

Niclas Berggren, Andreas Bergh and Christian Bjørnskov

Institutions, Policies and Growth in Europe: Quality versus Stability

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Preface

What triggers growth? How can the EU Member States ensure conditions that have a proven positive effect on growth? These questions are relevant, not least considering the recent financial and economic crisis which represents the deepest downturn in world economy since Second World War. How important are institutions – that is to say, formal rules and capacity to enforce those rules – for the economic performance of a country?

Although today we have access to an extensive body of research on the quality of institutions, the authors of this report add new insights by studying the effect of the stability of institutions on economic growth. The authors conclude that the quality of policy is growth promoting and increasing as policy instability increases. In other words, when the quality of institutions is high, there is a positive relation between economic growth and the flexibility of institutions. Inversely, the worst outcomes are associated with stable but poor institutions. This would suggest that the benefits of flexibility in the institutional framework outweigh the costs in terms of a loss of predictability for European countries.

By publishing this report, SIEPS hopes to increase the knowledge of the role institutions play for European Union Member States. To focus on improving rules and rule implementation is all the more important in light of the ongoing crisis.

Anna Stellingner
Head of Agency

SIEPS carries out multidisciplinary research in current European affairs. As an independent governmental agency, we connect academic analysis and policy-making at Swedish and European levels.

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Executive summary

We study the effects of institutions on economic growth in the EU-27 and seven other similar European countries plus Israel, which is as integrated in the European economy as most European countries. By institutions, we mean a broad set of formal rules and policies as well their enforcement. Previous studies have focused on the quality of such institutions: we do that as well but add their stability as a separate factor of potential importance. Stable institutions are in general considered to be desirable because of the predictability they entail for economic actors. However, there are reasons to think that institutional instability should not be eschewed too readily. First, any institutional change with positive long-run consequences necessarily implies a period of institutional adjustment. Second, fluctuations around high levels of institutional quality may be evidence of experimentation and learning, on the one hand, or destabilising rigid rent-seeking structures, on the other. Both may improve the working properties of the economy. Using principal factors analysis, we construct measures of institutional quality and instability from the political risk index of the International Country Risk Guide. Our analysis, employing panel data covering the period 1984–2009, suggests that the quality of policy (which encompasses government stability, favourable socioeconomic conditions, a strong investment climate and democratic accountability) is growth promoting and even increasing as policy instability increases. Even in a setting with unstable policy, further improvements, although entailing increased instability, are good for growth. By contrast, the growth effects of the instability of the legal framework seem to depend on its initial quality, with the worst outcomes associated with stable, poor institutions. We find no robust results for the social congruence dimension. Overall, the results suggest that for European countries, the benefits of flexibility in the institutional framework dominate the costs in terms of a loss of predictability.

1 Introduction

Europe has seen many institutional changes since the early 1980s – most spectacularly in the countries that transitioned from communism to market economies, but also, albeit to a lesser degree, in most other countries.¹ This is not limited to Europe: for example, across the OECD, governments are seeking to undertake structural reforms to strengthen economic growth (OECD, 2009). This brings to the forefront the important question of the effects of these institutional changes for economic growth. To study this issue, we conduct an empirical analysis in which we look at how two variables affect growth: the level of institutional quality, on the one hand, and institutional instability, on the other. The basic idea is that countries, in order to arrive at institutions that are more beneficial for growth, must endure a period of change and instability, the growth effects of which are largely unknown. It is not least important to document these effects, since the European Commission (2012) points out a need for continued institutional reforms. For example, the Commission suggests a need to change the rules and regulations facing European companies to facilitate their expansion and growth as well as to improve the quality, independence and efficiency of judicial systems.²

It is widely accepted that institutional quality is an important determinant of economic growth.³ As Rodrik *et al.* (2004) put it, ‘institutions rule,’ which implies that institutions are more important than other determinants of growth,

¹ We use the term ‘institution’ to denote the rules of the game (see further in section 2), and we broadly include, under this rubric, economic policies as well. We do this while recognising the conceptual difference between institutions and policies, since it is not always easy to make a clear distinction in practice. For example, while economic policies are the decisions made under the political rules of the game (i.e., institutions), these policies – such as taxes and regulations – also tend to function as legal-economic rules of the game (i.e., institutions) for economic decision-makers.

² We would like to point out that, for two reasons, our study is of limited relevance for an assessment of the financial crisis and the economic policy changes that have been undertaken in response. First, our data are almost exclusively from the pre-crisis period and second, we focus on institutional factors rather than standard macroeconomic policies.

³ For studies that indicate this to be the case, see, e.g., Knack and Keefer (1995), Keefer and Knack (1997), de Haan and Siermann (1998), Aron (2000), Henisz (2000), Berggren (2003), Claessens and Laeven (2003), Glaeser *et al.* (2004), Acemoglu and Johnson (2005), Acemoglu *et al.* (2005), Beck and Laeven (2006), Butkiewicz and Yanikkaya (2006), de Haan *et al.* (2006), Doucouliagos and Ulubasoglu (2006), Acemoglu and Robinson (2012) and Berggren *et al.* (2012).

such as geographical factors and education.⁴ The main reason to expect institutional quality to contribute to growth is that it entails productivity-enhancing incentives and decreased transaction costs through the reduced uncertainty of economic transactions (Kingston and Caballero, 2009). As North (1990: 110) puts it: ‘Third World countries are poor because the institutional constraints define a set of payoffs to political/economic activity that does not encourage productive activity.’ The fact that Europe is relatively rich is arguably the result of high institutional quality for hundreds of years (North and Thomas, 1973); however, it bears noting that GDP per capita levels and growth rates differ substantially between European countries as well. We thus hypothesise that these differences are, to a large part, explainable by institutional factors.

But not only institutional quality levels matter. To improve institutional quality, a country must go through a series of institutional changes and thereby a period of institutional instability.⁵ While high-quality institutions are growth-enhancing because they reduce uncertainty and transaction costs, and entail incentives for productive behaviour, the growth effects of institutional change and instability are theoretically ambiguous. On the one hand, instability that entails change conducive to growth in the long run may come with transitional costs of a size that hampers growth in the short run. On the other hand, if the status quo is associated with what Olson (1982) calls ‘institutional sclerosis,’ institutional change as well as instability per se may also have positive effects on growth, by doing away with growth-hampering, rent-seeking structures.

We estimate the growth effects of both institutional quality and institutional instability.⁶ We analyse 35 countries over five five-year periods, from 1984 to 2009, and construct new measures of institutional quality and instability based on annual data from the political risk index derived from the International Country Risk Guide (ICRG). This index consists of 12 components. To

⁴ This is not to say that all types of institutions are equally conducive to growth or that human capital does not matter (Glaeser *et al.*, 2004; Acemoglu *et al.*, 2005).

⁵ For a survey of theories of institutional change with applications to the European setting, see H  ritier (2007).

⁶ To isolate the instability effect and to mitigate the problem of omitted variable bias, we control for the level and medium-run trend in institutional quality.

avoid testing partially correlated indices against each other and to alleviate the well-known problems of composite institutional indicators, we use so-called principal factors analysis (PFA) to construct three (technically speaking orthogonal) dimensions of institutional quality from these 12 components. These three indices are readily interpretable as social congruence (roughly measuring the state of agreement in society by combining measures of internal and external conflicts, religious and ethnic tensions and the use of military in politics), legal quality (capturing law and order, absence of corruption and bureaucratic quality) and policy quality (capturing the investment climate and socioeconomic conditions of the countries). Institutional instability is measured by an established measure of variability, the coefficient of variation (the standard deviation divided by the mean), in each of these dimensions of institutional quality within each five-year period.

There is a related literature that looks at the economic effects of political and policy instability. The former refers to the instability of the governments in power (i.e., how often they are replaced), while the latter refers to the instability of macroeconomic policy or certain macroeconomic variables. Previous studies that use measures of political instability generally find a negative relationship with investment or growth.⁷ Studies looking at policy instability likewise mostly find a negative relationship.⁸ The novelty of our approach, which we first explored in Berggren *et al.* (2012), rests on focusing on *institutions* rather than on macroeconomic or political instability, and investigating the concurrent growth effects of institutional quality and instability. Unlike our previous study, this one focuses on European countries.

Our main findings are that the quality of policy (which encompasses government stability, favourable socioeconomic conditions, a strong investment climate and democratic accountability) is growth promoting and

⁷ See, e.g., de Haan and Siermann (1996), Alesina *et al.* (1996), Hopenhayn and Muniagurria (1996), Pitlik (2002) and Aysan *et al.* (2007). However, Campos and Nugent (2002) fail to find a negative long-run effect on growth compared with de Haan and Siermann (1996), de Haan (2007) and Jong-A-Pin (2009), who among other things stress the need to take into account contextual factors and that different (types of) countries may not conform to the same linear model.

⁸ See, e.g., Aizenman and Marion (1993), Ramey and Ramey (1995), Brunetti and Weder (1998), Abdiweli (2001), De la Escosura and Sanz-Villaroya (2004), Chatterjee and Shukayev (2006), Daude and Stein (2007), Merlevede and Schoors (2007), Aisen and Veiga (2008) and Fatás and Mihov (2013).

that this effect is independent of policy instability. Even in a setting with unstable policy, further improvements, even if increasing instability, are good for growth. By contrast, the growth effects of the instability of the legal framework seem to depend on its initial quality. We find no robust results for the social congruence dimension. Overall, the results suggest that for European countries, the benefits of flexibility in institutional framework dominate the costs, in terms of the loss in predictability.⁹

In the next section, we present a theoretical discussion about the relationship between institutional quality and instability, on the one hand, and growth, on the other. We then describe our data used and empirical strategy. In section 4, we present our main results, and in section 5, we offer a concluding discussion.

⁹ As for the negative growth effects of changes that improve institutional quality, several other studies have found evidence that there are transition costs after reforms have been undertaken – see, e.g., Bailamoune-Lutz and Addison (2007), Méon *et al.* (2009) and Bjørnskov and Kurrild-Klitgaard (2013).

2 Theoretical considerations

Before embarking on an exploration of the overall theoretical possibilities, we first need a definition of institutions and a reason for why institutions may be of economic importance. We follow the work of Douglass North in both instances, first by defining institutions as “the rules of the game in a society or, more formally, ... the humanly devised constraints that shape human interaction” (North, 1990: 3) and second by referring to his outline of the importance of institutions (North, 1990: 6, 83–84):

The major role of institutions in a society is to reduce uncertainty by establishing a stable (but not necessarily efficient) structure to human interaction. The overall stability of an institutional framework makes complex exchange possible across both time and space. ... [T]his set of stability features in no way guarantees that the institutions relied upon are efficient, although stability may be a necessary condition for human interaction, it is certainly not a sufficient condition for efficiency.

Against this background, we define the quality of the institutional framework as the degree to which institutions reduce uncertainty for economic decision-makers and offer incentives for productive and innovative behaviour. Higher certainty implies lower transaction costs, which makes economic projects more profitable and hence more likely to be undertaken. By affecting the expectations of economic agents, it also allows agents to use a longer time horizon, through the stability that institutions provide. By offering incentives for productive behaviour, high-quality, or efficient, institutions stimulate individuals to engage in actions where the private return is close to the social return (Demsetz, 1967).¹⁰

Institutional quality is multidimensional, and therefore higher certainty and incentives for productive behaviour may arise on the basis of many institutional characteristics, not least those relating to the protection of private property rights. Some examples of such characteristics are generality (that equals are treated equally), transparency in public decision-making, accountability in public decision-making, stability and, importantly, an expectation that the main institutional decisions will be properly implemented and enforced. In such a setting, people are relatively more willing to engage in more advanced economic transactions, including interactions over longer periods of time and

¹⁰ A potential problem with the Northian perspective described above is that the distinction between institutions and policies is not always clear-cut. A similar problem would however arise using other theoretical approaches to institutions.

with more agents, as they can form a reasonable expectation that if instances of opportunism and cheating by others occur, the offenders will be punished and hence be less likely in the first place to engage in such treacherous behaviour.¹¹ Thus, by giving political and economic actors incentives to behave honestly and predictably, high-quality institutions help ensure that the consequences of economic undertakings are more easily foreseen and that incentives stimulate productive rather than unproductive behaviour (cf. Baumol, 1990).

As noted by North in the quote above, stability is not enough for efficiency. Institutional quality can be low but stable, and to improve institutional quality, institutions must be changed, causing at least some instability. While the growth effects of institutional quality seem clear cut, those of institutional instability are theoretically ambiguous. On the one hand, based on the reasoning above, we expect a negative effect from the mere fact that instability increases uncertainty, increases transaction costs and shortens the time horizon for producers, investors and innovators. Institutional quality entails stability for economic decision-makers, and institutional stability entails *stability in the institutional quality* that entails stability for economic decision-makers, thereby reinforcing the stability already expected to be conducive to growth. Thus, institutional instability, even when caused by institutional improvements, could entail transitional costs that lower growth in the short and medium run. Hence, a J-curve-like growth effect could arise from uncertainty in a period where confidence in institutional innovations is built.

On the other hand, we see several mechanisms through which institutional instability may affect growth rates positively. First, the possibility of institutional sclerosis described by Olson (1982) suggests that institutional instability may diminish the influence of interest groups through rent-seeking behaviour. Adam Smith (1776/1930: 130) notes that the '[p]eople of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.' Friedman (1962: ch. 8) remarks that this tendency of business interests to limit competition has often taken the form of influencing political decision-makers such that economic institutions are created that benefit certain companies and industries to the detriment of competition and innovation. Indeed, Coates *et al.* (2010, 2011) and Horgos and Zimmermann

¹¹ See Blanchard and Kremer (1997) and Rothstein (2000: 491–492).

(2009) provide recent evidence of this type of interest-group influence. Thus, institutional instability could be beneficial for growth by changing the balance of power, thereby preventing or removing Olsonian institutional sclerosis.

Second, Hayek (1973, 1978) and Knight and Johnson (2007) could be taken to suggest that regardless of the short-run effect of institutional instability, institutions are improved through a process of experimentation. Naturally, direct reforms are sometimes growth enhancing, but this presupposes knowledge about how particular reforms work. This knowledge may need to be produced in an institutional trial-and-error process. In other words, by noting that the economic environment continuously changes, such piecemeal experimentation could often reflect institutional adjustments that entail instability but that may result in higher institutional quality and, on net, higher growth rates, at least in the long run.

Thus, the theoretical link between institutional instability and growth is ambiguous: arguments based on uncertainty and transitional costs suggest a negative link. However, if institutional instability is connected to institutional change in a setting with institutional sclerosis à la Olson (1982) or to Hayekian experimentation, and especially if there are expectations of improvements in institutional quality in the end, the link may be positive.¹² To sum up, it is evident that an empirical test of the growth effects of institutional instability must allow for complexity in the findings. More specifically, it should acknowledge the multidimensionality of institutional quality and allow effects of instability to vary depending on the trend in institutional quality.¹³ With this caveat in mind, the next section describes how our empirical strategy aims to meet these challenges.

¹² Establishing theoretically that a relationship between instability or uncertainty, on one hand, and economic outcomes, on the other, is ambiguous is not new. For instance, Craine (1989) and Ferderer (1993) do this in the context of investment, while Ramey and Ramey (1995) do it in connecting macroeconomic fluctuations and growth.

¹³ The estimates we eventually arrive at will be averages and as such must be interpreted with care. For example, both Boeri *et al.* (2006) and Buti *et al.* (2009) find that, in a European setting, similar and well-intended reforms can generate contrasting outcomes in different countries. We regard case studies as a good complement to the cross-country analysis we conduct.

3 Data and empirical method

3.1 The dependent variable and control variables

Following Temple (1999: 131–132), we run panel regressions with time- and country-fixed effects and annual growth rates of real GDP per capita as the dependent variable, averaged over five-year periods. Simply put, this means we are estimating the effects of institutional instability on growth using variation within countries over time. The choice of estimator yields a set of conservative estimates that will likely pick up medium-run effects. However, given that the quality of legal institutions, in particular, changes only slowly over time, we may not identify all long-run effects (cf. Sobel and Coyne, 2011). There is no agreement on what control variables to include in growth regressions. We use a standard set including initial GDP, investment rate, openness (as measured by the trade share of GDP), government size and education (secondary-level completion among people above the age of 25).¹⁴ This full set of control variables is included in all regressions, even when not shown to save space. The exception is Table 6 (pages 34–35), in which we exclude investment rates and education. The reason is that plausible arguments exist for considering these factors to be transmission channels; institutional factors may affect investment volumes and the returns to education that, in turn, affect economic growth. If we observe that estimates of institutional factors change when excluding these two variables, we can interpret the differences as a reflection of the importance of these transmission mechanisms. If not, our institutional effects are more likely to work by affecting total factor productivity. Table 1 (page 15) describes the variables and data sources we use, while Table A1 in Appendix A (page 45) contains the descriptive statistics. In the next section, we describe our variables of interest, measuring institutional quality and instability.

¹⁴ On control variables in growth regressions, see, e.g., Sala-i-Martin (1997), Barro (1997), Durham (1999), Temple (1999), Bleary and Nishiyama (2002), Beugelsdijk *et al.* (2004), Sturm and de Haan (2005), Lorentzen *et al.* (2008) and Bergh and Karlsson (2010).

Table 1 Variable definitions

	<i>Definition</i>	<i>Source</i>
Growth rate	Five-year average growth in GDP per capita	Heston <i>et al.</i> (2012)
Log initial GDP	Logarithm of GDP per capita, initial in each five-year period, denoted in purchasing power adjusted to 2000 US dollars	Heston <i>et al.</i> (2012)
Openness	Export plus imports as a percentage of GDP	Heston <i>et al.</i> (2012)
Government share	Government expenditures net of all transfers, as a percentage of GDP	Heston <i>et al.</i> (2012)
Investment share	Investments as a percentage of GDP	Heston <i>et al.</i> (2012)
Secondary schooling	Secondary schooling completion rate for adults (above 25).	Barro and Lee (2013)
Legal quality	Institutional quality ‘legal quality’; PFA score, see section 3	Own, based on ICRG (2012)
Policy quality	Institutional quality ‘policy quality’; PFA score, see section 3	Own, based on ICRG (2012)
Social congruence	Institutional quality ‘social congruence’; PFA score, see section 3	Own, based on ICRG (2012)
CV X	Coefficient of variation across five-year periods of institutional measure X	Own, based on ICRG (2012)
Trend X	Categorical trend across five-year periods of institutional measure X	Own, based on ICRG (2012)

3.2 Variables of interest: institutional quality and institutional instability

Aron (2000: 115) stresses the importance of using institutional measures carefully, as many studies in the growth literature employ an ‘often-arbitrary aggregation of different components’ (cf. de Haan, 2007). We share this concern, and as described earlier, we use PFA in order to explore the dimensionality of institutional quality and thus minimise this problem. PFA is a statistical technique that can detect structure in data, thereby allowing researchers to reduce the number of variables by combining several variables

into one (hopefully) interpretable factor. PFA is therefore typically used to understand which constructs underlie the data.

To construct a measure of institutional quality and instability, we use ICRG (2012), which because of the rich availability of yearly data is the most useful measure of institutional quality to test the theory by means of panel-data analysis. The ICRG contains yearly data since 1984 for 34 European countries, namely the 27 member states of the European Union and seven other, economically similar European countries, in addition to which we add Israel. Hence, these data allow us to quantify instability using the coefficient of variation over time within five five-year periods; note that contrary to other alternative measures, this metric is scale-invariant.¹⁵ The full dataset from the ICRG consists of three dimensions, quantifying political risk, economic risk and financial risk. Because the latter two consist mainly of economic outcomes such as international GDP ranking, inflation, foreign debt and current account balance, we use the political risk index to construct measures of institutional quality.

Table 2 The components of the political risk index of the ICRG			
<i>Components</i>		<i>Components</i>	
A	Government stability	G	Military in politics
B	Socioeconomic conditions	H	Religious tensions
C	Investment profile	I	Law and order
D	Internal conflict	J	Ethnic tensions
E	External conflict	K	Democratic accountability
F	Corruption	L	Bureaucracy quality

¹⁵ The seven other countries are Albania, Croatia, Iceland, Macedonia, Norway, Switzerland and Turkey. The ICRG includes information on one additional European country – Serbia. However, due to missing national accounts data, we cannot include it in the sample.

The original ICRG political risk index is composed of the 12 components listed in Table 2 (page 16), aggregated with equal weights into a single index (for precise details, see Appendix B). Yet, aggregating different components without either substantial knowledge of their structures or very clear theoretical priors is inappropriate given the likely multidimensionality of institutional quality (Aron, 2000; Berggren *et al.*, 2012). The problem is that it is unlikely that all of the 12 components are equally associated with economic growth, or indeed with each other. Aggregating levels and instability would therefore likely cause estimates to be downwards biased such that a ‘true’ growth effect from institutional quality and instability in the aggregated index would not show what is driving the result.

As outlined in Berggren *et al.* (2012), the problems of aggregation can in principle be alleviated in two different ways: 1) by manually separating components into theoretically cohesive informed groups from which conceptually separate indices are formed and 2) by using an algorithm exploiting the observed statistical associations between primary indicators to form measures that are properly statistically separable. Solution 1) has the benefit of providing readily interpretable data, as they are based on the theoretical preconception of its author, yet may suffer from problems of statistical inseparability and a likely arbitrary weighting scheme. The accepted validity of the constitutive theoretical conception therefore is crucial when choosing this option, and the risk remains that the solution tempts the researcher to cherry-pick components that generate interesting results. Conversely, solution 2) can under general circumstances fail to provide meaningful index structures. We nevertheless choose solution 2) based on the knowledge that it yielded easily interpretable results in the much larger sample in Berggren *et al.* (2012).

To avoid either imposing a one-dimensional structure or forcing a specific quasi-theoretically informed structure with a potentially arbitrary dimensionality and weighting scheme on the data, we use PFA. By doing so, we maximise variation and avoid testing partially correlated indices against each other while forming a number of institutional indicators from the data structure of the 12 primary ICRG components. The results of the PFA are reported in Table 3 (page 18).

Table 3 PFA: loadings and uniqueness

	<i>Component loadings</i>			<i>Uniqueness</i>
	1 (‘congruence’)	2 (‘legal’)	3 (‘policy’)	
Government stability	0.183	0.165	0.589	0.526
Socioeconomic conditions	0.152	0.501	0.629	0.297
Investment profile	0.094	0.047	0.884	0.206
Internal conflict	0.823	0.223	0.189	0.232
External conflict	0.761	0.209	0.030	0.375
Corruption	0.321	0.764	-0.077	0.292
Military in politics	0.724	0.335	0.343	0.198
Religious tensions	0.642	0.201	0.095	0.489
Law and order	0.558	0.639	0.230	0.216
Ethnic tensions	0.694	0.278	0.041	0.394
Democratic accountability	0.321	0.454	0.532	0.303
Bureaucracy quality	0.225	0.767	0.387	0.193

Notes: Loadings in darker cells are referred to in the text as ‘heavy’ loadings, i.e. the major influences on the PFA scores. Loadings in white cells refer to indices with an intermediate influence. The component solution has been rotated using the Varimax technique.

The table shows that the 12 components of the political risk index do not load onto a single factor but split quite nicely into three underlying dimensions explaining more than 70% of the variation of the original data. We thus avoid one of the main problems of choosing solution 2). Reassuringly, the solution fits the data rather well.¹⁶

¹⁶ The Kaiser–Meyer–Olkin measure of sampling adequacy is 0.868, and a screen plot shows clear support for a solution with three factors: the third factor explains an additional 28.4% of the variation, while the fourth potential factor explains only 2.5%. Furthermore, we find that the choice of rotating factors with an orthogonal technique is innocuous, as an oblique rotation technique (not shown) yields qualitatively identical results.

The first dimension has a clear interpretation, as it includes all indices directly associated with social tensions, conflict and unrest (cf. Alesina and Perotti, 1996). As it is coded such that higher values entail less conflict, we denote it 'social congruence'.¹⁷ Likewise, the second dimension has high loadings on Socioeconomic conditions, Corruption, Law and order and Bureaucratic quality, and intermediate loadings on Democratic accountability and Military in politics. Thus, we denote this dimension a 'legal dimension' of institutional quality. Finally, the third dimension explains a substantial share of the variation and includes heavy loadings on countries' Government stability, Socioeconomic conditions, Investment profile and Democratic accountability, and an intermediate loading on Military in politics. We therefore interpret this dimension as an overall proxy for the quality of policy, in short a 'policy dimension.' While the factor solution does not entirely separate policy and institutional elements – Socioeconomic conditions and Democratic accountability load onto two dimensions – there is no practical reason why the distinction should be clear-cut. In particular, the design and effects of particular policies may crucially rest on the enforcement capacity of legal and bureaucratic institutions, which would tend to create the cross-dimensional loadings we observe in the data.

The three resulting indices are our measures of institutional quality, and we also use them to construct a set of measures of institutional instability, which we calculate as the coefficients of variation of the resulting principal factors within each five-year period. Through this, we also allow the heterogeneity of the instability inherent in the data to determine our indicators. In addition, we use a measure of the trend of institutional quality within each period.¹⁸

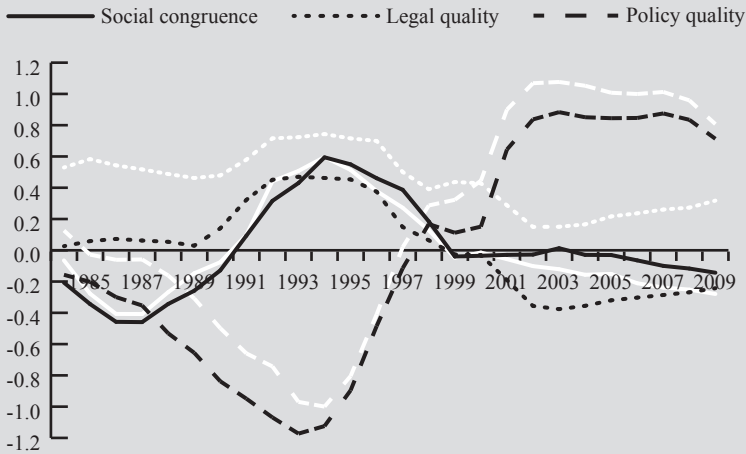
¹⁷ The three dimensions and their interpretation mimic that in Berggren *et al.* (2012). Note, however, that social congruence here is the first dimension, rather than legal quality, as was the case in Berggren *et al.* (2012). The reason is that our sample consists of more stable and rich countries, and thus there is less variation in legal quality compared with social congruence.

¹⁸ We base our trends measure on Kendall's Tau, a non-parametric trends measure calculated as the sum of changes between any points within a five-year period. We give the value of 1 to positive changes larger than a within-country standard deviation, -1 to negative changes of the same absolute values and 0 to all remaining small changes or stable measures. This measure has the additional benefit of making our estimates relatively insensitive to the particular choice of periods, as the measure is smaller if changes are distributed partially across two five-year periods; the measure is also insensitive to missing observations, including starting and ending points.

3.3 Some illustrations

Figure 1 (below) shows how our measures of institutional quality have developed over the period from 1984 to 2009. A substantial improvement in policy quality following the crisis of the early 1990s is clearly visible. We also see that there is very little average variation in legal quality over time. In particular, we observe how legal quality in European countries *without* a communist past, i.e. in the older members of the EU (represented by the grey lines), has in general been fluctuating only little around a very stable long-run level. We therefore note that it is unlikely that we can identify any ‘true’ long-run effect of this dimension of institutional quality in the present sample and empirical set-up.

Figure 1 European average institutional quality, 1984–2009



Notes: The black curves encompass the whole sample, while the white curves exclude post-communist transition countries.

The averages shown in Figure 1 mask interesting differences among countries, as illustrated in the following figures. Figure 2a (below) plots the development of social congruence, Figure 2b (overleaf) that of legal quality and Figure 2c (overleaf) that of policy quality for four quite dissimilar countries: Austria, Hungary, Italy and Turkey. Austrian institutions are among the most stable in the present sample, Italian legal and policy quality has been particularly unstable, as has Hungarian policy quality, while Turkish policy quality has tended to be quite stable.

These countries exemplify how quality and stability are only imperfectly associated: the largest correlation is between the quality and stability of social congruence ($r = -0.47$), with all other correlations between quality and stability well below that level. We therefore need to take into account the level, the medium-run trend of the quality of such institutions as well as its instability in order to get a full estimate of the institutional impact.

Figure 2a Social congruence 1984–2009, four examples

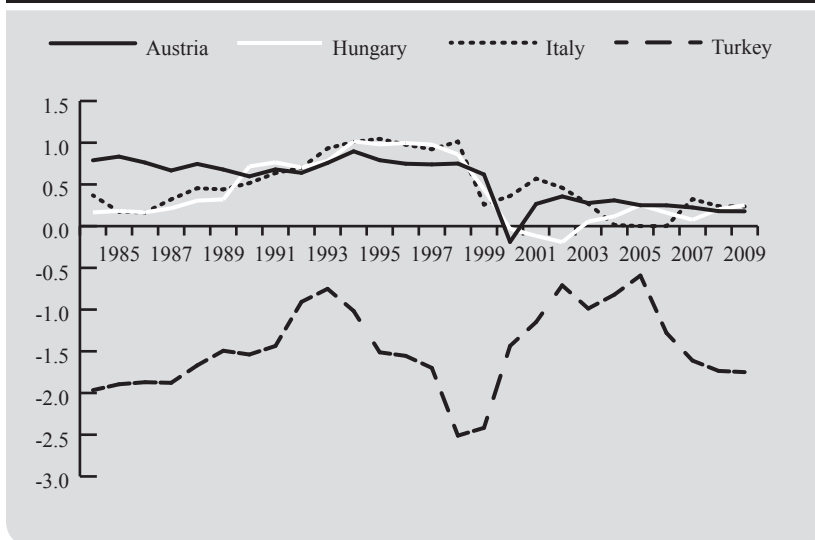


Figure 2b Legal quality 1984–2009, four examples

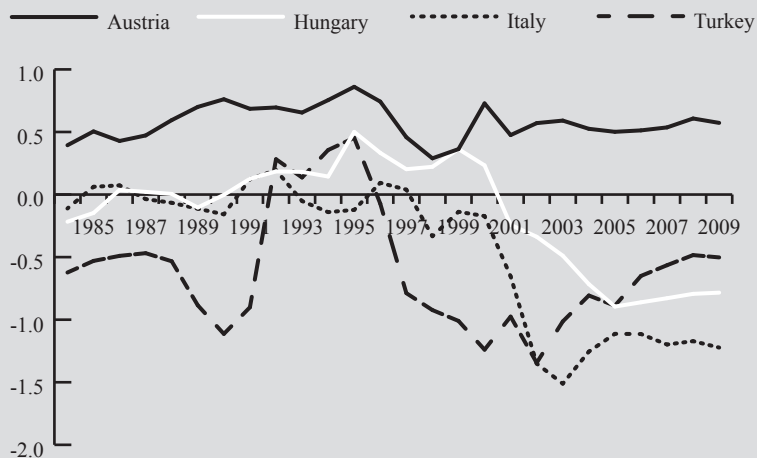
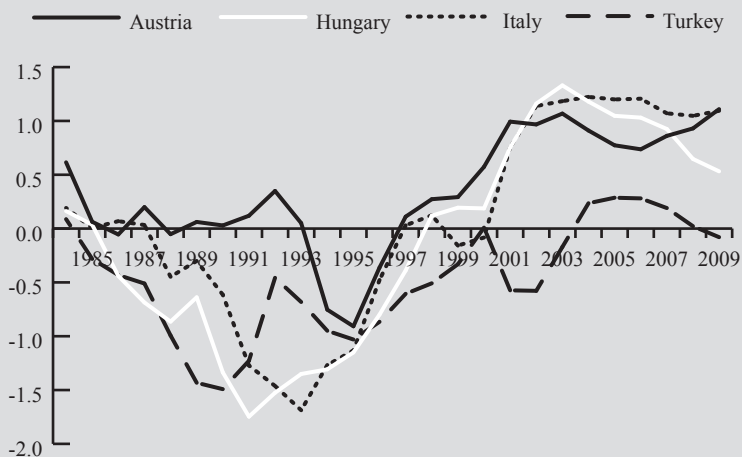


Figure 2c Policy quality 1984–2009, four examples



3.4 Estimation strategy

In the following, we estimate regressions as in equation 1 below, where Gr is the growth rate of real GDP per capita over a five-year period, X is a set of standard controls, D are the time- and country-fixed effects and ε is a noise term. In order to separate the different effects discussed above, we include three groups of variables:

- Q , which is the set of measures of institutional quality from the PFA,
- CV_Q , capturing institutional instability as the coefficients of variation of Q across each five-year period, and
- TR_Q , which is a categorical variable based on Kendall's Tau, a set of non-parametric trends measures that we add to be able to separate institutional instability and change.

When interpreting these effects, one must keep in mind that our trends measure is strictly categorical and allows only for separate effects between situations where the trend is positive, i.e. conditional on institutions improving (trend = 1), when the trend is negative, i.e. where institutions are worsening (trend = -1), or when the trend is roughly constant (trend = 0):

Equation 1

$$Gr = \alpha + \beta X + \gamma Q + \delta CV_Q + \phi TR_Q + D + \varepsilon$$

In further analysis, we expand the specification to equation 2 and add interaction terms between CV_Q and TR_Q , between CV_Q and Q and between TR_Q and Q . Although our focus is on CV_Q , we need to include Q and TR_Q in the specification at all times. As the correlations noted above suggest, these elements (variation, level and trend) are statistically separable, but they also need to be included since we carefully estimate the conditions under which institutional instability matters for growth.

The control variables in our specification are factors that are broadly used in the empirical growth literature. In all regressions, the X vector consists of the logarithm of initial GDP per capita to account for conditional convergence, government expenditure as a percentage of total GDP, openness (imports plus exports as a percentage of total GDP), the investment share of GDP,

inflation, life expectancy and labour force growth. As such, we capture the most important non-institutional determinants of economic growth while still keeping the specification sufficiently parsimonious to identify effects in a relatively homogeneous sample of countries (in line with Barro, 1997). The controls are also measured as five-year averages (except for initial GDP per capita).

Our full sample covers 35 countries with a political risk rating in at least one of the five time periods: 1984–1989, 1989–1994, 1994–1999, 1999–2004 and 2004–2009; the countries are listed in Table A2 of Appendix A.¹⁹ We thus have an unbalanced panel of 154 observations, of which 42 are from formerly communist countries in Central Europe.²⁰

¹⁹ Our European focus, and a general strive to increase statistical power, makes it desirable to include as many countries on the continent as possible. We managed to obtain data for the 27 countries that are present members of the EU and for eight additional ones.

²⁰ As most countries are defined by the World Bank as high-income countries, we do not separately analyse rich and poor countries.

4 Institutions and growth: empirical results

Using the data described above, we derive a series of two-way fixed effects generalised least squares (GLS) estimates. The basic regression results, linking the three institutional features to growth, are presented in Table 4 (overleaf).

The signs of our control variables are as expected, although not always significant: initial GDP is strongly significant, exhibiting convergence as expected in a sample of relatively similar countries; openness is also strongly significant and positively related to growth, while government expenditure is negatively and significantly associated with growth. Conversely, investment rates and education are clearly insignificant.

Regarding the institutional indicators, only the level of policy quality is robustly significant and positive throughout Table 4. More precisely, policy quality refers to the government's ability to carry out its programs and stay in office; the socioeconomic conditions (unemployment, consumer confidence and poverty); the safety of investments; and government accountability. Levels of social congruence are never near significance, while legal quality is significantly *negatively* associated with growth, which is unexpected. No kind of instability is ever significant, while the addition of trends shows that a positive trend in policy quality, i.e. reforms that improve the quality of policy, exert a medium-run and positive growth effect.

The size of the estimates of our policy quality variables are of both economic and political significance, too: a one standard deviation change in the level of policy quality – a change similar to the Danish development from the early 1980s to 2009 or the more recent improvement of economic policy in many formerly communist countries in Central Europe – exerts a long-run change in economic growth of about half a standard deviation (almost one percentage point). By contrast, a change from no trend to a positive trend in policy quality adds a relatively imprecisely measured effect in the short to medium run of roughly the same size. On average, the effects are therefore meaningful and informative from a policy point of view.

However, the estimated effects are averaged across a number of rather different situations. On the right-hand side of Table 4, we therefore provide

Table 4 Growth effects of institutional quality, instability and trend

	1	2	3	4	5
Log initial GDP per capita	-12.112*** (1.458)	-12.011*** (1.502)	-12.143*** (1.518)	-13.391*** (1.482)	-12.249*** (1.665)
Investment rate	0.047 (0.051)	0.049 (0.054)	0.066 (0.054)	-0.009 (0.051)	0.051 (0.052)
Openness	0.055*** (0.012)	0.054*** (0.012)	0.052*** (0.013)	0.056*** (0.012)	0.053*** (0.012)
Government expenditure	-0.367** (0.155)	-0.382** (0.155)	-0.368** (0.157)	-0.395*** (0.149)	-0.375** (0.163)
Education	-0.039 (0.032)	-0.041 (0.032)	-0.033 (0.033)	-0.050 (0.030)	-0.041 (0.032)
Social congruence	0.539 (0.366)	0.543 (0.389)	0.663 (0.414)	1.058*** (0.408)	0.657 (0.401)
Legal quality	-1.034* (0.547)	-1.218** (0.565)	-1.267** (0.585)	-1.333** (0.596)	-1.277** (0.594)
Policy quality	1.421*** (0.406)	1.264*** (0.475)	1.150** (0.487)	0.839 (0.532)	1.382*** (0.508)
CV social congruence	-0.536 (0.890)	-0.975 (0.923)	-0.503 (1.120)	-1.675* (0.967)	-0.562 (0.987)
CV legal quality	-2.715 (1.767)	-3.049 (1.861)	-3.633* (1.986)	-1.766 (1.932)	-3.263* (1.941)
CV policy quality	0.601 (1.169)	0.697 (1.179)	1.103 (1.263)	0.874 (1.149)	0.629 (1.225)
Social congruence trend		0.130 (0.405)	0.568 (0.721)	0.014 (0.386)	0.376 (0.450)
Legal quality trend		0.212 (0.436)	0.549 (0.681)	0.245 (0.415)	0.210 (0.443)
Policy quality trend		0.822* (0.472)	1.767 (1.093)	0.0153 (0.482)	0.976 (0.514)
Social CV × trend			-1.095 (1.557)		

Legal CV × trend					-2.189 (2.586)				
Policy CV × trend					-2.173 (2.446)				
Social CV × level								-1.869 ** (0.775)	
Legal CV × level								4.645 ** (2.127)	
Policy CV × level								3.035 ** (1.394)	
Social trend × level									0.404 (0.379)
Legal trend × level									0.094 (0.469)
Policy trend × level									0.427 (0.522)
Period fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	154	154	154	154	154	154	154	154	154
Countries	35	35	35	35	35	35	35	35	35
Between R square	0.349	0.347	0.347	0.343	0.347	0.347	0.347	0.345	0.345
Within R square	0.638	0.649	0.649	0.656	0.656	0.694	0.694	0.657	0.657
Chi squared / F stat	12.22	10.41	10.41	8.92	8.92	10.61	10.61	8.94	8.94
Joint sign, F test				0.64	0.64	4.79 ***	4.79 ***	0.69	0.69
Hausmann test	19.15	147.94 ***	147.94 ***	81.44	81.44	693.94 ***	693.94 ***	92.56 ***	92.56 ***

Notes: *** (**) [*] denote significance at $p < 0.01$ ($p < 0.05$) [$p < 0.10$]; all regressions are GLS with country and period fixed effects; and CV denotes coefficient of variation.

a set of interactions between the levels, instability and trends of institutional quality in order to separate such types of situations. As one cannot interpret interaction terms directly, but need to calculate conditional marginal effects at different points of the distribution of the interacting variables (cf. Brambor *et al.*, 2006), we provide more interpretable information in Tables 5a–5c (below and pages 29 and 32) and Figures 3a–3c (pages 30 and 31).

In Table 5a, we first report the results of interacting effects with the trend status of the institutional variable. In other words, we ask whether it matters for the impact of institutional quality and instability if they occur around a worsening, constant or improving medium-run trend, namely if things are going the right way, the wrong way or merely hovering around an apparently stable level.

Table 5a Evaluating institutional effects, conditional on trends			
<i>Effect of:</i>	<i>Trend status</i>		
	<i>Worsening trend</i>	<i>Constant trend</i>	<i>Improving trend</i>
CV social congruence	0.592 (0.2354)	-0.503 (1.120)	-0.159 (1.347)
CV legal quality	-1.445 (2.689)	-3.633 (1.986)	-5.822 (3.746)
CV policy quality	3.276 (3.116)	1.103 (1.263)	-1.069 (2.333)
Social congruence	0.253 (0.495)	0.657 (0.401)	1.061 * (0.603)
Legal quality	-1.370 * (0.762)	-1.277 ** (0.594)	-1.183 (0.752)
Policy quality	0.955 (0.722)	1.382 *** (0.508)	1.809 ** (0.735)
Notes: *** (**) [*] denote significance at $p < 0.01$ ($p < 0.05$) [$p < 0.10$]; all regressions are GLS with country and period fixed effects. Control variables are used throughout but are not reported for reasons of space.			

The results in Table 4, as reported in a more interpretable form in Table 5a (above), first indicate that neither the effects of the level nor those of the stability of social congruence depend on the underlying trend: in fact, they are never significant. For legal quality, instability remains insignificant, while the

level seems to exert a negative effect on growth when the trend is worsening or stable. This result is somewhat surprising given the previous literature. Lastly, policy quality is only growth inducing when the underlying trend is *not* negative. When there is either no clear trend or a trend towards better policy quality, the estimates suggest rather sizeable growth consequences in the medium and long run: a one standard deviation change is associated with a growth increase of roughly 0.8 percentage points.

Second, in Table 5b (below) we report the results of interacting institutional features by their relative stability; we also illustrate these effects in Figures 3a–3c (on pages 30 and 31), which show the conditional point estimates and 90% confidence intervals (dotted lines). We here find that in a European context, it seems of no importance whether the medium-run *trends* of institutional quality occur around more or less stable changes. In other words, a steady trend, which would be the result of a gradual introduction of reforms that improve the policy framework (i.e. changes with little instability) or a big-

Table 5b Evaluating institutional effects, conditional on instability

<i>Effect of:</i>	<i>Instability status</i>		
	<i>Low instability</i>	<i>Median instability</i>	<i>High instability</i>
Social congruence trend	0.504 (0.649)	0.446 (0.587)	0.323 (0.479)
Legal quality trend	0.423 (0.578)	0.312 (0.504)	0.124 (0.448)
Policy quality trend	1.469* (0.805)	1.249** (0.624)	0.913* (0.482)
Social congruence	0.949** (0.391)	0.849** (0.379)	0.639* (0.371)
Legal quality	-1.066* (0.562)	-0.828 (0.555)	0.432 (0.587)
Policy quality	1.256*** (0.469)	1.563*** (0.471)	2.031*** (0.548)

Notes: *** (**) [*] denote significance at $p < 0.01$ ($p < 0.05$) [$p < 0.10$]; all regressions are GLS with country and period fixed effects. Control variables are used throughout but are not reported for reasons of space. High instability refers to 75th percentile CV; low instability refers to the 25th percentile CV.

bang change arising from substantial and quickly implemented reforms (with substantial instability), tend to produce similar medium-run growth responses.

A second result in Table 5b and Figure 3b is that the levels and instability of legal quality interact in an interesting way in the medium run, which we can identify in the present setting. We find that the quality of legal institutions is

Figure 3a Effects of social congruence, conditional on instability

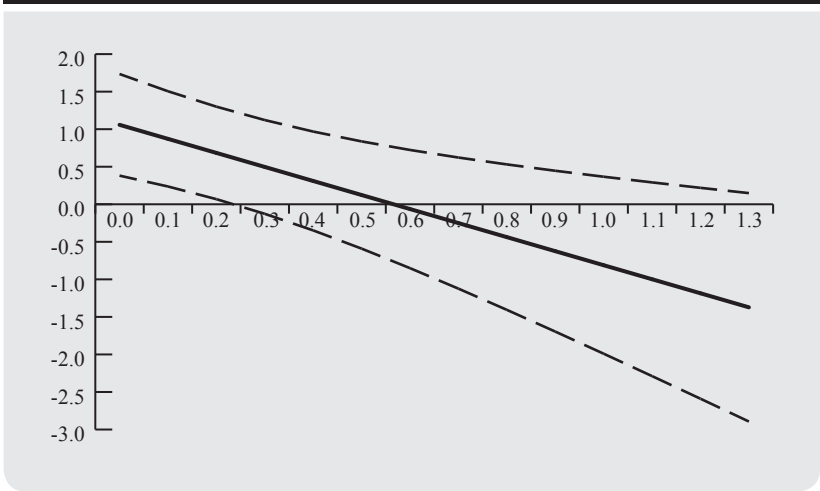


Figure 3b Effects of legal quality, conditional on instability

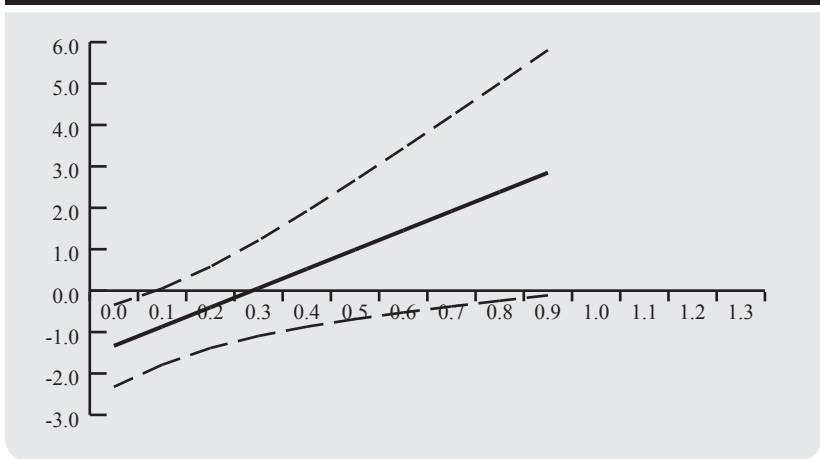
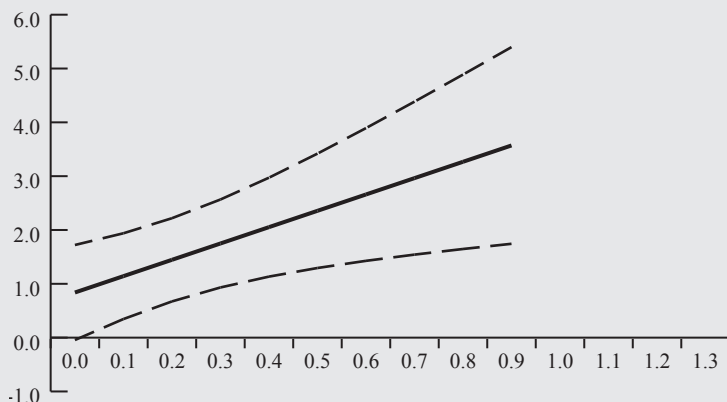


Figure 3c Effects of policy quality, conditional on instability



actually significantly *negatively* associated with growth when those institutions are most stable. We note that several western European countries have levels of stability where such institutions become harmful in the medium run. This result is thus consistent with Olson's (1982) concern with excessive stability and institutional sclerosis, as excessively stable institutions allow special interests to exert and solidify their influence at low transaction costs. A final result from Table 5b is that the effects of policy quality are significant and positive for virtually all values of medium-run stability. As illustrated in Figure 3c, the positive effect even appears to *increase* in instability. This result again reflects the findings pertaining to trends in policy quality: changes in policy quality in the medium as well as the longer run have similar effects regardless of whether they are gradually implemented or are the result of big-bang changes. While this may seem to be a surprising result, a possible interpretation consistent with other results here could be that policy instability reflects political and bureaucratic actions that effectively remove obstacles to growth. In other words, the more policy instability we observe, the more effectively such obstacles are removed, enabling overall quality to affect economic actors more freely, causing higher growth. Part of such a mechanism is also likely to be that instability prevents consistent influences of growth-retarding interest groups, whose ability to grasp and influence political decision-making is made more difficult by changes (cf. Olson, 1982).

Table 5c Evaluating institutional effects, conditional on levels

<i>Effect of:</i>	<i>Quality status</i>		
	<i>Low level</i>	<i>Median level</i>	<i>High level</i>
Social congruence trend	0.399 (0.459)	0.421 (0.469)	0.466 (0.490)
Legal quality trend	0.216 (0.439)	0.220 (0.439)	0.228 (0.439)
Policy quality trend	1.035* (0.536)	1.078* (0.558)	1.144* (0.599)
Social congruence	-1.422 (0.929)	-2.113** (1.053)	-2.793** (1.229)
Legal quality	-4.679** (1.872)	-1.181 (2.051)	2.059 (3.072)
Policy quality	-1.099 (1.326)	0.916 (1.154)	3.412 (1.782)
Notes: *** (**) [*] denote significance at $p < 0.01$ ($p < 0.05$) [$p < 0.10$]; all regressions are GLS with country and period fixed effects. Control variables are used throughout but are not reported for reasons of space.			

Finally, Table 5c (above) reports the result of conditioning the effects of trend and instability on the levels of quality around which they take place. In other words, we ask whether a change in institutional instability or the medium-run trends are likely to depend on whether the country starts out having good or bad institutions.

Interacting levels with trends, as in the upper half of the table, suggests no substantial differences, as we find no significant results for social congruence and legal quality, and the results for policy quality do not differ across initial quality levels. Conversely, we find that the instability of social congruence – which we interpret as an underlying uncertainty whether the current level of social unrest or rest is likely to persist in the following years – mainly matters for countries with high initial levels. Put differently, for countries with much social conflict in the longer run, instability does not matter, yet for countries with little unrest in ‘normal’ years, an increase in instability and uncertainty is detrimental to growth.

We also find that institutional instability in the legal framework has different growth effects when occurring around high or low levels of quality: the levels and instability of legal quality interact in an interesting way in the medium run, which we can identify in the present setting. The instability of legal institutions, i.e. an increased uncertainty of the precise quality of the legal framework, is mainly bad for growth when that instability occurs around already low levels of quality. When evaluating the effect within approximately the third of European countries with the best legal institutions, our point estimate even turns positive and of a quite substantial size. While it is clear from Figure 1 that there is probably too little variation in the sample to identify the long-run effects of legal quality, we note that the qualitative result is consistent with the findings for rich countries in Berggren *et al.* (2012). In other words, it seems that some instability in the legal framework in relatively well-functioning countries may actually be beneficial for growth in line with the Olsonian hypothesis of instability preventing institutional sclerosis.

Finally, we explore whether our results provide evidence of institutional influences on factor accumulation or on factor productivity by excluding investment rates and education in Table 6 (overleaf). Odd-numbered columns report regressions including investment rates and education, while even-numbered columns exclude these variables; the relevant comparison is thus between similar institutional estimates between columns. In general, we find no significant differences between these estimates, indicating that the (already insignificant) investment rates and education estimates do not bias the estimated influence of institutional factors. In other words, we interpret the insensitivity of our central findings to indicate that institutional factors across this group of European countries mainly drive the differences in total factor productivity instead of broad factor accumulation.

Moreover, we note that our main findings are statistically robust to small changes in sample composition and specification, while some of the more weakly significant results turn out to be fragile. Our robustness tests include adding additional explanatory variables and a full country jack-knife test. The apparently conditional effects of social congruence characteristics around improving trends, for example, seem to be driven by only one or two countries and they therefore do not generalise to the full sample. Overall, we thus find

Table 6 Growth effects of institutional quality, instability and trend, no transmission mechanisms

	1	2	3	4	5	6
Log initial GDP per capita	-12.143 *** (1.518)	-11.756 *** (1.509)	-13.391 *** (1.482)	-13.12158 1.475979	-12.249 *** (1.665)	-11.805 *** (1.653)
Investment rate	0.066 (0.054)		-0.009 (0.051)		0.051 (0.052)	
Openness	0.052 *** (0.013)	0.049 *** (0.012)	0.056 *** (0.012)	0.051 *** (0.011)	0.053 *** (0.012)	0.049 *** (0.012)
Government expenditure	-0.368 ** (0.157)	-0.455 *** (0.127)	-0.395 *** (0.149)	-0.350 *** (0.124)	-0.375 ** (0.163)	-0.436 *** (0.131)
Education	-0.033 (0.033)		-0.050 (0.030)		-0.041 (0.032)	
Social congruence	0.663 (0.414)	0.592 (0.409)	1.058 *** (0.408)	1.045 *** (0.409)	0.657 (0.401)	0.582 (0.399)
Legal quality	-1.267 ** (0.585)	-1.239 ** (0.580)	-1.333 ** (0.596)	-1.189 ** (0.583)	-1.277 ** (0.594)	-1.264 ** (0.579)
Policy quality	1.150 ** (0.487)	1.237 ** (0.482)	0.839 (0.532)	0.847 (0.532)	1.382 *** (0.508)	1.467 *** (0.504)
CV social congruence	-0.503 (1.120)	-0.571 (1.124)	-1.675 * (0.967)	-1.674 * (0.967)	-0.562 (0.987)	-0.425 (0.984)
CV legal quality	-3.633 * (1.986)	-3.577 * (1.989)	-1.766 (1.932)	-1.936 (1.925)	-3.263 * (1.941)	-3.267 * (1.949)
CV policy quality	1.103 (1.263)	1.243 (1.267)	0.874 (1.149)	0.847 (1.151)	0.629 (1.225)	0.726 (1.223)
Social congruence trend	0.568 (0.721)	0.344 (0.705)	0.014 (0.386)	0.027 (0.387)	0.376 (0.450)	0.409 (0.451)
Legal quality trend	0.549 (.681)	0.667 (0.681)	0.245 (0.415)	0.257 (0.413)	0.210 (0.443)	0.294 (0.441)

Policy quality trend	1.767 (1.093)	1.829* (1.079)	0.153 (0.482)	0.140 (0.476)	0.976 (0.514)	0.896* (0.513)
Social CV × trend	-1.095 (1.557)	-0.415 (1.482)				
Legal CV × trend	-2.189 (2.586)	-2.205 (2.593)				
Policy CV × trend	-2.173 (2.446)	-2.498 (2.408)				
Social CV × level			-1.869** (0.775)	-1.839** (0.768)		
Legal CV × level			4.645** (2.127)	4.480** (2.079)		
Policy CV × level			3.035** (1.394)	2.947** (1.382)		
Social trend × level					0.404 (0.379)	0.405 (0.378)
Legal trend × level					0.094 (0.469)	0.075 (0.469)
Policy trend × level					0.427 (0.522)	0.388 (0.518)
Period fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	154	154	154	154	154	154
Countries	35	35	35	35	35	35
Between R square	0.343	0.346	0.347	0.353	0.345	0.384
Within R square	0.656	0.646	0.694	0.686	0.657	0.646
Chi squared / F stat	8.92	9.60	10.61	11.49	8.94	9.60

Notes: *** (**) [*] denote significance at $p < 0.01$ ($p < 0.05$) [$p < 0.10$]; all regressions are GLS with country and period fixed effects; and CV denotes coefficient of variation.

that in the present sample, we observe quite clear and politically significant effects of differences in policy quality. These effects arise whenever the underlying trend is non-negative, i.e. whenever there is no clear longer-run deterioration of economic policy, and regardless of the stability of the policy framework.

5 Conclusions

Europe has seen substantial reforms since the mid-1980s. Some countries have experienced radical transitions from communism to market economies, whereas others have seen smaller but still noticeable changes in their economic and legal institutions. In this paper, we ask what the effects of these institutional changes have been. This seems to be especially relevant since the European Commission (2012) stresses the need for continued institutional reforms, such as reduced administrative burdens for businesses and improved quality of legal systems.

There is now a large literature showing a positive relation between the quality of institutions and economic growth. If European reforms have improved institutional quality, they can be expected to have entailed higher average growth rates. However, to achieve high-quality institutions, countries need to go through periods of institutional change and instability, as has been the case in Europe. While uncertainty about the future institutional framework intuitively would be associated with larger transaction costs and would force economic actors to adopt a relatively short time horizon, thus being harmful to growth, institutional instability could also reflect positive institutional adjustments to shifting circumstances. For example, it could indicate a removal of institutional sclerosis and a setting where narrow special interest groups have captured policymaking; however, it could indicate a period of experimentation, which could be expected to result in new knowledge about how to best achieve growth and subsequent reforms based on that knowledge.

Against this background, we empirically assess how institutional factors – institutional quality and institutional instability (while controlling for institutional trends) – affect economic growth. We employ the political risk index from the ICRG to form three indices aggregated from its 12 constituting components by the use of PFA. We choose to deal with institutional measurement problems to overcome the problem that if aggregated indices hide multiple dimensions, estimates of their effects are likely to suffer a downward bias. The empirical results, based on a panel of 34 European countries and Israel observed across five five-year periods between 1984 and 2009, suggest a sizeable effect of high-quality policy on growth. Predictable democratic governance, favourable socioeconomic conditions and an appealing political investment climate tend to be economically beneficial

over time. The effects of institutional instability and change, however, are more context-dependent.

Two results deserve to be emphasised. First, the beneficial effect of high policy quality is not undermined by instability, but instead it seems to be increasing in instability. In other words, there is no evidence that the medium-run instability created by reforms thwarts the positive effects of these reforms. Combining this finding with the fact that policy quality is beneficial in the longer run as long as it is not trending towards worse levels in the medium run, we find that gradual policy reforms tend to yield the same medium-run effect as big-bang changes to the institutional framework. The European data therefore indicate that the recurring debate about how to implement policy and institutional reforms may be situated in sceptical assumptions about their immediate impact that do not bear out in the data.

Second, the negative effect of the instability of legal quality seems to hold for low initial levels, while the effect looks positive at high levels. Across most of our sample, however, the net effect of instability is small and insignificant. While the results should be particularly carefully interpreted, they are compatible with the idea that institutional instability can mitigate the negative growth effects of Olsonian institutional sclerosis. Our results can also be interpreted as supporting the positive effects of institutional adjustments in the spirit of Hayek. In any case, the simplistic view that stable institutions are always better for growth compared with institutional instability seems not to hold in the case of Europe over the past three to four decades. We thus note that one of the main assumptions behind the drive towards European institutional harmonisation in recent years – that instability across as well as within nations is detrimental to overall growth – seems unwarranted when focusing on European development. Another possible conclusion based on our results is that growth-promoting reforms should not be delayed solely because the reforms themselves would create instability: this does not necessarily hamper growth.

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Appendix A

Table A1 Descriptive statistics

	<i>Mean</i>	<i>Std. dev.</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Obs.</i>
Growth rate	2.029	3.246	-23.385	8.207	170
Log initial GDP	9.712	0.658	7.853	11.125	170
Openness	90.291	43.495	26.909	308.261	170
Government share	9.923	2.981	4.738	18.987	170
Investment share	22.846	4.721	9.939	41.882	170
Secondary schooling	26.559	12.832	2.600	73.000	162
Social congruence	0.075	0.829	-3.631	0.967	154
Legal quality	0.054	0.863	-2.462	1.166	154
Policy quality	0.072	0.829	-1.959	1.468	154
CV social congruence	0.175	0.193	0.011	1.308	154
CV legal quality	0.138	0.109	0.006	0.628	154
CV policy quality	0.265	0.165	0.027	0.743	154
Social congruence trend	-0.017	0.426	-1.000	93.000	154
Legal quality trend	-0.073	0.451	-1.000	0.800	154
Policy quality trend	0.138	0.516	-1.000	1.000	154

Appendix B

The components of the ICRG's political risk index²¹

A. Government stability

Assesses the government's ability to carry out its declared program(s) and its ability to stay in office. The risk rating assigned is the sum of three subcomponents: Government Unity, Legislative Strength and Popular Support.

B. Socioeconomic conditions

Assesses the socioeconomic pressures at work in society that could constrain government action or fuel social dissatisfaction. There are three subcomponents: Unemployment, Consumer Confidence and Poverty.

C. Investment profile

Assesses factors affecting the risk to investment that are not covered by other political, economic and financial risk components. The subcomponents are: Contract Viability/Expropriation, Profits Repatriation and Payment Delays

D. Internal conflict

Political violence in the country and its actual or potential impact on governance. The subcomponents are: Civil War/Coup Threat, Terrorism/Political Violence and Civil Disorder.

E. External conflict

Assesses the risk to the incumbent government from foreign action, ranging from non-violent external pressure (diplomatic pressures, withholding of aid, trade restrictions, territorial disputes, sanctions, etc.) to violent external pressure (cross-border conflicts to all-out war). The subcomponents are: War, Cross-Border Conflict and Foreign Pressures

F. Corruption

Assesses corruption within the political system. No subcomponents

²¹ A full description can be found at http://www.prsgroup.com/icrg_methodology.aspx.

G. Military in politics

Assesses the degree of military participation in politics and the higher level of political risk associated with such interventions. No subcomponents

H. Religious tensions

Assesses religious tensions from the domination of society and/or governance by a single religious group that seeks to replace civil law with religious law and to exclude other religions from the political and/or social process and the suppression of religious freedom. No subcomponents

I. Law and order

The Law sub-component is an assessment of the strength and impartiality of the legal system. The Order sub-component is an assessment of the popular observance of the law.

J. Ethnic tensions

Assesses the degree of tension within a country attributable to racial, nationality or language divisions.

K. Democratic accountability

Assesses how responsive government is to its people on the basis that the less responsive it is, the more likely it is that the government will fall, peacefully in a democratic society, but possibly violently in a non-democratic one. Assessment is carried out by classifying countries using the following types of governance: Alternating Democracy, Dominated Democracy, De-facto One-Party State, De jure One-Party state and Autarchy.

L. Bureaucracy quality

Assesses the institutional strength and quality of the bureaucracy. Countries that lack the cushioning effect of a strong bureaucracy are considered to be worse because a change in government can be traumatic in terms of policy formulation and day-to-day administrative functions.

Sammanfattning på svenska

Europas nationer har genomgått stora förändringar sedan början av 1980-talet, inte minst gäller det hur deras institutioner har utvecklats. Med institutioner avser vi främst rättsliga och politiska regelverk och deras upprätthållande, liksom viktiga delar av den ekonomiska politiken. Förändringen är mest uppenbar i de länder som har övergått från kommunism till demokrati och marknadsekonomi, men många andra länder har också reformerat sina system. Detta sätter fokus på den viktiga frågan om vilka effekterna av dessa institutionella förändringar har varit på ekonomisk tillväxt.

Det finns en omfattande litteratur som dokumenterar att institutioner är viktiga för tillväxt. Tidigare studier har främst granskat institutioners kvalitet. Det gör vi också, men vi tittar även på deras stabilitet som en separat faktor av potentiell vikt. Genom att göra detta analyserar vi en fundamental avvägning, eller *trade-off*, som inte har undersökts tidigare. För att förbättra institutionell kvalitet måste ett land genomgå en serie institutionella förändringar och därmed en period av institutionell instabilitet. Medan institutioner av hög kvalitet är tillväxtbefrämjande eftersom de minskar osäkerhet och transaktionskostnader, och eftersom de ger incitament som påverkar produktivt beteende, är tillväxteffekterna av institutionell förändring och instabilitet teoretiskt oklara.

Å ena sidan kan instabilitet som innefattar tillväxtvänliga förändringar på lång sikt medföra övergångskostnader som är så stora att de minskar tillväxt på kort sikt. Å andra sidan kan status quo vara förenat med vad Mancur Olson kallade institutionell skleros, och då kan institutionell förändring liksom instabilitet i sig också ha positiva tillväxteffekter, genom att minska förekomsten av tillväxthämmande strukturer. Närmare bestämt kan instabilitet underminera intressegrupper som är intresserade av att tillförsäkra sig egna förmåner och göra det svårt för dem att upprätthålla sitt inflytande över den politiska processen.

För att studera denna fråga genomför vi en empirisk analys där vi tittar på hur två faktorer påverkar tillväxt: nivån på den institutionella kvaliteten, å ena sidan, och institutionell instabilitet, å den andra. Vi gör detta med data för 35 länder (EU-27, sju andra europeiska länder samt Israel). Genom

principalfaktoranalys kan vi konstruera mått på institutionell kvalitet och instabilitet från det politiska riskindex som International Country Risk Guide publicerar. Genom vår analys, som använder sig av paneldata för perioden 1984–2009, finner vi att politikens kvalitet (vilket främst avser regeringsförmåga, gynnsamma socioekonomiska förhållanden, ett starkt investeringsklimat och demokratiskt ansvarsutkrävande) stimulerar tillväxten. Viktigt att notera är att vi också finner att tillväxteffekten av att förbättra kvaliteten i politiken blir starkare ju större instabiliteten i politiken är. Även i en miljö med instabil politik är ytterligare förbättringar, även om de ökar instabiliteten, bra för tillväxten. Detta resultat återspeglar andra resultat rörande trenderna i politikens kvalitet: att förändringar i politikens kvalitet på medellång och lång sikt har liknande tillväxteffekter oavsett om de införs gradvis eller som ett resultat av *big bang*-förändringar.

Som kontrast till detta finner vi att kvaliteten på de rättsliga institutionerna är negativt relaterade till tillväxt på ett statistiskt signifikant sätt när de institutionerna är särskilt stabila. Vi noterar att flera västeuropeiska länder har stabilitetsnivåer där institutionerna blir tillväxtsänkande på medellång sikt. Detta resultat är förenligt med Mancur Olsons klarläggande att mycket hög stabilitet och institutionell skleros kan möjliggöra för särintressen att utöva och förstärka sitt inflytande till låga transaktionskostnader. Därför kan institutionell instabilitet vara gynnsam för tillväxten genom att förändra maktbalansen och därigenom förhindra eller ta bort institutionell skleros.

Sammanfattningsvis indikerar våra resultat att fördelarna för europeiska länder av flexibilitet när det gäller institutionernas utformning överväger de kostnader som lägre förutsägbarhet medför.

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