Social Cohesion, Institutions, and Growth[1]

Abstract: We present evidence that measures of 'social cohesion', such as income inequality and ethnic fractionalization, endogenously determine institutional quality, which in turn causally determines growth.

This draft: November 2005

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[1] Views expressed here are those of the authors alone, and should not be attributed to the organizations with which they are affiliated. We thank participants from various conferences and seminars for valuable feedback, and Victoria Levin for excellent research assistance. Please address correspondence to Michael Woolcock, The World Bank, Mail Stop MC3-306, 1818 H Street NW, Washington, DC 20433. Email: mwoolcock@worldbank.org

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1. Introduction

Policy and institutional quality are to a large extent endogenous. While the truth of this statement is familiar to most development scholars, the implications of it have drawn relatively little empirical attention. Understanding more about this relationship matters, because "poor institutional quality" and "failure to implement better policies" are so frequently identified as the causes of growth collapses, endemic poverty, and civil conflict. Such explanations are logically (and properly) followed by calls to improve institutions and policies, but an implicit assumption in such calls is that realizing them is simply a matter of choice, technocratic skill, and/or sheer political will. Seasoned politicians and policymakers of good will, however, characteristically encounter constraints that are at once more enduring and less tangible in nature.

In this paper we endeavor to address systematically the constraints to policy reform in developing countries by examining the strength and direction of the relationship between social structures, political institutions, and economic policies. Specifically, we argue that one of the primary reasons why even good politicians in countries all over the world, but especially in low-income countries, often enact bad policies is that they experience significant social constraints on their efforts to bring about reform. These constraints are shaped by the degree of 'social cohesion' within their country. We show that social cohesion determines the quality of institutions, which in turn has important impacts on whether and how pro-growth policies are devised and implemented.

A country's social cohesion is essential for generating the confidence and patience needed to implement reforms: citizens have to trust the government that the

short-term losses inevitably arising from reform will be more than offset by long-term gains. The inclusiveness of a country's communities and institutions (e.g., laws and norms against discrimination) can greatly help to build cohesion. On the other hand, countries strongly divided along class and ethnic lines will place severe constraints on the attempts of even the boldest, civic-minded, and well-informed politician (or interest group) seeking to bring about policy reform. We argue that the strength of institutions itself may be, in part, determined by social cohesion. If this is so, we propose that key development outcomes (the most widely available being "economic growth") should be more likely to be associated with countries governed by effective public institutions, and that those institutions, in turn, should be more likely to be found in socially cohesive societies. We test this hypothesis for a sample of countries using (though well aware of the limitations of) cross-country regressions.

In stressing the importance of social cohesion to understanding broad development outcomes, we caution against expecting that it might be *the* key, given that development is inherently complex. Moreover, our attempts to measure social cohesion in a formal sense should not blind us to social cohesion's analytical power—i.e., its capacity to help us organize our thinking on the complex processes which lead to social or political choices—which may in turn serve to help us better identify the causal mechanisms linking social and political variables to short or long term development outcomes.

The paper proceeds as follows. In section two we review the literature and summarize the data that is available to investigate the central hypotheses. This is followed in section three with our statistical analysis. While several earlier studies have

shown that differences in growth rates among low income countries are the result of lack of democracy, weak rule of law, and the like, we are more interested here in the social conditions that give rise to these institutional deficiencies. In section 3, we explore empirically whether there is a causal sequence that goes from social divisions to weak institutions to slow growth. The essence of our conclusion, supported by new econometric evidence presented here, is that pro-development policies are comparatively rare in the developing world less because of the moral fiber of politicians (though that surely matters) than because of insufficient social cohesion that impedes the construction of effective institutions (and thereby narrows a given policymaker's room for maneuver). In section four we conclude by exploring some possible extensions and implications, in particular the need for more research on the determinants of social cohesion (focusing on historical accidents, initial conditions, natural resource endowments) and ways in which to foster it.

2. Social Cohesion: Definitions, Evidence, and Data

In seeking to unpack the notion of social cohesion, we concede from the outset that some infamous historical figures with a narrow—even sectarian—agenda have invoked social cohesion-type arguments as the basis for their actions. The desire to cultivate a sense of national unity and "purity" brought us the Holocaust and ethnic cleansing, so we are most surely not arguing that social cohesion equals cultural homogeneity or intolerance of diversity; quite the opposite. On the other hand, nor are we invoking some naïve suggestion that socially cohesive societies are always harmonious, devoid of political conflict or dissent. Rather, we use the concept of social cohesion to make the general

point that the extent to which people work together when crisis strikes or opportunity knocks is a key factor shaping economic performance. Graphic scenes on CNN during the 1997 financial crisis in South Korea neatly illustrates social cohesion in action: everyday citizens were shown tearfully selling their modest family treasures in the belief that their humble contribution was somehow making a difference to the financial health of their country. Where this sense of cohesion is lacking—as it was in, say, Indonesia—the response to the crisis was far more sluggish and uneven, heightening a number of other latent and manifest political tensions. Managing these tensions during crises, and ensuring that they do not descend into outright or violent conflict, is a key political task (Bates, 2000). Failure to do so can be disastrous for rich and poor, powerful and powerless alike. As Rodrik (1997:1) correctly notes, "the deepening of social fissures can harm all."

Social cohesion has many formal definitions (for global overviews see Jensen 1998, Canadian Government 1999, and Ritzen 2001). Judith Maxwell (1996: 13), for example, argues that social cohesion refers to the processes of

> building shared values and communities of interpretation, reducing disparities in wealth and income, and generally enabling people to have a sense that they are engaged in a common enterprise, facing shared challenges, and that they are members of the same community.[5]

While generally sympathetic to this approach, we adopt a slightly more instrumental definition that more readily lends itself to measurement. Accordingly, for the purposes of this paper, we define social cohesion as the nature and extent of social and economic divisions within society. These divisions—whether by income, ethnicity, political party, caste, language, or other demographic variable—represent vectors around which

[5] As cited by Jensen (1998).

politically salient societal cleavages can (though not inevitably or "naturally") develop. As such, socially cohesive societies (as stressed above) are not necessarily demographically homogenous, but rather ones that have fewer potential and/or actual leverage points for individuals, groups, or events to expose and exacerbate social fault lines, and ones that find ways to harness the potential residing in their societal diversity (in terms of diversity of ideas, opinions, skills, etc).

Presumably what others have defined as social capital—i.e., the resources inhering in relationships, networks, and other related forms of social connection (Woolcock 1998)—will be an important basis for this aptitude. Where social capital is increasingly being defined as a micro level variable (i.e., to study kinship systems, households, social networks, and community organizations[6]), however, our central concern here is with features of society as a whole, for which the term social cohesion is more appropriate. Some of the same empirical indicators have indeed been used for both (see below), but we believe the concepts are most fruitfully applied at distinctive units of analysis, and do not wish to perpetuate further confusion.[7]

Direct Measures of Social Cohesion

Various attempts have been made in the literature to measure social cohesion directly. The most common are:

[6] On these debates see Foley and Edwards (1999), Putnam (2000), and Woolcock (2001), among others.
[7] The basic characteristics of "social cohesion" as defined here differ from those of social capital in other ways. For example, while there is a growing literature emphasizing that social capital can generate positive or negative outcomes for society (Portes and Landolt 1996; Woolcock 1998, Putnam 2000), we define social cohesion in such a way that more is generally better. In the end, however, the use of a particular term over another matters far less than that the terms be clarified for the purposes at hand, and that the issues they collectively encapsulate are brought to the table and seriously debated.

- *Memberships rates of organizations and civic participation*

Participation in social organizations have been measured in developing countries by Deepa Narayan and her collaborators (e.g., Narayan and Pritchett, 1999; Krishna, 2002), but mostly on a micro (community) scale. At that level they are shown to be significant predictors of income and an aptitude for cooperation. Robert Putnam's (1993) important work uses membership of organizations as a measure of social cohesion (or what he calls social capital[8]), and Helliwell and Putnam (1995) find that this is positively associated with regional economic performance in Italy (see also Guiso, Sapienza, and Zingales, 2000). Obtaining the same result from a larger sample of countries has proved problematic, however. Knack (2001), for example, shows that a 'trust' variable contributes to the explanation of economic growth, but that the 'membership of organizations' variable—which Knack (2003), following Olson (1983) and Putnam (1993), argues could be either bad or good for growth, respectively—shows only a modest positive effect. For these reasons and because of the relative small available sample, we will not use the membership variable.

- *Measures of trust*

A typical measure on trust (from the World Value Survey) is the aggregate of the answers to the question "Do you think people can be trusted?" for a random sample of respondents. Work relating cross-country answers to this question to economic performance was pioneered by Knack and Keefer (1995, 1997), and has since been taken up by several others (e.g., La Porta et al 1997; Knack 2001). The new surveys being conducted around the world, including OECD countries such as Australia and members

of the European Union, promise to yield significant new insights, and will allow us to address these issues with much greater confidence. Work in the transition economies is in its infancy, though some early promising work is starting to appear (e.g. Rose 1995).

According to the World Values Survey data, "trust" is typically high in the richer countries (rates are around 50%) and low in developing countries. Central and Eastern European (CEE) countries generally have higher trust rates (between 15 and 35%) than Latin American (LA) countries (with rates as low as 5% in Peru). Turkey is remarkable in that it had a trust rate of only 10% in 1990 and 6.5% in 1995. African countries are in-between CEE and LA countries in trust levels, while Asian countries are in-between developed world and CEE countries.

Indirect Measures of Social Cohesion

Proxies for social cohesion have also been sought using structural factors such as class and ethnicity inequalities, which may undermine the capacity of different groups to work together. Measures of these variables include:

- *Income distribution measures (Gini coefficients and share of income to middle 60%)*

The Gini coefficient has been used by Rodrik (1999) to address issues pertaining to economic divisions in society. Easterly (2001a) finds that what he calls the "middle class consensus" (i.e. a social inequality index that includes of the share of income going to the middle 60% of the population) is a better measure. It is suggestive—we do not establish causality here, but Easterly (2001a) addresses this issue—that countries with a middle

[8] Putnam's (2000) most recent study explicitly adopts a narrower and more 'micro' approach than his earlier work.

class share above 50 percent are rich economies (see Figure 2). While it would be difficult to show that differences in middle class share are direct predictors of enormous differences in aptitudes for change, a plausible case can be made that socially cohesive countries will ensure that rich and poor alike share in both the costs and benefits of change, and thus enjoy greater prosperity than those more divided countries, where the benefits primarily go to the rich and the costs are borne by the poor.

It is important to note that while the simple correlation between the Gini coefficient and the "middle class consensus" is high (0.88), there are nonetheless important exceptions. Some countries (e.g. U.S.) have a large middle class but (for rich countries) a high level of inequality; others have low inequality and a small middle class (e.g. Hungary), while still others have a large middle class and low inequality (also for rich countries) (e.g. the Netherlands).

- *Ethnic heterogeneity ('ethnolinguistic fractionalization') measures*

The most widely used measure establishes the probability that two randomly selected individuals will not belong to the same ethnolinguistic group. India scores high on this measure (89), but so do, for example, Cote d'Ivoire (83) and Bolivia (63). Examples of countries with low scores are Korea (0) and Japan or the Netherlands (1).

Table 1a gives an overview of the indicators used for social cohesion. For 57 developing countries and 25 high-income countries we have data available on the middle class share and on ethnic fractionalization. Data on trust is only available for 34 countries (11 high income and 23 developing countries) for which also all the other data is available. Table 1b also includes our measures on institutions and their summary statistics. Institutions have been assessed by experts from very different organizations.

[Tables 1a and 1b about here]

The quality of political institutions clearly will be also an important factor for growth. Olson (2000) argues that governments with an "all-encompassing" interest in society's prosperity and welfare will promote growth more than governments that have a more narrow interest. He argues that a stable autocrat will outperform an unstable autocrat, while a stable democratic government will outperform either form of autocracy. Best of all will be a democracy with checks and balances, enforcement of the rule of law, and with clear rules of the game that prevent the majority from excluding or expropriating a minority. Virtually all of the nations that are rich today fall into this latter category. It is not too much of a stretch to see that socially cohesive societies will be more likely to generate governments that have an "all-encompassing interest" in promoting growth. Indeed, a central hypothesis emerging from our framework is that high levels of social cohesion makes it easier to improve the quality of institutions.

These arguments are also supported by the recent literature on corruption (e.g. Schleifer and Vishney 1993, Mauro 1995). Claims, for example, that corruption "greases the wheels" of growth simply do not stand up to empirical scrutiny (Tanzi and Davoodi 1997, Kaufmann and Wei 1999).

3. New Evidence on Social Cohesion, Institutions and Economic Performance

The central story of economic growth over the last 50 years has been the contrast between the years 1950-74 and 1975-2000. The former was a time of general prosperity,

in which all strategies yielded positive outcomes; rich and poor countries, open and closed economies, large and small nations, those in temperate and tropical climates—everyone did well. The twenty-year period between 1974 and 1994, however, was disastrous for virtually everyone except the East Asian Tigers and India; the developing world suffered a twenty-year growth collapse, from which it has only recently emerged (Figure 1).

[Figure 1 about here]

While the causes of the global recession in the 1974-1994 are fairly well-known, it is instructive to examine some of the differences between those countries that weathered the storm, and those that did not. In his study of a large sample of developing countries, Rodrik (1999) finds compelling evidence that weak public institutions and (ethnically and economically) divided societies responded worse to the shock than did those with high quality institutions and united societies.

We find something similar here. We define as most cohesive those societies in the lower half of ethnolinguistic fractionalization and in the upper half of share of the middle class, and as least cohesive the reverse.[9] We see that more cohesive societies have always grown faster than less cohesive societies, but the difference only became

[9] So defined, the least cohesive countries are: Algeria, Benin, Bolivia, Botswana, Cote d'Ivoire, Ecuador, Gabon, Guatemala, Guyana, Kenya, Malaysia, , Morocco, Myanmar, Nepal, Nigeria, Peru, Philippines, Senegal, Sierra Leone, South Africa, Sri Lanka, Sudan, Tanzania, Thailand, Uganda, Zambia, Zimbabwe. The most cohesive are: Australia, Austria, Denmark, Egypt, Arab Rep., Finland, France, Germany, Greece, Ireland, Israel, Italy, Japan, Republic of Korea, Luxembourg, Mauritania, Netherlands, New Zealand, Norway, Portugal, Rwanda, Sweden, United Kingdom.

pronounced with the recession in the latter in the 1980s, with a tepid recovery that failed to close the gap in the 1990s (see Figure 2).

[Figure 2 about here]

By what mechanisms does social cohesion affect growth? Consider first the role of institutions. Using a dataset compiled by Kaufmann, Kraay, and Mastruzzi (2003) it is possible to assess whether high-quality institutions have been important for the LDCs. Figure 3 suggests they have been, i.e. that higher quality institutions (measured here by rule of law; we will try many different measures in the next section) are positively associated with higher average growth rates over the post-reform period.

[Figure 3 about here]

Quality institutions themselves reflect the nature and extent of social divisions, as we will develop more formally in the next section. Figure 4 shows that, indeed, high quality institutions are associated with lower levels of inequality in developing countries. Here inequality as a proxy for social divisions is measured by the share of the middle class. If we had chosen instead of the middle class, the Gini coefficient, a similar result would have emerged.

[Figure 4 about here]

Together, these suggestive empirical results show that building social cohesion—through the construction and maintenance of high-quality institutions pursuing the common good, and through the lowering of economic (and other) divisions—has been, and remains, a vital task for countries wrestling with development. Ethnic divisions make it difficult—although not impossible, as we will see below—to develop the social cohesion necessary to build good institutions. Figure 5 confirms that more fractionalized societies have worse rule of law.[10]

[Figure 5 about here]

We are left then with two determinants of social cohesion and thus good institutions, namely initial inequality and ethnolinguistic fractionalization. We predict that societies with a lower initial inequality as proxied by a larger share for the middle class larger share for the middle class and more linguistic homogeneity have more social cohesion and thus better institutions, and that these better institutions lead in turn to higher growth.

These predictions are confirmed in Table 2, where we use the different proxies for "good institutions" of Table 1b. For example, Table 2 shows four important measures of institutions that show a highly significant effect of social cohesion: on voice and accountability, civil liberties, government effectiveness and freedom from graft, with signs indicating more social cohesion leading to better institutions. The table shows the complete set of regressions using all the institutional measures. All of our measures of

[10] Alesina and La Ferrara (2000) found that one measure of institutional 'trust' was negatively related to ethnic diversity.

institutional quality are positively associated with growth—as was shown by Kaufmann, Kraay, and Mastruzzi (2003) for their measures of institutions—and virtually all the institutional measures are related to both of our measures of cohesion.[11] Here, we have used three-stage least squares to take into account the possible endogeneity of institutions: our two indicators of social cohesion make natural instruments that allow us to identify a causal link from good institutions to growth. The instruments pass two over-identification tests for whether they are excludable from the final regression.

[Table 2 about here]

Thus our findings support the two-stage hypothesis we outlined at the beginning: more social cohesion leads to better institutions, and that better institutions in turn lead to higher growth. This is true regardless of how we measure institutions.

4. Conclusions and Extensions

If social cohesion is so important, how can it be nurtured? While social cohesion is partly shaped by national leaders, social cohesion also depends on some exogenous historical accidents. A nation-state that has developed a common language among its citizens is more cohesive than one that is linguistically fragmented. This is not to say that linguistic homogeneity is bad or good; most nations started out as very diverse linguistically. Linguistic homogeneity may simply be an indicator of how much a group of nationals have developed a common identity over the decades or centuries that

[11] "Trust" works less well in both equations, although the small sample is probably part of the problem.

national identity forms. Where such a common identity is lacking, opportunistic politicians can and do exploit ethnic differences to build up a power base. It only takes one such opportunistic politician to exacerbate division, because once one ethnic group is politically mobilized along ethnic lines, other groups will.[12]

This should not be interpreted in a pessimistic light – that nations where there are large cleavages of class and language are condemned to poor institutions and low growth. Of course, nations should not embark on forcible redistribution and mandatory linguistic assimilation. These results only say that on average lack of "exogenous" social cohesion has been exploited by politicians to undermine institutions, which in turn has resulted in low growth. But politicians can choose to build good institutions, unify fractionalized peoples, and defeat the average tendency to divide and rule. In fact where institutions are sufficiently well developed, there is no adverse effect of ethnolinguistic diversity on growth. The corollary is that good institutions are most necessary and beneficial where there are ethnolinguistic divisions. Formal institutions substitute for the "social glue" that is in shorter supply when there are ethnolinguistic divisions (Easterly 2001b).[13]

The other determinant of social cohesion is whether the historical legacy is one of relative equality or of a vast chasm between elites and masses. Engerman and Sokoloff (1997; see also Sokoloff and Engerman 2000, Sokoloff and Zolt 2005) describe how inequality in Latin America arose out of factor endowments and historical accidents. The tropical land in Latin America was well-suited for large scale enterprises like silver mines and sugar plantations, worked by slaves or peons. The benefits of these operations largely

[12] Varshney (2001) expands on this theme in India, showing that ethnic violence is primarily an urban phenomenon, and that it occurs overwhelmingly in cities where Hindus and Muslims rarely interact.

accrued to the small criollo class. The elite was kept small by restrictions on immigration from Iberia or elsewhere to the Iberian colonies. The labor force had to be forcibly recruited through the import of African-American slaves and the encomienda system that tied the indigenous people to the elite's land.

In Canada and in the North of the US, by contrast, the factor endowments were conducive to small-scale production of food grains. A middle class of family farmers developed. Practically unrestricted immigration and abundant available land (once the tragic process of despoiling the native inhabitants was completed) swelled the size of the middle class. Immigrants voluntarily assimilated into (and actively contributed to) the dominant middle class culture. The American South was a kind of intermediate case between North and South America, with a mixture of free family farmers, elite slave-owners, and African-American slaves.[14]

One potentially important policy lever for enhancing social cohesion is education. Heyneman (2000) identifies three ways in which education contributes to social cohesion. First, it helps provide public knowledge about the very idea of social contracts among individuals and between individuals and the state. Second, schools help provide the context within which students learn the appropriate behavior for upholding social contracts, by providing students with a range of experiences in which they learn how to negotiate with people, problems, and opportunities they might not otherwise encounter. As Heyneman (2000: 177) puts it, "the principle rationale, and the reasons nations invest in public education, have traditionally been the social purpose of schooling... The

[13] The notion of (ethno)linguistic fractionalization definitely begs operations on social cohesion within the European Union. Extra institutional efforts are required to overcome this disadvantage of different languages.

principle task of public schooling, properly organized and delivered, has traditionally been to create harmony within a nation of divergent peoples." Third, education helps provide an understanding of the expected consequences of breaking social contracts; indeed, it helps citizens understand and appreciate the very idea of a social contract.

Given the vital role the state has in shaping the context and climate within which civil society is organized (Bunce 1999), it can, in some cases, also actively help to create social cohesion by ensuring that public services are provided fairly and efficiently (i.e. treating all citizens equally), and by actively redressing overt forms of discrimination and other social barriers. These happy outcomes are most likely to come about through the empowerment of domestic constituencies rather than via "conditionalities" imposed by external donors and development agencies (Collier and Dollar 2004). This is one of the conclusions of two recent World Development Reports (World Bank 2000b, 2001).

We have pointed to the importance of a research agenda that looks into the cohesiveness of societies and the quality of public institutions, and their relationship to sustained growth. We need to know a lot more about how equitable and fairly to manage the costs and benefits associated with the transformation of society (Bates 2000), especially how to foster a greater sense of cooperation and inclusion in environments where there is (actual and potential) division, exclusion, and disaffection.

[14] For an application of this general argument to understanding growth collapses in LDCs, see Woolcock, Pritchett, and Isham (2001).

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Table 1a: Summary Statistics and Sources of Social Cohesion Variables

Variable	*Mean*	*Std. Dev.*	*Obs*	*Min*	*Max*
Ethnic Fractionalization	39.63	29.29	82	0	93
Middle Class Share	45.95	6.85	82	30	56
Gini	41.48	9.12	82	26	62
Trust	32.07	16.28	34	5	64
GDP per capita, PPP	6112.90	5556.69	82	476	20004
GDP per capita growth	2.07	1.67	82	-1	7

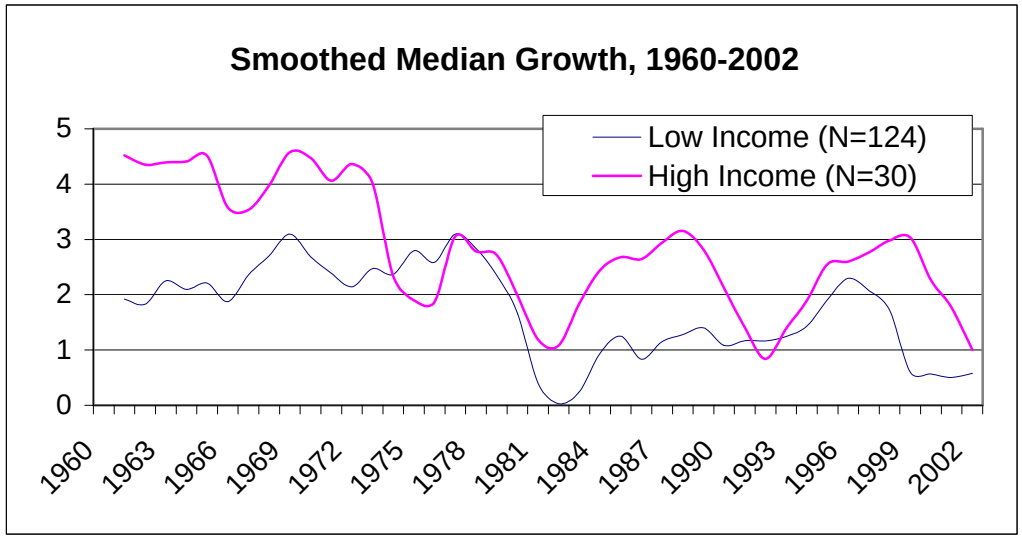
Ethnic fractionalization	Ethnolinguistic fractionalization index (measures the probability that two randomly selected persons from a given country will not belong to the same ethnolinguistic group). Source: Mauro (1995), initially from the Atlas Narodov Mira (Department of Geodesy and Cartography of the State Geological committee of the USSR, Moscow, 1964) and Taylor and Hudson (1972).
Middle class share	Share of quintiles 2-4, average 1960-1996
Gini	Average of the period 1900-1996
Trust	Percentage of respondents in each nation replying “most people can be trusted”. Source: World Values Survey
GDP per capita, PPP	World Bank (2000a)
GDP per capita growth	World Bank (2000a).

Table 1b: Summary Statistics and Sources of Institutional Variables

Variable	*Mean*	*Std. Dev.*	*Obs*	*Min*	*Max*
Voice and Accountability	0.352	0.92	82	-1.6	1.7
Quality of the Bureaucracy	3.678	1.46	72	1.4	6.0
Civil Liberties	3.397	1.62	81	1.0	6.1
Property Rights & Rule-Based Governance	3.232	0.82	56	1.0	5.0
Government Effectiveness	0.284	0.94	78	-1.7	2.1
Freedom from Graft	0.278	1.00	78	-1.6	2.1
Law and Order Tradition	3.743	1.40	72	1.4	6.0
Freedom from Political Instability and Violence	0.116	0.94	78	-2.4	1.7
Political Rights	3.305	1.83	81	1.0	6.4
Freedom from Regulatory Burden	0.386	0.60	82	-1.5	1.2
Rule of Law	0.263	0.97	82	-1.3	2.0

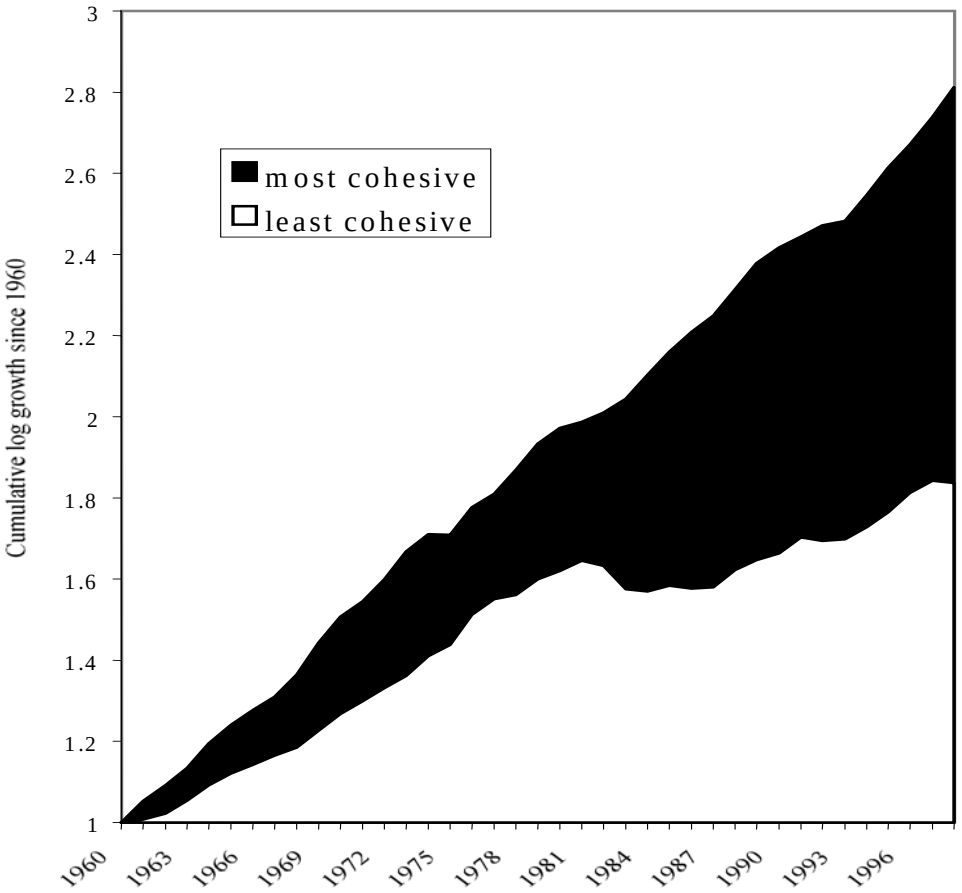
Voice and Accountability	Kaufmann, Kraay and Zoido-Lobaton (1999a)
Quality of the Bureaucracy	International Country Risk Guide (ICRG), average 1984-98
Civil Liberties	Freedom House, average 1972-98
Property Rights and Rule-Based Governance	Country Policy and Institution Assessment (CPIA), the World Bank 1998.
Government Effectiveness	Kaufmann, Kraay and Zoido-Lobaton (1999a)
Freedom from Graft	Kaufmann, Kraay and Zoido-Lobaton (1999a)
Law and Order Tradition	International Country Risk Guide (ICRG), average 1984-98
Freedom from Political Instability and Violence	Kaufmann, Kraay and Zoido-Lobaton (1999a) Freedom House, average 1972-1998.
Political Rights	Kaufmann, Kraay and Zoido-Lobaton (1999a)
Freedom from Regulatory Burden	Kaufmann, Kraay and Zoido-Lobaton (1999a)
Rule of Law	

Figure 1: Smoothed Median Growth, 1960-2002



Source: Calculated from World Bank (2003)

Figure 2: Index of per capita income in least cohesive and most cohesive societies (1960=1)



(Sample of 82 developing and developed countries)

Figure 3: Rule of law and per capita growth 1960-98
(moving median of 30 observations ordered by rule of law)

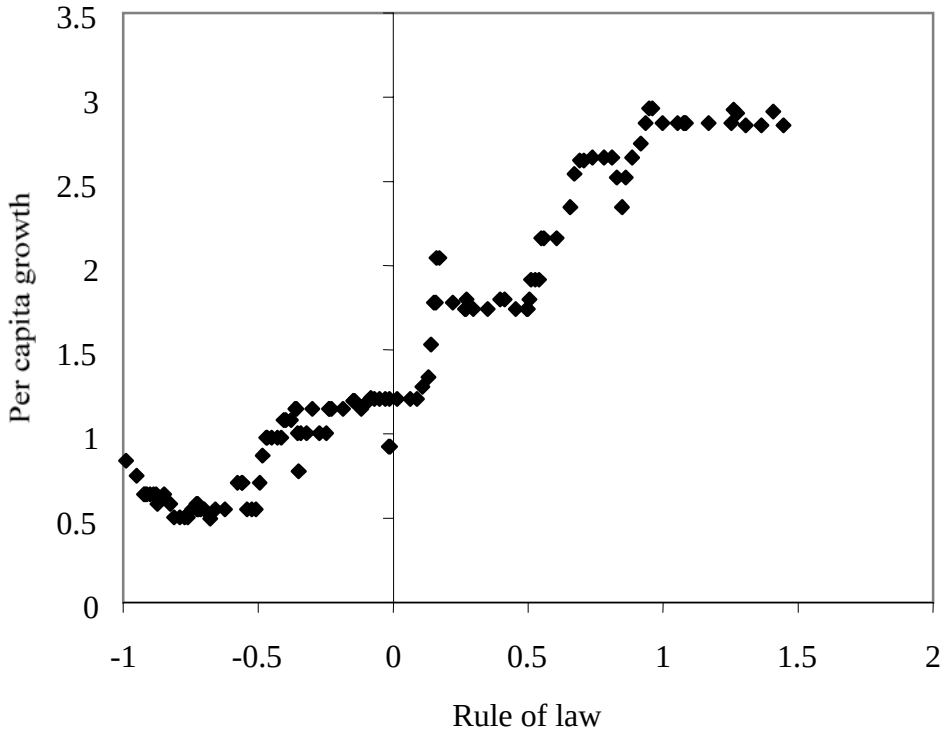


Figure 4: Share of the middle class and rule of law

(moving median of 20 observations ordered by middle class share

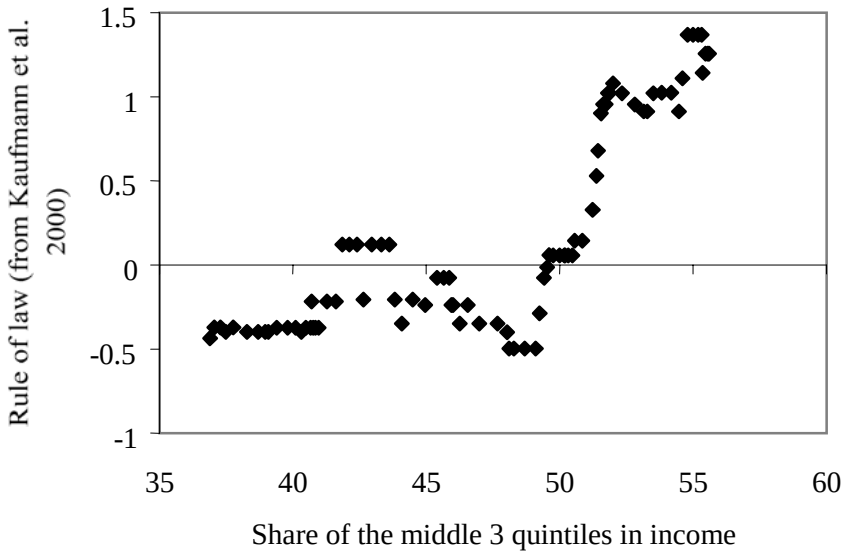


Figure 5: Ethnolinguistic fractionalization and rule of law

(moving median of 20 observations ordered by ethnic fractionalization

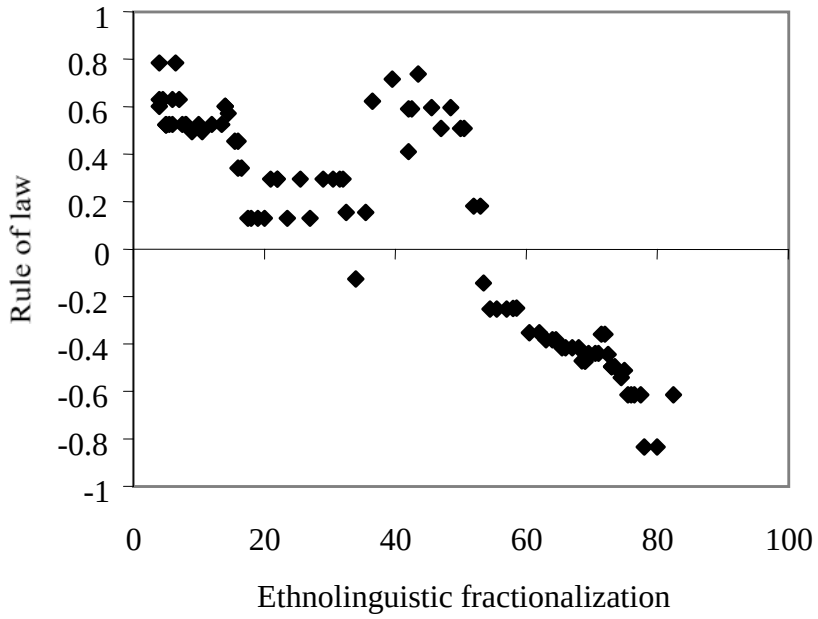


Table 2: 3SLS Regressions for Social Cohesion, Institutions, and Growth, Using Different Measures of Institutions

Equation 1: Institutions=C(1)+C(2)*Ethnolinguistic Fractionalization+C(3)*Middle Class Share

Equation 2: GDPPCGR= C(4)+C(5)*Institutions

Institutions Measure	C(1) Constant in first equation	C(2) Coefficient of institutions on ethnic	C(3) Coefficient of institutions on middle class	C(4) Constant in second equation	C(5) Coefficient of growth on institutions	OID: Sargan statistic	OID: Hansen J statistic	Number of observations
Voice and Accountability (KKZ)								
Coefficient	-2.036	-0.01	0.061	1.727	0.974	1.50	1.54	82
t-statistic (p-value for Sargan/Hansen stat.)	(3.44)***	(3.65)***	(5.07)***	(8.23)***	(3.11)***	0.22	0.21	
Quality of the Bureaucracy (ICRG)								
Coefficient	-1.431	-0.009	0.119	-0.131	0.613	3.06	3.04	72
t-statistic (p-value for Sargan/Hansen stat.)	(1.47)	(1.86)*	(6.11)***	-0.18	(3.13)***	0.08	0.08	
Civil Liberties (Freedom House), 1 most free, 7 most unfree								
Coefficient	7.425	0.019	-0.105	3.843	-0.534	0.57	0.66	81
t-statistic (p-value for Sargan/Hansen stat.)	(7.32)***	(4.08)***	(5.12)***	(6.29)***	(3.10)***	0.45	0.42	
Government Effectiveness (KKZ)								
Coefficient	-2.602	-0.009	0.071	1.844	0.93	2.22	2.50	78
t-statistic (p-value for Sargan/Hansen stat.)	(4.40)***	(3.29)***	(5.95)***	(9.56)***	(3.29)***	0.14	0.11	
Freedom from Graft (KKZ)								
Coefficient	-3.072	-0.009	0.081	1.876	0.829	2.58	2.84	78
t-statistic (p-value for Sargan/Hansen stat.)	(5.06)***	(3.22)***	(6.64)***	(10.01)***	(3.28)***	0.11	0.09	
Law and Order Tradition (ICRG)								
Coefficient	-1.302	-0.009	0.118	-0.191	0.619	2.68	2.60	72
t-statistic (p-value for Sargan/Hansen stat.)	(1.47)	(2.26)**	(6.66)***	(0.26)	(3.24)***	0.10	0.11	

Table 2, continued

Institutions Measure	C(1) Constant in first equation	C(2) Coefficient of institutions on ethnic	C(3) Coefficient of institutions on middle class	C(4) Constant in second equation	C(5) Coefficient of growth on institutions	OID: Sargan statistic	OID: Hansen J statistic	Number of observations
Institutions Measure	C(1) Constant in first equation	C(2) Coefficient of institutions on ethnic	C(3) Coefficient of institutions on middle class	C(4) Constant in second equation	C(5) Coefficient of growth on institutions	OID: Sargan statistic	OID: Hansen J statistic	Number of observations
Freedom from Political Instability and Violence (KKZ)								
Coefficient	-2.462	-0.009	0.064	1.991	1.001	1.90	1.93	78
t-statistic (p-value for Sargan/Hansen stat.)	(4.05)***	(3.27)***	(5.24)***	(11.05)***	(3.31)***	0.17	0.16	
Political Rights (Freedom House), 1 most free, 7 most unfree								
Coefficient	7.395	0.022	-0.109	3.67	-0.497	0.39	0.45	81
t-statistic (p-value for Sargan/Hansen stat.)	(6.25)***	(4.01)***	(4.56)***	(6.76)***	(3.19)***	0.53	0.50	
Freedom from Regulatory Burden (KKZ)								
Coefficient	-0.278	-0.007	0.02	1.216	2.212	0.13	0.14	82
t-statistic (p-value for Sargan/Hansen stat.)	(0.67)	(3.32)***	(2.39)**	(3.89)***	(3.33)***	0.72	0.70	
Rule of Law (KKZ)								
Coefficient	-2.989	-0.008	0.077	1.848	0.843	3.11	3.28	82
t-statistic (p-value for Sargan/Hansen stat.)	(4.87)***	(2.67)***	(6.27)***	(10.95)***	(3.40)***	0.08	0.07	
Trust								
Coefficient	-54.111	-0.067	1.805	1.25	0.033	8.45	7.32	34
t-statistic (p-value for Sargan/Hansen stat.)	(4.32)***	(1.17)	(7.36)***	(2.16)**	(2.00)**	0.00	0.01	