

Tilburg University

Toward a Unified Europe? Explaining Cultural Differences by Economic Development, Cultural Heritage and Historical Shocks

Beugelsdijk, S.; van Schaik, A.B.T.M.

Publication date:
2002

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
Beugelsdijk, S., & van Schaik, A. B. T. M. (2002). *Toward a Unified Europe? Explaining Cultural Differences by Economic Development, Cultural Heritage and Historical Shocks*. (CentER Discussion Paper; Vol. 2002-103). Organization.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.



No. 2002-103

**TOWARD A UNIFIED EUROPE? EXPLAINING
CULTURAL DIFFERENCES BY ECONOMIC
DEVELOPMENT, CULTURAL HERITAGE AND
HISTORICAL SHOCKS**

By Sjoerd Beugelsdijk, Ton van Schaik

November 2002

ISSN 0924-7815

2002-

Discussion paper

Toward a unified Europe?
Explaining cultural differences by economic development,
cultural heritage and historical shocks

By:

Sjoerd Beugelsdijk and Ton van Schaik

Tilburg University

Faculty of Economics

Warandelaan 2

PO Box 90153

5000 LE Tilburg

Corresponding author: s.beugelsdijk@uvt.nl

Toward a unified Europe?

Explaining cultural differences by economic development, cultural heritage and historical shocks

Abstract

Economic development is linked with systematic changes in basic values, but cultural change is path dependent. This is known as Inglehart's thesis. In this paper we build on his thesis and try to explain value differences across European regions. This is relevant as it fits in the ongoing discussion of a 'Europe of the regions'. We find confirmation of Inglehart's thesis. New however, is our finding that historical shocks like the collapse of the Soviet Union marking the 'end of history' can influence this path dependent process. Moreover, we illustrate that convergence of values into a 'single European value landscape' takes a very long period, if it would occur anyway.

Keywords: Culture, Europe, Modernization theory

1. Introduction and background

In March 1957 six nations signed the historic Treaty of Rome, setting in motion the economic and political integration of Western Europe. The infant European Community had from the start an overriding priority to unite countries previously at war and in doing so lay the basis of a European union. But, besides this 'superior' political goal, the actual agenda was essentially concerned with more routine policy issues like trade, agriculture, coals and steel (Albrechts, 1995). The Treaty of Rome envisaged an integrated market for the free movements of goods, capital, labour and services, also known as the 'four freedoms'. The process of economic integration resulted in the adoption of the Single European Act, implying that the Heads of Governments of - by then - the twelve member states committed themselves to complete the internal market by the end of 1992.

The increased European integration is altering the architecture of the Western European state. Regions are no longer confined to national borders but increasingly have become an element in European politics. Keating (1998) argues that this erosion of the boundary between domestic and international politics is due to the increased interdependencies among policy spheres. This transforms the state-centered politics in the increasingly unified Europe. But also Ohmae in his 'End of the Nation State' claimed that functional imperatives at the global level are breaking down nation states in favour of regional entities (Ohmae, 1995). All in all, the process of European integration has resulted in blurring boundaries of the state. And the completion of the internal market has further triggered this increased European regionalism. In fact, the European Commission even formulated a vision of a so-called 'Europe of the Regions' in which there would be a reasonable homogeneous regional social-economic structure across Europe. This vision of a 'Europe of the regions' is attractive, because it (admittedly vaguely) refers to a

Europe that is 'geographically decentralised, economically competitive, politically pluralist, with a refreshed democratic life that draws upon diverse provincial and national identities' (Garside and Hebbert, 1989, in: Newlands, 1995).

But this regionalism in Europe is not new. Regions and regionalism have a long history in Europe. Regions predated the rise of the nation state and shaped the emergence of the state system. In some countries more than in other, regions constituted an obstacle to centralized state and nation building, and remained as an element in the politics of states. Before the rise of modern nation-state Europe was a highly differentiated political order. Power was fragmented territorially, among empires, kingdoms, principalities, cities as well as functionally among the political, religious and economic spheres. Germany, for example only unified into a single state in 1871. As a result of global processes and European integration in specific, regions are again featuring political, social and economic life. Hence, the recent enthusiasm in regions and regionalism that had its peak in the middle of the 1990s is not new. Arguing so would ignore the historical role of regions in Europe.

Regional identity is a key element in the construction of regions as social and political spaces and systems of action. One measure of regional specificity is provided by the existence of different values, norms and behaviour among regions within the same nation state. The most common sources of such values and patterns of social communication are religion and language (Keating, 1998). 'In general these follow state boundaries, since following the Reformation states determined the religious affiliation of their citizens, while state-imposed language policies were a force for national integration from the nineteenth-century, and in some cases earlier. Yet in some cases, notably Germany, the state was formed after the Reformation, and religious divisions became identified with regions within it' (Keating, 1998, p. 85).

Nevertheless, one of the driving forces behind the 'new' regionalism is provided by the economic restructuring and rapid changes in modes of production from the Fordist mode of production (large scale, standardized units for national markets) to post-Fordism (flexible production, small units). Though there are differences between territories and sectors, it can be argued that the geography of production has changed (Piore and Sabel, 1984). Some territorially based factors are becoming less important, enhancing the freedom of firms to choose locations, but many of the new critical factors are themselves territorial. Hence, at the time of globalisation, there is a resurgence of regional economies.

In this paper we study the cultural aspects of the 'Europe of the regions'. We try to explain value differences in European regions. In explaining value differences between regions we build on Inglehart, who has described and empirically analysed the relationship between cultural values and economic development (1990, 1997, 2000). Inglehart has shown that economic development is linked with systematic changes in basic values. Inglehart's main argument is that economic development has a number of systematic and predictable cultural and political consequences (*ibid.*). However, Inglehart shows that cultural change does not follow a linear path, but in fact has two dimensions. The first relates to early industrialization and the rise of the working class. The second dimension reflects the value changes that are linked to the affluent conditions of advanced industrial society and the rise of the service sector. In addition to these findings, Inglehart and Baker find evidence for the persistence of distinctive traditional values and conclude that cultural change may be path-dependent.

The explanation of value differences is particularly interesting against the background of a unifying Europe and the idea of a 'Europe of the regions'. The question we try to answer in this paper is if we can speak of cultural unification in Europe. And in case of cultural differences

across European regions, the question arises if we can explain these value differences? And can we say something on the possible convergence of values across Europe?

The outline of the paper is as follows. In the next section we describe Inglehart's thesis, which is central to our further analyses. Then we describe the measurement of the two basic cultural dimensions as developed by Inglehart. After that we show that regions in Europe differ considerably on these two basic dimensions and we shed some light on the general direction of value change in time. Then we use regression analysis in order to try to explain value differences across European regions. Before jumping to the concluding section we build on our regression results and perform an experiment by means we aim to shed light on the question if there is value convergence across European regions.

2. Inglehart's thesis: economic development and path-dependency

Before describing Inglehart's thesis on the relation between culture and economic development, we need to define culture. The term culture has a multiplicity of meanings. Narrowly understood it refers to the arts and entertainment, whether upscale or popular (cf. Van de Ploeg, 2002). More generally, it can be understood as the perceptual frames, values and norms used in social life: as a way society looks at itself and as a filter of what it sees. The two are connected, in that arts and entertainment provide symbols of identity and representations of social norms as providing a more or less distorting mirror to society. But even generally understood, numerous definitions of culture exist, and most include elements like meanings, values and religion or ideology. One of the most accepted and extensive definitions is the one proposed by Clifford Geertz. He defines culture as 'an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate,

perpetuate, and develop their own knowledge about and attitudes toward life' (1973, p. 89). Hofstede's definition is in a way a summary of Geertz, as Hofstede defines culture as the 'collective programming of the mind' (Hofstede, 2001, p. 1). Hofstede adds that culture does not only manifests itself in values but also in more superficial ways, in symbols, heroes and rituals (ibid.). A central element in most definitions of culture is the concept of values¹. Similar to culture, numerous definitions exist but here we follow Hofstede (2001). Building on a large body of literature he defines a value as a 'broad tendency to prefer certain states of affairs over others' (Hofstede, 2001, p. 5).

In numerous publications Inglehart has described and empirically analysed the relationship between cultural values and economic development (1990, 1997, 2000). He writes that 'in marked contrast to the growing materialism linked with the industrial revolution, the unprecedented existential security of advanced industrial society gave rise to an intergenerational shift towards postmaterialist and postmodernist values' (Inglehart and Baker, 2000, p. 21). Industrialisation is linked with an emphasis on economic growth at almost any price, whereas in affluent societies elements like the quality of life, environmental protection and self-expression are emphasized. As Bell (1973) writes, industrialisation brought less dependence on nature and the world became mechanical, bureaucratic and rationalized. The rise of the service economy coincides with the reduced emphasis on material objects and a growing emphasis on self-expression (Inglehart, 1997). In sum, the shift from industrial to service economies goes together with a shift in value priorities from an emphasis on economic and physical security toward an increasing emphasis on subjective well-being and quality of life.

¹ For an excellent overview of definitions of 'culture' and 'values' we refer to Chapter 1 'Values and Culture' of Hofstede's 2001 revised second edition of *Culture's Consequences*.

Inglehart's central thesis is that economic development has systematic, and to some extent, predictable cultural and political consequences. According to Inglehart these consequences are not iron laws of history, but probabilistic trends. In other words, the probability is high that certain changes will occur as societies economically develop, but also depends on the specific cultural and historical context of the society in question.

Inglehart's thesis differs from traditional modernization theorists, who argue that the decline of 'traditional' values and their replacement with 'modern' values occurs as a result of economic and political forces. Modernization theory heavily borrowed from Marxism as it essentially has an economic view of the underlying forces of historical change. The dialectical process of historical evolution should be reasonably similar for different human societies and cultures. As Marx has stated in the preface of the English edition of *Das Kapital* 'the country that is more developed industrially only shows, to the less developed, the image of its own future'. In other words, this modernization school predicts the convergence of values. But as Fukuyama (1992) writes, modernization theory is somehow not satisfying. It is a theory that works to the extent that man is an economic creature, to the extent that he is driven by the imperatives of economic growth and industrial rationality. Its undeniable power derives from the fact that human beings, particularly in the aggregate, do in fact act out of such motives for much of their lives. But there are other aspects of human motivation that have nothing to do with economics, and it is here that discontinuities in history find their origin (Fukuyama, 1992, p. 133-134). Nevertheless, modernization theory looks much more persuasive after 1990 than it did in the 1960s or 1970s when it came under heavy attack in academic circles (Fukuyama, 1992). Especially after the collapse of the Soviet Union modernization theorists would argue that almost all countries that have succeeded in achieving a high level of economic development have come to look increasingly similar to each other. Modernization theory eventually fell victim to the

accusation that it was ethnocentric, i.e. it elevated the western European and North-American development experience to the level of universal truth, without recognizing its culture boundedness. The critique focused on the idea in modernization theory that the western model was supposedly the only valid one.

However, Inglehart's thesis also differs from the competing school, which emphasizes the persistence of values despite economic and political changes. More precisely, this second school 'predicts that convergence around some set of 'modern' values is unlikely and that 'traditional' values will continue to exert an independent influence on the cultural changes caused by economic development' (Inglehart and Baker, 2000, p. 20). Though this second school of thought has been criticized for its cultural determinism, it has become quite popular to take cultural differences as independent and stable entities in explaining the process and speed of (economic) development. The extensive discussion on social capital clearly shows the current popularity of this type of thinking in sociology and especially economics (Fukuyama, 1995; Putnam, 1993, Knack and Keefer, 1997, Zak and Knack, 2001).

Inglehart and Baker (2000) show that it is in fact the combination of these two schools that does most justice to the complex reality of value changes around different societies. Modernization theorists are therefore partly right. The rise of industrial society is linked with coherent cultural shifts away from traditional value systems, and the rise of a postindustrial society is linked with a shift away from absolute norms and values towards a syndrome of increasingly rational, tolerant, trusting postindustrial societies. But values are path-dependent, which fits the second school. Inglehart and Baker show that a history of Protestant or Orthodox or Islamic traditions gives rise to cultural zones that persist after controlling for the effects of economic development. This leads Inglehart and Baker to conclude that 'economic development tends to push societies in a common direction, but rather than converging, they seem to move on

parallel trajectories shaped by their cultural heritages' (Inglehart and Baker, 2000, p. 49). In their view, culture should not be seen in an essentialist or reductionist manner, as something which is inherent to a society or which condemns it to path dependency, but as something which is continuously created and recreated (c.f. Keating, 1998). Therefore, economic development brings cultural changes, but the fact that a society was shaped by for example Protestantism leaves a permanent imprint and has enduring effects on subsequent value development.

In their path-breaking analysis Inglehart and Baker use two basic dimensions to measure cultural differences around the globe. Evidently there are several ways to measure the character of societies (e.g Hofstede, 2001). But having studied dozens of items and variables, Inglehart argues that two dimensions tap the basic cultural orientations of societies when comparing the worldviews of the peoples of rich societies with those of low-income societies across a wide range of political, social, and religious norms and beliefs. Inglehart labels these dimensions the *Traditional/rational* dimension and the *Survival/self-expression* dimension. The first *Traditional/rational* dimension reflects a value system in which people at the traditional pole of this dimension reject divorce, emphasize the importance of God, support deference to authority, seldom discuss politics and have high levels of national pride (Inglehart and Baker, 2000). At the rational pole of this dimension opposite values are emphasized.

The second dimension *Survival/self-expression* taps values that emerge in a post-industrial society with high levels of security. According to Inglehart, a central component of this dimension involves the difference between materialist and post-materialist values. This component measures the relative priority that is given to economic and physical security over self-expression and quality of life.

2.1. Measuring values

As described in the previous section, Inglehart measures culture along two basic dimensions. Our measurement of the cultural dimensions in European regions follows Inglehart. Data are taken from the European Value Studies (EVS), which is a unique dataset on norms and values. This survey was developed in the 1970s against the background of changing values and an increased interest in the cultural consequences of the unification process of the European Union. The survey comprises three waves (1981/1990/1999), of which we use the second and third. In order to obtain regional scores we had to regroup the original individual data. We did not use the first wave that was carried out in 1981, because we could not trace the individual scores in terms of regions.

The dataset comprises 8 countries, i.e. France, Italy, Germany, Spain, Portugal, The Netherlands, Belgium, and the United Kingdom. In order to compare the data on norms and values with regional economic data we used the Eurostat definition of regions. The regional level in our analyses is the NUTS1 level. This implies that France consists of 8 regions, Italy 11 (including Sicily and Sardinia), Germany 11 (former eastern regions excluded), Spain 7, Portugal 1 (excluding Acoren and Madeira), The Netherlands 4, Belgium 3, and the UK 10 (including Scotland, excluding Northern Ireland). The total number of regions equals 55. We have calculated the two dimensions for these 55 regions in 1990 and 1999.

In table 1 we summarise the items that are included in our two dimensions. Inglehart and Baker (2000) extensively discuss the correlation of other items that are included in the European Values Study but not included in the dimensions in table 1². Their conclusion is that the

² It is important to note that there is a difference between the World Values Survey (WVS), used by Inglehart and the European Values Studies (EVS) used by us. The European Values Study is a large-scale, cross-national, and

dimensions as defined tap a broad dimension of cross-cultural variation involving dozens of additional variables. The two dimensions therefore reflect basic cultural characteristics of a society.

<Insert table 1 about here>

Based on the above items we calculated the two dimensions for each region in each year for which we have data, i.e. 1990 and 1999. The results for each region are shown in table 2. The first column depicts the *Traditional/rational* dimension for the 55 European regions in 1990. The second column measures the second *Survival/self-expression* dimension in the same year. The third column measures the *Traditional/rational* dimension in 1999, and the fourth column measures the *Survival/self-expression* dimension in the last year for which we have observations. It should be noted that the values for the UK on this second dimension in 1999 cannot be measured properly. The reason for this is that in the UK an additional item was included in the question that aims to measure the opinion of the respondent regarding his or her priority to economic and physical security over self-expression and quality of life. This inclusion of an additional item in the UK-survey makes it impossible to calculate the right score on this dimension.

<Insert table 2 about here>

longitudinal survey research program on basic human values, initiated by the European Value Systems Study Group (EVSSG) in the late 1970s, at that time an informal grouping of academics. Now, it is carried on in the setting of a foundation, using the (abbreviated) name of the group European Values Study (EVS). In 1995-1997 the World Values Survey carried out a wave of research in a large number of Western and non-Western countries. They aim at a better coverage of non-Western societies and analysing the development of a democratic political culture in the emerging Third Wave democracies. It should be mentioned that the majority of the survey questions in WVS and EVS are similar. Currently there are initiatives to merge the two datasets, allowing researchers to study more countries in a longer period of time.

As table 2 shows, the values differ considerably across regions. Calculations on country level show that the northern European countries tend to score higher on both dimensions (see also Inglehart and Baker, 2000). The only northern European countries in this sample are Germany and The Netherlands. Though both countries score relatively high on both dimensions, Germany scores higher on the *Traditional/rational* dimension, and the Netherlands score relatively high on the *Survival/self-expression* dimension. A graphical representation of the scores of the European regions is presented below, as well for the 1990 scores and the 1999 scores.

<Insert figure 1 and 2 about here>

As becomes clear from the graphical representation in figures 1 and 2 and the data in table 2, the southern European regions score lower on both dimensions compared to the northern European regions. As modernization theory predicts this probably is due to welfare differences.

2.2. The general direction of value change

In order to answer the question if there exists a general direction of value change over time, we follow Inglehart and Baker and compare the two scores for each region in time. Inglehart and Baker describe the time span for 38 societies between 1981 and 1998. Our data on European regions can only be compared in time between an even shorter period 1990-1999, i.e. ten years. In table 2 we have described the direction of value change in the fifth column. As Inglehart and Baker made clear the expected general pattern is not random but one of value change in northeastern direction, implying that countries (or in our case regions) experience increasingly rational and well-being values. As extensively described in their article, the majority of the

countries shifted to the upper right-hand corner in the Figures, and those countries that did not (e.g. the countries belonging to the former Soviet Union) experienced economic decline. This fits the general thesis of Inglehart and Baker that economic development promotes rational and self-expression values, while economic collapse will push in the opposite direction. Their findings suggest that 'rising security tends to produce a shift towards secular rational values and tolerance, trust, subjective well-being, and a post-modernist outlook, while social and economic collapse propel a society in the opposite direction' (Inglehart and Baker, 2000, p. 42). As we do not have regions that have experienced economic decline in this period we might expect that all, or at least the majority of the regions have experienced a shift from the south-west into the north-eastern direction. In the fifth column of table 2 we have described the direction of change by wind-direction. It shows that the majority of the regions have experienced a shift upwards in their score on both the *Traditional/rational* dimension as well as the *Survival/self-expression* dimension. In sum, about 17 of the 45 regions experience a value change in north-eastern (NE) direction which fits the Inglehart-Baker (2000) thesis and is according to our expectations; 7 regions shift in northern (N) direction, 5 in eastern (E) direction, 2 in southern (S), 3 in south western (SW), 2 in north western (NW), 6 in south eastern (SE) and 3 do not go in any direction. As mentioned earlier, data problems for the UK result in unobserved values for the second dimension in 1999, which makes it impossible to describe the value change in UK-regions. Though we have a different sample and observe a relatively short period of analysis (only ten years) we find confirmation of the Inglehart and Baker thesis on value change. In the next section we build on this thesis and focus on the explanation of value differences between European regions.

3. Explaining value differences in Europe

As described above, Inglehart's thesis is that value differences can be explained both by differences in welfare levels as well as cultural heritage. In order to test simultaneously for the influence of economic development and specific cultural heritage we follow their analysis and perform a regression analysis. The unit of analysis are European regions. Table 3 summarises our regression results of cross-regional differences in *Traditional/rational* values and *Survival/self-expression* values as measured in 55 European regions. We have calculated the dimensions in two periods, 1990 and 1999. The number of panel observations is therefore 110. The level of economic development has been measured by Gross Regional Products (GRP) and is based on Eurostat information. Following Inglehart and Baker (2000) we use data on economic development preceding the years for which we want to explain cultural differences. The years we use for the two time periods are 1977, respectively 1990. In order to test if these years are possible biases in terms of GRP, we also tested the correlation with the 5-year average in which the two chosen years fall in between. As the correlation was over .99 we feel safe to claim that a bias in measurement of level of economic development is not to be expected.

Next to GDP per capita Inglehart and Baker include the percentage employed in the industrial or the service sector as measures of economic development. However, we choose explicitly not to do so as we think that the combination of these variables in the same regression analysis is not correct from an economic and subsequently a statistical point of view. The reason is the following. Economic theory and empirical studies have shown that there is a fundamental relationship between the development of GDP per capita and sectoral development of a country. Feinstein (1999) and Rowthorn and Ramaswamy (1997, 1999) show that all advanced countries, irrespective of their initial level of development, have experienced the process in which labour

moved out of agriculture and into industry, and was followed by a second phase in which the dominant trend was the growth of the services at the expense of both industry and agriculture. There is a basic pattern among the process of structural change in many countries. Economic growth induces structural change. Chenery (1960) has studied these ‘stylized facts of development’ in a more quantitative way³. Using regression analysis he explains the sectoral share by the level of GDP per capita. Chenery introduces the term normal pattern or development path to describe the relationship between sectoral share and level of welfare (Chenery, 1960). Inglehart and Baker link the *Traditional/rational* dimension with the process of industrialization. The rise of the service economy is linked to the *Survival/self-expression* dimension. But if economic growth is fundamentally connected with the change in sectoral structure, i.e. as a country becomes richer, it experiences a sectoral shift from the agrarian sector to the industrial sector and the service sector, then Inglehart and Baker’s regression analysis in which both GDP per capita and sectoral shares are included might suffer from endogeneity. Therefore we only include GRP per capita as our measure of economic development.

With respect to cultural heritage we follow Inglehart and Baker (2000) and measure cultural heritage by including a dummy for religious past. In the European case this choice is binomial, namely protestant or catholic⁴. We labelled the UK and the northern German and Dutch regions as protestant. The dummy takes the value 1 if a region has a protestant heritage.

In addition to Inglehart and Baker we also included a period-specific effect. The panel allows us to test if there is perhaps a period-specific effect that has influenced the development of values. The period-specific dummy takes the value 1 in the second period ($t=2$). Hence, a

³ The discussion on the causes of structural change is extensive. Especially in the fifties and sixties of the 20th century researchers have been involved in this field of study. Authors like Fourastié (1949), Clark (1957), Chenery (1960), Rostow (1960) and Kuznets (1971) have made influential contributions.

⁴ Though we admit that for example the southern regions of Spain have been under Islamic influence before the 14th century. Nevertheless it is clear that Catholicism shaped Spain in the subsequent centuries.

negative coefficient of the period-specific effect would imply that a downward correction on the dependent variable is needed in the second period, which is the 1990s.

We test two basic models for each of the two dimensions. In the second model we control for country-specific effects. We do so to test if the results with respect to economic development, cultural heritage and the period-specific effect are robust to the inclusion of country-specific characteristics. We have taken a large European country Germany as the country of reference. This means that a significant positive country-specific effect of for example Spain would imply that an upward correction is needed for Spain compared to Germany for the specific dependent variable. The results of the regression are shown in table 3.

<Insert table 3 about here>

Modernization theory holds that the process of economic development is conducive to a rational worldview. Our results show that the economic modernization indicator, GRP is positive and significant in all models. As explained earlier we explicitly choose not to include the size of the industrial and service sector. In this respect our analysis differs from the one of Inglehart and Baker (2000). Still, as expected the level of economic development is an important explanatory variable when explaining differences in value systems. Both on the *Traditional/rational* dimension and the *Survival/self-expression* dimension GRP per capita has a significant and positive effect.

Our measure of cultural heritage, the religious past of a region, is significantly related to the differences in values across European regions. In line with the results of Inglehart and Baker (2000), a protestant heritage is positively related to both cultural dimensions. In fact, the effect size of .035 in the regression with the first dimension and especially the effect size of .084 in the second dimension indicate that the effect of cultural heritage is relatively large compared to the

average value of the two dimensions (.20/.22 respectively .13) as depicted in table 2. Nevertheless, the protestant dummy is not significant once we control for country-specific effects. This suggest that Inglehart and Baker are right when arguing that ‘given religious traditions have historically shaped the national culture of given societies, but that today their impact is transmitted through nationwide institutions, to the population of that society as a whole – even to those who have little or no contact with religious institutions’ (Inglehart and Baker, 2000, p. 36). Indeed, our results suggest that the regional differences within Germany and The Netherlands in terms of protestant or catholic tradition are not so strong to significantly differ from national characteristics once we control for the latter. In other words, although historically catholic or protestant regions show distinctive values, the differences within given societies (countries) are relatively small. Catholics tend to score lower on the two dimensions than protestants, but they do not fall into a distinct catholic cultural zone when controlling for country-specific characteristics. To put it rather bluntly, Catholics in ‘mixed’ countries are ‘less catholic’ than Catholics from countries that only have a single religion that is present.

Without discussing each country-specific effect individually, the results correspond with the structure of the data as presented in the figures 1 and 2. Remember that the country of reference is Germany. As can be seen in figures 1 and 2, German regions score relatively high on the first dimension *Traditional/rational*. Using Germany as a country of reference, this implies that for most countries a downward correction is needed. The results in the third column of the regression analysis confirm this hypothesis; all countries except for The Netherlands have a significant and negative estimated country-specific effect. This downward correction is relatively large for the *Traditional/rational* dimension if we compare the effect size of the country-specific dummies (between -.08 for France and -.19 for Italy) with the average value of the *Traditional/rational* dimension (.20 in 1990 and .22 in 1999). A similar reasoning holds for the

regression analysis on the second dimension measuring *Survival/self-expression*. Figure 1 and 2 clearly show that The Netherlands score relatively high on this second dimension. Using Germany as a country of reference, a strong positive country-specific effect for The Netherlands can be expected. The estimated coefficient of .18 for The Netherlands is in line with the above.

The period-specific effect taking the value 1 on $t=2$ is significant in the models explaining cross-regional differences on the second dimension, i.e. *Survival/self-expression*. The significant result implies that a correction is needed in the 1990s compared to the period before when explaining the variation in the *Survival/self-expression* dimension. The positive coefficient suggests an upward correction is needed for the period 1990s. This period-specific effect is .032 in the model without country-specific effects and .024 in the model with the country-specific effects. In terms of effect size this is relatively large compared to the average score of 0.13 on the *Survival/self-expression* dimension (see table 2). The question arises how we can explain this 1990s effect? Our results indicate that apparently Europeans have experienced some kind of a shock in the 1990s, which changed their value pattern in the direction of more post-modern values. One of the most important historical shocks has been the collapse of the Soviet Union in 1991.

As Fukuyama clearly described in *The End of History* (1992) a remarkable consensus emerged concerning the legitimacy of liberal democracy, as a system of government had emerged throughout the world in the late 1980s and beginning 1990s. Liberal democracy conquered rival ideologies like hereditary monarchy, fascism and more important and most recent communism. Fukuyama argued that liberal democracy may constitute the ‘end point of mankind’s ideological evolution’ and ‘the final form of human government’ and as such constituted ‘the end of history’. According to Fukuyama, liberal democracy has come out as the ‘winner’ as it does not contain

internal contradictions⁵. This confirmation of the – implicitly - western European model has influenced the general opinion of people living in these and former communist countries as well. As Fukuyama writes, ‘the collapse of Marxist ideology in the late 1980s reflected, in a sense, the achievement of a higher level of rationality on the part of those who lived in such societies, and their realization that rational universal recognition could be had only in a liberal social order’ (Fukuyama, 1992, p. 205). In other words, the collapse of the Soviet Union, and the corresponding ‘triumph’ of the capitalist system have resulted in an increase in liberal market thinking in the 1990s. This is not only analysed in Fukuyama’s book, but also anecdotal evidence like the deregulation and privatisation wave that took place in many western European countries can be seen as illustrations of this upsurge in liberal market thinking. However, this economic thinking has gone hand in hand with a change in value patterns of Europeans in the direction of post-modernism, i.e. our second dimension of culture.

In addition to the collapse of the Soviet Union and the subsequent ‘confirmation’ of the capitalist liberal democratic model, two other societal developments may have resulted in this period-specific (shock) effect in the explanation of value change. First, the 1990s have been a period in Europe where the unification process reached a peak with the (future prospect of the) introduction of the Euro. The 1990s, especially the second half of the 1990s, have been a period in which there was a broadly shared optimistic view on the future. The introduction of the single European currency was supposed to yield welfare advantages that caused this optimistic view of future developments. The other societal development is closely related to this. By the time the survey was held, 1999, the New Economy hype was on its peak. There was a broadly shared idea among many people living in western countries that the New Economy would yield endless

⁵ Though it should be noted that Fukuyama devotes considerable attention in his book to argue that there are several problems with liberal democracy too. It is not to say that stable democracies are not without injustice or serious social problems, but the *ideal* of liberal democracy could according to Fukuyama not be improved upon.

welfare gains and periods of economic downturn were (mistakenly) assumed to be non-existent and irrelevant. It can be expected that this has influenced the answers that respondents have given to the survey questions and might help explain the positive period-specific effect on the *Survival/self-expression* dimension.

To conclude, our regression analysis shows that economic development is an important driver of value change, but there are persistent influences of cultural heritage measured by protestant or catholic historical tradition. This is a confirmation of Inglehart's thesis. Moreover, we found that Europeans have experienced some shock in terms of the *Survival/self-expression* dimension in the 1990s. Most probably the collapse of the Soviet Union and - according to some - the ultimate proof of the success of the capitalist democratic model are causes for this upward shock effect on values of Europeans.

4. Value convergence

Now that we have measured values of Europeans, shed light on the general direction of value change, and made an effort to explain cross-regional variation in values we turn to the implications of our study. Our results suggest that economic development is an important 'driver' of value change, but that there are persistent influences of cultural heritage. The question can be asked what the above means in terms of value convergence. In other words, the question is if - in a unifying Europe in the economic and political sense - we can say something about cultural homogeneity and value convergence in Europe?

In order to answer this question and illustrate our findings we do an experiment. As figures 1 and 2 show, the eastern Netherlands' region (NL2) scores relatively high on the second dimension *Survival/self-expression* and the German region Rheinland-Pfalz (DEB) scores high on

the *Traditional/rational* dimension. Both regions are - logically given our findings - also relatively prosperous. It can also be seen that continental Portugal (PT1) and the southern Italian region Campania (IT8) score low on both dimensions. These latter regions are also relatively poor. We undertake the following experiment: by allowing for economic growth differentials and catch-up growth of the two poorer regions we calculate the scores on both dimensions for the 4 regions mentioned above in 2020. By catch-up growth we mean that we follow traditional convergence theory and allow poorer regions to grow faster than richer regions. We do so by assuming that the richer German and Dutch regions grow by 1 %. The poorer regions in Southern Italy and Portugal are assumed to have completely converged within 20 years to the welfare level of the Netherlands' region (NL2)⁶. Hence, we do not allow for a rather unrealistic leapfrogging process in which the poorer regions outgrow the richer regions in level of welfare. Given the end year of 2020, we consider a 20-year growth period. We then impute this new GDP per capita value in the regression equation we estimated in table 4. Using our estimated coefficients we calculate the estimated value of the *Traditional/rational* and *Survival/self-expression* dimensions in 2020. In the top part of table 4 we have calculated the scores based on the model excluding the country dummies. The bottom part summarizes the results when the country-specific effects are included.

<Insert table 4 about here>

The experiment with the twenty-year period and the assumption on growth differentials is expected to imply that both Campania and Portugal converge to some extent to the values of

⁶ Given the predicted level of welfare in the Dutch region based on the 1% growth and the initial levels of welfare in the southern European regions IT8 and PT1 straightforward calculation shows that the average GRP per capita growth in the Italian region is equal to 2.1 % and the Portugese region grows on average by 2.8% in the period of analysis.

people living in Rheinland-Pfalz and Eastern Netherlands. In line with our earlier findings, the scores for all regions on all dimensions are higher than those for 1999, which fits the idea of value-change in northeastern direction. Nevertheless, as well in the model with country-specific effects as the model without country-specific effects, there is a considerable gap between the Portuguese and Italian values on the one hand and the German and Dutch regions on the other hand. Given the higher explained variance in the model including country-specific effects we prefer the estimates of the lower part of table 4. These predicted scores clearly show that the Italian and Portuguese regions remain relatively 'backward' compared to the value development in the two northern European regions. In fact, even allowing for significant catch-up growth both southern regions do not even reach the score in 2020 that the eastern Netherlands obtained in 1999. The broad picture that emerges is one of the existence of value differences even when allowing for rather strong welfare development in the 'backward' regions.

Evidently, the calculation and the above conclusion are built on some important assumptions. In other words, these scores are *ceteris paribus*, i.e. independent of possible future shocks that may turn out to have important historical meaning, like the collapse of the Soviet Union. But more important, it assumes a 1.1 % respectively 1.8 % growth differential between regions for 20 years (starting in 1990), which is a significant percentage. It can be questioned if this is realistic. Long-run regional economic data for European regions that are reliable and comparable are not available. However, on country level, Maddison provides long run data (Maddison, 2001). From his analysis it becomes clear that such a growth differential for such a long period of time is not realistic. For the European countries Maddison has calculated growth rates of GDP per capita between 1950-1973 and 1973-1998. Table 5 summarizes some of his

findings for the countries in our sample. This gives some feeling for the unrealistic assumption we made regarding the growth differentials⁷.

<Insert table 5 about here>

Finally, we do not assume that there are ‘decreasing marginal returns to value development’, i.e. the linear connection between economic development and value systems does not flatten⁸. In sum, our experiment shows that it takes a long period (and perhaps even unrealistic assumptions) to allow for limited value convergence in Europe.

The preceding discussion illustrates that the vision of the European Commission of a broadly shared European value system is not built on realistic accounts of the actual cultural differences that exist in Europe. It can be expected that this ‘European value landscape’ becomes even more diverse when the current plans for EU enlargement take place. In order to shed some light on the the potential consequences of the future enlargement of the European Union with Middle and Eastern European countries we calculated the scores for the two cultural dimensions in 1999. The countries that are on the list of EU enlargement by January 2004 and for which we have data in the 1999 wave are shown in table 6.

<Insert table 6 about here>

Filling in these value points in the figures 1 and 2 leads to the conclusion that the majority of these countries (perhaps excluding the Czech Republic and Slovenia) falls in the south-west

⁷ Note that the relatively high growth rates in these countries in the period 1950-1973 are mainly due to post-war catch up growth. This process is generally considered to have come to an end in 1973 (Van Schaik, 1995).

⁸ As the measurement of the dimensions is based on survey questions with limited choice possibilities (e.g. between 1-10) it is not even possible in practice that the dimensions can take unlimited values. Most probably the practical limit is even lower than the theoretical limit as respondents most probably do not choose for the ultimate anchors when answering questions. Therefore, a certain ‘decreasing marginal return-effect’ can be expected.

corner of the two axes representing the two cultural dimensions. This implies that the majority of the countries that are on the list for potential membership of the European Union differ considerably with the current members of the Union in terms of basic cultural values. The earlier experiment on value convergence in 4 European regions clearly showed that even within the current EU the probability that true value convergence will take place is rather limited, let alone if the new member countries are included. On the other hand, it can also be argued that the exact goal of the EU was to unite countries that differ considerably in terms of values and in this way prevent (cultural) clashes (cf. Huntington, 1996). The latter argument would be in favor of EU enlargement.

5. Conclusion

Economic development is linked with systematic changes in basic values, a thesis also known as modernization theory. But cultural change is path dependent. The broad cultural heritage of a society leaves an imprint on values despite the process of economic development. Inglehart has described and empirically analysed the relationship between cultural values and economic development (1990, 1997, 2000). Inglehart has shown that economic development is linked with systematic changes in basic values. He concludes that 'in marked contrast to the growing materialism linked with the industrial revolution, the unprecedented existential security of advanced industrial society gave rise to an intergenerational shift towards postmaterialist and postmodernist values' (Inglehart and Baker, 2000, 21). Inglehart's main argument is that economic development has a number of systematic and predictable cultural and political consequences (ibid.). We followed Inglehart and argued that cultural change does not follow a linear path, but in fact has two dimensions. The first relates to early industrialization and the rise

of the working class. The second dimension reflects the value changes that are linked to the affluent conditions of advanced industrial society and the rise of the service sector. In addition to these findings, Inglehart and Baker found evidence for the persistence of distinctive traditional values and concluded that cultural change may be path-dependent.

This former thesis is also known as Inglehart's thesis. In this paper we have built on his thesis and we focused on the explanation of value patterns and differences in values between European regions. We concentrated on European regions as global processes and European integration in specific, have resulted in a revival of the concept of the region in Europe. Regions are again featuring political, social and economic life. The process of European integration has resulted in blurring boundaries of the state and increased regionalism which have resulted in a considerable body of work on the so-called 'Europe of the regions', meaning that the real development will take place on the regional and not the national level. The explanation of value differences is particularly interesting against the background of a unifying Europe and the utopian idea of a 'Europe of the regions'. The question we tried to answer in this paper is if we can speak of cultural unification in Europe. After describing the cultural differences across European regions we made an effort to explain these value differences. And finally, we tried to say something on the possible convergence of values across Europe.

We have several important findings. First, Inglehart's thesis on economic development and cultural heritage holds true for European regions. This may not be surprising given the inclusion of European countries in Inglehart's research, but is nevertheless a confirmation of his thesis. Moreover, we found a specific regional effect of protestant heritage. We also found that this specific effect of cultural heritage disappeared when we controlled for country-specific effects. This implies that Inglehart and Baker are correct in classifying Germany and The Netherlands as historically protestant societies. Hence, despite the intra-national differences, our

results suggest that the regional heritage of Protestantism is reflected in country-specific characteristics and embedded in national institutions.

Second, we have shown that on one of the dimensions that describe basic values – the *Survival/self-expression* dimension – there has been a period-specific effect in the 1990s. We suggested that broad societal developments like the New Economy hype, the adoption of the single currency in Europe and – perhaps most important - the collapse of the Soviet Union and ‘the end of history’ (Fukuyama, 1992) may have resulted in an optimistic view on the future and may have subsequently resulted in this period-specific effect when explaining value differences across European regions in the 1990s. This is an important contribution to the general thesis as developed by Inglehart, namely we have not only shown that economic development together with cultural heritage is linked with value changes, but also that unique historical shocks can have significant effects on value systems.

Third, we have illustrated that convergence of values – even if we allow for significant economic catch-up growth of poorer regions – takes a very long period, if it would occur anyway. The vision of the European Commission of a ‘Europe of the Regions’ in which there would be a reasonable homogeneous regional social-economic structure across Europe and a shared European value system is therefore not built on realistic accounts of the actual cultural differences that exist in Europe. Assuming that values are reflected in political arguments, it is difficult to come to a strong and broadly shared view on important political issues in Europe, let alone if the (future) European enlargement implies that countries are made member that differ even more on basic values. Following our line of reasoning, we can expect that the inclusion of the middle and eastern European countries in a political institution like the EU will result in a weak organisation in which it is difficult to find consensus for political decisions.

References

Albrechts, L., 1995, Shifts in Europe, in: *An enlarged Europe, regions in competition?*, Hardy, S., Hart, M., Albrechts, L., and A. Katos (ed.), Regional Studies Association, London, p. 22-34.

Bell, D., 1973, *The coming of post-industrial society*, Basic Books, New York.

Chenery, H.B. 1960. "Patterns of industrial growth.", *American economic review* 50:624-654.

Clark, C., 1957[1940], *The conditions of economic progress*, MacMillan & Co LTD, London.

European Value Studies (EVS): <http://www.uvt.nl/evs>

Feinstein, Charles, 1999, Structural change in the developed countries during the twentieth century, *Oxford review of economic policy* 15, 35-55.

Fourastié, J., 1949, *Le grand espoir du XX siècle*, Presses Universitaires de France, Paris.

Fukuyama, F., 1992, *The end of history and the last man*, Penguin books, London.

Fukuyama, 1995, *Trust: the social virtues and the creation of prosperity*, New York, Free Press.

Geertz, C., 1973, *The Interpretation of cultures*, New York, Basic Books.

Hofstede, G., 2001, *Culture's consequences; comparing values, behaviors, institutions and organizations across nations*. (2nd ed.) Beverly Hills: Sage publications.

Huntington, S.P., 1996, *The clash of civilizations and the remaking of world order*, New York, Simon and Schuster.

Inglehart, R., 1977, *The silent revolution: changing values and political styles in advanced industrial societies*, Princeton, Princeton University Press.

Inglehart, R., 1990, *Culture shift in advanced industrial society*. Princeton, Princeton University Press.

Inglehart, R., 1997, *Modernization and post-modernization*, Princeton, Princeton University Press.

Inglehart, R and W.E. Baker. 2000. "Modernization, cultural change, and the persistence of traditional values." *American sociological review* 65:19- 51.

Keating, M., 1998, *The new regionalism in Western Europe*, Edward Elgar, Cheltenham, UK.

Knack and Keefer, 1997, Does social capital have an economic pay-off? A cross country investigation, *Quarterly journal of economics*, vol. 112.4, p. 1251-1288.

Kuznets, S., 1971, *Economic growth of nations, total output and production structure*, The Belknap Press of Harvard University Press, Cambridge Massachusetts.

Maddison, A., 2001, *The world economy: a millennial perspective*, OECD, Paris

Newlands, D., The economic role of regional governments in the European Community, in: *An enlarged Europe, regions in competition?*, Hardy, S., Hart, M., Albrechts, L., and A. Katos (ed.), Regional Studies Association, London, p. 70-80.

Ohmae, K., 1995, *The end of the nation state: the rise of regional economies*, New York: the Free Press.

Piore, M.J., and C. Sabel, 1984, *The second industrial divide, possibilities for prosperity*, New York, Basic Books.

Ploeg, Van de R., 2002, In art we trust, *De economist*, vol. 150, p. 333-362.

Putnam, R.; Leonardi, R.; and Nanetti, R.Y. 1993. *Making democracy work*. Princeton, New Jersey: Princeton University Press.

Rostow, WW., 1960, *The stages of economic growth: a non-communist manifesto*, Cambridge: Cambridge University Press.

Rowthorn, R. and R. Ramaswamy, 1997, De-industrialisation: Causes and implications, *IMF working paper 97/42*.

Rowthorn, R. and R. Ramaswamy, 1999, Growth, trade and de-industrialisation, *IMF Staff Papers*, vol. 46, p. 18-41.

Schaik, van A.B.T.M, 1995, On the empirics of endogenous economic growth, in: Schoonbeek, L., E. Sterken, and S.K. Kuipers (ed.), *Methods and applications of economic dynamics*, Amsterdam, North-Holland, p. 303-331.

Zak, P. and S. Knack, 2001, Trust and growth, *The economic journal*, 111, p. 295-321.

Table 1: Two dimensions of culture

<p><i>Traditional/Rational dimension</i></p> <p>Traditional values emphasize the following:</p> <ul style="list-style-type: none">• God is very important in respondent's life• Respondent has a strong sense of national pride• Respondent favours more respect for authority• Divorce is never justifiable• Respondent almost never discusses political matters <p>(Rational values emphasize the opposite)</p>
<p><i>Survival/Self-expression dimension</i></p> <p>Survival values emphasize the following:</p> <ul style="list-style-type: none">• Respondent gives priority to economic and physical security over self-expression and quality of life• Respondent describes him/her self as not very happy• Respondent describes him/her self as not very satisfied with life• Homosexuality is never justifiable• Respondent's feel one has to be very careful in trusting people <p>(Self-expression values emphasize the opposite)</p>

Source: Inglehart and Baker (2000).

Table 2: Inglehart's two basic cultural dimensions in European regions in 1990 and 1999

Number	Region (NUTS-code)	Name	Trad/Rat 1990	Surv/Self-expr. 1990	Trad/Rat 1999	Surv/Self-expr. 1999	Direction
1	BE1	Reg. Bruxelles	.25	.12	.26	.14	NE
2	BE2	Vlaanderen	.21	.23	.25	.22	N
3	BE3	Wallonie	.14	.07	.22	.14	NE
4	DE1	Baden-Württemberg	.34	.16	.23	.12	SW
5	DE2	Bayern	.27	.13	.21	.13	S
6	DE3	Berlin	.47	.14	.50	.10	NW
7	DE5	Bremen	.34	.1	.25	.21	SE
8	DE6	Hamburg	.45	.26	.53	.26	N
9	DE7	Hessen	.32	.12	.26	.16	SE
10	DE9	Niedersachsen	.37	.16	.28	.14	SW
11	DEA	Nordrhein-Westphalen	.31	.16	.37	.16	N
12	DEB	Rheinland-Pfalz	.26	.14	.41	.19	NE
13	DEC	Saarland	.29	.05	.50	.21	NE
14	DEF	Schleswig-Holstein	.42	.12	.42	.26	E
15	ES1	Noroeste	.19	.08	.18	.07	-
16	ES2	Noreste	.24	.13	.23	.20	E
17	ES3	Madrid	.13	.11	.21	.22	NE
18	ES4	Centro	.04	.09	.04	.10	-
19	ES5	Este	.2	.11	.23	.16	NE
20	ES6	Sur	.03	.07	.17	.11	NE
21	ES7	Canarias	.16	.05	.14	.23	E
22	FR1	Île de France	.33	.11	.26	.12	S
23	FR2	Bassin Parisien	.22	.04	.23	.07	NE
24	FR3	Nord-Pas-de-Calais	.19	.04	.19	.12	E
25	FR4	Est	.21	.07	.24	.09	NE
26	FR5	Ouest	.26	.1	.28	.13	NE
27	FR6	Sud-Ouest	.23	.07	.26	.06	N
28	FR7	Centre-Est	.25	.11	.21	.14	SE
29	FR8	Méditerranée	.19	.08	.29	.14	NE
30	IT1	Nord Ovest	.18	.13	.16	.13	N
31	IT2	Lombardia	.15	.13	.13	.19	SE
32	IT3	Nord Est	.23	.2	.14	.16	SW
33	IT4	Emilia-Romagna	.2	.12	.21	.12	-
34	IT5	Centro	.12	.07	.12	.12	E
35	IT6	Lazio	.15	.08	.16	.11	NE
36	IT7	Ambruzzo-Molise	.06	.05	.03	.09	SE
37	IT8	Campania	.02	.02	.06	.11	NE
38	IT9	Sud	.02	.07	.05	.07	N
39	ITA	Sicilia	.03	.05	.08	.05	N
40	ITB	Sardegna	.04	.11	.20	.16	NE
41	NL1	Noord-Nederland	.28	.28	.29	.32	NE
42	NL2	Oost-Nederland	.30	.36	.28	.35	NE
43	NL3	West-Nederland	.33	.32	.36	.34	NE
44	NL4	Zuid-Nederland	.25	.31	.27	.30	NW
45	PT1	Portugal Continente	.13	-.01	.04	.01	SE
46	UK1	North	.2	.17	.17	-	
47	UK2	Yorkshire and Humberside	.14	.18	.22	-	
48	UK3	East Midlands	.17	.17	.21	-	
49	UK4	East Anglia	.16	.21	.21	-	
50	UK5	South East	.21	.16	.18	-	
51	UK6	South West	.12	.18	.21	-	
52	UK7	West Midlands	.14	.15	.14	-	
53	UK8	North West	.19	.17	.14	-	
54	UK9	Wales	.15	.13	.17	-	
55	UKA	Scotland	.16	.15	.24	-	
		Average value	.20	.13	.22	.13	

Source: Based on Inglehart and Baker (2000). For the exact calculation of the dimensions and the weights the different components have, one can contact the authors.

Figure 1: scores of European regions on two cultural dimensions in 1990

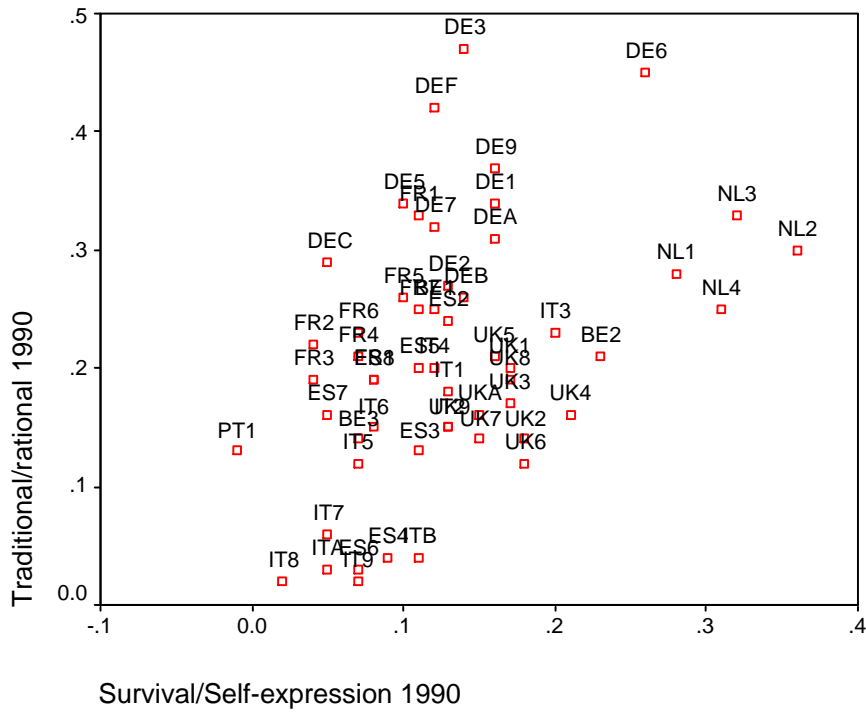


Figure 2: scores of European regions on two cultural dimensions in 1999

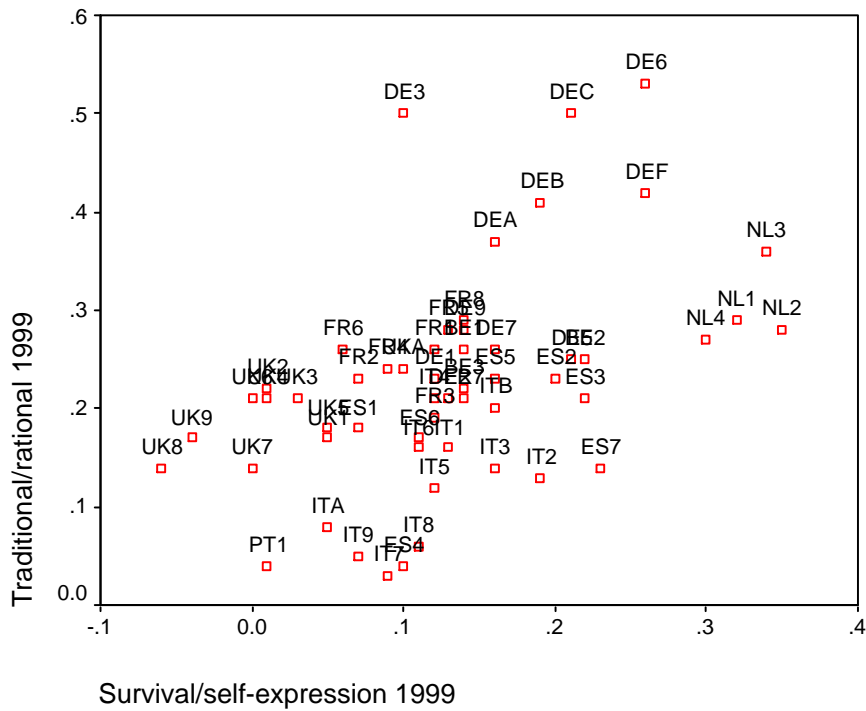


Table 3: Regression results of two cultural dimensions on independent variables measuring economic development, cultural heritage, period-specific effects and country-specific effects.

Dependent variable:	Dimension 1:	Dimension 1:	Dimension 2:	Dimension 2:
	<i>Traditional-secular/rational</i>	<i>Traditional-secular/rational</i>	<i>Survival/-self-expression</i>	<i>Survival/-self-expression</i>
Explanatory variables:		Including country-specific effects		Including country-specific effects
Gross Regional Product (/1000)	.015 (.0022)**	.008 (.001)**	.003 (.001)*	.0056 (.001)**
Historically protestant (=1)	.035 (.017)*	.018 (.033)	.084 (.018)**	-.002 (.016)
Period-specific effect (2nd period (90s)= 1)	-.011 (-.015)	0.002 (.011)	.032 (.014)*	.024 (.009)**
Netherlands	-	-.03 (.025)	-	.18 (.015)**
Spain	-	-.13 (.031)**	-	.002 (.019)
Portugal	-	-.18 (.048)**	-	-.11 (.018)**
UK	-	-.15 (.030)**	-	.048 (.016)**
Belgium	-	-.12 (.027)**	-	-.0009 (.029)
France	-	-.08 (.027)**	-	-.053 (.015)**
Italy	-	-.19 (.027)**	-	-.03 (.016)
N	110	110	100	100
R-square	.37	.72	.31	.76

Note: White corrected standard errors between parentheses; * indicates 5% significance, ** indicates 1% significance.

Table 4: Estimated value patterns

Excluding country dummies		Estimated scores on basic values in 2020	
	Level of GRP per capita 1990	<i>Traditional/rational</i> dimension	<i>Survival/self-expression</i> dimension
Rheinland-Pfalz (Germany)	15254	.52 (.41)	.88 (.19)
Eastern Netherlands	12907	.48 (.28)	.84 (.35)
Campania, South-Italy	10437	.37 (.06)	.26 (.11)
Portugal (continent)	9053	.34 (.04)	.26 (.01)

Including country dummies		Estimated scores on basic values in 2020	
	Level of GRP per capita 1990	<i>Traditional/rational</i> dimension	<i>Survival/self-expression</i> dimension
Rheinland-Pfalz (Germany)	15254	0.68 (.41)	0.31 (.19)
Eastern Netherlands	12907	0.52 (.28)	0.64 (.35)
Campania, South-Italy	10437	0.21 (.06)	0.20 (.11)
Portugal (continent)	9053	0.22 (.04)	0.04 (.01)

Note: Calculation of dimensions in 2020 is based on regression results including residual values. True values in 1999 are shown in parentheses (see also table 2). The 1990 welfare level of each region (GRP per capita) is written in the second column. The twenty-year growth period implies the estimated GRP's of 2010 are used to calculate the cultural dimensions.

Table 5: growth rate of per capita GDP 1950-1973 and 1973-1998

	1950-1973	1973-1998
Belgium	3.55	1.89
France	4.05	1.61
Germany	5.02	1.60
Italy	4.95	2.07
Netherlands	3.45	1.76
Portugal	5.66	2.29
Spain	5.79	1.97
UK	2.44	1.79

Source: taken from Maddison (2001)

Table 6: Scores on the cultural dimension for eastern and middle European countries in 1999

Country	<i>Traditional/rational</i> dimension	<i>Survival/self-expression</i> dimension
Malta	-.145	.098
Estonia	.299	-.099
Latvia	.21	-.174
Lithuania	.21	-.136
Poland	.032	-.046
Czech R.	.331	.08
Slovakia	.20	-.065
Hungary	.118	-.137
Romania	.01	-.229
Bulgaria	.21	-.179
Slovenia	.259	.0767
