

Unbundling Culture: The Impact of Individual Values on Development

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Introduction

Although Adam Smith (1759) was the first to analyze how norms, beliefs, morality and culture affect economic development, an upsurge of the interest in the role of culture has occurred only recently. This new branch of research has been developing within institutional economics. The view that “institutions matter” has been given strong theoretical foundations and acquired plentiful empirical evidence over the last couple of decades. The expression “institutions matter” refers, however, to the impact of *formal* institutions (in the sense of North 1990) on development. Nowadays, with the above-mentioned new branch of research a new expression is emerging: “culture matters”, meaning that culture has been recognized as a crucial determinant in economic development. So, in the past decade, besides *formal* institutions, scholars have also started to devote more attention to the role of *informal* institutions, i.e., culture.

In this area, a growing number of studies have provided us with empirical evidence on the positive effect of culture on economic performance¹ (Guiso et al. 2006, Tabellini 2008, 2010, Stulz and Williamson 2009, Gorodnichenko and Roland 2011). This evidence shows, in some cases, the overwhelming effect of culture vis-à-vis that of formal institutions (e.g., Williamson 2009). In these investigations, culture is generally measured by the subjective evaluation of those answering the question “Do you think that most people can be trusted?” in the World Values Survey (WVS).

¹ In economics, while the majority of research on the impact of culture is empirical, a few studies, such as Landes (2000), Sen (2002) or Boettke (2001), have argued for a more narrative approach, showing an enthusiasm for the idea that “culture matters”: “If we learn anything from the history of economic development, it is that culture makes almost all the difference. (Here Max Weber was right on.)” (Landes 2000:2).

However, whether an answer to this question really refers to culture has recently been doubted by a growing number of scholars, a problem which goes back to a somewhat ambiguous concept of culture. Another problematic issue here is that these empirical investigations do not rely on any specific economic theory concerning the effects of culture on economic performance, at least not when it comes to the mechanisms through which culture may effect development.

One way to overcome these shortcomings – more importantly the “black box” view of culture, as Tabellini (2010) has also argued – is to move from general statements about culture (which is the predominant approach in the literature) to a narrower, and consequently more reliable core dimension of culture. My argument is that, in this respect, Schwartz’s (2006) theory of cultural value orientations developed in cross-cultural psychology can be fruitfully used, for three reasons. First, it captures only one, but an unambiguous, (core) aspect of culture: individual values. Secondly, using individual values in terms of culture does not need to assign a functional role to it. And thirdly, this theory relies on *a priori* theorizing about three basic issues that all societies confront – from which individual values stem – rather than *post hoc* examination of data.

So, in this paper I will argue that an analysis of the role of individual values in economic development contributes to a clarification of the effects of culture by “unbundling” culture itself. Using individual values allows me to rely on theories of institutional economics – namely Williamson’s (2000) theory about the levels of institutions and Boettke et al.’s (2008) theory on institutional stickiness – to make hypotheses about their effects on development, and then empirically investigate them.

On the basis of these theories, the main argument will be that individual values, being core informal institutions, are *fully* embodied and crystallized in the stickiest formal institutions of a society, such as the rule of law or the security of property rights, which have evolved over time in a spontaneous, endogenous process. Accordingly, individual values do not stand alone in themselves in the sense that they have an effect on development beyond that of the above-mentioned formal institutions. Indeed, just the opposite is true: the impact of values is felt fully through these endogenous formal institutions. In other words, the stickiest formal institutions (e.g., the rule of law) institutionalize individual values as core informal institutions. When moving towards less sticky formal institutions, that is, exogenously designed ones, the effect of values will be different: they are expected to affect development after controlling for exogenous formal institutions.

When it comes to cross-country empirical investigation, I will use the Schwartz Values Survey data on individual values, and for the sake of comparison, the culture index derived from the WVS developed by Williamson and Mathers (2011), too. The results provide evidence for my hypotheses and are robust, and the effect of individual values is different from that of the culture index. At the end of the day, my argument in this paper is that (the core of) culture, i.e., individual values matter for development, but they can take effect in different ways, depending on the stickiness of the formal institutions we take account of.

The paper is organized as follows. In section 2 I will briefly review the empirical literature on the impact of culture on development, by making also clear what concept of culture lies behind the various approaches. In section 3 I will argue for an “unbundling” of culture by relying on the concept of culture as individual values. In section 4 I will set out my main hypotheses about the effect of individual values on development by relying on two theories of institutional economics. In section 5 I will present the empirical investigations. The last section will conclude.

Review of the literature

Despite the increasing interest in economics in the role of culture, the concept of culture in economics is somewhat vague. What seems to be crystallized as a view towards which concepts are converging is the view of culture as social conventions and norms that sustain equilibria. This concept finds its roots in North’s (1990) theory about informal institutions. Even North (1990:36) himself views culture as the informal constraints that guide humans’ daily interactions. In the same manner, Guiso et al. (2006:23) defines culture as “...those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation.” Guiso et al. (2008) builds a model in which culture refers to beliefs about the consequences of one’s actions, where such beliefs are purposefully manipulated by earlier generations or by deliberate experimentation. Greif (1994) sees culture as Nash equilibria in repeated social interactions or as focal points when there are multiple equilibria. Clearly, all these concepts of culture center on subjective terms as beliefs, norms, conventions, i.e., informal institutions that are prevalent among the members of a society.²

² Hofstede’s concept of culture as the “software of the mind” or “the collective level of mental programming” (Hofstede 1996) is in line with this definition. Evolutionary perspectives are also in the same spirit, such as that

When it comes to empirical analysis, the question is how to measure these beliefs, norms, conventions. Scholars basically use two different types of measures. One is when culture is proxied by religiosity; the other is when a measure of trust, social capital, morality, etc. is used as a proxy. Here of course the next problematic issue is to find a proxy for trust, social capital, etc.

The literature in which religiosity is used to express culture dates back at least to the work of Max Weber (1930). In his influential work, Weber argues that Protestantism played a crucial role in the development of capitalism and its institutions: the Protestant Reformation taught that the pursuit of wealth should be regarded as an advantage and, at the same time, a duty.

More recent papers include Barro and McCleary (2003), which examines the impact of church attendance and religious beliefs on economic growth. In their panel regression they use WVS data as well as two other reports on religion to measure church attendance and religious beliefs. Empirical evidence is provided for their assumption, namely that religious beliefs influence individual traits that enhance economic performance: they find that economic growth is positively related to the extent of religious belief, notably a belief in heaven and hell, but negatively to church attendance. To deal with the potential problem of endogeneity, they also use instrumental variables (dummy variables for the presence of state religion and for regulation of the religion market, an indicator of religious pluralism, and the composition of religions).

Knack and Keefer (1997) focuses on the role of social capital and find empirical evidence that it matters for economic performance. As proxies for social capital this paper uses *trust* and *civic norms* from WVS. The authors find that both *trust* and *civic norms* are stronger in countries with higher and more equal incomes, with institutions that restrain predatory actions of chief executives, and with better-educated and ethnically homogeneous populations.

That line of research which proxies culture by trust is, to a significant extent, influenced by Tabellini (2008). He pioneered the use of such variables as *trust*, *respect*, *control* and *obedience*, based on the answers to four questions from the WVS. He uses these variables in a number of papers to analyze the effect of culture on various institutions and economic development.

In his 2010 paper (Tabellini 2010) he shows that the aggregate variable constructed from the four above significantly correlates with current development, after controlling for country

of Boyd and Richerson (1985) who define culture as “transmission from one generation to the next, via teaching and imitation, of knowledge, values, and other factors that influence behavior (ibid p. 2)”.

fixed effects and for school enrollment in 1960. He assumes that *trust*, *respect* and *control* serve as rules governing and stimulating interaction between individuals, whereas *obedience* is thought to limit economic interaction and development by decreasing risk-taking, which is important for entrepreneurship.

He also uses an instrumental variable estimation because of his suspicion the causal effect of culture is endogenous to economic development. His finding is that the data do not reject the hypothesis that the effect of the two historical variables (past literacy and past political institutions) on regional output only operates through culture. When it comes to the question of whether the effect of culture is direct or indirect, his results suggest that the effect of culture on output mainly or exclusively operates through the functioning of government institutions, at least within Italy. A plausible interpretation of the findings of this paper is that cultural differences are so important because they bring about a different functioning of the same formal institutions, and that culture is central to the mechanism through which past institutions influence the functioning of current institutions.

The four measures suggested by Tabellini are extensively used by Williamson in several empirical studies. In her 2009 paper (Williamson 2009) she investigates the relationship between formal and informal institutions (culture) and how the interaction between the two can impact development. To measure formal institutions, she used the political institutions of Glaeser et al. (2004) and develops an index for formal institutions by using the first principle component of four measures. In order to measure informal institutions (culture), she relies on Tabellini (2008). She develops a culture index based on the four variables described above. Then she calculates the difference between the formal and informal (culture) indices with the aim of measuring the strength of formal institutions vis-à-vis the informal ones. Her results, in an important respect, are different from those of Tabellini because she identifies a dominant effect of informal institutions (culture): strong informal institutions are determinants of economic development regardless of the strength of the formal institutions. A further message of her results is that formal institutions are only beneficial in the presence of particular informal institutions (culture).

More recently, she and her co-author (Williamson and Mathers 2011) show that culture, and the economic institutions associated with economic freedom are both independently important for economic growth, where culture is measured by the above-mentioned culture index (from Williamson and Kerekes 2009). They find that when controlling for both culture and economic freedom simultaneously, the strong association between culture and growth becomes much weaker, while, overwhelmingly, economic freedom retains a positive and

highly significant relationship with economic growth. According to them, this suggests that culture and economic freedom may act as substitutes. To some extent this result conflicts with that of Williamson (2009) since here culture becomes less in the growth regression when certain institutions are in place.

Mathers and Williamson (2011) is another paper which investigates how the interaction between culture and economic freedom affects economic prosperity. By including culture in the analysis the authors aim to provide a partial explanation for why the same institutions lead to different economic outcomes. They find that culture enhances the impact of economic freedom on growth by about 10 percentage points. Their results suggest that the same economic institutions combined with different cultures have diverse outcomes.

Guiso et al. (2006) investigates the impact of culture on certain economic outcomes such as the probability of becoming entrepreneurs, or national savings, or state efforts on income redistribution. They assume that culture as defined by religion and ethnicity affects beliefs and trust, and in their cross-country regressions they are able to show that beliefs have an impact on the above outcomes. They use data from WVS, but they interpret *trust* differently and do not equate it with culture, which means their paper diverges from those that follow Tabellini (2008).

Besides Tabellini's measures derived from WVS, some other measures are also used in the literature. For instance, Voigt and Park (2008), as proxies for values and norms (culture) use the GLOBE³ (Global Leadership and Organizational Behavior Effectiveness Research Program) study on culture, leadership and organization, in which different values and norms reflect firm behavior, in particular different leadership models. Voigt and Park (2008) is interested in culture's effect on long-run development. Their hypothesis is that in the long-run there would be a close correspondence between culture (values and norms) and institutions, since those institutions which are incompatible with the prevalent values and norms are likely to disappear. They use a simultaneous equation approach and examine the influence of culture both directly and indirectly via institutions such as rule of law, constitutionalized democracy, constraints on the executive and civil society proxied by the number of international non-governmental organizations active in a given country. As for the direct effect of culture, their results are rather mixed: when using the rule of law as a measure for institutions, culture does not have a significant effect beyond that of the rule of law; when using a measure of political institutions, some values have a significant effect. As for the indirect effect of culture, the

³ Available at: <http://www.ccl.org/leadership/pdf/assessments/GlobeStudy.pdf>

results are not convincing either way. In sum, Voigt and Park (2008) find that some norms matter for economic development, but this impact greatly depends on the choice of institutional proxy.

Gorodnichenko and Roland (2010, 2011) analyze the effect of the three main measures of culture (WVS, Hofstede data and Schwartz Values Survey) on output per capita. In the 2011 paper they find that the Hofstede's individualism index is always significant, whereas this is not the case for most cultural variables. Among the Schwartz variables⁴, *embeddedness* is significant with a negative effect, and *affective autonomy*, *intellectual autonomy*, and *egalitarianism* are also jointly positively significant.

In their more detailed analysis (Gorodnichenko and Roland 2010), they assume that culture plays a key role in stimulating innovations and hence explaining long-run economic growth. They hypothesize that culture is a basic force underlying formal institutions and long-run growth. They find that there is a two-way causality between culture and institutions, thus suggesting that institutions are in part determined by culture. They show empirically a strong causal effect from culture to long-run growth and the level of innovation. Their findings are consistent with the predictions of their theory, indicating that a more individualist culture should lead to more innovation and hence greater economic development. They clearly show that culture makes an important contribution to economic development which is independent of institutions. In terms of magnitudes, culture explains income differences across countries at least as much as institutions. However, they also show that culture itself might have an important effect on the choice of political and legal institutions.

Johnson and Lenartowicz (1998) also analyzes the effect of culture on growth, primarily via establishing the relationship between cultural values and economic freedom. According to their results, *autonomy* is positively associated with economic freedom, while *hierarchy* and *conservatism* are negatively associated.

Individual values: towards unbundling culture

The above-summarized literature has been developing since the mid-2000s, and is clearly in its infancy. Criticism has begun to emerge over the past few years.

Interestingly, an important criticism regarding the vague concept of culture itself comes from one of the most prominent scholars in the field, namely Tabellini. According to him

⁴ The Schwartz variables will be presented in detail in the next section.

(Tabellini 2010:711), the concept of culture is a black box in the literature. Hermann-Pillath (2014) is even more critical vis-à-vis the recent economic work on culture when arguing that the inclusion of culture in economics lacks a theoretical foundation: “economics of culture without a theory of economics” (ibid p. 320). In his opinion the econometrics of culture just shows that there is an impact of *something* on economic performance. Furthermore, if one identifies trust or religion as a significant variable in explaining development, one does not *explain* why trust or religion is important, and how they work. Guiso et al. (2006) also argues for theory-based testable hypotheses when analyzing the role of culture.

Thus, the concept of culture is not clear, and what is used in regressions is an amalgam of institutions, values and social structures that leads to development. One way to overcome the “black box” view of culture is to move from general statements about culture (which is the predominant approach in the literature) to a narrower, and consequently more reliable core dimension of culture.⁵ My argument is that Schwartz’s (2006) theory of cultural value orientations developed in cross-cultural psychology can be fruitfully used for three reasons. First, it captures only one, but an unambiguous, (core) aspect of culture: individual values. Secondly, using individual values in terms of culture does not need to assign a functional role to it. And thirdly, this theory relies on *a priori* theorizing about three basic issues that all societies confront – from which individual values stem – rather than *post hoc* examination of data.

In this spirit I will try to unbundle culture when thinking of culture in terms of individual values as its core constituent part. My intention here seems to be supported by the interpretation of culture emerging in psychology, in which culture refers to more primitive objects, such as individual values (e.g., Akerlof and Kranton 2000). This view has recently appeared in economics as well: Alesina and Guiliano (2014) argue that “the concept of culture as moral principles, rules of thumb or normative values that motivate individuals is particularly appealing” (ibid p. 185).

Schwartz’s theory of cultural value orientations, coming from cross-cultural psychology, has been developed in numerous papers and book chapters by Schwartz (e.g., Schwartz 1992, 1994, 1999, 2006, 2009, 2014).

Schwartz (2006) sees culture as the rich complex of meanings, beliefs, practices, symbols, norms, and values prevalent among people in a society. To be more precise, he argues (Schwartz 2014) that culture is a latent, hypothetical construct which cannot be observed

⁵ Guiso et al. (2006) also argues in favor of using as narrow a concept of culture as possible.

directly, and the rich complex of beliefs, practices, symbols, norms, and values prevalent among people in a society are simply among the manifestations of the underlying culture, but they are not the culture itself. Accordingly, culture is seen as a latent normative value system, which is external to the individual, and underlies the functioning of societal institutions (Schwartz 2009, 2014).

So, the latent value system is the essence or core of culture. Schwartz (1999) defines values as “conceptions of the desirable that guide the way social actors (e.g., organisational leaders, policy-makers, individual persons) select actions, evaluate people and events, and explain their actions and evaluations” (Schwartz 1999:24). That is, as he argues, cultural values represent abstract ideas about what is good, right, and desirable in a society. In this framework, values represent motivational goals for individuals. This is the view of values as guiding principles in one’s life.

Despite the fact that the values of individuals vary because of their different experiences, social locations, and genetic inheritance, Schwartz (2014:6) clearly argues that averaging the values of individuals can provide a “good window into the prevailing societal culture” because the mean values reflect the latent cultural value orientations to which all societal members are exposed and to which they adapt. These means serve as manifest markers for the latent culture and can be used to measure cultural differences. This means that even if we rely on the concept of individual values, it is still possible to connect individual-level motivations to societal-level orientations, i.e., culture.

The major advantage of using Schwartz’s theory of cultural values is that it is theory-driven, that is, it is based on an *a priori* theorizing. Schwartz (1999, 2006) argues that values evolve as societies confront a set of basic and inevitable problems that arise in regulating human activity. Over time, each society develops a preferred way of responding to these basic issues. The first basic issue that all societies confront refers to the nature of the relationship between the individual and the group. As he explains, here basically there are two major questions: whose interests should take precedence, the individual’s or the group’s, and to what extent are people autonomous vs. embedded in their groups? The two polar value dimensions in this respect are *autonomy* (two types of autonomy are *intellectual autonomy* and *affective autonomy*) versus *embeddedness*.

The second basic issue that confronts all societies is to guarantee the responsible behavior that preserves the operation of the society. One polar solution to this issue uses power differences, relying on hierarchy. The value type expressive of this view is *hierarchy* which is a cultural emphasis on the legitimacy of an unequal distribution of power, roles and resources.

An alternative solution to the problem is to induce individuals to recognize each other as equals, which is called *egalitarianism*.

The third basic issue that confronts all societies is the relationship between humankind and the natural and social world. One response to this problem is actively to master and change the world, to assert control, and exploit it, which is *mastery*. On the other hand, *harmony* means an emphasis on fitting harmoniously into the environment rather than changing or exploiting it.

To summarize, in the Schwartzian theory there are seven value types, characterized by both contradictions and complementarities, leading to an integrated structure of cultural values.⁶

So, in this theoretical framework culture is expressed in the functioning of institutions, in their organization and practices, and it is not something that stands “alone” in itself. As argued above, this view of culture offers an important advantage vis-à-vis the “black box” view, namely that it is in full harmony with institutional economics theories: the theory of the hierarchy of institutions (Williamson 2000) and the theory of institutional stickiness (Boettke et al. 2008). And relying on theories allows us to see the effects of culture on economic development in a more precise way.

Theory and the hypotheses about the effect of values

The recognition of individual values as the core of culture allows us to “unbundle” culture, that is, to clearly distinguish a constituent part of the “amalgam” of culture – a concept accepted in the literature – that is narrow enough to be clearly conceptualized and identified. In addition, this conceptualization of culture can be connected to two theories in institutional economics. So my hypotheses about the impact of individual values on long-run economic performance stem from these theories.

One is the theory of the hierarchy of institutions developed by Williamson (Williamson 2000). Williamson’s idea is that various institutions are related to and depend on each other, where the direction and the concrete form of the dependence are determined by a hierarchy of institutions. He distinguishes three levels of institutions, of which only level 1 and 2 are important for my concerns.⁷ The first level is related to embeddedness, where customs,

⁶ The meanings of the seven value types and their constituting items are summarized in Table 1 in the Appendix.

⁷ At the third level we have the governance structures, namely firms, markets and hybrid forms. The fourth level is the one at which resource allocation takes place. The model is shown in Figure 1 in the Appendix.

norms, religions, and traditions play the major role – these are informal institutions. Values are located here. At this level social changes take place very slowly; consequently the institutions here act as external and unalterable conditions on individuals. At the second level we have the formal “rules of the game” (North 1990), i.e., constitutions, political institutions, laws, courts, institutions of enforcement and property rights, representing the institutional environment. Here the frequency of change of the institutions is more intense than at level 1.

In this model, the higher institutional level imposes constraints on the development of the level immediately below. When it comes to the individual values located at level 1, they must be seen as given, i.e., constraints from the perspective of the institutional change at level 2. This aspect of culture (values) stems from its nature as societies’ “common knowledge”, coordinating people’s expectations. By doing so, cultural values reduce the costs of developing and sustaining the formal institutions that are compatible with them.

On the other hand, Williamson’s model allows us to recognize that the prevailing informal institutions (values) in a society also serve as sources of motivation for, and justification of, the development of formal institutions, and not only as constraints. In this respect, culture operates to motivate the development of those formal institutions that are compatible with it. To sum up, culture encompasses two facets, namely, as constraints and as motivational factors. Both facets require a correspondence between values (culture) and formal institutions (at level 2).

The theory of institutional stickiness developed by Boettke et al. (2008) provides us with additional details about the harmony of formal and informal institutions. Boettke et al. (2008) proposes a new taxonomy of institutions based on the origins of institutions: foreign-introduced exogenous (FEX) institutions, indigenously introduced exogenous (IEX) institutions and indigenously introduced endogenous (IEN) institutions (see Figure 2 in the Appendix). The foreign or indigenous component in each of these categories is self-explanatory; exogenous institutions are constructed and imposed, endogenous institutions emerge spontaneously as the result of individuals’ actions, and are not formally designed.

Besides these three categories of institutions, which include formal institutions, Boettke et al. (2008) also identifies *metis*⁸. *Metis* comprises unwritten (informal) norms and practices, i.e., informal institutions, and it can be thought of as the glue that gives institutions their stickiness. *Metis* constitutes a core which formal institutions are stuck to. Individual values, of course, constitutes one of the components of *metis*.

⁸ The concept of *metis* comes from the ancient Greeks, and includes skills, culture, norms, and conventions, all of which are shaped by the experiences of the individual.

IEN institutions are associated with spontaneous order and they evolve informally over time: “As spontaneous orders, IEN institutions have their roots in the behavior of individual agents pursuing their own ends” (ibid p. 337). Clearly, they are grounded in the practices, customs, values, and beliefs of indigenous people. Examples of IEN institutions are the rule of law, commercial law, common law, constitution, property rights, money, etc.

Both characteristics of IEN institutions, namely their indigenous introduction as well as their endogenous emergence, strongly suggest that they are founded in *metis* for two reasons. First, they emerge endogenously and directly from *metis*. Secondly, they are in harmony with local conditions, attitudes, and practices. In this sense IEN institutions are institutionalized *metis*, and the stickiest institutions of all.

IEX institutions are indigenous, but exogenously introduced by a formal authority, such as the state. Since the formal authority lacks knowledge of *metis*, it is very likely that incongruities between IEX institutions and *metis* will emerge. That is, IEX institutions are less sticky than IEN institutions and they very often fail to conform to *metis*. IEX institutions include, for instance state-made laws, state regulatory institutions, etc. FEX institutions are introduced by foreigners; accordingly, they tend to be the least sticky, since foreigners are less aware of the local norms and practices found in *metis*. As can be seen in Figure 2, the connection to *metis*, that is, the stickiness, weakens when we move from IEN to FEX institutions.

It is clear that this theory complements the Williamsonian framework by allowing us to better understand which institutions should be in harmony with which others in the long run.⁹

As argued before, an advantage of thinking of culture in terms of individual values is that this conceptualization can be connected to economic theories, on the basis of which hypotheses can be derived about the effect of culture on development. These are the following:

Hypothesis 1

Individual values will not have an effect on development after controlling for IEN institutions.

Reasoning

Since individual values belong to *metis*, they are *fully* embodied and crystallized in the IEN institutions; accordingly, their effect is mediated by these institutions.

⁹ *Metis* is located at level 1; IEN, IEX and FEX institutions, being formal ones, are located at level 2 in the Williamsonian framework.

Hypothesis 2

Individual values will have a direct effect on development after controlling for IEX institutions.

Reasoning

Since IEX institutions are stuck to individual values to a lower extent, these institutions cannot transmit all the “information” embodied in values.

Regression analysis

In what follows I will carry out empirical investigations to provide evidence for the above hypotheses. The main focus is on long-term development, and not on short-term growth. This is why I will be interested in explaining income levels rather than growth rates. The empirical analysis will consist of cross-country regression analysis in which I will rely on the following model:

$$\ln(\text{GDP per capita})_i = \text{const} + \beta_1 \ln(\text{values})_i + \beta_2 \ln(\text{institution})_i + \mathbf{X}'\beta + \varepsilon_i$$

where the variable *values* is the measure of individual values, the variable *institution* is the measure of an IEN or IEX formal institution, while the vector *X* includes certain control variables (human capital investment, geography variable), and ε_i is the error term. The dependent variable is per capita GDP in 2010 from the Penn World Table (PWT) 7.1.

The main independent variable *values* is from the Schwartz Value Survey (SVS) which has been built up since 1988. The 46 abstract items (e.g., social justice, humility, creativity, social order, pleasure, ambition) that have reasonably equivalent meanings in each country have been used to construct the seven values (*embeddedness, affective autonomy, intellectual autonomy, hierarchy, egalitarianism, harmony, mastery*) discussed above (see Table 1 in the Appendix). I will only use the *teachers* subsample and will not use the *students* subsample to assure that the social status of the respondents is the same. Since individual values are assumed to be relatively time-invariant I will include as many observations as possible taken from all the waves of the survey, and take the mean of the scores for each value.

The variable *institution*, in some specifications, is an IEN institution, while in other specifications, it is an IEX institution. As an IEN institution, I will use the Area 2 sub-index (in its chain-linked form, averaged from 1990 to 2010) of the Economic Freedom of the World Index (EFW) compiled by the Fraser Institute (Gwartney et al. 2012). This measure is

widely used in the literature to capture the rule of law and the security of property rights.¹⁰ To minimize the omitted variable bias, as robustness checks I will alternatively use two other measures for the IEN institution: the rule of law¹¹ (averaged from 1996 to 2010), and voice and accountability¹² (averaged from 1996 to 2010) from the World Governance Indicators (WGI) developed by Kaufmann et al.¹³ As an IEX institution I will use the Area 5 sub-index of the EFW Index (averaged from 1990 to 2010), capturing state-introduced institutions (credit market, labor market and business regulations).

Amongst control variables, as a measure for human capital I will use the index of human capital from the PWT 8.0, and as a widely used geographical variable, the latitude of country centroid from Gallup, Sachs and Mellinger's Geography Datasets¹⁴.

For the sake of comparison, instead of *values* I will use an alternative measure for culture, the *culture index* developed by Williamson and Mathers (2011) using *trust, respect, obedience, self-determination* from WVS.

Since data availability poses a constraint on the number of countries, 56 countries will be included in the cross-country regressions. Concerns may arise about potential reverse causality, of course. But the concept of individual values suggests an answer in this respect: since values are inherited from generation to generation rather than being voluntarily acquired, they are "largely a 'given' to individuals throughout their lifetimes" (Becker 1996:16). Accordingly, the risk of reverse causality is very low, so I run only OLS regressions.

Since, of course, based on the theory of Schwartz, not all values are expected to exercise a significant effect on income, first I ran regressions to see which values have any impact at all and whether these effects are the ones that the theory suggests. Table 2 shows the impact of particular values on per capita GDP. As can be seen in columns 1-4, *embeddedness, hierarchy* and *mastery* are significant separately with a negative sign, and when adding *hierarchy* to *embeddedness* the performance of the model increases while both remain statistically

¹⁰ The Area 2 sub-index includes the following: judicial independence, impartial courts, protection of property rights, military interference in rule of law and politics, integrity of the legal system, legal enforcement of contracts, regulatory restrictions on the sale of real property, reliability of police, business costs of crime (Gwartney et al. 2012).

¹¹ Rule of law measures the extent to which individuals "have confidence in and abide by the rules of society, and in particular, the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence" (Kaufmann et al. 2010:4).

¹² Voice and accountability captures "perceptions of 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" (Kaufmann et al. 2010:4).

¹³ Available at: <http://info.worldbank.org/governance/wgi/index.aspx#home>

¹⁴ Available at: <http://www.cid.harvard.edu/ciddata/geographydata.htm>

significant. The explanatory power of the values is relatively high (adjusted R^2 is between 0.31 and 0.4). In columns 6-8, when adding various usual control variables (human capital and central latitude of country centroid) the explanatory power of the model increases greatly, of course, and each value retains its significance. So, the results suggest that *embeddedness*, *hierarchy* and *mastery* can be associated with long-run development, and they have both direct and indirect effect.

It is worth noting that from the three bipolar value dimensions one value became significant for each dimension: an emphasis on (1) *embeddedness* in the group as opposed to being autonomous (*autonomy*); (2) the legitimacy of an unequal distribution of power, roles and resources (*hierarchy*) as opposed to recognizing each other as equals in pursuing one's goals (*egalitarianism*); (3) changing and exploiting the world (*mastery*) as opposed to fitting harmoniously into the environment (*harmony*) have a negative impact on development. The negative effect of these three values on development may be because they are unfavorable for entrepreneurship.

In Tables 3-5 I include an IEN institution, the Area 2 sub-index of the EFW Index, the rule of law, and the voice and accountability measure from the WGI, respectively. For the sake of comparison in column 9 I will use an alternative measure for culture, the culture index. Column 1 in each table contains a very standard model including an institutional variable together with a geographical and human capital variable. The *institution* and the *human capital* variables are always significant at a 1% level, while the geographical variable is only significant in some specifications with the WGI voice and accountability measure. The explanatory power of the models is high. These results clearly confirm the findings of the literature, namely that formal institutions, human capital and geography¹⁵ matter for development.

In columns 2 to 8 (in Tables 3 to 5) I include a particular *value* in the model, which is never significant, and what is more, the pattern of results is the same with all the three IEN institutions, meaning that the results are robust.¹⁶ First of all, while the *value* variable is not significant, the human capital and IEN institution variables retain their significance. Furthermore, the coefficients of the other three independent variables (IEN institution, human capital and geography variable) remain more or less the same and the explanatory power of the model also remains the same when including a particular IEN institution. However, when

¹⁵ The role of geography, however, is debated in the literature: one strand argues for a direct impact of geography on income (e.g., Sachs 2003), another shows that it only works through institutions (e.g., Acemoglu and Johnson 2005). This controversy is somewhat reflected in my results, too.

¹⁶ Although previously only *embeddedness*, *hierarchy* and *mastery* were significant, I include all the *values* here.

adding the culture index the picture changes: for each independent variable the coefficient changes greatly, and the culture index is significant. What do these findings mean?

They mean that individual values do not affect development beyond formal IEN institutions, geography and human capital, and this effect is different from that of the culture index. The results suggest that “culture” as measured by the culture index works both directly and indirectly since its inclusion changes the coefficient of the *human capital* and *institution* variables. As opposed to that, the effect of *values* seems to be fully embodied in the very sticky IEN institutions, based on the theory of institutional stickiness.¹⁷ So clearly, *values* and the *culture index* express different things.

In Table 6 as *institution* I include the Area 5 sub-index of the EFW Index, a measure for an IEX institution. My hypothesis seems to be verified since here the results are different from those in Tables 2 to 5; most importantly those values that have been demonstrated to affect development in Table 2 (*embeddedness*, *hierarchy* and *mastery*) here becomes statistically significant. This means that individual values may have a direct impact on development after controlling for less sticky exogenous institutions. This effect is similar to that of the culture index.

Conclusion

In this paper my aim has been to contribute to a better understanding of the impact of culture on economic development. In this endeavor, on the one hand, in order to conceptualize and measure culture in a richer manner, I have drawn upon the theory of cultural value orientation in cross-cultural psychology (Schwarz 1996); and on the other hand, to formulate theory-driven hypotheses about the possible effect of individual values (in terms of culture) on development I have relied on two institutional economics theories.

Based on these, I have argued that since values belong to *metis*, to which the endogenously developed formal institutions (IEN institutions) stick, are *fully* embodied and crystallized in them. Put differently, IEN institutions are institutionalized values. Accordingly, individual values (culture) are not expected to have an affect on development after controlling for IEN institutions. An alternative way of providing evidence for the above is to analyze the effect of individual values on development, while controlling for formal institutions that are

¹⁷ This finding, I believe, is in line with the argument of Licht (2001) who calls culture “the mother of all path dependencies”.

stuck to them to a lesser extent (IEX institutions). In this case they are supposed to exercise a direct impact.

My empirical analyses have provided first-hand evidence for my hypotheses. However, I acknowledge that one must be very cautious when interpreting the empirical results, since omitted variable bias may apply, so it is possible that even more robustness checks may be very useful, which is not easy given certain generally accepted problems relating to the measurement of institutions (see Voigt 2013). My empirical results, however, seem to support the view that the “amalgam” of culture needs to be “unbundled” to better understand its effect on long-run development.

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Appendix

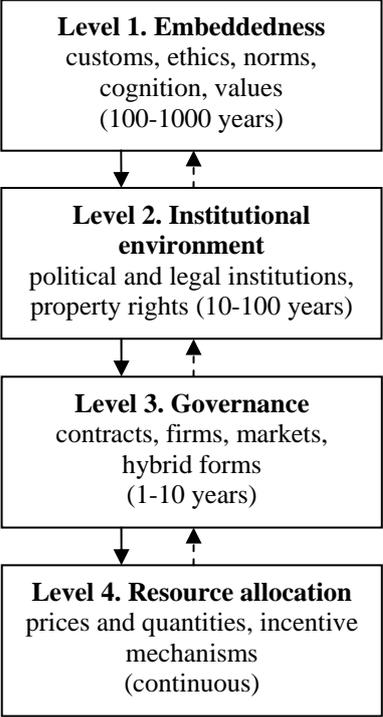


Figure 1. Hierarchy of institutions
 Source: Williamson (2000:597)

Note: causal links are represented by solid arrows, and feedback links by dashed arrows (feedback among levels is neglected by Williamson)

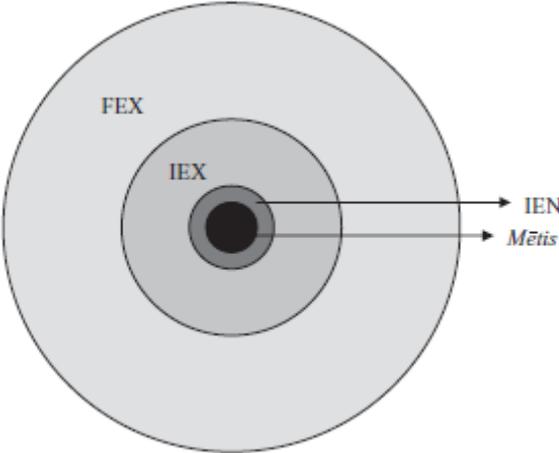


Figure 2: Institutional stickiness
 Source: Boettke et al. (2008:344)

Harmony	The world is accepted as it is. Groups and individuals should fit harmoniously into the natural and social world, avoiding change and self-assertion to modify them.
	World of Peace, Unity with Nature, World of Beauty, Protecting Environment
Embeddedness	The person is viewed as embedded in a collectivity, finding meaning in life largely through social relationships and identifying with the group. A cultural emphasis on maintenance of the status quo, propriety, and restraint of actions or inclinations that might disrupt the solidarity group or the traditional order.
	Social Order, Politeness, National Security, Reciprocation of Favors, Respect of Tradition, Self-Discipline, Wisdom, Moderate, Honoring Parents and Elders, Preserving Public Image, Obedient, Devout, Forgiving, Clean
Hierarchy	A hierarchical, differential allocation of fixed roles and of resources is the legitimate, desirable way to regulate interdependencies. People are socialized to comply with the obligations and rules and sanctioned if they do not. A cultural emphasis on the legitimacy of an unequal distribution of power, roles and resources.
	Social Power, Wealth, Authority, Humble, Influential
Mastery	Groups and individuals should master, control, and change the social and natural environment through assertive action in order to further personal or group interests. A cultural emphasis on getting ahead through active self-assertion.
	Social Recognition, Independent, Ambitious, Daring, Influential, Choosing Own Goals, Capable, Successful
Affective autonomy	The person is an autonomous, bounded entity and finds meaning in his/her own uniqueness, seeking to express own internal attributes (preferences, traits, feelings) and is encouraged to do so. Affective Autonomy promotes and protects the individual's independent pursuit of own affectively positive experience.
	Pleasure, Exciting Life, Varied Life, Enjoying Life, Self-Indulgent
Intellectual autonomy	The person is an autonomous, bounded entity and finds meaning in his/her own uniqueness, seeking to express own internal attributes (preferences, traits, feelings) and is encouraged to do so. Intellectual Autonomy has a cultural emphasis on the desirability of individuals independently pursuing their own ideas and intellectual directions.
	Freedom, Creativity, Broadminded, Curious
Egalitarianism	Individuals are portrayed as moral equals, who share basic interests and who are socialized to transcend selfish interests, cooperate voluntarily with others, and show concern for everyone's welfare. People are socialized to as autonomous rather than interdependent because autonomous persons have no natural commitment to others.
	Equality, Social Justice, Loyal, Honest, Helpful, Responsible

Table 1: Individual values, their meanings and items

Source: the descriptions are taken from Schwartz (1999), the items are from the Schwartz Value Survey

dependent variable: ln per capita GDP in 2010								
	1	2	3	4	5	6	7	8
constant	15,157 (20,898)***	11,837 (42,01) ***	13,977 (19,754)***	17,869 (13,487)***	(1,181) (0,606)	5,850 (2,697)***	3,956 (2,148)**	5,930 (2,564)**
ln(embeddedness)	-4,069 (-7,169)***		-2,260 (-3,109)***			-1,925 (-4,323)***		
ln(hierarchy)		-2,5689 (-6,499)***	-1,476 (-2,671)**				-1,065 (-3,261) ***	
ln(mastery)				-6,048 (-5,997)***				-2,340 (-2,783)***
ln(hc)					4,485 (10,19)***	3,862 (8,192)***	3,807 (7,911)***	3,961 (9,126)***
ln(cen_lat)					0,785 (2,113)**	0,493 (1,369)	0,546 (1,581)	0,576 (1,579)
N	56	56	56	56	53	53	53	53
R ²	0,37	0,37	0,42	0,32	0,57	0,63	0,62	0,61
adjusted R ²	0,36	0,36	0,40	0,31	0,55	0,61	0,59	0,58

Table 2: OLS regressions on ln per capita GDP in 2010 with particular individual values as independent variables

t-statistics are in parentheses, standard errors are robust. Letters in the upper index refer to significance: ***: significance at 1%, **: significance at 5%. *: significance at 10%, t-values without an index mean that the coefficient is not significant even at the 10% level.

dependent variable: ln GDP per capita, 2010									
	1	2	3	4	5	6	7	8	9
constant	1,489 (0,973)	-0,121 (-0,045)	2,554 (0,981)	2,078 (1,050)	3,462 (1,640)	1,711 (1,266)	-1,110 (-0,380)	-1,560 (-0,423)	2,804 (2,098)**
ln(cen_lat)	0,342 (1,340)	0,294 (1,276)	0,305 (1,082)	0,310 (1,166)	0,277 (1,051)	0,334 (1,348)	0,323 (1,361)	0,438 (1,464)	0,276 (1,103)
ln(hc)	2,692 (7,028)***	2,587 (6,262)***	2,673 (7,032)***	2,629 (6,988)***	2,567 (6,739)***	2,669 (6,284)***	2,536 (6,701)***	2,766 (7,269)***	1,704 (3,121)***
ln(area2ch_av_90_10)	1,983 (5,763)***	2,058 (5,320)***	1,844 (3,684)***	1,889 (4,259)***	1,878 (5,227)***	2,024 (4,373)***	1,933 (5,620)***	1,937 (5,919)***	1,528 (3,687)***
ln(harmony)		1,228 (1,122)							
ln(embeddedness)			-0,448 (-0,690)						
ln(hierarchy)				-0,232 (-0,606)					
ln(mastery)					-0,980 (-1,354)				
ln(affective autonomy)						-0,200 (-0,253)			
ln(intellectual autonomy)							1,949 (1,458)		
ln(egalitarianism)								1,625 (1,185)	
ln(culture index)									0,602 (2,203)**
N	53	53	53	53	53	53	53	53	49
R ²	0,74	0,75	0,75	0,75	0,75	0,75	0,76	0,76	0,74
adjusted R ²	0,73	0,73	0,73	0,73	0,73	0,73	0,74	0,73	0,72

Table 3: OLS regressions on ln per capita GDP in 2010 with the Area2 sub-index of the EFW Index and particular individual values as independent variables
t-statistics are in parentheses, standard errors are robust. Letters in the upper index refer to significance: ***: significance at 1%, **: significance at 5%. *: significance at 10%, t-values without an index mean that the coefficient is not significant even at the 10% level.

dependent variable: ln per capita GDP in 2010									
	1	2	3	4	5	6	7	8	9
constant	4,901 (4,080)***	3,766 (1,984)*	5,846 (3,087)***	5,589 (3,785)***	6,627 (3,509)***	5,169 (3,435)***	2,796 (1,168)	3,120 (1,103)	5,536 (4,307)***
ln(cen_lat)	0,375 (1,511)	0,346 (1,381)	0,328 (1,188)	0,322 (1,217)	0,311 (1,184)	0,371 (1,498)	0,365 (1,493)	0,434 (1,578)	0,284 (1,162)
ln(hc)	2,388 (4,681)***	2,329 (4,401)***	2,368 (4,704)***	2,286 (4,762)***	2,276 (4,584)***	2,366 (4,161)***	2,297 (4,613)***	2,460 (4,971)***	1,527 (2,538)**
RoL_av_96_10	0,623 (4,522)***	0,632 (4,473)***	0,582 (3,154)***	0,590 (3,611)***	0,594 (4,059)***	0,633 (3,734)***	0,604 (4,411)***	0,607 (4,626)***	0,482 (3,693)***
ln(harmony)		0,910 (0,947)							
ln(embeddedness)			-0,487 (-0,723)						
ln(hierarchy)				-0,337 (-0,864)					
ln(mastery)					-0,930 (-1,209)				
ln(affective autonomy)						-0,182 (-0,231)			
ln(intellectual autonomy)							1,504 (1,215)		
ln(egalitarianism)								0,906 (0,769)	
ln(culture index)									0,563 (2,578)**
N	53	53	53	53	53	53	53	53	49
R ²	0,77	0,77	0,77	0,77	0,77	0,77	0,77	0,77	0,77
adjusted R ²	0,75	0,75	0,75	0,75	0,75	0,75	0,76	0,75	0,75

Table 4: OLS regressions on ln per capita GDP in 2010 with the Rule of Law and particular individual values as independent variables
t-statistics are in parentheses, standard errors are robust. Letters in the upper index refer to significance: ***: significance at 1%, **: significance at 5%. *: significance at 10%, t-values without an index mean that the coefficient is not significant even at the 10% level.

dependent variable: ln per capita GDP in 2010									
	1	2	3	4	5	6	7	8	9
constant	3,955 (3,744)***	4,180 (2,030)**	5,245 (2,704)***	4,236 (2,971)***	5,365 (2,866)***	3,794 (2,687)***	2,708 (1,100)	2,625 (0,909)	5,311 (4,939)***
ln(cen_lat)	0,504 (2,164)**	0,507 (2,195)**	0,437 (1,621)	0,482 (1,871)*	0,453 (1,758)*	0,507 (2,196)**	0,504 (2,164)**	0,549 (2,082)**	0,282 (1,283)
ln(hc)	2,771 (5,500)***	2,767 (5,472)***	2,771 (5,528)***	2,751 (5,581)***	2,708 (5,679)***	2,784 (5,081)***	2,757 (5,503)***	2,841 (6,106)***	1,526 (2,177)**
VAc_av_1996_2010	0,584 (3,480)***	0,587 (3,627)***	0,509 (2,226)**	0,557 (2,619)**	0,545 (2,898)***	0,577 (2,842)***	0,559 (3,526)***	0,564 (3,654)***	0,450 (3,800)***
ln(harmony)		-0,159 (-0,152)							
ln(embeddedness)			-0,678 (-0,908)						
ln(hierarchy)				-0,157 (-0,362)					
ln(mastery)					-0,784 (-0,998)				
ln(affective autonomy)						0,117 (-0,144)			
ln(intellectual autonomy)							0,848 (0,668)		
ln(egalitarianism)								0,661 (0,506)	
ln(culture index)									0,758 (3,971)***
N	53	53	53	53	53	53	53	53	49
R ²	0,70	0,70	0,71	0,70	0,70	0,70	0,70	0,70	0,75
adjusted R ²	0,68	0,68	0,68	0,68	0,68	0,68	0,68	0,68	0,72

Table 5: OLS regressions on ln per capita GDP in 2010 with Voice and Accountability and particular individual values as independent variables
t-statistics are in parentheses, standard errors are robust. Letters in the upper index refer to significance: ***: significance at 1%, **: significance at 5%. *: significance at 10%, t-values without an index mean that the coefficient is not significant even at the 10% level.

dependent variable: ln per capita GDP in 2010									
	1	2	3	4	5	6	7	8	9
constant	-0,644 (-0,264)	-1,602 (-0,437)	3,932 (1,332)	2,113 (0,857)	4,052 (1,419)	-1,188 (-0,544)	-3,691 (-1,007)	-4,034 (-0,884)	2,101 (1,245)
ln(cen_lat)	0,855 (2,303)**	0,840 (2,377)**	0,573 (1,529)	0,620 (1,785)*	0,648 (1,761)*	0,843 (2,254)**	0,817 (2,460)**	0,951 (2,410)**	0,514 (2,009)*
ln(hc)	4,000 (9,006)***	3,965 (8,908)***	3,452 (7,895)***	3,351 (7,810)***	3,492 (7,773)***	3,992 (9,736)***	3,777 (8,968)***	4,072 (9,113)***	2,333 (3,896)***
ln(area5_av_1990_2010)	1,081 (2,099)**	1,113 (2,020)**	0,989 (1,924)*	1,053 (2,041)**	1,066 (2,080)**	0,995 (1,727)*	1,039 (2,066)**	1,008 (2,070)**	0,735 (1,570)
ln(harmony)		0,685 (0,559)							
ln(embeddedness)			-1,823 (-3,606)***						
ln(hierarchy)				-1,039 (-3,033)***					
ln(mastery)					-2,301 (-2,510)**				
ln(affective autonomy)						0,640 (0,787)			
ln(intellectual autonomy)							2,346 (1,544)		
ln(egalitarianism)								1,877 (1,171)	
ln(culture index)									0,879 (3,433)***
N	53	53	53	53	53	53	53	53	49
R ²	0,61	0,61	0,67	0,66	0,65	0,62	0,63	0,63	0,68
adjusted R ²	0,59	0,58	0,64	0,63	0,62	0,59	0,60	0,60	0,66

Table 6: OLS regressions on ln per capita GDP in 2010 with the Area5 sub-index of the EFW Index and particular individual values as independent variables
t-statistics are in parentheses, standard errors are robust. Letters in the upper index refer to significance: ***: significance at 1%, **: significance at 5%. *: significance at 10%, t-values without an index mean that the coefficient is not significant even at the 10% level.