The Institutional and Economic Legacy of Democratic Colonizers

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Abstract

Scholars agree that colonialism was important for current differences in political regime types and economic well-being. How colonialism shaped country trajectories, however, remains controversial. Most researchers emphasize the geography and the indigenous societies of the colonies. Others instead stress that the colonizers were important. Yet this research struggles with imprecise measures, disregards that the colonizers effect might have varied across colonies, and is limited by the study of few cases. I therefore directly measure a colonizer's political institutions and perform a quantitative analysis of a global sample of former colonies. I test if democratic colonizer institutions affected democracy and economic well-being today, and if pre-colonial state development and European settlements conditioned the effect. I find that countries with more democratic colonizers are more democratic, but not wealthier today. Democratic colonizers were not more beneficial if the indigenous state was weak before colonialism or if many European settled in the colony.

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Scholars agree that current differences in political regime types and economic well-being are the result of history: long historical processes and events influenced why some countries became democratic and wealthy, while others remained autocratic and poor (Nunn 2009). They also concur that the most important event was Western colonialism (Nunn 2014). How colonialism shaped country trajectories, however, remains controversial. Most researchers emphasize that what mattered for colonial rule were the conditions in the colonies, such as differences in climate, geography, and factor endowments. Other scholars instead stress that the characteristics of the colonizers were important for colonial rule. They argue that colonizers brought their institutions with them, and that differences in the political institutions across colonizers and time, and the duration of colonial rule exert legacies until today.

Several shortcomings, however, afflict previous studies on the role of the colonizers in shaping the trajectories of their colonies. First, the quantitative studies use imprecise measures to capture the colonizers' political institutions. The measures, such as a variable indicating the colonial power of a country, neglect crucial variation in political institutions. In turn, they risk being a proxy for other factors and thereby make empirical associations spurious. Second, the quantitative studies do not consider that the effect of the colonizer's political institutions on current outcomes may vary across colonies. They treat colony and colonizer characteristics as separate explanations, instead of treating them as interrelated explanations. Third, the qualitative analyses which employ more precise measures and explore heterogeneous effects of colonizer institutions are limited by their scope. They explore few cases and few alternative explanations, which raises concerns that their explanations do not generalize to colonies overall.

This paper revisits the question to which extent differences in the colonizers' domestic political institutions explain variation in the current political institutions and economic well-being of former colonies. In doing so, I suggest remedies for the issues afflicting previous research.

First, I directly and precisely measure a colonizer's political institutions. The measure captures variation in political institutions both between colonizers and within them over time. Second, I empirically investigate if the effect of colonizer institutions is conditioned by other characteristics of the colonies and the colonizers. I thereby explore if the current explanations are not separate, but intertwined. Third, I perform a quantitative analysis of a large sample of former European overseas colonies, thus tackling concerns of a limited scope in existing research.

My interventions in the existing literature motivate several hypotheses. I hypothesize that former colonies are more democratic and wealthy today if they had colonizers with more democratic domestic institutions. The former colonies are more democratic because the colonizers transferred, at least partially, their own institutions to the colonies. And the former colonies should be wealthier because the differences in institutions affected the countries' economic development. I further hypothesize that the effect of colonizer political institutions depends on characteristics of the colonies: the effect of democratic institutions should be stronger for countries with less developed pre-colonial states and stronger for countries which had more European settlers during colonialism.

In the following section, I motivate my analysis with a discussion of the existing literature on the effects of colonial rule and present my argument. In the third section, I detail the measures for my variables of interest. In the fourth and fifth section, I investigate the empirical association between colonizer institutions, current political regime types, and economic well-being. I test the robustness of the findings by controlling for numerous alternative explanations. In the sixth and seventh section, I explore whether the colonizer institutions have diverging effects across former colonies. Specifically, I investigate whether the effect varies depending on the existence of pre-colonial state and the number of European settlers during colonialism. In the final section, I discuss the findings and suggest avenues for future research.

Colonial rule and its effect on current democracy and income levels

Many scholars have turned to exploring how current differences in political regime types and economic well-being around the globe are the result of distant historical events and processes (Nunn 2009). They have identified European colonialism as particularly important (Nunn 2014). Researchers, however, disagree on how colonialism brought about contemporary differences. Most researchers have investigated how the conditions in the colonies affected differences in colonial rule. Some of them have emphasized variation in climate or geography. Acemoglu et al. (2001), for example, use the disease environment for European settlers to explain contemporary differences in economic institutions and thereby income levels. And Engerman and Sokoloff (1997; 2002; 2011) connect the endowment with agricultural resources, such as the ability to grow wheat and sugarcane, to contemporary political institutions and income levels through economic inequality during colonialism. Other work has focused on differences in colonized societies. Acemoglu et al. (2002), for instance, argue that wealthier pre-colonial societies incentivized the colonial powers to adopt extractive political and economic institutions, which made the societies relatively poorer over time.

Other researchers have instead focused on characteristics of the colonizers. A first group argues that the colonizers brought their institutions with them and thereby shaped colonial rule. Hariri (2012), for example, argues that the European colonizers made their colonies more democratic by bringing their political institutions and ideas with them. Olsson (2009) hypothesizes that countries colonized longer are more democratic today because the transfer of European institutions was more expansive. Feyrer and Sacerdote (2009) contend that longer colonial rule raised economic well-being because the transfer of growth-promoting political institutions was more thorough.

A second group of scholars agrees that the colonizers transferred their institutions, but argue that the institutions differed between the colonial powers. The researchers contend that British political and economic institutions were more conducive of economic development than the institutions of other colonial powers. North et al. (2000), for example, argue that the interests of Spain and Britain diverged due to their different political and economic institutions (see also Grier 1999; Lange et al. 2006). The absolutist Spanish crown traded economic privileges, such as monopolies and trade restrictions, against political support. It was therefore interested in short-term extraction. The nascent representative institutions of the British Crown, however, promoted impersonal rights, free trade, and strived for long-term investment. The institutions installed in the colonies now mirrored the domestic political systems. The Spanish ruled their colonies centrally and restricted free trade. The British established representative legislatures in the colonies and allowed them to trade freely. Olsson's (2009) and Feyrer and Sacerdote's (2009) secondary findings that the beneficial effects of colonial duration on democracy and income levels was more pronounced for British colonial possessions relative to other colonizer's colonies corroborates the claims.

A third group of scholars emphasizes that a colonizer's domestic institutions also varied across time, which affected colonialism. Mahoney (2010), for instance, contends that being a central colony of the Spanish empire later in time, when Spain had more pluralistic political institutions, was more beneficial for post-colonial economic development. Olsson's (2009) and Feyrer and Sacerdote's (2009) again support the arguments: they find that being a colony later in time is more strongly associated with current democratic institutions and economic well-being.

Although all three groups of scholars contend that colonizers mattered for variation in colonial rule and its legacies, other researchers, especially those emphasizing the conditions in the colonies, have remained critical. Acemoglu et al. (2001) state that "it is not the identity of the

colonizer […] that matters". Acemoglu and Robinson (2012) posit that all colonizers had the same interest in exploitation and – had the conditions in the colonies had been identical – they would have behaved in the same way (see also Robinson and Sokoloff 2003). They discuss the behavior of British settlers in North America, who tried and failed to exploit the indigenous population and then other settlers before adopting a more inclusive development strategy.

Beyond these accounts of individual countries, I see several broader shortcomings in the research on the effects of colonizers on development. The research struggles to test the theoretical arguments due to imprecise measures. The studies neglect that colonizer institutions may have different effects across colonies, depending on other characteristics of the colony or the colonizer. And the previous qualitative analyses are limited in their scope. I therefore devise a more precise measure of colonizer institutions to directly test the theoretical argument, I consider heterogeneous effects across countries, and perform a quantitative analysis of a large number of former colonies.

The first problem is that most of the work fails to properly test the theoretical argument. The empirical investigations are based on imprecise measures which neglect crucial variation and risk being proxies for other factors. The studies that use colonial duration as their explanatory factor effectively presume that there existed no consequential differences in the political institutions of the colonizers. The most common measure, colonizer identity, acknowledges differences between colonial powers, but discards any variation within colonizers over time. The imprecise measures also risk that they proxy for other attributes of the colonizers. La Porta et al. (1997; 1998; 2008), for example, contend that the legal institutions of the colonizer influenced the development of the colonies. Their measure for legal institutions, however, is strongly correlated with colonizer identity. Colonizer identity might therefore pick up differences in legal and not political institutions. It may also capture time-invariant cultures: Landes (1998) sees the

diverging successes of colonizers as the result of different sets of beliefs, such as religion. Glaeser et al. (2004) question the importance of institutions altogether, and contend that European settlement spurred economic development through an influx of human capital. And Ashraf and Galor (2013) see European settlement spurring growth because it increased genetic diversity in the colonized territories. Easterly and Levine (2016) indeed document that former colonies with larger European settlements are wealthier today. If colonizer identity were correlated with the number of European settlers, it might proxy for diverging influxes of human capital or genetic diversity instead of differences in political institutions. To tackle this problem, I use a direct and more precise measure for the political institutions of the colonizers. The measure captures variation both between colonial powers and within colonial powers across time. The measure thus allows me to differentiate better between political institutions and alternative factors as an explanation for differences in current democracy and income levels.

The second problem is that the scholars mostly presume that the conditions in the colonies and the characteristics of the colonizers have separate, instead of interrelated effects on the form of colonial rule. A focus on linear relationships and average effects may disregard that the effect of colonizers depends on the geography and societies of colonized areas, and vice versa. Hariri (2012) constitutes one of the few exceptions: he argues that former colonies with a longer history of statehood before colonialism are more autocratic today because statehood limited the transfer of European institutions. The first problem of imprecise measures, however, afflicts his analysis: he only measures the history of statehood, but not the institutions being transferred. The other exceptions are qualitative analyses. Mahoney (2010) shows how the transfer of the colonizer's domestic institutions depended on the endowments of the colony, such as exploitable resources. In the same vein, Lange et al. (2006) argue that colonizer's institutions interacted with the complexity of indigenous societies to shape the political and economic development of the

colonies. If the interrelations between colony and colonizer characteristics are neglected, the estimated models in quantitative analyses are possibly incorrectly specified. I therefore investigate if the effect of colonizer institutions varies across colonies. I specifically analyze whether indigenous traditions of statehood and the number of European settlers conditioned the effect of colonizer institutions on current political regime types and economic well-being. I thus explore whether the explanatory factors of conditions in the colonies and characteristics of the colonizers are alternative explanations, as oftentimes presumed, or rather interrelated explanations.

The third problem is that the qualitative analyses, which have more valid measures and consider differing effects of the institutional transfer, are limited by their scope and their consideration of alternative explanations. Mahoney (2010), for example, analyzes the fifteen mainland cases of Spanish America. The focus on Latin America risks that the findings do not generalize to the universe of former European overseas colonies. And Lange et al. (2006) investigate all British and Spanish colonies, but only briefly consider alternative explanations. I move past these limitations by investigating a large sample of former European overseas colonies. This alleviates concerns that previous findings are driven by regional particularities. And I consider several potential confounding factors which decreases concerns that the correlations are spurious.

Measures for colonizer institutions, current democracy and current wealth

My units of analysis are a large sample of contemporary sovereign countries which used to be overseas European colonies. I refrain from using non-colonies, such as Thailand, non-European colonizers such as Japan, and former non-overseas colonies, such as Ireland, to keep the sample homogenous. I exclude non-colonies because I am interested in the effect of different

experiences with colonialism instead of its overall effect. I disregard former colonies of non-European colonizers, because my empirical measures for colonizer institutions might not capture the stark differences between European and non-European colonizers. And I omit non-overseas colonies because the dynamics of occupation are likely different, with questions of citizenship due to similar histories becoming more urgent.

I use Gleditsch and Ward's (1999; 2013) lists of independent countries and microstates to identify currently sovereign countries. My primary source to determine former colonies is Olsson (2009). I alternatively use data from Ertan et al. (2016). Ertan et al.'s sample of 91 countries is smaller than Olsson's with 122 countries. This is because they mandate that the colonizer control at least 20% of the country's inhabitable territory for the country to have been a colony, while Olsson does not impose such a threshold. Ertan et al.'s sample thus provides a useful robustness check for Olsson's data, which may overestimate the effect of the colonizers on country trajectories if the colonial power's presence was limited.

Before I can determine the colonizer's political institutions for each former colony, I first have to determine the colonizer(s) for each country and the start and end dates of their rule. Olsson (2009) denotes the first and last colonizer as well as the onset of colonial rule and independence. He does not capture, however, countries that had more than two colonial powers, and the years in which the colonial power changed. Ertan et al. (2016) record the first colonial power and the beginning of colonialism, but do not document changes in colonizers and their timing. I therefore use three additional sources to create a comprehensive dataset that documents the start and end year of all colonial powers which ruled a country. Wimmer and Min (2006) provide yearly data beginning in 1816 on which colonizer controlled a country, which allows me to code when colonies changed hands. For the colonies that changed hands before 1816, I rely on

the GeoDist database (Mayer and Zignago 2011) to identify colonial powers, and I draw on Encyclopedia Britannica's country histories to code when the change occurred.

I then combine the information on colonial powers and their tenures for each country with data on the domestic political institutions of the colonizers. I capture the colonizer's domestic political institutions with data on the extent of constraints on the chief executive. The primary source for the data on executive constraints is the Polity IV project (Marshall and Gurr 2016). The measure denotes to which extent limits on the decision-making power of the chief executives are institutionalized (Marshall et al. 2016). The seven-fold measure ranges from unlimited authority of the chief executives (score of 1), to moderate limitations on its authority (score of 3), to substantial limitations (score of 5), to subordination of the chief executive or parity with its accountability group (score of 7). I consider a colonizer to be more democratic if it has more checks and balances on the chief executive. This is in line with Polity's own measure of democracy, which treats executive constraints as an additive component of its overall democracy index.

The dataset, however, measures political institutions only after the year 1800, when many countries had already been colonized. As a secondary source, I therefore draw on Acemoglu et al. (2005b), who measure executive constraints for European countries for the years 1500, 1600, 1700, 1750 and 1800. I create an annual series from the year 1461, when Portugal colonized Cape Verde, to the year 1994, when Palau gained independence from the United States. I generate an annual measure of executive constraints measure by filling the missing values before 1500 with the value in 1500, and filling the missing values between 1500 and 1800 with a linear trend between existing values.

Figure 1 graphs the constraints on the executive for the European colonial powers across time. I include each colonial power beginning with 1500 or its first colonization up until the last

colonial possession gained independence, based on Olsson's (2009) sample of former colonies. The graph shows that the political institutions between the colonial powers differed substantially. Britain's executive, for example, was continuously more constrained then the executives of Spain and Portugal until the mid-19th century. This casts doubt on the assumption that the colonial powers transferred the same political institutions to the colonies. The graph also shows that the political institutions for the majority of colonizers changed while they were a colonial power. The chief executive in the Netherlands, for instance, was relatively constrained from the 16th until the early 19th century, when its executive constraints weakened, only to strengthen again over the course of the century. This questions the assumption that the same colonial power transferred the same political institutions over time.

[Figure 1 about here]

I then map the data on the political institutions of the colonizers onto their colonies. I record the colonizer's domestic political institutions for each year that a country is under colonial rule using Olsson's (2009) and Ertan et al.'s (2016) data, respectively. I then recode the executive constraints measure to a 0-6 scale instead of the original 1-7 scale. I also recode colonizer years of interruption (score -66), of interregnum (score -77), and of transition (score -88) to the value 0. In the next step I calculate the unweighted sum of values for executive constraints across all years of colonial rule. Finally, I divide the sum by 100[2]. The structure of the variable overall follows the coding of various stock measures in the literature, such as Gerring et al. (2005), whose analogous measure indicated a country's own past experience with democratic institutions. I recode the executive constraints measure to reflect that only some degree of constraints should

[2] Tonga, for example, was a British protectorate from 1900 to 1970. The British polity for all these years receives the maximum value of 6 for its executive constraints in the Polity IV-dataset. The value of the independent variable therefore is 71 (years) * 6 (executive constraints value) / 100 = 4.26.

have exerted a positive effect on institutional and economic development. North et al. (2000) argue that the British political institutions of the 16th century were beneficial to development in the colonies, while Spanish institutions at the time were not. I therefore use the executive constraints value of the British in the 16th century of 2 as a benchmark. The revised 0 to 6 scale means that a colonial power with an unconstrained executive receives the value of 0 and is disregarded when calculating the sum over time, and thus treated the same as a year without a colonial power. Interruption, interregnum and transition phases are likewise considered to have had no influence on institutional development in the colonies. I do not expect that the colonizer transfered any political institutions when it is itself occupied by a foreign power, if its central authority temporarily collapses, or its own institutions are in flux. Finally, I divide the summed up values by 100 to make the interpretation of the regression results easier.

Before moving on to the measures for my dependent variables, I give some summary statistics for my colonizer institutions variable. For Olsson's sample the mean is 5.50, which comes close to the score for Zambia. The variable's standard deviation is 4.53. For the Ertan et al. (2016) sample the mean is 3.82, which about matches the score for Vietnam. The variable's standard deviation is 3.55. The mean in the Ertan et al. sample is lower because the territorial threshold for counting colonies mentioned above tends to shorten the duration of colonial rule. The two variables, however, have the same range: the variables share the minimum value of 0, which for example Colombia receives, as its colonizer Spain had no constraints on the executive during its colonial rule. The variables also share the maximum value of 18.65, which Guyana receives due to its almost four centuries of colonial rule, split almost evenly over the Netherlands and Britain.

I capture my first dependent variable, democratic institutions, with the polity index of the Polity IV project (Marshall and Gurr 2016). The polity index combines information on executive

constraints with information on political competition and executive recruitment. I use 2014 data as my dependent variable, the most recent year available. I perform, however, robustness checks with the index of liberal democracy of the Varieties of Democracy project (Coppedge et al. 2016). The continuous index combines information on electoral democracy, such as suffrage, clean elections and freedom of association, with information on the equality before the law, judicial constraints on the executive, and legislative constraints on the executive. I do not use the project's electoral democracy index because my independent variable captures differences between colonial powers on the liberal dimension of democracy, which includes constraints on the executive. I use data from the year 2012, the most recent year for which the dataset provides comprehensive global data. I capture my second dependent variable, a country's level of economic development, with logged GDP per capita data from the Penn World Tables, version 9.0 (Feenstra et al. 2015). I use expenditure-side real GDP at current power purchasing parities to capture and compare the living standards across countries. I employ data for the year 2014, the most recent year for which information is available.

Empirical association between colonizer institutions and current democracy

Before exploring the empirical association between colonizer institutions and current outcomes, I summarize the theoretical arguments and the hypotheses I derive from them. Previos research argues that the European colonial powers at least partially transferred their political institutions to their colonies. Colonies with more democratic colonizer thus received more democratic institutions, while colonies with less democratic institutions received more autocratic institutions. The differences in colonial institutions persisted over time, with former colonies of democratic colonizers being more democratic today than former colonies of non-democratic colonizers. The arguments can be summed up in the following testable hypothesis:

H1a: Countries with a more democratic colonizer are more democratic today.

I use ordinary least squares (OLS)-regressions with robust standard errors based on equation (1) to test hypothesis H1a:

$$D_i = \beta_0 + \beta_1 P_i + \boldsymbol{\beta X_i} + \varepsilon_i \qquad (1)$$

D_i is democracy in country i, P_i is the colonizer's political institutions for country i, and $\boldsymbol{X_i}$ is a vector of control variables. The coefficient of interest is β_1, which measures the association between colonizer institutions and current democracy levels. Based on hypothesis H1a, I expect β_1 to be positive. I include a vector of control variables because the colonized territories likely did not receive colonizers and their institutions at random. It could be that the association between democratic colonizers and current outcomes in former colonies is spurious because third factors are correlated with both. Such factors encompass the characteristics of the colonized areas and societies, but also other characteristics of the colonizers. Before I present the results of the regression analyses, I therefore discuss such potential confounders.

One characteristic affecting colonizer institutions and current levels of democracy could be pre-colonial differences in development. Acemoglu et al. (2002) contend that colonizers erected more exclusive political institutions in wealthier pre-colonial areas, because they wanted to extract their wealth. Lange et al. (2006) now suggest that pre-colonial development and the colonizer institutions a colony received may also be linked. They argue that Spain preferred colonizing more developed indigenous societies, because its mercantilist institutions favored the extraction of such wealthier territories. Britain meanwhile preferred colonizing less complex indigenous societies, because it made transferring its liberal institutions easier.

Even if more democratic colonizers did not colonize poorer areas on purpose, they may have done so because poorer areas were colonized later in time. Ertan et al. (2016) find that the

Europeans colonized societies later in time when these were more developed at the onset of the colonial era. Hariri (2012) gives a potential explanation: he argues that the development of state structures before colonialism allowed the territories to fend off colonial rule. Colonial rule therefore was shorter, and its effects on institutions less beneficial. At the same time, Figure 1 showed that the colonial powers were more democratic later in time. The institutions transferred then may have been more conducive of democratic development than the institutions transferred earlier.

I control for differences in pre-colonial development with two measures. On the one hand, I use data from Nunn and Puga (2012), who gather information on population densities in the year 1400. They are a reasonable proxy for historical economic well-being (Acemoglu et al. 2002). I therefore account for the potentially confounding impact of early economic development. On the other hand, I use data from Hariri (2012), who draws on data from Bockstette and Putterman (2007) to measure state development up to the year 1500. I thereby control for the possible effect that early state development had on which colonizer institutions a country received and which institutions it developed.

Another possible confounder is the colonized territory's disease environment for European settlers. Acemoglu et al. (2001) connect the disease environment for European settlers in a colonized area to differences in current institutions and income levels. But the disease environment could also have affected the colonizer institutions a colony received. The Europeans may have held off on formally colonizing a territory if its disease environment meant that many European would die. Only starting in the 19th century became the use of quinine to treat malaria widespread, and formal colonization without many European casualties possible. Ertan et al. (2016) indeed find that Europeans colonized areas later in time if they had more deadly disease environments. I control for the disease environment for European settlers two-fold. I primarily

use Auer's (2013) measure of the early disease environment. He derives his estimates by correlating Acemoglu et al.'s (2001) settler mortality rates with geographic characteristics that determine the prevalence of malaria. I use Auer's indirect measure because the data is available for more countries. I also use, however, Acemoglu et al.'s (2001; 2014) direct measure for European settler mortality in some robustness tests.

Another characteristic of a colonized area that could confound the association of colonizer institutions and current democracy levels is the area's endowment with agricultural resources. Engerman and Sokoloff (1997; 2002; 2011) contend that the endowment with agricultural resources shaped economic inequality and thereby political institutions and economic development. Crops such as wheat favored small family farms and therefore an equal distribution of economic resources, while crops such as sugarcane and coffee incentivized large plantations and huge disparities in wealth. Whereas economic equality then translated into political equality which in turn promoted economic development, economic inequality led to exclusive political systems that hampered growth. Ertan et al.'s (2016) results suggests that countries where the colonizer could grow lucrative crops such as sugar were colonized earlier, with those areas therefore possibly receiving less democratic institutions. Whereas Ertan et al. use latitude as a rough proxy for the ability to grow cash crops, I employ more precise data from the Global Agro-Ecological Zones database by the Food and Agriculture Organization of the United Nations (FAO 2017; 2012). The database gives country-wide estimates of the suitability for growing sugarcane. I chose a low level of technology and rain water supply to approximate the historical potential to grow the crop.

An additional characteristic of a colonized area that could bias the relationship between colonizer institutions and current democracy levels is the area's distance to Europe. Areas farther from Europe have been more distant from the fastest-growing markets, and therefore have likely

faced higher costs of trade (see for example Giuliano et al. 2014). More expansive trade, in turn, might have impeded economic development. And modernization theories suggest that slower economic development also hampered democratization (Boix 2011). Distance from Europe at the same time is likely to have impeded colonization to later point in time. The empirical results of Ertan et al. (2016) corroborate this claim: they find that countries distant from Europe by sea and countries distant from the coast were colonized later in time. I use their two measures of distance by sea and distance by land to rule out that these geographic characteristics bias the association between colonizer institutions and current democracy levels.

Finally, I include indicators for the world regions Africa, America, and Asia in my models, leaving countries in the Pacific as the residual category. I do so to rule out that common regional factors shaped both the timing of colonization and current democracy levels. For instance, countries in the Americas were colonized much earlier than countries in Africa and Asia, potentially for reasons not captured by the other variables.

In Table 1, columns 1 and 2 now display the results when I regress the polity index on my measure for democratic colonizer institutions and the potential confounders just discussed. Column 1 uses the Olsson (2009) sample while column 2 uses the sample by Ertan et al. (2016). The regression results support the hypothesis that countries with more democratic colonizers are more democratic today. In both models the coefficient for the democratic colonizer measure is positive and statistically significant. The coefficients are also substantially significant, if slightly less so for the Ertan et al. sample. In the Olsson sample, an increase in the democratic colonizer index of 1 unit on average is associated with a 0.49 higher polity score, holding the covariates constant. This means that an increase of one standard deviation in the democratic colonizer measure of 3.97 units on average goes along with a 1.94 point higher polity score, more than a third of its standard deviation of 5.08.

[Table 1 about here]

In columns 3 and 4, I evaluate if the results hold up when I use another democracy index. Because the polity index has repeatedly been criticized for its coding and measurement procedures (for example Cheibub et al. 2010; Coppedge et al. 2011), I use the liberal democracy index of the Varieties of Democracy project (Coppedge et al. 2016). The regression results once more support the hypothesis that countries are more democratic today if they had more democratic colonizers. The regression coefficients in both the Olsson and the Ertan et al. sample are positive and statistically significant at the 5% level. The coefficients are also similar in size to the models 1 and 2. For model 1, holding the covariates constant, an increase in the democratic colonizer measure by one unit is on average associated with an increase in the liberal democracy index of 0.016 units on its 0-1 scale. Put differently, an increase in the democratic colonizer index of one standard deviation goes along with approximately a third of a standard deviation increase in the liberal democracy index. The coefficients for the democratic colonizer stock in Table 1 remains statistically significant and substantially similar when I use Acemoglu et al.'s (2001; 2014) measure for the disease environment for European settlers instead of Auer's (2013) variable. Overall the results in Table 1 support the claim that former colonies are more democratic today if their colonizer had more democratic political institutions at home.

So far I have disregarded other attributes of the colonizers as alternative explanations of current differences in democracy levels. The relationship between colonizer institutions and current democracy levels could therefore also be spurious because colonizer institutions actually capture the effect of other characteristics of the colonizers. My measure for political institutions of the colonizer could capture the differences that previous measures have already accounted for. It could be that I simply capture the overall effect of European institutions measured by colonial

duration, and not the differences in institutions between the colonial powers. The length of colonial rule, however, might be endogenous to the institutions installed. More democratic institutions, for instance, may alleviate pressures for sovereignty, because the colonial citizens have a greater say in their political system. Because colonial rule could be endogenous to colonizer institutions, the results have to be treated with caution.

In Table 2, models 1 and 2, I include the length of colonial rule to see whether my measure for colonizer institutions picks different variation. The regressions partially support the argument that the democratic colonizer measure captures something else than merely the length of colonial rule. In the Olsson sample, the coefficient is positive and statistically significant, albeit the coefficient is smaller in size than in the earlier models. In the Ertan et al. sample, the coefficient of the democratic colonizer stock remains positive, but barely fails to reach statistical significance at conventional levels. When I use the liberal democracy index, the coefficients in both sample are positive, statistically significant, and of similar sizes when I did not account for colonial duration. With the additional potential endogeneity issue in mind, I consider the results to be in line with the hypothesis.

[Table 2 about here]

My measure for the colonizers' political institutions could furthermore simply reflect differences between individual colonial powers or differences between early and late colonialism. On the one hand, my measure might pick up that Britain across time had more democratic and growth-promoting institutions than the other colonial powers. My measure could also pick up other time-invariant characteristics of the colonial powers, such as cultural attitudes. Landes (1998), for example, argues that colonizers behaved differently due to differences in their religious traditions, again with Britain faring the best. On the other hand, my measure of

colonizer institutions could also merely reflect that the institutions of all colonial powers became more democratic over time. It is possible that colonial rule during recent centuries therefore was more beneficial, because colonization was less driven by economic extraction and more by political motives. Olsson (2009) therefore suggests distinguishing between an early mercantilist and a later imperialist phase.

In Table 2, models 3 and 4 I control for time-invariant differences between colonial powers and common changes across all colonial powers over time. To account for the time-invariant differences between colonial powers, I include three dummy variables for whether the last colonial power of a country was Britain, Spain, or France. To account for common changes in colonial powers over time, I follow Olsson's (2009) suggestion and include an indicator variable for the earlier mercantilist phase. The results are similar to when I controlled for the length of colonial rule. While the coefficient for the Olsson sample is positive, statistically distinguishable from zero, and even slightly increases in size to earlier models, the coefficient in the Ertan et al. model continues to be positive, but again barely misses the 10% significance level. Yet, both coefficients are not statistically significant anymore when I use the liberal democracy index instead of the polity score, and both coefficients are approximately zero. This means that while the direction of the democratic colonizer stock continues to be positive as expected, its effect is difficult to distinguish from time-invariant features of the colonizers and common changes in their institutions over time.

Finally, my measure of colonizer institutions could also have captured colonizer characteristics other than political institutions. On the one hand, my measure may be a proxy for differences in legal, not political institutions between colonizers. La Porta et al. (1998; 2008) argue that the colonizers brought their legal traditions with them, which then affected the institutions and the development of the colonies. They argue that the common law system of the

British was more beneficial than the civil law systems of the continental European powers. On the other hand, my measure of a colonizer's political institutions could have captured the effect of differences in European settlers. Glaeser et al. (2004) see the extent of European settlers as the cause for differences in human capital formation, while Ashraf and Galor (2013) argue that European settlers led to greater beneficial genetic diversity. Including the share of European settler mandates caution in interpreting the empirical results. This is because European settlement is likely to be endogenous to the political institutions established in the colonies early on: European settlers may have found more democratic institution more attractive because they had a greater say in politics (Nikolova 2017).

In columns 5 and 6 in Table 2, I account for differences in legal institutions and settler populations. I include an indicator by La Porta et al. (2008) denoting whether the colonizer that influenced the country's legal system had a common law tradition. And I include the share of European settlers during early colonial rule, as coded by Easterly and Levine (2016). The results are in line with the argument that the democratic colonizer measure captures institutional differences between the colonizers. The coefficients in both samples are positive, statistically significant, and their size similar to earlier models. When I use the liberal democracy index, however, the coefficients are slightly above the 10%-threshold. Taken together, the results in Table 2 show that while the democratic colonizer measure seems to capture more than just the length of colonial rule, it is difficult to disentangle its effect from other properties of the colonizers.

Empirical association between colonizer institutions and current economic well-being

After exploring the association between colonizer institutions and current democracy levels, I now turn to whether the political institutions of the colonial powers also made a

difference for contemporary income levels. The existing literature argues that differences in the political institutions of the colonizer also had an indirect effect: colonies with more democratic institutions grew faster than colonies with less democratic institutions. This is because political institutions shape economic institutions, which in turn affect economic development (Acemoglu et al. 2005a). The initial differences persisted over time, and countries that had democratic colonizers are wealthier today than countries with non-democratic colonizers. The arguments can be summed up in the following hypothesis:

H1b: Countries with a more democratic colonizer are wealthier today.

Table 3 reports the results to cross-sectional OLS-regressions of current economic well-being on colonizer institutions. The regressions test hypothesis H1b with equation (2):

$$Y_i = \alpha_0 + \alpha_1 P_i + \boldsymbol{\alpha} \mathbf{X_i} + \nu_i \qquad (2)$$

Y_i is GDP per capita in country i, P_i is the colonizer's political institutions for country i, and $\boldsymbol{X_i}$ is a vector of controls. The coefficient of interest is α_1, which describes the relationship between colonizer institutions and current income levels. α_1 supports hypothesis H1b if it is positive.

The same concerns of reverse causality and omitted variable bias apply for the relationship between democratic colonizers and current income levels. For the reasons outlined above, it could be that pre-colonial development caused the colonization by a more democratic colonizer, and not that a democratic colonizer led to more post-colonial development. Likewise, the bivariate relationship between democratic colonizers in economic well-being could be spurious due to third variables. All these potential confounders could have affected contemporary differences in economic well-being through their effect on political institutions. I accordingly use the same set of control variables as above.

Table 3 shows the results for a regression of current GDP per capita levels on the index for democratic colonizer institutions and covariates. The results in models 1 and 2 support the argument that countries with more democratic colonizers are wealthier today. In both the Olsson and Ertan et al. sample, the coefficients are positive and statistically significant. Models 3 and 4, however, show that the association is susceptible to a small change in the specification of the model. The only difference between the first two and the latter two models is that I use the settler mortality rates by Acemoglu et al. (2001; 2014) instead of the indirect measure by Auer (2013) based on geographic characteristics, which is available for nine and thirteen fewer countries, depending on the colony sample. When I use the mortality rates, the coefficients remain positive, but are not statistically significant any more. The results in Table 3 therefore overall are unable to bolster the claim that countries with more democratic colonizers are wealthier today.

[Table 3 about here]

In Table 4, I explore if the relationship between contemporary income levels changes when I control for other colonizer characteristics researchers in previous work have used. In columns 1 and 2, I control for the duration of colonial rule in addition to the other covariates. Because colonial duration is possibly affected by the colonizer's institutions, the results again have to be treated with caution. Both coefficients are positive as expected, but only the effect in the Ertan et al. sample is statistically significant. Yet the latter effect becomes statistically indistinguishable from zero again if the measure for the disease environment is switched (not shown). In columns 3 and 4, I probe the relationship between democratic colonizer institutions and current income levels when I control for colonizer identity and colonial era. The coefficients for both samples are not statistically significant, although they remain positive. Finally, I evaluate how the association changes when I include differences in colonizers other than institutions, the

country's legal tradition and its number of early European settlers. Once more, the coefficients are positive and statistically indistinguishable from zero. Table 4 therefore does not provide robust evidence that countries with more democratic colonizer are wealthier today.

[Table 4 about here]

Variation in the effect of colonizer institutions

So far I have investigated the average effects of a colonizer's political institutions across all former colonies. I accordingly treated the characteristics of the colonized areas and societies as alternative explanations, as most research has done so far. But some previous research suggests that colonizer and colony characteristics may actually be joint or interrelated explanations of country trajectories. I therefore consider whether the effect of colonizer institutions on current outcomes was conditional on other characteristics of the colonies and the colonizer. Several conditional relationships are possible. It could be that it was more difficult for the colonizers to transfer their institutions to some colonies. Hariri (2012) argues that colonized territories with more extensive state-building before colonialism are less democratic today because the territories resisted the imposition of a colonizer's political institutions more. The effect of a colonizer's political institutions on current political institutions and economic well-being therefore could have been most pronounced in areas with no pre-colonial states, and limited or even absent for colonies with long histories of statehood. Lange et al. (2006) similarly argue that the British found it easier to erect their more democratic institutions in less developed pre-colonial societies, whereas the Spanish implemented their autocratic institutions most successfully in more complex indigenous societies.

Furthermore, the effect of a colonizer's domestic institutions could also have depended on the number of European settlers. Glaeser et al. (2004) consider the influx of human capital through European settlers, and not differences in institutions, to be the actual reason for why some countries are became rich while others did not. But arguably the settlers not only brought their technical skills with them, but also the knowledge of their institutions at home. If many European settlers immigrated to a colonized area, they all brought this knowledge with them, which may have facilitated the institutional transfer. If the number of European settlers was limited, the impulse towards installing domestic institutions instead might have been weaker. This conditional relationship would also indicate that the transfer of institutions was more emanating bottom-up from small settler communities than top-down from the colonial elites. The two conditional arguments motivate the following hypotheses:

H2a: The effect of a democratic colonizer on democracy levels is strongest for countries with less developed pre-colonial states and for countries with many European settlers

H2b: The effect of a democratic colonizer on income levels today is strongest for countries with less developed pre-colonial states and for countries with many European settlers.

Variation in the effect of colonizer institutions on current democracy

I first explore whether the effect of colonizer institutions on current democracy levels varied based on early state development in the colonies and the number of settlers that flowed into the colony early on. I test hypothesis H2a with OLS-regressions based on equation (3):

$$D_i = \gamma_0 + \gamma_1 P_i + \gamma_2 P_i H_i + \gamma_3 H_i + \boldsymbol{\gamma} \mathbf{X_i} + \upsilon_i \qquad (3)$$

D_i is democracy in country i, P_i is the colonizer's political institutions for country i, and $\boldsymbol{X_i}$ is a vector of controls. H_i is, in turn, early state development and the extent of European colonial

settlement in country *i*. The coefficient of interest is γ_2, which measures whether the association between colonizer institutions and current democracy levels varies across the values of the conditioning variables. When I use early state development as the conditioning variable, γ_2 should be negative if hypothesis H2a is correct. When I use the extent of European colonial settlement in the interaction, γ_2 should be positive to support hypothesis H2a. I continue to use robust standard errors and the control variables as in the section on the average effects of colonizer institutions.

Table 5 displays the regression results when I interact the democratic colonizer index with the pre-colonial state history measure. The results suggest that early state development did not condition the effect of democratic colonizer institutions. In models 1 and 2, when I use the polity index as the dependent variable, the interaction term is positive. This contradicts the expectation that a democratic colonizer should have mattered less for institutional development if indigenous states were strong. The effect is even statistically significant in the Olsson sample. In models 3 and 4, I again use the liberal democracy index as an alternative dependent variable. Both coefficients are positive again, but are far from statistical significance. The results in Table 5 suggest that the effect of democratic colonizer did not differ across countries with different state structures at the onset of colonial rule.

[Table 5 about here]

Table 6 probes whether the effect of colonizer institutions on current democracy levels was instead larger if the number of early European settlers was high. The results cast doubt on this hypothesis. When I use the polity index as my dependent variable in models 1 and 2, the interaction term is negative in both the Olsson and Ertan et al. sample. The coefficient is even statistically significant in both models. Models 3 and 4 instead employ the liberal democracy

index as my dependent variable. Contrary to the hypothesis, the coefficients remain negative, albeit the coefficient in the Olsson sample is not statistically distinguishable from zero any more. The results in Table 6 therefore indicate that a democratic colonizer did not matter more if more European settlers flowed into the colony for its later democratic development. If anything, democratic colonizers mattered less in countries with many European settlers.

[Table 6 about here]

Variation in the effect of colonizer institutions on current economic well-being

The previous results notwithstanding, I also explore whether the effect of colonizer institutions on current income levels varied based on pre-colonial state development and the number of settlers. It could be that while the average effect seems to be zero, colonizer institutions still mattered for the subset of countries with either weak states or with many European settlers. I therefore test hypothesis 2b with OLS-regression based on equation (4):

$$Y_i = \delta_0 + \delta_1 P_i + \delta_2 P_i H_i + \delta_3 H_i + \boldsymbol{\delta} \mathbf{X_i} + \tau_i \qquad (4)$$

Y_i is GDP per capita in country i, P_i is the colonizer's political institutions for country i, and $\boldsymbol{X_i}$ is a vector of controls. H_i is, in turn, pre-colonial statehood and the extent of European settlers during colonialism in country i. The coefficient of interest is δ_2, which describes whether the association between colonizer institutions and current income levels varies with the conditioning variables. I again expect δ_2 to be negative when I condition with pre-colonial statehood, and to be positive when I interact colonizer institutions with the extent of European settlers. I employ robust standard errors and the same set of control variables as before.

The regressions displayed in Table 7 test the hypothesis that the effect of a democratic colonizer on income levels might have been conditioned by a country's pre-colonial state history.

The results, however, do not support the hypothesis. In models 1 and 2, the coefficient of the interaction term is negative as expected, but far from statistical significance. The results remain statistically indistinguishable from zero when I switch Auer's (2013) disease environment measure for Acemoglu et al.'s (2001; 2014) settler mortality rates. When using the Ertan et al. sample, the coefficient even becomes positive. The results in Table 7 therefore again cast doubt on the argument that more democratic colonizer institutions had diverging effects across countries with different levels of state development before colonialism began.

[Table 7 about here]

Finally, Table 8 evaluates if many European settlers increased the effect of colonizer institutions on contemporary economic well-being. The results of the regression analyses do not support this claim. The coefficient of the interaction terms in models 1 and 2 are negative and statistically significant. Replacing the measure for the disease environment does not change the direction or the statistical significance of the coefficients, as shown by models 3 and 4. The results in Table 8 thus contradict the original hypothesis that democratic colonizers should have been more beneficial to economic development if the country attracted many settlers raised in democratic societies. The results rather suggest that the beneficial impact of democratic colonizers faded when more European settlers poured into the country.

[Table 8 about here]

Conclusion

In this paper I investigated whether the political institutions of the colonizer affected a former colony's level of democracy and economic development today. This question speaks to

the ongoing debate about the legacy of colonialism. While scholars agree that colonialism was important for current differences in political regime types and levels of economic development, they continue to debate how colonialism mattered. Most quantitative scholars contend that geography and indigenous societies shaped how the colonizers ruled. Other quantitative and qualitative scholars, however, underline that differences between the colonizers were important for how colonies' institutions and economies developed. The characteristic that has received the most attention is the political institutions of the colonizers, which they arguably brought with them, and thereby influenced the institutional and economic development of their colonies.

While I adopted its theoretical arguments, I advanced on several shortcomings in this existing work on the effect of colonizer institutions on the trajectories of colonies. While previous research struggled with imprecise measures that neglect considerable variation between colonizers and within them over time, I measured the political institutions of a colonizer directly, thereby precisely testing the existing theoretical arguments. While earlier quantitative work disregarded that the effect of colonizer institutions may vary across the colonies, I explored such conditional effects. And while earlier qualitative research only studied a small number of cases, I evaluated their claims for a global sample of former colonies.

I find that countries with more democratic colonizers are more democratic, but not wealthier today. This suggests that the many researchers focused on the geography and the indigenous societies of the colonies may have underestimated the role of colonizers, while it bolsters the claims of the fewer quantitative and qualitative researchers stressing the colonizers' importance for the institutional development in the colonies. At the same time, the empirical analysis adds to the doubts of the many quantitative scholars that the domestic political institutions of the colonizers did not matter for the economic development in the colonies.

I also found that democratic colonizers were not more beneficial for current democracy and income levels if the indigenous state was weak before colonialism or if many European settled in the colony. This indicates that while colonialism influenced country trajectories in many ways, they seem to be alternative, not interrelated explanations. This supports the quantitative and qualitative work which treats the explanations as separate, and questions the interrelations other research identified.

Finally, the analysis suggests avenues for future research. The cross-sectional design was unable to explore the dynamics of how the colonizers transferred their institutions to the colonies. Future qualitative research therefore could investigate in detailed case studies if the colonial powers imposed their institutions from the top-down, or if European settlers and the indigenous populations erected institutions from the bottom-up. Future quantitative work meanwhile could try to use time-series data on early economic well-being around the globe to turn the cross-sectional into a panel analysis. Both routes promise to deepen our understanding of how colonialism shaped the world we live in today.

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APPENDIX

Figure 1: Domestic executive constraints of colonial powers over time

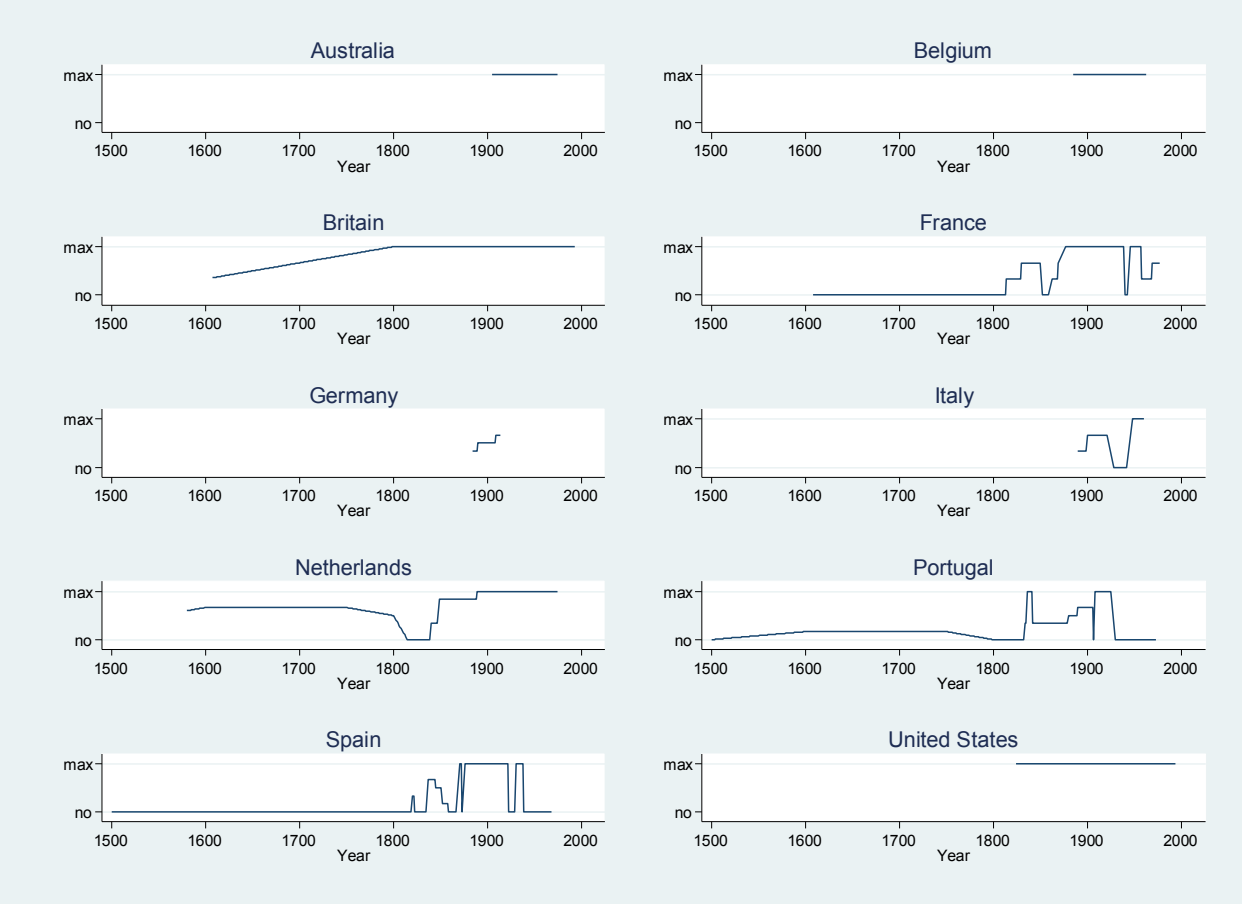

Table 1: Democratic colonizer institutions and current democracy levels

Dependent variable:	Model 1 Polity	Model 2 Polity	Model 3 Liberal Democracy	Model 4 Liberal Democracy
Democratic colonizer institutions	0.491***	0.398**	0.0160**	0.0174**
	(0.177)	(0.163)	(0.00685)	(0.00684)
Population density in 1400	-0.576	-0.364	-0.0540***	-0.0435**
	(0.398)	(0.435)	(0.0178)	(0.0170)
State history in 1500	-0.711	-2.585	-0.0322	-0.0918
	(2.016)	(1.960)	(0.0801)	(0.0638)
Settler disease environment	0.471	0.0966	-0.00360	-0.0223
	(0.860)	(0.968)	(0.0340)	(0.0342)
Sugarcane suitability	-0.0116	-0.0164	-0.00206	-0.00228
	(0.0487)	(0.0488)	(0.00201)	(0.00200)
Land distance	-2.814	-2.836	-0.0993	-0.0872
	(2.321)	(2.347)	(0.0854)	(0.0826)
Sea distance	0.494*	0.194	0.00766	-0.00138
	(0.294)	(0.288)	(0.0128)	(0.0103)
Africa	0.501	-1.384	-0.0807	-0.128
	(3.220)	(3.150)	(0.153)	(0.151)
Americas	7.406**	4.758	0.161	0.0955
	(3.169)	(3.100)	(0.169)	(0.165)
Asia	-4.035	-2.239	-0.150	-0.0911
	(3.013)	(2.920)	(0.152)	(0.148)
Constant	-0.655	3.329	0.493**	0.582***
	(4.238)	(3.716)	(0.197)	(0.170)
Sample	Olsson (2009)	Ertan et al. (2016)	Olsson (2009)	Ertan et al. (2016)
Observations	81	85	80	84
R^2	0.399	0.360	0.429	0.419

Note: ordinary least squares regression; robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 2: Democratic colonizer institutions, other colonizer characteristics, and current democracy

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Democratic colonizer institutions	0.358*	0.263	0.510**	0.349	0.489**	0.339*
	(0.189)	(0.166)	(0.222)	(0.217)	(0.224)	(0.196)
Colonial duration	0.00834	0.0148*				
	(0.00619)	(0.00826)				
Last colonizer Britain			-1.301	0.313		
			(1.833)	(1.781)		
Last colonizer Spain			1.605	2.419		
			(1.843)	(1.589)		
Last colonizer France			-1.062	-1.212		
			(1.765)	(1.771)		
Mercantilist era			2.633	2.473		
			(1.712)	(1.622)		
Common law legal tradition					-0.342	0.450
					(1.604)	(1.503)
European settler share					4.245	3.923
					(3.616)	(3.743)
Other covariates	Yes	Yes	Yes	Yes	Yes	Yes
Sample	Olsson (2009)	Ertan et al. (2016)	Olsson (2009)	Ertan et al. (2016)	Olsson (2009)	Ertan et al. (2016)
Observations	81	85	81	85	79	82
R^2	0.414	0.377	0.454	0.407	0.416	0.397

Note: the dependent variable is the polity index; ordinary least squares regression; robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: Democratic colonizer institutions and current economic well-being

	Model 1	Model 2	Model 3	Model 4
Democratic colonizer institutions	0.0588**	0.0701**	0.0330	0.0387
	(0.0283)	(0.0315)	(0.0288)	(0.0284)
Settler disease environment	-0.508**	-0.538***		
	(0.212)	(0.166)		
Settler mortality			-0.685***	-0.616***
			(0.207)	(0.181)
Population density in 1400	-0.240**	-0.224***	-0.147	-0.162*
	(0.0978)	(0.0839)	(0.0951)	(0.0917)
State history in 1500	0.407	0.192	0.255	-0.0975
	(0.573)	(0.368)	(0.542)	(0.471)
Sugarcane suitability	0.000143	0.00240	-0.00102	0.00277
	(0.00954)	(0.00921)	(0.00791)	(0.00843)
Land distance	-0.653	-0.715*	-0.863**	-0.911**
	(0.435)	(0.424)	(0.368)	(0.416)
Sea distance	-0.0390	-0.0846**	0.00698	-0.0712
	(0.0701)	(0.0389)	(0.0592)	(0.0601)
Africa	-1.132**	-1.393***	0.229	-0.548
	(0.510)	(0.446)	(0.621)	(0.666)
Americas	-0.341	-0.694	1.022*	0.262
	(0.637)	(0.440)	(0.556)	(0.617)
Asia	-0.283	-0.177	0.386	0.430
	(0.535)	(0.393)	(0.726)	(0.605)
Constant	10.17***	10.64***	11.55***	12.34***
	(0.739)	(0.535)	(1.023)	(0.901)
Sample	Olsson (2009)	Ertan et al. (2016)	Olsson (2009)	Ertan et al. (2016)
Observations	79	83	70	70
R^2	0.637	0.635	0.704	0.687

Note: the dependent variable is logged GDP per capita; ordinary least squares regression; robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Democratic colonizer institutions, other colonizer characteristics, and current economic well-being

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Democratic colonizer institutions	0.0473 (0.0338)	0.0595* (0.0336)	0.0201 (0.0483)	0.0568 (0.0510)	0.0505 (0.0366)	0.0532 (0.0365)
Colonial duration	0.000722 (0.00111)	0.00116 (0.00131)				
Last colonizer Britain			0.423 (0.325)	0.253 (0.330)		
Last colonizer Spain			0.310 (0.530)	0.462 (0.467)		
Last colonizer France			-0.0622 (0.350)	-0.205 (0.320)		
Mercantilist era			0.151 (0.351)	0.158 (0.329)		
Common law legal tradition					0.0331 (0.272)	0.188 (0.213)
European settler share					0.797 (0.607)	0.539 (0.596)
Other covariates	Yes	Yes	Yes	Yes	Yes	Yes
Sample	Olsson (2009)	Ertan et al. (2016)	Olsson (2009)	Ertan et al. (2016)	Olsson (2009)	Ertan et al. (2016)
Observations	79	83	79	83	77	80
R^2	0.639	0.637	0.657	0.663	0.643	0.647

Note: the dependent variable is logged GDP per capita; ordinary least squares regression; robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 5: Democratic colonizer institutions, conditioned by pre-colonial state development, and current democracy

Dependent variable:	Model 1 Polity	Model 2 Polity	Model 3 Liberal democracy	Model 4 Liberal democracy
Democratic colonizer institutions	0.308*	0.260*	0.0150*	0.0155*
	(0.162)	(0.145)	(0.00768)	(0.00852)
State history in 1500	-3.862	-4.541**	-0.0477	-0.117
	(2.497)	(2.255)	(0.0992)	(0.0833)
Democratic colonizer institutions * state history in 1500	0.759*	0.543	0.00438	0.00721
	(0.449)	(0.450)	(0.0168)	(0.0169)
Population density in 1400	-0.555	-0.399	-0.0544***	-0.0443**
	(0.389)	(0.433)	(0.0181)	(0.0174)
Settler disease environment	0.408	-0.0508	-0.00282	-0.0235
	(0.847)	(0.971)	(0.0341)	(0.0345)
Sugarcane suitability	-0.0221	-0.0218	-0.00215	-0.00237
	(0.0434)	(0.0473)	(0.00207)	(0.00203)
Land distance	-3.268	-2.874	-0.103	-0.0879
	(2.212)	(2.333)	(0.0869)	(0.0836)
Sea distance	0.564*	0.187	0.00836	-0.00145
	(0.293)	(0.283)	(0.0132)	(0.0103)
Africa	1.105	-1.273	-0.0764	-0.128
	(3.266)	(3.113)	(0.156)	(0.151)
Americas	7.783**	4.599	0.166	0.0935
	(2.980)	(2.974)	(0.172)	(0.163)
Asia	-5.655*	-2.675	-0.162	-0.0980
	(3.377)	(2.934)	(0.157)	(0.148)
Constant	-0.438	4.176	0.492**	0.595***
	(4.180)	(3.541)	(0.199)	(0.168)
Sample	Olsson (2009)	Ertan et al. (2016)	Olsson (2009)	Ertan et al. (2016)
Observations	81	85	80	84
R^2	0.428	0.372	0.429	0.421

Note: ordinary least squares regression; robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 6: Democratic colonizer institutions, conditioned by European settler share, and current democracy

Dependent variable:	Model 1 Polity	Model 2 Polity	Model 3 Liberal Democracy	Model 4 Liberal Democracy
Democratic colonizer institutions	0.599***	0.569**	0.0155*	0.0215***
	(0.201)	(0.227)	(0.00775)	(0.00742)
European settler share	17.82**	19.04**	0.819**	1.139***
	(7.807)	(8.067)	(0.380)	(0.403)
Democratic colonizer institutions * European settler share	-2.375*	-2.926*	-0.0514	-0.128*
	(1.301)	(1.586)	(0.0598)	(0.0728)
Population density in 1400	-0.444	-0.301	-0.0325*	-0.0272
	(0.451)	(0.491)	(0.0177)	(0.0175)
State history in 1500	-0.258	-2.116	0.0248	-0.0531
	(2.218)	(2.067)	(0.0877)	(0.0695)
Settler disease environment	0.693	0.363	0.0356	0.0113
	(1.007)	(1.132)	(0.0372)	(0.0365)
Sugarcane suitability	-0.0124	-0.0239	-0.00196	-0.00245
	(0.0503)	(0.0500)	(0.00219)	(0.00221)
Land distance	-2.994	-3.088	-0.141*	-0.114
	(2.357)	(2.335)	(0.0811)	(0.0776)
Sea distance	0.607*	0.316	0.0207	0.00850
	(0.317)	(0.297)	(0.0130)	(0.00933)
Africa	2.710	1.286	0.125	0.0768
	(3.123)	(2.877)	(0.130)	(0.107)
Americas	8.868***	6.824**	0.324**	0.253**
	(3.100)	(2.899)	(0.147)	(0.123)
Asia	-3.457	-1.205	-0.0750	0.00715
	(2.754)	(2.522)	(0.116)	(0.100)
Constant	-4.438	-0.860	0.129	0.239*
	(4.947)	(3.936)	(0.206)	(0.135)
Sample	Olsson (2009)	Ertan et al. (2016)	Olsson (2009)	Ertan et al. (2016)
Observations	79	82	78	81
R^2	0.431	0.411	0.507	0.531

Note: ordinary least squares regression; robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 7: Democratic colonizer institutions, conditioned by pre-colonial state development, and current democracy

	Model 1	Model 2	Model 3	Model 4
Democratic colonizer institutions	0.0675*	0.0705	0.0400	0.0373
	(0.0367)	(0.0439)	(0.0304)	(0.0320)
State history in 1500	0.565	0.197	0.377	-0.120
	(0.558)	(0.421)	(0.491)	(0.451)
Democratic colonizer institutions * state history in 1500	-0.0368	-0.00147	-0.0294	0.00688
	(0.0818)	(0.0680)	(0.0743)	(0.0716)
Population density in 1400	-0.242**	-0.224**	-0.149	-0.162*
	(0.0941)	(0.0860)	(0.0907)	(0.0952)
Settler disease environment	-0.506**	-0.538***		
	(0.206)	(0.163)		
Settler mortality			-0.677***	-0.618***
			(0.195)	(0.173)
Sugarcane suitability	0.000621	0.00242	0.000325	0.00262
	(0.00998)	(0.00939)	(0.00871)	(0.00906)
Land distance	-0.634	-0.715*	-0.846**	-0.914**
	(0.442)	(0.427)	(0.374)	(0.426)
Sea distance	-0.0426	-0.0846**	0.00229	-0.0696
	(0.0725)	(0.0390)	(0.0635)	(0.0654)
Africa	-1.162**	-1.393***	0.169	-0.529
	(0.522)	(0.452)	(0.614)	(0.661)
Americas	-0.363	-0.694	0.973*	0.279
	(0.652)	(0.443)	(0.572)	(0.626)
Asia	-0.205	-0.176	0.441	0.424
	(0.605)	(0.401)	(0.793)	(0.638)
Constant	10.16***	10.64***	11.55***	12.34***
	(0.745)	(0.556)	(1.019)	(0.926)
Sample	Olsson (2009)	Ertan et al. (2016)	Olsson (2009)	Ertan et al. (2016)
Observations	79	83	70	70
R^2	0.638	0.635	0.705	0.687

Note: the dependent variable is logged GDP per capita; ordinary least squares regression; robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 8: Democratic colonizer institutions, conditioned by European settler share, and current economic well-being

	Model 1	Model 2	Model 3	Model 4
Democratic colonizer institutions	0.0863***	0.125***	0.0545	0.0920**
	(0.0286)	(0.0386)	(0.0341)	(0.0368)
European settler share	4.192***	5.169***	3.817**	4.812***
	(1.456)	(1.707)	(1.443)	(1.533)
Democratic colonizer institutions * European settler share	-0.574**	-0.873***	-0.531**	-0.820***
	(0.221)	(0.309)	(0.217)	(0.267)
Population density in 1400	-0.197*	-0.207**	-0.113	-0.151
	(0.102)	(0.0927)	(0.0950)	(0.0929)
State history in 1500	0.492	0.256	0.379	-0.0419
	(0.590)	(0.377)	(0.562)	(0.498)
Settler disease environment	-0.494**	-0.543***		
	(0.224)	(0.181)		
Settler mortality			-0.681***	-0.618***
			(0.222)	(0.197)
Sugarcane suitability	0.000824	0.00123	-0.00228	-0.00242
	(0.00984)	(0.00953)	(0.00837)	(0.00943)
Land distance	-0.625	-0.670	-0.859**	-0.899**
	(0.440)	(0.421)	(0.377)	(0.424)
Sea distance	-0.0162	-0.0713*	0.0377	-0.0351
	(0.0744)	(0.0363)	(0.0643)	(0.0663)
Africa	-0.556	-0.717	0.845	0.317
	(0.602)	(0.487)	(0.667)	(0.754)
Americas	0.0573	-0.195	1.456**	0.965
	(0.701)	(0.426)	(0.623)	(0.692)
Asia	-0.0811	0.188	0.648	0.868
	(0.552)	(0.419)	(0.752)	(0.580)
Constant	9.188***	9.648***	10.58***	11.20***
	(0.900)	(0.608)	(1.292)	(1.117)
Sample	Olsson (2009)	Ertan et al. (2016)	Olsson (2009)	Ertan et al. (2016)
Observations	77	80	67	67
R^2	0.662	0.674	0.734	0.722

Note: the dependent variable is logged GDP per capita; ordinary least squares regression; robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.