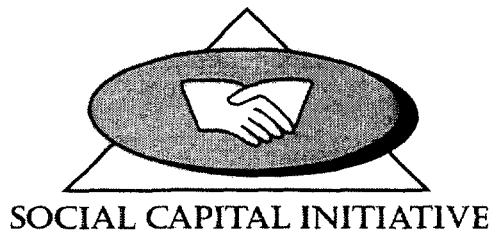


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**SOCIAL CAPITAL, GROWTH  
AND POVERTY: A SURVEY  
OF CROSS-COUNTRY  
EVIDENCE**

*By Stephen Knack*

The World Bank  
Social Development Family  
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## FOREWORD

There is growing empirical evidence that social capital contributes significantly to sustainable development. Sustainability is to leave future generations as many, or more, opportunities as we ourselves have had. Growing opportunity requires an expanding stock of capital. The traditional composition of natural capital, physical or produced capital, and human capital needs to be broadened to include social capital. Social capital refers to the internal social and cultural coherence of society, the norms and values that govern interactions among people and the institutions in which they are embedded. Social capital is the glue that holds societies together and without which there can be no economic growth or human well-being. Without social capital, society at large will collapse, and today's world presents some very sad examples of this.

The challenge of development agencies such as the World Bank is to operationalize the concept of social capital and to demonstrate how and how much it affects development outcomes. Ways need to be found to create an environment supportive of the emergence of social capital as well as to invest in it directly. These are the objectives of the Social Capital Initiative (SCI). With the help of a generous grant of the Government of Denmark, the Initiative has funded a set of twelve projects which will help define and measure social capital in better ways, and lead to improved monitoring of the stock, evolution and impact of social capital. The SCI seeks to provide empirical evidence from more than a dozen countries, as a basis to design better development interventions which can both safeguard existing social capital and promote the creation of new social capital.

This working paper series reports on the progress of the SCI. It hopes to contribute to the international debate on the role of social capital as an element of sustainable development.

Ismail Serageldin  
Vice President  
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# **SOCIAL CAPITAL, GROWTH AND POVERTY: A SURVEY OF CROSS-COUNTRY EVIDENCE**

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## **ABSTRACT**

This chapter surveys the major contributions to the rapidly growing empirical literature on social capital and economic performance, focusing primarily on cross-country approaches. Adopting Collier's classification of "government" social capital and "civil" social capital, this review encompasses studies of the impact of legal mechanisms for enforcing contracts and protecting personal and property rights, as well as informal mechanisms such as common values, norms, informal networks, and associational memberships that can complement or substitute for legal mechanisms.

The literature reviewed primarily examines the impact of social capital on economy-wide measures of performance, such as growth of GDP or rates of investment. New results presented here indicate that the impact of social capital is progressive: higher levels of social capital are associated with subsequent improvements in the distribution of income.

The conclusion briefly addresses the need for improved measures of social capital. An appendix describes and critiques the most commonly used empirical measures of governmental and social capital.

## **ABOUT THE AUTHOR**

Stephen Knack has written numerous articles on social capital issues published in academic journals, and in newspapers such as the Wall Street Journal and the Financial Times. He received a Ph.D. in Economics at the University of Maryland, College Park, in 1991. Current research interests include American voting participation, gender and corruption, and the effectiveness of foreign aid.





# SOCIAL CAPITAL, GROWTH AND POVERTY: A SURVEY OF CROSS-COUNTRY EVIDENCE

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## 1. INTRODUCTION

This chapter surveys the major contributions to the rapidly growing empirical literature on social capital and economic performance, focusing primarily on cross-country approaches. Section 2.1 addresses characteristics of governments that fall under broad definitions of the term “social capital”. Section 2.2 reviews studies of “civil” or non-governmental social capital, corresponding to a more narrow conception of social capital.

Most of this literature explores the determinants of growth in per capita incomes, and devotes no attention to distributional effects. Section 3 is a preliminary attempt to fill this gap, providing some new cross-country evidence of the effects of social capital on poverty and the distribution of income. Section 4 concludes, while the Appendix describes in more detail the available empirical indicators of social capital used in the literature.

### 1.1 Scope of the Study

This paper is limited primarily to cross-country studies of social capital and economic performance. It does not attempt to review comprehensively regional-level, village-level or individual-level analyses, or the expanding literature on social capital’s impact on non-economic outcomes such as health, education, or crime. A rapidly growing body of work, proceeding on the assumption that social capital has important *effects* on well-being, explores the *determinants* of social capital. This chapter addresses only the country-level analyses, and only very briefly.

The breadth of what is meant by “social capital” varies from one researcher to another. In keeping with the scope of the World Bank’s Social Capital Initiative, it is defined broadly here to include features of both government and civil society that facilitate collective action for the mutual benefit of a group, where “groups” may be as small as households or as large as a nation.

Collier (1998a) distinguishes “government social capital” from “civil social capital”. Adopting his terminology (if not his precise definition), the former will refer to governmental institutions that influence people’s ability to cooperate for mutual benefit. The most commonly-analyzed of these institutions in the literature reviewed here include the enforceability of contracts, the rule of law, and the extent of civil liberties that are permitted by the state. “Civil social capital” encompasses common values, norms, informal networks, and associational memberships affecting the ability of individuals to work together to achieve common goals.

What unifies the two concepts is that both types of social capital, government and civil, help solve the problem of social order by overcoming collective action problems. Social norms and generalized trust are analogous to legally-enforced property and contract rights: they reduce uncertainty and transactions costs, enhancing the efficiency of

exchange, encouraging specialization, and encouraging investment in ideas, human capital, and physical capital.

A theme repeatedly emerging from cross-country empirical studies is that the difference between developmental successes and failures is largely a function of incentives facing wealth-maximizing individuals. In some countries, the structure of incentives steers people primarily toward producing new wealth, while in other countries it is easier to gain wealth by diverting it from others. Social capital determines the relative payoffs of production and predation, “making” and “taking.” Where social and legal mechanisms for the efficient resolution of prisoners’ dilemma and principal-agent games are weak or absent, the private returns to predation increase while the private returns to production fall.

## 1.2 Cooperation at What Level?

In studying the relationship between social capital and economic well-being, the choice of units of analysis is crucial. Fundamentally, the social capital question concerns the benefits and costs of cooperation. Within-group collective action often imposes costs on non-members. Thus, scholars have gradually recognized the potential importance of “negative” as well as “positive” social capital. Cooperation within a particular group will often have multiple effects. Welfare within the group generally will be enhanced, in the sense that the collective gains net of costs to group members is positive: this is the standard hypothesis concerning social capital’s impact. However, the welfare of non-members may also be affected, and not always for the better.

When the *goal* of one group is to reduce the well-being of members of some second group, we can hypothesize that successful collective action in the first group (for example, the Nazi Party in 1930s Germany) will entail welfare losses for members of the second group (the Jewish population). More often, a group (e.g., sugar producers in the U.S.) may not directly value a reduction in the welfare of non-members (sugar consumers), but may nonetheless be willing to impose costs on non-members in the pursuit of group goals.

The implication is that in general we can sign only the hypotheses on the main diagonal in the matrix of Table 1. For example, if the members of each household in a particular village cooperate in the interests of the household, the village as a whole may be worse off than a neighboring village in which individuals are less willing or able to impose costs on persons outside the household.

Table 1

	Cooperation among members of...						
Welfare of:	Household 1	Household 2	Village 1	Village 2	Ethnic group 1	Ethnic group 2	The nation
Household 1	+	?	?	?	?	?	?
Household 2	?	+	?	?	?	?	?
Village 1	?	?	+	?	?	?	?
Village 2	?	?	?	+	?	?	?
Ethnic group 1	?	?	?	?	+	?	?
Ethnic group 2	?	?	?	?	?	+	?
Nation	?	?	?	?	?	?	+

As a second example, suppose that social ties within a village raise the rate of return to a public project, making all residents of the village better off. If these same social ties were responsible for the village's success in lobbying for outside funds to finance the project, a second village with weaker social ties losing out in the competition for funds is made worse off. If the funds would have been more productively spent in the second village (e.g., suppose it is much poorer), the first village's high social capital can actually reduce social welfare at the aggregate level.

In perhaps the most relevant example, strong ethnic ties can improve the welfare of members of the ethnic group,<sup>1</sup> but often at the expense of other groups. Depending on how "encompassing" a group, the costs it is willing to impose on non-members in the pursuit of its members' interests may be an enormous multiple of the group's gains from collective action (Olson, 1982). Apart from *incentives*, a group's *ability* to impose costs on non-members is likely to vary with a society's governance structures. Where the populace has secure civil liberties and there are strong property rights and rule of law, fewer social resources are up for political grabs and groups have less opportunity to benefit via zero-sum or negative-sum competition against other groups (Rodrik, 1998; Lane and Tornell, 1996).

Identifying Olson (1982) and Putnam (1993) as either end of a continuum of views concerning the effects of groups, the Olson perspective would suggest that the cells of Table 1 not on the main diagonal in general should be negatively signed. The Putnam perspective calls for positive signs, as cooperation among members of a group is believed

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<sup>1</sup>However, intra-ethnic collective action (e.g., among the Bosnian Serbs) directed against another ethnic group (e.g., the Bosnian Muslims) generally stimulates stronger ties within the targeted group, making the net impact of collective action on the welfare of members of the first group ambiguous.

to create habits and attitudes toward serving the greater good that carry over to members' interactions with non-members. Which effect is larger is an empirical question, with answers that likely vary with cultural as well as institutional factors (for example, religions may differ in their emphasis on the desirability of behaving altruistically toward strangers.)

Narayan and Pritchett (1999), Grootaert (1998) and others have begun testing some of the hypotheses represented in the upper-left corner of this matrix. Others, such as Varshney (1998), are investigating the impact of inter-ethnic and intra-ethnic ties on the frequency and intensity of ethnic conflict.

This paper reviews evidence from studies in which country-level indicators of well-being are the dependent variables, relevant to the hypotheses represented in the bottom row of the matrix in Table 1. Most of this evidence bears specifically on the hypothesis represented in the far right corner of the matrix. To summarize briefly, most of the evidence provides strong support for the hypothesis that social capital as measured at the national level is associated with improved economic welfare of societies, as measured by growth, investment, and poverty indicators.

## **2. SOCIAL CAPITAL, INVESTMENT, AND GROWTH: A SURVEY OF EMPIRICAL LITERATURE**

The available indicators of governmental social capital are commonly measured only at the level of nations. For example, values for the "rule of law" are assigned to nations, and not to constituent parts of nations such as provinces, villages, or households. In part, this is a question of data availability, as one could conceivably attempt to measure differences in the way local governments enforce national laws regarding (for example) the enforceability of contracts, as well as differences in local laws. However, within-country variation in government social capital is likely very small relative to cross-country variation, particularly since governments are highly centralized in most of the world.<sup>2</sup>

Measuring civil social capital is more problematic. While the judicial system in most nations is likely to enforce contracts more or less equally well across all regions, cooperative norms, interpersonal trust and the social ties that generate them are more likely to vary by locality. Because they will vary more than government social capital, they are more likely to play a role in explaining regional differences in economic performance within countries. Measuring regional-level differences within countries--through surveys or other means--is costly, however, and is not likely to be accomplished in a comparable fashion for a large sample of nations in the near future.

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<sup>2</sup>Of course, legal systems often protect the rights of some citizens more effectively than others, based on gender or ethnicity for example.

Cooperative norms, trust and social ties are most readily measured through conducting representative surveys of individuals. Important issues arise in aggregating survey-based measures to assign values to *nations*. For example, a country populated by individuals with strong intra-family or intra-ethnic trust or ties is not what Fukuyama (1995) and others mean by “high-trust societies.”

Conceptually, the type of trust that should be unambiguously beneficial to a nation’s economic performance is trust between strangers, or more precisely between two randomly-matched residents of a country. Particularly in large and mobile societies where personal knowledge and reputation effects are limited, a sizeable proportion of potentially mutually-beneficial transactions will involve parties with no prior personal ties. In societies where strangers can trust each other to act in the collective interest, people not only can leave their bicycles unattended and unlocked on the street, they can contract with a wide range of parties without extended written agreements, and run a business without devoting substantial time to monitoring employees, partners, and suppliers. They may also be more likely than members of low-trust societies to support efficient economic policies whether or not they increase one’s personal income.

Thus, it is something like trust in strangers, or the propensity to cooperate in large-numbers prisoners’ dilemma settings (whether such trust is created by social or governmental mechanisms, or some combination of the two), that we must measure to test the hypothesis represented in the bottom right corner of Table 1. Within-family trust, intra-ethnic trust, or other forms of “particularized trust” or “specific trust” may well be corrosive to “generalized trust” (trust in strangers). Strong intra-ethnic trust in an ethnically-heterogeneous society may restrict the scope for transacting and lead to segmented markets, reducing gains from specialization, and perhaps from economies of scale (Greif, 1994).

Because of the importance of these and other measurement issues, the question of measurement is a recurring theme in discussing the empirical literature on social capital and economic performance. The remainder of this section deals in turn with studies focusing on government social capital, and then civil social capital.

## **2.1 Government Social Capital**

### *Civil Liberties and Political Freedoms*

Kormendi and Meguire (1985) were apparently the first to explore the relationship between government social capital and economic performance using a cross-country statistical approach. They obtained data (from the International Financial Statistics) on the average annual growth in per capita incomes, and the investment to GDP ratio, for a sample of 47 countries for the 1950-77 period. In regressions with growth and investment as dependent variables, they tested hypotheses on income convergence, population growth, government size, trade openness, and inflation, and examined the relationship between economic performance and “civil liberties”. “Civil liberties” is an

index constructed by Raymond Gastil (1990) for Freedom House. Values range from 1 to 7, with lower scores indicating greater civil liberties. The criteria used by Gastil were primarily political and social rather than economic in nature (see Data Appendix). Kormendi and Meguire were interested not only in testing the impact of political and social freedoms, but also of “economic rights, such as freedom from expropriation or the enforceability of property rights and private contracts.” They acknowledged that the civil liberties index was not intended to measure economic rights, but argued that the two were likely correlated (p. 154).

Kormendi and Meguire dichotomized the index, with countries scoring 1 and 2 classified as high civil liberty nations. This dummy variable has a positive and marginally significant impact in their growth regression. Growth rates are about 1 percentage point higher on average in the high civil liberties countries, controlling for the other independent variables mentioned above. They found evidence that the association between civil liberties and growth is attributable almost entirely to the former’s impact on investment rates: when the investment to GDP ratio is added to their growth regression, civil liberties no longer has any independent effect. In a regression with investment/GDP as the dependent variable, civil liberties is by far the most powerful explanatory factor. High civil liberties is associated with a 5 percentage point increase in investment's share of GDP (which averages about 20%).

The Kormendi-Meguire study was limited to 47 countries for which data were available beginning in 1950. Grier and Tullock (1989) explored the relationship between a very similar set of independent variables and growth, but for a much larger sample of 113 countries. Each observation in their analysis comprises a 5-year period, so that a nation with available data from 1950 to 1980 contribute 6 observations, while others with available data beginning only in 1960 contribute 4 observations each.

Grier and Tullock, using an F test, rejected the null hypothesis that it is appropriate to pool observations from different continents, and ran separate regressions for the OECD, Latin American, Africa and Asia. They constructed a dichotomous variable from Gastil’s civil liberties indicator in which countries in the two “most repressive” categories are distinguished from all others, and described this variable as “a proxy for the political infrastructure” of nations. They found that political repression is associated with a significant reduction in annual growth rates of about 1.5 percentage points in the Latin America and Africa samples, but that repression has no effect in the Asia sample (no OECD nation was classified as repressive).

The research design employed by Grier and Tullock treats every observation within each continent grouping as independent, with no country dummies included<sup>3</sup> and

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<sup>3</sup>Because all 4 (or 6) observations for a country are assigned the same value (from the late 1970s) for the civil liberties index, including country dummies would make it impossible to estimate the impact of civil liberties.



no tests or corrections for autocorrelation. Other studies using pooled time-series cross-country data routinely find regression residuals to be strongly correlated within countries. It is doubtful that civil liberties would remain statistically significant using a more appropriate research design, particularly for the Latin America sample (where the t statistic for civil liberties was only 1.88).

Scully (1988) used the civil liberties indicator and others provided by Gastil as measures of the "institutional framework." Emphasizing the "independence of the judiciary" among the various criteria Gastil used in evaluating civil liberties, Scully viewed this variable as a proxy for the rule of law. A separate Gastil indicator assigns countries to one of five categories, based on their level of "economic freedom," which Scully took as a proxy for the security of private property rights. A third Gastil variable rates political freedoms on a 7-point scale.

Scully constructed a series of dummy variables from these three measures, and tested their effects on income growth over the 1960-80 period for a sample of 115 nations, controlling for changes in the capital-labor ratio. Income growth in nations with greater civil liberties (or political freedoms, or economic freedom) was found to be about double the rate of growth in less-free nations. Because civil, political, and economic freedoms were highly correlated, including all three sets of measures in one regression increases these growth differences only slightly: for nations rated at the top of all three indicators, the growth rate was triple the rate for nations rated least free on all three dimensions (2.73% vs. 0.91%).

Causality is a serious and largely-neglected problem in all of these studies. Bilson (1982) had earlier shown that civil liberties are strongly associated with per capita income (and positively but not significantly related to recent income growth), but his interpretation was that economic performance determines freedoms, rather than the other way around. The Gastil ratings were constructed beginning in 1973. Scully used the average values for the 1973-80 period in his study of 1960-80 growth. Kormendi and Meguire (1985) and Grier and Tullock (1989) analyzed growth over the 1950-77 and 1950-80 periods, respectively, and each apparently used Gastil's ratings for 1978 or 1979. A potentially serious limitation of this work is that the "effect" precedes the "cause". The key independent variables of these three studies represent conditions prevailing in the late 1970s, while the dependent variables measure economic performance over extended periods ending in 1980 or before. Employing Gastil indexes averaged over the years 1974-89, in tests measuring investment and growth over that same period, Knack and Keefer (1995) obtained much weaker effects for civil and political freedoms.

Because of the large number and variety of criteria factored into Gastil's civil liberties index (see Data Appendix), it is a questionable proxy for more narrow concepts such as the rule of law, contract enforceability, or security of property rights. While certain criteria incorporated in the index are highly relevant -- e.g. rights to property, independence of the judiciary, and freedom from government corruption -- others are not,

such as the presence of free religious institutions, free trade unions, and freedom from “gross socioeconomic inequality” and “gross government indifference.”

A later set of studies investigating the relation of regime type to growth interpreted Gastil’s political freedoms and civil liberties indexes as measures of democracy. Barro (1996) and Helliwell (1994) found that the Gastil indexes were positively related to growth only if variables such as educational attainment and investment rates are omitted as explanatory variables, and concluded that any beneficial impacts of democracy on growth may operate through these factor accumulation channels. Barro discovered that a curvilinear relationship between growth and the Gastil index fits the data better than a linear specification, with the fastest rates of growth exhibited by the partly-free nations.<sup>4</sup> Barro, Helliwell and Burkhart and Lewis-Beck (1994) all concluded that the positive relation between income levels and democracy is mostly attributable to the former’s impact on the latter rather than vice versa. These results are consistent with Lipset’s (1959) earlier interpretation of the correlation between income and democracy.<sup>5</sup>

Isham, Kaufman and Pritchett (1997) analyzed the impact of the “quality of governance” on the performance of hundreds of World Bank-financed projects in various developing countries over the 1974-93 period. They found that rates of return are higher in nations with greater civil liberties, as measured by the Gastil index (and several alternative indicators of civil liberties). Controlling for country-level policy variables, capital-labor ratios, project complexity, and regional dummies, each 1-point improvement in the 7-point Gastil scale is associated with improvements of more than 1 percentage point in the rate of return (which averaged about 16% over all projects). Gastil’s political freedoms index, along with other democracy indicators, proved to be unrelated to project performance. Civil unrest -- frequencies of riots, strikes, and protest demonstrations -- was positively associated with performance, in the authors’ view because civil unrest is a symptom of environments in which mechanisms for expression of discontent with government performance are available and effective. The authors interpreted their findings overall as evidence for the view that “increasing public voice and accountability” improves government performance.<sup>6</sup>

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<sup>4</sup>An earlier literature on the determinants of deaths from political violence found a similar curvilinear relationship, with deaths highest among countries with intermediate rankings on the Gastil indexes. See, for example, Muller and Weede (1990).

<sup>5</sup>See Przeworski and Limongi (1993) for a critical review of the extensive and inconclusive literature on the relation of regime type to economic performance.

<sup>6</sup>By this interpretation of the Gastil civil liberties indicator, it could represent civil rather than governmental social capital.

## *Political Violence Frequencies*

Barro's (1991) classic empirical study on the determinants of growth tested indicators of political instability, which he interpreted as "adverse influences on property rights." These instability variables have important advantages over the Gastil indexes as proxies for property rights and other dimensions of the quality of governance. First, they are objective measures, consisting of counts of various types of politically-related violence. Second, they are constructed for the entire period covered by the Summers-Heston income data set, not just for recent years, allowing for a fuller empirical treatment of causality issues.

The two violence measures Barro tested are the average annual number of revolutions or coups, and a similar count for political assassinations, using data from Banks (1993). Each of these variables is significantly and negatively related to growth rates and to private investment's share of GDP over the 1960-85 period.<sup>7</sup> Barro reported that with the inclusion of these variables, Gastil's indexes (which he had tested in earlier unpublished drafts) are no longer significant.

Endogeneity is potentially a serious problem with violence indicators, as with the Gastil indexes. Barro acknowledged that the violence-growth relationship might "reflect a positive influence of growth on political stability" rather than the other way around. Investigations of this issue using time series data provide mixed results. Alesina et al. (1996) showed that political instability and violence are jointly determined: coups lead to worse economic performance, but slow growth in turn increases the likelihood of coups. Londregan and Poole (1990, 1992) also concluded that coups are caused by low growth, but found that more frequent coups do not reduce growth rates. Using income inequality as an instrument for political instability, and the price of investment goods as an instrument for investment, Alesina and Perotti (1996) found that instability lowers investment's share of GDP (1960-85), but that investment rates do not significantly affect political violence.

As with the Gastil measures, it is questionable how well the political violence frequencies capture variations in the underlying country characteristics of interest, such as the security of property rights and the rule of law. Coups, for example, often entail only changes in the identity of the kleptocratic chief executive, with few or no implications for the property rights of anyone outside the ruler's and ex-ruler's circles of key supporters. Conversely, some stable (long-lasting) governments have been known to legislate economic policies erratically through numerous and unpredictable executive decrees.

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<sup>7</sup>Indexes of political instability constructed from several violence indicators have been linked to growth (Gupta, 1990) and to investment (Alesina and Perotti, 1996).

### *Subjective Political Risk Ratings*

The deficiencies of the violence counts and Gastil's indexes, coupled with the increasing prominence of "new institutional" explanations for underdevelopment (North, 1990), created a demand for more direct measures of the quality of governance. In independent but simultaneous research, Mauro (1995) and Knack and Keefer (1995) turned to subjective ratings marketed to international investors by firms specializing in political risk evaluation. These ratings services include Business International (BI), the International Country Risk Guide (ICRG), and Business Environmental Risk Intelligence (BERI).

The ICRG rates the institutional environments of countries on many dimensions. Knack and Keefer (1995) constructed an index from the five they viewed as being of greatest relevance to the security of private property and the enforceability of contracts: "Corruption in Government," the "Rule of Law," "Expropriation Risk," "Repudiation of Contracts by Government," and "Quality of the Bureaucracy." From BERI, they constructed a similar index from the variables "Contract Enforceability," "Nationalization Risk," "Bureaucratic Delays," and "Infrastructure Quality."

Adding the ICRG index to a Barro-type growth regression, Knack and Keefer found that a standard-deviation increase in the index (about 12 points on a 50-point scale) increases growth by 1.2 percentage points on average. Substituting the BERI index for the ICRG index produced a similar association with growth. These indexes (particularly BERI) prove to have strong explanatory power for private investment also. Moreover, in growth or investment regressions that include the violence counts or Gastil indexes as well as the Knack and Keefer property rights indexes, only the latter prove statistically significant. Because of its much better cross-country coverage relative to BI and BERI, the ICRG indicators have become widely used in the cross-country empirical literature on economic performance.

In related work, Keefer and Knack (1997) and Knack (1996) showed that the rate at which poor countries converge to the richest nations' income levels varies with the quality of governance as proxied by the ICRG and BERI indexes. Keefer and Knack tested interactions between initial per capita income and institutional quality, finding that the ability of poor countries to take advantage of the rapid-growth opportunities afforded by relative backwardness is a function of property rights and contract enforcement. Namely, the coefficient on initial income is negative and significant -- as predicted by convergence theories -- only when the values of ICRG and BERI are sufficiently high.

Mauro (1995) tested three variables constructed from BI indicators: (1) "Corruption," (2) a bureaucratic efficiency index constructed from three measures: "Corruption," "Bureaucracy and Red Tape," and the quality of the "Legal System and Judiciary," (3) a "political stability" index constructed from six indicators representing the likelihood of changes in government, terrorist acts, labor unrest, other domestic conflict, or conflict with neighboring countries.

These indexes are positively and significantly related to growth and investment in Barro-type regressions. Although the indexes are strongly correlated with each other, the political stability and bureaucratic efficiency indexes are each marginally significant when both are entered in the same regression. When investment is included in the growth regression, the BI coefficients drop somewhat, suggesting that part but not all of the growth effects of political stability and bureaucratic efficiency are attributable to efficiency and innovation channels.<sup>8</sup>

Mauro's BI indicators are averages over the 1980-83 period, while investment and growth are measured over 1960-85, raising causality issues similar to those of studies employing the Gastil indexes. Economic success conceivably improves bureaucratic efficiency and political stability. Moreover, possible biases in coding that are correlated with economic performance are more of an issue than with the Gastil indexes or political violence counts. For example, a BI (or ICRG, or BERI) expert might surmise that corruption must not be too severe in country X, because it is observed to be attracting foreign investment or growing rapidly.

Mauro dealt with the reverse causation issue by using an index of ethnic fractionalization and a set of colonial heritage dummies as exogenous instruments for the BI indicators. In general, his two-stage least-squares estimates of the association between the BI indicators and economic performance are positive and significant. Although Mauro reported that overidentification tests confirm the validity of the instruments, the use of ethnic fractionalization is questionable because of evidence that it influences growth independently of its effects on bureaucratic efficiency and political stability. Using a variety of ethnicity indicators, Easterly and Levine (1997) showed that ethnic heterogeneity is associated with a broad range of inefficient economic policy choices. In the ICRG sample -- larger than the BI sample -- ethnic fractionalization remains significantly related to growth even controlling for institutional quality (Zak and Knack, 1998).

Knack and Keefer (1995) also acknowledged the potential for reverse causality from economic performance to (real or perceived) institutional quality. Their response was to measure institutions as far back in time as possible, and to measure their dependent variables farther forward in time. They focused primarily on growth and investment rates over the 1974-89 period (with data from Levine and Renelt, 1992), and used the first available observation for each country for their institutional indicators, 1982 for ICRG and 1972 for BERI for most countries.

Chong and Calderon (1997) employed a more rigorous approach to causality using BERI data. The longer time series for BERI makes it preferable to BI or ICRG for

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<sup>8</sup>This pattern also shows up using the ICRG index. Using the BERI index, the institutional environment appears to influence growth primarily through investment rates.

conducting causality tests exploiting time-series variation in the data. Calderon and Chong obtained strong evidence for two-way causality: growth increases the BERI measures, but higher BERI values increase growth rates.

A potentially important drawback of the political risk indicators used by Mauro (1995) and by Knack and Keefer (1995) is that these measures likely better represent conditions facing foreign investors -- the paying clients of the risk assessment firms -- than conditions confronting domestic investors. Given the crucial importance of foreign technology and capital for successful catch-up growth in poor countries, conditions facing would-be foreign investors are by no means irrelevant, but unless those conditions are perfectly correlated across countries with conditions facing domestic investors, subjective political risk evaluations are only partial indicators.

### *Surveys of Entrepreneurs*

A more compelling approach to measuring property rights, contract enforceability and bureaucratic integrity and efficiency involves surveys of entrepreneurs -- both foreign and domestic -- operating in developing countries. This approach has been implemented most impressively by Borner, Brunetti and Weder (1995) and, with later assistance from the World Bank, by Brunetti, Kisunko and Weder (1997; also see 1997 World Development Report).

Brunetti, Kisunko and Weder (1997) constructed a country-level "credibility of rules" index from the survey data, designed to characterize "unclear property rights, constant policy surprises and policy reversals, uncertain contract enforcement and high corruption..." The index is based on country means of survey responses to 10 items, measuring expectations of the frequency of government changes and policy surprises, protection from criminal actions, unpredictability of the judiciary, and the frequency of "irregular additional payments" necessary to operate a business. Each item has six response categories; they treat these as interval-scale variables and compute averages by country, and then average over all 10 items, with a resulting index ranging from a best possible value of 1 and worst possible value of 6.

For a 41-nation sample, and controlling for initial income and educational attainment, Brunetti, Kisunko and Weder found their "credibility of rules" index to be significantly related to growth and investment in the 1983-94 period. While they did not report the quantitative impact of their index, their regression coefficients imply extremely large effects: each 1-category improvement in the 1-6 credibility scale is associated with a 3.7 percentage-point rise in investment's share of GDP, and a 1.5-point increase in annual average income growth.

Because original surveys can be guided by theory, they produce even more direct and relevant measures of the quality of governance than those provided by political risk evaluators such as BI, BERI, and ICRG. The questions can also be asked of both

domestic and foreign investors. There are several major limitations of these survey indicators, however.

First, they have to date been conducted only in a relatively small number of countries, far smaller than the number covered by ICRG, for example. Second, studies employing these data have not subjected them sufficiently to reliability testing. For example, confidence in the accuracy of country-level estimates produced by the data would be increased if the authors were able to report that the average variance of responses *within* countries, for any given survey item, is small relative to the variance *across* countries. Third, the data are measured end-of-period (the larger, Bank-supported survey was conducted in 1996). Questions about whether conditions were better, worse, or the same 10 years ago are included in the questionnaire, but for many obvious reasons use of such recall measures is a very crude means of tackling causality issues.

Finally, it is not necessarily the case that these surveys even measure current conditions more accurately than political risk indicators such as ICRG. The sample is drawn from a censored population, which may have a more optimistic view of the investor climate than the true population of interest, namely all *potential* investors. The entrepreneurs surveyed in each country include only those that chose to undertake some investment there; would-be investors scared away by poor governance or other factors are not represented in the sample of survey respondents. The degree of censoring will increase with poor governance, as a larger proportion of potential investors will decline to invest. The major practical impact arguably is to reduce the cross-country variation in these indicators, making it more difficult other things equal to reject null hypotheses.<sup>9</sup> In this context, it is all the more remarkable -- especially given the small number of countries surveyed, and the small number of entrepreneurs sampled in each country -- that Brunetti and colleagues find significant links with investment and growth.

### *"Contract-Intensive Money"*

In response to the perceived shortcomings of subjective measures, Clague et al. (1999) introduced an objective measure called "contract-intensive money," or CIM, equal to the proportion of  $M_2$  not comprised of currency outside banks. The data coverage over time and across countries for CIM, calculated from standard monetary indicators, is far superior to that of any of the subjective measures. Because CIM is objectively measured, it is not subject to contamination by knowledge of recent economic performance by country experts or by surveyed entrepreneurs, removing an important potential source of endogeneity.

The logic behind CIM is that for numerous reasons individuals will hold a larger proportion of their financial assets in the form of currency in environments where third-

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<sup>9</sup>Cross-country variation would similarly be reduced if only the most dissatisfied entrepreneurs were sufficiently motivated to respond to the survey (which had a response rate of about 30%).

party enforcement of contracts is unreliable. Money lent to financial institutions (i.e. bank deposits) is less safe where one cannot rely on contracts. Not only are banks more likely to default on their obligations, but governments unable or unwilling to enforce contracts between private parties are unlikely to respect private property themselves, e.g. by refraining from expropriating bank depositors. The CIM ratio is the outcome of choices by wealth-maximizing firms and individuals: the ratio will increase where governments better enforce and respect contracts and private property rights. Where property and contract rights are less clearly defined and secure, borrowers will find it more difficult to offer collateral as security against default, inhibiting the development of financial institutions and sophisticated financial instruments, limiting the availability of money other than currency.

Clague et al. showed that CIM is significantly and positively correlated with growth rates and (even more strongly) with investment's share of GDP over the 1970-92 period. Each standard-deviation increase in CIM (about .14) is associated with a 0.6 percentage point increase in growth, and a 2.5-point increase in investment's share of GDP, in Barro-type regressions. Findings are very similar if the initial value for CIM (from 1969) is substituted for the period (1969-90) average of CIM, to minimize endogeneity problems. Results are not sensitive to controlling for inflation (which makes holding currency less attractive) and for the most common measure of financial development, the ratio of  $M_2$  to GDP.

Despite its virtues as an easily-measured, objective indicator with broad coverage over time and across countries, CIM clearly only partially captures variations in the institutional environment. It measures the tradeoff between holding assets in only one of two forms: currency and bank deposits. Ideally, a broader measure could be constructed which captured holdings of foreign currencies, gold, and other assets (which should constitute a higher proportion of assets in nations with poor contract enforcement). Unfortunately, available data do not permit construction of such indicators for a reasonable-sized sample of countries.

While any single measure of government social capital is imperfect, the shortcomings of each of the various measures introduced in this literature are largely independent of each other. Therefore, the empirical findings generated by this body of work must be taken very seriously: *all* of these studies point to significant and positive relationships between good governance and growth, with strong indications that the former in fact causes the latter.

## **2.2 Civil Social Capital**

Civil social capital can influence economic performance through either of two major channels: micro-economic or macro-political. At the micro level, social ties and interpersonal trust can reduce transactions costs, enforce contracts, and facilitate credit at the level of individual investors. At the macro level, social cohesion and civic engagement can also strengthen democratic governance (Almond and Verba, 1963),



improve the efficiency and honesty of public administration (Putnam, 1993), and improve the quality of economic policies (Easterly and Levine, 1997). The formal theory concerning micro-level effects in general is better developed (e.g., Zak and Knack, 1998; Greif, 1993) than for the macro channels.<sup>10</sup> The existing empirical literature represents a mix of the two channels; in some studies the evidence simply shows that civil social capital matters for economic performance, with no attempt to distinguish empirically micro-economic from macro-political channels.

### *Civic Community and Governmental Performance*

Helliwell and Putnam (1995) provided a rigorous test of Putnam's (1993) hypothesis on the role of social capital in accounting for variations in economic performance across Italian regions. They tested in succession three alternative regional-level indicators of social capital, finding that each is positively and significantly related to growth over the 1950-90 period, controlling for 1950 per capita income.

Their three measures are borrowed from Putnam (1993). The simplest one is based on surveys of citizen satisfaction concerning the activities of regional governments. The share of respondents who were "very" or "rather" satisfied was aggregated by region over all such surveys conducted between 1977 and 1988.

A second indicator measures regional government performance in other ways. Twelve variables, some objective and others subjective were aggregated into a single index. Variables included the timeliness of budgets, legislative innovation, and speed and accuracy of responses to requests for information.

The third measure is an index of "civic community." The four components of the index include newspaper reading, the number of sports and cultural organizations, turnout in referenda, and the incidence of preference voting (a proxy for patron-client networks, which Putnam [1993] viewed as antithetical to social capital). Civic community is viewed as a determinant of institutional performance, leading to greater citizen satisfaction with regional government. Putnam (1993) had earlier demonstrated strong regional-level associations between civic community and governmental performance, and between civic community and citizen satisfaction with government.

The discussion in Helliwell and Putnam emphasized the effects of institutional performance on growth, suggesting that the "civic community" and citizen satisfaction indicators are simply alternative proxies for the preferred measure of regional government performance. However, they noted that social capital could influence the efficiency of operations within individual firms, an idea discussed at much greater length in Putnam (1993). Conceivably, then, civic community could be related to growth independently of its effects on governmental performance. They did not test for the relative importance of

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<sup>10</sup>Alesina and Drazen (1991) is an exception.

micro-economic versus macro-political channels, however, as their regressions never included more than one of the three social capital indicators at a time.

### *Generalized Trust*

Fukuyama (1995) was apparently the first writer to attribute cross-national differences in economic performance to variations in trust and "spontaneous sociability." While these dimensions of civil social capital are not perfect substitutes for contract and commercial law,

"...the presence of a high degree of trust as an additional condition of economic relations can increase economic efficiency by reducing...transactions costs, incurred by activities like finding the appropriate buyer or seller, negotiating a contract, complying with government regulations, & enforcing that contract in the event of dispute or fraud. Each of these transactions is made easier if the parties believe in each other's basic honesty: there is less need to spell things out in lengthy contracts; less need to hedge against unexpected contingencies; fewer disputes, & less need to litigate if disputes arise."

Fukuyama stressed the relationship between social capital and industrial organization: he argues that where trust does not extend beyond the family, the supply of capital and of qualified managers is more limited, constraining the scale of private firms. More generally, he argued that higher-trust societies are better able to implement efficient organizational innovations, when changes in technology or other factors make existing organizational forms obsolete. Trust can influence economic outcomes through macro-political channels as well, because "sociability is also a vital support for self-governing political institutions" (p. 325), as in Putnam (1993).

Fukuyama's empirical evidence is mostly descriptive and qualitative rather than quantitative. Among the nations he discussed in detail, he classified the U.S., Japan and Germany as high-trust societies, and France, Italy, China, Korea, Hong Kong and Taiwan as low-trust societies, based on impressionistic evidence.

La Porta et al. (1997) and Knack and Keefer (1997) used data from the World Values Surveys (WVS) to conduct more systematic tests of Putnam's and Fukuyama's hypotheses. These surveys include roughly 1000 respondents in each of several dozen countries, with an initial wave of surveys conducted in the early 1980s, and a second larger wave in the early 1990s. Most nations included in the first wave were developed nations; the second wave included more developing and formerly Communist nations. The surveys are intended to be nationally representative, but urban areas and better-educated persons are believed to be somewhat overrepresented, particularly in developing countries (Inglehart, 1994).

Trust values for each country are calculated as the percentage of respondents who agree that "most people can be trusted" rather than the alternative that "you can't be too careful in dealing with people." Values range from about 60% for the Scandinavian nations and Finland to about 8% for Brazil.

La Porta et al. (1997) and Knack and Keefer (1997) showed that trust is associated with better ratings on subjective measures of governmental efficiency, corruption, and infrastructure quality (from ICRG and other sources).<sup>11</sup> Knack and Keefer also found that trust in people strongly predicts WVS survey measures of confidence in governmental institutions. These findings are consistent with Putnam's results, in which Italian regions scoring higher on social capita indicators showed superior governmental performance. La Porta et al. also found that higher-trust societies have lower infant mortality, controlling for income, a result also found for the American states by Kawachi et al. (1997).

La Porta et al. tested Fukuyama's firm scale hypothesis, regressing the revenues of the 20 largest firms as a proportion of GDP on per capita income, trust in people, and a measure of trust in family members. Providing striking support for Fukuyama, the scale measure is unrelated to income, and strongly related to the two trust measures: positively for trust in people, and negatively for trust in family.

Knack and Keefer (1997) and Zak and Knack (1998) have provided the most extensive cross-country tests to date of the relationship between trust in people and economic performance. For the 29 market economies included in the WVS, Knack and Keefer add the WVS trust measure to Barro-type investment and growth regressions. Each 12-percentage-point rise in trust is associated with an increase in annual income growth of about 1 percentage point. Each 7-point rise in trust is associated with a 1-point rise in investment's share of GDP. Given the wide range of observed values for trust (54.5 percentage points separate Norway from Brazil), these are very large impacts.

Because trust is measured in 1980 or 1981 for most of the sample, and in 1990 for the remainder, the dependent variables in Knack and Keefer (1997) are measured for the 1980-92 period. Results for growth, but not for investment, are weaker when longer periods (1970-92 or 1960-92) are used. As a correction for possible endogeneity of trust, they also report two-stage least squares estimates, using ethnic homogeneity and the number of law students (as a fraction of all post-secondary students) as exogenous instruments; trust remains a significant predictor of growth for the 1980-92 period. Testing an interaction term comprised of per capita income and trust, Knack and Keefer found that the impact of trust on growth is significantly higher for poorer countries,

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<sup>11</sup>La Porta et al. control for per capita income, include all countries with available data, and use trust values from the early 1990s wave. Knack and Keefer control for income and education, exclude formerly-communist nations, and use the earliest-available observation on trust.

suggesting that interpersonal trust is more essential where legal systems and financial markets are less well developed.

Zak and Knack (1998) presented a general equilibrium growth model in which investors of varying types are randomly matched each period with brokers of varying types, where trust declines with difference in type. Low trust is predicted to reduce investment and growth. Their empirical work adds 8 countries to the 29-nation sample used by Knack and Keefer (1997), using data on trust reported in Inglehart (1996) from a third wave of World Values Surveys. Results are strengthened using this larger sample: trust is significantly related to growth even for longer periods such as 1970-92, and trust's estimated impact on growth is less sensitive to model specification than in Knack and Keefer (1997).

Zak and Knack (1998) reported that trust is higher in nations with stronger formal institutions for enforcing contracts and reducing corruption, and in nations with less-polarized populations (as measured by income or land inequality, ethnic heterogeneity, and a subjective measure of the intensity of economic discrimination). Finally, they show that formal institutions and polarization appear to influence growth rates in part through their impacts on trust. For example, income inequality, land inequality, discrimination and corruption are associated with significantly lower growth rates, but the association of these variables with growth dramatically weakens when trust is controlled for.

Several other studies briefly report tests of trust's relationship with growth. La Porta et al. found that trust in people is positively associated with growth (significant at .10) over the 1970-93 period, controlling only for 1970 per capita income. Granato, Inglehart and Leblang (1996a) test trust and five other "cultural" variables in growth regressions for the 1980-89 period. Controlling for per capita income levels and primary education enrollment in 1980, trust is positively and significantly related to growth.

Helliwell (1996) found that trust, and an index of group memberships, are each *negatively* and significantly related to productivity growth for a sample of 17 OECD members. This sample omits the poor- and middle-income nations for which trust has the largest effects (Knack and Keefer, 1997). In examining productivity growth only, Helliwell neglected the possibility that trust influences income growth largely through factor accumulation channels, as found by Knack and Keefer (1997).

In their investment and growth tests, Knack and Keefer (1997) supplemented the trust-in-people measure with an indicator of trustworthiness based on other items in the WVS. Their index of trustworthiness, or of the strength of "civic norms," was constructed from responses to five questions about whether various forms of cheating are ever justifiable.<sup>12</sup> As with trust in people, this civic norms index is positively and

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<sup>12</sup>These items include "cheating on taxes," "claiming government benefits which you are not entitled to," "failing to report damage you've done accidentally to a parked vehicle," "avoiding a fare on public transport," and "keeping money that you have found."

significantly related to growth over the 1980-92 period, and to investment over various periods (1980-92, 1970-92, or 1960-92).

Few of these studies devote any attention to measurement issues, neglecting the possibility that translation differences or less-than-fully-random samples could introduce substantial error into country-level estimates of trust derived from the WVS. An exception is Knack and Keefer (1997), who found that trust is strongly correlated ( $r = .67$ ) across countries with the percentage of "lost" wallets returned in experiments conducted by Reader's Digest. This result is consistent with the view that non-random samples and translation difficulties are not introducing severe measurement error in the cross-country trust data. Trust's high correlation with returned wallets, and its low correlation with trust in family members, also suggests that the trust indicator is capturing "generalized" trust -- basically, trust in strangers -- rather than "specific" or "particularized" trust placed in people with whom one has repeated interactions or who belong to the same groups. This is an important finding, as generalized trust is viewed by most social capital theorists as a source of reduced transactions costs and reduced social conflict (e.g., Zak and Knack, 1998), but particularized trust has more ambiguous implications for economic performance: cooperation and trust within ethnic groups or special interest groups can facilitate their organization for rent-seeking purposes or even for violent conflict (Knack and Keefer, 1997).

### *Group Memberships*

Putnam (1993) viewed memberships in horizontal associations as a source of trust and social ties conducive to economic performance. Olson's (1982) view of associations was much less favorable; he emphasized their growth-impairing rent-seeking functions. Knack and Keefer (1997) tested these alternative theories using WVS data on group memberships, available for 26 market economies. The WVS asked respondents whether they belonged to any of 10 types of organizations. Knack and Keefer calculated the mean number of group memberships per respondent, and computed country-level averages.

In Barro-type regressions, group memberships are found to be unrelated to growth, and negatively related to investment rates. These findings offer no support to Putnam, and little support for Olson. Knack and Keefer conjectured that both could be right, with the positive impacts of groups hypothesized by Putnam canceling out the negative impacts stressed by Olson. They attempt to provide a finer test by disaggregating groups into those that seem to have primarily social goals ("Putnam groups") and those that are more likely to engage in lobbying ("Olson groups"). Memberships in Olson groups -- trade unions, political parties or groups, and professional associations -- showed no significant relation to growth or investment rates. Paradoxically, Putnam groups -- religious or church organizations; education, arts, music or cultural activities; and youth work -- show a strong but *negative* relation to investment, with no significant association with growth.

There are several possible explanations for these surprising findings. Most simply, one could question the quality of the WVS data on group memberships: the categories of groups are very broad, making it difficult to distinguish confidently rent-seeking from purely social groups, and the depth of commitment to groups is unmeasured.

However, there are serious theoretical deficiencies in the perspectives on groups advanced by both Putnam (1993) and Olson (1982). Putnam claimed that associations “instill in their members habits of cooperation, solidarity, and public-spiritedness.” But many (even purely social) groups segregated by class, occupation, or ethnicity may build cooperation and trust only among group members, perhaps even encouraging distrust between members and nonmembers. Olson's predictions on growth and groups overlooks the fact that professional or trade associations that engage in special-interest lobbying activities also may enforce ethical codes and standards that build generalized trust (Bergsten, 1985), and reduce transactions costs by spreading information about the identity of cheaters (Bernstein, 1992).

### *Social Polarization*

Several studies have focused on ethnic divisions and inequality as sources of slower growth through their impacts on trust, social cohesion, economic policymaking, and even violent conflict. Most of these studies posit macro-political channels by which polarization worsens economic performance; an exception is the model of Zak and Knack (1998), in which the strength of informal sanctions against cheating weakens with social distance, increasing monitoring costs of contractual agreements between investor-broker pairs.

Easterly and Levine (1997) showed that more ethnically heterogeneous societies grow more slowly, controlling for the usual growth regressors. The predicted growth rate for the most homogeneous societies (such as Japan) exceeds by more than 2 percentage points the predicted rate for the most heterogeneous societies (such as Tanzania). They show that ethnic heterogeneity is correlated with a range of indicators of inefficient policies, including a high black market currency premium, high corruption levels, low schooling rates, a lack of financial development, and poor infrastructure.

Easterly and Levine argued that ethnic divisions increase polarization of preferences for public goods, impeding agreement over their provision.<sup>13</sup> Ethnically-divided societies will also be prone to competitive rent-seeking, with increased incentives for the group in power to create rents, through overvalued exchange rates and other means, to be rewarded to their own ethnic group at the expense of others. As Easterly and Levine acknowledged, however, ethnic divisions generally remain a significant predictor of slower growth even when a wide range of policies is controlled for,

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<sup>13</sup>Alesina, Baqir, and Easterly (1996) provided evidence for this hypothesis from U.S. city and county data.

consistent with the possibility that polarization influences growth through micro-economic channels as well.

Building on models of social choice under polarized preferences, Keefer and Knack (1995) found that property rights are more uncertain in highly-polarized societies, as measured not only by ethnic tensions and heterogeneity but also by income and land inequality. Berg and Sachs (1988) tested the effects of income inequality on indebtedness, finding that polarized countries are more likely to default on sovereign debt, as indicated by discounts on country debt in secondary markets. They concluded that “the adoption of needed policy changes on a timely basis” (including trade liberalization and deficit-cutting) is hindered by high inequality. Using a wider array of polarization indicators, and a subjective indicator of default likelihood, Keefer and Knack (1995) corroborated the Berg and Sachs findings for a much larger sample of countries.

Keefer and Knack (1995) examined various arguments put forward regarding why inequality is commonly linked empirically with slower growth (e.g., Alesina and Rodrik, 1994), and presented evidence that this link is mediated in part by the uncertainty of property rights. Controlling for the ICRG property rights index, they showed that the estimated impacts of income and land inequality on growth diminish substantially, but do not disappear -- again leaving open the possibility that polarization has more direct influences on economic performance, for example by impairing the social and psychological basis for trust among individual transactors. Consistent with this possibility, Zak and Knack (1998) found that income and land inequality are strongly associated with slower growth in their 37-country sample, but not when the WVS trust indicator is controlled for.

Rodrik (1998) constructed a simple model of social conflict in which a nation’s ability to adjust efficiently to exogenous shocks (such as adverse shifts in the terms of trade) is a function of “latent social conflict” and of “institutions of conflict management.” Efficient adjustment to adverse shocks often has substantial distributional consequences: where there are deep social cleavages along ethnic or other lines, negotiating a new social bargain will take longer, as in Alesina and Drazen (1991). Strong conflict-management institutions essentially provide rules reducing the share of society’s resources that the competing groups can potentially capture. Rodrik hypothesizes that adverse shocks will be more harmful for growth when latent conflicts are more severe and when rules effectively constrain the stakes of the conflict.

Rodrik’s dependent variable is the *change* in the average annual growth rate from the 1960-74 period to the 1975-89 period; low values are identified with growth “collapses” in which countries that grew rapidly prior to the shocks of the 1970s subsequently stagnated or shrank. He found that changes in the terms of trade during the 1970s are associated with larger growth declines, although this result is sensitive to changes in the sample and in model specification. Countries with smaller growth declines have better conflict-management institutions, as proxied by Gastil’s civil liberties and political freedoms indicators, indexes from ICRG or BI, and social security and

welfare expenditures. Smaller growth declines are also associated with less severe latent social conflict, as measured by income or land inequality, ethnic diversity or tensions, and the WVS trust indicator.

Rodrik's central hypothesis calls for testing three-way interaction terms: shocks harm growth more when latent conflict is worse and where institutions are weaker. He constructed several of these interaction terms, multiplying the terms-of-trade change by a latent conflict proxy and a conflict management proxy (for example, ethnic heterogeneity and Gastil's index). As predicted, higher values of these terms are associated with larger growth collapses. However, none of the components of the interaction terms are allowed to enter the regression independently, *forcing* all of the growth effects of any one component (e.g. ethnic heterogeneity) to be conditional on the levels of the other component, by the model specification. A properly-specified test of the basic hypothesis, recognizing the many other theories on how polarization and institutions influence economic performance, would allow the data rather than the researcher to decide whether they influence growth only by conditioning responses to external shocks.

Collier (1998b) similarly views the impact of ethnic diversity as being conditional on political institutions. Namely, "an ethnically diverse society " may "gain more from democracy than a homogeneous society because the latter has less need of dispute resolution." Collier finds empirical support for this proposition in a sample of 94 countries, as ethnic heterogeneity's harmful effects on growth (1960-90) sharpen significantly for nations with fewer political freedoms, as judged by Gastil.

The impact of ethnic diversity on social and political outcomes often turns out to be nonlinear. As noted by Horowitz (1985), polarization can be at a maximum when there are a small number of groups of roughly equal size. With a proliferation of small groups, no one group will normally have the incentive or opportunity to impose its will on all others. Accordingly, Collier (1998b) finds some evidence that the likelihood of civil wars is at its maximum for countries ranking in the middle of the scale of ethnic heterogeneity. Interpersonal trust displays a similar relationship to ethnic diversity, with trust falling with increasing heterogeneity only up to a point, and then rising again (Zak and Knack, 1998). Keefer and Knack (1995) find that the uncertainty of property rights is at its maximum for countries in the middle of the ethnic heterogeneity rankings.

#### *Cultural Explanations: "Achievement Motivation" and Communitarianism*

A symposium in the *American Journal of Political Science* debated the importance of "cultural" influences on economic performance (Granato, Inglehart and Leblang, 1996a, 1996b; Jackman and Miller, 1996; Swank, 1996). Building on Weber's Protestant ethic thesis, Granato, Inglehart and Leblang (1996b) hypothesized that norms encourage social mobility and the accumulation of human and physical capital in some societies but discourage them in others, with implications for economic development. Using World Values Survey data from 25 nations, they found that an index of "achievement motivation" is positively and significantly related to growth in a Barro-type model.



The “achievement motivation” index was constructed from responses concerning personal traits which children should be encouraged to acquire: index values equal the sum of the percentages in each country that cite “thrift” or “determination,” minus the percentages that cite “obedience” or “religious faith.” Because growth is measured for 1960-89, and their index is measured from surveys conducted in the early 1990s, their results could easily be driven by reverse causation. For example, the social and geographic mobility induced by rapid growth could disrupt traditional social ties that encourage obedience and religious faith (Olson, 1963).

“Achievement motivation” is hypothesized to influence economic performance through micro-economic channels, as it increases individuals’ willingness to save, invest, work hard, and acquire productive knowledge. Swank (1996) took a macro-political approach, building in part on Olson’s (1982) theory of “encompassing interests.” Swank argued that economic policymaking will be less conflictual and more conducive to growth in “communitarian” societies, including “social corporatist” polities such as Austria, Denmark, Finland, Norway and Sweden, and “Confucian statist” polities such as China, Korea, and Japan. Adding dummy variables for “corporatist” and “Confucian” to the Granato et al. (1996b) model, Swank shows that growth rates are significantly higher in those societies, and that “achievement motivation” is no longer related to growth, controlling for these additional variables. Unexplained, however, is how Confucianist norms, long believed inimical to economic progress, suddenly became conducive to rapid growth in recent decades.

### **3. POVERTY, INCOME DISTRIBUTION AND SOCIAL CAPITAL**

Evidence from household-level and village-level studies suggests that civil social capital in the form of trust or social ties can play an important role in alleviating poverty (Grootaert, 1998; Narayan and Pritchett, 1997). The rich arguably have much less to gain than the poor from memberships in groups that provide mutual aid or health or education services, because they can afford to purchase these services (Grootaert, 1998). Similarly, institutions or cultural traditions that broaden participation (as proxied empirically by Gastil’s civil liberties index) can be expected to have progressive effects, extending to poor people the kind of political influence and access that the rich tend to have in all societies.

The distributional implications of government social capital are more ambiguous. Secure property rights and effective contract enforcement are viewed often as benefiting primarily the rich at the expense of the poor. This perception is based on the intuition that the poor have little property to protect, unlike rich landowners or capitalists. Similarly, contractual agreements often are perceived as being the product of unequal bargaining power, with rich creditors, landowners or capitalists enforcing contract provisions against poor borrowers, tenants, employees, or consumers.

On the other hand, institutions for promoting secure property rights and enforcement of contracts conceivably have powerful egalitarian effects, enabling individuals with little property and no political connections to invest in human capital and in small enterprises. Fair and transparent procedures for property, contracts, and government regulation of business facilitate the entry of informal sector entrepreneurs and workers--most of whom are low- or middle-income--into the formal sector, and promote the accumulation of physical and human capital, raising profits and wages (de Soto, 1989). Strong and predictable property and contract rights are necessary for the emergence of well-developed financial markets, which are at least as important for poor and middle-income borrowers as for the well off, who can more easily arrange alternative sources of credit. Unlike the rich, the poor may be dependent on credit for acquiring secondary-level education, which has a high cost in terms of forgone income in developing countries.

Thus, one could argue that the institutions that best ensure property rights and contract enforceability are the very same set of institutions that best improve the welfare of the poor. Mancur Olson (1994) has gone even further, arguing that much of the poverty in the developing world is the product of institutions chosen by politically connected individuals and groups, who tend to be well off, in their own interests. For example, bureaucratic corruption enriches government officials who supplement their salaries with bribes obtained by imposing burdensome procedures for obtaining licenses and permits.

This section examines empirically the relationships between social capital indicators and measures of poverty and distribution. One way to address this question is by breaking it into two parts and noting, for example, that property rights are significantly related to growth (Knack and Keefer, 1995), and that growth is associated with reductions in poverty rates (e.g., Squire, 1993). Thus, property rights must make the poor better off. However, it is conceivable that the source of growth matters: most episodes of growth are accompanied by reductions in poverty, but the exceptions could be those in which, for example, growth is generated by secure and stable property and contract rights rather than by public investments in primary or secondary education, health or infrastructure. Therefore, new and direct evidence bearing on these issues is presented below.

### **3.1 Income Distribution**

Data on Gini coefficients of income inequality, and income share by quintile, were obtained from the "high quality" subset of the Deininger and Squire (1996) time-series compilation in inequality. The change in Gini coefficients was computed for the (roughly) 1970-92 period. Because inequality data are not available for every year for every country, the beginning and end years of this period are approximate; for example, the period covered for Tanzania is 1969-1993.

Average annual growth in per capita income was computed for each of the five income quintiles for the same period, using the purchasing power-adjusted income data

from Summers and Heston (1991). The initial-year per capita income for each country was multiplied by the initial-year share of each quintile and then multiplied by 5 to obtain the per capita income for each quintile. This procedure was repeated using end-year values, and average annual growth in per capita income was computed from these initial- and end-year per capita income levels. Table 2 indicates the countries for which data were available.

The first column of results in Table 3 reports a standard Barro-type growth regression for the sample of countries with data on quintile shares. The dependent variable is average annual income growth over the (approximate) 1970-92 period. Independent variables are (the log of) 1970 per capita income as a share of US income, mean years of completed education for the 25-and-over population in 1970 (from Barro and Lee, 1993), the trade intensity ratio averaged over the growth period (exports plus imports as a share of GDP, from Summers and Heston), and the ICRG index of property rights as constructed by Knack and Keefer (1995). Most results for this 37-nation inequality sample are consistent with those generated from larger samples: incomes converge conditional on other variables included in the model, and education, trade intensity and property rights are all associated with higher growth rates. However, education and trade intensity are not significant in this sample. The ICRG index coefficient implies that each 10-point increase in the 50-point scale is associated with a growth increase of nearly 1.6 percentage points per year.

The last 5 columns of Table 3 report analogous tests, but instead of overall growth the dependent variable is the growth of incomes for each quintile, from the poorest (Q1) to the richest (Q5). In addition to the regressors included in tests of growth overall, the quintile growth regressions control for initial quintile share. Where the initial quintile share is already relatively high, that quintile's income growth is less likely to get a boost from further increases in the share, so the expectation is that the sign on this coefficient will be negative. It is negative as expected in each regression, but is never statistically significant at conventional levels.

The ICRG coefficients are slightly smaller for the poorer two quintiles than for the richer three, but these differences are not statistically significant. For the quintile 2 regression, which produces the lowest ICRG coefficient (.133), the null hypothesis that the ICRG coefficient is equal to .166 (its highest value, from quintile 4) cannot be rejected. Trade openness generates somewhat larger coefficient estimates for the poorer quintiles, although again the differences across quintiles are not significant.

Interestingly, the model better explains growth variations for the richer than for the poorer quintiles, as adjusted  $R^2$ s steadily increase from .27 for quintile 1 to .56 for quintile 5, and standard errors steadily fall from 1.9 to 1.2. This difference is perhaps due to greater measurement error introduced in attempting to measure percentage-point changes in small numbers (incomes of the poor) than in large numbers (incomes of the rich). There is no evidence in this data of a global trend toward greater or lesser

inequality of incomes within countries, as mean growth rates vary little across the quintiles, from 2.15% to 2.27%.

The first column in Table 4 summarizes a similar set of regressions for growth over the shorter (roughly) 1980-92 period. Because the ICRG index is measured in 1982, this more recent period is less subject to any possible endogeneity problems, as discussed in section 2.1 above. The disadvantage of using shorter periods is that growth variations are driven more by shocks and are more difficult to explain with models designed to account for cross-country variations in long-run growth.

The ICRG column of results in Table 4 reports only the coefficients and standard errors for the ICRG index from a set of six regressions identical to those of Table 2 (with other independent variables appropriately adjusted to 1980). The ICRG coefficient here is at its maximum (.331) for the poorest quintile, double its magnitude for the richest quintile (.164). The null hypothesis that the quintile 5 coefficient is .331 can be rejected at the .05 level.

Column 2 of Table 4 substitutes the BERI property rights index for ICRG. Because BERI is measured in 1972, there is less potential for reverse causation than with ICRG, so only the 1970-92 growth period is analyzed. The growth effects of BERI for the four poorest quintiles vary only trivially, with each 2-point increase in the 16-point scale raising growth by more than a percentage point for each quintile. This impact declines by more than half for the richest quintile, where an increase in BERI of 4 points is required to raise growth by a percentage point. The quintile 5 coefficient of .256 is significantly smaller than each of its quintile 1-4 counterparts.

Similar tests were conducted using CIM and the World Values trust indicator as social capital measures, in place of ICRG and BERI. In these small samples, neither proved a significant determinant of growth, either for overall growth or for the growth of incomes in any of the 5 quintiles.

The findings in Tables 3 and 4 strongly indicate that government social capital improves incomes for all groups, not merely for those who have the most property in need of protection. If anything, incomes of the poor increase more rapidly than those of the rich when the quality of governance is higher, as shown by the pattern of coefficients in Table 4.

Table 5 reports similar tests, but with changes over time in the Gini index of income inequality from (approximately) 1970-92 as the dependent variable. These samples are somewhat larger than in the quintiles regressions, because Squire and Deininger (1996) include more Gini values than quintile share values.

Gini values converge in this sample (conditional on the other regressors), as higher initial levels of the Gini index are associated with larger (but not always significant) declines over the period. Higher educational attainment is associated,

somewhat surprisingly, with increasing inequality, although this effect is not always significant. Trade intensity shows no strong or consistent impact on changes in Gini.

Higher scores for ICRG and BERI are associated with declines in income inequality, as shown in the first two columns of Table 5. For ICRG, this relationship is only marginally significant at conventional levels. Each 7-point increment in the 50-point ICRG scale is associated with a 1-point decline in Gini. For BERI, the relationship with Gini declines is highly significant. Each 1-point rise in the 16-point BERI scale reduces Gini by 1.6 points.

Inequality also declines in higher-trust societies, as shown in the third column of Table 5. Each 8- or 9-point increase in the percent trusting is associated with a 1-point decline in Gini. This partial correlation is only marginally significant, however.

The tests in Table 5, using a composite indicator of inequality and a slightly larger sample, confirm the findings from the quintile growth regressions. Namely, social capital not only improves economic performance, it is progressive, in the sense that it helps the poorer classes more than it helps the richer classes.

### 3.2 Absolute Poverty

Bruno, Ravallion and Squire (1998) find that growth is unrelated to changes in the income distribution, which implies that absolute poverty should fall with growth. They then provide direct evidence on this point, showing that a 10% increase in per capita income is associated with a 20% fall on average in the percentage of a country's population living on \$1 per day or less. In 17 of the 20 countries with data on changes over time in this measure of absolute poverty, per capita income and the \$1 per day percentage moved in opposite directions.

Because the social capital indicators analyzed in Tables 3-5 have either neutral or pro-egalitarian effects on the income distribution, and have elsewhere been linked to more rapid growth, there is a strong presumption that the rule of law, property and contract rights, and trust in people reduce absolute poverty. Data on changes over time in absolute poverty are available for only a very small number of countries. For this reason, no direct tests are provided here of the impact of social capital variables on changes in absolute poverty. Data on absolute poverty *levels* are available for enough countries represented in the ICRG data set to conduct tests of the impact of government social capital on absolute poverty. These tests, of course, are more subject to concerns about reverse causality than would be the case if *changes* in absolute poverty rates were the dependent variable.

Table 6 presents regressions for a sample of 35 countries in which the dependent variables are the percentage of a country's population living on less than \$1 per day (equations 1 and 3) and less than \$2 per day (equations 2 and 4). For countries with two or more observations on poverty, the most recent one is used. Among the 35 countries,

the earliest observation used in Table 6 is from 1986, and the most recent is from 1995. The mean year is 1992, with a standard deviation of 2 years.

The ICRG index (averaged over 1982 to 1990) is negatively and significantly related to poverty levels, in equations 1 and 3. Each 1-point rise in the 50-point ICRG index reduces the percentage in poverty by just over 1 percentage point on average. This relationship weakens when per capita income is controlled for (equations 2 and 4), indicating that government social capital reduces poverty rates in part by raising incomes generally.

Regressions in Table 6 control for a time trend variable, because poverty is measured in different years for different countries. “Year” is equal to the year in which poverty is measured minus 1985; it thus varies from 1 (when poverty is measured in 1986) to 10 (1995). Coefficients for this variable are negative and insignificant. Education is controlled for, using measures of the percent of adults who have completed primary, secondary, and tertiary schooling. Only secondary education is significant. An increase of about 5 or 6 percentage points in secondary schooling is associated with a fall in poverty of one percentage point.

Results of this section support the view that social capital reduces poverty rates and improves, or at a minimum do not worsen, income inequality. Improving governmental and civil social capital are not the only ways, or necessarily the best ways, of reducing poverty. But there clearly is no equity-based justification in the data for opposing the strengthening of property and contract rights in developing countries.

#### **4. CONCLUSION**

Most of the research described here examines “big picture” issues concerning social capital and economic performance. It is useful to know what are the country-level relationships between various dimensions of governance or civil society on the one hand and economic performance on the other. This body of research is also valuable in illuminating issues deserving of further study at less aggregated levels, or in more detailed ways.

Most of the chapters in this volume explore relationships between social capital and economic welfare at much lower levels of aggregation. By and large, the findings of these “micro-level” studies are consistent with those of the “macro-level” studies reviewed here.

More refined studies at the macro level are also needed. For example, ethnic heterogeneity on balance appears to be associated with less efficient policies, less social trust, and slower growth. But observation of many successful heterogeneous societies suggests that important qualifications may hide behind these simple relationships. Under what conditions does ethnic heterogeneity fuel conflict and distrust, and under what set of

conditions or institutions are heterogeneous societies less conflictual? To resolve questions such as these, more studies like that of Bates, contained in this volume, are needed.

Other needed refinements of macro-level studies include identifying and collecting better and more comprehensive data. Each wave of the World Values Surveys adds many new countries, improving our knowledge of cross-country differences in levels of trust, group memberships, and other measures of civil social capital. Increases in the sophistication of measurement are equally important, however. For example, the nature of groups' activities and goals, and their membership compositions, are arguably more crucial for economic welfare than the simple number of group memberships. More detailed measures are in fact being collected in individual countries, as part of other World Bank initiatives, for use in household-level or village-level studies.

Although measurement issues remain, a consensus has developed on the importance of government social capital for economic performance, and a similar consensus is rapidly developing on civil social capital. For this knowledge to have any practical implications for policy, the next logical focus of research -- at the macro and micro level -- should address the fundamental sources of social capital.

## 5. APPENDIX

### Data Sources for Cross-Country Social Capital Indicators

#### I. Gastil/Freedom House Civil Liberties and Political Freedoms Indexes

From the early 1970s until 1989, Raymond Gastil constructed cross-country indexes of “civil liberties” and “political freedoms,” as part of the Comparative Survey of Freedom, published by Freedom House. Countries were assigned scores from 1 to 7, with smaller values assigned to countries with greater liberties. (Many users of the indexes have reversed the scale so that larger number indicate more freedom.) The survey is unusually inclusive for cross-country data, covering about 170 countries and territories.

Gastil assigned values based on his judgments for each country on the following set of criteria. Note he assigned only one value to each country based on his collective evaluation of these criteria; he did not assign a numerical value for each criterion.

##### *Civil liberties*

- media/literature free of political censorship
- open public discussion
- freedom of assembly & demonstration
- freedom of political organization
- nondiscriminatory rule of law/independent judiciary
- freedom from unjustified terror or imprisonment
- free trade unions, peasant organizations
- free business or cooperatives
- free professional or other private organizations
- free religious institutions
- personal social rights: property, travel, residence, family
- socioeconomic rights; freedom from dependency on landlords, etc.
- freedom from gross socioeconomic inequality
- freedom from gross government indifference or corruption

##### *Political freedoms*

- chief authority recently elected by a meaningful process
- legislature recently elected by a meaningful process
- fair election laws, campaigning opportunity, polling and tabulation
- fair reflection of voter preference in distribution of power
- multiple political parties
- recent shifts in power through elections
- significant opposition vote
- free of military or foreign control
- major group or groups denied reasonable self-determination
- decentralized political power
- informal consensus; de facto opposition power



Beginning in 1990, Freedom House published these indexes without Gastil's participation. Gastil's departure resulted from disagreements with Freedom House regarding the levels of freedom in authoritarian nations that were U.S. allies, such as El Salvador. The methodology was also changed, and each component of each index now receives a numerical rating.

Gastil's (1990) description of his evolving methodology in creating the ratings from 1972 to 1989 suggest caution in using these data for time-series analysis. He notes for example that the sources of information available to him changed over the period. Perhaps most importantly, in the later, but not earlier years of the survey, Gastil "assumed that poor societies with a great gap between classes have a lower democratic performance" unless there is obvious evidence to the contrary. Most dubious is the practice of combining Gastil's ratings with those of subsequent Freedom House evaluators in analyses of changes over time in the indexes, as in Barro (1996) and Burkhart and Lewis-Beck (1994).

Gastil (1978: 13) asserts -- without explanation -- that poverty, among other factors, can make elections less effective. Poorer countries other things equal thus receive less favorable scores on the political freedoms index. Using this index to explain per capita income levels is therefore somewhat tautological. This problem does not apply when using the index to explain subsequent rates of income growth, as opposed to levels.

## II. International Country Risk Guide (ICRG)

The International Country Risk Guide has been published monthly since 1982. It was published by International Reports from 1982 until 1992, when it was purchased by Political Risk Services (now the PRS Group) of Syracuse, New York (see [www.prsgroup.com](http://www.prsgroup.com)). The editorship and rating system remained unchanged with the change in ownership.

The ICRG is produced for sale to international investors, and is designed to reflect political and other risks to overseas investments. In-depth country reports are prepared by country experts, and numerical ratings are assigned by the editors, based on the country reports and other information. The "political risk" variables "are subjective in that they depend on the interpretation of the available information made by ICRG staff" (Coplin et al., 1991). The "financial risk" variables are determined by "a mix of subjective and objective analysis" of hard data, government legislation and policy statements, and reports of businesses and banks operating in the country in question (Coplin et al. 1991). The ICRG evaluates the following risks monthly, assigning values on 6, 10, or 12-point scales as indicated, with higher values indicating lower risks:

### *Political Risk Indicators*

Economic expectations vs. reality (12 point scale)

Economic planning failures (12)

Political leadership (12)

External conflict (10)  
Corruption in government (6)  
Military in politics (6)  
Organized religion in politics (6)  
Law and order tradition (6)  
Racial and nationality tensions (6)  
Political terrorism (6)  
Civil war risks (6)  
Political party development (6)  
Quality of the bureaucracy (6)

*Financial Risk Indicators*

Loan default or unfavorable loan restructuring (10)  
Delayed payments of supplier credits (10)  
Repudiation of contracts of government (10)  
Losses from exchange controls (10)  
Expropriation of private investment (10)

Most researchers have followed Knack and Keefer (1995) in using an additive index based on five of these variables. Below are the criteria used by ICRG in assigning values for these five items::

1) Law and order tradition (renamed "Rule of law" by Knack and Keefer)

This variable "reflects the degree to which the citizens of a country are willing to accept the established institutions to make and implement laws and adjudicate disputes." Higher scores indicate "sound political institutions, a strong court system, and provisions for an orderly succession of power." Lower scores indicate "a tradition of depending on physical force or illegal means to settle claims." Upon changes in government new leaders "may be less likely to accept the obligations of the previous regime" in low-scoring countries.

2) Quality of the Bureaucracy

High scores indicate "an established mechanism for recruitment and training," "autonomy from political pressure," "strength and expertise to govern without drastic changes in policy or interruptions in government services" when governments change, and "established mechanisms for recruiting and training."

3) Corruption in Government

Lower scores indicate that "high government officials are likely to demand special payments," "illegal payments are generally expected throughout lower levels of government" in the form of "bribes connected with import and export licenses, exchange controls, tax assessment, police protection, or loans."

#### 4) Risk of Expropriation of Private Investment:

This variable evaluates the risk of "outright confiscation and forced nationalization" of property. Lower ratings "are given to countries where expropriation of private foreign investment is a likely event."

#### 5) Risk of Repudiation of Contracts by Government:

"This indicator addresses the possibility that foreign businesses, contractors, and consultants face the risk of a modification in a contract taking the form of a repudiation, postponement, or scaling down" due to "an income drop, budget cutbacks, indigenization pressure, a change in government, or a change in government economic and social priorities." Lower scores signify "a greater likelihood that a country will modify or repudiate a contract with a foreign business."

Because scores for the "repudiation of contracts" item are influenced by recent income declines among other factors, this item raises endogeneity concerns when using it to explain economic performance. However, when it is omitted, a four-item index turns out to be as strongly correlated with economic performance as the five-item index. Moreover, this item (as well as indexes of multiple items) strongly predicts *subsequent* economic performance; it is not correlated only with past performance.

In 1982, ICRG rated 90 nations. Country coverage expanded substantially between 1982 and 1985, with additional countries occasionally added since then. Between 1992 and 1995, 130 countries were included; coverage increased to 140 in 1998.

### III. Business Environmental Risk Intelligence (BERI)

BERI's "operations risk index" and its sub-indexes have been published since 1972, on a quarterly basis originally but three times per year more recently (see [www.beri.com](http://www.beri.com)). Scores for all countries are constructed from surveys of a "permanent" (turnover is very low) panel of about 105 experts worldwide. Experts include academics, government officials, bankers, and foreign investors, all with "extensive international experience" (Haner and Ewing, 1985). Country ratings are produced by discarding the maximum and minimum values and computing the mean of the remainder.

The following sub-indexes receive separate numerical ratings in BERI, on a scale from 0 to 4: political continuity, attitude toward foreign investors and profits, degree of nationalization risk, monetary inflation, balance of payments, bureaucratic delays, economic growth, currency convertibility, enforcement of contracts, labor cost/productivity, professional services and contracts, communications and transportation, local management and partners, availability of short-term credit in local currency, and availability of long-term credit in local currency. Knack and Keefer (1995)

and others have used as indicators of the quality of governance the items on bureaucratic delays, nationalization, enforcement of contracts, and communications and transportation.

The BERI ratings have the advantage of being available much farther back in time than the ICRG ratings, so they are less subject to reverse causation problems in analyses of long-run economic performance. A disadvantage is the less extensive coverage across countries, with 43 nations rated in 1972, and about 50 more recently. Coverage is determined in part by investor interest: when Zaire and Iraq became extremely poor risks, they dropped out of the sample. The resulting reduction in cross-country variation should, other things equal, make it more difficult to find statistically significant links with economic outcomes for BERI than for ICRG indicators.

A second disadvantage relative to ICRG is that BERI's ratings on bureaucratic delays, nationalization risk, and contract enforceability are all intercorrelated at about .9, compared to around .6 for intercorrelations among the ICRG components. Very high correlations between items suggest that ratings by BERI evaluators may simply reflect their overall sense of a country's investment environment, without discriminating effectively among various dimensions of that environment.

#### IV. Business International

Business International (BI) provided numerical ratings on various dimensions of investor risk throughout the 1971-88 period. The measures and the sample changed substantially in 1980, however. From 1971-79, BI rated 57 countries on at least 20 factors, including "political stability," "probability of nationalization," "delays in getting approval," "government intervention in business," and "quality of infrastructure."

From 1980 to 1988, the sample was expanded by about 10 countries, and a different and larger set of indicators became available. These include: quality of the legal system and judiciary, bureaucracy and red tape, corruption, political stability, labor stability, terrorism, probability of opposition group takeover, and others. Values range from 0 to 10, with higher scores indicating lower risks.

The BI data are less useful than ICRG or BERI for time-series analyses, because each of its two series was published for only about 9 years, compared to 17 years and counting for ICRG, and 27 years and counting for BERI. The BI country coverage slightly exceeded BERI's, but fell far short of ICRG's.

#### V. Humana's World Human Rights Guide

Charles Humana's World Human Rights Guide (1984, 1986, 1992) rates 90 or more countries on 40 dimensions of human rights. For each dimension, countries are assigned to one of four categories depending on the level of rights. Dimensions rated include several concerning freedom to travel or to disseminate information, several concerning equality for women and ethnic minorities, and various "legal" and "personal"

rights. From a rule-of-law standpoint, the two most relevant variables are perhaps item 27 on independence of the courts, and item 35 on freedom "from arbitrary seizure of personal property." Isham, Kaufman and Pritchett (1997) and other studies have used indexes constructed from Humana variables.

## VI. "Economic Freedom" Indexes

There have been several projects rating "economic freedom" around the world. Beginning in 1995, The Heritage Foundation has published an annual "Index of Economic Freedom" (Johnson and Sheehy, 1995). For more than 100 countries, 10 dimensions of "economic freedom" are rated on a subjective scale from 1 to 5. Most of these dimensions are related to economic policies, including banking, trade, tax, and monetary policies. Most relevant to governance or social capital are the items on "property rights" and "regulation" of business. Using this index to analyze the determinants of economic performance would raise severe causality problems, because the index -- the independent variable -- is measured only beginning in 1995 while the Summers and Heston cross-country data on economic performance -- the dependent variable -- are available only through the early 1990s, as of this writing.

A second "economic freedom" index (Gwartney and Lawson, 1997) is produced annually by the Economic Freedom Network, which links dozens of institutes around the world, including the Cato Institute in the U.S. and the Fraser Institute in Canada. This project resulted from a series of conferences on the topic sponsored by the Fraser Institute. The index is based mostly on objective measures, such as government spending, inflation, tax rates, etc. Because most of these variables are available over long periods of time, indexes have been constructed for the 1975-95 period as well -- although due to changing data availability over time, items included in the index change over time (Gwartney, Lawson, and Block, 1996). Dawson (1998) uses the 1975-90 data from this source to explain cross-country variations in investment and growth over the same period. His positive results are hardly surprising, however: the index incorporates policy variables such as inflation, trade openness, and government consumption that have been linked to economic performance in innumerable previous studies.

Freedom House sponsored one economic freedom index in the early 1980s (Lindsey, 1982), and another much more recently (Messick, 1996). These were both subjective indexes, with the later index including 6 components, and the earlier one containing 4: freedom to have and control property, freedom of association, freedom of movement, and freedom of information.

Scores for the property indicator are influenced by observations on the distribution of property, particularly land (Lindsey, 1982). Spindler (1991) finds that freedom of property and information are each positively related to the level of income per capita, while freedom of association is negatively related to income per capita.

Scully (1992) constructs an index of "economic liberty" from 15 indicators borrowed from Humana (1986), Wright (1982), Gastil, and other sources.

## VII. Competitiveness Indexes

Two organizations produce cross-country numerical ratings in evaluating economic "competitiveness." The World Economic Forum ([www.weforum.org](http://www.weforum.org)), with assistance from the Harvard Institute for International Development, issues an annual Global Competitiveness Report. Based on standard economic data and on a survey of about 3,000 business executives, 155 separate criteria are evaluated for 53 nations. The survey includes items on bribery and corruption, tax evasion, and the reliability of the judicial system. Although the report has been issued annually since 1980, the current basic methodology dates only to 1996.

The Institute for Management Development ([www.imd.ch](http://www.imd.ch)) produces a similar competitiveness index for its annual World Competitiveness Yearbook (WCY). Ratings are based on a survey of several thousand "businessmen around the world." For the 1996 yearbook, 3,162 responded to a 72-question survey which was sent to 21,000 "national and expatriate businessmen" representing both "local and international companies, which represented a cross-section of the economy in each country." The WCY evaluates 46 countries, including all OECD members and 18 others, chosen on the basis of their economic importance and availability of data. Hard data are used to supplement the survey, with about 260 total criteria rated. A similar methodology apparently has been used since 1986. Countries are rated on a 0-10 scale for each of many subjective dimensions of competitiveness rated in the survey. Social capital items included in the survey inquire about relations between managers and employees, employees' identification with company objectives, managers' "social responsibility," confidence in the administration of justice, security of persons and property, and government "transparency." Other items inquire about the adequacy of the "legal framework" and bureaucracy, the occurrence of "improper practices such as bribing or corruption" in the public sector, protection of intellectual property rights, and the frequency of tax evasion.

## VIII. Transparency International

Transparency International ([www.transparency.de](http://www.transparency.de)) creates a "corruption perceptions index" based on ratings by ICRG, the WCY, the Global Competitiveness Report, the Brunetti et al. World Bank-sponsored survey, and other sources. Each available source is equally weighted, on a scale ranging from 0 to 10. For the 1998 index, 85 countries were rated. Countries were rated only if data were available from 3 of the 12 total sources used. The index is produced annually, with country coverage varying as available data sources change.

As is also true for the competitiveness ratings, the corruption indexes from Transparency International post-date the available cross-country data on economic

performance, limiting their usefulness in studying the determinants of investment and growth.

### IX. World Values Surveys

The World Values Survey, organized by Ronald Inglehart with collaborators around the world, have been conducted in a total of 68 societies. The first "wave" was administered in 1981, in 24 nations, mostly with advanced industrialized economies. A second wave in 1990-91 was conducted in most of these nations, and 21 additional countries, with an emphasis on formerly socialist societies and middle-income developing nations. A third wave in 1995-96 was conducted in 42 countries, including more than 20 not represented in either of the first two waves. About half of the nations added in this wave were formerly socialist economies, and the other half "Third World" nations. A planned fourth wave will add several more less-developed nations.

Some groups (for example city-dwellers and better-educated people) are oversampled in some countries. As a correction, a weight variable is included for constructing country-level estimates. Higher-status groups are likely still overrepresented, however (see Inglehart, 1994).

The best-known work based on these surveys addresses the emergence of "post-materialist" values in advanced industrialized nations (e.g. Inglehart, 1990). Recently numerous items included in the survey have been exploited in cross-country research on social capital. Respondents are asked in the survey about their memberships in various groups, their attitude towards socially cooperative behaviors, their levels of trust in other people, and their tolerance towards alternative values and lifestyles.

## 6. TABLES

Table 2  
Nations included in one or more regressions in Tables 3-5

Country	Gini 1990 - Gini 1970	icrg	beri	cim	trust
		x indicates missing data			
Australia	9.7				
Bangladesh	2.8		x		
Brazil	1.99				
Canada	-4.65				
Chile	11.88				
Colombia	-0.7				
Costa Rica	1.67		x		x
Denmark	2.20				
Dominican Republic	4.00		x		
Finland	-5.69		x		
France	-11.3				
Germany	-5.47				
Greece	0.08				
Hong King	4.1		x	x	x
Honduras	-9.25		x		x
Hungary	9.44	x	x	x	
India	1.64				
Indonesia	0.99				x
Iran	-2.55				x
Ireland	-4.09				
Italy	-4.11				
Jamaica	-2.79		x		x
Japan	-0.5				
Korea	0.34				
Malaysia	-1.65				
Mexico	-2.72				
Netherlands	0.78				
New Zealand	10.16		x		x
Norway	-2.73				
Pakistan	1.24				x
Panama	-0.53		x	x	x
Philippines	-4.39				
Poland	3.27	x	x	x	
Portugal	-4.95				
Singapore	-2				x
Spain	-11.2				
Sri Lanka	8.99		x		x
Sweden	-0.97				



Table 2, cont.  
Nations included in one or more regressions in Tables 3-5

Country	Gini 1990 - Gini 1970	icrg	beri	cim	trust
		x indicates missing data			
Taiwan	0.69			x	
Tanzania	-0.9		x		x
Thailand	8.87				x
Tunisia	-2.06		x		x
Turkey	-11.91				
United Kingdom	7.3				
United States	4.3				
Venezuela	6.19				x
Yugoslavia	-0.12		x	x	x

Table 3  
ICRG index and income growth by quintile, 1970-92

	Overall	Q1	Q2	Q3	Q4	Q5
Intercept	5.044 (1.260)	6.397 (1.575)	5.721 (1.462)	5.679 (1.456)	7.182 (1.481)	6.267 (2.040)
Log (income/US income), 1970	-2.705 (0.577)	-2.366 (0.640)	-2.484 (0.691)	-2.573 (0.619)	-2.615 (0.587)	-2.908 (0.629)
Quintile share, 1970		-0.225 (0.123)	-0.057 (0.106)	-0.057 (0.095)	-0.129 (0.077)	-0.017 (0.024)
Mean years education 1970	0.068 (0.108)	0.053 (0.174)	-0.048 (0.143)	-0.028 (0.123)	0.070 (0.108)	0.170 (0.110)
Trade intensity, 1970-90 mean	0.007 (0.006)	0.010 (0.006)	0.009 (0.007)	0.008 (0.006)	0.008 (0.006)	0.006 (0.007)
ICRG index of property rights	0.157 (0.028)	0.133 (0.030)	0.147 (0.032)	0.165 (0.029)	0.166 (0.029)	0.151 (0.032)
Adj. R <sup>2</sup>	.56	.27	.39	.46	.52	.56
SEE	1.18	1.86	1.58	1.45	1.34	1.19
Mean, dep. var.	2.22	2.15	2.26	2.27	2.22	2.22

Sample size is 37. White-corrected standard errors in parentheses.

Table 4  
Social capital and income growth by quintile

	ICRG (N = 39) Growth 1980-92	BERI (N = 27) Growth 1970-92
overall	0.196 (0.038)	0.360 (0.110)
Q1	0.331 (0.099)	0.580 (0.158)
Q2	0.209 (0.061)	0.575 (0.118)
Q3	0.214 (0.050)	0.581 (0.090)
Q4	0.217 (0.038)	0.544 (0.079)
Q5	0.164 (0.044)	0.256 (0.133)

Cell entries are regression coefficients for social capital indicators, with White-corrected standard errors in parentheses. Other independent variables are initial per capita income, initial quintile share (except in "overall" growth equation), initial mean years completed education, and period mean of trade intensity ratio.

Table 5  
Social Capital and Changes in Gini coefficient of income inequality, 1970-90

Sample	ICRG	BERI	Trust
Intercept	6.276 (3.517)	12.049 (4.552)	11.965 (5.220)
Gini coefficient 1970 /80	-0.143 (0.084)	-0.139 (0.101)	-0.280 (0.113)
Mean years educ. 1970/80	0.773 (0.392)	1.622 (0.402)	0.603 (0.449)
Trade intensity, 1970-90/80-90	0.008 (0.011)	0.014 (0.008)	-0.030 (0.024)
ICRG index	-0.148 (0.082)		
BERI index		-1.630 (0.375)	
Trust			-0.117 (0.073)
N	45	32	30
R <sup>2</sup> /Adj. R <sup>2</sup>	.14/.05	.30/.20	.18/.05
SEE	5.40	5.04	5.76
Mean, dep. var.	-0.16	-0.55	-0.50

White-corrected standard errors in parentheses.

Table 6  
Government social capital and absolute poverty levels

Dependent var.	% < \$1	% < \$2	% < \$1	% < \$2
	1	2	3	4
Intercept	77.129 (17.313)	110.220 (14.520)	70.942 (18.639)	99.478 (15.907)
Year of survey	-0.914 (1.504)	-0.777 (1.539)	-0.869 (1.465)	-0.699 (1.373)
Primary school completed, %	1.971 (4.184)	0.101 (4.392)	2.000 (3.958)	0.152 (3.784)
Secondary school completed, %	-19.432 (7.211)	-20.029 (6.798)	-17.067 (7.367)	-15.922 (6.594)
Tertiary school completed, %	-18.791 (27.808)	-10.998 (26.684)	-0.687 (28.762)	20.434 (26.797)
ICRG (1982-90 mean)	-1.045 (0.578)	-1.183 (0.501)	-0.671 (0.651)	-0.531 (0.599)
Per capita income, 1980 (000s)			-3.890 (2.204)	-6.754 (2.801)
R <sup>2</sup> /Adj. R <sup>2</sup>	.38 / .27	.44 / .35	.41 / .28	.53 / .43
SEE	20.84	20.84	20.69	19.58
Mean, dep. var.	27.57	52.65	27.57	52.65

White-corrected standard errors are in parentheses. Sample size is 35.

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