Regional Disparities in Europe," *Economic Geography,* 85, 23–47.

Easterly, W. and R. Levine, 2003, "Tropics, Germs, and Crops: How Endowments Influence Economic Development," *Journal of Monetary Economics,* 50(1), 3–39.

Eckel, C. and P. Grossman, 2005, "Managing Diversity by Creating Team Identity," *Journal of Economic Behavior and Organization,* 58: 371–392.

Engerman, S. and K. L. Sokoloff, 1997, "Factor Endowments, Institutions, and Differential Paths of Growth Among New World Economies: A View from Economic Historians of the United States," in: Harber, ed., *How Latin America Fell Behind,* Stanford: Stanford University Press, 260–304.

Fafchamps, M., 2000, "Ethnicity and Credit in African Manufacturing," *Journal of Development Economics,* 61, 205–235.

Fehr, E., Fischbacher, U., Schupp, B., Von Rosenbladt, and J. Wagner, 2002, "A Nation-Wide Laboratory. Examining Trust and Trustworthiness by Integrating Behavioral Experiments into Representative Surveys," CESIFO Working Paper.

Fernandez, R., 2008, "Culture and Economics," *The New Palgrave Dictionary of Economics,* second edition, S.N. Durlauf and L.E. Blume (eds.), Palgrave Macmillan.

Fernandez, R., 2011, "Does Culture Matter?" in: *Handbook of Social Economics,* J. Behnabib, A. Bisin and M.O. Jackson (eds.).

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

Fernandez, R. and A. Fogli, 2010, "Culture: An Empirical Investigation of Beliefs, Work, and Fertility," *American Economic Journal: Macroeconomics,* 1(1), 146–177.

Fershtman, C. and U. Gneezy, 2001, "Discrimination in a Segmented Society: An Experimental Approach," *Quarterly Journal of Economics,* 116(1): 351–377.

Fershtman, C., Gneezy, U., and F. Verboven, 2005, "Discrimination and Nepotism: The Efficiency of the Anonymity Rule," *Journal of Legal Studies,* 34(2), 371–396.

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

Fisman, R., 2003, "Ethnic Ties and the Provision of Credit: Relationship-Level Evidence from African Firms," *Advances in Economic Analysis and Policy*, 3(1).

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

Francois, P. and Van Ypersele, 2009, "Doux Commerce: Does Market Competition Cause Trust?" UBC, mimeo.

Fukuyama, F., 1995, *Trust: The Social Virtues and the Creation of Prosperity,* New York: Free Press.

Galasso, V. and P. Profeta, 2012, "When the State Mirrors the Family: The Design of Pension Systems," Bocconi University, mimeo.

Gennaioli, N., La Porta, R., Lopez de Silanes, F., and A. Shleifer, "Human Capital and Regional Development," *Quarterly Journal of Economics,* forthcoming.

Gennaioli, N. and I. Rainer, 2007, "The Modern Impact of Precolonial Centralization in Africa," *Journal of Economic Growth,* 12 (3), 185–234.

Giavazzi, F., Schiantarelli, F., and M. Serafinelli, "Attitudes, Policies and Work," *Journal of the European Economic Association,* forthcoming.

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

Giuliano, P. and A. Spilimbergo (2013), "Growing Up in a Recession," *Review of Economic Studies,* forthcoming.

Giuliano, P., Spilimbergo, A., and G. Tonon, "Genetic Distance, Transportation Costs, and Trade, *Journal of Economic Geography,* forthcoming.

Glaeser, E., Laibson, D., Scheinkman, J., and Soutter, C., 2000, "Measuring Trust," *Quarterly Journal of Economics,* 115, 811–846.

Glaeser, E., R. La Porta, Lopez-de-Silanes, F., and A. Shleifer, 2004, "Do Institutions Cause Growth?" *Journal of Economic Growth,* 9, 271–303.

Glaeser E., G. Ponzetto, and A. Shleifer, 2007, "Why Does Democracy Need Education?" *Journal of Economic Growth* 12, 77–99.

Glaeser E. and A. Shleifer, 2002, "Legal Origins" *Quarterly Journal of Economics,* 117(4): 1193–1229.

Gneezy, U. and D.M. Fessler, 2012, "Conflict, Sticks, and Carrots: War Increases Prosocial Punishments and Rewards, *Proceedings of the Royal Society of Biology,* 279, 219–233.

Gneezy, E., Leibbrandt, A., and J. List, 2012, "Ode to the Sea: On the Emergence of Social Norm," University of Chicago, mimeo.

Greenwood, J., Seshadri, A. and M. Yorugoklu, 2005, "Engines of Liberation," *Review of Economic Studies,* 72(1), 109–133.

Greif, A., 1994, "Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualistic Societies," *Journal of Political Economy,* 102(5), 912–950.

Greif, A., 2005, "Commitment, Coercion, and Markets: The Nature and Dynamics of Institutions Supporting Exchange," in: *The Handbook of New Institutional Economics,* C. Menard and M.M. Shirley (eds.), Norwell, Mass: Kluwer Academic Publisher.

Greif, A., 2006a, *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade,* Cambridge University Press.

Greif, A., 2006b, "Family Structure, Institutions, and Growth: The Origins and Implications of Western Corporations," *American Economic Review,* 96(2): 308–312.

Greif, A. and C. Kingston, 2011, "Institutions: Rules or Equilibria?" in: *Political Economy of Institutions, Democracy and Voting,* G. Caballero and M. Schofield (eds.), Springer.

Greif, A. and G. Tabellini, 2012, "The Clan and the City: Sustaining Cooperation in China and Europe," IGIER WP 445.

Grosjean, P., 2011a, "The Weight of History on European Cultural Integration: A Gravity Approach," *American Economic Review,* 101(3): 504–508.

Grosjean, P., 2011b, "A History of Violence: The Culture of Honor as a Determinant of Homicide in the U.S. South," Australian School of Business WP no. 2011, Econ. 13.

Gruber, J. and D. 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, P., and L. Zingales, 2003, "People's Opium? Religion and Economic Attitudes," *Journal of Monetary Economics.*

Guiso, L., Sapienza, P., and L. Zingales, 2004, "The Role of Social Capital in Financial Development," *American Economic Review,* 94(3), 526–556.

Guiso, L., Sapienza, P., and L. Zingales, 2006, "Does Culture Affect Economic Outcomes?" *Journal of Economic Perspectives,* 20(2): 23–48.

Guiso, L., Sapienza, P., and L. Zingales, 2008a, "Trusting the Stock Market," *Journal of Finance,* 63(6), 2557–2600.

Guiso, L., Sapienza, P., and L. Zingales, 2008b, "Social Capital as Good Culture," *Journal of the European Economic Association,* Vol. 6 (2–3), 295–320.

Guiso, L., Sapienza, P. and L. Zingales, "Cultural Biases in Economic Exchange?" *Quarterly Journal of Economics,* 124(3), 1095–1131.

Guiso, L., Sapienza, P., and L. Zingales, 2011, "Civic Capital as the Missing Link," *Handbook of Social Economics,* Vol. 1a, J. Behhabib, A. Bisin, and M.O. Jackson (eds.).

Guiso L. Sapienza P., and L. Zingales, 2013, "Long-Term Persistence," Northwestern University, mimeo.

Henrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., Gintis, H. and R. McElreath, 2001, "In Search of Homo Economicus: Behavioral Experiments in 15 Small-Scale Societies," *American Economic Review,* 91(2): 73–78.

Herrmann, B., Thoni, C., and Gachter, S., 2008, "Antisocial Punishment Across Societies," *Science,* 319(5868), 1362–1367.

Hofstede, G., 2001, *Culture's Consequences: Comparing Values, Behavior, and Organizations Across Nations,* second edition. Sage Publications.

Kaplow, L. and S. Shavell, 2007, "Toward a Theory of a Moral System That Optimally Channels Behavior," *Journal of Political Economy,* 115, 494–514.

Knack, S. and P. Keefer, 1997, "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation," *Quarterly Journal of Economics,* 112(4), 1252–1288.

Kohn, M. et al., "Position in the Class Structure and Psychological Functioning in the United States, Japan, and Poland," *American Journal of Sociology,* 95(4), 964–1008.

Kuran, T., 2005, "The Absence of the Corporation in Islamic Law: Origins and Persistence," *American Journal of Comparative Law,* 53, 785–834.

Jackson K., (2013) "Contract Enforceability and the Evolution of Social Capital," *The Journal of Economic Law and Organizations,* 29, 60–77.

La Ferrara, E., 2010, "Family and Kinship Ties in Development: An Economist's Perspective," in: *Culture, Institutions and Development,* J.P. Platteau (ed.), Routledge.

La Ferrara, E. and A. Milazzo, 2011, "Customary Norms, Inheritance, and Human Capital. Evidence from a Reform of the Matrilineal System in Ghana," Bocconi University, mimeo.

Laitin, D., 2007, *Nations States and Violence,* Oxford University Press, Oxford, U.K.

Landes D., 1998, *The Wealth and Poverty of Nations,* Norton, New York.

La Porta R., Lopez-de-Silanes, F., Shleifer, A., and R. Vishny, 1997, "Legal Determinants of External Finance," *Journal of Finance*, 52(3), 1131–1150.

La Porta R., Lopez de Silanes, F. Shleifer, A., and R. Vishny, 1998, "Law and Finance," *Journal of Political Economy*, 106 (6), 1113–1155.

La Porta R., Lopez-de-Silanes, F., Shleifer, A., and R. Vishny, 1999, "The Quality of Government," *Journal of Law Economics and Organization*, 15(1), 222–279.

Locke, R.M., "Building Trust," in: *Mezzogiorno and Politiche di Sviluppo,* A. Flora (ed.), Naples: Edizioni Scientifiche Italiane, 109–133.

Luke, N. and K. Munshi, 2006, "New Roles for Marriage in Urban Africa: Kinship Networks and the Labor Market in Kenya," *Review of Economics and Statistics,* 88(2), 264–282.

Luttmer, E. and M. Singhal, 2011, "Culture, Context, and the Taste for Redistribution," *American Economic Journal: Economic Policy,* 3(1): 157–179.

Macfarlane, A., 1978, *The Origins of English Individualism: The Family Property and Social Transition,* Wiley-Blackwell.

McKenna, G. (2007) *The Puritan Origins of American Patriotism.* New Haven: Yale University Press.

Malmendier, U., and S. Nagel, 2011, "Depression Babies: Do Macroeconomic Experiences Affect Risk-Taking?" *Quarterly Journal of Economics,* 126, 373–416.

Michalopoulos, S. and E. Papaioannou, "Pre-Colonial Ethnic Institutions and Contemporary African Development," 2013, *Econometrica,* 81(1), 113–152.

Michalopoulos, S. and E. Papaioannou, "National Institutions and Subnational Development in Africa," 2012, NBER WP 18275.

Montesquieu, C., 1749, *The Spirit of Laws,* New York, Cambridge University Press.

Nannicini, T., Stella, A., Tabellini, G., and U. Troiano, 2012, "Social Capital and Political Accountability," *American Economic Journal: Economic Policy,* 5, 222–250.

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

Noll, M.A., 2002, *America's God: From Jonathan Edwards to Abraham Lincoln.* Oxford University Press.

North, D. (1990), *Institutions, Institutional Change, and Economic Performance,* Cambridge University Press, Cambridge.

Nunn, N., 2009, "The Importance of History for Economic Development," *Annual Review of Economics,* 1(1), 65–92.

Nunn, N., 2013, "Historical Development," in: *Handbook of Economic Growth,* Vol. 2, Aghion, P. and S. Durlauf (eds.), North-Holland.

Nunn, N. and L. Wantchekon, 2011, "The Slave Trade and the Origins of Mistrust in Africa," *American Economic Review,* 101(7): 3221–3352.

Olken, B. and M. Singhal, 2011, "Informal Taxation," *American Economic Journal: Applied Economics*, 3: 1–28.

Padro-Y-Migel, G., Qian, N., and Y. Yao, 2013, "Making Democracy Work: The Effect of Social Capital on Elections and Public Goods in China," Yale University, mimeo.

Peisakhin, L., 2010, "Living Historical Legacies: The "Why" and "How" of Institutional Persistence," Yale University, mimeo.

Piketty, T., 1995, "Social Mobility and Redistributive Politics," *The Quarterly Journal of Economics,* 110, 551–584.

Pinker, S., 1997, *How the Mind Works,* New York: W. W. Norton & Company.

Pinotti, P., 2012, "Trust, Regulation and Market Failures," *Review of Economics and Statistics,* 94(3), 650–658.

Platteau, J.P., 2000, *Institutions, Social Norms, and Economic Development*, Academic Publishers and Routledge.

Putnam, R., Leonardi, R., and R.Y. Nanetti, 1993, *Making Democracy Work,* Princeton, NJ: Princeton University Press.

Putnam, R., 2000, *Bowling Alone: The Collapse and Revival of American Community,* New York: Simon and Schuster.

Roemer, J., 2001, *Political Competition,* Harvard University Press.

Roland, G., 2004, "Understanding Institutional Change: Fast-Moving and Slow-Moving Institutions," *Studies in Comparative International Development,* 38(4), 109–131.

Roland, G. and Y. Gorodnichenko, 2013a, "Culture, Institutions, and the Wealth of Nations," UC Berkeley, mimeo.

Roland, G. and Y.Y. Gorodnichenko, 2013b, "Culture, Institutions, and Democratization," UC Berkeley, mimeo.

Schwartz, S.H., 1992, "Universals in the Content and Structure of Values: Theory and Empirical Tests in 20 Countries," in: *Advances in Experimental Social Psychology,* M. Zanna (ed.), New York: Academic Press.

Shiller, R., Boycko, M., Koborov, M., Winter, S., and T. Schelling, 1992, "Hunting for Homo Sovieticus: Situational Versus Attitudinal Factors in Economic Behavior," *Brookings Papers on Economic Activity,* 1, 127–194.

Spolaore, E. and R. Wacziarg, 2013, "How Deep Are the Roots of Economic Development?" *Journal of Economic Literature*, 51(2), 325–369.

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

Tabellini, G., 2008b, "The Scope of Cooperation: Values and Incentives," *Quarterly Journal of Economics,* 123(3), 905–950.

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

Todd, E., 1983, *The Explanation of Ideology: Family Structures and Social Systems*, Basic Blackwell, New York.

Todd, E., 1990, *L'Invention de l'Europe,* Seuil, Paris.

Uslaner, E., 2005, "Trust as a Moral Value," in: *Handbook of Social Capital,* D. Castiglione, J.W. van Deth, and G. Wolleb (eds.), Oxford University Press.

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

Voigtlaender, N. and J. Voth, 2013, "How the West Invented Fertility Restrictions," *American Economic Review,* 103, 2227–2265.

Voors, M., Nillesen, E.E., Verwimp, P., Bulte, E. H., Lesink, R., Van Soest, D., et al., 2012, "Violent Conflict and Behavior: A Field Experiment in Burundi," *American Economic Review,* 102(2), 941–964.

Weber, M., *Economy and Society,* 1978, G. Roth and C. Wittich (eds.), Berkeley: University of California Press.

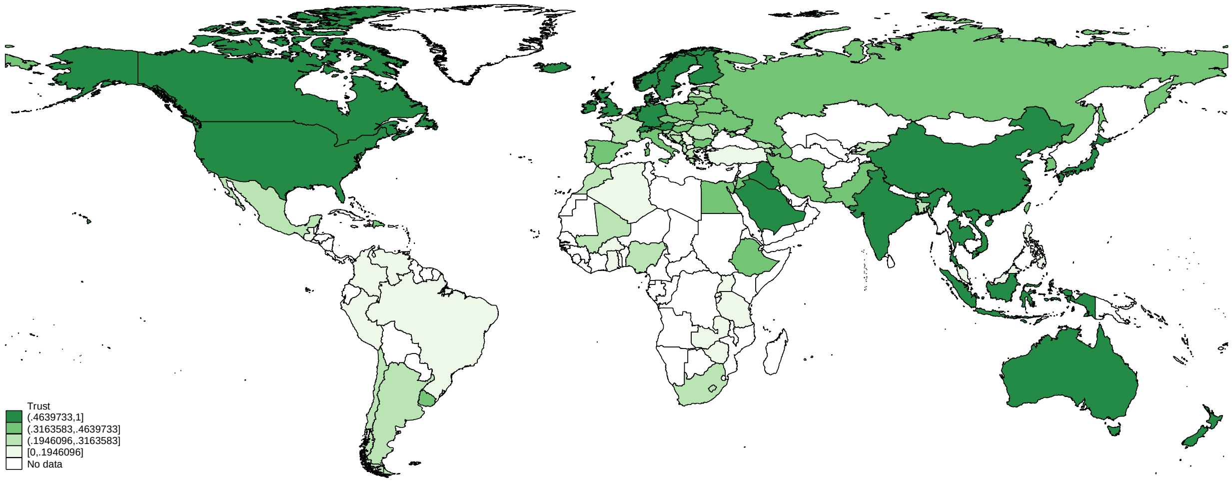
Whitt, S. and R.K. Wilson, 2007, "The Dictator Game, Fairness, and Ethnicity in Postwar Bosnia," *American Journal of Political Science,* 51 (3), 655–668.

Willinger, M., Keser, C., Lohmann, C., and J.C. Usunier, 2003, "A Comparison of Trust and Reciprocity Between France and Germany: Experimental Investigation Based on the Investment Game," *Journal of Economic Psychology,* 24(4), 447–466.

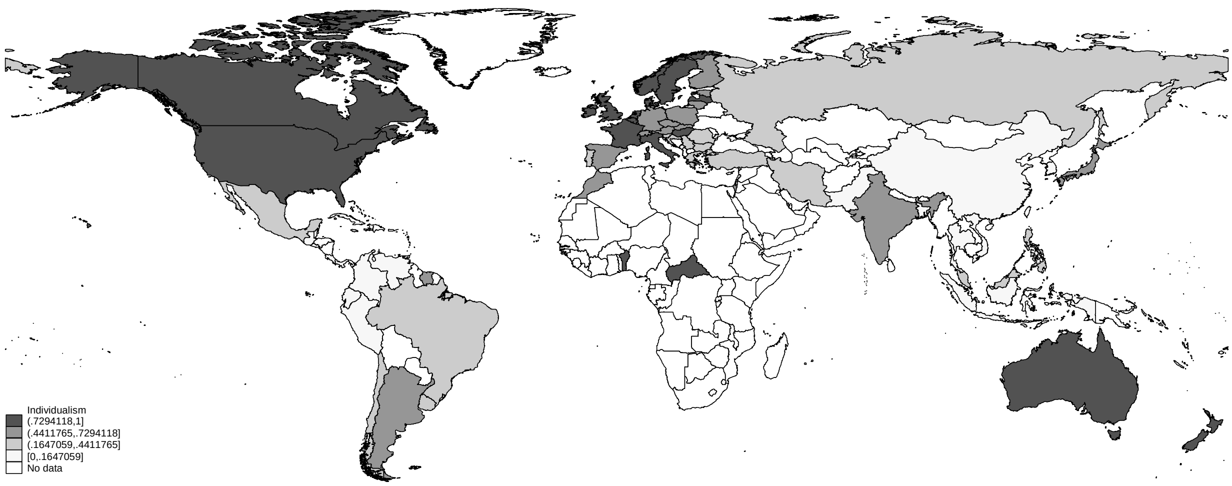
Winick, C. (1956), *Dictionary of Anthropology,* New York: Philosophical Library.

Figure 1: Geographical Distribution of Cultural Values

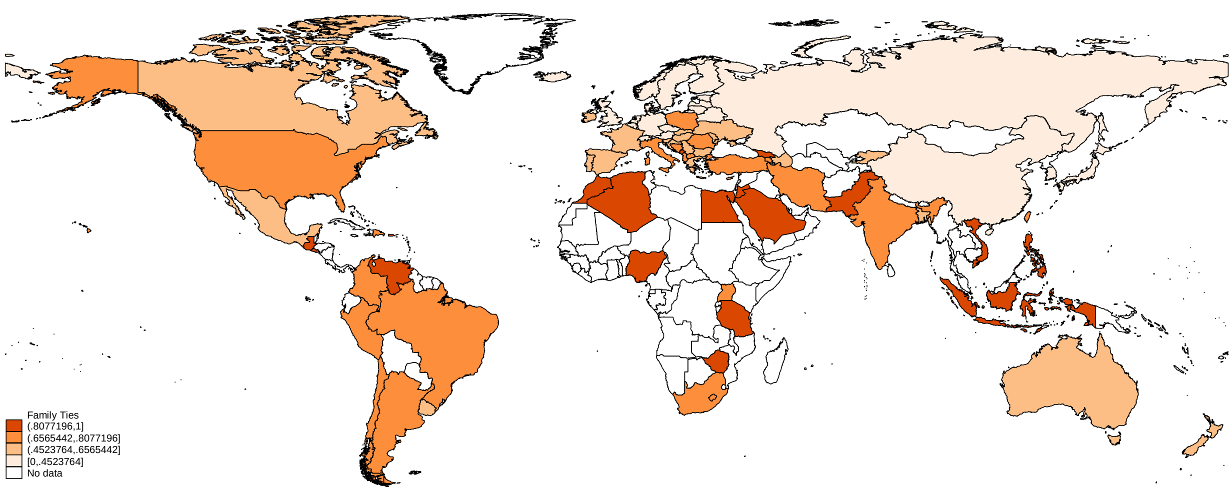
Trust



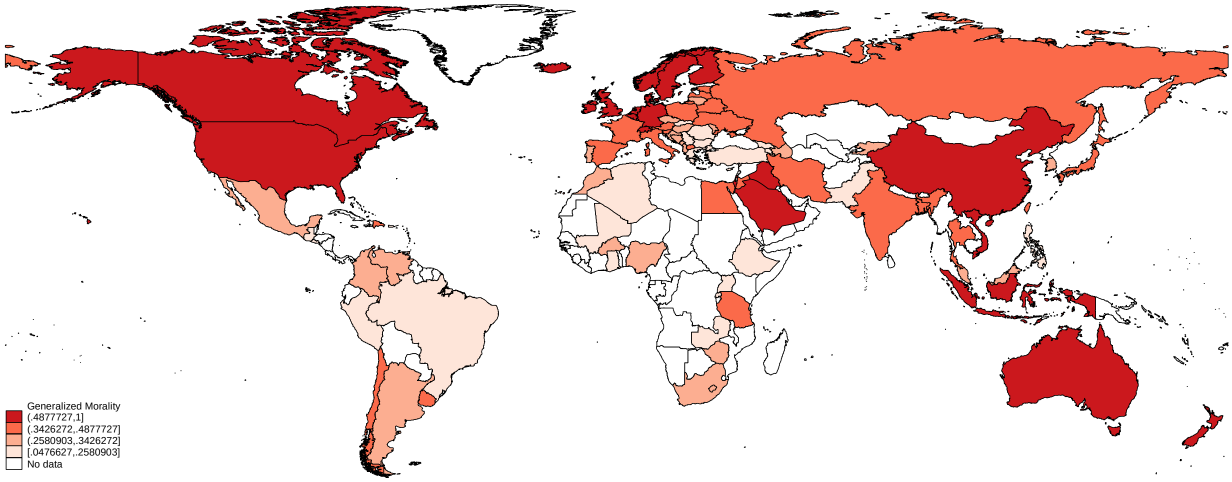
Individualism



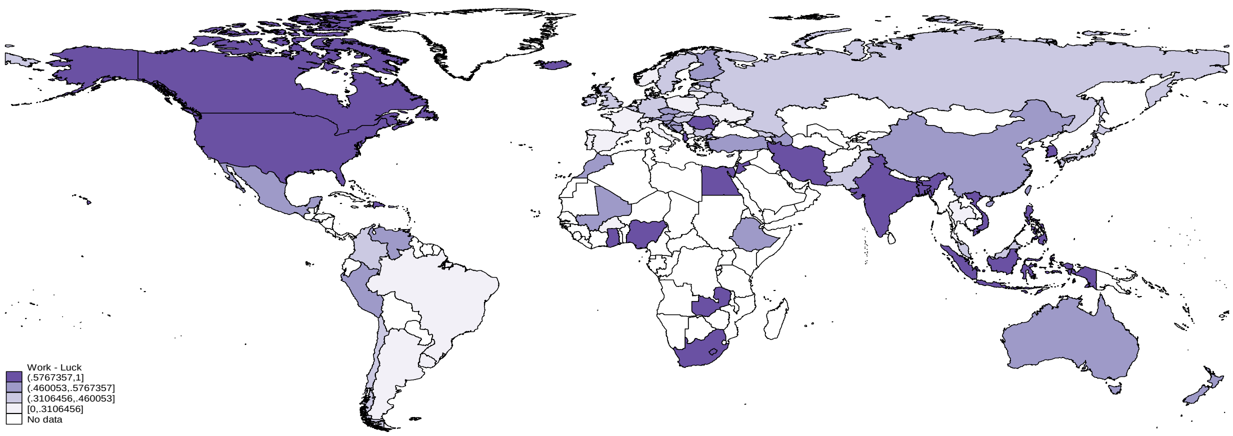
Family Ties



Generalized Morality



Work-Luck Beliefs



Middle-Class beliefs