

Value Diversity and Regional Economic Development

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Abstract

We investigate the nature of the link between culture and regional economic development by assessing how differences in cultural values at the regional level influence economic performance within countries in Europe. We consider multiple groups of values, which have received attention in the literature, and we quantify for each region the overall strength of these values and the degree of diversity in these values across individuals. Comparing both the strength of and the diversity in values with regional economic performance in terms of income per capita, we provide evidence that the effect of culture on economic development at the regional level is primarily linked with diversity in cultural values. In particular we show that greater value diversity has a negative effect on regional economic performance, a result that is robust even when the strength of values and the diversity in them are measured based on responses of emigrants residing outside of their region of origin.

Keywords: Regional Economic Development, Cultural Values, Value Diversity.

JEL Classification: O18, O52, R11, Z10.

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1 Introduction

How do values and attitudes influence regional economic development? This question has been the focus of a growing literature that investigates the potential links between culture and a variety of economic outcomes.¹ Initially, this literature on cultural economics, as it is often referred to, was centered on the notion of social trust. Higher levels of trust across countries and regions have been associated with faster growth (Algan & Cahuc, 2010), better functioning institutions (Tabellini, 2008), greater organizational efficiency (Bloom et al., 2012), and stronger economic ties with the rest of the world (Guiso et al., 2009). Over time research on cultural economics moved beyond trust and started to investigate the economic impact of other dimensions of culture such as work attitudes (Lindbeck & Nyberg, 2006), gender norms (Fernandez & Fogli, 2009), views on the market economy (Alesina & Angeletos, 2005) and attitudes toward democracy (Inglehart & Welzel, 2010).

Existing research, however, has so far mainly focused on the relationship between economic outcomes and the relative strength across individuals of specific cultural values, such as a high or low prevalence of social trust. In the context of such analyses, values expressed by different individuals are typically averaged at the level of a country or a region and then compared with economic outcomes at the same level of aggregation. Following this approach, researchers effectively ignore any differences in cultural values across individuals in the same location and they concentrate on how average values differ in a group of countries or regions. As recent work by cross-cultural psychologists has shown, though, the degree of sharedness of values across individuals in different countries may vary (Schwartz & Sagie, 2000) and that this variation can be larger within countries than across countries (Fischer & Schwartz, 2011). Gelfand et al. (2011) provide evidence that cultural values are more heterogeneous in countries where conformity pressure is weaker and deviant behavior is more tolerated. Finally, Au (1999) documents that not accounting for within-group differences in cultural values biases the inferences one can make regarding the effect of culture across groups.

In light of these findings a natural question is how economic outcomes are influenced by the degree of diversity in values that is present within a society. While the notion of diversity has already attracted the attention of economists, diversity in terms of values is a dimension that has not been analyzed so far. Existing work has considered the role of diversity in terms of the genetic, ethnic, linguistic, and religious composition of the population across and within countries (Alesina et al., 2003; Fearon, 2003; Michalopoulos, 2012; Ashraf & Galor, 2013) and has shown that in most cases it has adverse effects on economic development. For example, high diversity has been associated with slow economic growth (Easterly & Levine, 1997), low quality of institutions (La Porta et al., 1999), and poor public goods provision (Alesina et al., 2015).

¹For surveys of that literature see Guiso et al. (2006), Fernández (2011), and Alesina and Giuliano (2015).

In this paper, we focus on the notion of value diversity and investigate whether and to what extent it matters for regional economic performance. We measure diversity along five distinct groups of cultural values that relate to trust, gender norms, work attitudes, attitudes toward the market, and views on democracy. This gives us five different indicators of value diversity which capture key cultural values that the cultural economics literature has identified as important. To separate the effect of culture from that of institutions and other structural characteristics of national economies, we conduct our analysis at the sub-national level and treat regions within countries as the unit of our analysis. This is an approach that has already been followed in the literature by Beugelsdijk and van Schaik (2005) and Tabellini (2010), who related levels of trust and social capital to regional economic performance. In contrast to these papers, though, we analyze the economic effects not only of one dimension of culture but of multiple sets of cultural values and also of the degree of diversity in these values.

To isolate the effect of culture from other confounding factors that also vary at the sub-national level, we distinguish between values expressed by individuals who reside in a specific region and those expressed by individuals who were born and raised in that region but later on emigrated out of it. This empirical strategy follows the epidemiological approach applied by Fernández and Fogli (2009), Alesina and Giuliano (2010), and Algan and Cahuc (2010), who have analyzed the role of culture by studying the values held and choices made by immigrants in the United States originating from different countries. By exploiting variation in cultural values of migrants we can ensure that the direction of causality runs from culture to economic outcomes and not the other way round.

For the purpose of our analysis we combine data on economic performance with data on values and attitudes for 245 regions in 21 European Union countries. Based on the values and attitudes data, we construct measures of the strength of particular cultural values in different regions and the diversity in these values present across individuals. We then investigate the effects that these measures have on regional levels of GDP per capita in the context of standard income level regressions capturing the long-run determinants of economic development in the spirit of Hall and Jones (1999) and Acemoglu et al. (2005). Our regressions also include country fixed effects to avoid identification problems caused by unobserved country-specific factors.

Our results suggest that diversity in cultural values has an important sizeable negative effect on regional economic development in terms of GDP per capita. We consistently obtain such a negative effect for diversity for all five groups of values we consider. Beyond the negative effect of value diversity, we find that greater prevalence of social trust is associated with higher income levels. Our findings are robust to the inclusion of a multitude of control variables, reflecting other determinants of regional economic development, and to the use of spatial econometric techniques in order to account for potential inter-regional dependencies.

These findings highlight a novel channel through which culture affects economic development:

the presence or lack of shared values within the population. This channel is also shown to be an important one: the effect of value diversity on regional economic development appears in most cases quantitatively larger than the level effect of the same values. This suggests that the degree of sharedness of values in a society is a critical aspect of culture, hitherto ignored, that deserves more attention.

The rest of the paper is organized as follows. In Section 2 we briefly review previous work on cultural economics and highlight the main cultural values on which the literature has focused on. In Section 3 we describe our data sources and explain how we measure the strength of cultural values and the degree of diversity in these values in our sample of EU regions. Section 4 presents and discusses our main empirical results, while Section 5 presents various robustness tests. Section 6 concludes.

2 Cultural Values and Economic Outcomes

There is generally a variety of definitions of culture proposed by different social scientists. The definition commonly used by economists views culture as a collection of values, attitudes and beliefs that characterize social groups and are inter-generationally transmitted (Guiso et al., 2006; Fernandez, 2011). Such a definition makes explicit the multidimensional nature of culture and implicitly justifies the focus in economic analyses of culture on particular cultural dimensions that are of economic relevance. This is the approach that most economists follow and with that in mind in the present paper we concentrate on five dimensions of culture that have attracted attention in the economics literature.²

I. Trust: The first dimension we consider is trust. As already alluded to in the previous section, this was the point of entry for most economists into the study of culture. Since the early empirical studies of Knack and Keefer (1997) and La Porta et al. (1997), which built on prior work in other fields of social sciences (Coleman, 1990; Putnam et al., 1993; Fukuyama, 1995), there has been an explosion of work investigating the link between trust and various economic outcomes. This strand of the literature has recently been summarized by Algan and Cahuc (2014).

II. Work Norms: A second dimension whose implications we investigate relates to attitudes and norms towards work. Since the influential thesis of Max Weber on the link between the protestant work ethic and the Industrial Revolution, generations of social scientists have been drawn to the analysis of work-related behavior of individuals. Empirical work in this context has demonstrated a strong cultural component in this dimension (Algan & Cahuc, 2007; Fisman & Miguel, 2007). In particular, it has been shown that work norms affect individual labor force participation decisions (Stutzer & Lalive, 2004; Giavazzi et al., 2013) and working relations

²See also the related discussions in Guiso et al. (2003) and Alesina and Giuliano (2015).

within firms (Ichino & Maggi, 2000; Guiso et al., 2015). Work norms have also been shown to be closely related with family structures (Bentolila & Ichino, 2008; Alesina & Giuliano, 2010) and to interact with social insurance schemes (Lindbeck et al., 1999; Lindbeck & Nyberg, 2006).

III. Gender Norms: The third dimension of culture we consider for our analysis is gender norms. This is an aspect of culture that exhibits systematic variation across countries and regions (Mammen & Paxson, 2000) and has been shown to be very persistent (Alesina et al., 2013). Different norms and perceptions about the roles of males and females in society have been shown to crucially affect women’s fertility and labor force participation decisions (Fortin, 2005; Fernandez & Fogli, 2009) as well as their labor market success (Vella, 1994; Tate & Yang, 2015). Even phenomena such as the gender gap in math scores and the limited success of women in sciences can be linked to the prevailing gender norms in countries (Guiso et al., 2008; Reuben et al., 2014).

IV. Attitudes towards the Market: Our fourth dimension of culture relates to the extent to which people embrace the market economy. Attitudes towards the market reflect beliefs about the fairness of market outcomes and preferences about how much the government should interfere with such outcomes. These attitudes have been shown to provide the foundations for the presence and the reach of the welfare state (Alesina & Angeletos, 2005; Luttmer & Singhal, 2011) and they are shaped by the perceptions of the economic system that individuals develop early in life (Alesina & Fuchs-Schuendeln, 2010; Giuliano & Spilimbergo, 2014). Moreover, distrust towards the market triggers, according to Aghion et al. (2010), increasing demand for regulation and, according to Cole et al. (2013), leads individuals to make inefficient choices.

V. Attitudes towards Democracy: Our fifth cultural dimension relates to attitudes toward democracy. Such attitudes are considered essential for the well-functioning of any democratically organized society (Przeworski & Limongi, 1993; Gerring et al., 2005) and their emergence typically predates successful democratic transitions (Glaeser et al., 2007; Inglehart & Welzel, 2010; Gorodnichenko & Roland, 2013). Positive attitudes toward democracy relate to the notion of a democratic political culture (Lipset, 1959; Almond & Verba, 1963), which has a long standing tradition in political sciences. Recent work by economists has established that these attitudes are deeply engraved in the memory of individuals and societies (Giuliano & Spilimbergo, 2014; Michalopoulos & Papaioannou, 2013).

For these different dimensions of culture, we assess both the nature of their association with economic development and the role played by diversity in these values within the population. The latter is the novel part of our analysis. Previous work that has analyzed these five dimensions of culture, or related ones, has typically considered only how the strength of cultural values influences economic outcomes. In what follows, we investigate jointly the effects that both the level of and the degree of diversity in these values and attitudes have on regional economic

development.

3 Data Sources and Empirical Strategy

We conduct our analysis for European Union (EU) countries. The focus on EU countries has the advantage that we can resort to the data on regional economic performance reported by Eurostat, which are by construction comparable across countries and regions. The sub-national division of these countries follows the EU-wide standardized NUTS (Nomenclature of Territorial Units for Statistics) system, which has a hierarchy of four levels. Level 0 is the highest level of aggregation which corresponds to the country as a whole and level 3 is the finest level of subdivision. We conduct our analysis with NUTS 2 level regions, which is the finest level of sub-national division for which all the necessary data are available.³ This corresponds, for example, in the United Kingdom to counties and in Germany to government regions (Regierungsbezirke). Overall, our sample includes 245 regions in 21 countries.⁴

3.1 Cultural Values and Value Diversity

To measure cultural values and the diversity in these values, we use the responses to a broad range of questions asked in the 2008 wave of the European Values Study (EVS). The European Values Study is the European counterpart of the World Values Survey and one of the most widely-used sources for measuring values and attitudes across European countries and regions. The responses reported in EVS are based on interviews conducted with a representative stratified random sample of the adult population. In the 2008 wave of the study, interviews were conducted with 64,857 people with on average 1,484 survey participants per country and 684 per region.

From the questions included in the EVS we focus our analysis on a small set that capture values related to the five dimensions of culture discussed in the previous section. This approach of quantifying broader cultural dimensions based on the aggregation of individual responses to specific survey questions has a long tradition in cross-culture psychology and other social sciences (Hofstede, 1980; Schwartz, 1994; Inglehart & Baker, 2000) and recently it has been also gaining appeal in economics (Algan & Cahuc, 2014; Alesina & Giuliano, 2015). In the present subsection we explain first which EVS questions we select in order to measure each one of our five cultural dimensions. We then explain how we aggregate them into one-dimensional variables.

³Not all regional data reported by Eurostat are available at the NUTS 3 level. For most, the coverage is limited to NUTS 1 and NUTS 2 regions.

⁴From the 28 EU countries we are forced to drop Croatia, Cyprus, Estonia, Latvia, Lithuania, Luxembourg, and Malta. Croatia is excluded as it joined the EU very recently and the available data are limited. The remaining 6 countries are excluded because there is no sub-national division even at the NUTS 2 level, and hence, we can not make any interregional comparisons.

I. Trust: To capture the degree of trust prevalent in each region, we use the following questions: (1) *"Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?"*; (2) *"Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?"*; (3) *"Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?"*. The answers to these questions are coded such that higher numbers indicate a higher level of trust and confidence in other people. Table A1 in the appendix provides more details. It lists all the EVS questions we use, how they were originally coded, and how we code them.

II. Work Norms: To capture work norms, we use the responses to the question *"Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job"* and consider whether respondents mention the following: (1) *Pleasant people to work with*, (2) *An opportunity to use initiative*, (3) *A useful job for society*, (4) *Meeting people*, (5) *A job in which you feel you can achieve something*, (7) *A responsible job*, (7) *A job that is interesting*, (8) *A job that meets one's abilities*, (9) *Learning new skills*, (10) *Have a say in important decisions*, (11) *People treated equally at the workplace*. As explained in more detail in Table A1, the answers to these questions are coded such that higher values indicate that individuals place more emphasis on these aspects of work.

III. Gender Norms: To measure gender norms, we use the following questions: (1) *"Do you agree that when jobs are scarce, men have more right to a job than women?"*; (2) *"Do you think that a woman has to have children in order to be fulfilled or is this not necessary?"*; (3) *"Do you agree with the following statement? A job is alright, but what women really want is a home and children."*; (4) *"Do you agree with the following statement? Being a housewife is just as fulfilling as working for pay."*. Higher scores on these questions, as shown in Table A1, indicate a less traditional perspective and preferences for greater balance in gender roles.

IV. Attitudes towards the Market: To capture attitudes toward the market, we focus on how respondents position themselves on each of the following issues: (1) *"The government should take more responsibility to ensure that everyone is provided for"* vs. *"Individuals should take more responsibility in providing for themselves"*; (2) *"The state should control firms more effectively"* vs. *"The state should give more freedom to firms"*; (3) *"Government ownership of business and industry should be increased"* vs. *"Private ownership of business and industry should be increased"*. As indicated in Table A1, higher values on these questions indicate more pro-market attitudes and lower values suggest a preference for more government intervention in markets.

V. Attitudes towards Democracy: Attitudes toward democracy are captured by the following questions: (1) *"Do you agree with the following statement? Democracy may have problems, but it's better than any other form of government."*; (2) *"Do you agree with the following statement? In democracy, the economic system runs badly."*; (3) *"Do you agree with the follow-*

ing statement? Democracies are indecisive and have too much squabbling."; (4) "Democracies aren't good at maintaining order."; (5) "Would you say that having a democratic political system is a good way of governing this country?". As documented in Table A1, higher values for these questions indicate a more positive perception of democracy.

As the individual responses to all these questions are based on different scales, we make them comparable by adjusting the answer scales. Specifically, we rescale the answers so that the answers to all questions lie between 0 and 1. As briefly indicated above and further explained in Table A1, we also recode the original answers such that higher values indicate attitudes that are expected to be more conducive for economic development. To aggregate individual question responses at the regional level, we first calculate an average response for each question in each region. We then calculate for each group of questions the mean of the regional average responses.⁵ This way we obtain five variables that reflect the cultural orientation of each region along the five value dimensions.⁶

Many of the questions that we use for the construction of our cultural dimensions have a precedent in the literature, as they have already been employed by other authors in studies analyzing the role of particular cultural values.⁷ Beyond that, we should stress that the EVS questions included in each group were chosen such that they are internally consistent and reflect the same underlying dimension of culture. This can be seen in Table A2 in the appendix which reports for all groups of questions partial correlations in the average responses recorded in each region. In all cases, these responses are highly correlated, implying that the questions reflect a common latent factor. This intuition is also confirmed by the reported Cronbach alphas for each group of questions. For all five groups we obtain Cronbach alpha values close to or above 0.7, suggesting high internal reliability (Nunnally, 1978; Kline, 2000).

To measure the degree of value diversity within regions along each of our five cultural dimensions, we compute fractionalization scores that reflect the probability of two randomly drawn individuals from a region to differ in their values along these dimensions. Fractionalization scores are standard in diversity research and have been, among others, used by Alesina et al. (2003) and Ashraf and Galor (2013) to quantify the levels of ethno-linguistic and genetic diversity respectively. Following an approach similar to the one we used to construct the regional measures of cultural values, we first calculate a regional fractionalization score for each of our selected EVS questions. This is calculated as $1 - \sum_i p_i^2$, with i indexing the possible answers

⁵We prefer taking the mean of the average responses rather than a principle component in order to maintain the 0-1 metric and the same weights as in our diversity measure. Given that the responses to all questions are highly correlated, using a principal component instead of the mean produces very similar results.

⁶An alternative aggregation approach would have been to first compute the mean responses concerning a group of questions for each individual and then aggregate the individual responses to the regional level. Given the way we have coded the individual responses to the questions, though, following this alternative approach hardly affects the resulting regional cultural dimensions.

⁷See for example Guiso et al. (2003), Alesina and Angeletos (2005), Algan and Cahuc (2007), Fernández (2007) and Giavazzi et al (2013).

and p_i indicating the share of the population in the region of interest choosing answer i . We then take the mean fractionalization score for the questions associated with each cultural dimension to capture the overall degree of value diversity along each of the five cultural dimensions.

3.2 Regional Economic Variables

We assess the effect that cultural values and diversity in those values have on regional economic performance by looking at observed variation in GDP per capita within EU countries. Our GDP data as well as most other variables that we use as controls in our analysis come from Eurostat’s Regional Database. These variables reflect educational attainment, population density, market potential, and the size of the agricultural sector. To abstract from the potential disruptions triggered by the recent financial crisis, we use for all our variables data from the year 2007.⁸

To measure regional education levels we convert the educational attainment data reported by Eurostat into average years of schooling. We do so following the same approach as Barro and Lee (2013). Eurostat provides information on the shares of the population that have attained each of the following three levels of education: pre-primary, primary and lower secondary; upper secondary; tertiary. In line with Barro and Lee, we assume that pre-primary, primary and lower secondary corresponds to 6 years of schooling, upper-secondary to 12 years, and tertiary education to 16 years of schooling. By multiplying the reported shares with the assumed years we obtain an estimate of the average years of schooling in each region.

Our population density figures correspond to a weighted average of the population density of each raster cell that falls within the region weighted by its population. Our market potential figures are calculated as the aggregate level of GDP in a 100 km circle around the region.^{9,10} Finally, the size of the agricultural sector is computed based on Eurostat’s data of gross value added (GVA) at the industry-level and correspond to the ratio of agricultural GVA in total GVA.

4 Main Regression Results

To assess the role of culture in explaining the observed variation in economic development within EU countries, we regress the regional levels of GDP per capita on the average cultural values observed in the regions along the five dimensions described above and the corresponding levels of

⁸This leads to a slight discrepancy with our cultural variables which are based on survey data collected in 2008. Yet, as cultural values are changing very slowly, we believe it is safe to assume that regional differences in cultural values and value diversity in 2007 were hardly different those in 2008.

⁹For each 1 km by 1 km raster cell a circular neighborhood with a radius of 100 km is defined. The potential market size of the raster cell equals the weighted sum of the GDPs of the raster cells falling within this circle with weights depending on the distance from the circle center. The potential market size of the region is the arithmetic average of the market sizes of all raster cells whose centroid lies within the region.

¹⁰We thank Lewis Dijkstra from the Directorate General for Regional and Urban Policy of the European Commission for making the weighted population density and market potential data available to us.

diversity in these values. In these regressions we always include a baseline set of control variables that reflect other determinants of regional economic development. These consist of the average years of schooling, the weighted population density, the potential market size, and the share of the agricultural sector in each region. Furthermore, to capture the effects of various unobserved country-wide development determinants, we also add in all our regressions country fixed effects. Thus, our analysis focuses on the ability of our cultural variables and controls to explain variation in GDP per capita within countries.

Table 1 shows our baseline regression results. In each of the five vertical panels of the table the effects of our five dimensions of culture on regional economic performance are presented separately. The first column of each panel reports solely the *level effect* of each cultural dimension, the second column reports solely the *diversity effect*, while the third column reports simultaneously both effects.

[Insert Table 1 around here]

The results in Table 1 provide strong evidence that greater value diversity along all five cultural dimensions is associated with lower levels of GDP per capita. The relationship is in most cases significant at the 1 percent level and the coefficients indicate a sizeable effect. In particular, the estimated coefficients suggest that an increase in value diversity along the five cultural dimensions by one standard deviation is consistently associated with a reduction in the log of GDP per capita by approximately 0.09 standard deviations.¹¹

In addition to the negative effect of value diversity, the results of Table 1 also indicate strong level effects for some of our five cultural dimensions. Specifically, we find significant positive effects of trust and pro-market values, indicating that regions that are more trusting and embrace more the market economy enjoy higher levels of GDP per capita. Democratic values and work norms appear to positively influence regional economic development as well, although the resulting coefficients are not always statistically significant at conventional levels. Finally, we find that more traditional views regarding the role of women in society are associated with higher income levels. On average, the magnitudes of the level effects for the different groups of values are also sizeable and quantitatively similar to those for diversity, with trust and pro-market views having the strongest effects on regional levels of GDP per worker with standardized effects of 0.15 and 0.18 respectively. Lastly, it should be noted, that the level effects and diversity effects of cultural values are largely independent from one another. This is visible from the fact that in most cases the coefficient estimates and significance levels shown in the first two columns of each panel hardly differ from those reported in the third column.

Beyond the effects of our cultural variables, we document that all baseline control variables have strong and consistent effects on regional levels of economic development and the effects

¹¹To get a sense of the relative magnitude of this effect, we should mention that this is approximately half the magnitude of the effects that population density and market size have on per capita GDP.

have the expected signs: GDP per capita is higher in regions that have higher levels of schooling, are more densely populated, have access to a larger potential market, and are less agricultural. These findings confirm the important role of human capital and economic geography forces in shaping the patterns of economic development within countries (Ciccone & Hall, 1996; Redding & Venables, 2004; Gennaioli et al., 2013).

In spite of the clear and consistent patterns, the results reported in Table 1 should be interpreted with caution as they may be subject to endogeneity biases. For example, it is possible that as regions develop, people become gradually more trusting, embrace more the market economy, and their attitudes converge, leading to lower value diversity and higher levels of trust and pro-market attitudes in more developed regions. Also, it could be that people with certain values chose to live in regions with particular levels of economic development. This implies that it may well be that economic development influences cultural values and value diversity in our sample regions. Thus, the direction of causality may be going from regional income levels to our measures of values and value diversity rather than the other way around.

To ensure that our regression coefficients indeed capture the true effects that cultural values and value diversity have on regional levels of economic development, we follow an empirical strategy along the lines of the epidemiological approach used in Fernández and Fogli (2009), Alesina and Giuliano (2010), and Algan and Cahuc (2010).¹² Specifically, we repeat our analysis focusing on values expressed by emigrants from a region, exploiting the fact that in the 2008 wave the EVS data reports for all respondents both the region in which they currently reside and the region in which they were residing at the age of 14. Based on this information, we recalculate our measures of values and value diversity for each region solely based on the responses of individuals who lived in the region at the age of 14, but are presently residing outside of the region.¹³ This way, we obtain a set of cultural values and value diversity scores that are unaffected by cultural change or self-selection due to economic development.

Using the cultural values expressed by emigrants from each region instead of those expressed by the resident population we analyzed earlier, we re-estimate the regressions of Table 1. The results are reported in Table 2 and provide a strong confirmation of our earlier conclusions regarding the effects of value diversity. Value diversity along all five dimensions of culture has a significant negative effect on regional economic development measured by GDP per capita. Also the implied magnitudes of the effects are very similar to those shown in Table 1. An increase in value diversity by one standard deviation leads to an approximately 0.08 standard deviation

¹²The underlying rationale behind this approach is to exploit the portability of culture and study its effect on economic outcomes based on a population that originated from a country or region, but is no longer residing there. The approach is explained in greater detail in Fernández (2011) and Algan and Cahuc (2014).

¹³An alternative approach would be to focus on values expressed by individuals who were already residing in their current region of residence at the age of 14 and ignoring those expressed by individuals who moved into the region as adults. This approach gives similar results, but it is less powerful as it only corrects for the self-selection problem.

reduction in the log of GDP per capita.

[Insert Table 2 around here]

Regarding the level effects of the five different groups of values, we find weaker results. The estimated magnitudes are now smaller and only for the case of trust the effect is found to be statistically significant. At the same time, the estimated effects of the control variables are very similar to those in Table 1. Therefore, we can conclude that value diversity appears to have a more robust effect on regional economic development than the strength of particular cultural values.

Our findings of a strong negative effect of value diversity on economic development extends previous work on the harmful effects of diversity along genetic, ethnic and linguistic lines (Easterly & Levine, 1997; Alesina et al., 2003; Ashraf & Galor, 2013). Moreover, it should be stressed that the effect of value diversity we find is independent of the specific effects that particular dimensions of culture may have on regional economic performance. Regarding the latter, we confirm, for example, that trust is conducive to economic development, corroborating earlier findings by Beugelsdijk and van Schaik (2005) and Tabellini (2010) in the context of sub-national regions, and Algan and Cahuc (2010) in the context of countries.

5 Robustness Checks

Our main analysis has shown that value diversity has a sizeable and robust negative effect on regional economic development within countries, while at the same time particular cultural values, such as trust, affect economic development positively. To test the robustness of these findings, in the present section, we present further regression results that include additional controls variables that may be correlated with the level of economic development of a region or its cultural composition. Moreover, we demonstrate that our main results are robust to accounting for possible spillover effects across regions.

5.1 Including Additional Controls

A potential consideration regarding the results presented so far is that value diversity is potentially correlated with other dimensions of diversity not necessarily related to cultural values. To eliminate this possibility, we include in our specification a measure of regional ethnic diversity, taken from Gennaioli et al. (2013). We focus on ethnic diversity, as it is the only other dimension of diversity that varies systematically within European countries and for which there are data available. These data, however, do not break down to NUTS 2 regions in Germany and the United Kingdom. We therefore aggregate up our remaining data to the NUTS 1 level for these

two countries when employing the ethnic diversity data. This leads to a reduction of the sample size by 47 observations.¹⁴

The results from the regressions that include regional ethnic diversity as a control are reported in the first part of Table 3. For brevity, we only report for each cultural dimension regressions with level and diversity effects included simultaneously, measured with EVS data from both the resident population and emigrants. We also omit in the table the coefficients for our four baseline control variables, which are included in all regressions. As one can see from Panel A of Table 3, adding ethnic diversity as a control variable does not affect any of our previous findings. Greater value diversity in terms of all five dimensions of culture is still negatively related to income per capita, while ethnic diversity itself is statistically insignificant in most regressions. This is so despite the positive correlation between value diversity and ethnic diversity and the smaller sample size.

[Insert Table 3 around here]

Another consideration regarding our earlier regression results is that they may be driven by small urban regions in our sample that consist effectively of just one large city. In these cases, the resulting massive concentration of economic activity that is not comparable to other regions in the country may distort our estimated effects. To rule out that these special cases are driving our results, in Panel B of Table 3 we include a dummy variable identifying these regions.¹⁵ As it is shown there, this dummy variable is statistically insignificant and our previous results are not affected by its inclusion.

Beyond separating city regions from the rest of our sample regions, we incorporate in the analysis broader regional geographic characteristics to capture better the potential effects of geography on regional economic development. These are the absolute degrees of latitude of each region's most populated city and a dummy variable indicating whether a region is located on the coast and, hence, has direct access to the sea.^{16,17} As reported in Panel C of Table 3, both variables are insignificant, while our main results remain unaltered.

Finally, we consider whether our results are influenced by path-dependency in regional economic development. Centers of economic activity have historically developed in locations with good access to transportation networks or natural resources, and, due to lock-in effects, these regions may be still prosperous in present times. To capture the idea that present-day variation

¹⁴We also lose two regions in Ireland for which data on ethnic diversity are missing.

¹⁵The regions consisting of just one large city are: Berlin, Bremen, Bucarest-Ilfov, Comunidad de Madrid, Hamburg, Ile de France (Paris), Lisbon, Inner London, Outer London, Greater Manchester, Prague, Brussels Capital Region, Stockholm, Vienna.

¹⁶Information on the location of regions was inferred by the authors from maps. Given the almost direct access to the sea and the importance of maritime trade in these cities, Hamburg and London (Inner and Outer London) are considered coastal regions.

¹⁷Since NUTS 2 regions are quite small, latitude is a good proxy for local climatic conditions.

in economic development may be due to historical developments, we follow Tabellini (2010) and control for the level of urbanization in the year 1800, measured by the population living in cities with more than 10,000 people relative to the size of the region.¹⁸ In line with Tabellini’s results we find that historical urbanization rates have a positive and statistically significant effect on current regional income levels. Nevertheless, our main conclusions regarding the role of cultural values and value diversity are unaffected by the inclusion of this variable.

5.2 Correcting for Interregional Spillovers

The regression results presented so far have shown that, beyond the effect of cultural values and value diversity, agglomeration forces related to population density and potential market size are associated with higher levels of economic development. This suggests that there may be also other forms of inter-regional spillovers at play, which may not be adequately captured by the current control variables and which may bias our results. For example, rich regions may be located close to other rich regions and the proximity to these other regions may have a positive impact on the region’s level of economic development as a consequence of knowledge spillovers, input-output linkages, etc.

Even though the residuals of the regressions reported in Tables 1 and 2 do not appear to be spatially correlated, as indicated by the Moran’s I statistic, we still make a correction for spatial dependence in our regressions. This is reported in Panel E of Table 3, which adds the spatially lagged dependent variable as a regressor to our baseline specification. The spatial lag of GDP per capita of a region corresponds to a weighted average of the GDP per capita levels in all the regions that are neighbors to this region. We consider as neighbors all regions up to 400 km away from the region of interest and use weights based on the inverse distance between the region and each of its neighbors.¹⁹ In all cases, we find the spatial lag coefficient to be positive and statistically significant. This confirms the conventional wisdom among economic geographers and regional scientists that regions benefit from being close to other developed regions. Controlling for this effect, though, we still find that greater value diversity exerts a negative influence and higher trust has a positive effect on regional GDP per capita.

¹⁸Information on the sizes of cities in 1800 was taken from Bairoch et al. (1988). Cities were assigned to NUTS regions based on information found in Wikipedia. We calculate the total number of people living in cities above a size of 10,000 that are located in a given region and divide this number with the size of the region (in square km) to construct a measure of historical urbanization.

¹⁹This is a typical cutoff level employed in the literature. Our results are robust to using other reasonable distance thresholds.

6 Conclusions

How does culture influence economic development? In the present paper we shed light on this important question. By exploiting the regional variation in cultural values and attitudes within European Union countries and using information on the values expressed by emigrants of each region, we econometrically identify the alleged effects. Using this approach, we provide evidence that diversity in cultural values has a robust negative effect on income per capita levels, which is both sizeable and statistically significant.

This relationship is scrutinized in a series of robustness checks. We further document that the negative effect of value diversity comes in addition to the positive level effects that particular values, such as trust, have on regional economic development. The latter finding corroborates previous work that has documented the importance of trust for regional economic growth and development. Thus, the documented strong negative effects of value diversity suggest a novel channel through which culture influences economic development.

Our results extend the literature in two ways. First, contributing to the literature on cultural economics, we show that it is not only the regional mean scores on a particular set of cultural values that impact economic outcomes, but also the extent to which these values are shared within each region. Irrespective of whether we look at value diversity in trust, work norms, gender norms, or pro-market or pro-democracy attitudes, the results show an unambiguous negative effect of value diversity on regional economic development. This suggests that the extent to which values are shared is an aspect of a society's culture that matters for economic outcomes and which deserves more attention in the cultural economics literature.

Second, contributing to the diversity and economic development literature, we illustrate how value diversity is an additional channel through which diversity may impact economic development. High diversity in cultural values within a population can trigger disagreement on key decisions regarding economic policy and complicate the process of coordinated collective action that is crucial for promoting economic development. Thus, when assessing the relationship between diversity and economic development, our findings suggest that value diversity is an important dimension that should not be ignored.

To conclude, our analysis and findings underscore that the link between the cultural background of a society and its level of economic development is more complex than captured so far. A complete analysis of the interaction between culture and the economy should not be limited to an analysis of the mean scores on a carefully selected set of values, but include also the development-promoting or development-hindering effects of the extent to which such values are shared within a population.

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Table 1: Baseline Regressions – Resident Population

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Dependent Variable | pcGDP | | | | | | | | | | | | | | |
| Cultural Dimension | Trust | | | Work Norms | | | Gender Norms | | | Market Views | | | Democratic Attitudes | | |
| Level Effect | 0.483*** [0.143] | | 0.502*** [0.141] | 0.187# [0.122] | | 0.175# [0.120] | -0.425** [0.170] | | -0.505*** [0.171] | 1.082*** [0.186] | | 0.938*** [0.191] | 0.399** [0.179] | | 0.239 [0.183] |
| Diversity Effect | | -0.554*** [0.203] | -0.587*** [0.198] | | -0.771*** [0.261] | -0.758*** [0.260] | | -0.363* [0.195] | -0.474** [0.196] | | -1.222*** [0.305] | -0.798*** [0.303] | | -0.591*** [0.166] | -0.526*** [0.173] |
| Schooling | 0.126*** [0.0295] | 0.137*** [0.0299] | 0.134*** [0.0291] | 0.130*** [0.0302] | 0.132*** [0.0296] | 0.128*** [0.0297] | 0.147*** [0.0308] | 0.125*** [0.0302] | 0.145*** [0.0304] | 0.154*** [0.0285] | 0.128*** [0.0293] | 0.150*** [0.0282] | 0.127*** [0.0299] | 0.124*** [0.0294] | 0.123*** [0.0294] |
| Agr. Share | -3.842*** [0.718] | -4.051*** [0.725] | -3.967*** [0.707] | -3.904*** [0.735] | -4.246*** [0.734] | -4.245*** [0.732] | -4.249*** [0.739] | -3.949*** [0.733] | -4.332*** [0.732] | -3.585*** [0.688] | -4.189*** [0.716] | -3.812*** [0.685] | -3.853*** [0.729] | -4.028*** [0.716] | -3.972*** [0.716] |
| Pop. Density | 0.0271*** [0.00727] | 0.0259*** [0.00734] | 0.0261*** [0.00715] | 0.0273*** [0.00747] | 0.0253*** [0.00732] | 0.0265*** [0.00735] | 0.0247*** [0.00743] | 0.0281*** [0.00745] | 0.0259*** [0.00736] | 0.0256*** [0.00694] | 0.0252*** [0.00722] | 0.0246*** [0.00686] | 0.0274*** [0.00737] | 0.0296*** [0.00728] | 0.0295*** [0.00727] |
| Market Size | 0.000271*** [6.13e-05] | 0.000269*** [6.19e-05] | 0.000269*** [6.03e-05] | 0.000261*** [6.34e-05] | 0.000275*** [6.19e-05] | 0.000262*** [6.24e-05] | 0.000271*** [6.22e-05] | 0.000264*** [6.27e-05] | 0.000262*** [6.16e-05] | 0.000249*** [5.87e-05] | 0.000286*** [6.09e-05] | 0.000262*** [5.81e-05] | 0.000257*** [6.25e-05] | 0.000249*** [6.15e-05] | 0.000242*** [6.16e-05] |
| Country FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Countries | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| Observations | 244 | 244 | 244 | 245 | 245 | 245 | 242 | 242 | 242 | 243 | 243 | 243 | 244 | 244 | 244 |
| R-squared | 0.44 | 0.39 | 0.45 | 0.37 | 0.41 | 0.39 | 0.33 | 0.41 | 0.34 | 0.38 | 0.42 | 0.4 | 0.44 | 0.44 | 0.47 |

Standard errors in brackets.

*** p<0.01, ** p<0.05, * p<0.1, # p<0.15

Table 2: Baseline Regressions – Emigrants

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Dependent Variable | pcGDP | | | | | | | | | | | | | | |
| Cultural Dimension | Trust | | | Work Norms | | | Gender Norms | | | Market Views | | | Democratic Attitudes | | |
| Level Effect | 0.0929 [0.116] | | 0.205* [0.122] | 0.128 [0.110] | | 0.118 [0.108] | 0.0623 [0.124] | | -0.178 [0.134] | 0.158 [0.143] | | 0.184 [0.142] | 0.116 [0.168] | | 0.0142 [0.173] |
| Diversity Effect | | -0.252** [0.110] | -0.318*** [0.117] | | -0.404*** [0.152] | -0.399*** [0.152] | | -0.216# [0.132] | -0.223# [0.143] | | -0.190** [0.0862] | -0.199** [0.0864] | | -0.247** [0.107] | -0.245** [0.112] |
| Schooling | 0.130*** [0.0302] | 0.118*** [0.0303] | 0.116*** [0.0302] | 0.134*** [0.0301] | 0.122*** [0.0301] | 0.121*** [0.0301] | 0.128*** [0.0306] | 0.121*** [0.0306] | 0.122*** [0.0307] | 0.128*** [0.0303] | 0.114*** [0.0307] | 0.112*** [0.0307] | 0.130*** [0.0302] | 0.118*** [0.0303] | 0.118*** [0.0305] |
| Agr. Share | -3.958*** [0.736] | -3.809*** [0.729] | -3.841*** [0.727] | -3.820*** [0.739] | -3.958*** [0.727] | -3.884*** [0.730] | -3.913*** [0.739] | -3.835*** [0.736] | -3.837*** [0.738] | -3.932*** [0.736] | -3.920*** [0.730] | -3.950*** [0.729] | -3.931*** [0.735] | -3.902*** [0.727] | -3.902*** [0.729] |
| Pop. Density | 0.0266*** [0.00745] | 0.0292*** [0.00744] | 0.0293*** [0.00741] | 0.0265*** [0.00745] | 0.0277*** [0.00737] | 0.0281*** [0.00737] | 0.0271*** [0.00749] | 0.0278*** [0.00745] | 0.0277*** [0.00748] | 0.0275*** [0.00746] | 0.0294*** [0.00746] | 0.0301*** [0.00747] | 0.0270*** [0.00745] | 0.0286*** [0.00740] | 0.0286*** [0.00742] |
| Market Size | 0.000271*** [6.28e-05] | 0.000291*** [6.28e-05] | 0.000296*** [6.26e-05] | 0.000277*** [6.29e-05] | 0.000295*** [6.25e-05] | 0.000297*** [6.25e-05] | 0.000273*** [6.31e-05] | 0.000288*** [6.35e-05] | 0.000288*** [6.36e-05] | 0.000268*** [6.29e-05] | 0.000295*** [6.31e-05] | 0.000291*** [6.31e-05] | 0.000273*** [6.29e-05] | 0.000294*** [6.29e-05] | 0.000294*** [6.31e-05] |
| Country FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Countries | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| Observations | 244 | 244 | 244 | 245 | 245 | 245 | 242 | 242 | 242 | 243 | 243 | 243 | 244 | 244 | 244 |
| R-squared | 0.41 | 0.4 | 0.43 | 0.37 | 0.41 | 0.39 | 0.42 | 0.41 | 0.41 | 0.4 | 0.42 | 0.43 | 0.41 | 0.43 | 0.43 |

Standard errors in brackets.

*** p<0.01, ** p<0.05, * p<0.1, # p<0.15

Table 3: Robustness Checks

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | |
|---------------------|-----------|---------------------|--------------------|--------------------|--------------|---------------------|--------------|---------------------|--------------------|---------------------|-------------|
| Dependent Variable | pcGDP | | | | | | | | | | |
| Cultural Dimension | Trust | | Work Norms | | Gender Norms | | Market Views | | Democratic Values | | |
| EVS Sample | Residents | Emigrants | Residents | Emigrants | Residents | Emigrants | Residents | Emigrants | Residents | Emigrants | No. of Obs. |
| Panel A | | | | | | | | | | | |
| Level Effect | 0.760*** | 0.189 | 0.134 | 0.208 [#] | -0.381* | 0.0532 | 1.007*** | 0.0848 | 0.0972 | 0.00376 | 195-198 |
| | [0.175] | [0.136] | [0.145] | [0.127] | [0.224] | [0.146] | [0.241] | [0.173] | [0.252] | [0.207] | |
| Diversity Effect | -0.600*** | -0.283** | -0.905*** | -0.505*** | -0.622** | -0.243 [#] | -1.060*** | -0.190* | -0.585*** | -0.224* | |
| | [0.217] | [0.128] | [0.304] | [0.171] | [0.239] | [0.166] | [0.400] | [0.104] | [0.201] | [0.129] | |
| Ethnic Diversiy | -0.0293 | -0.041 [#] | -0.0311 | -0.0506* | -0.0317 | -0.0443* | -0.0329 | -0.0449* | -0.0372 | -0.041 [#] | |
| | [0.0248] | [0.0258] | [0.0257] | [0.0257] | [0.0259] | [0.0261] | [0.0242] | [0.0259] | [0.0257] | [0.0261] | |
| Panel B | | | | | | | | | | | |
| Level Effect | 0.495*** | 0.208* | 0.175 | 0.115 | -0.484*** | -0.0267 | 0.928*** | 0.198 | 0.262 | 0.00686 | 242-245 |
| | [0.143] | [0.121] | [0.120] | [0.108] | [0.173] | [0.134] | [0.191] | [0.142] | [0.183] | [0.173] | |
| Diversity Effect | -0.569*** | -0.308*** | -0.720*** | -0.384** | -0.439** | -0.218 [#] | -0.770** | -0.190** | -0.512*** | -0.237** | |
| | [0.208] | [0.117] | [0.261] | [0.152] | [0.201] | [0.143] | [0.304] | [0.0863] | [0.172] | [0.112] | |
| City Region | 0.0188 | 0.0939 [#] | 0.0837 | 0.0908 | 0.0545 | 0.0976 [#] | 0.0598 | 0.0983 [#] | 0.102 [#] | 0.0928 | |
| | [0.0667] | [0.0646] | [0.0647] | [0.0648] | [0.0662] | [0.0656] | [0.0608] | [0.0651] | [0.0637] | [0.0650] | |
| Panel C | | | | | | | | | | | |
| Level Effect | 0.502*** | 0.205* | 0.182 [#] | 0.119 | -0.528*** | -0.0205 | 0.951*** | 0.187 | 0.229 | 0.0122 | 242-245 |
| | [0.144] | [0.122] | [0.122] | [0.109] | [0.173] | [0.135] | [0.192] | [0.143] | [0.185] | [0.174] | |
| Diversity Effect | -0.591*** | -0.314*** | -0.750*** | -0.390** | -0.472** | -0.216 ^a | -0.792*** | -0.196** | -0.531*** | -0.242** | |
| | [0.200] | [0.117] | [0.261] | [0.155] | [0.197] | [0.145] | [0.304] | [0.0871] | [0.174] | [0.112] | |
| Latitude | 0.00042 | 0.00211 | 0.00338 | 0.00178 | 0.00427 | 0.00175 | 0.00348 | 0.00236 | 0.00274 | 0.00243 | |
| | [0.00432] | [0.00439] | [0.00436] | [0.00443] | [0.00438] | [0.00449] | [0.00408] | [0.00443] | [0.00432] | [0.00441] | |
| Coastal Region | -0.00682 | 0.00691 | -0.00024 | 0.00343 | -0.000721 | 0.00393 | 0.0147 | 0.00607 | 0.00494 | 0.0048 | |
| | [0.0285] | [0.0291] | [0.0291] | [0.0291] | [0.0290] | [0.0299] | [0.0274] | [0.0295] | [0.0288] | [0.0294] | |
| Panel D | | | | | | | | | | | |
| Level Effect | 0.536*** | 0.221* | 0.167 | 0.192 | -0.438** | -0.00336 | 1.009*** | 0.189 | 0.277 [#] | 0.039 | 242-245 |
| | [0.138] | [0.119] | [0.118] | [0.127] | [0.170] | [0.131] | [0.188] | [0.139] | [0.181] | [0.170] | |
| Diversity Effect | -0.487** | -0.306*** | -0.679*** | -0.492*** | -0.427** | -0.239* | -0.544* | -0.186** | -0.421** | -0.226** | |
| | [0.196] | [0.114] | [0.257] | [0.171] | [0.193] | [0.140] | [0.306] | [0.0846] | [0.174] | [0.109] | |
| Urbanization 1800 | 0.206*** | 0.209*** | 0.192*** | 0.198*** | 0.182*** | 0.217*** | 0.199*** | 0.206*** | 0.180*** | 0.206*** | |
| | [0.0619] | [0.0628] | [0.0631] | [0.0633] | [0.0633] | [0.0636] | [0.0605] | [0.0631] | [0.0637] | [0.0632] | |
| Panel E | | | | | | | | | | | |
| Level Effect | 0.446*** | 0.193* | 0.173 [#] | 0.0707 | -0.517*** | -0.0024 | 0.824*** | 0.136 | 0.231 | -0.0117 | 241-244 |
| | [0.129] | [0.110] | [0.108] | [0.102] | [0.154] | [0.122] | [0.179] | [0.130] | [0.166] | [0.158] | |
| Diversity Effect | -0.591*** | -0.292*** | -0.754*** | -0.353** | -0.421** | -0.141 | -0.764*** | -0.164** | -0.513*** | -0.224** | |
| | [0.180] | [0.106] | [0.236] | [0.141] | [0.177] | [0.131] | [0.279] | [0.0790] | [0.156] | [0.102] | |
| pcGDP (Spatial Lag) | 0.392*** | 0.402*** | 0.428*** | 0.404*** | 0.414*** | 0.401*** | 0.313*** | 0.386*** | 0.409*** | 0.401*** | |
| | [0.0895] | [0.0908] | [0.0889] | [0.0911] | [0.0900] | [0.0929] | [0.0898] | [0.0924] | [0.0893] | [0.0914] | |

All regressions include the control variables listed in Table 2 and country fixed effects.

Standard errors in brackets.

*** p<0.01, ** p<0.05, * p<0.1; [#] p<0.15

Table A1: EVS Questions - Description and Coding

| Trust | Question | Original EVS Coding | Our Coding |
|-------|---|---|---|
| | 1 Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people? | 1 – most people can be trusted; 2 – you can't be too careful. | 1 – most people can be trusted; 0 – you can't be too careful. |
| | 2 Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair? | 1 – take advantage of you; ...; 10 – be fair. | 0 – take advantage of you; ...; 1 – be fair. |
| | 3 Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves? | 1 – look out for themselves; ..., 10 – try to be helpful. | 0 – look out for themselves; ..., 1 – try to be helpful. |
| Work | Question | Original EVS Coding | Our Coding |
| | 1 Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: Pleasant people to work with. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |
| | 2 Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: An opportunity to use initiative. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |
| | 3 Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: A useful job for society. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |
| | 4 Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: Meeting people. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |
| | 5 Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: A job in which you feel you can achieve something. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |
| | 6 Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: A responsible job. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |
| | 7 Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: Pleasant people to work with. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |
| | 8 Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: A job that is interesting. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |
| | 9 Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: A job that meets one's abilities. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |

| | | | | |
|-----------|----|---|--|---|
| | 10 | Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: Learning new skills. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |
| | 11 | Here are some aspects of a job that people say are important. Please look at them and tell me which you personally think are important in a job: Have a say in important decisions. | 1 – mentioned; 2 – not mentioned. | 1 – mentioned; 0 – not mentioned. |
| Gender | | Question | Original EVS Coding | Our Coding |
| | 1 | Do you agree that when jobs are scarce, men have more right to a job than women? | 1 – agree; 2 – disagree; 3 – neither. | 0 – agree; 0.5 – neither; 1 – disagree. |
| | 2 | Do you think that a woman has to have children in order to be fulfilled or is this not necessary? | 1 – need children; 2 – not necessary. | 1 – not necessary; 0 – need children. |
| | 3 | Do you agree with the following statement: A job is alright, but what women really want is a home and children? | 1 – agree strongly; ...; 4 – disagree strongly. | 0 – agree strongly; ...; 1 – disagree strongly. |
| | 4 | Do you agree with the following statement: Being a housewife is just as fulfilling as working for pay? | 1 – agree strongly; ...; 4 – disagree strongly. | 0 – agree strongly; ...; 1 – disagree strongly. |
| Market | | Question | Original EVS Coding | Our Coding |
| | 1 | How would you place your views on this 1 to 10 scale? | 1 – Individuals should take more responsibility in providing for themselves; ...; 10 – The government should take | 0 – The government should take more responsibility to ensure that everyone is provided for; ...; 1 – Individuals should |
| | 2 | How would you place your views on this 1 to 10 scale? | 1 – The state should give more freedom to firms.; ...; 10 – The state should control | 0 – The state should control firms more effectively; ...; 1 – The state should give |
| | 3 | How would you place your views on this 1 to 10 scale? | 1 – Private ownership of business and industry should be increased; ...; 10 – Government ownership of business and | 0 – Government ownership of business and industry should be increased; ...; 1 – Private ownership of business and |
| Democracy | | Question | Original EVS Coding | Our Coding |
| | 1 | Do you agree with the following statement: Democracy may have problems, but it's better than any other form of government. | 1 – agree strongly; ...; 4 – disagree strongly. | 0 – disagree strongly; ...; 1 – agree strongly. |
| | 2 | Do you agree with the following statement: In democracy, the economic system runs badly. | 1 – agree strongly; ...; 4 – disagree strongly. | 0 – agree strongly; ...; 1 – disagree strongly. |
| | 3 | Do you agree with the following statement: Democracies are indecisive and have too much squabbling. | 1 – agree strongly; ...; 4 – disagree strongly. | 0 – agree strongly; ...; 1 – disagree strongly. |
| | 4 | Democracies aren't good at maintaining order. | 1 – agree strongly; ...; 4 – disagree | 0 – agree strongly; ...; 1 – disagree |
| | 5 | Would you say that having a democratic political system is a good way of governing this country? | 1 – very good; ...; 4 – very bad. | 0 – very bad; ...; 1 – very good. |

Table A2: EVS Questions - Correlations

| | Trust 1 | Trust 2 |
|---------|---------|---------|
| Trust 2 | 0.68 | |
| Trust 3 | 0.65 | 0.77 |

Cronbach alpha 0.83

| | Work 1 | Work 2 | Work 3 | Work 4 | Work 5 | Work 6 | Work 7 | Work 8 | Work 9 | Work 10 |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Work 2 | 0.60 | | | | | | | | | |
| Work 3 | 0.41 | 0.62 | | | | | | | | |
| Work 4 | 0.55 | 0.76 | 0.75 | | | | | | | |
| Work 5 | 0.51 | 0.75 | 0.62 | 0.68 | | | | | | |
| Work 6 | 0.42 | 0.67 | 0.62 | 0.67 | 0.64 | | | | | |
| Work 7 | 0.47 | 0.63 | 0.48 | 0.60 | 0.69 | 0.62 | | | | |
| Work 8 | 0.47 | 0.66 | 0.65 | 0.69 | 0.65 | 0.62 | 0.72 | | | |
| Work 9 | 0.59 | 0.79 | 0.69 | 0.76 | 0.74 | 0.60 | 0.65 | 0.67 | | |
| Work 10 | 0.50 | 0.79 | 0.70 | 0.77 | 0.71 | 0.69 | 0.64 | 0.74 | 0.79 | |
| Work 11 | 0.63 | 0.65 | 0.62 | 0.68 | 0.71 | 0.53 | 0.61 | 0.72 | 0.71 | 0.65 |

Cronbach alpha 0.95

| | Gender 1 | Gender 2 | Gender 3 |
|----------|----------|----------|----------|
| Gender 2 | 0.52 | | |
| Gender 3 | 0.54 | 0.66 | |
| Gender 4 | 0.09 | -0.0012 | 0.46 |

Cronbach alpha 0.66

| | Market 1 | Market 2 |
|----------|----------|----------|
| Market 2 | 0.66 | |
| Market 3 | 0.57 | 0.74 |

Cronbach alpha 0.85

| | Democracy 1 | Democracy 2 | Democracy 3 | Democracy 4 |
|-------------|-------------|-------------|-------------|-------------|
| Democracy 2 | 0.82 | | | |
| Democracy 3 | 0.42 | 0.56 | | |
| Democracy 4 | 0.36 | 0.44 | 0.65 | |
| Democracy 5 | 0.64 | 0.71 | 0.73 | 0.68 |

Cronbach alpha 0.88