Andréasson, Hannes; Elert, Niklas; Karlson, Nils

Working Paper

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WWWforEurope Working Paper, No. 33

Provided in Cooperation with:
WWWforEurope - WelfareWealthWork, Wien

Suggested Citation: Andréasson, Hannes; Elert, Niklas; Karlson, Nils (2013) : Does Social Cohesion Really Promote Reforms?, WWWforEurope Working Paper, No. 33, WWWforEurope, Vienna

This Version is available at:
https://hdl.handle.net/10419/125687

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July 2013

EUROPEAN COMMISSION
European Research Area
SEVENTH FRAMEWORK PROGRAMME
Funded under Socio-economic Sciences & Humanities

Authors: Hannes Andréasson (Ratio), Niklas Elert (Ratio), Nils Karlson (Ratio)

Reviewed by: Jan Fidrmuc (Brunel University London)

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Work Package 104

MS21 "Research paper on social acceptance of welfare state reforms"

Working Paper no 33

THEME SSH.2011.1.2-1

Socio-economic Sciences and Humanities Europe moving towards a new path of economic growth and social development - Collaborative project

Does Social Cohesion Really Promote Reforms?

Hannes Andréasson (Ratio), Niklas Elert (Ratio), Nils Karlson (Ratio)

Contribution to the Project

This study investigates whether social cohesion makes economic reforms more likely. Results show that most dimensions of social cohesion do not in fact influence reform capacity. However, views of fairness based on merit, in contrast to equality, and to some extent social divisions, are found to have a positive effect on economic reforms. Social cohesion may thus be a double-edged sword, and especially so when it comes to economic reforms in a efficiency-enhancing free-market direction.

Does Social Cohesion Really Promote Reforms?

Hannes Andréasson*, Niklas Elert†, and Nils Karlson ‡

2013-03-28

Abstract

This paper investigates whether social cohesion makes economic reforms more likely. First, we investigated whether social cohesion is a coherent concept by using a principal-component factor (PCF) analysis covering 16 indicators used to measure social cohesion in the previous literature for 40 different countries. The results suggested that in fact social cohesion is a multidimensional concept, consisting of no less than five orthogonal components or distinct dimensions, which we labeled social divisions, modern values, traditional nationalism, institutional commitment, and fairness as merit. The dimensions are then examined in relationship with economic reform in a panel regression framework. Results show that most dimensions of social cohesion do not in fact influence reform capacity. However, views of fairness based on merit, in contrast to equality, and to some extent social divisions, are found to have a positive effect on economic reforms. The results go against the previous literature, challenging the prevailing view of social cohesion as being unambiguously beneficial to economic reform.

Keywords: social cohesion, welfare state, reform, economic freedom

JEL-codes: D02 • O17 • O43 • P00 • Z13

1 Introduction

The concept of social cohesion has come into fashion in recent years, notably among European policy-makers. The European Union has made it part

*The Ratio Institute. hannes.andreasson@ratio.se, Box 3203. SE-103 64 Stockholm, Sweden.

†The Ratio Institute. niklas.elert@ratio.se, Box 3203. SE-103 64 Stockholm, Sweden; and Örebro University.

‡The Ratio Institute. nils.karlson@ratio.se, Box 3203. SE-103 64 Stockholm, Sweden

of its treaties (Art. 3 TEU, art 174-175 TFEU), the French and British governments have assigned ministerial responsibility to its promotion, while the Canadian government has sponsored research on the topic (Jenson 1998, Beauvais and Jenson 2002). Moreover, social cohesion has received attention from other international organisations such as the OECD (2011a), the World Bank (2012) and the Council of Europe (2005). Furthermore, as we shall see, research has been produced by academic scholars in sociology, economics and political science.

Why this interest? One reason is a concern about the stability and unity of political society, which is shared by contemporary liberal thinkers such as Rawls, Kymlicka, and Douglas (Kukathas 1996 p.96). For example, Rawls (1971 p.527) refers to a well-ordered society as a "social union of social unions", Habermas meanwhile asserts that a new model of social cohesion is needed and suggests that the sense of community in a democratic community should be founded on the support of a system of constitutionally established rules (1984, 2001). Another reason is the wide-spread view of social cohesion as a way to promote the social acceptance of economic reforms (Ritzen 2000; Easterly et al. 2006; Heller 2009), the general idea being that in socially cohesive societies, with high levels of horizontal and vertical solidarity, it would be easier overcome reform resistance. Economic reforms aimed at enhancing growth and competitiveness are no doubt sorely needed in many welfare states in the ongoing European sovereign-debt crisis.

In fact, efficiency-enhancing reforms are often postponed until an economic or political crisis occurs (Campos et al. 2009). There are several reasons for this postponement, be it because of interest groups with the ability to block institutional changes (Alesina and Drazen 1991; Alesina et al. 2006; Martinelli and Escorza 2007), other political barriers put up by powerful minority groups (Olson 1982; Rodrik 1996) or uncertainty of distributional outcomes of reforms (Fernandez and Rodrik 1991; Cason and Mui 2005). These problems are further aggravated by cognitive biases. According to Kahneman and Tversky (1979), people tend to have a negativity bias in the sense that they react disproportionally negatively to losses in welfare (compared to increases). The status quo tends to work as reference point from which changes are evaluated. As a consequence people have a tendency to be willing to sacrifice more to avoid losses than to make improvements (Baumeister et al. 2001; Rozin och Royzman 2001; Vaish et al. 2008).

If social cohesion can overcome or at least mitigate these reform obstacles,

then clearly it is a subject worth studying. This is also what motivates the few previous studies that exist on the link between social cohesion and economic reform (Ritzen 2000; Easterly et al. 2006; Heller 2009). These three studies define social cohesion in a similar manner, and agree on a way to measure the concept that is rather narrow. In contrast, the broader literature on social cohesion shows no such agreement. In fact, while the interest in social cohesion is broad, there is little agreement on what the concept actually means (Bernard 1999). It has even been called a "largely ill-defined term" (Chan et al. 2006, p. 274). This has in turn caused a similar ambiguity concerning how social cohesion should be measured empirically (Bruhn 2009, p. 31, 63), perhaps most notably whether it should be seen as a one-dimensional or a multidimensional concept.

In light of these ambiguities it is difficult to evaluate previous research linking social cohesion to economic reform. This motivates the attempt of this paper to investigate whether social cohesion really promotes reforms. We do this in two steps.

First, we investigate whether social cohesion is a coherent concept by using a principal-component factor (PCF) analysis covering 16 indicators used to measure social cohesion in the previous literature. Data includes information on 30 813 individuals from 40 countries, where a majority (60 %) are members of the OECD, between 1990 and 2009. The results suggest that in fact social cohesion is a multidimensional concept, as no less than five orthogonal components or distinct dimensions emerged from the PCF. Based on their respective loadings on the 16 indicators, we label these dimensions social divisions, modern values, traditional nationalism, institutional commitment, and fairness as merit. Only the first of these dimensions, social divisions, corresponds to the measurements used in the previous literature on the reform link, which further underscores the need for a more thorough analysis. Using a complementary cluster analysis, we find at least five "models of social cohesion", i.e. groups of countries characterized by their varying emphasis on the five dimensions found in the factor analysis.

Second, we study to what extent social cohesion, or rather the components of the concept obtained from the PCF, affects a country's capability of reforms. We do so by regressing economic reforms, quantified as a five-year change in the Economic Freedom of the World Index, on each of the five dimensions, in a panel spanning 1990-2009. We consider estimations with fixed effects and a probit model. Our results indicate that, in fact, most dimensions of social

cohesion do not influence reform capacity, and that the relationships that do exist are not what one would expect.

Fairness as merit is found to have a significant and positive effect on economic reforms, regardless of whether we use a fixed effects or probit model. Social divisions is also found to be positive and significant in both models. We also add interaction variables to the model, to assess how the five dimensions of social cohesion shape a country's response to an economic crisis. We could not find any clearcut pattern when interpreting these results, suggesting that social cohesion is of a limited value to undertake reforms in the event of a crisis.

The results go against the previous literature, challenging the prevailing view of social cohesion as being unambiguously beneficial to economic reform. Most notably, the social divisions dimension, which encompasses all the indicators of social cohesion used in the previous literature on the reform link, is shown to have either an insignificant or an unexpected positive effect on economic reforms. That views of fairness as merit is found to have a positive effect is also surprising, given that it is in contrast to the egalitarian view of social cohesion suggested by many authors (Hulse and Stone 2007).

The remainder of this paper is structured as follows. In section 2 we examine existing literature on social cohesion and its link to reforms. In section 3, we demonstrate how principal-component factor analysis of cross-country can be used to disentangle the several dimensions of social cohesion. In section 4, we test whether the dimensions found can explain reforms and if countries who are more socially cohesive are more prone to undertake economic reforms after economic crises. Section 5 summarizes and draws conclusions.

2 Social cohesion: A contested concept

The intellectual origins of the term social cohesion can be traced to Émile Durkheim, who saw it as a question of loyalty and solidarity within a social community: a mechanical solidarity based on likeness, and an organic solidarity based on the interdependence created by division of labor (Moody and White 2003; Green et al. 2009; Dickes et al. 2010). The current meaning of the concept is however a disputed issue. For example, social cohesion has been defined as "societal goal dimensions" (Berger-Schmitt 2002), as an individual commitment to "stick together" within a country (Chan et al. 2006), and as a framing concept of up to six dimensions (Jenson 1998, Beauvais and Jenson 2002).

The ambiguity concerning the meaning of social cohesion motivates the question whether the concept has any substance, despite its current prominence in policy discussions. Bernard (1999) points out that social cohesion "presents the characteristic signs of a quasi-concept", and calls for criticism and deconstruction. His own conclusion - that social cohesion by necessity must be linked to inequality and social justice – has been criticized for focusing on the causes of social cohesion, rather than on the phenomena itself (Friedkin 2004; Chan et al. 2006; Green et al. 2009).

One way out of the confusion is to suggest that there could be several models, or regimes, of social cohesion. A few attempts have been made to identify such regimes, both theoretically and empirically, as demonstrated by table 1.

Table 1: Dimensions of social cohesion

Author	e/t*	N**	Dimensions/regimes of social cohesion
Jenson (1998)	t	5	Belonging/Isolation, Inclusion/Exclusion, Participation/Non-Involvement, Recognition/Rejection and Legitimacy/Illegitimacy
Bernard (1999)	t	6	Character of relation: Formal and Substantial Sphere of activity: Economic, Political and Sociocultural
Berger-Schmitt (2002)	e/t	2	Goal-dimensions: Inequality dimension and social capital dimension
Chan et al (2006)	t	2	Horizontal and vertical
Green et al (2009); Green & Jaanmat (2011)	e/t	4	Liberal, Social Market, Social Democratic and East Asian
Dickes et al (2010, 2011)	e/t	5	Character of relation: Formal and Substantial Sphere of activity: Political and Sociocultural
Janmaat (2011)	e	2	Solidarity and Participation
OECD (2011a)	t	3	Social inclusion, social capital and social mobility
Dimeglio et al (2012)	e/t	4	Participation, Trust and Respect for Diversity /four empirical regimes

Note: *e refers to empirical studies and t to theoretical studies. **N refers to the number of dimensions.

Green et al. (2009), using a combination of factor and cluster analysis on a sample of 20 OECD-countries, find four distinct and internally relatively coherent clusters of social cohesion: a liberal, a social democratic, a social market, and an East Asian regime. Yet in their measure of social cohesion they include such components as wage regulation, level of employment protection, state involvement and size of welfare state, thereby blurring the borders between welfare state regimes and models of social cohesion.

Dickes et al. (2010), building on theoretical constructs of Bernard (1999)

and Chan (2006), argue that previous research have failed to empirically verify a multidimensional measure of social cohesion that is comparable between European countries. To fill this gap, data from the 1999 European Values Survey is analyzed using multidimensional scaling as well as confirmatory factor analysis. Their findings show coherence with the theoretical construct used and indicate four components of social cohesion: trust, solidarity, political participation and social participation. These are in turn reduced to a formal/attitudinal (trust and solidarity) and a substantial/behavioral (political and social participation) dimension, with distinct regional patterns.

Janmaat (2011) does not rely on any particular theoretical construct, instead he seek to evaluate to what extent constructs suggested by others could be verified empirically. He discusses whether social cohesion is determined by socio-economic development (the universalist perspective) or by particular geographical, historical and cultural traits (the particularist perspective). Using data for 70 countries from the 1999 World Value Survey, the UN and the World Bank, Janmaat finds two different models of social cohesion, with regionally unique patterns. The first model, called solidarity, is characterized by high trust, low inequality and high social order. The second model, called participation, scores high on political engagement, national pride and (to some extent) tolerance. Janmaat argues that the findings support both the universalist and the particularist perspectives.

Additional disagreement concerns what level of social interaction the concept applies to. It has been argued that social cohesion is primarily a property of local communities (Kearns and Forrest 2000; Rajulton et al. 2007), of nations or countries (Chan et al. 2006; Janmaat 2011), of transnational communities (European Commission 2012), or of any kind of group without reference to size (Friedkin 2004; Moody and White 2003).

Another dimension of the confusion is the fact that social cohesion is sometimes used interchangeably with other concepts, viz. social capital and informal institutions. For example, in a OECD report, Foa (2011) states that social cohesion is a feature of society's informal institutions, which is furthermore said to be examined in the literature on social capital. Stiglitz (2000 p.60) claims that social capital is "partly the social glue that produces cohesion". Easterly et al. (2006) stress that while social capital is increasingly being defined at the micro-level, social cohesion is a more appropriate term when the concern is with features of society as a whole. The view that social capital is a phenomenon at the micro-level while social cohesion is a macro-level concept is also supported

by Bruhn (2009, p.63) and Dayton-Johnson (2000, 2003).

Hulse and Stone (2007) do an overview of the literature and suggest that social cohesion as it is usually described takes at least three different meanings. First, it refers to the social relations of everyday life, incorporating some of the ideas around social capital. Second, social cohesion refers to the reduction of differences, cleavages and inequalities between groups of people and between people living in different geographical areas. Third, social cohesion is said to be more than the sum of these two dimensions, incorporating "a distinct cultural dimension, referring to the norms underlying the 'ties that bind' people together and which include a sense of common purpose, shared identity, common values such as tolerance of difference and diversity, and behaviors which reflect these."

The definitional diversity has in turn lead to confusion on how social cohesion should be measured. Table 2 is an overview of the indicators that have been either proposed or used in the previous theoretical and empirical literature. Attempts with a limited scope usually include some measure of interpersonal trust, institutional trust, and identity (Chan et al. 2006; Janmaat 2011). Attempts with a broader scope also include tolerance and common values (Jenson 1998; Green et al. 2009), political and civic participation, and solidarity (Berger-Schmitt 2002; Dickes et al. 2010). More all-encompassing attempts include outcomes or indirect measures of social cohesion such as economic inequality and ethnic fractionalization (Easterly et al. 2006; Heller 2009), poverty (Hadjiyanni 2010; OECD 2011a), social order (Council of Europe 2005; Janmaat 2011), social mobility (Council of Europe 2005; OECD 2011a), equality in access to education (Dickes et al. 2010; Hadjiyanni 2010), equality in education (Berger-Schmitt 2002; Heller 2010), and quality of life (Berger-Schmitt 2002; Hadjiyanni 2010), to mention just the more common ones.

This overview suggests that the definition and measurement of social cohesion is far from settled issues. Granted, there is bound to be much discussion concerning any popular concept, notably in such a vast literature. The three articles that consider the relationship between social cohesion and economic reforms, which we now turn to, nevertheless stand out from the rest of the literature on social cohesion for their unanimity as regards the definition and measurements of social cohesion.

Table 2: Indicators of social cohesion

Indicator	Chan et al. 2006	Green et al. 2009, 2011	Janmaat 2011	Dickes et al. 2010, 2011	Dimeglio et al. 2012	Jenson 1998	Hadjiyanni 2010	Easterly et al. 2006	Heller 2009	Berger-Schmitt 2002	Council of Europe 2005	OECD 2011a, 2011b	European Commission 1996
Interpersonal trust	•		•		•		•	•				•	
Confidence in institutions	•		•	•	•	•					•	•	
Tolerance		•	•		•	•						•	
Common values		•	•			•							
Sense of belonging	•		•			•							
National pride	•		•										
Civil society participation	•	•	•	•	•	•	•			•		•	
Political participation	•	•		•	•	•				•	•		
Political engagement			•	•									
Solidarity/willingness to help	•			•						•			
Fairness (merit/equality)		•											
Freedom vs equality		•											
Gender equality		•	•								•		
Quality of life							•			•			
Perception of health											•		
Social mobility											•	•	
Traditional vs rational/secular values			•										
Survival vs self-expression values			•										
Economic inequality/Gini-coefficient		•	•			•		•	•		•	•	•
Ethnic fractionalization		•						•	•				
Social order: homicide and/or violent crime rates		•	•							•	•		
Reduction of disparities													•
Education									•	•	•		
Social relations				•									
Wage regulation		•											
Employment protection		•											
Welfare state (size)		•											
Social hierarchy		•											
State involvement	•												
Equity: health										•	•		
Equity: employment						•	•			•	•		
Equal opportunities										•			
Dignity of elderly											•		
Income sufficiency							•			•	•	•	
Shared knowledge (of rights)											•		
Pro- and anti-social behavior												•	
Voter-turnout												•	
Family commitment										•			
Citizen commitment										•			
Equality: housing										•			
Equality: transport										•			
Equality: leisure, media. culture										•			
Environment: disparities										•			

2.1 Social cohesion and economic reforms

Even if social cohesion is often seen as a desirable goal in itself (Heyneman, 2000; Green et al, 2009), our main interest in this paper is whether social cohesion promotes or facilitates economic reforms. The intuition is quite straightforward: various forms of solidarity should make it more or less easy to overcome different barriers to reform, and perhaps particularly so in times of crisis. Heller (2009) even argues that the 'crisis hypothesis', i.e. that economic crisis break down gridlocks and facilitate economic reforms (Alesina and Drazen 1991, Fernandez and Rodrik 1991, Drazen and Grilli 1993, and Pitlik and Wirth 2003), lends indirect support to the social cohesion approach. The rationale is that if (little) social cohesion restrains reform capacity, a crisis could undermine reform resistance and hasten institutional change.

Research on the link between social cohesion and economic reform is nevertheless sparse. Ritzen et al. (2000), Easterly et al. (2006), and Heller (2009) investigate the connection between measures of social cohesion and institutional formation and quality. Interestingly enough, there are many similarities to their approaches.

Ritzen et al. (2000) define social cohesion as "a state of affairs in which a group of people (delineated by a geographical region, like a country) demonstrate an aptitude for collaboration that produces a climate for change". Hence, social cohesion influences the "room for maneuver" and at least in part institutional quality, whereby countries with high social cohesion and effective public institutions should display better development outcomes. The authors test this hypothesis using a three-step cross-country regression for institutional quality and economic growth rates. Social cohesion is measured in terms of income inequality and ethnic fractionalization, while institutions are measured in various ways. The results support the hypothesis that social cohesion so defined influences institutional quality which in turn affects economic growth rates.

Easterly et al. (2006) argue that the constraints facing politicians and policymakers to a large extent are determined by the degree of social cohesion in a given country, which they define as "the nature and extent of social and economic divisions within society". In introducing and implementing reforms it is essential to have a certain degree of confidence in place, such that individuals can trust that government policies will compensate short term losses with higher long term gains. In this view, social cohesion shapes attitudes about reforms, and high levels of social cohesion are needed to move away from the status quo.

Like Ritzen et al. (2000), they measure social cohesion in terms of economic inequality and ethnic fractionalization, and perform three-stage cross-country regressions with 82 countries on institutional quality and economic growth rates, with various measures of institutions. The results confirm the hypothesis that social cohesion influences institutional quality, which in turn influences economic growth.

Heller (2009) defines social cohesion as "those attributes that contribute to a breakdown of economic, social and political barriers to reform within a society". Drawing heavily on Easterly et al (2006), Heller argues that social and cultural dynamics influence the ability of policymakers to undertake reforms. Hence, social cohesion could, at least partially, determine institutional quality and maturity. Heller uses a two-equation cross-country regression model, similar to Easterly et al (2006), with 111 countries over eight years. Like Ritzen et al. (2000) and Easterly et al. (2006), she measures social cohesion as economic inequality and ethnic fractionalization, but also adds adult literacy to the list of indicators. Institutional quality is measured by "property rights & enforcement" and "law & order" indices from the Economic Freedom of the World Index and Ease of Doing Business from the World Bank. Heller's findings support the view of Easterly et al (2006) that measures of social cohesion substantially affect institutional development and hence impacts economic growth.

Several things are noteworthy concerning these contributions. First, the definitions of social cohesion proposed by Ritzen et al. (2000) and Heller (2009) are not unproblematic. In their view, especially in Heller's, social cohesion is by definition those attributes that contribute to a breakdown of barriers to reform. Hence, social cohesion will always be, by definition, beneficial for institutional reform. Thus, the notion of social cohesion becomes tautological.

Second, the authors make similar choices as regards measurements and procedures: all three studies use inequality and ethnic fractionalization as measures of social cohesion (Heller (2009) also includes adult literacy). This effectively puts them in the second category suggested by Hulse and Stone (2007). This rather narrow way of measuring social cohesion presupposes a consensus concerning the concept which simply is not there in the broader literature. Nor is it clear why these indicators are used rather than for reasons of data availability.

Third, and in relation to the previous point, all three studies treat social cohesion as a one-dimensional concept, even though much of the existing literature accounted for above suggests that this not the case. These caveats make it difficult to readily assess the findings concerning the link between social co-

hesion and economic reform. In the following sections we shall try to overcome these problems.

3 Analyzing social cohesion

We will undertake our analysis of social cohesion in two steps. First, instead of stipulating a unique definition of the concept, we adopt a pluralistic approach where we try to capture as many as possible of the meanings of social cohesion suggested in the previous literature. Chan et al (2006, p.280) argue that it is important to strive for minimality in scope when defining social cohesion. While sensible to this view, we wish to let the data decide what should be the minimum scope. We do so by undertaking principal-component factor analysis (PCF) on panel data, including a variety of different indicators that have been used in the previous literature[1]. In the next step, we study to which extent social cohesion, using the components of the concept obtained from the PCF, affects a country's capability of reforms.

If social cohesion is a coherent one-dimensional concept, as the previous authors investigating its relationship with reforms suggest, we would expect to find highly correlated variables that compose one single factor in the PCF. As indicated in a previous section, however, it has been suggested that social cohesion consists of several dimensions or regimes (see e.g. Dimeglio et al. 2012). If true, we would expect to find several independent factors that together can be argued to form a coherent concept of social cohesion.

3.1 Data and indicators

In the PCF we try to include as many of the variables as possible that have been used in the previous literature, as attested by table 1. The vast majority of the variables concern values and beliefs, but also societal and economical indicators. The data used in this part of the empirical analysis are hence drawn from several different databases.

Data regarding individuals' attitudes are drawn from a combined database of the World Values Surveys (WVS) and European Values Surveys (EVS) (World Value Survey Association 2009). The WVS/EVS-database is a large-scale, cross-national and longitudinal survey research program with a global scope. The database consists of five waves of surveys, conducted between 1981 and

[1] Building on the PCF components, cluster analysis was employed to disentangle regimes of social cohesion. The result and the discussion are available in appendix A1.

2008. From these databases we gather the following measurements: interpersonal trust, tolerance, institutional trust (in parliament), fairness based on merit or merit (in contrast to equality), economic equality versus inequality, national pride, political discussions, political demonstrations, quality of life, gender equality, traditional versus rational-secular values and survival versus self-expression values.

Due to limited availability in the WVS/EVS database, civic participation and political participation has been excluded from the analysis. We do not include the variables sense of belonging and social hierarchy in the factor analysis presented below since they did not have any substantial effect on the results. We furthermore choose not to include measures of wage regulation, employment protection, and size of the welfare state. The reason is that they will enter into the left hand side in the regression analysis in section 4. We do however choose to include a quality of life measurement, even though this also can be seen as an outcome variable. This is motivated by Sagiv and Schwartz' (2000) emphasis on the fact that a congruence between people's values and societal value system affects well-being, indicating that quality of life can serve as an indirect measure of social cohesion.

Data on the homicide rate (defined as murders per 100 000 citizens) is taken from the United Nations Office on Drugs and Crime's homicide statistics (2012). The variable measuring average years of schooling are from the International Human Development Indicators, produced by UNDP. The Gini-coefficient comes from the UN University's World Income Inequality Database. The measure of ethnic fractionalization and the measure of democracy (Freedom House / Imputed Polity) comes from the Quality of Government database.

The final sample used in the PCF includes information on 30 813 individuals for 40 countries worldwide, where a majority (60 %) are members of the OECD (see table A.2.1 in the appendix). For a full overview of the variables employed, see table A.2.7 in the appendix.

3.2 Dimensions of social cohesion

PCF reduces the dimensionality of a data set with a large number of interrelated variables, with a minimum of information loss (Jolliffe 2002). The method makes it possible to acquire the most important information from the data set while compressing the data and making it easier to describe. PCF produces a minimum number of orthogonal principal components explaining a maximum amount of the variance in the indicators. Components with an eigen-

value equal to or greater than 1 are retained. The components are rotated to make interpretation easier (Abdi and Williams, 2010).

Results from the rotated PCF are available in table 3. The analysis generates five factor dimensions which in total explain 53.7% of the variation in the data. This effectively excludes the possibility of social cohesion being a one-dimensional concept. We have interpreted and named the factors according to their loadings. In order of explanatory power they are: social divisions, modern values, traditional nationalism, institutional commitment, and fairness as merit. In general the pattern that emerges from the PCF differs from what has been suggested in previous studies. There are however common features between our dimensions and theoretical and empirical construct suggested in the past.

The first factor, which we label social divisions, explains 15% of the variance in the data and has high loadings on three indicators: homicide rate, gini-coefficient, and ethnic fractionalization. These indicators are indirect measures of individuals' attitudes, but even so should be relevant proxies for social divisions. The emphasis on these indicators puts the factor in the intersection between the inequality goal-dimension of Berger-Schmitt (2002) and the social order/social control dimension of Kearns and Forrest (2000). It should be noted that the three studies that previously investigated the link between social cohesion and economic reforms concerned themselves solely with measures with high loadings in this dimension.

The second factor explains 11.5% of the variance and has high loadings on social trust, tolerance, gender equality, life satisfaction, and self-expression values. We label this a modern values factor. These indicators all have to do with post-materialist values that are thought to be essential for stable democratic institutions (Inglehart 2000) and typically appear in economically advanced societies (Inglehart and Baker 2000). The factor overlaps several of the suggested dimensions in the previous literature, such as Berger-Schmitt (2002)'s social capital goal-dimension, Chan et al. (2006)'s horizontal dimension and Jenson (1998)'s belonging/isolation dimension. This modern values furthermore somewhat resembles Durkheim (1883)'s organic solidarity, based on interdependence created by division of labor. It does not, however, readily fit into any of the previous dimensions, but rather constitutes a more precise conception of social solidarity or cohesion based on modern values. It is not any kind of "horizontal solidarity" in a society, but one based on tolerance, gender equality, and self-expression. The correlation between real GDP and country/wave average scores on modern values is high (r=0.67). This suggests an empirical connection

between modern values and economic development.

The third factor, which we label traditional nationalism, explains 11.3% of the variance and has a high positive loading on national pride, and a high negative loading on the traditional vs secular variable (which entails an emphasis on family and religious values, and respect for authority). While the modern values dimension resembles Durkheim's (1983) organic solidarity, the traditional nationalism somewhat resembles Durkheim's mechanical solidarity. These attributes are said to be most common in preindustrial societies, and coupled with a lack of political engagement (Inglehart and Baker 2000). The low loadings on political discussions, political demonstrations, and gender equality, combined with a positive score on institutional trust, reaffirm this view. Yet in our sample, the connection to economic development is absent (r=-0.03). This suggests that traditional values can be considerably resilient to the influence of economic development and other mass cultural changes. There is hence no reason why modern and traditional values cannot co-exist in a society, as argued by Huntington (1971).

The fourth factor explains 8.3% of the variance. It contains high loadings on institutional trust, political discussions and political demonstrations. We call this factor institutional commitment. It captures a more vertical dimension of social cohesion, but also has connections to the emphasis of participation in Janmaat (2011), Dimeglio et al (2012) and Jenson (1998) as well as the political dimension in several of the previous studies. It is interesting to note, however, that individuals do not just engage in the political sphere, but also trust the institutions, and therefore quite likely agree with the general political framework of society, much in line with Chan et al (2006)'s vertical dimension of citizen-state relations. This contrasts Janmaat (2011)'s finding of a negative relation between participation and trust in parliament.

The fifth factor, which we label fairness as merit, accounts for 7.7% of the variance. The factor captures attitudes about distributional justice, i.e. whether rewards should be based on merit or performance and an acceptance of larger income inequalities, in contrast to fairness as equality, with the attitude that incomes and rewards should be more equally distributed (Aristotle 1981; Rawls 1972; Barry 1981). High loadings on the variables fairness as merit may be incorporated under the horizontal dimension of Chan et al (2006)'s framework. However, one should emphasize that this dimension is distinct from modern values and traditional nationalism.

Table 3: Principal-component factor analysis

Factor analysis/correlation — Number of obs = 30813
Method: principal-component factors — Retained factors = 5
Rotation: orthogonal varimax (Kaiser off) — Number of params = 70

Factor	Variance	Difference	Proportion	Cumulative
Social divisions	2.39844	0.55819	0.1499	0.1499
Modern values	1.84026	0.03779	0.1150	0.2649
Traditional nationalism	1.80246	0.47801	0.1127	0.3776
Institutional commitment	1.32446	0.09998	0.0828	0.4604
Fairness as merit	1.22447	.	0.0765	0.5369

LR test: independent vs saturated: chi2(120) = 8.5e+04 Prob > chi2 = 0.0000

Variable\Factor	Social divisions	Modern values	Traditional nationalism	Institutional commitment	Fairness as merit	Uniqueness
Interpersonal trust	-0.197	0.4338	0.0291	0.3554	-0.0351	0.6447
Tolerance	-0.0074	0.5868	-0.1737	-0.1513	-0.2541	0.538
Confidence in inst. (parliament)	-0.0246	-0.0587	0.2888	0.5906	-0.2576	0.4973
Fairness (merit/equality)	-0.0851	-0.0528	-0.0373	0.0689	0.667	0.5389
Econ. equality vs inequality	0.067	0.056	0.0236	-0.0427	0.7007	0.499
National pride	0.0914	0.163	0.7708	0.0504	-0.0196	0.368
Political discussions	0.0291	0.0469	-0.1452	0.6046	0.2563	0.5447
Political demonstrations	-0.022	0.2376	-0.309	0.5505	0.0424	0.5427
Quality of life	-0.1692	0.5316	0.3913	-0.1955	0.0871	0.4898
Homicide rate	0.8486	-0.1045	0.0466	0.0576	-0.0445	0.2615
Gini-coefficient	0.846	-0.105	0.1589	-0.0932	-0.0114	0.2392
Ethnic fractionalization	0.7932	0.0526	0.0963	0.0135	0.0672	0.3541
Years of schooling	-0.366	0.1195	-0.0877	0.1948	0.2492	0.744
Gender equality	0.0937	0.5301	-0.299	-0.0856	0.0956	0.6043
Traditional vs rational/secular	-0.2828	0.0036	-0.7986	0.0776	-0.0003	0.2762
Survival vs self-expression values	-0.1454	0.7813	0.2252	0.217	0.0554	0.2675
Explained variance	15%	11.50%	11.30%	8.30%	7.70%	53.7 %

4 Social Cohesion and Economic reform

4.1 Definition of economic reform and descriptive statistics

We now turn to the question of how social cohesion, or rather the dimensions of the concept obtained in the analysis above, affect a country's capability of reforms. As mentioned, previous literature on the reform link has concerned itself solely with indicators pertaining to the social divisions dimension. Along with the realization that social cohesion is a multidimensional concept, however, comes the need for new analysis.

To study this question we include the five dimensions in a regression analysis framework, where we use changes in the Economic Freedom of the World Index (EFW), jointly published by Fraser and Cato Institute, as a proxy for reforms of economic institutions. EFW is a comprehensive measure for institutional quality with respect to a functioning market economy. It is the unweighted average of five components, reflecting a country's institutional quality with respect to size of government, legal structure and security of property rights, access to sound money, freedom to trade internationally, and regulation of credit, labor, and business. These five components are in turn constructed from several subcomponents, in total 42 in recent editions. EFW is normalized on a scale from 0 to 10, where higher values reflect better institutional quality. Today, the index has data points for every five years from 1970 to 2000, and annual data 2001-2009. The most recent editions cover 141 countries. Most countries do however not have time series stretching all the way back; only 54 countries have index-values in 1970.

The evidence points to a positive effect from institutional quality, as quantified by EFW, on important variables such as wealth and economic growth (Berggren, 2003; Doucouliagos och Ulubasoglu, 2006) and that institutional change in a free-market direction stimulates economic growth (de Haan et al. 2006). An increase in EFW can thus be interpreted as an institutional change in a free-market direction, while a decrease is an institutional change in the opposite direction (Pitlik, 2011).

Table 4 shows descriptive statistics for EFW 1980-2009. While the mean has steadily increased since 1980, the standard deviation increased until 1995 after which it has declined.

Table 4: EFW descriptive statistics

year	mean	max	min	sd	N
1980	6.19	8.03	4.27	1.02	28
1985	6.02	8.18	3.11	1.27	30
1990	6.37	8.43	4.00	1.34	31
1995	6.38	8.64	3.72	1.26	39
2000	6.88	8.45	4.70	0.89	39
2005	7.12	8.37	4.74	0.73	39
2009	6.98	8.15	4.23	0.71	39
Total	6.61	8.64	3.11	1.10	245

4.2 Regressions

To investigate whether social cohesion really promotes reforms and assess the importance of the five dimensions, controlling for the crises hypothesis, we begin by a baseline regression specification of the type,

$$\triangle efw_{i,t} = \alpha_0 + \alpha_1 SC_{i,t-1} + \alpha_2 X_{i,t-1} + \varepsilon_{i,t}, \tag{1}$$

where $\triangle efw_{i,t}$ is our proxy for economic reform, measured as a change in EFW from one time-period to another. $SC_{i,t-1}$is a variable vector containing each of the five dimensions of social cohesion; $X_{i,t-1}$is a vector of control variables (GDP-level and GDP-growth from Penn World Table-database (Heston et al. 2012), EFW-level which enters to account for catching up in economic policy reform and for policy persistence effects, and a dummy indicating whether the country experienced an economic crisis, gathered from Leaven and Valencia 2012); $\varepsilon_{i,t}$ is an error term; α_0 is a constant term, while α_1 and α_2 are parameter vectors. All explanatory variables are lagged one period to mitigate problems of reverse causality.

The error term

$$\varepsilon_{i,t} = \theta_i + \mu_t + \eta_{i,t} \tag{2}$$

is composed of a unit and a time fixed effect to account for unobserved heterogeneity, as well as an i.i.d. error term. The most popular way to account for unit fixed effects is a simple within group-transformation. This procedure however makes it difficult to estimate the impact of (almost) time-invariant variables. Moreover, the inclusion of a lagged dependent variable in the presence of unit fixed effects causes an endogeneity bias in short panels (Nickell 1981). An alternative to fixed effects is the System GMM-estimator developed by Blundell

and Bond (1998) that deals with these problems by employing instrumental variables, but since we have so few observations this was not a suitable option[2]. We therefore employ fixed effects.

Results are available in table 5.[3] The baseline fixed effects model is in column I. In column II we undertake a probit estimation where the dependent variable takes the value 1 if there has been a significant positive change in the EFW, 0 otherwise. Finally, in columns III-VII we again use fixed effects, but in turn replace each of the five dimensions of social cohesions with dummy variables (SCvarQ2-SCvarQ4), that take the value 1 if the level of social cohesion is in a certain quartile, 0 otherwise. We do this in order to see if there are any significant non-linearities at play.

We see that EFW-level always has the expected negative sign (suggesting that countries with less economic freedom reform their economies faster).[4]The crisis variable meanwhile always has a negative effect on reforms when significant, which is in contrast to the crisis hypothesis. Furthermore, we see that social divisions has a positive effect when statistically significant, suggesting that in a society with greater social divisions it should actually be easier to undertake reforms. This result is in contrast to the previous literature on the reform link, i.e. the research of Ritzen et al. (2000), Easterly et al. (2006) and Heller (2009), where social divisions (measured by income inequality and ethnic

[2]We did however choose to undertake System-GMM and pooled OLS regressions on the baseline model. The results are available in table A.2.3 in the appendix. They do not differ substantially from the results presented in table 5.

[3]In table 5 we use the unweighted EFW-index, which is a composed measure of the averages of the sub-indexes of the EFW. To account for this weakness in the depedent variable we run a principal component factor analysis on the five sub-indexes, generating two factors. The first factor loads heavily on area 2-5 of the EFW (i.e on legal and property, sound money, trade and regulation) wheras the second loads heavily on area 1 (government). Factor scores, normalized on a 0-10 scale, were used as dependent variables in regressions. The empirical results from table 5 are essentially confirmed, nevertheless Fairness as merit seems to have a stronger effect on the first factor and Social divisions seems to have a stronger effect on the second. The results are available in table A.2.5 and A.2.6 in the appendix.

[4] Nevertheless, the EFW-level coefficient has a value close to one in equations (i), (iii), (vi), and (vii), suggesting that we may have a unit-root problem. Our panel is too small for a standard unit root test to be reliable, and we therefore employ the Fisher-type test developed by Maddala and Wu (1999) and Choi (2001). Based on the p-values of individual unit root tests, Fisher's test assumes that all series are non-stationary under the null hypothesis against the alternative that at least one series in the panel is stationary. The results show that when we employ the Fisher test to the fraser economic freedom index variable we can reject the null-hypothesis that all panels contains unit roots. The results from the test are availble in table A.2.4 in the appendix.

fractionalization) are shown to have a profound and negative effect on institutional quality and maturity. Modern values is never statistically significant, while traditional nationalism has a positive effect in the case probit specification. The effect from institutional commitment is also positive when significant. Fairness as merit, meanwhile, has a positive effect on reform capacity when significant, suggesting that countries with a more merit based view of fairness have an easier time undertaking reforms. The dummy variables (columns III-VII) are generally insignificant, suggesting that the importance of non-linearities is very modest. The interaction effects of each of the five dimensions (columns III-VII) suggest that none has much of an effect of making reforms in terms of crisis.

In summary, the results go against the previous literature, challenging the prevailing view of social cohesion as being unambiguously beneficial to economic reform. Most notably, fairness as merit is found to have a positive effect. This is surprising, as it contrasts the egalitarian view of social cohesion suggested by many authors. The social divisions dimension, which encompasses all the indicators of social cohesion used in the previous literature on the reform link, is shown to have either a non-existent or a positive effect on economic reforms.

Table 5: Regression results

	FE	Probit			FE		
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)
Interaction variable			social divisions	modern values	traditional nationalism	institutional commitment	fairness as merit
Freedom House / Polity (Imputed)	0.0515	0.149	0.02	-0.128	-0.0887	0.14	-0.0446
	(0.0659)	-0.192	-0.102	-0.104	-0.145	-0.219	-0.0896
EFW	-0.922***	-2.733***	-1.061***	-0.566	-0.681**	-1.081***	-1.131***
	(0.165)	-0.842	-0.258	-0.457	-0.262	-0.305	-0.214
Crisis	-0.570***	0.211	-0.625**	0.22	-0.412	0.139	-0.615*
	(0.142)	-0.707	-0.287	-0.322	-0.364	-0.422	-0.342
LogRGDP	5.688	1.135**	0.337	-0.0793	0.217	0.853	0.349
	(3.637)	-0.491	-0.679	-0.733	-0.974	-0.7	-0.538
5 year avg. RGDP growth	5.688	21.96*	5.681	7.499*	4.928	3.504	5.78
	(3.637)	-11.29	-4.273	-3.917	-4.581	-6.171	-4.065
Social divisions	1.369**	0.833***	-0.38		-1.137	-1.609*	-0.648
	(0.587)	-0.26	-0.772		-0.769	-0.843	-0.408
Modern values	-0.771	-0.473	1.757***	0.429		1.244***	1.138*
	(0.478)	-0.767	-0.478	-0.835		-0.335	-0.594
Traditional nationalism	0.599	1.701**	1.760**	0.049	0.596		0.896
	(0.427)	-0.76	-0.686	-1.235	-0.851		-0.583
Institutional commitment	0.552	0.295	0.624	1.144	0.433	1.358***	
	(0.542)	-0.775	-0.512	-0.74	-0.403	-0.476	
Fairness as merit	0.813**	1.899**		0.875	0.783	1.049	1.128*
	(0.361)	-0.931		-0.79	-1.035	-0.786	-0.642
SCvarQ2			0.0434	-0.98	-0.368	0.729	0.496**
			-0.216	-0.778	-0.382	-0.627	-0.197
SCvarQ3			0.0366	-0.231	-0.241	0.546	0.476**
			-0.134	-0.421	-0.336	-0.721	-0.189
SCvarQ4			-0.399	-0.882		0.556	1.193***
			-0.675	-0.543		-0.806	-0.323
Crisis* SCvarQ2			0.388	0.293	0.0835	-0.983**	-0.135
			-0.437	-0.685	-0.602	-0.399	-0.496
Crisis* SCvarQ3			-1.365**	-0.119	0.234	-1.060***	0.0893
			-0.65	-0.372	-0.554	-0.325	-0.479
Crisis* SCvarQ4			-0.349	-0.938***	-0.895	-0.196	0.291
			-0.549	-0.311	-1.01	-0.39	-0.4
Constant	-0.353	-16.41	-1.384	-0.831	-0.925	-5.313	-0.866
	(4.536)	-10.74	-4.775	-6.642	-5.497	-5.49	-4.807
Observations	61	61	61	61	61	61	61
R-squared	0.750	0.6693	0.817	0.829	0.753	0.844	0.853
Prob>chi2		0.000					
Number of countries	38	38	38	38	38	38	38

5 Discussion and conclusions

The purpose of the paper was to investigate whether social cohesion really promotes reforms. We did this in two steps. First, we investigated whether social cohesion is a coherent concept by using a principal-component factor (PCF) analysis covering 16 indicators used to measure social cohesion in the previous literature for 40 different countries. The results suggested that in fact social cohesion is a multidimensional concept, consisting of no less than five orthogonal components or distinct dimensions, which we labeled social divisions, modern values, traditional nationalism, institutional commitment, and fairness as merit.

In the next step, we studied to which extent social cohesion, or rather the components of the concept obtained from the PCF, affects a country's capability of reforms. We did so by regressing economic reforms, quantified as a five-year change in the Economic Freedom of the World Index, on each of the five dimensions, separately, in a panel spanning 1990-2009. We also regressed economic reforms quantified as a five-year change in two weighted EFW-indexes obtained from PCF. Our results indicated that, in fact, most dimensions of social cohesion do not influence the occurrence of reforms. However, fairness as merit, in contrast to equality, was shown to have a positive effect on economic reforms. Moreover, a certain degree of social divisions actually seems helpful helpful in handling a crisis.

The results go against the previous literature, challenging the prevailing view of social cohesion as a facilitator of reforms. One way of interpreting these somewhat surprising results is to consider social cohesion perhaps as a double-edged sword, and especially so when it comes to economic reforms in a efficiency-enhancing free-market direction.

If indeed social cohesion, according to many of the previously used definitions in the literature, in a given society is strong, then most likely the status quo and the barriers to reform are equally strong. In a society where people "stick together", characterized by strong solidarity within its social community, to use Durkheim's expression, established interests and cognitive biases may block beneficial changes of the existing institutions. From this perspective, social cohesion does not really promote reforms at all. It is rather part of the problem that many societies, not the least in some present-day European countries, face. If the values in a country - whether modern or more traditionally nationalistic - are committed to the existing institutions, then why would they

favor institutional change? If this is so, social cohesion should be considered a barrier to reform.

However, if social cohesion is instead based on an understanding of fairness as merit, supporting incentives, the value and reward of hard work and achievement, and also an acceptance of the resulting income inequalities, then indeed it is beneficial to efficiency-enhancing reforms. Moverover, the existence of social divisions may indeed work as triggers for reform, rather than the opposite. Consequentially, issues of fairness should be more readily addressed when undertaking economic reforms, rather than social cohesion in general. This is the major lesson of this paper to policy makers wanting to promote the social acceptance of reforms aimed at enhancing growth and competitiveness.

A Appendix

A.1 Regimes of social cohesion

To get a better empirical understanding of the country and time specific patterns of the factors obtained above we use a hierarchical cluster analysis. Hence we identify homogenous groups of observations country-wave, with as much within-group similarity as possible combined with as much between-group dissimilarity as possible (Gatignon 2010. p. 295). This is done by generating average scores on each dimension of social cohesion, for each country and WVS-wave. To make comparisons easier, the factor scores are normalized to a [0, 1] scale. This leaves us with 67 unique observations for 40 countries.

The result is presented in table A.1.1, where we see that it generates seven groups or different regimes of social cohesion. The countries belonging to each cluster are presented in table A.2.2 in the appendix. Two groups consist of observations from one single country, India and South Africa. The other groups are named after some common characteristic.

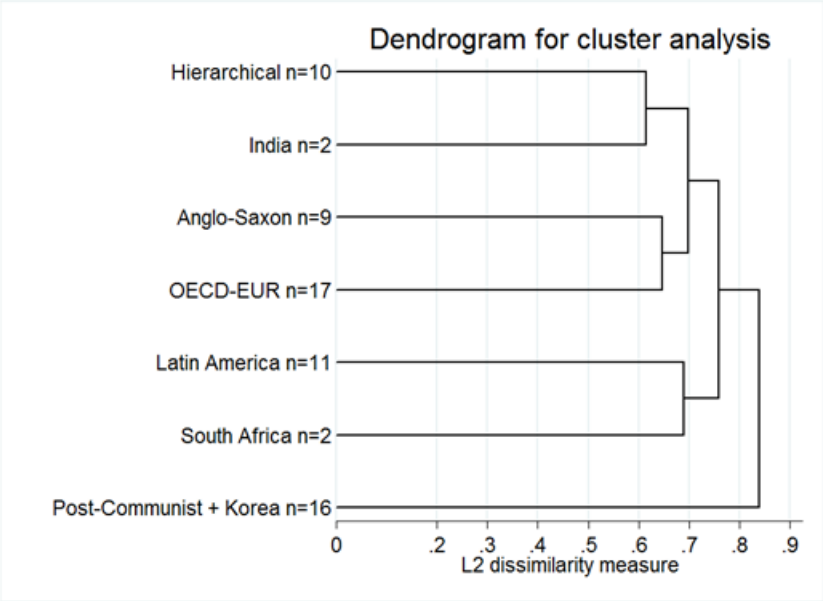
Table A.1.1: Regimes of social cohesion

Cluster groups	Share of sample	Social divisions	Modern values	Traditional nationalism	Institutional commitment	Fairness as merit
Anglo-Saxon	13.4 %	0.2 (0.11)	0.9 (0.09)	0.7 (0.17)	0.7 (0.09)	0.8 (0.14)
EUR-OECD	25.4 %	0.1 (0.09)	0.8 (0.14)	0.4 (0.12)	0.5 (0.12)	0.4 (0.12)
Latin America	16.4 %	0.5 (0.14)	0.6 (0.12)	0.7 (0.09)	0.3 (0.13)	0.5 (0.19)
Post-com + Korea	23.9 %	0.3 (0.13)	0.3 (0.17)	0.2 (0.11)	0.7 (0.08)	0.8 (0.09)
Hierarchical	14.9 %	0.1 (0.11)	0.3 (0.1)	0.6 (0.18)	0.7 (0.18)	0.5 (0.1)
India	3.0 %	0.4 (0.00)	0.4 (0.01)	0.8 (0.05)	0.7 (0.10)	0.1 (0.10)
South Africa	3.0 %	0.9 (0.08)	0.6 (0.02)	0.7 (0.04)	0.7 (0.16)	0.4 (0.08)

The Anglo-Saxon cluster is composed solely of English speaking countries, with high values on institutional commitment and fairness as merit. Interestingly enough, they have the highest average score on modern values, while at the same time being highly traditional, demonstrating the ability of traditional values to survive modernization.

The EUR-OECD cluster is composed of European OECD member countries. They have low scores on social divisions, relatively low scores on traditional nationalism, institutional commitment and fairness as merit, and high scores on modern values.

The Latin American cluster is composed of countries from that region. They



X-axis measures Euclidean distance and indicates on what level of similarity two clusters could be merged into one. A higher x-value indicates lower similarity.

Figure A.1.1: Dendrogram of regimes of social cohesion

have the second highest average score on social divisions, fairly high scores on modern values and traditional nationalism. What stands out is their low score on institutional commitment, suggesting an environment characterized by distrust in parliament and political apathy.

The Post-communist group, with countries from the former Eastern Bloc (the exception is South Korea), stands out for its low scores on both modern values and traditional nationalism, while having high institutional commitment and high scores on fairness as merit.

The common features between the countries in what we label the hierarchical group are harder to distinguish. The group consists of countries from Central and Eastern Europe, Asia and one OECD country (Austria). It is however clear that they are fairly similar to one another as regards social divisions, modern values and concepts of fairness, as indicated by the relatively low standard deviations.

Figure 1 is a dendrogram showing how similar/dissimilar the groups are. We use an average linkage clustering technique, with Euclidean distance measure (Hesketh and Everitt, 2004. p. 271). The hierarchical and Indian cluster are the

most similar, joining each other at roughly 0.60. The Anglo-Saxon and EUR-OECD groups are similar at approximately 0.65, while Latin America and South Africa can be combined on a level just below 0.7. Again, the post-communist cluster sticks out. It is dissimilar with all other groups on a 0.83 level.

In our sample, former communist countries are present in both the Hierarchical cluster group and the Post-communist group. One could suspect that their common history would bring on cultural similarities. The dendrogram nonetheless points to key cultural differences. Schwartz and Bardi (1997) state that cultural adaptation to communism promotes conservative and hierarchical values, and argue that this effect was strongest in Eastern Europe (e.g. in Bulgaria, Georgia and Russia) where communism was more successful in penetrating the social system. This could perhaps explain why all eastern european countries except the Czech Republic are found in the hierarchical group. Nevertheless, the average score on traditional nationalism is higher in central Europe compared to East Europe, indicating that East Europe is less conservative, not more. Nevertheless, it is quite plausible that the adaptation of (or lack of) communist social values contribute to the inter-cluster divide, by crowding out (or failing to) previous value systems. Religious background could be important factor in this manner. Among the central European countries all but one (Albania has a Muslim majority) are historically catholic countries. In the East European countries, the Baltic countries are predominantly Catholic or Protestant Lutheran, while the others are Orthodox.

It should be noted that the regimes of social cohesion identified in our cluster analysis differ from the results in Green et al. (2009) who identifies a liberal, a social democratic, a social market, and an East Asian regime of social cohesion. While their liberal regime resembles our Anglo-Saxon cluster, we see no similar correspondance between our clusters and the rest of their regimes. As noted above one reason is probably that Green et al. (2009) confuse the discussion about social cohesion by using various measures of state involvement in the economy.

In summary then, our analysis of the variables usually employed to proxy for social cohesion reveals no less than five distinct dimensions of the concept, all of which can in one way or another be tied to various aspects of the theoretical constructs in the previous literature. These five dimensions can in turn be translated into at least five regimes of social cohesion (where the models differ in their emphasis on the five dimensions).

A.2 Tables

Table A.2.1: PCF sample

Observations by country in sample.

Country	Observations	share of sample	No of waves
Albania	569	0,02	2
Argentina	957	0,03	2
Australia	758	0,02	1
Austria	371	0,01	1
Belgium	634	0,02	1
Bulgaria	271	0,01	2
Brazil	371	0,01	1
Canada	1414	0,05	2
Chile	958	0,03	2
Czech Republic	731	0,02	2
Germany	422	0,01	1
Spain	1907	0,06	2
Estonia	339	0,01	2
Finland	675	0,02	3
France	1034	0,03	2
Guatemala	612	0,02	1
Croatia	225	0,01	1
Hungary	158	0,01	1
India	917	0,03	2
Ireland	603	0,02	1
Italy	1553	0,05	2
Japan	46	0	1
Korea	179	0,01	1
Lithuania	274	0,01	2
Latvia	219	0,01	1
Moldova	644	0,02	2
Mexico	891	0,03	2
Netherlands	735	0,02	2
Norway	330	0,01	1
New Zeeland	293	0,01	2
Peru	1363	0,04	2
Philippines	643	0,02	1
Poland	423	0,01	1
Russia	1701	0,06	3
Slovenia	431	0,01	2
Sweden	555	0,02	2
Ukraine	814	0,03	2
USA	2117	0,07	3
Venezuela	640	0,02	1
South Africa	3036	0,1	2
Total	30813	1	-

Table A.2.2: Cluster group members

Table - Cluster group members and time period

Anglo-Saxon	EUR-OECD	Latin America	Post-Com + Korea	Hierarchical	India	South Africa
Australia 1995	Belgium 2000	Argentina 1995	*Bulgaria 2000*	Albania 1995	India 1995	South Africa 1995
Canada 1990	Finland 1990	Argentina 2000	Czech Republic 1995	Albania 2000	India 2000	South Africa 2000
Canada 2000	Finland 1995	Brazil 1995	Czech Republic 2000	Austria 1990		
Ireland 1990	Finland 2000	Chile 1995	Estonia 1995	*Bulgaria 1995*		
New Zeeland 1995	France 1990	Chile 2000	Estonia 2000	Croatia 1995		
New Zeeland 2005	France 2000	Guatemala 2000	Korea 2000	Hungary 1995		
USA 1990	Germany 1995	Mexico 1995	Latvia 1995	Japan 1900		
USA 1995	Italy 1990	Mexico 2000	Lithuania 1995	Phillippines 2000		
USA 2000	Italy 2000	Peru 1995	Lithuania 2000	Poland 2000		
	Netherlands 1990	Peru 2000	Moldava 1995	*Slovenia 1995*		
	Netherlands 2000	Venezuela 1995	Moldava 2000			
	Norway 1990		Russia 1990			
	Slovenia 2000		Russia 1995			
	Spain 1990		Russia 2000			
	Spain 1995		Ukraine 1995			
	Sweden 1990		Ukraine 2000			
	Sweden 1995					

Note 1: 1990 refers to WVS/EVS conducted between 1990-1994, 1995 to 1995-1998, 2000 to 1999-2004 and 2005 to 2005-2009.

Note 2: Countries in cursive change cluster over time

Table A.2.3: Baseline regression results - OLS and GMM

	OLS	GMM
	(I)	(II)
ΔEFWt-1		-0.0284
		(0.0933)
Freedom House / Polity (Imputed)	-0.00921	-0.0976
	(0.0393)	(0.106)
EFW	-0.533***	-0.561***
	(0.0875)	(0.113)
Crisis	-0.266**	-0.331**
	(0.119)	(0.163)
LogRGDP	0.0383	0.0539
	(0.0993)	(0.124)
5 year avg. RGDP growth	1.536	3.539
	(2.219)	(4.548)
Social divisions	0.0133	-0.00753
	(0.0569)	(0.0812)
Modern values	0.133	0.290
	(0.149)	(0.229)
Traditional nationalism	0.0957	0.104
	(0.136)	(0.130)
Institutional commitment	0.282**	0.372**
	(0.131)	(0.157)
Fairness as merit	0.222*	0.205
	(0.115)	(0.135)
Year 1995 dummy		0.105
		(0.134)
Year 2000 dummy		0.112
		(0.0914)
Year 2005 dummy		-0.00607
		(0.150)
Constant	2.123	0.844
	(2.377)	(4.732)
Observations	61	56
R-squared	0.686	
Number of countries		37
Robust standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

Table A.2.4: Fisher unit-root test

Fisher-type unit-root test for **EFW**			
Based on augmented Dickey-Fuller tests			
H0: All panels contain unit roots		Number of panels	= **122**
Ha: At least one panel is stationary		Avg. number of periods	= **6.63**
AR parameter: **Panel-specific**		Asymptotics: **T -> Infinity**	
Panel means: **Included**			
Time trend: **Not Included**			
Drift term: **Not Included**		ADF regressions: **1** lag	
		Statistic	p-value
Inverse chi-squared(**244**)	P	**722.0967**	**0.0000**
Inverse normal	Z	**-6.6070**	**0.0000**
Inverse logit t(**544**)	L*	**-13.9174**	**0.0000**
Modified inv. chi-squared	Pm	**23.9058**	**0.0000**
P statistic requires number of panels to be finite.			
Other statistics are suitable for finite or infinte number of panels.			

Table A.2.5: Regression results - EFW factor 1

	FE	Probit			FE		
	(I)	(II)	(III)	(IV)	(V)	(VII)	(VIII)
Interaction variable			social divisions	modern values	traditional nationalism	institutional commitment	fairness as merit
Freedom House / Polity (Imputed)	0.129	0.337	0.109	-0.0933	-0.415**	0.166	0.0117
	(0.121)	(0.270)	(0.156)	(0.205)	(0.160)	(0.351)	(0.178)
EFW-Index1	-0.909***	-1.296***	-1.354***	-0.810**	-0.179	-0.993***	-1.153***
	(0.203)	(0.464)	(0.318)	(0.315)	(0.184)	(0.287)	(0.307)
Crisis	-0.798***	-0.0446	-0.721	-0.325	-0.411	-0.0242	-0.936**
	(0.219)	(0.691)	(0.445)	(0.291)	(0.548)	(0.606)	(0.448)
LogRGDP	-0.352	0.521	0.388	-0.577	-1.078	0.668	0.0946
	(0.986)	(0.399)	(0.915)	(0.988)	(1.264)	(0.952)	(1.139)
5 year avg. RGDP growth	9.044	-6.618	8.057	10.35	5.652	5.748	7.924
	(6.056)	(9.687)	(6.663)	(7.690)	(6.698)	(9.163)	(7.219)
Social Divisions	1.540*	0.154		1.533**	0.162	0.975	0.955
	(0.861)	(0.211)		(0.612)	(1.120)	(1.427)	(1.017)
Modern Values	-1.134	-0.0287	-0.557		-2.128***	-2.057	-1.049
	(0.677)	(0.911)	(1.158)		(0.663)	(1.698)	(0.705)
Traditional nationalism	0.501	0.824	2.248*	0.196		1.165*	1.247
	(0.638)	(0.770)	(1.113)	(1.001)		(0.639)	(1.051)
Institutional commitment	0.826	0.350	3.035**	0.381	1.698		1.281
	(0.925)	(0.745)	(1.367)	(1.679)	(1.268)		(1.008)
Fairness as merit	1.097**	0.807	0.572	1.634*	0.0223	1.628*	
	(0.477)	(0.762)	(0.716)	(0.940)	(0.457)	(0.858)	
SCvarQ2			0.102	-0.609	-0.942**	0.619	0.442
			(0.277)	(0.444)	(0.385)	(0.956)	(0.277)
SCvarQ3			-0.0509	0.285	-0.845***	0.442	0.810**
			(0.237)	(0.676)	(0.261)	(1.050)	(0.315)
SCvarQ4			-1.738	-0.985		0.546	1.778***
			(1.361)	(1.189)		(1.242)	(0.647)
Crisis*SCvarQ2			-0.154	0.550	0.636	-0.993*	0.244
			(0.589)	(0.851)	(0.920)	(0.564)	(0.620)
Crisis*SCvarQ3			-2.365**	0.145	0.461	-1.162***	0.0359
			(0.886)	(0.470)	(0.638)	(0.425)	(0.634)
Crisis*SCvarQ4			-1.244	-0.474	-3.698***	-0.0198	0.319
			(0.864)	(0.628)	(1.347)	(0.735)	(0.567)
Constant	0.0934	7.049	-2.646	2.396	10.34	-6.569	-1.172
	(9.578)	(10.32)	(10.47)	(13.64)	(7.548)	(10.92)	(11.45)
Observations	61	61	61	61	61	61	61
R-squared	0.711	0.584[a]	0.769	0.805	0.788	0.755	0.804
Prob>chi2		0.000					
Number of countries	38		38	38	38	38	38

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

[a]Pseudo R-squared

Table A.2.6: Regression results - EFW factor 2

	FE	Probit			FE		
	(I)	(II)	(III)	(IV)	(V)	(VII)	(VIII)
Interaction variable			social divisions	modern values	traditional nationalism	institutional commitment	fairness as merit
Freedom House / Polity (Imputed)	-0.573***	-0.308	-0.594***	-0.575***	-0.649**	-0.326	-0.646***
	(0.174)	(0.206)	(0.208)	(0.160)	(0.265)	(0.206)	(0.159)
EFW-Index2	-1.014***	-0.684***	-0.984***	-0.664*	-1.033***	-1.249***	-1.209***
	(0.164)	(0.214)	(0.222)	(0.393)	(0.229)	(0.178)	(0.0928)
Crisis	-0.643**	-1.926***	-1.131***	1.363	0.0558	1.058***	-0.448
	(0.275)	(0.608)	(0.279)	(0.982)	(0.537)	(0.373)	(0.639)
LogRGDP	4.048***	-1.078**	4.136**	4.269**	4.536**	5.414***	4.646***
	(1.443)	(0.470)	(1.574)	(1.884)	(2.007)	(1.281)	(1.066)
5 year avg. RGDP growth	-0.768	10.21	0.438	11.63	2.025	-4.210	5.077
	(6.525)	(11.88)	(8.507)	(8.106)	(8.816)	(5.817)	(4.008)
Social Divisions	3.099**	0.227		1.184	2.615	2.417*	3.505***
	(1.346)	(0.388)		(2.341)	(1.755)	(1.298)	(1.279)
Modern Values	0.802	0.258	1.464		1.309	-1.274	0.662
	(1.131)	(0.468)	(0.930)		(1.125)	(0.906)	(0.861)
Traditional nationalism	1.570	0.257	3.845***	2.994**		3.237***	2.899***
	(1.185)	(0.416)	(0.799)	(1.251)		(0.858)	(1.038)
Institutional commitment	0.296	1.152	2.005**	0.813	-0.440		1.154
	(0.733)	(0.775)	(0.762)	(1.221)	(0.977)		(0.887)
Fairness as merit	0.307	0.870	0.288	0.826	-0.491	2.022***	
	(0.749)	(0.678)	(0.690)	(1.061)	(0.836)	(0.493)	
SCvarQ2			-0.419	-1.783	-1.045	1.930***	1.345***
			(0.457)	(1.604)	(0.965)	(0.323)	(0.378)
SCvarQ3			-0.399	-1.036	-0.294	1.590**	-0.0203
			(0.468)	(0.768)	(1.012)	(0.620)	(0.537)
SCvarQ4			-0.533	-1.091		1.437**	0.713
			(1.395)	(0.886)		(0.607)	(0.603)
Crisis*SCvarQ2			1.607***	-1.094	-0.396	-2.623***	-1.904**
			(0.585)	(1.215)	(1.090)	(0.557)	(0.913)
Crisis*SCvarQ3			-2.466***	-1.175	-0.0628	-2.389***	0.538
			(0.517)	(1.545)	(1.137)	(0.492)	(0.911)
Crisis*SCvarQ4			0.600	-3.054***	0.118	-0.536	-0.0502
			(0.821)	(1.112)	(1.018)	(0.441)	(0.654)
Constant	-25.81**	5.607	-28.27**	-41.88***	-32.49**	-37.73***	-36.13***
	(12.06)	(11.34)	(12.80)	(11.27)	(12.07)	(11.48)	(6.851)
Observations	61	61	61	61	61	61	61
R-squared	0.764	0.347[a]	0.875	0.862	0.795	0.905	0.882
Prob>chi2		0.0025					
Number of countries	38	38	38	38	38	38	38

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

[a]Pseudo R-squared

Table A.2.7. Indicators and databases

Variable	Database	Name	Question and values[1]
Interpersonal trust	WVS/EVS	A165	Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? 0 - 'Can't be too careful' 1 - 'Most people can be trusted'
Tolerance	WVS/EVS	A124-A127, A129-A132, A141, A149, A150	Average value of classes of people mentioned: On this list are various groups of people. Could you please sort out any that you would not like to have as neighbours? People with a criminal record, people of different race, heavy drinkers, emotionally unstable people, immigrants/foreign workers, people who have aids, drug addicts, homosexuals, political extremists, left wing extremists, right wing extremists 0 - 'Mentioned' 1 - 'Not mentioned'
Confidence in inst. (parliament)	WVS/EVS	E075	I am going to name a number of organisations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? 1 - 'None at all' 2 - 'Not very much' 3 - 'Quite a lot' 4 - 'A great deal'

Table A.2.7 (continue)

Variable	Database	Name	Question and values[1]
Fairness (merit/equality)	WVS/EVS	C059	Imagine two secretaries, of the same, doing practically the same job. One finds out that the other earn considerably more than she does. The better paid secretary, however, is quicker, more efficient and more reliable at her job. In you opinion, is it fair or not fair that one secretary is paid more than the other? 0 - 'Not fair' 1 - 'Fair'
Econ: equality vs inequality	WVS/EVS	E035	Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 mean agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if you your views fall somewhere in between, you can choose any number in betweeen. Sentences: Incomes should be made more equal vs We need larger income differences as incentives 1 - 'Incomes should be made more equal' 2 - '2' 3 - '3' 4 - '4' 5 - '5' 6 - '6' 7 - '7' 8 - '8' 9 - '9' 10 - 'We need larger income differences as incentives'
National pride	WVS/EVS	G006	How proud are you to be [Nationality]? 1 - 'Not at all proud' 2 - 'Not very proud' 3 - 'Quite proud' 4 - 'Very proud'

Table A.2.7 (continue)

Variable	Database	Name	Question and values[1]
Political discussions	WVS/EVS	A062	When you get together with your friends, would you say you discuss political matters frequently, occasionally or never? 1 - 'Never' 2 - 'Occasionally' 3 - 'Frequently'
Political demonstrations	WVS/EVS	E027	Now I'd like you to look at this card. I'm going to read out some different forms of politcal action that people can take, and I'd like you to tell me, for each one, whether you have actually done any of these things, whether you might do it or would never, under any circumstances, do it: Attending lawful demonstrations 1 - 'Would never do' 2 - 'Might do' 3 - 'Have done'
Quality of life	WVS/EVS	A170	All things considered, how satisfied are you with your life as a whole these days? 1 - 'Dissatisfied' 2 - '2' 3 - '3' 4 - '4' 5 - '5' 6 - '6' 7 - '7' 8 - '8' 9 - '9' 10 - 'Satisfied'
Gender equality	WVS/EVS	C001	Do you agree with the following statements? When jobs are scarce, men should have more right to a job than women 1 - 'Agree' 2 - 'Disagree'

Table A.2.7 (continue)

Variable	Database	Name	Question and values[1]
Traditional vs rational/secular values	WVS/EVS	tradrat5	"Societies near the traditional pole emphasize the importance of parent-child ties and deference to authority, along with absolute standards and traditional family values, and reject divorce, abortion, euthanasia, and suicide. These societies have high levels of national pride, and a nationalistic outlook. Societies with secular-rational values have the opposite preferences on all of these topics. "
Survival vs self-expression values	WVS/EVS	survself	Societies near the survival pole focus on economic and physical security above all and societies on the self-expression pole emphasises subjective well-being, self-expression and the quality of life.
Homicide rate	UNODC Homicide Statistics		Homicide rate per 100 000 population
Gini-coefficient	UNU-WIDER World Income Inequality Database, version 2.0c May 2008		Gini-coefficient
Ethnic fractionalization	Quality of Government Database, version 8 June 2012	al_ethnic	Ethnic fractionalization reflects the probability that two randomly selected people from a given country will not belong to the same ethnolinguistic group. The higher the number, the more fractionalized society

Table A.2.7 (continue)

Variable	Database	Name	Question and values[1]
Freedom House / Polity (imputed)	Quality of Government Database, version 8 June 2012	fh_ipolity2	Index of democracy, combined of average scores from Freedom House and Polity (with imputed Polity values if missing). 1 - 'Least democratic' 2 - '2' 3 - '3' 4 - '4' 5 - '5' 6 - '6' 7 - '7' 8 - '8' 9 - '9' 10 - 'Most democratic
Average years of schooling	International Human Development Indicators		Mean years of schooling (of adults aged 25 and older)

[1] Our coding differ in some regards from the original coding. When needed the coding order has been reversed, such that higher values always reflect more of the variable name.

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The research leading to these results has received funding from the European Community's Seventh Framework Programme FP7/2007-2013 under grant agreement n° 290647.

Project Information

Welfare, Wealth and Work for Europe

A European research consortium is working on the analytical foundations for a socio-ecological transition

Abstract

Europe needs a change: The financial crisis has exposed long neglected deficiencies in the present growth path, most visibly in unemployment and public debt. At the same time Europe has to cope with new challenges ranging from globalisation and demographic shifts to new technologies and ecological challenges. Under the title of Welfare, Wealth and Work for Europe – WWWforEurope – a European research consortium is laying the analytical foundations for a new development strategy that enables a socio-ecological transition to high levels of employment, social inclusion, gender equity and environmental sustainability. The four year research project within the 7th Framework Programme funded by the European Commission started in April 2012. The consortium brings together researchers from 33 scientific institutions in 12 European countries and is coordinated by the Austrian Institute of Economic Research (WIFO). Project coordinator is Karl Aiginger, director of WIFO.

For details on WWWforEurope see: www.foreurope.eu

Contact for information

Kristin Smeral

WWWforEurope – Project Management Office

WIFO – Austrian Institute of Economic Research

Arsenal, Objekt 20

1030 Vienna

wwwforeurope-office@wifo.ac.at

T: +43 1 7982601 332

Domenico Rossetti di Valdalbero

DG Research and Innovation

European Commission

Domenico.Rossetti-di-Valdalbero@ec.europa.eu

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	ICLEI - Local Governments for Sustainability	ICLEI	Germany
	Institute of Economic Research Slovak Academy of Sciences	IER SAVBA	Slovakia
	Kiel Institute for the World Economy	IfW	Germany
	Institute for World Economics, RCERS, HAS	KRTK MTA	Hungary
	KU Leuven	KUL	Belgium
	Mendel University in Brno	MUAF	Czech Republic
	Austrian Institute for Regional Studies and Spatial Planning	OIR	Austria
	Policy Network	policy network	United Kingdom
	Ratio	Ratio	Sweden
	University of Surrey	SURREY	United Kingdom
	Vienna University of Technology	TU WIEN	Austria
	Universitat Autònoma de Barcelona	UAB	Spain
	Humboldt-Universität zu Berlin	UBER	Germany
	University of Economics in Bratislava	UEB	Slovakia
	Hasselt University	UHASSELT	Belgium
	Alpen-Adria-Universität Klagenfurt	UNI-KLU	Austria
	University of Dundee	UNIVDUN	United Kingdom
	Università Politecnica delle Marche	UNIVPM	Italy
	University of Birmingham	UOB	United Kingdom
	University of Pannonia	UP	Hungary
	Utrecht University	UU	Netherlands
	Vienna University of Economics and Business	WU	Austria
	Centre for European Economic Research	ZEW	Germany
	Coventry University	COVUNI	United Kingdom
	Ivory Tower	IVO	Sweden