

EXPERIMENTAL ECONOMICS AND
CULTURE

RESEARCH IN EXPERIMENTAL ECONOMICS

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RESEARCH IN EXPERIMENTAL ECONOMICS VOLUME 20

EXPERIMENTAL ECONOMICS AND CULTURE

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INTRODUCTION TO EXPERIMENTAL ECONOMICS AND CULTURE

Anna Gunnthorsdottir and Douglas A. Norton

1. INTRODUCTION

John and Storr (this volume Chapter 1) write, “Culture is the lens through which individuals see and make sense of the world.” Every boundedly rational decision-maker has such a lens. In the words of [Simon \(1986, S210–11\)](#):

If [...] we accept the proposition that both the knowledge and the computational power of the decision-maker are severely limited, then we must distinguish between the real world and the actor’s perception of it and reasoning about it. That is to say we must construct a theory (and test it empirically) of the process of decision. Our theory must include not only the reasoning processes but also the processes that generated the actor’s subjective representation of the decision problem, his or her frame.

Combining these insights, culture, in a broad sense, can be considered a shared frame or world view through which members of a social unit interpret, assess, and evaluate their universe.

In recent years, economists have taken an interest in cultural questions related to identity, trust, attitudes about work, cooperation rates and risk attitudes, and ultimately, how those variables relate to economic performance and institutional functioning.¹ At times, the term “culture” is not used directly but the connection is obvious. For example, when [Akerlof and Kranton \(2000\)](#) advance the idea that identity influences decision-making, their definition of identity is related to culture: in their model, an individual belongs to a social group and tends to comply with the prescribed behavior of that group.

In his Nobel Prize address, Douglass North discussed the importance of “mental models,” a concept related to [Simon’s \(1986\)](#) definition of a “frame.” Mental models influence how we interpret the world around us ([North, 1993/](#)

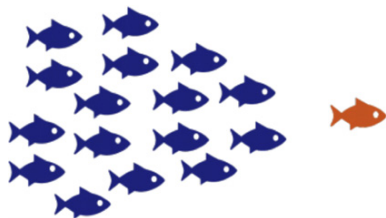


Fig. 1. Culturally determined mental models: Is the grey fish leading or is it being chased? Adapted From Morris, M. W., Nisbett, R. E., & Peng, K. (1995).

1994). For example, consider Fig. 1, adapted from Morris, Nisbett, and Peng (1995). What do you see? In individualist cultures, the picture is perceived as the lone grey fish leading the group of black fish. The same picture in collectivist cultures is interpreted as the group of black fish chasing the lone grey. Because the differences between individualist and collectivist cultures are systematic it implies there are different mental models (i.e., different “lenses”) at work. Models that, if we better understood them, could be used to improve prediction.

The consequences of frames or mental models for how we interpret and evaluate ourselves, actions, and the world are significant. As we will discuss below, culture has been argued to influence economic growth, trade, innovation, labor force participation, savings rates, corruption levels, and more. For a field of inquiry like economics, that has sometimes been called “the study of decision-making” (American Economic Association, 2018), and claims to be “applicable to all human behavior” (Becker, 1976, p. 8), it seems important to incorporate research on culture. In much the same way experimental and behavioral economics has encouraged numerous subfields of economics to incorporate psychological insights, one can incorporate anthropological insights to help improve understanding and prediction. In fact, some have argued that this will be necessary. Consider the following quote from Jack Hirshleifer (1995, p. 53):

“[...] There is only one social science. What gives economics its imperialist invasive power is that our analytical categories—scarcity, cost, preferences, opportunities, etc.—are truly universal in application [...] economics really does constitute the universal grammar of social science. *But, there is a flip side to this.* While scientific work in anthropology and sociology and political science and the like will become increasingly indistinguishable from economics, economists will reciprocally have to become aware of how constraining has been their tunnel vision about the nature of man and social interactions. *Ultimately, good economics will have to be good anthropology and sociology and political science and psychology.*” (emphasis added)

If our goal is to better understand decision-making, we will need to learn from our colleagues in neighboring disciplines to develop a better model of human nature and the interactions between people. Experimental economists are well-situated to integrate insights from other social sciences and to test these theories in lab and field settings with a variety of decision situations, populations, and methods.

Our introduction is organized as follows. In Section 2, we provide definitions of culture and note that all definitions mention values and beliefs shared by a group. We then discuss how scholars approach categorizing those values and beliefs and the people who share them. Section 3 discusses the importance of culture to the discipline of economics and specifically to experimental economics. In Section 4, we discuss the contributions of researchers in this volume and how those contributions fit into the broader work on culture. Section 5 provides some concluding thoughts and suggestions for further research.

2. WHAT IS CULTURE?

Some have attributed the dearth of economic research on culture (compared to other fields) to a lack of conceptual clarity. For example, [Casson and Godley \(2000, p. 2\)](#) write, “Culture is a potentially nebulous concept. Many economists deny culture any place in their theories on the grounds that the concept is so imprecise.” [Guiso, Sapienza, and Zingales \(2006, p. 23\)](#) write that the reluctance of economists to study culture, “[...] stems from the very notion of culture: it is so broad and the channels through which it can enter economic discourse so ubiquitous (and vague) that it is difficult to design testable, refutable hypotheses.” Below we list several examples how culture has been defined.

- [Guiso et al. \(2006, p. 23\)](#) define culture as “those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation.”
- [Tabellini \(2008, p. 259\)](#) interprets culture in two ways: “Economists have used [culture] with two different meanings. The most common meaning of culture is that it refers to the social conventions and individual beliefs that sustain Nash equilibria as focal points in repeated social interactions [...] An alternative interpretation is that culture refers to more primitive objects, such as individual values and preferences.”
- [Fernandez and Fogli \(2009\)](#) use the definition from the Merriam-Webster Dictionary (2002), “[...] culture is (a) “the integrated pattern of human knowledge, belief, and behavior that depends upon man’s capacity for learning and transmitting knowledge to succeeding generations”; (b) “the customary beliefs, social forms, and material traits of a racial, religious, or social group.”
- [Geertz \(1973, p. 89\)](#) writes that culture “[...] denotes an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate, and develop their knowledge about and their attitudes toward life.”
- [Herskovits \(1948, p. 625\)](#) writes that, “[...] culture is essentially a construct that describes the total body of belief, behavior, knowledge, sanctions, values, and goals that mark the way of life of any people.”
- [Nunn \(2012, S109\)](#) writes that culture is “decision making heuristics or ‘rules-of-thumb’ that have evolved given our need to make decisions in complex and uncertain environments. [...] these decision-making heuristics [...] typically manifest themselves as values, beliefs, or social norms.”

While Nunn (2012, S109) points out that the exact definitions of the construct of culture can vary between researchers, all the above definitions have two central components. First, the definitions focus on values and beliefs. Second, the definitions focus on groups of people. Thus, it becomes important to define categories of values and beliefs but also to define the group that shares those values and beliefs.

2.1. *Defining Categories of Values and Beliefs*

Values, beliefs, and attitudes of individuals have been collected in social science surveys for decades. In cultural research, the most popular surveys include the World Values Survey, the Barometers (Asian, Euro, Latino), the European Social Survey, and the General Social Survey. Questions on these surveys were designed to capture specific constructs. The measurement of those concepts can be supported *ex post* through correlations and comparison of means across variables within the same survey (construct validity). Researchers also test whether survey responses correlate with variables outside the survey thought to measure the same concept (criterion validity). Also, the use of factor analysis is a common method that can be used when there is some vagueness about the latent concepts survey responses are thought to measure.²

To our knowledge, there has been no intellectual history written about the General Social Survey, European Values Systems Study Group, the European Values Study (EVS) that emerged from that group, or the World Values Survey that built on the EVS. But, based on the histories provided on their websites, we can see there was an interest in cross-country comparisons and the measurement of trends. For example, the EVS lists questions like, “Are values changing in Europe and, if so, in what directions?” and “Do Europeans share common values?” as motivations for starting their survey (European Values Survey, 2018). The World Values Survey is built on the European Values Survey but with an interest in a more diverse set of countries (World Values Survey, 2018).

The subset of values and beliefs economists have focused on the most are summarized well by Alesina and Giuliano (2015). These categories are emphasized because they (individual values and beliefs) vary systematically between countries and regions (i.e., they are shared) and are relatively easy to capture, usually with surveys. Below, we provide abbreviated descriptions of each category discussed by these authors.

- Generalized Trust – The extent to which people trust strangers.
- Individualism versus Collectivism – This distinction highlights the emphasis individuals place on their own ambitions and accomplishments versus how their ideas and accomplishments relate to the broader group.
- Family Ties – How much family factors into decision-making. This includes the strength of family bonds and expectations about proper treatment of family members.
- Generalized Morality – The extent to which individuals are expected to behave cooperatively and honorably not just toward those close to them but

also to strangers. Generalized trust is a common norm in functioning democracies.

- Attitudes toward Work and the Perception of Poverty – When observing successful outcomes (or failures) individuals gravitate toward explanations of effort or luck.

These facets of culture are also highlighted by [Alesina and Giuliano \(2015\)](#) because they have been associated with important economic outcomes. In Section 3, we discuss some of the empirical evidence that links such cultural differences to variations in economic, political, and social outcomes.

2.2. Defining the Group

There are two dominant econometric approaches to the study of culture: cross-national analysis and the “epidemiological approach” (see e.g., [Fernandez, 2008](#); [Spolaore and Wacziarg, 2013](#)). In the cross-national analyses, culture is aggregated to the country level and outcomes are compared across countries. With the epidemiological approach, the researcher considers the shared values and behaviors of an immigrant cohort (e.g., first- or second-generation immigrants from a specific country), and then compares behaviors and values of those cohorts to the broader native culture. In both approaches, the notion of a “group” is a national or native culture. This presents complications to researchers of culture because of increased global migration. If countries become more diverse, and the culture of immigrants does not converge to the national culture, it will become less meaningful to think in terms of a national culture.

A further source of complexity is that individuals belong to multiple groups: family, religion, nationality, ethnicity, cohort, profession, and more. At a specific time, what group the individual identifies with, and the attendant values and beliefs, will depend on the context. For this reason, [Akerlof and Kranton \(2000\)](#) propose a model where preferences depend on context, “When an individual’s identity is associated with multiple social categories, the ‘situation’ could determine, for example, which categories are most salient” (p. 731). In the seminal terminology of [Simon \(1986\)](#), for a boundedly rational decision-maker each situation evokes a specific frame, or, in the terminology of [Geertz \(1973\)](#), a situation-specific lens.

These complications might make some researchers in economics uneasy. But, with respect to national or native culture, we think this suggests that more research is needed about what cultural traits are persistent among immigrants versus those that converge to a native culture. Alternatively, economists can begin to use more within-country variation. For example, [Chen \(2013\)](#) finds that demographically similar people in the same nation but with different languages, make different decisions. See also Chapter 3 of this volume for such an approach.

With respect to the context-specific nature of decision-making set forth in [Akerlof and Kranton \(2000\)](#), it seems appropriate to invoke behavioral economics. Even though there is no meta-theory (yet) for how individuals transition

across frames, this has not caused economists to say frames do not matter.³ Likewise, the context-specific nature of culture (that the analysis might depend on what is “the group”, and the dominant values, beliefs and interpretations of reality of that group) should not deter economists from acknowledging that culture is important and can enrich our models.

Finally, it is worth noting that the culture of groups is neither static nor monolithic. Cultures often contain subcultures that are sometimes near-tribal (e.g., punks, goths) and may be short-lived. Vivid and impactful events or shared circumstances of upbringing can influence entire cohorts (see e.g., Camerer and Malmendier, 2011⁴; The White House Council of Economic Advisors, 2014⁵). Finally, care must be taken when extrapolating. For example, if a finding is robust in WEIRD (Western Educated Industrial Rich Democracies) samples it does not mean that those findings hold for groups in small-scale societies (Henrich, Heine, & Norenzayan, 2010).

While nuanced definitions of values and beliefs, as well as “the group” that shares them, challenges researchers, new approaches to measurement are emerging to help take such complexities into account. See for example chapters 1, 2, 3, and 4 in this volume.

3. THE IMPORTANCE OF CULTURE IN ECONOMICS

We start with the significance of culture to broader economic questions. Next, we describe the experimental economics research across cultures and why culture has become increasingly important for economic research in the early twenty-first century. We close this section with a brief survey of results that are not cross-national but matter for the study of culture.

3.1. *Culture and Economics (Broadly)*

The ultimate question in economics is probably, “Why are some groups or nations rich and others poor?” Cultural explanations for growth go back to at least Max Weber (1920/2011) who argued that Protestant beliefs encourage hard work and thrift, which facilitates material success. Today, a substantial body of empirical literature shows a cross-national link between religion and economic growth.⁶ Other cultural aspects, most notably interpersonal trust have also been linked to growth (Knack and Keefer, 1997; Tabellini, 2008; Zak and Knack, 2001). Greif (1994) documents differences in Genoese (individualist) and Maghrebi (collectivist) cultures and shows how these cultural differences influenced legal institutions. Gorodnichenko and Roland (2017) find that individualism encourages innovation more than collectivism does. Putnam (1993) uses the different histories of Northern and Southern Italy (a history of self-organizing in the North versus centuries of authoritarian often absentee rulers in the South) to explain different economic outcomes that persist to this day.⁷

Of course, there are alternative explanations for economic growth, especially geographic location (e.g., access to markets), temperate climate (see e.g., Diamond, 1997), or institutions⁸; however, those institutions emerge from ideas

and rhetoric (McCloskey, 2011) and are legitimized by cultural value sets and conventions (Kuran, 2011). Nunn (2012) describes how Acemoglu, Johnson, and Robinson (2001) and Glaeser, Porta, Lopez-De-Silanes, and Shleifer (2004) put forth two competing explanations of economic growth (institutions versus human capital) not recognizing that both explanations are cultural. Legal and political institutions as well as the associated skills and conventions are extensions of the values, beliefs.⁹

It is reasonable to consider these explanations of culture and institutions as complementary and interactive rather than mutually exclusive. Consider the following quotes from North (1993/1994) and Alesina and Giuliano (2015) that suggest the important interplay between these explanations:

The relationship between mental models and institutions is an intimate one. Mental models are the internal representations that individual cognitive systems create to interpret the environment; institutions are the external (to the mind) mechanisms individuals create to structure and order the environment. (North, 1993/1994, p. 363)

What roles do culture and institutions play in determining the wealth of nations? We have argued here that it would be wrong to claim the causal superiority of either. Culture and institutions interact and evolve in a complementary way, with mutual feedback effects. Thus, the same institutions may function differently in different cultures, but culture may evolve in differing ways depending on the type of institutions. (Alesina & Giuliano, 2015, p. 938)

To this point, we have discussed culture in the context of economic development. But, culturally determined expectations and beliefs are important for several other economic questions and fields. Consider the following examples.

Guiso, Sapienza, and Zingales (2009) show that nations with higher levels of mutual bilateral trust have a higher volume of bilateral trade. Alesina, Giuliano, Bisin, and Benhabib (2011) report estimates that beliefs about what causes success (luck versus hard work) is related to preferences for redistribution. Fisman and Miguel (2007) document that even with diplomatic immunity, unpaid parking violations are lower for diplomats from low corruption countries. Chen (2013) suggests that a language with a future tense which makes the future appear more distant in the mind of those who speak it, results in lower saving rates. Fernandez and Fogli (2009), and Alesina and Giuliano (2010) show that culture affects female labor force participation. So-called “repugnance markets” (see Roth, 2007 for an overview) are also excellent examples of the role of culture in economic life: what is considered tradable is dependent on shared views and values.¹⁰ The list could easily go on because culture influences preferences, beliefs, norms, and transaction costs. We now turn to the role of economics experiments in the study of culture.

3.2. Culture and Experimental Economics

In “Microeconomic Systems as an Experimental Science”, Smith (1982) lays the methodological foundation for economics as an experimental science. Throughout the article, Smith is aware that individuals may have a richer set of considerations for decision-making than what the experimenter would like to restrict them to be. This is echoed by Hoffman, McCabe, and Smith (1996) who

write, “In laboratory experiments we cannot assume that subjects behave as if the world is completely defined by the experimenter” (p. 655). Yet, culture was not taken seriously by experimental economists until around the turn of the century.

Initially, inspired in part by evolutionary psychology (e.g., Cosmides and Tooby, 1992) experimental economists often aimed to identify cross-cultural behavioral universals. For example, in their seminal cross-cultural experiment Roth, Prasnikar, Okuno-Fujiwara, and Zamir (1991) conjecture that differences in ultimatum game behavior might be cultural.¹¹ But, this cultural conjecture seemed like only tentative evidence against human universals, probably also because the observed differences were small. For example, Hoffman, McCabe, and Smith (1998, p. 341) write,

“Although there are some differences, the general features of these results have been replicated in cross-cultural comparisons suggesting that *the results are not strongly culture-specific* (Roth et al., 1991). *This suggests that the explanation may transcend culture*” (emphasis added).

Based mostly on experiments at universities in developed countries, cross-national differences appeared minor. Subjects were found to be cooperative (see Zelmer, 2003 for a meta-analysis of public good games), and surprisingly fair (e.g., Hoffman et al., 1996, 1998; Roth et al., 1991).

Around the turn of the century, experiments in so-called small-scale societies, conducted by teams of experimental economists and anthropologists cast doubt on these human universals and the general behavior function experimental economists had constructed. We elaborate on this evidence from very diverse subject pools in Section 3.3 below; there, we also discuss the importance of migration and globalization to experimental economics, where any subject pool in a given geographic location may increasingly be culturally diverse within. Taken together, current global developments and the new anthropology-inspired findings suggest that culture is a background variable that cannot be ignored.

3.3. *Experiments across Diverse Societies*

In a seminal study, Henrich (2000) compared modal ultimatum game offers between UCLA graduate students and the Machiguenga from the Peruvian Amazon. The modal proposal among UCLA students was 50%. Among the Machiguenga, the modal offer was 15%, and this was usually accepted. These results suggest different sets of social norms with very different social equilibria. Henrich et al. (2001, 2005) build on this initial finding and explore 14 additional small-scale societies, investigate voluntary contribution mechanisms, ultimatum games, and dictator games and again find large cultural differences. By now, this group of researchers has conducted experiments with numerous culturally different communities. Their findings show great cultural diversity in terms of behaviors previously considered universal. See for example, Ensminger and Henrich (2014) for an overview of this research program.

One of the more striking pieces in this research stream is the Henrich et al. (2010) summary article showing that the university student subjects that experimental economists have typically relied on are similar along many attitudinal and