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HISTORICAL LEGACY AND INSTITUTIONS ACROSS COUNTRIES

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Several recent theories postulate why some countries were able to devise institutions conducive to long-run economic growth whereas others were not. Most of these consider various historical factors or geographic characteristics as important predeterminants. But which of these theories comes closest to the truth? This paper simultaneously considers several competing theories and empirically examines which ones provide the strongest explanations for contemporary institutions. I find that settler mortality rates are strongly associated with contemporary institutions even when controlling for other important historical factors, including ones from theories that do not emphasize geographic characteristics. However, Englebert's concept of state legitimacy does best at explaining institutional outcomes within sub-Saharan Africa.

JEL classification codes: O11, O17

Key words: institutions, colonial legacy

I. Introduction

According to Parente and Prescott (2000), average income levels between the highest and lowest income countries differ by a factor of 30. What accounts for these differences? Cannot lagging countries simply emulate more advanced countries and so catch-up over time? Many have cited distinctions in institutions to explain these differences. As argued in North (1981, 1990), economic outcomes are a function of the incentives that institutional arrangements provide to individuals. Institutions that create incentives to produce output and engage in innovative activity will spur economic growth whereas institutions that encourage rent seeking will thwart economic prosperity.

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Knack and Keefer (1995) report that institutions promoting bureaucratic efficiency, enforcement of contracts, protection of property, and limits to government expropriation are positively associated with the growth of income per capita in a cross-section of countries. Mauro (1995) finds negative correlations between corruption and economic growth and between bureaucratic inefficiency and growth. Parente and Prescott (2000) argue that institutional barriers to technology adoption largely explain income disparities across countries. Bertocchi and Canova (2002) report that former British and French African colonies grew faster than Portuguese, Belgian, and Italian ones. One possible explanation is that French and British colonies were able to establish more effective colonial institutions that could be used as a foundation for economic growth after independence.

But these hypotheses and findings immediately beg the question as to why some countries were able to develop effective institutions while others were not as fortunate. One possible explanation is that institutions cannot be substantially modified in short periods of time and so today's institutions depend greatly on their historical antecedents. Hall and Jones (1999) and Acemoglu, Johnson, and Robinson (2001) point to how geographic factors influenced the extent of European settlement or influence. Englebert (2000a, 2000b), on the other hand, focuses on the evolution of the state. Countries where the state did not arise endogenously but was imposed from external sources are viewed to be less able to create institutions or promote policies that spur economic growth. Bockstette, Chanda, and Putterman (2002) consider the past extent of state level institutions as important for the existence of strong modern-day institutions. Countries having state institutions with longer historical antecedents are predicted to have better institutions today. However, Acemoglu, Johnson, and Robinson (2002) consider a "reversal" where (outside Europe) populous, rich regions circa 1500 have weaker institutions and are poorer today.

This paper analyzes these various hypotheses as to why some countries were able to form salutary institutions whereas others did not. In this sense, this paper is similar to Easterly and Levine (2003). They consider several hypotheses regarding historical or geographic explanations for the distinctions between rich and poor countries today. They find little evidence that geographic factors explain income levels today other than through institutions. However, the institutional theories they consider all have geographic foundations. For example, Acemoglu et al. (2001) argue that climate determined settler mortality which then influenced institutional outcomes. Or, Engerman and Sokoloff (1997) see factor endowments as influencing subsequent institutions. I pursue a different track. I do not consider direct effects

on income but examine various hypotheses as to why some countries developed institutions promoting economic growth. But unlike Easterly and Levine (2003), I also consider theories of institutional formation that are not grounded in geography such as those from Englebert (2000) and Bockstette et al. (2002). Is the reason some countries developed institutions conducive to economic prosperity primarily due to geographic differences across world regions or do other factors matter?

The empirical work will utilize both a world sample and an African sample. Although most of sub-Saharan Africa has not enjoyed rapid economic growth, exceptions arise and I deem it important to understand why these few have been more successful. Bloom and Sachs (1998) and Easterly and Levine (1997) join Englebert in citing Africa's problems as motivation for their work.¹

The paper is organized as follows. Section II provides further discussion on recent work in this area and presents in greater detail the hypotheses mentioned above. Section III discusses the empirical specification. Section IV presents the results. A conclusion follows. Details regarding data and their sources are provided in an appendix.

II. Background

Hall and Jones (1999) examine to what extent institutions matter for economic development. They regress the natural log of output per worker on a measure of social infrastructure which is viewed as the government's commitment to both promoting nondistortionary policies (e.g., support for free trade) and protecting property rights. Since social infrastructure is likely to be endogenous, they use various measures of western European influence as instruments, such as the fraction of the population that speak a western European language. They also consider latitude since Europeans were more likely to settle in temperate climates. Their premise is that beneficial institutions evolved in regions with strong connections to Europe.

Acemoglu et al. (2001) examine European influence in more depth than do Hall and Jones (1999). They argue that western influence can be beneficial to the long-run development of a colony but can sometimes be quite malignant, King Leopold's Belgian Congo being an apposite example. (Hochschild 1998 and Pakenham 1991 present further details as to colonialism in the Belgian Congo. Alam 1994 discusses

¹ Savvides (1995) and Ghura and Hadjimichael (1995) present general treatments of economic growth in Africa as well as provide surveys of previous work.

more generally the costs and benefits of colonialism for the indigenous population.) It is difficult to imagine that such pernicious forms of influence would have beneficial long-run effects upon postcolonial development. Moreover, the institutional structure created in these colonies need not be similar to that enjoyed by denizens at home.

They further argue that whether European influence was malignant or beneficial depended on the degree of European settlement. Colonies that attracted a large number of colonists were less likely to be extractive since this community of settlers would not want to see wealth leaving the colony. Moreover, they were likely to erect similar institutions as found in the home country. Finally, areas with low mortality rates for settlers would be areas more likely for settlement. Hence, mortality rates among settlers influenced the number of settlers which influenced what type of colonial institutions developed. With institutional inertia over time, postcolonial institutions remained similar to colonial ones, thereby linking colonial institutions to present day income levels. They conclude that these institutions explain in large part income differences (at least among former colonies) and these same institutions can be traced back to colonial settlement.²

A slightly different view comes from Engerman and Sokoloff (1997) who argue that present day income differences between North America and Latin America stem from geographic differences that led to large plantations in the latter but smaller farms in North America. Such geographic differences include what types of crops could best be grown since the type of crop greatly influenced the prevalence of plantations versus small farming. Because of these differences, Latin America had greater income inequality which affected subsequent institutions and development.³

These above theories are the ones Easterly and Levine (2003) examine. However, other theories of institutional formation need not rely upon geographic underpinnings. Acemoglu, Johnson, and Robinson (2002) argue that regions with higher population density were more likely to become extractive colonies since a large population could be exploited through forced labor or onerous taxation. Consequently, regions with high income and high population before European colonization, possibly but not necessarily due to geography, developed extractive institutions and lower relative income over time.

² However, Glaeser et al. (2004) postulate that it was the infusion of human capital and not subsequent institutional development as to why these regions of low settler mortality became relatively rich.

³ Engerman and Sokoloff (1997) also cite Spanish migration restrictions as an important determinants for many of Latin America's political and economic problems since a relatively few number of Spaniards ruled over large indigenous populations.

Englebert (2000a, 2000b) argues that countries differ nontrivially as to how the modern state arose and, specifically, whether precolonial and postcolonial institutions coincide. Englebert considers a state legitimate if the creation of that country was not brought about by external forces where large groups of indigenous inhabitants view incongruities between the resulting state and earlier ones. In many cases, countries with illegitimate states are ones with borders created by external forces such as European governments partitioning Africa in the late 1800's. Often, although not always, these borders resulted in groups without any previous history of shared governance or political structures falling into the same country. This results in a political structure that is new or at least with little historical foundation.^{4,5} More formally, Englebert defines a state to be legitimate if the country was never colonized in the era of the nation-state; or, if the country was colonized: no indigenous peoples existed prior to European colonization, or the country was colonized but settlers substantially marginalized indigenous peoples, or the country recovered its previous sovereignty or identity at independence, or the postcolonial state does not do severe violence to pre-existing political institutions.

Examples of legitimate states include those countries that were never colonized since the era of the nation state (1500 AD) so that their institutions have evolved internally over time. That is, the state was never directly imposed from above by external actors. This does not mean that the state or its institutions remained constant over time or that national borders remained fixed but that these changes did not occur by external forces creating countries lacking historical antecedents. Many countries of Europe fall into this category.

Legitimate states also include former colonies where the colonists substantially displaced the indigenous population, such as in the United States or Australia. Since

⁴ In the case where a military leader deposes a democratic regime or more generally with any type of extra-constitutional transfer of power, the resulting leader or government is often described as "illegitimate". This is not the context in which the terms "legitimate" and "illegitimate" are used here. Instead of referring to a political government or leadership within a country's history, "legitimacy" refers to the creation of the nation itself. This is not to say that illegal transfers of power are unimportant or that undemocratic or unpopular governments do not face political constraints that might inhibit them from promoting growth enhancing policies but only that the paper considers a different concept of legitimacy.

⁵ Since the focus is upon whether or not the state *at independence* is incongruent with precolonial institutions, the classification of a state as legitimate or illegitimate does not change over time. If previously separate groups in a country see themselves increasingly over time belonging to the same community or become more comfortable with the prevailing institutions, then the status at independence becomes less relevant for the current institutional structure.

the indigenous population was completely marginalized, the inhabitants of the new nation did not view a conflict between postcolonial and precolonial institutions. To some extent, then, this theory is not completely disjoint from that in Acemoglu et al. (2001) since both see large influxes of European settlers as beneficial for long-run institutions. However, whereas they focus on the absolute number of settlers, Englebert focuses on the relative number. Thus, Englebert classifies South Africa as illegitimate because European settlers, though numerous, remained a minority. Similar examples of legitimate states also include trivial cases like Cape Verde which did not contain people before colonization.

A state can also be legitimate if it recovers the sovereignty it held before colonization such as in the cases of Egypt or Tunisia. The colonial period does not undo a shared sense of identity of the majority of the populace and so they do not view governing structures arising after independence as foreign. Instead, the colonial period is merely an interruption of a longer shared history. Although to a lesser degree, legitimate states can also arise when postcolonial governance arises from a source familiar to precolonial times even if the country was not in existence before colonization. One example is Botswana where the Tswana kingdoms predated colonialism but survived it so that Botswana's first president, Sereste Khama, came directly out of this system as the former heir to the Ngwato kingship. Englebert also sees countries like Singapore falling into this category. Singapore seceded from Malaysia in 1965 as its population on its own volition formed a new country and no large group within Singapore opposed its creation. Thus, no conflict arose, at least as perceived by the denizens of Singapore, between Singapore's political institutions and what had preceded them.

If states do not fall into one of these categories, they are labeled illegitimate because the contemporary state apparatus lacks historical antecedents predating colonization. Africa contains numerous examples. Various groups without precolonial political linkages suddenly found themselves in a single political unit but these were not unions of their own choosing. Instead, these unions were created via European fiat. Thus, leaders arising after independence did not come from traditional sources or were, themselves, seen as "foreign" to sizable groups within the country. Davidson (1992) also argues that political problems involving nascent states at independence have greatly contributed to Africa's poor outcomes.

Englebert argues that governing regimes of legitimate states are not as constrained as those in illegitimate ones by the need to satisfy various constituencies to remain in power. Instead, they have a stronger historical foundation which creates a firmer power base. Thus, these governments can take more long-term perspectives and

promote policies that spur overall economic development rather than appease politically important constituencies. Leaders of countries with illegitimate states have had to sacrifice economic development in order to gain political support. In this sense, effective policies promoting growth and development do not arise from western influence per se but from a congruent institutional link with the past. Englebert forms a dummy variable from this legitimate—illegitimate dichotomy and shows that legitimate states have better institutional and economic outcomes.

Bockstette et al. (2002) also consider non-geographic explanations for institutional development. They argue that countries having longer histories of statehood are more likely to develop institutions conducive to economic growth. Reasons for such benefits could stem from learning-by-doing effects, improved social cohesion over time, and the promotion of attitudes respecting political authority and hierarchy. They develop a measure of state antiquity where higher values denote the greater prevalence of a state structure in the past. They then show that this measure is correlated with economic growth from 1960 to 1995 in a Barro-type growth regression. Although they also focus upon historical antecedents of the modern state, this view differs from Englebert's in that Englebert does not view legitimacy as necessarily a function of time or duration. However a common element of these two theories and an advantage over the geographic-based ones is that they are not limited to where Europeans chose to settle but can explain why European countries, themselves, generally developed institutions favorable to economic prosperity.

III. Empirical specification

Details regarding the variables used below are provided in the appendix. Consider the following empirical model:

$$\text{INSTITUTION} = a + b^*H + c^*G + d^*X + e. \quad (1)$$

INSTITUTION denotes the institutional measure employed and is explained below. Matrix H considers the historical factors outlined above hypothesized to determine current institutions. Matrix G denotes geographic factors and matrix X consists of other control variables. The particular elements in G and X will depend on the theory being considered and are also described below. For example, when considering the importance of settler mortality on contemporary institutions, geographic controls such as latitude are used to better ensure that the coefficient on settler mortality does not capture direct effects of geography on institutional

outcomes. Finally, e denotes an unobservable, assumed to have zero mean but not necessarily identical variance across observations. Consequently, White's heteroskedastic-consistent covariance matrices are used.

Equation (1) assumes that income or other measures of development such as human capital is not a determinant of institutional quality although this is certainly controversial. If beneficial institutions are costly in that they require resources, then higher income countries can better afford them. This includes the possibility that effective institutions can only arise with a sufficiently educated populace since higher income countries can devote more resources to education. On the other hand, it is not clear whether income levels do, indeed, cause institutions. Acemoglu et al. (2001) find that causation from income to institutions is less important than is measurement error when comparing 2SLS to LS results. Moreover, political structures and constitutional protections have evolved in the U.S. since 1787 but their foundation remains the same, the U.S. Constitution. Since average income was much lower in 1787, perhaps it is not low income that restricts communities from creating institutions, including political structures, conducive to economic growth. However, it is difficult to test the above conjectures. Inserting lagged income into the right hand side of (1) would not solve the problem of reverse causation if both income and institutions are persistent over time. Finding factors to instrument for income is also difficult.⁶

A drawback of omitting income in (1) is that variables in H , G , or X could determine income which then determines institutions. As in Glaeser et al. (2004), perhaps settler mortality influenced the extent of European settlement. The main benefit, they argue, of large inflows of Europeans was not better institutions but more human capital and higher income which then produced better institutions. By not controlling for income, these possibilities cannot be quickly dismissed. Nevertheless, since all the theories I compare view institutions as determining income, omitting income coincides with the arguments of the theoretical models presented in Section II.

I use three measures of institutions. The first (INST) is the measure used by Easterly and Levine (2003) from Kaufmann et al. (1999) which averages six separate measures of institutions: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and absence of corruption. To diminish the potential for one year aberrations to drive results, I also average data intertemporally

⁶ Some studies have used geographic characteristics to instrument for income. However, such a procedure is unwarranted here since geographic factors are argued in some of these theories to be determinants of institutions.

from the years 1996, 1998, 2000, 2002, and 2004. A second measure is GOV from Englebert. GOV is the first principal component of a set of institutional measures: the Gastil measure of civil liberties from Freedom House, a measure of what percentage of the population speaks the official language, and five measures of institutions from *Inter-Country Risk Guide*. These five measures are: the absence of corruption, bureaucratic quality, government commitment not to modify contracts with foreign firms, adherence to the rule of law, and the lack of risk of government expropriation of property.⁷ Finally, I also consider GADP, an index measuring government antidiversion policies, from Hall and Jones (1999).⁸ Instead of using a principal component, GADP is the sum of five more specific institutional measures: a measure of the rule of law, a measure of the government's commitment to honor contracts with foreign firms, a measure of the government's refraining from expropriating foreign property, a measure of corruption, and a measure of bureaucratic quality. See the appendix for further details. All of these measures are broad in that they consider several aspects of institutions and so provide a more encompassing definition than looking solely at corruption or protection of property. In all three measures, higher values denote institutions that are, presumably, more effective at promoting economic growth. In presenting results, I focus on INST for two reasons. One, INST is more recent as it is taken from the late 1990's and early 2000's. GOV and GADP are both created using data from the mid 1980's to the mid 1990's. Second, INST is available for more countries, 116 in the baseline specification found in the first column of Table 2. For this same specification, GOV is available for only 82 countries and GADP for 91.

The variables in H include (although not considered all at once): Englebert's measure of state legitimacy (LEGIT), the natural logarithm of settler mortality (MORT) from Acemoglu et al. (2001), the measure of state history (STANQ) from Bockstette et al. (2002), a good crops index (CROP) constructed similarly to that in Easterly and Levine (2003) to capture the potential for the raising of crops conducive to beneficial institutions, and the population density (DEN) in 1500. The latter two measures capture initial factor endowments argued by Engerman and Sokoloff (1997) to be important for subsequent institutional development. DEN is

⁷ Putnam (1993) also constructs an index of regional institutions in Italy also using principal components. Alesina and Perotti (1995) create an aggregate measure of political instability by using the first principal component of a set of instability measures.

⁸ The correlation between INST and GADP is 0.78. That between INST and GOV is 0.81 and the correlation between GADP and GOV is 0.97.

also of central focus in the theory of Acemoglu et al. (2002) since large indigenous populations were likely to be exploited by colonizers.

Matrix G always contains AFRICA which takes the value one for a country in sub-Saharan Africa and zero otherwise. I include AFRICA for four reasons. One, there could be conditions endemic to traditional African societies that make it more difficult to erect beneficial institutions. Two, an insignificant coefficient on the African dummy would suggest that the other independent variables are, at least to some extent, able to explain why African nations score poorly on institutional measures. On the other hand, a significant coefficient on AFRICA suggests that the other variables cannot fully explain Africa's difficulties in establishing effective institutions and so other explanations need to be considered. A third reason is that because of Africa's poor economic performance, there may be a bias to grade African institutions more harshly than those from other regions. Finally, since most African countries are labeled as illegitimate, not including an African dummy would skew the findings in favor of the relevance of state legitimacy. I also include an East Asian dummy to control for those countries experiencing the "East Asian Economic Miracle" (Japan, Singapore, South Korea, and Taiwan).

Inclusion of other variables in G including latitude (LAT) and whether or not a country is landlocked (LNDLOCK) will depend upon which theory is under examination. They are included to help ensure that particular measures are not merely capturing direct effects of geography on institutional outcomes. If these variables only matter through the extent of European settlement or agricultural composition, then they should not be associated with institutional outcomes once MORT or CROP is included in the model.

Initially, matrix X contains more traditional variables related to colonization. INDEP [= $\ln(1995 - \text{year of independence})$] is included to account for the possibility that institutional quality is a function of time since independence. Institutions might strengthen over time as political issues arising at independence become resolved.⁹ Four colonial dummies are also included: BRUSSELS, LISBON, MADRID, and PARIS. The control group of countries consists of former British colonies as well as the few observations that were never colonized.¹⁰ Perhaps institutional outcomes

⁹ However, Olson (1982) argues that institutions more greatly promote rent seeking over time as they become influenced or captured by various groups in society. If true, then it is not clear that the coefficient on INDEP should be positive.

¹⁰ Adding a LONDON dummy taking the value one for former British colonies does not change the findings of the paper.

Table 1. Descriptive Statistics

Summary Statistics					
Variable	Non-Dummy Variables			Dummy Variables	
	Mean	Median	Std. Dev.	Variable	Mean
INST	-0.233	-0.278	0.770	LEGIT	0.581
	-0.645	-0.681	0.609		0.200
GADP	0.536	0.540	0.158	LNDLOCK	0.168
	0.476	0.476	0.122		0.304
GOV	-0.756	-1.186	1.751	BRUSSELS	0.025
	-1.641	-1.554	1.237		0.065
LAT	0.196	0.169	0.122	LISBON	0.050
	0.128	0.129	0.083		0.087
INDEP	3.963	3.555	0.999	MADRID	0.160
	3.513	3.555	0.773		0.000
ELF	0.464	0.520	0.292	PARIS	0.202
	0.651	0.715	0.247		0.391
MORT	4.699	4.401	1.216	AFRICA	0.387
	5.669	5.635	1.151		1.000
CROP	0.021	-0.001	0.119	EASIA	0.034
	0.045	0.016	0.104		0.000
DEN	1.133	0.928	0.848		
	1.068	0.914	0.767		
STANQ	0.345	0.260	0.220		
	0.230	0.210	0.129		
POP	15.294	15.452	1.958		
	15.051	15.391	1.451		
EUR	0.267	0.000	0.404		
	0.057	0.000	0.184		
Correlations					
	LEGIT	MORT	DEN	STANQ	CROP
INST	0.376	-0.582	-0.441	-0.141	0.231
LEGIT		-0.519	-0.045	0.062	0.023
MORT			0.260	-0.228	-0.048
DEN				0.399	-0.063
STANQ					-0.015

Notes: Top entry of each cell of top panel denotes value for full sample. The second entry denotes value for sub-Saharan African sample. Due to missing data, the samples for each series are not identical.

depend on the identity of the colonizer since, for example, English settlements might have had held advantages over Spanish ones in regards to long-run institutional formation.¹¹ Other control variables are described in the next section.

The sample size consists of non-European countries. I omit Europe since some of the above theories do not pertain to European cases. Descriptive statistics are presented in Table 1. Not surprisingly, sub-Saharan African countries score less well both in regards to institutions and to those factors deemed important for institutions. The correlation between STANQ and DEN is high at 0.4. This is also not surprising since large populous regions centuries ago could be considered as nascent states. Note, however, that theories differ as to whether these early conglomerations benefited or retarded formation of institutions conducive to long-run growth. Moreover, the latter is more strongly correlated with INST. In fact, the unconditional correlation between STANQ and INST is negative. A high correlation also appears between MORT and LEGIT, possibly because one way for a state to be classified as legitimate is for settlers to marginalize indigenous populations.

IV. Determinants of institutions

Table 2 presents results when testing each of the five theories individually. The first column presents coefficient estimates for only the controls. The coefficient on AFRICA is strongly negative and highly significant as is that for BRUSSELS. The coefficient on EASIA is positive and also statistically significant. The second column considers LEGIT. An index of ethnolinguistic fractionalization (ELF) is included as an additional control since countries with heterogeneous populations could have been formed by Europeans externally combining disparate groups and so one does not want the coefficient on LEGIT to merely capture such heterogeneity. Column 3 considers STANQ. Column 4 considers the natural logarithm of population density in 1500, DEN. Since population density in 1500 is correlated with population size today, I control for the latter so as to focus on population sizes centuries ago and not contemporary ones. Let POP denote the natural logarithm of the country's population. Column 5 considers the good crops index, CROP. I control for geographic

¹¹ See Grier (1999) and Bertocchi and Canova (2002) for examinations of how growth outcomes depend on the identity of the colonizer. For examples of how colonial policies differed across European countries, see Low (1988) who describes how Britain took greater steps prior to 1960 to prepare their African colonies for independence than did other colonizers. Moreover, Conquerry-Vidrovitch (1988) describes how former French colonies retained stronger ties to France after independence than did former non-French colonies to their respective colonizers.

Table 2. Baseline regressions with INST aNos dependent variable

Column	1	2	3	4	5	6
Constant	0.2787 (0.2030)	-0.3963 (0.4001)	0.1472 (0.2690)	1.0655** (0.4287)	-0.4965* (0.2988)	1.6758* (0.8762)
AFRICA	-0.5132*** (0.1557)	-0.1296 (0.1969)	-0.6456*** (0.2262)	-0.5534*** (0.1645)	-0.2311 (0.1791)	0.2940 (0.2346)
EASIA	1.0712*** (0.2597)	1.0648*** (0.2736)	1.1521*** (0.2250)	1.4986*** (0.2039)	0.6540* (0.3539)	1.4533*** (0.2631)
BRUSSELS	-0.9653*** (0.2767)	-1.1859*** (0.1993)	-0.9816*** (0.2521)	-0.4462 (0.4793)	-0.6267** (0.2802)	-1.1116** (0.4301)
LISBON	-0.0386 (0.2723)	-0.2317 (0.3165)	-0.3059 (0.3488)	-0.3560 (0.2248)	-0.0827 (0.2751)	-0.6670 (0.4463)
MADRID	-0.0819 (0.1896)	0.1054 (0.2044)	-0.6560** (0.2557)	-0.3321 (0.2085)	0.1436 (0.1835)	-0.0417 (0.2791)
PARIS	-0.2898* (0.1534)	-0.0995 (0.1721)	-0.3707* (0.2023)	-0.2494 (0.1694)	-0.1943 (0.1589)	-0.4131** (0.2030)
INDEP	-0.0664 (0.0536)	-0.0967 (0.0665)	0.1716 (0.0903)	0.0615 (0.0705)	-0.0312 (0.0613)	-0.1483 (0.1375)
LAT					1.9898*** (0.6819)	1.9642** (0.8150)
LNDLOCK						0.0590 (0.2284)
POP				-0.0603 (0.0420)		
ELF		0.3113 (0.3844)				-0.5324 (0.3529)
LEGIT		0.7593*** (0.2328)				
STANQ			-1.7466*** (0.5310)			
DEN				-0.3064*** (0.1064)		
CROP					0.2849 (0.5046)	
MORT						-0.2730*** (0.0993)
R ²	0.2967	0.3849	0.4574	0.4108	0.3175	0.5695
# of obser.	117	95	85	105	102	65
Robustness checks						
CANZUS		0.6046***	-0.7392	-0.0936	0.0969	-0.2032**
DEP VAR?		Robust	Robust	Robust	Robust	Robust

Notes: Standard errors in parentheses. * Significant at 10%, ** 5%, and *** 1% level. CANZUS: the counterpart to the above underlined coefficient when Canada, Australia, New Zealand, and the United States are not included in the specification. DEP VAR?: Are results regarding historical characteristic under consideration robust to using GOV or GADP as the dependent variable?

location by including LAT in the specification. Finally, column 6 considers settler mortality. Since Europeans were more likely to settle in temperate climates near the sea, I include LNDLOCK and LAT as controls. I also include ELF since areas of large European settlement might also now be countries having distinct ethnic backgrounds within the population.

The top panel of Table 2 presents the baseline results. The bottom panel summarizes various robustness checks. CANZUS denotes the four “New Europes” of Canada, Australia, New Zealand and the United States. Thus, the CANZUS row in Table 2 presents the coefficient estimate of the counterpart to the above underlined coefficient when the CANZUS countries are removed. The “DEP VAR?” row summarizes if results are robust to replacing INST with GOV or GADP.

Of the results presented here, the strongest findings are for MORT and LEGIT. The coefficients on MORT and LEGIT are significant regardless of the inclusion of the CANZUS countries and regardless of which dependent variable is used. The coefficient on DEN is significant but only with the inclusion of CANZUS. The coefficient for CROP is not significant. No evidence arises that the amount of land suitable for particular crops is associated with the institutional outcomes of today.¹² A possible explanation is that Engermann and Sokolof (1997) focus on Latin America and perhaps their arguments are less relevant for a wider sample of countries. Finally, evidence regarding state history is very weak. The coefficient is actually negative although it loses significance when the CANZUS countries are removed. A negative coefficient suggests that state history is negatively associated with institutional quality. Of course, another explanation is not that the importance on state antiquity is misplaced but that STANQ does a poor job of measuring this concept. For example, recent English settlers of Canada and the U.S. might have felt themselves to be part of a longstanding political lineage predating their independence.¹³

Easterly and Levine (2003) consider many of the same “geographic” based theories of institutional formation as the ones considered here. They find support for the importance of settler mortality as well as the land’s suitability for crops

¹² CROP is constructed using crop suitability given intermediate levels of input. Results are robust to using high input usage estimates of crop suitability. Results are also robust to replacing CROP by the WHEAT and SUGAR dummies used in Easterly and Levine (2003) where a dummy equals one if the country grew any level of the commodity and zero otherwise. In fact, the coefficient on WHEAT was negative as was the coefficient on SUGAR.

¹³ Column 3 retains INDEP in the specification because INDEP and STANQ are not the same since some countries could have state histories (as viewed by Bockstette et al. 2002) predating modern independence. However, results remain robust when INDEP is removed from the specification.

conducive to a plantation system of farming. Of the two, this paper finds only the former to be strongly associated with institutions. Of the two theories not based on geography, only state legitimacy is positively associated with institutions. The coefficient on LAT is also highly significant. One possible explanation is that geography has important effects on institutions aside from those outlined above and so is deserving of future study. However, another explanation is that MORT does a poor job of measuring true settler mortality which is, instead, somewhat captured by variables like LAT.

Table 3 examines theories concurrently and attempts to better distinguish among them. In the first three columns, the coefficient on LEGIT generally remains positive and significant although its coefficient estimate is not statistically significant in column one when GOV or GADP are employed as dependent variables. The coefficient on DEN is significant but, as above, not when the CANZUS countries are removed from the sample. The coefficient on CROP is now positive and significant, but that result weakens when other measures of institutions are used.

Column 4 examines state legitimacy with settler mortality. As stated in the previous section, the two are not entirely distinct as countries with many European settlers are classified as legitimate since these settlers displaced indigenous people. However, does this aspect of state legitimacy solely explain the positive coefficient on LEGIT or do the other components in the classification of legitimate states also matter? When the two are included together, only the coefficient on MORT remains statistically significant. (However, LEGIT is significant for these 65 countries when MORT is not included and so the insignificance of LEGIT comes from the inclusion of MORT and not the reduction in sample size.)¹⁴ Finally, column 5 replaces MORT with the fraction of the population speaking a western European language (EUR) from Hall and Jones (1999). Data for EUR is more available than that for MORT. Moreover, EUR should take on high values where Europeans settled. Again, the coefficient on LEGIT is not statistically significant and is far lower than its counterpart in Table 2.

Therefore, results are strongest for MORT. Although some support for LEGIT appears in Table 2 and in some specifications in Table 3, it appears that this support could come from cases where countries developed legitimate states because settlers

¹⁴ When LEGIT is replaced with LEGITR, where LEGITR denotes the residuals from a logistic regression of LEGIT on a constant and MORT, the same findings arise. The coefficient on MORT in the logistic regression is -1.4, significant at the 0.1% level. LEGITR denotes the component of the legitimacy index not predicted by settler mortality rates.

Table 3. Comparison regressions with INST as dependent variable

Column	1	2	3	4	5
Constant	-0.0009 (0.3610)	0.1572 (0.8773)	-0.6891 (0.4402)	1.4155 (0.9632)	-0.9762** (0.4076)
AFRICA	-0.4737* (0.2460)	-0.2682 (0.2197)	0.0045 (0.2019)	0.3190 (0.2235)	0.0680 (0.2107)
EASIA	1.0655*** (0.2560)	1.4659*** (0.2872)	1.1104*** (0.3416)	1.3672*** (0.2734)	1.4715*** (0.3299)
BRUSSELS	-1.2271*** (0.2870)	-0.7061 (0.4289)	-0.9747*** (0.2377)	-1.1657** (0.4206)	-0.7211** (0.2947)
LISBON	-0.5487* (0.3008)	-0.3758 (0.3196)	-0.2239 (0.3292)	-0.6221 (0.4680)	-0.4843* (0.2580)
MADRID	-0.5438** (0.2653)	-0.1659 (0.2428)	0.2708 (0.1976)	0.0302 (0.2827)	-0.3572 (0.2264)
PARIS	-0.2869 (0.1948)	-0.1288 (0.1896)	-0.1128 (0.1663)	-0.3451* (0.1874)	-0.0394 (0.1527)
INDEP	0.0961 (0.1036)	-0.0280 (0.0942)	-0.1246* (0.0630)	-0.1788 (0.1431)	-0.0787 (0.0632)
LAT			1.4475** (0.7021)	1.8315** (0.8150)	1.7177*** (0.6026)
LNDLOCK				0.0522 (0.2274)	0.1065 (0.1262)
POP		-0.0194 (0.0625)			
ELF	0.1478 (0.3034)	0.2659 (0.3940)	0.4397 (0.3812)	-0.2496 (0.4726)	0.4192 (0.3248)
LEGIT	0.4398** (0.1865)	0.6347*** (0.2368)	0.7106*** (0.2343)	0.2831 (0.2472)	0.3192 (0.2379)
STANQ	-1.5478*** (0.5696)				
DEN		-0.2944** (0.1117)			
CROP			0.8205* (0.4425)		
MORT				-0.2626** (0.1030)	
EUR					1.2726*** (0.2360)
R ²	0.5174	0.4526	0.4200	0.5791	0.5821
# of obser.	81	91	95	65	95
Robustness checks					
CANZUS	0.3693** -0.4175	0.5214** -0.0781	0.4328*** 0.7738**	0.2644 -0.1845*	0.3855 0.8079***
DEP VAR?	LEGIT not robust	Robust	LEGIT Robust CROP not robust	Robust	Robust

Notes: Standard errors in parentheses. * Significant at 10%, ** 5%, and *** 1% level. CANZUS: the counterpart to the above underlined coefficient (in the order given above) when Canada, Australia, New Zealand, and the United States are not included in the specification. DEP VAR?: Are results regarding historical characteristic robust to using GOV or GADP as the dependent variable?

displaced indigenous peoples and so stems from reasons similar to those argued in Acemoglu et al. (2001). However, might similar findings hold for a particular region?

Table 4 considers only a sub-Saharan African sample for two reasons. One, Africa's generally poor economic performance warrants enhanced attention. Second, coefficient estimates could differ across world regions and so examining regions separately can provide greater insight as to what extent theories are applicable to specific regions.¹⁵ Unfortunately, most regions have far fewer observations than does Africa and so a similar separate analysis cannot be done for all regions. MADRID is removed since only one country in sub-Saharan Africa was colonized by Spain (Equatorial Guinea) and data for this country is not available. The coefficient on LEGIT in column 1 increases in magnitude from its counterpart in Table 2. Some evidence arises that crop type is associated with modern institutions but this finding is not robust to using other institutional measures. Unlike the findings of Easterly and Levine (1997) no evidence arises that more ethnically diverse countries in Africa had worse institutional outcomes.

The coefficient on MORT is not significant using two of the three institutional variables. Less evidence arises that settler mortality is an important determinant of institutions within Africa relative to using a global sample. The coefficient on EUR is also not positive and significant within this subsample. In fact, it becomes negative when GOV replaces INST as the dependent variable in column 7.¹⁶ Now, support for state legitimacy outweighs that for settler mortality in regards to their importance for long-run institutional outcomes. Thus, results within Africa provide more support for Englebert's theory of the importance of state legitimacy. Settler mortality is less able to explain differences within Africa.¹⁷

¹⁵ See Block (2001) for an examination of to what extent coefficient estimates differ across world regions.

¹⁶ However, the respective coefficients on EUR do not change when the sample is restricted to use of only observations where MORT is available. Hence, it is not use of different samples that create different findings when EUR replaces MORT. Instead, more substantive explanations are possible. Perhaps EUR is also picking up human capital which Glaeser et al. (2004) argue is important for institutions. Or, perhaps one of these measures does a better job of capturing the key historical attributes important for institutions today.

¹⁷ Despite the concerns outlined in Section III of using lagged income as a right hand side variable, I reran the above specifications inserting the natural logarithm of GDP per capita in 1960 as a right hand side variable. The coefficient on income was positive and generally significant throughout the specifications of Tables 2 and 3. The only change to the above findings was that the coefficient on MORT was no longer significant although the coefficient for EUR was significant when it was used as a substitute for MORT so as to increase sample size. The findings in Table 4 for the sub-Saharan African sample did not change. Moreover, the coefficient on lagged income was positive but not significant for this subset of countries.

Table 4. Sub-Saharan African regressions with INST as dependent variable

Column	1	2	3	4	5	6	7
Constant	-0.2235 (0.4305)	-0.3504 (0.4821)	1.3028 (0.9179)	-0.8114* (0.4463)	0.9947 (1.0671)	0.8024 (0.9043)	-0.9925 (0.5981)
BRUSSELS	-1.3010*** (0.1636)	-0.8658*** (0.2470)	-0.5167 (0.4660)	-0.3002 (0.3224)	-0.9666** (0.3574)	-1.2847*** (0.3295)	-0.7303** (0.3264)
LISBON	-0.3111 (0.4370)	-0.1927 (0.5165)	-0.4024 (0.3041)	-0.4484** (0.2148)	-1.1033*** (0.1699)	-1.0799*** (0.1560)	-0.3361 (0.3718)
PARIS	0.2512 (0.1980)	-0.2222 (0.2154)	-0.0245 (0.1746)	0.1404 (0.1682)	-0.2077 (0.1913)	-0.1288 (0.2011)	0.3057 (0.1899)
INDEP	-0.2738*** (0.0956)	0.0637 (0.1455)	-0.0750 (0.1163)	-0.0959 (0.1003)	-0.1622** (0.0766)	-0.2317*** (0.0373)	-0.2019* (0.1118)
LAT				3.1710*** (0.9204)	2.5451** (1.0618)	2.5743** (1.0956)	2.7952** (1.3437)
LNDLOCK					0.0901 (0.1637)	0.0695 (0.1604)	0.0206 (0.1367)
POP			-0.0931 (0.0693)				
ELF	0.5128 (0.5569)				-0.4979 (0.3177)	-0.3149 (0.3269)	0.7230 (0.5306)
LEGIT	1.3039*** (0.3262)					0.5250** (0.2321)	0.9952** (0.3939)

Table 4. (continued) Sub-Saharan African regressions with INST as dependent variable

Column	1	2	3	4	5	6	7
STANQ		-1.0576 (0.9733)					
DEN			-0.1928 (0.1501)				
CROP				1.1771* (0.5830)			
MORT					-0.1332 (0.1006)	-0.0921 (0.0989)	
EUR							0.6155 (0.7471)
R ²	0.4798	0.2081	0.2799	0.4055	0.6056	0.6407	0.5804
# of obser.	38	33	42	41	27	27	38
Robustness checks							
DEP VAR?	Robust	Robust	Robust	CROP not robust	MORT sig. with GADP	LEGIT not robust MORT sig. with GADP	LEGIT robust EUR sig. & negative with GOV

Notes: Standard errors in parentheses. * Significant at 10%, ** 5% level, and *** 1% level. DEP VAR?: Are results regarding historical characteristic under consideration robust to using GOV or GADP as the dependent variable?

V. Conclusion

This paper has attempted to link institutions to various historical underpinnings. The importance of settler mortality in influencing long-run institutions is supported. However, far less support appears for the other theories based on geography. Although they could be more relevant for specific areas such as New World colonies, they do not appear to be generally associated with modern day institutions. Some support also arises for Englebert's concept of state legitimacy. It is often positively and significantly associated with later institutional development. However, this association could arise because one way to create a legitimate state is for settlers to displace aborigines. Once controlling for settler mortality and so, implicitly, for the extent of settlement, the association between state legitimacy and subsequent institutions greatly weakens in a global sample of countries. Nevertheless, state legitimacy still appears to be a somewhat strong candidate in explaining differences within sub-Saharan Africa and better than the other theories considered here.

In some sense, these or any findings relating institutional outcomes to historical characteristics are pessimistic in that a country cannot undo its past or change its geography (short of conquering territory). Nevertheless, it is hoped that a better understanding of why some countries have been less able to form effective institutions will provide policy makers with increased insight as to how to overcome these obstacles.

Appendix. Sources and definitions of variables

[Englebert]: Englebert (2000a), <http://www.politics.pomona.edu/penglebert/>

[HJ]: Hall and Jones (1999), <http://emlab.berkeley.edu/users/chad/HallJones400.asc>

COMM: equals 1 if any of the commodity is grown in the country and zero otherwise. For example, WHEAT = 1 if a country produces any amount of wheat and zero otherwise. Data is for 1999 and derived from the Food and Agriculture Organization (FAO).

CROP: equals $\log[(1 + z_{\text{maize}} + z_{\text{wheat}})/(1 + z_{\text{rice}} + z_{\text{sugarcane}})]$ where zX is the share of the land that can growth crop X as judged by the FAO. To construct CROP, I use land classified as suitable or very suitable under intermediate input use. Data can be found at: <http://www.fao.org/ag/agl/agll/gaez/index.htm>.

DEN: Population in 1500 divided by area. In some cases, only regional data is given such as for Central America. In this case, the same value of regional population divided by regional area is used for all countries within the region. [McEvedy and Jones 1978].

ELF: measure of ethnolinguistic fractionalization that denotes the probability that two randomly selected people are not from the same ethnolinguistic group, based on 1963 Soviet Atlas Norodov Mirna [Englebert].

EUR: fraction of the population speaking a western European language [HJ].

GADP: average from 1986 to 1995 of these five indices from Inter-Country Risk Guide: a measure of the rule of law, a measure of the government's commitment to honor contracts with foreign firms, a measure of the government's refraining from expropriating foreign property, a measure of corruption, and a measure of bureaucratic quality. These indices are measured on a [0, 1] scale with higher values denoting better institutions [HJ].

GOV: the first principal component of a set of seven measures, the Gastil measure of civil liberties from Freedom House, a measure of what percentage of the population speak the official language, and five measures of institutions from Inter-Country Risk Guide. These five measures are: the absence of corruption, bureaucratic quality, government commitment not to modify contracts with foreign firms, adherence to the rule of law, the lack of risk of government expropriation of property. These five measures are given on a 0 to 10 scale with higher values denoting better characteristics. These institutional measures are averaged over 1984 to 1995 [Englebert].

INDEP: natural log of number of years between independence and 1995 [Englebert].

INST: average of six measures, namely, voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption. For further details and links to the dataset go to <http://www.worldbank.org/wbi/governance/pubs/aggindicators.html> [Kaufmann et al. 1999].

LAT: absolute value of latitude divided by 90, equator equals zero [HJ].

LEGIT: takes the value one if a state is considered legitimate and zero otherwise.

A state is legitimate if it has never been colonized, if it had no human settlement prior to colonization, if the settler population completely marginalized the indigenous population, if there was a return to sovereignty after colonization in which political authority devolved upon the same group that held it before colonization, if political power after colonization arose from precolonial power sources, or if the state was created by groups actively choosing to form their own political entity which did not conflict with other large indigenous groups [Englebert].

LNDLOCK: equals one for a landlocked country and equals zero otherwise [Englebert].

MORT : natural log of the settler mortality rate [Acemoglu et al. 2001].

POP: Natural log of the country's population in 1978 [Englebert].

STANQ: measure of state antiquity (most common in their paper) on a zero to one scale where higher values denote states with a longer history [Bockstette et al. 2002].

Table A1. Data: countries classified as legitimate are in *italics*

	INST	ELF	STANQ	DEN	CROP	MORT
Former British colonies						
<i>Australia</i>	1.620667	0.32	0.17	0.026008	0.045245	2.146
<i>Bahamas</i>	0.943333	NA	NA	1.25	-0.3569	NA
<i>Bangladesh</i>	-0.675	NA	0.61	23.69668	-0.02388	4.268
<i>Barbados</i>	0.936833	0.22	0.14	1.25	NA	NA
<i>Belize</i>	0.245533	NA	NA	1.538462	NA	NA
<i>Botswana</i>	0.714333	0.51	0.3	0.142857	0.016402	NA
<i>Canada</i>	1.615333	0.75	0.23	0.02	0.015407	2.779
<i>Dominica</i>	0.2094	NA	NA	1.25	NA	NA
<i>Egypt</i>	-0.31633	0.04	0.59	4	-0.0006	4.217
<i>Fiji</i>	-0.1058	NA	0.48	1.530612	-0.03572	NA
<i>Gambia</i>	-0.41467	0.73	0.2	4.230769	0.149365	7.293
<i>Ghana</i>	-0.16933	0.71	0.24	4.230769	-0.03568	6.504
<i>India</i>	-0.226	0.89	0.6	23.69668	0.201691	3.884
<i>Iraq</i>	-2.02233	0.36	NA	2.272727	0.017325	NA
<i>Israel</i>	0.653667	0.2	0.51	10	0.057426	NA
<i>Jamaica</i>	-0.007	0.05	0.21	1.25	-0.09193	4.868
<i>Jordan</i>	0.084333	0.05	0.51	2.222222	-0.01192	NA
<i>Kenya</i>	-0.8	0.83	0.07	2.631579	0.069074	4.977
<i>Kuwait</i>	0.303667	0.18	NA	NA	-0.06879	NA

Table A1. (continued) Data: countries classified as legitimate are in italics

	INST	ELF	STANQ	DEN	CROP	MORT
Former British colonies						
<i>Lesotho</i>	-0.07433	0.22	0.09	0.224719	-0.02162	NA
<i>Malawi</i>	-0.439	0.62	0.3	0.793651	0.262781	NA
<i>Malaysia</i>	0.395667	0.72	0.67	1.176471	-0.00595	2.874
<i>Mauritius</i>	0.687333	0.58	0.1	0	NA	3.418
<i>Myanmar</i>	-1.543	0.47	NA	5.882353	-0.06118	3.544
<i>Namibia</i>	0.309667	NA	NA	0.142857	0.003466	NA
<i>New Zealand</i>	1.77	0.37	0.12	0	0.035878	2.146
<i>Nigeria</i>	-1.21167	0.87	0.42	4.230769	0.085161	7.603
<i>Pakistan</i>	-0.892	0.64	0.64	23.69668	0.02052	3.611
<i>Qatar</i>	0.423	NA	NA	NA	-0.14988	NA
<i>Sierra Leone</i>	-1.195	0.77	NA	4.230769	-0.12194	6.18
<i>Singapore</i>	1.626	0.42	0.39	1.176471	NA	2.874
<i>South Africa</i>	0.272333	0.88	0.14	0.224719	0.042549	2.741
<i>Sri Lanka</i>	-0.33333	0.47	0.65	15.15152	0.12582	4.246
<i>St. Kitts</i>	0.281733	NA	NA	1.25	NA	NA
<i>St. Lucia</i>	0.4167	NA	NA	1.25	NA	NA
<i>St. Vincent</i>	0.357167	NA	NA	1.25	NA	NA
<i>Sudan</i>	-1.53333	0.73	NA	1.6	0.097921	4.48
<i>Swaziland</i>	-0.43327	NA	0.08	0.224719	-0.04441	NA
<i>Tanzania</i>	-0.51333	0.93	NA	1.966292	0.179257	4.977
<i>Trin. & Tob.</i>	0.406667	0.56	0.18	1.25	NA	4.443
<i>U.S.A.</i>	1.431667	0.5	0.2	0.085106	0.219865	2.708
<i>Uganda</i>	-0.64067	0.9	0.12	7.142857	-0.01314	5.635
<i>UAE</i>	0.532333	NA	NA	NA	-0.02913	NA
<i>Zambia</i>	-0.47567	0.82	0.07	0.793651	0.22811	NA
<i>Zimbabwe</i>	-1.01533	0.54	0.2	0.793651	0.108777	NA
Former French colonies						
<i>Algeria</i>	-1.046	0.43	0.5	0.641026	0.003223	4.359
<i>Benin</i>	-0.08047	0.62	0.24	4.230769	0.303575	NA
<i>Burkina Faso</i>	-0.39167	0.68	NA	4.230769	0.24742	5.635
<i>Cameroon</i>	-0.88833	0.89	0.39	1.495327	-0.08393	5.635
<i>C.A.R.</i>	-0.8518	0.69	0.18	1.495327	0.010014	5.635
<i>Chad</i>	-0.86633	0.83	0.18	0.6	0.08891	5.635
<i>Comoros</i>	-0.72507	NA	NA	5	NA	NA
<i>Congo</i>	-1.23567	0.66	0.38	1.495327	-0.03069	5.481
<i>Djibouti</i>	-0.71237	NA	NA	NA	-0.03084	NA
<i>Gabon</i>	-0.51233	0.69	0.37	1.495327	-0.07213	NA
<i>Guinea</i>	-0.84167	0.75	0.26	4.230769	0.027163	6.18
<i>Haiti</i>	-1.24233	0.01	0.22	1.25	-0.03449	4.868
<i>Ivory Coast</i>	-0.76267	0.86	0.29	4.230769	-0.08992	6.504
<i>Laos</i>	-0.881	0.6	NA	1.666667	-0.04145	NA
<i>Madagascar</i>	-0.26067	0.06	0.21	1.186441	0.072985	6.284

Table A1. (continued) Data: countries classified as legitimate are in italics

	INST	ELF	STANQ	DEN	CROP	MORT
Former French colonies						
<i>Mali</i>	-0.199	0.78	0.22	0.6	0.061717	7.986
<i>Mauritania</i>	-0.35207	0.33	0.07	0.6	-0.00116	5.635
<i>Morocco</i>	-0.09133	0.53	0.62	2.5	0.062317	4.359
<i>Mozambique</i>	-0.493	0.65	0.26	1.282051	0.217769	NA
<i>Niger</i>	-0.681	0.73	0.37	0.6	0.001662	5.991
<i>Senegal</i>	-0.31433	0.72	0.34	4.230769	0.094161	5.104
<i>Seychelles</i>	-0.21693	NA	NA	0	NA	NA
<i>Syria</i>	-0.85133	0.22	0.51	6.578947	0.023738	NA
<i>Thailand</i>	0.115	0.66	0.75	3.921569	-0.0646	NA
<i>Togo</i>	-0.83567	0.71	0.13	4.230769	-0.01839	6.504
<i>Tunisia</i>	0.126667	0.16	0.52	5	0.029277	4.143
Former Spanish colonies						
<i>Argentina</i>	-0.02967	0.31	0.22	0.107914	0.211762	4.263
<i>Bolivia</i>	-0.28033	0.68	0.42	0.818182	-0.12775	4.263
<i>Chile</i>	1.106	0.14	0.25	0.789474	0.01488	4.263
<i>Colombia</i>	-0.567	0.06	0.26	0.877193	-0.06133	4.263
<i>Costa Rica</i>	0.785	0.07	0.27	1.538462	-0.05881	4.358
<i>Dom. Rep.</i>	-0.2	0.04	0.22	1.25	-0.03191	4.868
<i>Ecuador</i>	-0.61167	0.53	0.42	2.142857	0.0384	4.263
<i>El Salvador</i>	-0.073	0.17	0.27	1.538462	-0.00952	4.358
<i>Grenada</i>	0.352933	NA	NA	1.25	NA	NA
<i>Guatemala</i>	-0.55433	0.64	0.39	1.538462	-0.1138	4.263
<i>Guyana</i>	-0.076	0.58	0.16	0.212766	-0.07796	NA
<i>Honduras</i>	-0.45633	0.16	0.24	1.538462	-0.03966	4.358
<i>Mexico</i>	-0.06667	0.3	0.42	2.5	0.025503	4.263
<i>Nicaragua</i>	-0.406	0.18	0.28	1.538462	-0.01344	5.096
<i>Panama</i>	0.145	0.28	0.26	1.538462	-0.09448	5.096
<i>Paraguay</i>	-0.76033	0.14	0.25	0.487805	0.08284	4.358
<i>Peru</i>	-0.29067	0.59	0.37	1.550388	0.011955	4.263
<i>Philippines</i>	-0.172	0.74	0.18	1.666667	-0.08002	NA
<i>Uruguay</i>	0.637667	0.2	0.21	0	0.714393	4.263
<i>Venezuela</i>	-0.71133	0.11	0.21	0.43956	-0.07459	4.358
Former Portuguese Colonies						
<i>Angola</i>	-1.48333	0.78	0.19	1.495327	0.046532	5.635
<i>Brazil</i>	-0.01767	0.07	0.28	0.117509	-0.07213	4.263
<i>Cape Verde</i>	0.242467	NA	0.19	NA	NA	NA
<i>Guinea-Biss.</i>	-0.889	NA	NA	4.230769	0.06319	NA
<i>Mozambique</i>	-0.493	0.65	0.26	1.282051	0.217769	NA
Former Belgian Colonies						
<i>Burundi</i>	-1.34593	0.04	0.11	25	-0.02004	NA
<i>Rwanda</i>	-0.9902	0.14	0.22	25	-0.07201	5.635
<i>Congo (Dem.)</i>	-1.964	0.9	NA	1.495327	-0.0469	5.481

Table A1. (continued) Data: countries classified as legitimate are in italics

	INST	ELF	STANQ	DEN	CROP	MORT
	Other					
<i>Bhutan</i>	-0.0812	NA	NA	NA	-0.00346	NA
<i>Ethiopia</i>	-0.73533	0.69	0.67	1.666667	0.129497	3.258
<i>Indonesia</i>	-0.791	0.76	0.44	5.166667	-0.01451	5.136
<i>Iran</i>	-0.80167	0.76	0.86	2.424242	0.000532	NA
<i>Korea, South</i>	0.521333	0	0.81	18.18182	0.096724	NA
<i>Liberia</i>	-1.73333	0.83	NA	4.230769	-0.05173	NA
<i>Mongolia</i>	0.132333	0.38	NA	0.382166	-0.00091	NA
<i>Nepal</i>	-0.63233	0.7	0.83	14.28571	0.024913	NA
<i>Oman</i>	0.499	NA	NA	NA	-0.0071	NA
<i>P. New Guin.</i>	-0.59	0.42	0.14	1.530612	-0.02509	NA
<i>Saudi</i>	-0.238	0.06	NA	NA	-0.00099	NA
<i>Somalia</i>	-1.97767	0.08	NA	1.25	-0.00288	NA
<i>Suriname</i>	-0.17533	NA	NA	0.212766	-0.07108	NA
<i>Taiwan</i>	0.882	0.42	0.3	5.555556	NA	NA
<i>Turkey</i>	-0.27633	0.25	0.77	8.181818	0.057019	NA
<i>Yemen</i>	-0.88733	0.04	NA	4.6875	-0.0058	NA

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