Civil Liberties and Economic Development

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Abstract

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Widespread skepticism prevails among economists over a possible connection between civil liberties and the level of economic activity. Until now, empirical research on economic growth has found mixed evidence on the influence of civil liberties. Disaggregation of the Freedom House Civil Liberties index allows a fresh empirical look at the effect of human rights on long-term economic growth and development. Our results show that one of the four subcategories of the index outperforms all available indicators of property rights institutions in explaining long-term economic growth. This subcategory, Personal Autonomy and Individual Rights, captures the level of second generation human rights that affect the mobility of individuals with respect to housing, employment and higher education, as well as the level of protection of property rights. This result is robust with respect to reverse causation, important omitted variables such as geography and human capital, and a variety of sensitivity tests. We also lay out a conceptual framework discussing how civil liberties work as an indicator of the prevalence of the rule of law and how the latter affects growth or development as an essential public input.

Key words: civil liberties; human rights; long-term economic growth; economic development; rule of law; property rights institutions; socially contrived markets.

JEL CODE: O10, O40, O43; P16, P14, H40

Introduction

Relatively little work among the extensive recent empirical literature examining the impact of institutions on economic development has focused on the role played by civil liberties. Recent attention has instead been concentrated on other measures intended to represent governance and the rule of law. Those empirical investigations that have incorporated civil liberties—most often measured by the Freedom House aggregate Civil Liberties index—have found mixed evidence of their influence on economic growth. For example, while Isham, Kaufmann and Pritchett (1997) present robust evidence of the impact of the aggregate Civil Liberties index on the performance of World Bank projects, Levine and Renelt (1992) find that the significance of the index is quite sensitive to changes in the conditioning set. King and Levine (1993) include the index as a covariate in their analysis of the relationship between financial development and growth, finding no evidence of civil liberties' role in shaping economic growth.

We return attention to the role of civil liberties in the context of the ongoing discussion about which institutions matter for growth, noting that these rights may be better indicators of a government's long-term commitment to the rule of law than other proxies examined in the literature, as argued by Betancourt (2004, 2006). Building on conceptual work by North (1990) and Olson (2000), we identify the prevalence of the rule of law, indicated by the extent of civil liberties, as a plausible mechanism acting as a crucial determinant of long-term economic growth and development.

Given the mixed and limited empirical evidence supporting these propositions, we offer striking results on the impact of civil liberties on income levels. These new empirical findings became feasible as a result of Freedom's House decision to make publicly available the four main

components of its aggregate civil liberties indicators at the end of 2006. Freedom House also disaggregated its index of political rights into its three main components. Thus, we are also able to compare the empirical role of these governance indicators on income levels.

In explaining differences in income levels across countries, our work is most closely related to that of Acemoglu and Johnson (2005) on unbundling institutions. Their work focused on differentiating between contracting institutions and property rights institutions; our work focuses on differentiating among different concepts and measures of property rights institutions. Our most intriguing result shows that, using the same methodology as these authors, one of Freedom House's recently disaggregated components of civil liberties is far superior to any of the alternative property rights indicators available, including the best indicator Acemoglu and Johnson identify. This component, entitled "Personal Autonomy and Individual Rights," evaluates the extent of personal economic freedoms such as the choice of ownership form, employment, residence and education, as well as social freedoms such as choice of marriage partners and family size.

We further find that this fundamental result remains remarkably robust as we address a variety of well-cited criticisms of cross-country studies and some not so well-cited ones. These include reverse causation, important omitted variables such as geography and human capital and a battery of sensitivity tests. Throughout, we find that Personal Autonomy and Individual Rights remains more important than any of the other institutional variables considered in terms of both the magnitude of its effect and its statistical significance.

This paper also contributes to the institutions literature in more subtle forms. First, it shows that the rule of law is a broader concept than the formal or informal protection against government and elite predation or expropriation, as characterized by Acemoglu and Johnson (2005) and Olson

(2000). Our results highlight the importance of protection of individual economic rights and personal social freedoms from government activities as well as from social norms and non-governmental collective infringement. Second, it provides an opening for research into the question of why economies in East Asia are able to grow rapidly under non-democratic regimes. The beginnings of an answer lies in our main finding that not all civil liberties are created equal in terms of their impact on economic growth. Finally, this result also suggests the exploration of whether different human and property rights may matter more at different points on an economic development path.

The rest of this paper is organized as follows: In Section 1, we lay out a conceptual framework that relates the prevalence of civil liberties and the rule of law to the operation of certain types of markets and economic growth. We then discuss the measurement of these institutions in Section 2, comparing the newly disaggregated Freedom House Civil Liberties data with other measures used in the literature to capture the existence and quality of property rights institutions. Using these measures, we then examine the empirical evidence on the role of civil liberties in determining long-term economic growth in an ordinary least squares setting (Section 3). We address issues of reverse causation in Section 4, and incorporate omitted variables such as human capital and geography in Section 5. We perform a variety of robustness checks on the sensitivity of the above results to a variety of other issues, including features of the data, in Section 6. By way of a conclusion, in Section 7 we offer a perspective on our three main contributions and their implications for future research.

1. Conceptual Framework: Why Civil Liberties Matter

Succinctly put, the logic of our analysis is based on two main propositions and three

subsidiary ones. The two main ones are: First, the prevalence of the rule of law is a key factor determining the rate of economic growth in the long term. Second, the protection of human rights through the provision of civil liberties is one of the most—if not the most—fundamental indicators of the prevalence of the rule of law in a society. The three subsidiary propositions help suggest potential causal mechanisms for the operation of the main two. First, modern economies consist of two types of markets, spontaneous (and irrepressible) markets and socially contrived markets, and it is the socially contrived ones that underlie modern economic growth. Second, a critical distinction between these two types of markets is the role that the state performs in supporting them. More precisely, the prevalence of the rule of law is an essential determinant of the level of operations in socially contrived markets. Third, tangible capital markets are an important example of socially contrived markets. The rest of this section discusses the basis for these propositions and their implications in some detail.

What does one mean by the prevalence of the rule of law in economics? It certainly encompasses the protection of property rights. This is a widely accepted view in discussions of institutions. Property rights are usually defined at the most elementary level as the right to consume services of, the right to generate income from and the right to alienate an asset, e.g., Barzel (1989). What seems to have been relatively ignored in recent literature is that the protection of human rights as part of the rule of law follows from the same logic. Violation of human rights (through loss of life, imprisonment or other less dramatic restrictions on the capabilities to make choices and enjoy their consequences) deprives individuals of property rights that emanate from every human being's most fundamental asset: her own person. These violations are inconsistent with the prevalence of the rule of law in a society.

Part of the reason for this lack of recognition in viewing human rights as a separate but

equally important dimension of property rights is an understandable but misplaced reluctance to place under the same general label something as precious as life and a physical asset, such as a house. We merely note that the logic is the same without making any assertion as to the intrinsic valuations of these different rights. Furthermore, even within the category of human rights, distinctions are made between traditional ones, such as life and liberty, and more modern ones, such as economic and social freedoms. The former are frequently described as "first generation" human rights and the latter are frequently described as "second generation" human rights, e.g. Kaufmann (2004). Civil liberties usually encompass both sets of human rights.

Olson (2000, Ch.10) distinguishes between an active role for the state and a passive role. The former entails the provision of various types of public goods; the latter consists of constraining itself from abusing its monopoly of power and engaging in predatory behavior on its own behalf or that of a few small groups. Betancourt (2004) argues that the best indicator of a state's intentions to perform this passive role (and thus of its intentions to abide by the rule of law) is the state's explicit commitment to the protection of human rights. In their essay on institutions as a fundamental cause of economic growth, Acemoglu, Johnson and Robinson (2005, p.390) explain why commitment problems inherent in the use of political power can lead "…to economic inefficiencies and even poverty." One way of addressing some of these commitment issues on the part of governments is through a credible pledge to the protection of human rights. With the development of modern means of communication in the last century, it is easy to verify the fulfillment of these commitments. Furthermore, with the emergence of organizations devoted to monitoring governments' performance in these dimensions, the importance of human rights as indicators of performance could increase substantially in the future.

In their work on unbundling institutions, Acemoglu and Johnson (2005) distinguish between

institutions supporting private contracts ("contracting institutions") and institutions constraining government and elite expropriation ("property rights institutions"). These authors put forth specific measures of each type of institution. Legal Formalism and Constraints on the Executive are the ones that perform best empirically in their respective categories. Based on these two measures, they show the unimportance of contracting institutions and the importance of property rights institutions in explaining differences in the level of income across countries and, thus, their relative importance in explaining long-term economic growth. We view these results as an illustration of the first proposition, since property rights institutions and the specific measure used by Acemoglu and Johnson can be viewed as one manifestation of what one means by the prevalence of the rule of law.

While Constraints on the Executive emphasizes the balance of powers aspect of the rule of law, civil liberties emphasize the protection of individual liberties aspect. Since the prevalence of the rule of law is a complex phenomenon difficult to capture both conceptually and empirically, we view our emphasis on civil liberties as a complementary step to Acemoglu and Johnson's work in the process of unbundling of institutions. One of our claims relevant for the second proposition, however, is that we have a conceptually better measure of the provision of the rule of law (and thus of property rights institutions) than the measure relied upon most heavily by Acemoglu and Johnson. That is, the arguments above suggest that it encompasses an additional dimension of the prevalence of the rule of law and, thus, of property rights institutions.[1]

Our subsidiary propositions are based on an earlier literature that can be used to provide suggestive causal mechanisms for the empirical results that support the first proposition. Emphasis on a distinction between markets with transactions that are self-enforcing and markets with

[1] In addition, our measure also performs better in explaining income levels in a variety of empirical settings shown below.

transactions that are not self-enforcing can be traced back at least to North (1990).[2] He suggests this dichotomy, labels the two types of markets traditional and modern, respectively, and identifies three conditions that lead to self-enforcing transactions: small numbers of, repeated interactions among and information on characteristics of market participants. Similar conditions have been used in recent industrial organization literature on contracting to explain why relational contracting in developing countries is self-enforcing, for example Thompson (2005).

The idea that there are two types of markets relevant for understanding economic growth was also put forth forcefully by Clague, Keefer, Knack and Olson (1999) [henceforth CKKO]. They link important differences in these two types of markets to the differential role of government in these two types of markets. In those markets where transactions are not self-enforcing, which they labeled socially contrived, they argued that one needs contract enforcement mechanisms or, usually, these markets will not exist or operate at low levels of transactions. Exceptions to the need for this role of government in socially contrived markets arise when the gains from exchange appear so large to participants on both sides of the market that they are willing to incur the risk of non-fulfillment, for example some illegal markets. They label these markets as irrepressible. Just as in markets where transactions are self-enforcing, which they label spontaneous, explicit contract enforcement mechanisms are not necessary for these markets to thrive. These authors acknowledge the possibilities of non-governmental mechanisms that provide enforcement services, but they stress the importance of governments in providing contract enforcement mechanisms in socially contrived markets and suggest contract-intensive money (CIM) as a measure of these institutions. We accept the existence of these two types of markets and their relative importance for understanding economic growth and development as the main implication of the first subsidiary proposition for our

[2] Parenthetically, North (1990) also emphasized the importance of an impartial judiciary and its role as a third party enforcement mechanism in determining economic performance in modern economies, where markets with transactions that are not self-enforcing predominate.

subsequent analysis.

Further insight into the role of government in different types of markets arises from papers in a conference to honor M. Olson published under the title *Market Augmenting Government*, Azfar and Cadwell (2003). In self-enforcing and irrepressible markets, the main role of the state is to provide "market augmenting services" such as law and order (the ability of governments to protect citizens from predation by other citizens, i.e. to prevent crime against property and persons by other individuals) and a medium of exchange. In socially contrived markets, however, the state needs to provide the previous services as well as contract enforcement services, for example through an independent judiciary. This is the differentiating characteristic of the role of the state in the two types of markets and the essential market augmenting service in socially contrived markets identified by CKKO (without the label of market augmenting service, of course). It is also consistent with North's view of the difference between traditional and modern markets.

Betancourt (2004) argues that a commitment to the rule of law is another public good or "market augmenting service" that the state must provide for socially contrived markets to function at a high level[3]. This commitment entails constraining government and elite expropriation, as argued by Acemoglu and Johnson (2005), or preventing predation by government over citizens, as argued by Olson (2000). It differs from the public good "law and order" in that the latter focuses on predation by other citizens or non-government groups. It also differs from the public good "contract

[3] McGuire (2003) argues that Olson's assertions about market augmenting government follow from Samuelson's analysis of public goods and Bator's analysis of market failure. He credits Olson with bringing to our attention the idea that "...the effective functioning of private markets is itself a collective good: the better functioning they are, the more public benefit they provide." Betancourt (2006) notes that viewing market augmenting services as public goods implies that they play the role of public inputs into the operation or production of market services. The traditional modeling of public inputs such as infrastructure in the public finance literature, however, treats them as having a direct effect on production subject to economy wide diminishing returns and views them as produced under the assumption of diminishing returns, for example Feehan and Matsumoto (2000). The market augmenting services identified here seem to be subject to several features that lead to non-convexities, such as increasing returns and thresholds in their production and network externalities in their effects. We merely note this issue but do not pursue it directly in what follows.

enforcement services" in that it is a much broader concept[4]. Furthermore, while there are private substitutes for the role of government in the provision of contract enforcement services (or of law and order), there are no private substitutes for the role of government in the provision of rule of law. Thus, our interpretation of the second subsidiary proposition is that the essential difference in the role of government in these two types of markets lies in the provision of the market augmenting service or public good "rule of law" in socially contrived markets and not in providing contract enforcement mechanisms as argued by CKKO and North. [5]

Tangible capital markets imply transactions with strong inter-temporal dimensions. Many if not most of the benefits from transactions in these markets take place in the future. On the other hand, most if not all of the costs of these transactions take place up-front. Thus, these markets are socially contrived because transactions in them are unlikely to be self-enforcing. Tangible capital or investment goods markets are generally viewed as important for economic growth. Our third subsidiary proposition implies that civil liberties are important for the functioning of these markets due to their socially contrived nature, suggesting one possible causal mechanism between civil liberties and long-term growth and development.

2. Measurement Issues: Civil Liberties and the Unbundling of Institutions

We proceed by following Acemoglu and Johnson (2005) in recognizing the need to differentiate between contracting institutions and property rights institutions. We differ from them in that we focus on identifying measures which capture our broader emphasis on the prevalence of

[4] From a legal perspective, Summers (2003) illustrates the distinction in the case of secured loans by calling contract enforcement institutions for this type of loans first-order rules and the general principles of the rule of law, second-order rules.

[5] Incidentally, one of the most effective mechanisms for implementing the rule of law (in terms of protecting property rights as well as first and second generation human rights) plays a similar role in providing law and order and enforcing contracts: namely, the existence of an impartial judiciary.

the rule of law and the role of human rights as an indicator of this prevalence. Throughout, we compare these measures to the one highlighted by Acemoglu and Johnson, namely the Polity IV Constraints on the Executive variable. We also compare these measures to the one emphasized by CKKO, namely CIM, which is defined as the contract-based share of the money supply or CIM = (M - C)/M, where C is currency and M is the money supply, including currency, demand deposits and time deposits.[6]

In 2006, for the first time ever, Freedom House agreed to release the data for every country on each of the four subcategory scores making up the organization's aggregate civil liberties index. Scores on the aggregate index have been available for many years. Table 1 presents the fifteen overarching questions representing different dimensions of civil liberties on which each country is rated. Each question is rated on a score of 0 (worst) to 4 (best). These questions are then aggregated into four subcategories by adding the score on each of the questions making up the subcategory. Subcategories (D), (F) and (G) are composed of four dimensions each, whereas subcategory (E) is composed of three. Thus, the subcategory indexes for the former range from 0-16 and the one for the latter ranges from 0-12. The scoring for the aggregate Civil Liberties index is slightly different.[7]

[Table 1 goes here]

A more detailed look at subcategory (F), which is mislabeled "Rule of Law" from our point of view, suffices to establish the lack of correspondence between the conceptual measure described in the previous section and what this empirical measure represents. This subcategory reflects a rating of four dimensions that capture very different phenomena. The first one (Is there an

[6] Following CKKO, we constructed our measure of the money supply from the 2005 data in International Financial Statistics by adding lines 14a (currency), 15 time deposits), 24 (demand deposits) and 25 (time and savings deposits).

[7] The aggregate index represents the sum of these four subcategory scores, which is grouped into seven roughly equal regions. The regions are scored on a scale ranging from 1 (best) to 7 (worst). For ease of comparison, we rescaled the aggregate index so that higher scores reflect better conditions.

independent judiciary?) reflects the existence of a mechanism that is important for the prevalence of the rule of law as well as for the provision by the state of contract enforcement services and/or law and order. The second one reflects the prevalence of the rule of law with respect to procedural issues and the third one reflects the prevalence of law and order. The fourth one reflects the prevalence of non-discrimination against population segments by the government.

The other three subcategories are more homogeneous in what they capture. Freedom of Expression and Belief (D) captures the ability of media (first question) religious institutions (second question) educational institutions (third question) and private individuals and organizations (fourth question) to express their views. It corresponds to one dimension of first generation human rights. The subcategory Association and Organizational Rights (E) captures the ability of individuals and organizations, including trade unions and peasant organizations, to pursue their interests collectively. It also corresponds to a (different) dimension of first generation human rights. Finally, Personal Autonomy and Individual Rights (G) captures the ability of individuals to exercise their economic rights with respect to employment, location, and ownership of property without severe infringements from the state or other individuals or groups (questions 1, 2, and 4), as well as their personal social freedoms with respect to marriage partners and family size regardless of gender (question 3). It corresponds to second generation human rights. The latter have been stressed by Kaufmann (2004).[8] Subcategory G also reflects more intensely than the other categories interactions of individuals within a society as opposed to interactions with the state or its organizations.

Our dataset consists of the original data for 60 countries used by Acemoglu and Johnson (2005) supplemented in several ways. First and foremost, we merged this dataset with the Freedom House data on civil liberties and the subcategories, as well as with the organization's political rights

[8] Blume and Voigt (2007) provide a more recent contribution on human rights that is similar in approach to Kaufmann's.

index and its three subcategories.[9] We also incorporated the data on CIM from International Financial Statistics mentioned in footnote 6 and added two other datasets that are important for our robustness tests. The first one simply extends the sample by including all the OECD countries that were not ex-colonies and thus excluded from the original 60 countries; the second one consists of data we gathered on gross secondary school enrollments and "geographic" variables for the original set of 60 countries. Table A1 in the Appendix offers summary statistics on the dataset for the sample of 60 countries.

[Table 2 goes here]

In Table 2, we present the simple correlations between all four subcategories, the aggregate index (Civil Liberties), Constraints on the Executive, CIM, the political rights subcategories and secondary school enrollment rates. Not surprisingly, all of the civil liberties subcategories and the aggregate index are more highly correlated among themselves than with Constraints on the Executive or CIM. The latter has the lowest correlation with any of the other indexes and by a wide margin.[10] The 'Rule of Law' (F) and the Personal Autonomy and Individual Rights (G) subcategories have their highest correlation with the aggregate index whereas Freedom of Expression and Belief (D) and Freedom of Assembly (E) have the highest correlation with each other. On the other hand, the aggregate index, Freedom of Expression and Belief and Freedom of

[9]When Freedom House disaggregated the civil liberties indicator into subcategories, it also disaggregated its political rights indicators. Some contributions to the empirical explanation of long-term growth have used Freedom's House aggregate indicator of political rights, for example Barro (2003). Our conceptual framework also implies that governance indicators, such as political rights, could be used as indicators of the prevalence of the rule of law. Indeed, use of Polity IV Constraints on the Executive can be viewed as the use of a measure of political rights. Hence, we also consider below the role of these indicators in affecting long-term growth.

[10] We are including CIM for completeness. Its original proponents viewed it as an indicator of contract enforcement services, not of the prevalence of the rule of law. In practice, it can capture features of both since the likelihood of flights from contract based money would be expected to be less where the rule of law prevails than where it does not prevail.

Assembly have their lowest correlation with Personal Autonomy and Individual Rights.

It is also worthwhile to note here that some of the civil liberties subcategories are more closely correlated with certain political rights subcategories than with some of the other civil liberties ones. For example, Freedom of Expression and Belief and Association and Organizational Rights are more highly correlated with 'Electoral Process' (A) and 'Political Pluralism and Participation' (B) than with other civil liberties. Meanwhile, the Rule of Law subcategory is most closely correlated with the 'Functioning of Government' (C). Finally, the secondary school enrollment rate is substantially more correlated with Personal Autonomy and Individual Rights than with any of the other institutional variables.

3. Civil Liberties and Economic Development: A Simple OLS Comparison

One of our arguments is that the prevalence of the rule of law as indicated by the provision of civil liberties is a better measure of the institutions needed for growth than the alternative measures used in the literature. In this section, we examine the empirical power of these new measures of property rights institutions by comparing them to the main alternative used in the literature to explain long-term growth. We start our analysis by incorporating these measures as substitutes for Constraints on the Executive in the main empirical specification employed by Acemoglu and Johnson (2005).

[Table 3 goes here]

In the first panel of Table 3, we present the results of an OLS regression of the log of GDP per capita in 1995 on two institutional variables: the first one, Legal Formalism, is a variable intended to capture contracting institutions; the second variable is one from a set of different

measures intended to capture property rights institutions. For ease of comparison, we include the variable most often used by Acemoglu and Johnson to represent property rights institutions, namely Constraints on the Executive, in the first column, and CIM in the second column. The results of the OLS estimation in the first panel are unambiguous. Legal Formalism continues to come in negative and statistically insignificant at the 5%level. All of the civil liberties indicators are positive and statistically significant at the 1% level. The main difference between these measures lies in their explanatory power. It is especially striking that the civil liberties subcategory Personal Autonomy and Individual Rights explains about 75% more of the variation in GDP per capita than the second best measure, namely Constraints on the Executive.[11]

Freedom House's political rights index is made up of three subcategories: questions capturing the existence and degree of freedom, fairness and honesty in elections, Electoral Process (A); questions on the nature of participation in the political process by individuals and groups, Political Pluralism and Participation (B); and questions on the effectiveness of governance, Functioning of Government(C)[12]. In the second part of Table 3, we present information for a comparison between each of the subcategories of political rights with the measures in the top half of the table.[13] The comparison entails using each of these political rights variables as the institutional variable capturing the prevalence of the rule of law in our regressions explaining long-term growth.

One measure of civil liberties, Personal Autonomy and Individual Rights, outperforms each of the political rights variables by a wide margin in terms of explanatory power. Indeed, none of the political rights variables performs as well as the Constraints on the Executive, which is the second

[11] Not surprisingly, using a non-nested J-test, the specification relying on the Personal Autonomy and Individual Rights variable is accepted while the one relying on Constraints on the Executive is rejected at the 1% level when tested against each other. Similar results hold for the other indicators. We present the results of this test in Table A2 of the Appendix.

[12] For more details, see *Freedom in the World 2005*, Freedom House (2006, pp. 780-781).

[13] The aggregate political rights index performed worse than two of the three subcategories and, thus, was excluded.

best performing variable by this simple criterion. Of course, there are other relevant criteria that one can use for these comparisons, particularly statistical and economic significance, as well as criticisms that one can make of these OLS regressions, such as the need to correct for reverse causation and omitted variables.

We address the two main criticisms in the next two sections. Here, we note that all these institutional variables perform in similar fashion with respect to statistical significance in that all of them are statistically significant at the 1% level. Indeed if one were to use the magnitude of the t-ratio as a criterion, Personal Autonomy and Individual Rights would perform best. With respect to economic significance, we have included the beta coefficients in the table but we note that they can be sensitive to the inclusion of covariates. Hence, the main point to be made here is that all the property rights variables reflect substantial economic significance in terms of their impact on the level of per capita income. Comparisons between the beta coefficients of explanatory variables are best made after we address the second of the main criticisms mentioned above.

Summing up the main result from this section, the Personal Autonomy and Individual Rights subcategory of civil liberties performs best (in terms of explaining the percentage of the variation in the level of income per capita) in a simple comparison with any of the institutional variables that can be sensibly chosen as alternatives to capture property rights institutions or the prevalence of the rule of law. Despite the well known biases in this simple approach, especially when using cross-country data, it would seem unlikely that they would always work out in favor of this particular measure by sheer accident. After all, the other alternatives considered here are subject to the same type of biases in exactly the same setting.

4. Civil Liberties and Economic Development: Reverse Causation

Since the possibility of reverse causation between the institutional variables and GDP per capita is well-established, we re-estimate the simple specification of the previous section using 2SLS. As instruments for the institutional variables, we use the log of population density in 1500 and a dummy for British legal origin.[14] The results, which are presented in the two panels of Table 4, are similar in terms of signs to the ones in the previous section. Nevertheless while all coefficients in the top panel increase in magnitude, they decrease in statistical significance compared to the OLS estimation. The end result is that all five civil liberties indicators continue to be statistically significant at the earlier levels (four at the 0.001 level and one at the 0.01 level) but Constraints on the Executive and CIM are now statistically significant at lower levels than with OLS (0.01 and 0.05, respectively.)

Interestingly, the bottom panel of Table 4 reveals that the political rights indices experience an increase in statistical significance compared to the OLS results. Indeed, one of them (A) attains statistical significance at the 0.001 level compared to the 0.01 level for OLS. Nonetheless, the Personal Autonomy and Individual Rights subcategory continues to have the highest t-ratio of any of the institutional variables in this setting. Thus, correcting for reverse causation preserves the basic results of the OLS one. Namely, contracting institutions do not seem to matter in explaining the level of per capita income across these 60 countries; property rights institutions do matter in explaining these levels and they do so regardless of how they are measured.

Our analysis, thus far, confirms the basic results of Acemoglu and Johnson (2005) by showing that they hold for a variety of other measures of property rights institutions not considered

[14] Acemoglu and Johnson also use settler mortality as an instrument in their analysis but the validity of this instrument has been challenged, see Albouy (2006). We use this instrument instead of population density in 1500 as a robustness check and discuss it in Section 6.

by these authors. It also extends their analysis by showing that one of these measures performs empirically at least as well and often better than theirs with respect to explanatory power and statistical significance in exactly the same setting. From the substantive point of view, however, it is a somewhat surprising result. The measure that performs better corresponds most closely to second generation human rights and not to first generation human rights.[15] Naturally, it proves less surprising when one realizes that this measure captures economic dimensions expected to impact economic growth directly such as economic mobility and the ability to exercise ownership rights.

5. Civil Liberties and Economic Development: Omitted Variables

We now turn to consider how the previous results are affected by the introduction of additional variables identified as important (many would label them as the most important) in previous literature. In particular, we consider geography and human capital. With only 60 observations and the multicollinearity and endogeneity issues that affect cross-country data, however, there is always a trade-off between the need for parsimony to preserve degrees of freedom and economize on instruments and the dangers of omitted variable bias in doing so. Hence, we drop the Legal Formalism variable from all subsequent analysis in the interest of parsimony. Its lack of impact in any of the earlier results suggests little danger of omitted variable bias.

There are a number of dimensions of a country's geography that have been viewed as important in determining long-run growth by a number of authors. For instance, latitude has been used by Hall and Jones (1999) and others as an indicator of tropical climate. Thus, we consider the absolute value of a country's latitude as an explanatory variable. Similarly, whether or not a country is landlocked has been used by Faye, et al. (2004) to capture access to markets and infrastructure

[15] The fact that political rights do not perform as well is not surprising, because they are often used as a measure of democracy and it is often found that democracy does not explain long-run growth, for example Mobarak (2005) or

costs. Therefore we also consider an indicator of whether or not a country is landlocked as an explanatory variable[16]. Additionally, Kiszewski, et al (2004) have developed an indicator of a country's exogenous malaria ecology; Sachs (2003, 2005) shows that the environment for this disease affects a country's GDP. Hence, we also consider the malaria ecology index as an explanatory variable[17].

Glaeser, et al.'s (2004) criticism of the original Acemoglu, Johnson and Robinson (2001) article on the "Colonial Origins of Comparative Development" argues that settlers brought to the colonies at least one other characteristic known to be useful for growth besides institutions, namely human capital. Thus, we investigate the effect of human capital on our results. For this purpose, we seek a variable that is available for our sample of 60 countries and that represents human capital or one of its major aspects. We follow Mankiw, Romer and Weil (1992) in using the secondary school gross enrollment ratio as our measure of human capital.[18]

Human capital introduces another issue of reverse causation since economic growth generates resources that can be used for educational purposes. Having dropped Legal Formalism from the analysis, we could use British legal origins as an instrument for the human capital variable. One argument for this use of British legal origins is that these (reflecting the common law tradition) supported unconditioned private contracting as opposed to socially-conditioned private contracting,

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Acemoglu, Johnson, Robinson and Yared (2008).

[16] The dummy for landlocked countries was drawn directly from the Faye et al (2004) dataset; it equals 1 for landlocked countries and 0 for countries that border an ocean or major body of water. The landlocked countries included in our sample of ex-colonies are: Bolivia, Botswana, Burkina Faso, Ethiopia, Malawi, Mali, Nepal, Niger, Paraguay, Swaziland, Uganda, Zambia, and Zimbabwe.

[17] The malaria ecology index developed by Kiszewski, et al (2004) represents the relative stability of malaria transmission based on the biologic characteristics of mosquitoes present in a country. The index varies between 0 and 39.

[18] We use the 1995 gross secondary school enrollment rate drawn from the World Bank's World Development Indicators. The measure is defined as the number of total pupils enrolled in secondary school, regardless of age, expressed as a percentage of the total population in the theoretical age group for secondary education (World Bank EdStats Database).

La Porta, Lopez de Silanes and Shleifer (2008). Thus, it allowed agents finding some form of education useful to develop it, as opposed to waiting for a socially approved authority to recognize the need.

Since this use of British legal origins as an instrument for education is not an established practice in the literature, we checked the first stage regressions and found that it was a strong instrument for Legal Formalism but a much weaker instrument for secondary school enrollment. These results are presented in panel A of Table A3 of the Appendix. It can also be seen in this panel that the log of population density in 1500 is a strong instrument for both the institutional variable and the human capital variable. In the empirical growth literature, ethnic fractionalization has been identified as an instrument for human capital, for example Durlauf, Johnson and Temple (2005). The rationale is that the higher the level of ethnic fractionalization in a society, the lower is the level of human capital, since education is normally publicly provided and any groups controlling the state would be disinclined to empower other groups through education. We adopt the measure of ethnic fractionalization employed by Alesina, Develeeschauwer, Easterly, Kurlat and Wacziarg (2003).[19] It can be seen from Panel B of Table A3 that this measure is a better instrument for secondary school enrollment than British legal origin in terms of both statistical significance and explanatory power.

[Insert Table 5 here]

We limit the presentation of results to two property rights variables, namely Constraints on the Executive, which best captures aspects of balance of power, and Personal Autonomy and Individual Rights, which best captures second generation human rights and performs best among

[19] The ethnic fractionalization variable is computed as one minus the Herfindahl index of ethnolinguistic group shares in each country and reflects the probability that two randomly selected individuals from a population belong to different groups.

the civil liberties variables.[20] Table 5 presents the OLS results. It can be seen that the civil liberties variable dominates the Constraints on the Executive variable in every possible comparison in terms of predictive performance and statistical significance. Indeed, the addition of the human capital variable renders Constraints on the Executive statistically insignificant regardless of whether or not the geography variables are included. It can also be seen that the institutional variables have significant explanatory power by themselves and that human capital adds substantially to explanatory power despite the inclusion of the institutional variables. On the other hand, the geography variables add some to explanatory power given the institutional variables, but their contribution disappears once both institutions and human capital variables are included.[21]

[Insert table 6 here]

Both the institutional variables and the human capital variables are subject to reverse causation biases. Thus, we present the 2SLS results corresponding to Table 5 in Table 6. These results rely on using population density, ethnic fractionalization and British legal origins as instruments in the first stage.[22] The 2SLS results continue to favor the civil liberties variable relative to the Constraints on the Executive one. In particular, the inclusion of human capital continues to render Constraints on the Executive statistically insignificant at the same levels as before.

With respect to the geography and human capital variables, the results differ dramatically between OLS and 2SLS. The malaria ecology variable is not even statistically significant at the 5%

[20] We checked that the inclusion of additional covariates did not change the relative performance of the other civil liberties or political rights variables relative to Personal Autonomy and Individual Rights (G). It did not.

[21] We chose to include the malaria ecology variable by itself rather than either of the other two geography variables because it is the one that performs best in terms of explanatory power and statistical significance.

[22] We performed over-identification tests on the instruments and the hypothesis that they had a direct effect in the regression was rejected in every case.

level with just the institutional variable included in the 2SLS setting. Just as noted above, the human capital variable renders Constraints on the Executive statistically insignificant. In contrast, both the human capital variable and the civil liberties variable are statistically significant at the 5% level when included without the geography variables. Inclusion of the latter, however, renders the human capital variable statistically insignificant when Personal Autonomy and Individual Rights is the institutional variable. While initially surprising, this result may also reflect the effect of second generation human rights on the level of human capital.

Summing up, the prevalence of the rule of law through the provision of civil liberties, measured in terms of personal autonomy and individual rights, remains an important determinant of long-term growth and, thus, of economic development when geography and human capital are included in the analysis. It does so with and without correction for reverse causation. Finally, the beta coefficients imply economic significance in terms of impact on the dependent variable. While magnitudes change substantially depending on the particular specification, the economic significance does not disappear in any specification.

6. Sensitivity Analysis

In view of the strong biases against the use of cross-country data, we performed a series of sensitivity analyses on our basic results to enhance confidence in their reliability. First, we checked the sensitivity of the results to the use of data for other years. Second we checked for outliers and assessed the effect of dropping them. Third, we extended the sample to non-colonies for the OLS estimation. Fourth, we used an alternative instrument instead of population density (settler mortality) in the 2SLS estimation. Fifth, we extended the analysis by including more than one property rights variable at a time. Finally, we checked the sensitivity of the results to the inclusion

of regional dummies.

In explaining long-term growth, we have posited as a dependent variable the level of GDP per capita achieved in 1995. Our best performing independent variable capturing the prevalence of the rule of law is a subcategory measuring the level of Personal Autonomy and Individual Rights in 2005. To explore the sensitivity to these differences in dates, we constructed an estimate of the latter variable for 1995.[23] The results of using the estimated 1995 indicator of Personal Autonomy and Individual Rights are very similar to the results for the 2005 indicator used in Tables 3 and 4. For example, the explanatory power of this 1995 estimated variable ($R^2 = 0.4585$) is far closer to the 2005 indicator ($R^2 = 0.4717$) than to that of any of the other indicators in Table 3, and the coefficient of the estimated variable (0.214) and its standard deviation (0.03) are quite close the corresponding coefficient estimates in Table 3 (0.238 and 0.03, respectively).[24]

One way of looking at the sensitivity of our analysis to outliers is to exclude one country at a time from the sample and observe the difference dropping each country makes to the results. A succinct description of the results of this experiment is that it makes no difference to the results in Tables 3 and 4. A more systematic way of doing so is to use the criteria for dropping outliers noted in Kennedy's *Guide to Econometrics* (2003, Chapter 20): DFFITS (DFBETA) or the normalized change in the OLS estimate of the *i*-th value of the dependent variable (the normalized change in an OLS coefficient estimate) resulting from omitting the *i*-th observation. Using these criteria we identified 18 observations that could be candidates for exclusion under either of these tests. Dropping all of these observations at the same time leaves us with 42 countries. In a regression

[23] This was done by subtracting from the 2005 level the following term: {[CL (2005) –CL (1995)]* (16/7)* ρ (2005)}. The first element is the difference in the levels of the aggregate civil liberties indicator; the second element corrects for the difference in scales between the aggregate index and the Personal Autonomy and Individual Rights indicator; the third element is just the correlation between the two indicators in 2005. Thus, if the correlation were the same in the two years, our estimate would equal the actual value in 1995.

[24] We also obtained GDP per capita data for 2003 and re-did our original analysis. It generated the same conclusion.

comparable to those in Table 3, the explanatory power of the Personal Autonomy and Individual Rights variable was 0.46, and its coefficient was 0.243 with a standard error of 0.05. The results for the other alternatives were similar and the basic conclusion of superior performance for this variable remained unaltered.

Next, we extended the sample by incorporating all OECD countries not previously included in the dataset because they are not former colonies (Australia, Canada, Mexico, New Zealand and the U.S. were already included). This procedure increases the sample size from 60 to 83. We present the OLS results in the top panel of Table A4 of the Appendix. Personal Autonomy and Individual Rights continues to have the greatest explanatory power by a wide margin in explaining long-term growth.

As a final check on the results in Sections 3 and 4, we used an alternative instrument to population density in 1500. That is, we substitute the settler mortality index used by Acemoglu and Johnson (2005) in the 2SLS regressions. This mortality index has proven to be somewhat controversial, see Albouy (2006) and Acemoglu, Johnson and Robinson's (2006) reply. In our context, use of this index as an instrument reduces sample size to 51 observations. The bottom panel of Table A4 of the Appendix presents the results. They are the same as before. The Personal Autonomy and Individual Rights subcategory is the only property rights institutional variable statistically significant at the 0.1% level when explaining long-term growth.

In addressing the omitted variables problem in the previous section, we faced the problem of multicollinearity and endogeneity. In doing sensitivity analysis of these results, the same two problems arise in a more powerful form. Hence, we will drop the geography variables and consider other additions to the human capital and institutional variables in our sensitivity tests. In the previous three sections, we compared the performance of the property rights variables when each

entered into the estimation one-at-a-time. Our next sensitivity test compares the extent to which including multiple institutional variables in the same estimation affects the results of the previous three sections. The top panel of Table 7 (A) shows the effect of adding several of the other institutional variables to the main 2SLS findings of Section 5 (i.e., to the estimation shown in the top panel (A) of Table 6, column 2). In correcting the results for the endogeneity of the additional institutional variable, however, it is problematic to use the previous three instruments. From Table A3 we know that British legal origin is not a good instrument for the institutional variables that are used as indicators of property rights.

We used as an additional instrument the proportion of Muslims in each country's population. The first stage is presented in Panel C of Table A3. It is a reasonable instrument at least for one of the added institutional variables, Constraints on the Executive. The logic is that the greater the proportion of Muslims in a country, the greater the influence of religious leaders and the fewer checks and balances on the executive. None of the additional variables have coefficients that are statistically significant at the 5% level. They tend to lower the level of statistical significance of human capital and second generation human rights relative to the basic result in the top panel (A) of Table 6. But the coefficient of second generation human rights retains its sign in all cases, and it remains statistically significant in two out of the five cases. The coefficient of human capital changes sign in one case and remains statistically significant in two out of five cases.

Finally, the bottom panel of Table 7 (B) presents the results of adding regional dummies for Sub-Saharan Africa and Latin America and the Caribbean to the basic result (column 2) presented in Table 6A. Since the dummies are exogenous we used the same instruments as in Table 6 to correct for endogeneity. Both dummies are statistically insignificant, with t-ratios less than unity. The estimates of the coefficients for both human capital and second generation human rights do not

change much in either case. Nonetheless, it is sufficient in the case of the Latin America and the Caribbean dummy to drive the coefficient of second generation human rights below statistical significance at the 5 % level.

7. Implications

One contribution of our empirical analysis is to show that the dominance of property rights institutions over contracting institutions in explaining long-term growth is not limited to the measures considered by Acemoglu and Johnson (2005), such as Constraints on the Executive and Risk of Expropriation. On the contrary, using exactly the same methodology and sample, this dominance extends to a wide range of other variables. Prominent among these other variables are four dimensions of civil liberties recently provided at a disaggregated level by Freedom House.

It would be foolish to conclude from this finding that contracting institutions are irrelevant for development for several reasons. First, only one measure of contracting institutions was considered, Legal Formalism, and there could be others not yet explored in the literature that would generate different results. Second, it is possible that these institutions don't matter empirically at the aggregate level implied by the use of cross-country data but that they would at lower levels of aggregation. Finally and foremost in our judgment, our conceptual framework suggests reasons why this might be the case without implying the irrelevance of these institutions for development. Namely, the prevalence of the rule of law provided by property rights institutions is an essential public input for the operation of socially contrived markets at a high level while contract enforcement institutions are not an essential public input.

To further elaborate: while there are private substitutes for the lack of contract enforcement institutions, there are no private substitutes for the rule of law. If the operation of socially contrived

markets at a high level is an important component that generates sustained economic growth, private substitutes for contract enforcement institutions, such as corruption, may arise and operate in some countries. These private substitutes can allow economic activities to take place at a high level even though the public provision of contract enforcement institutions through legal formalism is awfully inefficient. Thus, the result we established empirically does not necessarily imply that contract enforcement institutions are irrelevant for development. What it does suggest is that public provision of these institutions, if it holds up for other measures of publicly provided contracting institutions, is not an essential public input for economic development.

A second contribution of this paper—and perhaps its most important—is the unbundling of property rights institutions. Civil liberties matter in determining the level of long-term economic growth as indicators of the prevalence of the rule of law in general and of property rights institutions in particular. The civil liberties that matter most in this setting, however, are those associated with second generation human rights. The salience and robustness of this empirical finding is very unusual for analyses of cross-country data. We view this result as an unusually strong and auspicious step in the process of unbundling property rights institutions and in understanding their role in the economy. Thus, it is desirable to highlight its implications for a couple of fundamental issues in the institutions and economic development literature.

It is difficult to believe that one can maintain high levels of second generation rights without having some minimal levels of first generation rights, as our results suggest. Nonetheless, the well-documented and exceptional sustained economic growth of the East Asian economies since World War II is also consistent with this result. To illustrate, Vietnam and China are two recent and perhaps dramatic examples of divergence between second generation human rights and other property rights institutions while achieving sustained growth rates. Their scores on second

generation human rights are 7 and 8, respectively, out of a possible 16. The next highest score for either country in any of the disaggregated civil liberties subcategories is 4 out of 16. These correspond to Freedom of Expression for China and Rule of Law for Vietnam. Indeed, one can plausibly argue that these recent scores on second generation human rights are the result of improvements concurrent with their sustained economic growth. Regardless of this argument, understanding the nature of the relationships between different civil liberties subcategories in affecting long-term growth is a potentially fruitful area of future research.

One might also expect some relationship between a minimal level of political rights and these second generation human rights. Using China and Vietnam as illustrations again, one finds that neither country scores higher than a 1 out of a possible 12 or 16 in any of the three political rights subcategories. Thus, important recent research on the interactions between political and economic institutions in the context of economic development needs to address these issues. It has not thus far. More specifically, we have in mind ongoing work along the lines of Acemoglou and Robinson (2006) and North, Wallis and Weingast (2008).

A third contribution of this paper lies in the conceptual framework. It helped us interpret our first empirical result. It also helps us interpret the unusual implications of our second empirical result noted above. That is, one possible reason for the exceptional growth performance of China and Vietnam, despite their low scores on civil liberties and political rights, is that at low levels of development growth can be based on activities in markets that are not socially contrived, for example agricultural markets. Yet as one attains higher levels of development, it becomes impossible to sustain growth without socially contrived markets and it is at this point that civil liberties and perhaps political rights begin to matter. In these early stages of the development process, the civil liberties that matter most are the ones associated with second generation human

rights, since they have more direct effects on economic activities through improving labor mobility and the full exercise of ownership rights.

To conclude, we indicate how the subsidiary propositions of the conceptual framework provide implications for future research, a possible and plausible causal mechanism for our main empirical result, and very preliminary evidence in that direction. One way to proceed in terms of future research is to explore in greater detail the role of civil liberties in different socially contrived markets. Some of the most important socially contrived markets in an economy are, for example, financial markets. After all, they usually involve the exchange of short-term payments for paper claims or promises of future benefits.

Considering the arguments about the causal impact of financial development on economic growth (for example, Levine (2005)), further research may fruitfully focus on the impact of civil liberties in the development of narrowly defined financial markets, such as stock, credit, and insurance markets, as especially relevant socially contrived markets. For instance, one might assess the degree to which greater civil liberties may both deepen financial development and expand access to finance or determine whether foreign investment is pursued through stock markets, debt markets, or direct investment. This same causal argument, however, suggests a possible and plausible mechanism for our empirical finding that civil liberties in the form of second generation human rights are the ones with the greatest impact on long-term growth. Namely, these human rights are the ones that capture those aspects of the rule of law most important for operation at a high level of transactions in socially contrived markets, including financial markets. These socially contrived markets are the ones that determine economic growth over the long-term.

A simple measure of the level of operations of socially contrived markets that can be

assessed with our data is the level of operations in the markets for tangible capital goods or investment goods. We discussed in the conceptual framework why these markets can be viewed as socially contrived. A useful measure of the level of operations in the investment goods market is the investment ratio (GDI/GDP). GDP provides a normalization of the variable of interest for the size of the economy. We ran a simple OLS regression using the investment ratio (averaged over the 1990's) as the dependent variable and the same institutional variables as in the top panel (A) of Table 3 as the explanatory ones. The results were striking: the only variable statistically significant at the 1 % level is the Personal Autonomy and Individual Rights subcategory of civil liberties and the R^2 in this regression (0.2425) is two and a half times to six times higher than in any of the other six regressions.

While we view this evidence merely as suggestive, when combined with our previous arguments it makes appealing further inquiry into the nature of socially contrived markets and the role of civil liberties in the form of second generation human rights in their development. Of course, this future research should rely on all the possible ways of learning about economic processes. These include: further conceptualization, theoretical modeling, use of empirical data sets at a variety of levels of aggregation, a variety of econometric methodologies that usually accompanies the use of these different data sets, field experiments, and laboratory experiments.

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Table 1: Freedom House Civil Liberties Categories

FH Civil Liberties Category	Sub-Issues
D. Freedom of Expression and Belief	1. Are there free and independent media and other forms of cultural expression?
	2. Are religious institutions and communities free to practice their faith and express themselves in public and private?
	3. Is there academic freedom and is the educational system free of extensive political indoctrination?
	4. Is there open and free private discussion?
E. Associational and Organizational Rights	1. Is there freedom of assembly, demonstration, and open public discussion?
	2. Is there freedom for nongovernmental organizations?
	3. Are there free trade unions and peasant organizations or equivalents, and is there effective collective bargaining?
F. Rule of Law	1. Is there an independent judiciary?
	2. Does the rule of law prevail in civil and criminal matters? Are police under direct civilian control?
	3. Is there protection from political terror, unjustified imprisonment, exile, or torture, whether by groups that support or oppose the system? Is there freedom from war and insurgencies?
	4. Do laws, policies, and practices guarantee equal treatment of various segments of the population?
G. Personal Autonomy and Individual Rights	1. Does the state control travel or choice of residence, employment, or institution of higher education?
	2. Do citizens have the right to own property and establish private businesses? Is private business activity unduly influenced by government officials, the security forces, political parties/organizations, or organized crime?
	3. Are there personal social freedoms, including gender equality, choice of marriage partners, and size of family?
	4. Is there equality of opportunity and the absence of economic exploitation?

Table 2: Correlation among institutional variables for 60 ex-colonies

	Const. on Exec.	*CIM*	*Agg. Civil Lib. Index*	*Free.of Exp. & Belief (D)*	*Assoc. & Organ.. Rights (E)*	*Rule of Law (F)*	*Person. Auto. & Indiv. Rights (G)*	*Elect. Process (A)*	*Politi. Plural. & Part. (B)*	*Funct. Of Gov. (C)*	*Second. School Enroll.*
Constraints on the Executive	1										
CIM	0.113	1									
Aggregate Civil Liberties Index	0.6651	0.2015	1								
Freedom of Expression & Belief (D)	0.6145	0.2262	0.8958	1							
Associational and Organiz. Rights (E)	0.6647	0.2251	0.9094	0.9316	1						
Rule of Law (F)	0.615	0.2013	0.9153	0.784	0.7929	1					
Personal Autonomy & Individual Rights (G)	0.6864	0.2663	0.8895	0.7471	0.7598	0.8353	1				
Electoral Process (A)	0.6159	0.1988	0.8507	0.8723	0.8832	0.7407	0.7364	1			
Political Pluralism & Participation (B)	0.6709	0.1529	0.8857	0.91	0.9235	0.7911	0.7736	0.8867	1		
Functioning of Government (C)	0.5891	0.1924	0.898	0.8137	0.8262	0.905	0.8275	0.8183	0.8378	1	
Secondary School Enrollment	0.4958	0.3041	0.4407	0.3221	0.3469	0.4275	0.6413	0.2999	0.331	0.4213	1

Table 3 A: OLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)	(4)	(5)	(6)
Legal Formalism	-0.130	-0.054	-0.163	-0.142	-0.062	-0.049
	(0.101)	(0.113)	(0.107)	(0.108)	(0.109)	(0.087)
	<-0.146>	*<-0.0612>*	*<-0.183>*	*<-0.160>*	*<-0.0695>*	*<-0.0550>*
Constraints on Executive	0.293***					
	(0.067)					
	<0.495>					
CIM		2.040**				
		(0.728)				
		<0.357>				
Freedom of Expression & Belief (D)			0.115**			
			(0.035)			
			<0.398>			
Associational & Organ. Rights (E)				0.131**		
				(0.042)		
				<0.373>		
Rule of Law (F)					0.120**	
					(0.036)	
					<0.409>	
Personal Autonomy & Indiv. Rights (G)						0.238***
						(0.034)
						<0.676>
Observations	60	60	60	60	60	60
R-squared	0.270	0.143	0.183	0.164	0.185	0.472

Standard errors in parentheses and beta coefficients in brackets. * significant at 5%, ** significant at 1%, *** significant at 0.1%.

Table 3 B: OLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)
Legal Formalism	-0.179	-0.147	-0.069
	(0.107)	(0.109)	(0.108)
	<-0.201>	*<-0.165>*	*<-0.0777>*
Electoral Process (A)	0.114**		
	(0.034)		
	<0.407>		
Political Pluralism & Participation (B)		0.085**	
		(0.031)	
		<0.340>	
Functioning of Government (C)			0.144***
			(0.041)
			<0.421>
Observations	60	60	60
R-squared	0.189	0.140	0.196

Standard errors in parentheses and beta coefficients in brackets. * significant at 5%, ** significant at 1%, *** significant at 0.1%.

Table 4 A: 2SLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)	(4)	(5)	(6)
Legal Formalism	-0.002	0.180	-0.150	-0.044	0.078	-0.084
	(0.211)	(0.339)	(0.178)	(0.204)	(0.184)	(0.130)
	<-0.0022>	*<0.202>*	*<-0.168>*	*<-0.0498>*	*<0.0879>*	*<-0.0944>*
Constraints on Executive	0.878**					
	(0.273)					
	<1.482>					
CIM		11.980*				
		(5.463)				
		<2.096>				
Freedom of Expression & Belief (D)			0.314***			
			(0.084)			
			<1.083>			
Associational & Organ. Rights (E)				0.444**		
				(0.135)		
				<1.269>		
Rule of Law (F)					0.312***	
					(0.082)	
					<1.065>	
Personal Autonomy & Indiv. Rights (G)						0.373***
						(0.073)
						<1.059>
Observations	60	60	60	60	60	60

The instruments used in the 2SLS specifications are the log of population density in 1500 and a dummy for British legal origin. Standard errors in parentheses and beta coefficients in brackets. * significant at 5%, ** significant at 1%, *** significant at 0.1%.

Table 4 B: 2SLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)
Legal Formalism	-0.258	-0.127	0.057
	(0.190)	(0.207)	(0.193)
	<-0.289>	*<-0.143>*	*<0.0635>*
Electoral Process (A)	0.337***		
	(0.096)		
	<1.205>		
Political Pluralism & Participation (B)		0.318**	
		(0.100)	
		<1.279>	
Functioning of Government (C)			0.408***
			(0.114)
			<1.193>
Observations	60	60	60

The instruments used in the 2SLS specifications are the log of population density in 1500 and a dummy for British legal origin. Standard errors in parentheses and beta coefficients in brackets. * significant at 5%, ** significant at 1%, *** significant at 0.1%.

Table 5 A: OLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)	(4)	(5)
Personal Autonomy & Indiv. Rights (G)	0.241***	0.070*	0.200***	0.072**	0.069*
	(0.034)	(0.027)	(0.032)	(0.027)	(0.029)
	<0.685>	*<0.200>*	*<0.567>*	*<0.205>*	*<0.196>*
Secondary School Enrollment, 1995		0.030***		0.028***	0.027***
		(0.003)		(0.003)	(0.004)
		<0.756>		*<0.707>*	*<0.703>*
Malaria Ecology			-0.048***	-0.011	-0.010
			(0.012)	(0.009)	(0.010)
			<-0.363>	*<-0.0816>*	*<-0.0776>*
Landlocked Dummy					0.026
					(0.565)
					<0.00317>
Latitude, Absolute Value					-0.070
					(0.169)
					<-0.0282>
Observations	60	60	60	60	60
R-squared	0.469	0.805	0.587	0.810	0.811

Standard errors in parentheses and beta coefficients in brackets. * significant at 5%, ** significant at 1%, *** significant at 0.1%.

Table 5 B: OLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)	(4)	(5)
Constraints on Executive	0.295***	0.047	0.182*	0.039	0.040
	(0.067)	(0.042)	(0.071)	(0.044)	(0.044)
	<0.499>	*<0.0800>*	*<0.308>*	*<0.0667>*	*<0.0681>*
Secondary School Enrollment, 1995		0.033***		0.032***	0.031***
		(0.003)		(0.003)	(0.003)
		<0.845>		*<0.823>*	*<0.789>*
Malaria Ecology			-0.053**	-0.007	-0.005
			(0.016)	(0.010)	(0.010)
			<-0.400>	*<-0.0507>*	*<-0.0401>*
Landlocked Dummy					0.182
					(0.586)
					<0.0225>
Latitude, Absolute Value					-0.189
					(0.170)
					<-0.0760>
Observations	60	60	60	60	60
	0.249	0.787	0.372	0.788	0.793

Standard errors in parentheses and beta coefficients in brackets. * significant at 5%, ** significant at 1%, *** significant at 0.1%.

Table 6 A: 2SLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)	(4)	(5)
Personal Autonomy & Indiv. Rights (G)	0.426***	0.225*	0.384***	0.237*	0.238*
	(0.072)	(0.096)	(0.073)	(0.107)	(0.111)
	<1.209>	*<0.638>*	*<1.090>*	*<0.673>*	*<0.676>*
Secondary School Enrollment, 1995		0.024*		0.021	0.022
		(0.010)		(0.013)	(0.015)
		<0.602>		*<0.545>*	*<0.575>*
Malaria Ecology			-0.026	-0.003	-0.009
			(0.017)	(0.019)	(0.019)
			<-0.194>	*<-0.0215>*	*<-0.0698>*
Landlocked Dummy					-0.862
					(0.888)
					<-0.106>
Latitude, Absolute Value					0.293
					(0.252)
					<0.118>
Observations	60	60	60	60	60

The instruments used in the 2SLS specifications are the log of population density in 1500, a dummy for British legal origin, and ethnic fractionalization. Standard errors in parentheses and beta coefficients in brackets. * significant at 5%, ** significant at 1%, *** significant at 0.1%.

Table 6 B: 2SLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)	(4)	(5)
Constraints on Executive	0.988***	0.519	0.868**	0.320	0.302
	(0.269)	(0.365)	(0.301)	(0.230)	(0.230)
	<1.669>	*<0.877>*	*<1.466>*	*<0.540>*	*<0.509>*
Secondary School Enrollment, 1995		0.023		0.035**	0.039**
		(0.016)		(0.011)	(0.012)
		<0.590>		*<0.907>*	*<0.990>*
Malaria Ecology			0.020	0.030	0.029
			(0.039)	(0.020)	(0.020)
			<0.155>	*<0.223>*	*<0.216>*
Landlocked Dummy					-1.096
					(0.979)
					<-0.135>
Latitude, Absolute Value					-0.012
					(0.277)
					<-
Observations	60	60	60	60	60

The instruments used in the 2SLS specifications are the log of population density in 1500, a dummy for British legal origin, and ethnic fractionalization. Standard errors in parentheses and beta coefficients in brackets. * significant at 5%, ** significant at 1%, *** significant at 0.1%.

Table 7 A: 2SLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)	(4)	(5)
Personal Autonomy & Indiv. Rights (G)	0.340*	0.155	0.546	0.438*	0.276
	(0.150)	(0.339)	(0.352)	(0.211)	(0.156)
	<0.965>	*<0.441>*	*<1.550>*	*<1.243>*	*<0.783>*
Secondary School Enrollment	0.025*	-0.015	0.004	0.013	0.022*
	(0.012)	(0.095)	(0.023)	(0.014)	(0.010)
	<0.647>	*<-0.393>*	*<0.113>*	*<0.321>*	*<0.561>*
Constraints on Executive	-0.302				
	(0.244)				
	<-0.510>				
CIM		10.479			
		(24.572)			
		<1.833>			
Freedom of & Belief (D)			-0.174		
			(0.171)		
			<-0.601>		
Associational & Organ. Rights (E)				-0.184	
				(0.150)	
				<-0.525>	
Rule of Law (F)					-0.046
					(0.101)
					<-0.155>
Observations	60	60	60	60	60

The instruments used in the 2SLS specifications are the log of population density in 1500, a dummy for British legal origin, ethnic fractionalization, and the share of Muslims in the population in 1980. Standard errors in parentheses and beta coefficients in brackets. * significant at 5%, ** significant at 1%, *** significant at 0.1%.

Table 7 B: 2SLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)
Personal Autonomy & Indiv. Rights (G)	0.225*	0.197*	0.190
	(0.096)	(0.086)	(0.114)
	<0.638>	*<0.559>*	*<0.540>*
Secondary School Enrollment	0.024*	0.024*	0.026*
	(0.010)	(0.010)	(0.010)
	<0.602>	*<0.619>*	*<0.667>*
Sub-Saharan Africa Dummy		0.043	
		(0.213)	
		<0.0200>	
Latin America & Caribbean Dummy			0.066
			(0.226)
			<0.0302>
Observations	60	60	60

The instruments used in the 2SLS specifications are the log of population density in 1500, a dummy for British legal origin , and ethnic fractionalization.

Appendix

Table A1: Summary Statistics for Sample of 60 Former Colonies

Variable	*Mean*	*Std. Dev.*	*Min*	*Max*
Log of GDP Per Capita, 1995	7.998	1.034	6.162	10.250
Investment/GDP, Ave. over 1990's	13.123	7.001	2.898	42.182
Legal Formalism	3.913	1.161	1.579	6.009
Constraints on the Executive	4.786	1.746	1.18	7
CIM	0.820	0.181	0	0.995
Aggregate Civil Liberties Index	3.167	1.355	1	6
Freedom of Expression & Belief (D)	11.967	3.570	3	16
Associational & Organizational Rights (E)	8.167	2.953	2	12
Rule of Law (F)	8.1	3.526	1	15
Personal Autonomy & Individual Rights (G)	9.367	2.934	1	16
Electoral Process (A)	7.967	3.701	0	12
Political Pluralism & Participation (B)	10.333	4.157	1	16
Functioning of Government (C)	6.5	3.023	0	12
Malaria Ecology	5.102	7.802	0	31.548
Landlocked Dummy	0.217	0.415	0	1
Latitude, Absolute Value	0.195	0.127	0.011	0.667
Secondary School Enrolment	47.338	26.474	5.44	100

Table A2: Non-Nested Tests, OLS

	D vs. G		E vs. G		F vs. G		CIM vs. G		Exec. Const. vs. G	
Fitted Based on:	**G**	**D**	**G**	**E**	**G**	**F**	**G**	**CIM**	**G**	**Exec. Const.**
Legal Formalism	0.061	-0.119	0.058	-0.143	-0.011	-0.169	0.039	0.025	-0.008	-0.037
	(0.67)	(1.29)	(0.66)	(1.56)	(0.13)	(1.89)	(0.45)	(0.27)	(0.09)	(0.41)
Fitted values	1.322	-0.707	1.4	-0.933	1.629	-1.265	0.93	0.571	0.934	0.128
	(6.02)**	(1.91)	(6.46)**	(2.40)*	(6.75)**	(3.14)**	(6.45)**	(2.04)*	(4.66)**	(0.47)
Personal Autonomy & Indiv. Rights (G)		0.315		0.334		0.388		0.222		0.223
		(6.02)**		(6.46)**		(6.75)**		(6.45)**		(4.66)**
Freedom of Express. & Belief (D)	-0.082									
	(1.91)									
Assoc. & Organ. Rights (E)			-0.122							
			(2.40)*							
"Rule of Law" (F)					-0.152					
					(3.14)**					
CIM							1.166			
							(2.04)*			
Constraints on Executive									0.038	
									(0.47)	
Observations	60	60	60	60	60	60	60	60	60	60
R-squared	0.5	0.5	0.52	0.52	0.55	0.55	0.51	0.51	0.47	0.47

Table A3 A, First Stages (Dependent variable in column heading)

	Legal Formalism	*Constraints on Exec.*	*Personal Autonomy & Indiv. Rights (G)*	*Secondary School Enrollment*	*"Rule of Law" (F)*	*Function. Of Gov. (C)*
British Legal Origin	-1.739***	0.054	-0.255	8.698	0.599	0.366
	(0.205)	(0.432)	(0.667)	(6.320)	(0.785)	(0.706)
Log of Pop Density, 1500	0.041	-0.398**	-0.927***	-6.375**	-1.129***	-0.862***
	(0.060)	(0.127)	(0.196)	(1.856)	(0.231)	(0.207)
Observations	60	60	60	60	60	60
R-squared	0.568	0.151	0.282	0.209	0.312	0.244

Standard errors in parenthesis; * significant at 5%, ** significant at 1%, *** significant at 0.1%

Table A3 B, First Stages with Ethnic Fractionalization

	Legal Formalism	*Constraints on Exec.*	*Personal Autonomy & Indiv. Rights (G)*	*Secondary School Enrollment*	*"Rule of Law" (F)*	*Function. Of Gov. (C)*
British Legal Origin	-1.728***	0.119	-0.100	11.278*	0.642	0.335
	(0.207)	(0.432)	(0.652)	(5.630)	(0.795)	(0.715)
Log of Pop Density, 1500	0.043	-0.383**	-0.890***	-5.759***	-1.119***	-0.869***
	(0.061)	(0.127)	(0.191)	(1.650)	(0.233)	(0.210)
Ethnic Fractionalization	-0.204	-1.180	-2.852*	-47.381***	-0.796	0.570
	(0.427)	(0.888)	(1.340)	(11.583)	(1.636)	(1.472)
Observations	60	60	60	60	60	60
R-squared	0.570	0.177	0.336	0.391	0.315	0.246

Standard errors in parenthesis; * significant at 5%, ** significant at 1%, *** significant at 0.1%

Table A3 C, First Stages with Ethnic Fractionalization & Muslim Share of Population

	Legal Formalism	*Constraints on Exec.*	*Personal Autonomy & Indiv. Rights (G)*	*Secondary School Enrollment*	*"Rule of Law" (F)*	*Function. Of Gov. (C)*
British Legal Origin	-1.742***	0.051	-0.139	10.886	0.628	0.322
	(0.208)	(0.413)	(0.654)	(5.634)	(0.803)	(0.723)
Log of Pop Density, 1500	0.079	-0.205	-0.786***	-4.730*	-1.081***	-0.836**
	(0.070)	(0.140)	(0.221)	(1.906)	(0.272)	(0.245)
Ethnic Fractionalization	-0.222	-1.268	-2.903*	-47.892***	-0.815	0.554
	(0.427)	(0.849)	(1.343)	(11.577)	(1.651)	(1.485)
Muslim Share of Population	-0.004	-0.018*	-0.011	-0.106	-0.004	-0.003
	(0.004)	(0.007)	(0.011)	(0.099)	(0.014)	(0.013)
Observations	60	60	60	60	60	60
R-squared	0.578	0.262	0.346	0.403	0.316	0.247

Standard errors in parenthesis; * significant at 5%, ** significant at 1%, * significant at 0.1%**

Table A4 A: OLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)	(4)	(5)	(6)
Legal Formalism	-0.196*	-0.298*	-0.272**	-0.235*	-0.079	-0.074
	(0.093)	(0.116)	(0.100)	(0.099)	(0.095)	(0.073)
	<-0.174>	*<-0.265>*	*<-0.242>*	*<-0.209>*	*<-0.0698>*	*<-0.0657>*
Constraints on Executive	0.437***					
	(0.056)					
	<0.639>					
CIM		-1.018**				
		(0.362)				
		<-0.290>				
Freedom of Expression & Belief (D)			0.191***			
			(0.031)			
			<0.546>			
Associational & Organ. Rights (E)				0.226***		
				(0.035)		
				<0.564>		
Rule of Law (F)					0.193***	
					(0.024)	
					<0.666>	
Personal Autonomy & Indiv. Rights (G)						0.278***
						(0.022)
						<0.809>
Observations	83	83	83	83	83	83
R-Squared	0.469	0.153	0.367	0.385	0.476	0.684

Standard errors in parentheses and beta coefficients in brackets. * significant at 5%, ** significant at 1%, *** significant at 0.1%.

Table A4 B: 2SLS, dependent variable is log GDP per capita in 1995

	(1)	(2)	(3)	(4)	(5)	(6)
Legal Formalism	0.054	0.275	0.284	0.751	0.924	0.195
	(0.242)	(0.295)	(1.087)	(1.453)	(1.084)	(0.185)
	<0.0636>	*<0.320>*	*<0.331>*	*<0.876>*	*<1.078>*	*<0.228>*
Constraints on Executive	0.992**					
	(0.292)					
	<1.670>					
CIM		11.013**				
		(3.482)				
		<1.641>				
Freedom of Expression & Belief (D)			1.713			
			(1.986)			
			<5.823>			
Associational & Organ. Rights (E)				2.053		
				(2.343)		
				<5.684>		
Rule of Law (F)					1.212	
					(0.928)	
					<4.099>	
Personal Autonomy & Indiv. Rights (G)						0.569***
						(0.118)
						<1.522>
Observations	51	51	51	51	51	51

The instruments used are the log of settler mortality and English legal origin.