Evidence on economic versus political institutions as determinants of development

Daniel L. Bennett,
Patrick Henry College

Hugo J. Faria,
University of Miami, and IESA

James D. Gwartney,
Florida State University

*Hugo M. Montesinos-Yufa,
Florida State University, and IESA
hugomoises@gmail.com
hmontesinosyufa@fsu.edu

Daniel R. Morales,
IDEICE, and Florida State University

Carlos E. Navarro,
IESA, and Monteavila University

September 2, 2016

*Corresponding author.

Evidence on economic versus political institutions as determinants of development

Abstract

A growing body of evidence suggests that institutions are an important causal determinant of economic development, yet there remains considerable debate over which institutions are most important. In this paper, we employ an identification strategy that allows us to simultaneously examine the potential causal impact of economic and political institutions. The results of different instrumental variable estimators strongly suggest that economic institutions, gauged by the Index of Social Infrastructure and by the Economic Freedom of the World Index, are economically and statistically significant determinants of income per capita. However, political institutions, measured by Constraints on the Executive, exert smaller and less discernible statistical impact on development. These findings are robust to the inclusion of factors that potentially influence development such as geography, ethnolinguistic fractionalization, human capital, as well as robust to a number of alternative sets of covariates, data sources, sample sizes, instrumental variables, and to tests that provide for valid inferences under near exogeneity

JEL Codes: I25, O10, O43, P10

Keywords: Comparative Economic Development, Institutions, Out of Africa Hypothesis, IV Estimators, Cognitive Skills.

1. Introduction

Many associate the origins of economic science with Adam Smith's *The Wealth of Nations*, a treatise exploring what has enabled some countries to prosper while others remain impoverished. Nearly two and a half centuries following the publication of Smith's work and the onset of the Industrial Revolution, significant disparities have emerged in average living standards across countries. Individuals living in the top quartile of countries are on average thirty-five times better off economically than those living in the bottom quartile of countries, as measured by real GDP per capita.[1] Considerable disagreement remains in the economics profession concerning the causes

[1] Population-weighted real GDP per capita of top 46 countries from World Bank's World Development Indicators dataset compared to population-weighted real GDP per capita of bottom 46 countries. For 2013, the former figure is $44,306 and the latter $1,223 in current $USD.

of economic development and well-being, although there is a growing body of empirical evidence which suggests that institutions are an important causal determinant of economic development.

The eminent contributions to economic history by Douglas North have largely served as the platform to launch inquiry into the measurement of institutions to test his theory that indeed institutions are the ultimate cause of long run economic performance (North 1990, 1994). As appreciation for the role of institutions in facilitating economic development grows, there is also considerable controversy over which institutions are most influential. At the center of this debate is the question of whether it is political or economic institutions that really matter for sustained economic development.

On one hand, some argue that inclusive political institutions that constrain the power of government are necessary to facilitate sustained economic development (Acemoglu, Johnson and Robinson 2001, 2005; Acemoglu and Johnson 2005; Acemoglu and Robinson 2012; Rodrik 2000). Others however have questioned the role of political institutions as igniters of growth and conclude that human capital is the major driver of development (Glaeser, La Porta, Lopez-de-Silanes and Shleifer 2004; Hanushek and Woessmann 2012a, 2012b). Another group of scholars contend that economic institutions that protect private property and enforce contracts (Auer 2013; Knack and Keefer 1995; Rodrik, Subramanian and Trebbi 2004) or promote free trade (Frankel and Romer 1999; Sachs and Warner 1995; Wacziarg and Welch 2008) are essential for economic development. Meanwhile, Acemoglu et al. (2001), Acemoglu and Johnson (2005) and Acemoglu (2005) suggest that there may be a broad cluster of institutions that are mutually-reinforcing for the development process, a claim supported by empirical evidence using aggregate indices such as social infrastructure (Hall and Jones 1999), world governance indicators (Easterly and Levine 2003; Ang 2013) and economic freedom (Dawson 1998; Easton and Walker 1997).

In this paper, we employ an identification strategy that allows us to simultaneously examine the potential causal impact of economic and political institutions on GDP per capita. Our baseline results use the Fraser Institute's Economic Freedom of the World index as a measure of economic institutions and the Polity IV's Constraints on the Executive as a measure of political institutions.[2] To establish causality, we use an identification strategy that isolates plausible exogenous sources of variation in both economic and political institutions. We follow Acemoglu et al. (2001), and Acemoglu and Johnson (2005) by using the log of settler mortality rate as an instrumental variable (IV) for constraints on the executive.[3] [4] Following Faria, Montesinos, Morales and Navarro (2016) we use both linear and quadratic terms of genetic diversity, not adjusted for the ancestry composition of the current population, as instrumental variables for EFW.

In reduced form equations, Ashraf and Galor (2013a) find that economic development is a hump-shaped function of ancestry-adjusted genetic diversity, defined "as the probability that two individuals, selected at random from the relevant population, are genetically different from one another" (Ibid, 13). We contend that genetic diversity impacts economic development through its non-linear influence on the development of economic institutions. Specifically, at low levels of diversity, relatively homogenous individuals are able to coordinate local economic activity through informal rules, but as diversity increases, more complex formal institutions become necessary to coordinate increasingly impersonal activity among a heterogeneous population; however, high

[2] Acemoglu and Johnson (2005, 951) state that "our preferred measure is constraint on the executive, which has two advantages: first, it corresponds to the procedural rules constraining state action, and second, it highlights the close relationship between property rights and political institutions." Acemoglu, Reed and Robinson (2014) analyze the effects of constraints on chiefs' power on economic development in Sierra Leone. Thus, this paper also examines the role of political constraints on economic outcomes but at the lowest layer of government in rural areas where the presence of the central state is nearly non-existent.

[3] Acemoglu, Gallego and Robinson (2014) use log of settler mortality rate as an instrument for a rule of law measure of institutions and Acemoglu et al. (2012) use log of settler mortality rate as an IV for risk of expropriation.

[4] As robustness checks and following Acemoglu and Johnson (2005), we also use log of population density as an instrument for executive constraint. Findings based on application of population density as an IV are similar and available upon request.

levels of genetic diversity can generate mistrust and conflict among groups that exerts a deleterious effect on the development and sustainability of non-discriminatory economic institutions. This reasoning, along with the results of reduced form equations and falsification tests, informs the use predicted genetic diversity, unadjusted for interregional migrations to alleviate concerns stemming from endogeneity bias with contemporary GDP per capita,[5] [6] and its square as instruments for economic institutions, conditioning on human capital, geography and ethnolinguistic fractionalization. Allowing for these covariates is important to control for other channels potentially correlated with genetic diversity and economic development which, if not accounted for, would violate the IVs exogeneity assumption.

.

The results of two-stage least squares horse races suggest that economic institutions are an economically and statistically significant determinant of GDP per capita. Political institutions, however, are less statistically significant when controlling for additional factors that potentially influence development such as geography, ethnolinguistic fractionalization and human capital. The findings are robust to alternative estimators such as the limited information maximum likelihood (LIML) method, Fuller's modification of the LIML estimator, and the continuously updated estimation (CUE) technique, alternative measures of GDP per capita and economic institutions, and after allowing for the deeply rooted determinants of economic development surveyed in Spolaore and Wacziarg (2013).[7] Accordingly, the evidence uncovered by this paper provide empirical support to the hypothesis that economic institutions are relatively more important for the economic development process than political institutions.

[5] These biases are more severe when genetic diversity is observed and is ancestry adjusted, as will be explained below.
[6] Genetic diversity is predicted by migratory distance from Ethiopia (Ashraf and Galor 2013a).
[7] See also Nunn (2009) for the importance of history in the economic development process.

Additionally the evidence unveiled allows for the unpacking of human capital and institutions in the economic development process. For concreteness, the findings suggest that human capital, as measured by cognitive skills, does not exert a direct impact on contemporary income per capita, but rather impacts long-run economic development indirectly by promoting economic institutional quality (e.g. Galor, Moav and Vollrath 2009;Galor 2011; Faria et al. 2016).

The remainder of the paper exhibits the following structure. Section 2 describes the measures of development and key institutional variables, and introduces the various IV estimators applied in this paper. Section 3 discusses our identification strategy, and presents statistical evidence showing that a non-linear polynomial in genetic diversity impact economic development through clusters of economic institutions, lending credence to the claim that our instruments are plausibly exogenous. The main empirical results are presented in section 4, followed by the penultimate section of the paper, section 5, containing a battery of robustness checks. Section 6 offers concluding remarks. Section 7, in an appendix format, presents the definition of the variables and sources, and additional robustness checks with alternative specifications, identification strategies and (larger) samples.

2. Data and IV Estimators

2.1Economic Development

We use the log of real PPP-adjusted income per capita in 2010 from the Penn World Tables (PWT) version 7.1 as our main measure of economic development, primarily because doing so results in a slightly larger sample size than the analogous World Bank World Development Indicator (WDI) measures. We do however heed the advice of Ram and Ural (2014), who recommend researchers to test the sensitivity of their results to alternative measures of GDP, and report results using the WDI measures as well.

2. 2 Institutions

We use Economic Freedom of the World (EFW) index as our main multi-dimensional measure of economic institutions and policies. The EFW index is comprised of 42 separate components that are assigned to one of 5 areas: size of government; legal system and property rights; sound money; freedom to trade internationally; and regulation of credit, labor, and business. Each component is scored on a relative 0-10 scale that is increasing in freedom, with higher values reflecting more freedom institutions (Gwartney, Lawson and Hall 2012).[8] As a robustness check, we also report results using an alternative multi-dimensional measure of economic institutions: the Hall and Jones (1999) social infrastructure index.

Following Acemoglu et al. (2001, 2005) and Acemoglu and Johnson (2005) we adopt the Polity IV executive constraint variable as our measure of political institutions. We invert the scale of the executive constraint variable so that it is increasing in the degree of constraint imposed on political executives.

Although our main results use instrumental variable techniques to alleviate the potential endogeneity of institutions (e.g. Paldam and Gundlach 2008), we further attempt to minimize this possibility by utilizing a lagged mean of our institutional measures. We use the mean chain-linked

[8] Objectivity and transparency are essential characteristics of the EFW index enabling external scholars to reconstruct and replicate the rating for each country. Thus, the derivation of each component incorporated into the Fraser's EFW index measure is clearly specified. Further, the underlying data are from reputable external sources such as the World Bank, International Monetary Fund, and Price-Waterhouse-Cooper accounting firm. The annual report provides information on the source of the data for each component, and the methodology used to transform the raw data into component ratings, and how the component ratings are used to derive the summary rating for each country are clearly explained and transparent. An important result of these procedures, is that subjective judgments of the authors do not influence the rating for any country. According to Hall and Lawson (2014) the EFW index has been used in more than 200 scholarly articles to address a variety of topics.

EFW composite index for quinquennial years spanning the period 1985-2010. We also use the mean executive constraint measure over the same period.[9]

2.3 Structural Model

We utilize multiple instrumental variable techniques to simultaneously estimate the relative causal impact of economic versus political institutions on contemporary economic development. Our baseline specification uses the two stage least squares estimator (2SLS) described by the system of equations given by 1a to 1c, where *GDP* is the log of real PPP-adjusted income per capita, *EconInst* and *PolInst* denote economic and political institutions, respectively, *GenDiv* and *SMR* represent predicted-unadjusted genetic diversity and the log of the settler mortality rate, respectively, and *X'* is $n \times (k-2)$ matrix of covariates to control for the potential impact of human capital, geography, and ethnic and linguistic population fractionalization on economic development.

$$GDP = \beta_0 + \beta_1 EconInst + \beta_2 PolInst + X'\gamma + u \quad \text{(1a)}$$

$$EconInst = \alpha_0 + \alpha_1 GenDiv + \alpha_2 GenDiv^2 + X'\psi + \epsilon \quad \text{(1b)}$$

$$PolInst = \delta_0 + \delta_1 SMR + X'\xi + \mu \quad \text{(1c)}$$

Under weak identification the 2SLS estimator is afflicted by a finite sample bias and a non-normal distribution. Consequently, the t-test for hypothesis testing and confidence intervals are unreliable. One possibility to surmount this problem in the presence of two endogenous variables is the Anderson-Rubin test (AR). Using this test we report the joint significance of the parameter estimates associated with the two endogenous variables.

However, the AR test assumes that the exclusion restriction is perfectly satisfied. If the instruments are nearly exogenous the AR test over-rejects the null and in small samples can be

[9] Genetic diversity is described in the next section. See Appendix A for definitions and sources of all the remaining variables used in this study.

oversized. Berkowitz, Caner and Fang (2008, 2012) develop the Fractionally Resampled Anderson-Rubin test (FAR) test, which accounts for mild violations of the exclusion restriction and allows for valid but conservative inferences.

We also employ alternative IV estimators which tend to be more centered on the true value of the parameters in the presence of weak instrumental variables. One such estimator is the Limited Information Maximum Likelihood Estimator (LIML). A shortcoming of LIML is a considerable dispersion in the estimates generating extreme outliers. The Fuller estimator, which modifies the LIML estimator by allowing for moments, delivers an improvement in terms of bias and dispersion criteria relative to the LIML. We set Fuller's alpha to a value of 1.

The GMM generalization of the LIML estimator is known as the Continuously Updated Estimator (CUE), developed by Hansen, Heaton and Yaro (1996). The CUE estimator provides for simultaneous estimation of the population parameters and the weighting matrix. Simulation results indicate that this estimator generally offers a better performance than the GMM two-step estimator to the extent of exhibiting a smaller median bias and inducing more reliable over-identification tests. Lastly, the CUE estimator is efficient under general non-spherical disturbances. The major concern of our cross-sectional regressions is with heteroscedastic disturbances. See Hausman, Menzel, Lewis and Newey (2007) for further discussion of these estimators.

3. Genetic Diversity and its Square: Plausible Valid Instrumental Variables for Economic Institutions

3.1 Identification Strategy

Ashraf and Galor (2013a, 2) argue that genetic diversity was determined tens of thousands of years ago in the course of Homo sapiens prehistoric migrations out of Africa. As subgroups of the population migrated out of East Africa and settled in more remote places, “they carried with them only a subset of the overall genetic diversity of their parental colonies” The “serial founder effect” suggests that genetic diversity is a linear and negative function of migratory distance from East Africa.[10] Accordingly, Ashraf and Galor use migratory distance from Ethiopia to predict genetic diversity, and find that predicted genetic diversity adjusted for post-1500 population flows is a robust determinant of contemporary economic development.

In reduced form equations, Ashraf and Galor (2013a) uncover empirical evidence indicating that the effect of genetic diversity on development follows a hump-shaped pattern. At low levels of genetic diversity, increases in diversity lead to greater specialization, cooperation and innovation, redounding in productivity gains that promote sustainable growth and higher levels of per capita income. Increases in diversity exhibit not only diminishing returns, but there exists an optimal level of genetic diversity for economic development, above which increases in diversity lead to mistrust, disarray and diminished cooperation among a heterogeneous population, adversely affecting economic development.

We argue that predicted and ancestry unadjusted genetic diversity only impacts economic development through an intermediary channel: cluster of economic institutions and policies that establish the rules through which economic activity is coordinated. At very low levels of genetic diversity, relatively homogenous populations with a limited division of labor are able to locally coordinate their economic activities through informal customs and norms such that complex formal economic institutions are not well-developed. As genetic diversity increases, more

[10] See Ashraf and Galor (2013a) for empirical evidence.

sophisticated and formal economic institutions are needed to peacefully coordinate cooperative economic activity among a more heterogeneous and economically specialized population producing a multiplicity of goods and services that are traded through impersonal markets. Institutions such as a common and stable currency, private property rights, evenhanded contract enforcement, free trade, and limited taxation and regulation support well-functioning markets that peacefully coordinate economic activity through the price mechanism. There exists, however, an optimal genetic diversity level for market institutions, above which additional diversity leads to mistrust and conflict that inhibits the development and sustainability of nondiscriminatory institutions to coordinate economic activity through markets. Instead, rent-seeking institutions arise that are designed to be economically beneficial for some and detrimental to others.[11] This hump-shaped relationship predicted by our theory is depicted in Figure 1, which plots EFW against predicted genetic diversity unadjusted for the ancestral composition of current population. Evidence consistent with this theory is found by Faria et al. (2016). They perform a multitude of falsification tests which suggest that the channel through which genetic diversity acts on development consist of clusters of economic institutions.

Based on the above theoretical reasoning, we use genetic diversity to isolate a plausible exogenous source of variation of economic institutions in order to identify their causal effect on development. However, to alleviate endogeneity bias concerns with current income per capita, we use predicted genetic diversity, unadjusted for post-1500 population diffusion flows, as an IV. Following Ashraf and Galor (2013a), we use predicted rather than observed genetic diversity to surmount sample size limitations and also to diminish concerns stemming from endogeneity bias induced by possible migrations of nonindigenous ethnic groups to their current location thousands

[11] See Congleton and Hillman (2015) for an extensive review of the rent-seeking literature.

of years ago. Worries related to endogeneity bias between observed genetic diversity and development are mitigated by the use of predicted genetic diversity, to the extent that migratory distance from East Africa is an exogenous source of variation of observed genetic diversity. That is, as long as the routes followed by prehistoric populations in their exodus out of Africa have no discernible impact on income today.[12]

Existence of more prosperous locations may have served as an inducement for interregional migrations, potentially impacting genetic diversity and consequently revealing a causality channel from income to genetic diversity. Indeed, Ashraf and Galor (2013a) show in reduced form equations that genetic diversity adjusted for migratory population flows starting in 1500 AD dominates the unadjusted measure in explaining log of income per capita in the year 2000. Accordingly, to further diminish concerns stemming from endogeneity bias we employ the unadjusted measure for migrations during the colonial era of genetic diversity.

Although endogeneity concerns are alleviated by the use of predicted genetic diversity unadjusted for post-1500 migration flows, we still need to control for additional covariates to render linear and quadratic genetic diversity exogenous instruments. Our identification strategy is

[12] Ashraf and Galor (2013a) use migratory distance from East Africa to predict genetic diversity, facilitating sample expansion from 21 countries, for which data exist on observed genetic diversity, to 207. This procedure is justified on the grounds of migratory distance's ability to explain 86 percent of the observed genetic diversity for the sample of 21 countries, (spanned by 53 ethnic groups potentially isolated from genetic flows and historically native to their current geographical location), and the claim that routes followed by prehistoric population groups out of Africa have no direct effect on today's level of income. Accordingly, observed genetic diversity is regressed against migratory distance. The coefficients obtained are used to predict genetic diversity, which is applied in the herein study in performing OLS first-stage regressions and falsification tests. However, naive use of predicted genetic diversity in a regression would lead to invalid statistical inferences due to inconsistent standard errors given that the OLS estimator would fail to account for the generated regressors although the regression coefficients estimated are consistent (see Pagan 1984 and Murphy and Topel 1985). We follow Ashraf and Galor and apply a two-step bootstrap procedure to obtain correct standard errors. That is, we first resample the 53 ethnic groups to predict genetic diversity with migratory distance, and then in our first-stage regressions and falsification tests we resample predicted genetic diversity to estimate consistent standard errors. See Ashraf and Galor for additional relevant details. Our specific algorithm is available upon request.

predicated on the assumption that unadjusted and predicted genetic diversity affects income today only via economic institutions after allowing for human capital, geography, and ethnolinguistic fractionalization. We control for human capital, gauged by cognitive skills, because genetic diversity is "innately related to the very dawn of humankind itself," (Ashraf and Galor 2013a, 2), and several recent studies highlight a direct influence of human capital on development (e.g. Glaeser et al. 2004; Hanushek and Woessmann 2012a, 2012b; Gennaioli et al. 2013). Cognitive skills captures variations in knowledge and ability attributable to all sources of human capital development, including schooling, families and natural ability, whereas the traditional measure of human capital, educational attainment, only focus on the schooling channel. Hanushek and Woessmann (2012a, 2012b) uncover evidence suggestive that educational attainment in the presence of cognitive skills is not a significant predictor of growth, supporting the view that cognitive skills or school achievement is a better indicator of human capital than years of education for growth studies.[13]

We also allow for geography in all of our specifications given that routes taken by Homo sapiens thousands of years ago were contoured by geographic conditions, which in turn may have an impact on development. For example, evidence on exodus routes out of East Africa suggests that humans in the course of their expansion through the planet avoided crossing large bodies of water (see Macaulay, et al. 2005 and Ramachandran, et al. 2005).

Further, Diamond (1997) stresses the importance of initial bio-geographical and geographical conditions as important timing determinants of the transition from hunter-gatherer societies into settled agrarian societies where agricultural activity became the main source of a population's sustenance. Thus, geographic variables in the Diamond hypothesis are ultimate determinants of

[13] For earlier evidence on the role of cognitive skill in development, see Hanushek and Kimko (2000) and Barro (2001).

economic development, with a potential to impact development directly.[14] More recently, Dell, Jones and Olken (2012, 2014) report that in poor countries, high temperatures reduce economic growth, agricultural and industrial output, and political stability. Accordingly, we control for the exogenous impact of geography on development using the absolute value of latitude.[15]

We also account for ethnolinguistic fractionalization because Ashraf and Galor (2013b) have established empirically that genetic diversity is a major determinant of numerous expressions of ethnic diversity. In turn, the comparative economic development literature suggests that ethnic diversity is a determinant of growth (e.g. Alesina et al. 2003; Alesina and La Ferrara 2005).

In sum, human capital, latitude and ethnolinguistic fractionalization are included as control variables to make genetic diversity exogenous by effectively controlling for omitted factors. Accordingly, parameter estimates associated with these variables do not have a causal interpretation[16]. Our basic structural equation explaining development accounts for economic institutions, human capital, latitude, and ethnolinguistic fractionalization, augmented with constraint on the executive, treated as an endogenous variable to allow for a horse race between economic and political institutions. Following the identification strategy of Acemoglu et al., (2001, 2012), Acemoglu and Johnson (2005) and Acemoglu, Gallego and Robinson (2014), constraint on the executive is instrumented with settlers' mortality rates.[17]

Before presenting evidence consistent with our exclusion restriction assumption, we discuss the first-stage functional form used in our different estimation methods. This study exploits

[14] See Olson and Hibbs (2005), Putterman (2008) and Ashraf and Galor (2011) for supporting empirical evidence of Diamond (1997). See Engerman and Sokoloff (2012), Gallup, Sachs and Mellinger (1999) and Sachs (2003) for additional arguments and evidence supportive of a potential direct impact of geography on development.

[15] Numerous studies, including Acemoglu et al. (2001) and Rodrik et al. (2004), use latitude as a measure of geography.

[16] In particular, the coefficients of human capital or any other non-instrumented endogenous covariate could be biased and inconsistent. The goal of this paper, however, is to consistently estimate the effects of economic and political institutions on economic development and to evaluate, in comparative terms, their relative merits.

[17] Acemoglu, Gallego and Robinson (2014) use settler mortality rate as an IV for a measure of rule of law.

nonlinearities in first-stage regressions where the higher order term is predicted and unadjusted genetic diversity squared, i.e., a higher order polynomial of a continuous instrument. In addition to theoretical reasoning described above, two considerations have led us to use a non-linear transformation of genetic diversity in the first-stage. First, consistent with figure 1 we obtain an improvement of the fit which may lead to a greater precision of the estimate of interest in the second-stage. This is particularly relevant for the 2SLS estimator which delivers large standard errors given that only the variation of the endogenous variable that can be traced back to the instruments is used in the second-stage. In addition, a larger F-statistic of the excluded instruments alleviates concerns stemming from weak identification problems, which exacerbates the bias of the 2SLS estimator. Moreover, in the presence of weak instruments the normal distribution becomes a poor approximation to the sampling distribution of the 2SLS estimator, rendering statistical inferential tests less reliable. Second, using a higher order polynomial in genetic diversity in the reduced form equation allows us to perform over-identification tests. Failure to reject the null of the Hansen test suggests that the second-stage estimates using each instrument separately are similar.

3.2 Evidence from Falsification Tests Using Predictive Genetic Diversity

Table 1 presents falsification test results, providing statistical evidence supportive of our claim that unadjusted genetic diversity and its square are plausible exogenous instruments for economic institutions[18]. EFW, an indicator of a country's quality of economic institutions, is the dependent variable in columns 1 to 4. Column 1 only allows for unconditional unadjusted genetic diversity

[18] For an extended set of falsification tests see Faria et al. (2016). The goal here is to show that genetic diversity acts through clusters of economic institutions but not through political institutions. Empirical evidence strongly suggests that this is indeed the case.

and its square as regressors. Both the linear and quadratic genetic diversity terms are statistically significant at the 1 percent level, exerting a non-monotonic parabolic impact on EFW. Column 2 controls for cognitive skills, latitude and ethnolinguistic fractionalization. Both genetic diversity terms remain statistically significant at the 1 percent level and have the expected signs. Both cognitive skills and latitude enter positively and statistically significant at the 5 percent level or better, but ethnolinguistic fractionalization is not statistically significant.

Column 3 in Table 1 adds executive constraint, our measure of political institutions. Both the linear and quadratic genetic diversity terms are once again highly statistically significant and retain the hump-shaped effect on EFW. Cognitive skills is positive and statistically significant at the 5 percent level, but the remaining covariates are not statistically significant. Column 4 controls for the log of the settler mortality rate (LSMR), the main instrument for political institutions. Once again, only the two genetic diversity terms and cognitive skills are statistically significant at 5 percent or better, and the hump-shaped EFW-genetic diversity relationship persists. The estimates suggest that the level of genetic diversity that maximizes the quality of economic institutions is between 0.65 and 0.67.

Executive constraint, our measure of political institutions, is the dependent variable in columns 5 to 8 of Table 1. Genetic diversity and its square are the only regressors in column 5. Both enter statistically significant at the 5 percent level or better, and have a hump-shaped impact on executive constraint; however, neither term is statistically significant in column 6 when cognitive skills, latitude and ethnolinguistic fractionalization are held constant. The same is true when EFW and LSMR are added to the model in columns 7 and 8, respectively. The results from the falsification tests presented in Table 1 suggest that genetic diversity and its square are strongly statistically associated with economic but not political institutions, lending support to the assumption that genetic diversity impacts development only through a cluster of economic institutions.[19] Interestingly, cognitive skills enters positive and statistically significant in the economic institution regressions. On the contrary, cognitive skills does not exert a discernible statistically impact in the constraints on the executive regressions.

Revealingly, we obtain similar results using the Hall and Jones (1999) social infrastructure index, an alternative multi-dimensional measure of economic institutions, as the dependent variable. By contrast, all else equal, genetic diversity is not a statistically significant predictor of distrust, a social capital indicator, as well as the International Country Risk Guide's risk of expropriation measure, a unidimensional measure of economic institutions, or the World Bank's World Governance Indicators composite index, a multi-dimensional measure of both economic and political institutions. Using other proxies for political institutions (i.e. democracy, autocracy, government effectiveness, judicial independence, constitutional review, plurality and proportional representation), we similarly find that genetic diversity is not significantly linked to these alternative political institutions measures. [20]

3.3 Evidence from Reduced Form Equations

Table 2 presents estimates of reduced form equations with *GDP* per capita as the dependent variable. Column 1 only includes a quadratic polynomial in unadjusted and predicted genetic

[19] We use the largest sample size available to gain precision in our parameter estimates. The attrition in sample size observed between columns 3 and 4, and columns 7 and 8 is generated by the simultaneous inclusion of settler mortality rates, restricting the sample to former colonies, and cognitive skills, measured by international standardized test results which have been more frequently administered among high income countries. Nonetheless, main results in specification 4 with the fewest observations are qualitatively similar to results in specifications 1 thorough 3. Analogously, results in specification 8, also with the smallest number of observations are qualitatively equivalent to results in columns 7 and 8. In particular, the non-monotonic impact of genetic diversity on economic institutions remains virtually intact in columns 1 to 4 and disappears in columns 6 through 8 lending credence to the view that conditional predicted-unadjusted genetic diversity mainly operates through the channel of clusters of economic institutions.

[20] Results omitted to save space but available upon request. See also Faria et al. (2016).

diversity, and consistent with the findings of Ashraf and Galor (2013a), genetic diversity exhibits a hump-shaped relationship with income per capita. However, both genetic diversity terms lose statistical significance when EFW is added to the model in column 3, and EFW enters positive and statistically significant at the 1 percent level. Column 5 adds cognitive skill, latitude and ethnolinguistic fractionalization to the model from column 3. All three variables enter statistically significant at the 5 percent level and with the expected signs, EFW remains positive and highly significant statistically, and neither genetic diversity term enter statistically significant.

Column 2 in Table 2 only includes log of the settler mortality rate as an explanatory variable, and it enters negatively and statistically significant at the 1 percent level. Column 4 adds executive constraint as a covariate. Both settler mortality and executive constraint enter statistically significant at the 1 percent and with the anticipated sign. Column 6 adds cognitive skill, latitude and ethnolinguistic fractionalization to the model from column 4. Interestingly, settler mortality remains statistically significant at the 5 percent level, but executive constraint loses significance after controlling for human capital, geography and population fractionalization. Column 7 simultaneously controls for genetic diversity, settler mortality, both economic and political institutions, human capital, geography and ethnic diversity. Settler mortality and cognitive skills are the only two variables that enter statistically significant in this model.

The reduced form equation estimates presented here provide evidence that, after controlling for economic institutions, genetic diversity does not exert a direct impact on economic development and this result is obtained independently of the sample size used. Combined with the falsification tests results reported in subsection 3.2, the evidence suggests that genetic diversity affects economic development only via the intermediary channel of clusters of economic institutions that establish the rules through which economic activity is coordinated. These findings are congruous with the IVs satisfying the exogeneity condition. Meanwhile, settler mortality remains statistically significant after controlling for political institutions and a number of other covariates, raising concerns that it may not be an exogenous instrument.

4. Main Empirical Results

Table 3 presents our main structural equation estimates. Standardized beta coefficients are reported so that the results of the horse race between economic and political institutions are more comparable. For benchmark purposes, OLS results are provided in column 1. Both EFW and executive constraint are positive and statistically significant at the one and ten percent level, respectively, and the standardized OLS estimate of 0.569 for EFW is nearly 2.5 times larger than the 0.165 estimate for executive constraint. Both cognitive skills and ethnolinguistic fractionalization enter the OLS specification statistically significant at the 5 percent level or better, and with the expected signs. Latitude, however, is not statistically significant.

Column 2 in Table 3 reports our baseline 2SLS estimates. Executive constraint is positive and statistically significant at the 10 percent level in the second stage, while EFW is statistically significant at the 1 percent level and the magnitude of its standardized coefficient is 0.703, more than 150 percent greater than the 0.264 standardized coefficient of executive constraint. Columns 3, 4, and 5 present second stage results using the LIML, Fuller and CUE estimators, respectively. These estimates are nearly identical to those obtained using the 2SLS estimator, suggesting that the results are robust to a number of estimation techniques. Among the covariates, only ethnolinguistic fractionalization is statistically significant (at the 1 percent level) in the second stage, and enters negatively.

Panel B presents the first stage results corresponding to the instrumental variables estimators. EFW is the first stage dependent variable in column 1 and executive constraint in column 2. The linear and quadratic terms of unadjusted predicted genetic diversity enter as statistically significant determinants of EFW, and with the anticipated signs. Neither term enters statistically significant when executive constraint is the dependent first stage variable. The log of the settler mortality rate enters both first stage equations statistically significant at the 10 percent level, although the absolute value of its standardized coefficient is nearly 40 percent higher when executive constraint is the dependent variable. Cognitive skills enters positively and statistically significant at the 1 percent level when EFW is the dependent variable, but it is not statistically significant when executive constraint is the regressand. The opposite is true for ethnolinguistic fractionalization –it is positive and statistically significant (at the 10 percent level) when executive constraint is the dependent variable, but it is not a statistically significant determinant of EFW.

We fail to reject the null hypothesis of the Sargan-Hansen over-identification test (OID) at the 10 percent level, and we reject the null hypothesis of the Kleiberggen-Papp under-identification (UID) test at the 5 percent level. The null hypothesis of the Anderson-Rubin test of joint insignificance of economic and political institutions is easily rejected for both the F and χ^2 statistics.[21]

5. Robustness Analysis

5.1 Robustness to Measure of Income Per Capita

The Penn World Table income per capita measures are the dependent variable in Table 3. Following the advice of Ram and Ural (2014), Table 4 presents analogous results using the World

[21] Results remain qualitatively intact using log of population density in 1500 as an IV for constraints on the executive. These results are available upon request.

Development Indicator income per capita measures. The results are very similar to those obtained in Table 3, with two exceptions. First, executive constraint is never statistically significant, while EFW always enters positively and statistically significant at the 1 percent level. Second, first stage results suggest that settlers' mortality rates is orthogonal to economic institutions and genetic diversity to executive constraint. Interestingly and similar to results reported on Table 3, cognitive skills is never statistically significant in the second stage, suggesting that human capital only exerts an indirect impact on economic development through its positive effect on economic institutions.

5.2 Robustness to Measure of Economic Institutions

Table 5 presents findings analogous to the baseline results reported in Table 3 using the Hall and Jones (1999) social infrastructure index as an alternative multi-dimensional measure of economic institutions. The results are qualitatively similar. Social infrastructure enters positive and statistically significant at the 1 percent level for each of the five estimators, while executive constraint enters positively and statistically significant at the 10 percent level or better. The relative magnitudes of the partial effects of economic and political institutions in Table 5 are quite similar to those obtained in Table 3, as the impact of economic institutions is nearly triple that of political institutions.

Reassuringly, the first-stage estimates remain qualitatively intact to the use of an alternative measure of a cluster of economic institutions. In fact, genetic diversity enters statistically significant and exhibits a hump-shaped relationship with social infrastructure, but neither genetic diversity term is statistically significant in the executive constraint regression. Cognitive skills is statistically linked to economic institutions but not to political institutions, and human capital enters statistically significant at the 10 percent level in the second stage estimates.[22]

Interestingly, using the World Bank Worldwide Governance Indicators index (WGI) as the proxy for economic institutions, the results (not reported, but available upon request) are not strong relative to the findings uncovered using the EFW and social infrastructure indices. Taking into consideration that the WGI index is comprised of a large number of political indicators, the weaker results associated with the WGI contribute to strengthen the hypothesis that economic institutions are more important for long-term growth than political institutions.

5.3 Robustness to Deep Determinants of Growth

The comparative economic development literature has shifted from probing the role of proximate growth determinants to deep factors rooted in history, beginning with the Neolithic transition and culminating in 1500 at the onset of the colonial epoch. Accordingly, we follow Ang (2013, 2) in controlling for deep determinants of growth, including timing of agricultural transition, state history, historical rate of technological adoption, geographical proximity to the regional frontier, genetic similarity to the global frontier, population density and the first principal component of these variables. Each covariate is adjusted for the ancestral composition of current populations to account for the intergenerational transmission of traits across generations.

Table 6 adds the deep determinants to the baseline 2SLS model one at a time. Controlling for these historical factors, the results remain qualitatively intact. EFW remains positive and statistically significant at the 1 percent level throughout Table 6, with a standardized coefficient ranging from 0.591 to 0.618. Executive constraint is marginally significant in most specifications,

[22] These results are robust to the employment of income per capita data from the WDI and are available upon request.

with standardized coefficients ranging from 0.149 to 0.186. Genetic diversity maintains a statistically significant and hump-shaped curve in the first stage EFW regressions throughout panel B in Table 6, while settler mortality enters negatively and is not statistically significant in most first stage estimates.

None of the deep determinants enters the second-stage statistically significant. State history and population density in 1500 enter negatively and positively in the executive constraint first stage regressions of columns 2 and 6, respectively, and both are statistically significant at the 5 percent level or better. Genetic proximity to the global frontier is negative and statistically significant at the 10 percent level in the EFW first stage regression of column 5. The remaining deep determinants are not statistically significant throughout the first stage estimates.

When controlling for deep historical factors, cognitive skills fails to exert a statistically significant direct impact on economic development. Instead, it appears to affect development indirectly through its positive impact on economic institutions. Ethnolinguistic fractionalization is always negative and statistically significant at the 5 percent level or better in the second-stage, and is positive and statistically significant at the 10 percent level in a few of the executive constraint first stage regressions.

Lastly, we find a remarkable stability of the parameter estimates associated with economic institutions. Point estimates generally fluctuate between 0.60 and 0.71 across IV estimators, data sources, proxies for economic institutions and different covariates.

5.4 Robustness to sample size expansion.

Taking into account that our horse race results are obtained from sample sizes ranging between 29 and 31 observations, we look into the issue of expanding the sample to evaluate if our basic findings hold for a larger number of countries. As noted by footnote 12 in section 3, the sample size drops to the 29-31 range due to the simultaneous use of the log of settler mortality rate and cognitive skills variables. Not using one or both of the variables appreciably increases the sample size.

We begin by using years of education in 1960 as an IV for constraints on the executive. The justification is based on the following arguments. First, Glaeser et al. (2004) indicate that colonizers brought themselves, assigning a crucial role to human capital in the process of institutional quality development.[23] Thus in the second stage we are using the variation in constraints on the executive that can be traced back to years of schooling. Second, Glaeser et al. show that years of education is more highly correlated with constraints on the executive than settlers' mortality rates, suggesting that years of education is a relevant instrument. Further, they also show that school enrollment in 1900 is strongly correlated with a former colony's initial settler mortality rate. Third, we reported in section 3 that in reduced income equations, settler mortality rates is a significant predictor of income in the presence of our measures of institutions and other growth determinant covariates, casting doubts on the perfect satisfaction of the exclusion restriction. Fourth, the exogeneity of years of education is questionable given its potential correlation with numerous country characteristics that may also impact development. For this reason we also control for cognitive skills, another dimension of human capital, in some specifications to surmount potential omitted variables problem. Finally, this exercise with a larger sample size allows us to perform the Berkowitz et al. (2008, 2012) fractionally resampled Anderson-Rubin (FAR) test, which provides for valid inferences relaxing the orthogonality

[23] See also Galor, Moav and Vollrath (2009) and Galor (2011).

condition, i.e., allowing for near exogeneity which may be the case with human capital as an instrument for constraints on the executive.

Panel A of Table 7 presents the second-stage results of four horse races between executive constraint and EFW using the CUE estimator and IV strategy described above. Columns 1 and 2 use the PWT GDP measures as the dependent variable, while columns 3 and 4 use the PWT GDP measures. Columns 1 and 3 control for cognitive skills, while columns 2 and 4 omit it. The number of observations now ranges from 60 in column 3 to 97 in column 2. Overall the results remain qualitatively intact compared to earlier results from Tables 3 to 6. Standardized parameter estimates associated with economic institutions are positive and significant at the 1 percent level, while estimates for executive constraint have no statistically significant impact on development. Ethnolinguistic fractionalization remains negative and statistically significant, while cognitive skills in columns 1 and 3 does not exert a discernable direct statistical directly on development in columns 1 and 3.

The Anderson-Rubin test rejects the null of no joint significance in the four columns with p-values lower than 1 percent. However, this test assumes perfect orthogonality of the instruments with the error term in the structural second-stage regression. Revealingly, the FAR test, which is also robust under weak identification, rejects the null of no joint significance of the endogenous regressors at the 5 percent level or less with p-values ranging from 0.006 to 0.043.[24]

Columns B and C of Table 7 report the corresponding first-stage results for EFW and executive constraint, respectively. These regressions retain the same characteristics exhibited by those reported in Tables 3 to 6. Estimated genetic diversity strongly predicts economic institutions

[24] We set the user-specified FAR command kappa (κ) equal to 3. According to Riquelme, Berkowitz and Caner (2013) this value gives the best size and power combinations and corresponds to a resampling fraction of f=0.2 when n=100. In our extended sample, we reach 97 observations. We do not expect much change in size and power of the tests with respect to the 100-observations case provided by Riquelme's et al. simulations.

in a non-monotonic concave shape, while it offers no predictive power of constraints on the executive. Cognitive skills remains statistically linked to economic institutions in spite of the presence of years of education in 1960, and it does not have predictive power of constraint on the executive. The new result is years of education, which appears positive and strongly statistically significantly linked to executive constraint at the 1 percent level, even in the presence of cognitive skills. Number of years of education is also a statistically significant predictor of economic institutions, particularly in specifications where cognitive skills is omitted.

The over-identification test fails to reject the null of the instruments' exogeneity, while the under-identification test rejects the null at the 10 percent level or less in columns 1 to 3. In column 4, however, the null of under-identification cannot be rejected at the 10 percent level.

Reassuringly, the AR and FAR test results indicate that joint identification occurs at the 5 percent level or less. Nonetheless, we also report findings using other estimators that are less efficient than CUE in the presence of non-spherical disturbances and also less robust to weak identification as in the case of the 2SLS estimator. The findings remain qualitatively intact using the PWT GDP measures and applying the 2SLS, LIML and Fuller estimators in Panels D, E and F, respectively. The results are less robust in column 3 of Panels D, E and F, which use the WDI GDP measures and control for cognitive skills; however, the results remain virtually intact in column 4, which also uses the WDI data but utilizes a larger sample of 94 countries. We also take comfort from the FAR test results. None of the twelve p-values delivered by the FAR test exceeds 0.050.

Lastly, we once again find reassuring the relative stability of the parameter estimates associated with economic institutions. The sole exception would be in column 3 where the EFW point estimate is somewhat smaller and less precisely estimated.

6. Concluding Remarks

This paper develops an empirical framework that integrates and further tests the findings from three distinct strands of the comparative economic development literature. Our evidence suggests that institutions, human capital and deep growth determinants play a relevant but distinct role in the development process.

First, this study casts light on the question on the relative importance of economic and political institutions for long-term economic development. We follow Acemoglu et al. (2001) and Acemoglu and Johnson (2005) by using the log of settler mortality rate as an instrument for Polity IV's constraints on the executive as a measure of political institutions. We use the Fraser Institute's Economic Freedom of the World (EFW) index and the Social Infrastructure Index developed by Hall and Jones (1999) as alternative measures of economic institutions, and provide both theoretical and empirical justifications indicating that predicted genetic diversity and its square, unadjusted for the ancestral composition of current populations, are plausible exogenous and relevant instruments for a cluster of economic institutions.

This paper unveils robust empirical evidence supporting the view that economic institutions are a stronger predictor of development than political institutions of constrained government. More specifically, our analysis reveals that the EFW and the social infrastructure indices exert a direct impact on development that does not work through political, human capital, geography, ethnolinguistic fractionalization and deep-rooted growth determinant channels. The impact of clusters of economic institutions on development is economically and statistically significant, and robust to different instrumental variable estimators, inferential tests robust to weak identification as well to mild violations of the exclusion restriction, data sources, sample sizes and the preferred identification strategies developed by Acemoglu et al. (2001, 2002). Further, most of our results, although corroborated in larger samples, are obtained in relatively small samples, indicating a high level of resiliency given the limited degrees of freedom available to compute our estimates.

Second, we also find that cognitive skills, arguably the best extant measure of human capital available across countries, impacts economic development indirectly through the construction of better economic institutional quality. However, in the second stage regressions cognitive skills is not a statistically significant predictor of development. These findings suggest an unbundling of the role of human capital and institutions in development. More specifically, institutions impact development directly and human capital impacts development indirectly by enhancing institutional quality. This corroborates the evidence uncovered by Faria et al. (2016).

Finally, the persistent statistically significant and concave impact of predicted-unadjusted genetic diversity on multidimensional measures of economic institutions, and not on different measures of political institutions, unidimensional proxies for economic institutions, and social capital as measured by trust, suggest the existence of a genetic diversity channel, established tens of thousands of years ago, that has influenced the creation of contemporary economic institutional. In addition, our evidence corroborates that of Ang (2013) in suggesting that deep growth determinants may serve as valid instruments and provide a valuable source of exogenous variation to address causality issues.

REFERENCES

Acemoglu, Daron. 2005. "Constitutions, politics, and economics: A review essay on Persson and Tabellini's'*The Economic Effects of Constitutions*," *Journal of Economic Literature* 43(4): 1025-1048

Acemoglu, Daron, Francisco A. Gallego and James A. Robinson. 2014. "Institutions, human capital and development," *Annual Reviews of Economics* 6(1): 875–912.

Acemoglu, Daron, Simon Johnson, and James A. Robinson. 2001. “The colonial origins of comparative development: An empirical investigation,” *American Economic Review* 91(5): 1369-1401.

Acemoglu, Daron, Simon Johnson, and James A. Robinson. 2002. “Reversal of fortune: Geography and institutions in the making of the modern world income distribution,” *Quarterly Journal of Economics* 117 (4): 1231-1294.

Acemoglu, Daron; Simon Johnson and James Robinson. 2005. “The rise of Europe: Atlantic trade, institutional change, and economic growth,” *American Economic Review*, 95(2): 546-579.

Acemoglu, Daron; Simon Johnson, and James Robinson. 2012. “The Colonial origins of economic development: A reply,” *American Economic Review*, 102(6): 3077–3110.

Acemoglu, Daron and Simon Johnson. 2005. “Unbundling institutions,” *Journal of Political Economy* 113(51): 949-994.

Acemoglu, Daron; Tristan Reed, and James A. Robinson. 2014. “Chiefs: Economic development and elite control of civil society in Sierra Leone,” *Journal of Political Economy* 122(2): 319-368

Acemoglu, Daron, and James A. Robinson. 2012. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*, New York: Crown Business.

Alesina, Alberto and Eliana La Ferrara. 2005. “Ethnic diversity and economic performance,” *Journal of Economic Literature* 43(3): 762-800.

Alesina, Alberto, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat and Romain Wacziarg. 2003. “Fractionalization,” *Journal of Economic Growth* 8(2): 155-194.

Ang, James B. 2013. “Institutions and the long-run impact of early development,” *Journal of Development Economics*. 105:1-18.

Ashraf, Quamrul, and Oded Galor. 2011. *“*Dynamics and stagnation in the Malthusian epoch,*”* *American Economic Review* 101 (5): 2003-2041.

Ashraf, Quamrul, and Oded Galor. 2013a *“*The ‘out of Africa’ hypothesis, human genetic diversity, and comparative economic development,” *American Economic Review*, 103(1): 1-46.

Ashraf, Quamrul, and Oded Galor. 2013b. "Genetic diversity and the origins of cultural fragmentation," *American Economic Review*, 103(3): 528-33.

Auer, Raphael A. 2013 “Geography, institutions, and the making of comparative development,” Jou*rnal of Economic Growth* 18(2): 179-215.

Barro, Robert J. 2001. “Human Capital and Growth,” *American Economic Review*, 91(2): 12-17.

Barro, Robert J. and Jong-Wha Lee. 2010. “A new dataset of educational attainment of the worl, 1950-2010,” *Journal of Development Economics* 104: 184-198.

Berkowitz, Daniel, Mehmet Caner and Ying Fang. 2008 “Are nearly exogenous instruments reliable?” *Economic Letters* 101(1): 20-23.

Berkowitz, Daniel, Mehmet Caner and Ying Fang. 2012. “The validity of instruments revisited,” *Journal of Econometrics* 166(2): 255-266.

Bils, Mark and Peter J. Klenow. 2000. "Does schooling cause growth?" *American Economic Review* 90(5): 1160-1183.

Congleton, Roger D. and Arye L. Hillman, eds. 2015. *Companion to the Political Economy of Rent Seeking*, Northampton, MA: Edward Elgar Publishing.

Dawson, John W. 1998. “Institutions, investment and growth: New cross-country and panel data evidence,” *Economic Inquiry* 36(4): 603-619.

Dell, Melissa, Benjamin F. Jones and Benjamin A. Olken. 2012 “Temperature shock and economic growth: Evidence from the last half century,” *American Economic Journal: Macroeconomics* 4(3): 66-95.

Dell, Melissa, Benjamin F. Jones and Benjamin A. Olken. 2014 “What do we learn from the weather? The new climate-economy literature,” *Journal of Economic Literature* 52(3): 740-798.

Diamond, Jared. 1997. *Guns, Germs, and Steel: The Fates of Human Societies*, New York: Norton.

Easterly, William and Ross Levine. 2003. “Tropics, germs, and crops: How endowments influence economic development,” *Journal of Monetary Economics* 50(1), 3-39.

Easton, Stephen T. and Michael A. Walker 1997. “Income, growth, and economic freedom,” *American Economic* 87(2): 328-332.

Engerman, Stanley L., and Kenneth L. Sokoloff. 2012. *Economic Development in the Americas since 1500: Endowments and Institutions.* New York: Cambridge University Press.

Faria, Hugo J., Hugo M. Montesinos, Daniel R. Morales and Carlos E. Navarro. 2016. “Unbundling the Roles of Human Capital and Institutions in Economic Development”. Forthcoming. *European Journal of Political Economy.*

Frankel, Jeffrey A. and David H. Romer. 1999. “Does trade cause growth?” *American Economic Review* 89(3): 379-399.

Fuler, Wayne A. 1977. “Some properties of a modification of the limited information estimator,” *Econometrica* 45(4): 939-954.

Gallup, John L. and Jeffrey D. Sachs. 2001. “The economic burden of malaria,” *American Journal of Tropical Medicine and Hygiene* 64(1): 85-96.

Galor Oded. 2011. *Unified Growth Theory*.Princeton, NJ: Princeton University Press

Galor, Oded, Omer Moav and Dietrich Vollrath. 2009. “Inequality in landownership, the emergence of human-capital promoting institutions and the great divergence,” *Review of Economic Studies* 76(1): 143-179

Gennaioli, Nicola, Rafael LaPorta, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2013. “Human capital and regional development,” *Quarterly Journal of Economics* 128(1): 105-164.

Glaeser, Edward L, Rafael LaPorta, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2004. “Do institutions cause growth?” *Journal of Economic Growth* 9(3): 271-303.

Gwartney, James, Robert Lawson and Joshua Hall. 2014. *Economic Freedom of the World 2012 Annual Report*, Vancouver: Fraser Institute.

Hall, Robert E., and Chales I. Jones. 1999. *“*Why do some countries produce so much more output per worker than others,” *Quarterly Journal of Economics* 114(1):83-116.

Hall, Joshua and Robert Lawson. 2014. “Economic freedom of the world: An accounting of the literature” *Contemporary Economic Policy* 32(1):1-19.

Hansen, Lars; John Heaton and Amir Yaron. 1996 “Finite-sample properties of some alternative GMM estimators,” *Journal of Business & Economic Statistics* 14(3): 262-280

Hanushek, Eric and Dennis D. Kimko. 2000. “Schooling, labor-force quality, and the growth of nations,” *American Economic Review* 90(5): 1184–1208.

Hanushek, Eric A., and Ludger Woessmann. 2012a. *“*Schooling, educational achievement, and the Latin American growth puzzle,*”* *Journal of Development Economics* 99(2): 497-512.

Hanushek, Eric A., and Ludger Woessmann. 2012b. *“*Do better schools lead to more growth? Cognitive skills, economic outcomes, and causation,*”* *Journal of Economic Growth* 17(4): 267-321.

Hausman, Jerry, Konrad Menzel, Randall Lewis and Whitney Newey. 2007. “A reduced bias GMM-like estimator with reduced estimator dispersion,” CEMMAP working paper, Center for Microdata Methods and Practice, No. CWP24/07, http://doi.org/10.1920/wp.cem.2007.2407.

Heston, Alan, Robert Summers and Bettina Aten. 2012. Penn World Table Version 7.1, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.

Knack, Stephen and Philip Keefer. 1995. “Institutions and economic performance: Cross-country tests using alternative institutional measures,” *Economics and Politics* 7(3): 207-227.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny. 1999. `The quality of government,” *Journal of Law, Economics* and Organization 15(1): 222-279.

Levine, Ross; and David Renelt. 1992. "A sensitivity analysis of cross-country growth Regressions," *American Economic Review* 82(4): 942-963.

Macaulay, Vincent, Catherine Hill, Alessandro Achilli, Chiara Rengo, Douglas Clarke, William Meehan, James Blackburn et al. 2005. ″Single, rapid coastal settlement of Asia revealed by analysis of complete mitochondrial genomes,″*Science* 308 (5724): 1034–36.

Marshall, Monty G., Ted Robert Gurr, and Keith Jaggers. 2013. *Polity IV Project: Political Regime Characteristics and Transitions: 1800-2012*, Vienna, VA: Center for Systemic Peace.

Murphy, Kevin; and Robert Topel. 1985. “Estimation and inference in two-step econometric models,” *Journal of Business and Economic Statistics* 3(4):370-379.

North, Douglass. 1990. *Institutions, Institutional Change and Economic Performance*, Cambridge, UK: Cambridge University Press.

North, Douglass. 1994. “Economic performance through time,” *American Economic Review* 84(3): 359-368.

Olsson, Ola and Douglas A. Hibbs. 2005. “Biogeography and long-run economic development,” *European Economic Review* 49(4): 909 – 938.

Nunn, Nathan. 2009. “The importance of history for economic development”. *Annual Review of Economics* 1:65-92

Pagan, Adrian. 1984 “Econometric issues in the analysis of regression with generated regressors,” *International Economic Review* (25)1: 221-247

Paldam, Martin and Erich Gundlash. 2008. “Two views on institutions: The grand transition vs the primacy of institutions,” *Kyklos* 61(1): 65-100.

Putterman, Louis. 2008. “Agriculture, diffusion and development: Ripple effects of the Neolithic revolution,” *Economica* 75(300): 729–748.

Ram, Rati and Secil Ural. 2014. “Comparison of GDP per capita data in Penn World Table and World Development Indicators,” *Social Indicators Research* 116(2): 639-646.

Ramachandran, Sohini; Omkar Deshpande, Charles C. Roseman, Noah A. Rosenberg, Marcus W. Feldman and L. Luca Cavalli-Sforza. 2005. "Support from the relationship of genetic and geographic distance in human populations for a Serial Founder Effect originating in Africa," *Proceedings of the National Academy of Sciences* 102(44): 15942–47.

Riquelme, Andres, Daniel Berkowitz and Mehmet Carner. 2013. "Valid tests when instrumental variables do not perfectly satisfy the exclusion restriction," *Stata Journal* 13(3):528-546.

Rodrik, Daniel. 2000. "Institutions for high-quality growth: What they are and how to acquire them," *Studies in Comparative International Development* 35(3): 3-31.

Rodrik, Daniel, Arvind Subramanian and Francesco Trebbi. 2004. "Institutions rule: The primacy of institutions over geography and integration in economic development," *Journal of Economic Growth* 9(2): 131-165.

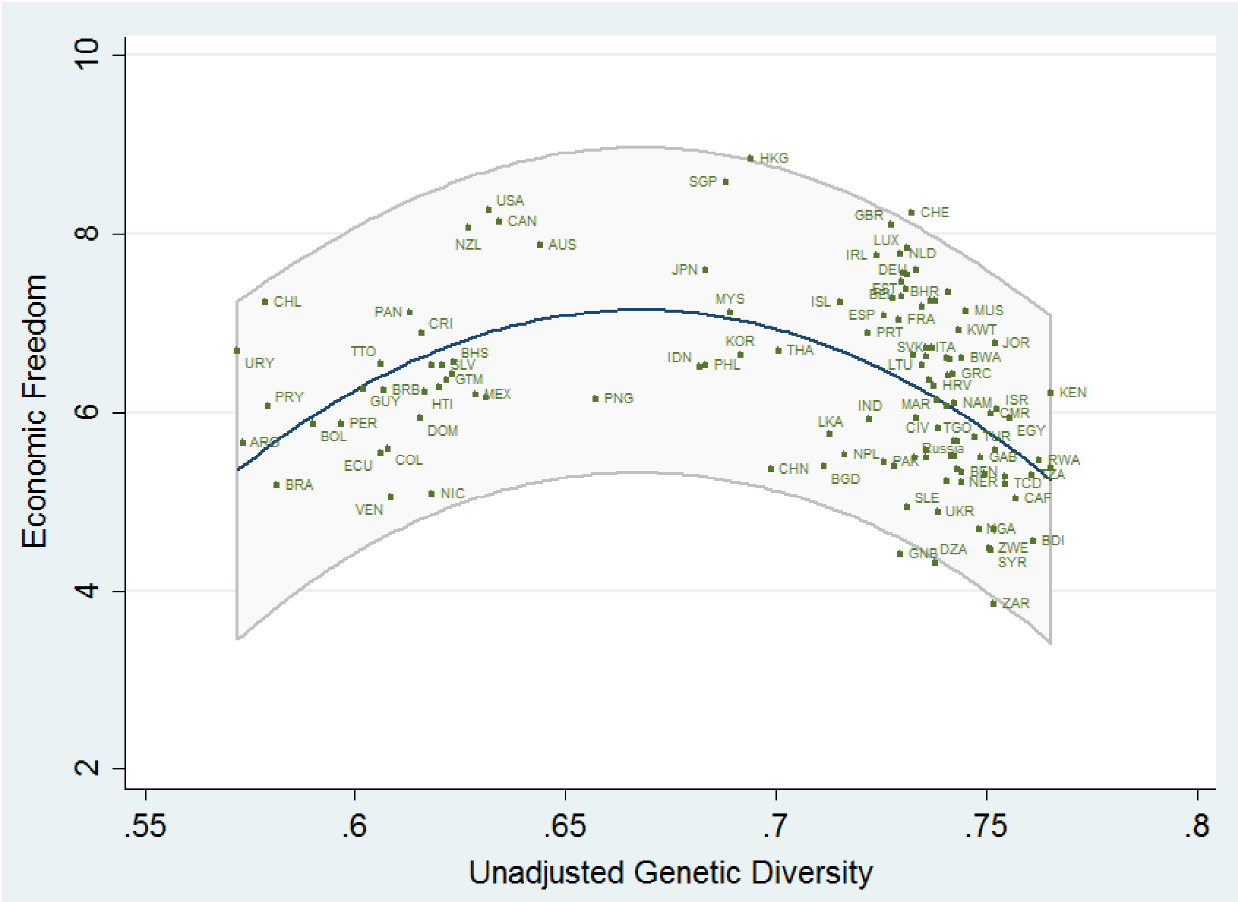
Sachs, Jeffrey 2003. "Institutions don't rule: Direct effects of geography on per capita income," NBER working paper no. 9490.

Sachs, Jeffrey D. and Andrew Warner. 1995. "Economic reform and the process of global integration," *Brookings Papers on Economic Activity*: 1-95.

Spolaore, Enrico and Romain Wacziarg. 2013 "How deep are the roots of economic development?" *Journal of Economic Literature*, 51(2): 325-369.

Wacziarg, Romain and Karen H. Welch. 2008. "Trade liberalization and growth: New evidence," *World Bank Economic Review* 22(2): 187-231.

FIGURE 1: HUMP-SHAPED ECONOMIC FREEDOM – GENETIC DIVERSITY CURVE



Notes: Data sources: economic freedom (Gwartney et al., 2014); unadjusted genetic diversity (Ashraf and Galor, 2013a). Blue line depicts quadratic predicted values. Silver lines depict 95 percent confidence interval of fitted values. Labels reflect 3 digit ISO country codes, as reported by World Bank.

TABLE 1: FALSIFICATION TESTS – Institutional Measure is Dependent Variable

	Economic Freedom				Executive Constraint			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GenDiv	264.53***	215.64***	204.89***	183.19**	172.69**	45.27	-61.19	-4.42
	[60.07]	[55.67]	[56.59]	[71.97]	[67.70]	[89.13]	[114.05]	[153.25]
GenDiv^2	-198.18***	-164.96***	-155.93***	-140.63***	-137.75***	-43.25	39.12	-10.44
	[43.81]	[41.36]	[42.04]	[53.94]	[50.09]	[67.15]	[86.56]	[117.09]
Cognitive Skills		0.52***	0.42**	0.49**		0.26	0.09	0.23
		[0.17]	[0.21]	[0.22]		[0.31]	[0.33]	[0.42]
Latitude		1.62**	1.22	1.32		5.43***	4.05**	1.95
		[0.74]	[0.82]	[1.15]		[1.43]	[1.85]	[2.75]
Fractionalization		0.14	0.05	0.26		1.21	0.72	2.12*
		[0.43]	[0.42]	[0.56]		[0.96]	[0.95]	[1.13]
Executive Constraint			0.14	-0.08				
			[0.10]	[0.16]				
Settler Mortality Rate				-0.28				-0.56
				[0.23]				[0.39]
EFW							0.41	-0.27
							[0.30]	[0.47]
R^2, Adj.	0.19	0.50	0.51	0.67	0.15	0.34	0.35	0.50
N	121	66	63	30	151	64	63	30
GenDiv*	0.67	0.65	0.66	0.65				

Notes: ***p<0.01, **p<0.05, *p<0.1. Two-step bootstrapped standard errors in brackets (1,000 replications). Constant term omitted for space. See Appendix A for variable descriptions. GenDiv* is the level of genetic diversity that maximizes EFW.

TABLE 2: REDUCED FORM ESTIMATES - PWT Income per Capita is Dependent Variable

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GenDiv	254.34***		18.25		21.97		27.25
	[68.40]		[50.51]		[46.40]		[58.07]
GenDiv^2	-191.78***		-14.44		-17.72		-23.31
	[50.30]		[37.51]		[34.93]		[44.13]
Settler Mortality Rate		-0.72***		-0.50***		-0.39***	-0.28*
		[0.10]		[0.13]		[0.11]	[0.15]
EFW			1.03***		0.51***		0.25
			[0.09]		[0.11]		[0.21]
Executive Constraint				0.26***		0.06	-0.05
				[0.09]		[0.09]	[0.10]
Cognitive Skills					0.30**	0.45***	0.36**
					[0.15]	[0.13]	[0.18]
Latitude					1.07**	-0.40	-0.00
					[0.53]	[0.81]	[0.77]
Fractionalization					-0.97**	-0.86**	-0.46
					[0.39]	[0.36]	[0.37]
R^2, Adj.	0.11	0.44	0.60	0.54	0.76	0.75	0.83
N	140	72	121	68	66	30	30

Notes: ***p<0.01, **p<0.05, *p<0.1. In odd columns, two-step bootstrapped standard errors in brackets. In even columns, one-step bootstrapped standard errors in brackets. All bootstraps based on 1,000 replications. Constant term omitted for space. See Appendix A for variable descriptions.

TABLE 3: MAIN RESULTS

Panel A: 2nd Stage Results - PWT Income per Capita is Dependent Variable					
	(1) OLS	(2) 2SLS	(3) LIML	(4) Fuller(1)	(5) CUE
EFW	0.569***	0.703***	0.711***	0.702***	0.713***
	[0.114]	[0.177]	[0.194]	[0.175]	[0.181]
Executive Constraint	0.165*	0.264*	0.268*	0.263*	0.250*
	[0.055]	[0.085]	[0.094]	[0.084]	[0.085]
Cognitive Skills	0.256**	0.176	0.171	0.177	0.182
	[0.122]	[0.179]	[0.189]	[0.178]	[0.184]
Fractionalization	-0.297***	-0.277***	-0.276***	-0.278***	-0.332***
	[0.318]	[0.281]	[0.283]	[0.281]	[0.278]
Latitude	-0.036	-0.084	-0.087	-0.084	-0.116
	[0.539]	[0.486]	[0.488]	[0.486]	[0.475]
R^2	0.813				
R^2, Adj.	0.774				
N	30	30	30	30	30
p(OID)		0.179	0.178	0.179	0.216
p(UID)		0.015	0.015	0.015	0.015
F(Anderson-Rubin)		44.294	44.294	44.294	44.294
p(Anderson-Rubin)		0.000	0.000	0.000	0.000
χ^2(Anderson-Rubin)		173.324	173.324	173.324	173.324
p(χ^2, Anderson-Rubin)		0.000	0.000	0.000	0.000

Panel B: 1st Stage Results – Institutional Measure is Dependent Variable		
	(1) Economic Freedom	(2) Executive Constraint
GenDiv	11.359***	-2.216
	[66.71]	[107.71]
GenDiv^2	-11.510***	1.495
	[50.00]	[82.32]
Settler Mortality Rate	-0.269	-0.374
	[0.17]	[0.38]
Cognitive Skills	0.400***	0.056
	[0.18]	[0.39]
Fractionalization	0.026	0.374*
	[0.47]	[1.11]
Latitude	0.186	0.172
	[1.10]	[2.34]
R^2	0.746	0.611
R^2, Adj.	0.680	0.510
N	30	30

Standardized beta coefficients reported. In Panel A, robust standard errors in brackets. In Panel B, two-step bootstrapped standard errors in brackets (1,000 replications). Intercept omitted for space. * p<0.10, ** p<0.05, *** p<.01

TABLE 4: ROBUSTNESS TO MEASURE OF GDP

Panel A: 2nd Stage Results – WDI Income per Capita is Dependent Variable					
	(1) OLS	(2) 2SLS	(3) LIML	(4) Fuller(1)	(5) CUE
EFW	0.548***	0.700***	0.732***	0.714***	0.662***
	[0.127]	[0.187]	[0.243]	[0.210]	[0.183]
Executive Constraint	0.138	0.208	0.209	0.209	0.204
	[0.063]	[0.087]	[0.111]	[0.097]	[0.083]
Cognitive Skills	0.228	0.139	0.120	0.130	0.215
	[0.145]	[0.204]	[0.240]	[0.219]	[0.198]
Fractionalization	-0.319**	-0.297***	-0.294***	-0.296***	-0.396***
	[0.412]	[0.353]	[0.355]	[0.354]	[0.351]
Latitude	-0.036	-0.085	-0.091	-0.088	-0.149
	[0.601]	[0.551]	[0.551]	[0.551]	[0.557]
R^2	0.751				
R^2, Adj.	0.697				
N	29	29	29	29	29
p(OID)		0.116	0.116	0.115	0.191
p(UID)		0.035	0.035	0.035	0.035
F(Anderson-Rubin)		15.037	15.037	15.037	15.037
p(Anderson-Rubin)		0.000	0.000	0.000	0.000
χ^2(Anderson-Rubin)		59.465	59.465	59.465	59.465
p(χ^2, Anderson-Rubin)		0.000	0.000	0.000	0.000

Panel B: 1st Stage Results – Institutional Measure is Dependent Variable		
	(1) EFW	(2) Executive Constraint
GenDiv	10.038**	-3.505
	[71.70]	[101.48]
$GenDiv^2$	-10.246**	2.770
	[53.59]	[77.24]
Settler Mortality Rate	-0.270	-0.372
	[0.17]	[0.38]
Cognitive Skills	0.419***	0.073
	[0.17]	[0.37]
Fractionalization	0.036	0.385*
	[0.44]	[1.15]
Latitude	0.199	0.186
	[1.16]	[2.35]
R^2	0.753	0.626
R^2, Adj.	0.685	0.525
N	29	29

Standardized beta coefficients reported. In Panel A, robust standard errors in brackets. In Panel B, two-step bootstrapped standard errors in brackets (1,000 replications). Intercept omitted for space. * p<0.10, ** p<0.05, *** p<.01

TABLE 5: ROBUSTNESS TO MEASURE OF ECONOMIC INSTITUTIONS

Panel A: 2nd Stage Results - PWT Income per Capita is Dependent Variable					
	(1) OLS	(2) 2SLS	(3) LIML	(4) Fuller(1)	(5) CUE
Social Infrastructure	0.512***	0.665***	0.672***	0.657***	0.653***
	[0.412]	[0.565]	[0.596]	[0.530]	[0.561]
Executive Constraint	0.175*	0.227*	0.227*	0.228**	0.222**
	[0.060]	[0.069]	[0.072]	[0.064]	[0.066]
Cognitive Skills	0.308**	0.224*	0.221*	0.229*	0.237*
	[0.122]	[0.138]	[0.140]	[0.135]	[0.141]
Fractionalization	-0.369***	-0.371***	-0.371***	-0.370***	-0.408***
	[0.313]	[0.262]	[0.262]	[0.261]	[0.194]
Latitude	0.052	0.038	0.038	0.038	0.024
	[0.557]	[0.582]	[0.585]	[0.578]	[0.567]
R^2	0.822				
R^2, Adj.	0.785				
N	30	30	30	30	30
p(OID)		0.534	0.534	0.533	0.556
p(UID)		0.029	0.029	0.029	0.029
F(Anderson-Rubin)		44.294	44.294	44.294	44.294
p(Anderson-Rubin)		0.000	0.000	0.000	0.000
χ^2(Anderson-Rubin)		173.324	173.324	173.324	173.324
p(χ^2, Anderson-Rubin)		0.000	0.000	0.000	0.000

Panel B: 1st Stage Results – Institutional Measure is Dependent Variable		
	(1) Social Infrastructure	(2) Executive Constraint
GenDiv	11.107***	-2.216
	[14.58]	[107.71]
GenDiv^2	-11.280***	1.495
	[11.02]	[82.32]
Settler Mortality Rate	-0.361**	-0.374*
	[0.04]	[0.38]
Cognitive Skills	0.339***	0.056
	[0.04]	[0.39]
Fractionalization	0.186	0.374**
	[0.12]	[1.11]
Latitude	-0.001	0.172
	[0.29]	[2.34]
R^2	0.660	0.611
R^2, Adj.	0.572	0.510
N	30	30

Standardized beta coefficients reported. In Panel A, robust standard errors in brackets. In Panel B, two-step bootstrapped standard errors in brackets (1,000 replications). Intercept omitted for space. * p<0.10, ** p<0.05, *** p<.01

TABLE 6: ROBUSTNESS TO DEEP DETERMINANTS - 2SLS ESTIMATOR

Panel A: 2nd Stage results – PWT Income per Capita is Dependent Variable							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EFW	0.613***	0.591***	0.617***	0.614***	0.597***	0.600***	0.618***
	[0.174]	[0.173]	[0.177]	[0.173]	[0.186]	[0.212]	[0.169]
Executive Constraint	0.155*	0.186**	0.155*	0.149*	0.169*	0.171	0.149*
	[0.089]	[0.092]	[0.086]	[0.085]	[0.092]	[0.142]	[0.083]
Cognitive Skills	0.185	0.122	0.177	0.183	0.228	0.214	0.154
	[0.200]	[0.167]	[0.267]	[0.176]	[0.194]	[0.279]	[0.200]
Fractionalization	-0.911***	-0.919***	-0.898**	-0.715*	-1.289***	-0.924***	-0.831**
	[0.336]	[0.311]	[0.371]	[0.388]	[0.371]	[0.286]	[0.410]
Latitude	-0.467	-0.656	-0.478	-0.552	-0.013	-0.436	-0.522
	[0.498]	[0.488]	[0.483]	[0.507]	[0.543]	[0.564]	[0.523]
Agricultural History	-0.001						
	[0.080]						
State History		0.724					
		[0.580]					
Technological Adoption			0.055				
			[1.018]				
Geog. Prox. Reg. Frontier				0.472			
				[0.552]			
Gen. Prox. Global Frontier					-0.878		
					[0.553]		
Pop Density 1500						-0.005	
						[0.033]	
Principal Component							0.067
							[0.212]
N	29	30	30	30	30	30	29
p(OID)	0.160	0.452	0.177	0.170	0.135	0.181	0.224
p(UID)	0.024	0.027	0.011	0.012	0.015	0.006	0.013
Panel B: 1st Stage Results – Economic Freedom is Dependent Variable							
GenDiv	187.01**	182.99***	183.06**	188.56***	188.723**	174.19**	180.93**
	[81.10]	[71.01]	[73.72]	[72.01]	[73.61]	[74.31]	[77.77]
$GenDiv^2$	-142.47**	-139.06***	-139.52**	-143.65***	-144.08***	-133.81**	-138.07**
	[60.68]	[53.57]	[55.32]	[54.24]	[55.35]	[55.40]	[58.40]
Settler Mortality Rate	-0.26	-0.26	-0.25	-0.24	-0.23	-0.26	-0.27
	[0.21]	[0.20]	[0.18]	[0.20]	[0.21]	[0.19]	[0.22]
Cognitive Skills	0.51**	0.54***	0.63**	0.49**	0.55***	0.61**	0.61***
	[0.21]	[0.18]	[0.28]	[0.19]	[0.18]	[0.24]	[0.21]
Fractionalization	0.07	0.06	-0.14	0.04	-0.51	0.20	-0.19
	[0.54]	[0.55]	[0.64]	[0.57]	[0.70]	[0.51]	[0.55]
Latitude	1.14	1.23	1.25	1.23	2.06**	1.50	1.38
	[1.22]	[1.24]	[1.16]	[1.24]	[1.33]	[1.19]	[1.34]
Agricultural History	-0.02						
	[0.175]						
State History		-0.59					
		[0.874]					
Technological Adoption			-1.00				
			[1.385]				
Geog. Prox. Reg. Frontier				-0.14			
				[0.967]			
Gen. Prox. Global Frontier					-1.54		
					[1.372]		
Pop Density 1500						0.03	
						[0.041]	
Principal Component							-0.28
							[0.424]
R2	0.728	0.754	0.754	0.746	0.773	0.765	0.741
R2, Adj.	0.637	0.676	0.676	0.666	0.700	0.690	0.655
GenDiv*	0.656	0.658	0.656	0.656	0.655	0.651	0.655

Table Continued on Next Page

TABLE 6, CONTINUED FROM PREVIOUS PAGE

Panel C: 1st Stage Results – Executive Constraint is Dependent Variable							
GenDiv	-69.84	-80.35	58.82	-35.18	-54.57	-19.79	-81.57
	[141.44]	[95.17]	[120.24]	[122.75]	[139.20]	[113.59]	[125.97]
$GenDiv^2$	39.03	49.31	30.92	12.73	27.84	4.20	47.51
	[106.35]	[71.96]	[91.61]	[93.88]	[106.40]	[86.30]	[95.42]
Settler Mortality Rate	-0.47	-0.60**	-0.51	-0.46	-0.50	-0.44	-0.50
	[0.50]	[0.30]	[0.40]	[0.38]	[0.47]	[0.39]	[0.46]
Cognitive Skills	0.08	0.42	0.25	0.13	0.08	-0.23	0.27
	[0.44]	[0.34]	[0.48]	[0.37]	[0.41]	[0.44]	[0.45]
Fractionalization	2.14	1.89*	1.84	1.09	2.24	1.82*	1.65
	[1.32]	[1.08]	[1.47]	[1.14]	[1.76]	[1.03]	[1.66]
Latitude	1.64	1.89	1.69	2.28	1.42	0.84	2.11
	[2.60]	[1.95]	[2.43]	[2.34]	[2.90]	[2.29]	[2.51]
Agricultural History	-0.03						
	[0.44]						
State History		-3.43***					
		[1.13]					
Technological Adoption			-1.03				
			[2.71]				
Geog. Prox. Reg. Frontier				-2.45			
				[2.17]			
Gen. Prox. Global Frontier					0.38		
					[4.12]		
Pop Density 1500						0.09**	
						[0.07]	
Principal Component							-0.54
							[1.18]
R2	0.609	0.731	0.615	0.658	0.612	0.668	0.630
R2, Adj.	0.479	0.645	0.492	0.549	0.488	0.563	0.507

In Panel A, standardized beta coefficients reported and robust standard errors in brackets. In Panel B, two-step bootstrapped standard errors in brackets (1,000 replications). Intercept omitted for space. * p<0.10, ** p<0.05, *** p<.01. $GenDiv^*$ is the level of genetic diversity that maximizes EFW.

TABLE 7: ROBUSTNESS WITH FRACTIONALLY RESAMPLED ANDERSON RUBIN TEST (FAR)

Panel A: 2nd Stage Results (**CUE**)	Dependent variable is Income per capita from:			
	PWT		WDI	
	(1)	(2)	(3)	(4)
EFW	0.599**	0.635***	0.462**	0.649***
	[0.249]	[0.224]	[0.214]	[0.211]
Executive Constraint	0.208	0.202	0.244	0.118
	[0.134]	[0.151]	[0.108]	[0.142]
Fractionalization	-0.278***	-0.240***	-0.304***	-0.259***
	[0.330]	[0.270]	[0.354]	[0.289]
Latitude	0.018	0.091	0.018	0.123
	[0.513]	[0.466]	[0.515]	[0.510]
Cognitive Skills	0.173		0.281	
	[0.193]		[0.185]	
N	62	97	60	94
p(OID)	0.684	0.575	0.17	0.316
p(UID)	0.014	0.073	0.033	0.122
S(Stock-Wright)	12.681	27.118	10.803	25.718
p(Stock-Wright)	0.005	0	0.013	0
p(Anderson Rubin)	0.002	0.000	0.005	0.000
p(Fractionally Resampled Anderson Rubin)	**0.042**	**0.006**	**0.043**	**0.008**
Reps (FAR)	10000	10000	10000	10000
Kappa (FAR)	3	3	3	3

Reported the standardized beta coefficients estimated by the Continuously Updated Estimator (CUE). Robust standard errors in brackets. * p<0.10, ** p<0.05, *** p<.01. Reported the p-value of the Anderson-Rubin and Fractionally Resampled Anderson-Rubin statistics for the joint significance of the coefficients of the two endogenous regressors. Both tests are robust to weak IVs and the latter is also robust to weak exogeneity.

TABLE 7: ROBUSTNESS WITH FRACTIONALLY RESAMPLED ANDERSON RUBIN TEST (FAR)

CONTINUED FROM PREVIOUS PAGE

Panel B: 1st Stage Results - **EFW**				
	(1)	(2)	(3)	(4)
GenDiv	11.739***	9.377***	8.924**	8.071***
	[56.105]	[47.897]	[53.162]	[48.629]
$GenDiv^2$	-11.931***	-9.494***	-9.140***	-8.210***
	[42.046]	[35.104]	[39.974]	[35.654]
Fractionalization	0.054	0.043	0.115	0.062
	[0.405]	[0.274]	[0.362]	[0.282]
Latitude	0.181	0.147	0.161	0.168
	[0.902]	[0.656]	[0.909]	[0.674]
Cognitive Skills	0.318*		0.387**	
	[0.204]		[0.202]	
Years of Education	0.280*	0.543***	0.296*	0.553***
	[0.060]	[0.038]	[0.061]	[0.040]
N	62	97	60	94
GenDiv*	0.658	0.665	0.654	0.664

Panel C: 1st Stage Results **- Executive Constraint**				
	(1)	(2)	(3)	(4)
GenDiv	-1.55	1.964	-5.144	0.733
	[81.682]	[51.126]	[73.206]	[50.709]
$GenDiv^2$	1.341	-2.276	4.932	-1.049
	[61.556]	[38.051]	[55.000]	[37.676]
Fractionalization	0.126	0.067	0.198	0.095
	[0.897]	[0.495]	[0.828]	[0.479]
Latitude	0.29	0.351***	0.269	0.384***
	[1.477]	[0.993]	[1.379]	[0.961]
Cognitive Skills	-0.016		0.044	
	[0.306]		[0.275]	
Years of Education	0.540***	0.460***	0.561***	0.466***
	[0.097]	[0.071]	[0.093]	[0.071]
N	62	97	60	94

Standardized beta coefficients reported. Two-step bootstrapped standard errors in brackets (1,000 replications). GenDiv* is the level of genetic diversity that maximizes EFW. * p<0.10, ** p<0.05, *** p<.01.

TABLE 7: ROBUSTNESS WITH FRACTIONALLY RESAMPLED ANDERSON RUBIN TEST (FAR)

CONTINUED FROM PREVIOUS PAGE

Panel D: 2nd Stage Results **(2SLS)**	Dependent variable is Income per capita from:			
	PWT		WDI	
	(1)	(2)	(3)	(4)
EFW	0.576**	0.634***	0.348*	0.666***
	[0.249]	[0.224]	[0.194]	[0.214]
Executive Constraint	0.224	0.207	0.329**	0.112
	[0.133]	[0.151]	[0.100]	[0.143]
Fractionalization	-0.270***	-0.234***	-0.264***	-0.244***
	[0.339]	[0.272]	[0.374]	[0.292]
Latitude	0.014	0.087	0.003	0.119
	[0.513]	[0.468]	[0.551]	[0.519]
Cognitive Skills	0.184		0.332*	
	[0.193]		[0.181]	
N	62	97	60	94
p(FAR)	0.0402	0.0066	0.0455	0.0078

Panel E: 2nd Stage Results **(LIML)**	Dependent variable is Income per capita from:			
	PWT		WDI	
	(1)	(2)	(3)	(4)
EFW	0.579**	0.641***	0.337	0.712***
	[0.254]	[0.235]	[0.243]	[0.265]
Executive Constraint	0.222	0.201	0.343*	0.067
	[0.136]	[0.158]	[0.125]	[0.175]
Fractionalization	-0.270***	-0.234***	-0.264***	-0.247***
	[0.339]	[0.273]	[0.378]	[0.299]
Latitude	0.015	0.087	-0.003	0.119
	[0.517]	[0.471]	[0.584]	[0.547]
Cognitive Skills	0.182		0.338*	
	[0.195]		[0.202]	
N	62	97	60	94
p(FAR)	0.0405	0.0059	0.0462	0.0073

Panel F: 2nd Stage Results **(Fuller)**	Dependent variable is Income per capita from:			
	PWT		WDI	
	(1)	(2)	(3)	(4)
EFW	0.564***	0.626***	0.344	0.676***
	[0.228]	[0.210]	[0.210]	[0.225]
Executive Constraint	0.232	0.213	0.334*	0.102
	[0.121]	[0.142]	[0.108]	[0.150]
Fractionalization	-0.270***	-0.234***	-0.264***	-0.245***
	[0.339]	[0.271]	[0.375]	[0.294]
Latitude	0.012	0.088	0.001	0.119
	[0.498]	[0.464]	[0.562]	[0.525]
Cognitive Skills	0.190		0.334*	
	[0.184]		[0.188]	
N	62	97	60	94

p(FAR)	0.0437	0.0069	0.0481	0.0082

Panels D, E and F report the standardized beta coefficients estimated by the 2SLS, LIML and Fuller (1), respectively. Results can be seen as robustness checks of the findings in Panel A. Robust standard errors in brackets. P-values of the Fractionally Resampled Anderson Rubin (FAR) test are computed on the basis of 10,000 replications and using kappa=3. To save space other statistics are not reported. * $p<0.10$, ** $p<0.05$, *** $p<.01$.

Section 7 - Appendices

Appendix A

Variable definitions

Variable	Description
GDP	Log of 2010 GDP per capita in constant 2005 PPP-adjusted USD. *Sources:* Heston et al. (2012); World Bank World Development Indicators.
EFW	Average chain-link economic freedom of the world index score over quinquennial periods spanning 1985-2010. Country must have score 4/6 periods, otherwise treated as missing. 0-10 scale increasing in economic freedom. *Source:* Gwartney et al. (2014).
Social Infrastructure	An index that quantifies the wedge between private and social returns to productive activities. Computed as the average of two separate indices: (1) A government anti-diversion policy (GADP) index, based on data from the International Country Risk Guide; and (2) An index of openness, based on Sachs and Warner (1995), that represents the fraction of years in the time period 1950–1994 that the economy was open to trade with other countries. *Source:* Hall and Jones (1999).
Executive Constraint	Degree to which a nation's political executive is constrained. A seven-category score ranging from 1 to 7. Average annual score over each period 1985-2010. Transition scores (-66, -77, -88) treated as missing. *Source:* Marshall et al. (2013).
Observed Genetic Diversity (for the limited historical sample)	The average expected heterozygosity across ethnic groups from the HGDP-CEPH Human Genome Diversity Cell Line Panel that are located within a given country. *Source:* Ashraf and Galor (2013a).
Predicted genetic diversity (for the extended historical sample)	The expected heterozygosity (genetic diversity) of a given country as predicted by (the extended sample definition of) migratory distance from East Africa (i.e., Addis Ababa, Ethiopia). This measure is calculated by applying the regression coefficients obtained from regressing expected heterozygosity on migratory distance at the ethnic group level, using the worldwide sample of 53 ethnic groups from the HGDP-CEPH Human Genome Diversity Cell Line Panel. *Source:* Ashraf and Galor (2013a).

Settler Mortality Rate	Natural log of the mortality rates of European-born soldiers, sailors, and bishops when stationed in colonies. Measures effects of local diseases on people without inherited or acquired immunities. *Source:* Acemoglu et al. (2001).
Cognitive Skills	Average test score in math and science, primary through end of secondary school, all years. Scaled to PISA scale and divided by 100. *Source:* Hanushek and Woessmann (2012b).
Latitude	The absolute value of a country's latitude (distance from equator). Scaled to take values from 0-1, where 0 is equator. *Source:* La Porta et al. (1999).
Ethnolinguistic Fractionalization	Average value of 5 different indices of national ethnic and linguistic fractionalization. Values range from 0 to 1. *Source:* La Porta et al. (1999).
Agricultural History	The number of years elapsed, in 1500 AD, since the transition to agriculture was estimated to occur (in thousands of years). *Source:* Ang (2013).
State History	An index of state history covering the period from 1 AD to 1500 AD, scaled to take values between 0 and 1. *Source:* Ang (2013).
Technological Adoption	The average adoption rate of technology in 1500 AD. Covers the following sectors: agriculture, transportation, communications, industry and military. *Source:* Ang (2013).
Geographical Proximity to the Regional Frontier	Geographical distance is calculated using the 'Haversine' formula, which calculates the shortest distance between two points on the surface of a sphere based on their longitudes and latitudes. Geographical proximity to the regional frontier of a country from one of its two frontiers in the same continent is calculated as $1-(\frac{GeogDist_{i,RF}}{GeogDist_{max}})$,where $GeogDist_{i,RF}$ is the geographical distance between country *i* and its regional frontier *RF*, and $GeogDist_{max}$ is the maximum distance in the sample. The frontiers are identified based on their population density in 1500 AD. *Source:* Ang (2013).
Genetic Proximity to the Global Frontier	The degree of genetic similarities or historical relatedness for the population of a particular

	country relative to that of the technological frontier in 1500 AD, i.e., the UK. It is measured as $1 - \left(\frac{F_{STi,GF}}{F_{STmax}}\right)$, where $F_{STi,GF}$ is the fixation index reflecting the genetic distance between population of country *i* and population of the UK, and F_{STmax} is the largest genetic distance in the sample. Data on populations are matched to countries based on their ethnic composition as of 1500 AD. *Source:* Ang (2013).
Population Density in 1500	Ratio of total population to arable land in A.D. 1500. *Source:* Ang (2013).
Years of Education	Average educational attainment of population above age 25 in 1960. *Source*: Barro and Lee (2010).

APPENDIX B

This section provides alternative specifications, alternative identification strategies and alternative (larger) samples. We use years of education (from Robert Barro and Jong-Wha Lee 2013) in lieu of cognitive skills and early disease environment interacted with a colony dummy (from Raphael Auer 2013) in lieu of settler mortality rates. Results are qualitatively similar to those presented in the main section of the paper. This strategy, however, spans a greater number of countries. These results corroborate our main findings obtained despite a smaller sample but using the envisioned identification strategy.

TABLE 1B: FALSIFICATION TESTS – Institutional Measure is Dependent Variable

	Economic Freedom				Executive Constraint			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GenDiv	264.53***	215.64***	204.89***	197.25***	172.69**	45.27	-61.19	-71.57
	[60.07]	[55.67]	[56.59]	[51.26]	[67.70]	[89.13]	[114.05]	[118.60]
GenDiv^2	-198.18***	-164.96***	-155.93***	-148.59***	-137.75***	-43.25	39.12	44.10
	[43.81]	[41.36]	[42.04]	[38.35]	[50.09]	[67.15]	[86.56]	[90.79]
Cognitive Skills		0.52***	0.42**	0.42**		0.26	0.09	0.01
		[0.17]	[0.21]	[0.18]		[0.31]	[0.33]	[0.31]
Latitude		1.62**	1.22	1.21		5.43***	4.05**	3.18
		[0.74]	[0.82]	[0.88]		[1.43]	[1.85]	[1.92]
Fractionalization		0.14	0.05	-0.07		1.21	0.72	1.31
		[0.43]	[0.42]	[0.44]		[0.96]	[0.95]	[0.90]
Executive Constraint			0.14	0.15				
			[0.10]	[0.10]				
Baseline Colony Dummy				0.19				-1.16*
				[0.34]				[0.67]
Early Diesease Environment				0.11				0.14
				[0.21]				[0.42]
Interaction EDE× d_colony2				-0.30				-0.12
				[0.28]				[0.51]
EFW							0.41	0.45
							[0.30]	[0.29]
R^2, Adj.	0.19	0.50	0.51	0.514	0.15	0.34	0.35	0.367
N	121	66	63	63	151	64	63	63
GenDiv*	0.67	0.65	0.66	0.66				

Notes: ***p<0.01, **p<0.05, *p<0.1. Robust standard errors in brackets. Constant term omitted for space. See Appendix A for variable descriptions. GenDiv* is the level of genetic diversity that maximizes EFW.

TABLE 1C: FALSIFICATION TESTS – Institutional Measure is Dependent Variable

	Economic Freedom				Executive Constraint			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GenDiv	264.53***	173.96***	151.54***	143.70***	172.69**	36.95	16.26	9.88
	[60.07]	[48.52]	[47.77]	[41.18]	[67.70]	[53.30]	[59.59]	[59.85]
GenDiv^2	-198.18***	-130.06***	-113.10***	-105.97***	-137.75***	-35.22	-18.27	-15.37
	[43.81]	[35.78]	[35.39]	[30.38]	[50.09]	[39.64]	[44.58]	[44.79]
Years of Schooling		0.21***	0.18***	0.17***		0.35***	0.25***	0.25***
		[0.04]	[0.04]	[0.04]		[0.06]	[0.08]	[0.08]
Latitude		0.70	0.44	0.21		3.47***	2.82***	2.59**
		[0.63]	[0.67]	[0.85]		[0.93]	[1.04]	[1.15]
Fractionalization		0.08	0.10	0.10		0.87*	0.34	0.47
		[0.27]	[0.27]	[0.28]		[0.48]	[0.50]	[0.50]
Executive Constraint			0.10	0.11				
			[0.07]	[0.07]				
Baseline Colony Dummy				0.18				-0.51
				[0.26]				[0.46]
Early Diesease Environment				-0.07				0.06
				[0.18]				[0.36]
Interaction EDE× d_colony2				-0.15				0.14
				[0.22]				[0.40]
EFW							0.25	0.29
							[0.20]	[0.20]
R^2, Adj.	0.193	0.549	0.561	0.562	0.149	0.628	0.616	0.614
N	121	103	97	97	151	110	97	97
GenDiv*	0.67	0.67	0.67	0.66				

Notes: ***p<0.01, **p<0.05, *p<0.1. Robust standard errors in brackets. Constant term omitted for space. See Appendix A for variable descriptions. GenDiv* is the level of genetic diversity that maximizes EFW.

TABLE 2B: REDUCED FORM ESTIMATES - PWT Income per Capita is Dependent Variable

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GenDiv	254.34***		18.25		21.97		3.33
	[63.10]		[54.18]		[48.81]		[47.76]
GenDiv^2	-191.78***		-14.44		-17.72		-1.77
	[46.85]		[40.33]		[36.82]		[35.56]
Auer 2013 - Baseline Colony Dummy		-0.77***		-0.73***		-0.12	-0.14
		[0.22]		[0.22]		[0.21]	[0.23]
Early Diesease Environment		-0.22		-0.09		-0.19*	-0.18*
		[0.16]		[0.15]		[0.11]	[0.10]
Interaction EDE× d_colony2		-0.77***		-0.65***		-0.28	-0.14
		[0.20]		[0.21]		[0.18]	[0.16]
EFW			1.03***		0.51***		0.39***
			[0.09]		[0.11]		[0.11]
Executive Constraint				0.20***		0.25***	0.20***
				[0.06]		[0.07]	[0.06]
Cognitive Skills					0.30**	0.54***	0.29**
					[0.14]	[0.14]	[0.13]
Latitude					1.07**	-0.42	-0.56
					[0.48]	[0.69]	[0.63]
Fractionalization					-0.97**	-0.81**	-0.93***
					[0.38]	[0.31]	[0.29]
R^2, Adj.	0.115	0.467	0.601	0.511	0.756	0.743	0.815
N	140	132	121	131	66	63	63

TABLE 2C: REDUCED FORM ESTIMATES - PWT Income per Capita is Dependent Variable

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GenDiv	254.34***		18.25		40.77		21.35
	[63.10]		[54.18]		[35.12]		[37.99]
GenDiv^2	-191.78***		-14.44		-31.18		-15.52
	[46.85]		[40.33]		[26.31]		[28.30]
Auer 2013 - Baseline Colony Dummy		-0.77***		-0.73***		-0.32	-0.29
		[0.22]		[0.22]		[0.23]	[0.27]
Early Diesease Environment		-0.22		-0.09		-0.31***	-0.21*
		[0.16]		[0.15]		[0.11]	[0.12]
Interaction EDE× d_colony2		-0.77***		-0.65***		-0.11	-0.14
		[0.20]		[0.21]		[0.18]	[0.18]
EFW			1.03***		0.55***		0.48***
			[0.09]		[0.10]		[0.12]
Executive Constraint				0.20***		0.19**	0.14**
				[0.06]		[0.07]	[0.06]
Years of Schooling					0.14***	0.19***	0.09**
					[0.04]	[0.04]	[0.04]
Latitude					1.04*	-0.34	-0.27
					[0.58]	[0.76]	[0.68]
Fractionalization					-1.03***	-0.59**	-0.75**
					[0.30]	[0.29]	[0.33]
R^2, Adj.	0.115	0.467	0.601	0.511	0.783	0.728	0.797
N	140	132	121	131	103	103	97

Notes: ***p<0.01, **p<0.05, *p<0.1. In odd columns, two-step bootstrapped standard errors in brackets. In even columns, one-step bootstrapped standard errors in brackets. All bootstraps based on 1,000 replications. Constant term omitted for space. See Appendix A for variable descriptions.

TABLE 3B: MAIN RESULTS. HORSE RACES WITH ALTERNATIVE IDENTIFICATION STRATEGY.

Panel A: 2nd Stage Results - PWT Income per Capita is Dependent Variable

	(1) OLS	(2) 2sls	(3) liml	(4) fuller(1)	(5) cue
EFW	0.406***	0.471**	0.476**	0.468**	0.527***
	[0.102]	[0.194]	[0.206]	[0.188]	[0.190]
Executive Constraint	0.186***	0.136	0.132	0.138	0.118
	[0.058]	[0.111]	[0.118]	[0.107]	[0.113]
Congnitive Skills	0.306**	0.269	0.265	0.270*	0.227
	[0.119]	[0.166]	[0.172]	[0.164]	[0.164]
Fractionalization	-0.899***	-0.890***	-0.890***	-0.891***	-0.881***
	[0.269]	[0.253]	[0.254]	[0.253]	[0.255]
Latitude	-0.438	-0.345	-0.338	-0.348	-0.242
	[0.514]	[0.463]	[0.467]	[0.462]	[0.428]
Baseline Colony Dummy	-0.116	-0.148	-0.150	-0.146	-0.129
	[0.162]	[0.192]	[0.197]	[0.190]	[0.191]
Early Diesease Environment	-0.240***	-0.235***	-0.234***	-0.235***	-0.229***
	[0.069]	[0.069]	[0.069]	[0.069]	[0.065]
Constant	4.662***	4.670***	4.670***	4.670***	4.523***
	[0.526]	[0.570]	[0.585]	[0.563]	[0.533]
R^2	0.842				
R^2, Adj.	0.822				
Observations	63	63	63	63	63
p(OID)		0.452	0.454	0.451	0.464
p(UID)		0.017	0.017	0.017	0.017
F(WID_Kleibergen_Paap)		4.176	4.176	4.176	4.176
F(Anderson-Rubin)		2.165	2.165	2.165	2.165
p(Anderson-Rubin)		0.103	0.103	0.103	0.103
χ^2(Anderson-Rubin)		7.578	7.578	7.578	7.578
p(χ^2, Anderson-Rubin)		0.056	0.056	0.056	0.056
S(Stock-Wright)		6.045	6.045	6.045	6.045
p(Stock-Wright)		0.109	0.109	0.109	0.109

Robust standard errors in brackets. * p<0.10, ** p<0.05, *** p<.01

Panel B: 1st Stage Results – Institutional Measure is Dependent Variable

	(1) efw_8510b	(2) xcon_8510
Cognitive Skills	0.453***	0.215
	[0.160]	[0.279]
Fractionalization	0.141	1.375
	[0.435]	[0.918]
Latitude	1.816*	3.987**
	[0.927]	[1.526]
Auer 2013 - Baseline Colony Dummy	0.015	-1.156*
	[0.289]	[0.667]
Auer 2013 - Early Diesease Environment	0.146	0.207
	[0.272]	[0.527]
GenDiv	199.925***	17.515
	[50.673]	[84.318]
$GenDiv^2$	-152.221***	-23.726
	[38.103]	[64.332]
Interaction EDE× d_colony2	-0.338	-0.271
	[0.305]	[0.607]
Constant	-60.936***	3.185
	[16.553]	[27.572]
Observations	63	63
F(excludedIVs)	8.047	3.780
F(Angrist-Pischke)	8.476	5.218
Chi2(Angrist-Pischke)	19.778	12.175
pF(excludedIVs)	0.000	0.016
pF(Angrist-Pischke)	0.001	0.008
pChi2(Angrist-Pischke)	0.000	0.002

Robust standard errors in brackets. * p<0.10, ** p<0.05, *** p<.01

TABLE 3C: MAIN RESULTS. HORSE RACES WITH ALTERNATIVE IDENTIFICATION STRATEGY.

Panel A: 2nd Stage Results - PWT Income per Capita is Dependent Variable

Using **Years of Schooling** instead of Cognitive Skills as measure of Human Capital

	(1) OLS	(2) 2sls	(3) liml	(4) fuller(1)	(5) cue
EFW	0.499***	0.661***	0.666***	0.651***	0.679***
	[0.111]	[0.233]	[0.239]	[0.220]	[0.233]
Executive Constraint	0.135**	0.100	0.099	0.102	0.107
	[0.062]	[0.164]	[0.167]	[0.157]	[0.163]
Years of Schooling	0.084**	0.062	0.061	0.063	0.059
	[0.041]	[0.083]	[0.085]	[0.081]	[0.083]
Fractionalization	-0.746***	-0.788***	-0.789***	-0.785***	-0.803***
	[0.271]	[0.273]	[0.274]	[0.272]	[0.272]
Latitude	-0.213	-0.232	-0.233	-0.231	-0.234
	[0.585]	[0.546]	[0.547]	[0.544]	[0.548]
Baseline Colony Dummy	-0.257	-0.276	-0.277	-0.275	-0.251
	[0.194]	[0.199]	[0.200]	[0.198]	[0.196]
Early Diesease Environment	-0.305***	-0.269***	-0.268***	-0.271***	-0.249***
	[0.094]	[0.100]	[0.101]	[0.099]	[0.096]
Constant	5.180***	4.459***	4.439***	4.502***	4.302***
	[0.597]	[1.290]	[1.318]	[1.232]	[1.284]
R2	0.817				
R2_a	0.803				
Observations	97	97	97	97	97
p(OID)		0.542	0.543	0.540	0.544
p(UID)		0.033	0.033	0.033	0.033
F(WID_Kleibergen_Paap)		3.206	3.206	3.206	3.206
F(Anderson-Rubin)		2.676	2.676	2.676	2.676
p(Anderson-Rubin)		0.052	0.052	0.052	0.052
χ^2(Anderson-Rubin)		8.850	8.850	8.850	8.850
p(χ^2, Anderson-Rubin)		0.031	0.031	0.031	0.031
S(Stock-Wright)		6.955	6.955	6.955	6.955
p(Stock-Wright)		0.073	0.073	0.073	0.073

Robust standard errors in brackets. * p<0.10, ** p<0.05, *** p<.01

Panel B: 1st Stage Results – Institutional Measure is the Dependent Variable

	(1)	(2)
	efw_8510b	xcon_8510
Years of Schooling	0.208***	0.306***
	[0.039]	[0.072]
Fractionalization	0.158	0.517
	[0.272]	[0.482]
Latitude	0.520	2.742**
	[0.840]	[1.044]
Auer 2013 - Baseline Colony Dummy	0.125	-0.470
	[0.256]	[0.467]
Auer 2013 - Early Diesease Environment	-0.070	0.042
	[0.199]	[0.386]
GenDiv	149.736***	53.127
	[39.974]	[55.520]
$GenDiv^2$	-111.367***	-47.535
	[29.457]	[41.350]
Interaction EDE× d_colony2	-0.138	0.104
	[0.229]	[0.409]
Constant	-44.561***	-10.189
	[13.437]	[18.677]
Observations	97	97
F(excludedIVs)	5.782	6.970
F(Angrist-Pischke)	6.318	9.018
Chi2(Angrist-Pischke)	13.929	19.881
pF(excludedIVs)	0.001	0.000
pF(Angrist-Pischke)	0.003	0.000
pChi2(Angrist-Pischke)	0.001	0.000

Robust standard errors in brackets. * p<0.10, ** p<0.05, *** p<.01

TABLE 3D: MAIN RESULTS. HORSE RACES WITH ALTERNATIVE IDENTIFICATION STRATEGY.

Panel A: 2nd Stage Results – **World Bank WDI** Income per Capita is the Dependent Variable
Using Years of Schooling instead of Cognitive Skills as measure of Human Capital

	(1) OLS	(2) 2sls	(3) liml	(4) fuller(1)	(5) cue
EFW	0.415***	0.581**	0.595**	0.573**	0.616**
	[0.116]	[0.257]	[0.275]	[0.246]	[0.256]
Executive Constraint	0.114*	-0.074	-0.084	-0.068	-0.070
	[0.067]	[0.177]	[0.186]	[0.172]	[0.177]
Years of Schooling	0.091*	0.126	0.127	0.126	0.117
	[0.046]	[0.101]	[0.105]	[0.098]	[0.101]
Fractionalization	-0.685**	-0.746**	-0.750**	-0.743**	-0.803***
	[0.293]	[0.310]	[0.312]	[0.308]	[0.309]
Latitude	0.001	0.157	0.162	0.153	0.201
	[0.622]	[0.611]	[0.618]	[0.607]	[0.607]
Baseline Colony Dummy	-0.203	-0.201	-0.202	-0.201	-0.148
	[0.207]	[0.215]	[0.217]	[0.214]	[0.207]
Early Diesease Environment	-0.301***	-0.298***	-0.297***	-0.299***	-0.266***
	[0.094]	[0.104]	[0.107]	[0.102]	[0.098]
Constant	5.738***	5.534***	5.498***	5.555***	5.292***
	[0.625]	[1.533]	[1.623]	[1.479]	[1.537]
R^2	0.784				
R^2, Adj.	0.766				
Observations	94	94	94	94	94
p(OID)		0.350	0.355	0.347	0.344
p(UID)		0.034	0.034	0.034	0.034
F(WID_Kleibergen_Paap)		2.552	2.552	2.552	2.552
F(Anderson-Rubin)		1.182	1.182	1.182	1.182
p(Anderson-Rubin)		0.322	0.322	0.322	0.322
χ^2(Anderson-Rubin)		3.921	3.921	3.921	3.921
p(χ^2, Anderson-Rubin)		0.270	0.270	0.270	0.270
S(Stock-Wright)		3.323	3.323	3.323	3.323
p(Stock-Wright)		0.344	0.344	0.344	0.344

Robust standard errors in brackets. * p<0.10, ** p<0.05, *** p<.01

Panel B: 1st Stage Results – Institutional Measure is Dependent Variable

	(1) efw_8510b	(2) xcon_8510
Years of Schooling	0.210***	0.308***
	[0.038]	[0.072]
Fractionalization	0.192	0.652
	[0.277]	[0.481]
Latitude	0.694	3.033***
	[0.893]	[1.034]
Auer 2013 - Baseline Colony Dummy	0.179	-0.429

	[0.255]	[0.471]
Auer 2013 - Early Diesease Environment	-0.065	0.040
	[0.196]	[0.380]
GenDiv	134.148***	18.827
	[42.712]	[54.002]
$GenDiv^2$	-99.868***	-22.271
	[31.311]	[40.293]
Interaction EDE× d_colony2	-0.121	0.109
	[0.232]	[0.402]
Constant	-39.413***	1.210
	[14.398]	[18.149]
Observations	94	94
F(excludedIVs)	4.484	6.871
F(Angrist-Pischke)	4.792	9.855
Chi2(Angrist-Pischke)	10.600	21.796
pF(excludedIVs)	0.006	0.000
pF(Angrist-Pischke)	0.011	0.000
pChi2(Angrist-Pischke)	0.005	0.000

Robust standard errors in brackets. * p<0.10, ** p<0.05, *** p<.01