LEGAL ORIGIN OR COLONIAL HISTORY?

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ABSTRACT

Economists have documented pervasive correlations between legal origins, modern regulation, and economic outcomes around the world. Where legal origin is exogenous, however, it is almost perfectly correlated with another set of potentially relevant background variables: the colonial policies of the European powers that spread the "origin" legal systems through the world. We attempt to disentangle these factors by exploiting the imperfect overlap of colonizer and legal origin, and looking at possible channels, such as the structure of the legal system, through which these factors might influence contemporary economic outcomes. We find strong evidence in favor of non-legal colonial explanations for economic growth. For other dependent variables, the results are mixed.

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1. INTRODUCTION

Over the last decade, an important literature in economics has documented pervasive correlations between economic outcomes, legal rules, and legal origin. In this literature, legal origin means whether a country's legal system is based on British common law, or French, German, or Scandinavian civil law (La Porta, Lopez-de-Silanes, & Shleifer 2008). In most of the literature, these correlations have been interpreted as evidence that some structural difference between common and civil law has important implications for economic outcomes (e.g., Glaeser & Shleifer 2002; Beck, Demirgüç-Kunt, & Levine 2003).

In this article, we explore another interpretation of these correlations. The reason almost all legal systems of the world belong to either the common or the civil law family is that the European powers imposed their legal system on their colonies. Consequently, "legal origin" is almost perfectly congruent with "colonial history" understood as the identity of the dominant colonizing power. Nevertheless, the legal regime was just one of many differences between the various colonial powers. Colonizing powers differed in their policies relating to education, public health, infrastructure, European immigration, and local governance. In addition, colonizing powers did not choose their colonies randomly, so colonies may differ in characteristics such as climate and natural resources. Disentangling these factors is not merely of historic interest. To the extent that policy lessons can be learned from the legal origin literature, they depend critically on identifying the causes of the observed effects.

Table 1 provides a simple illustration of our main point. The legal origins literature focuses on the fact that French colonies inherited French civil law, while British colonies inherited English common law. As Table 1 shows, however, French and British colonies also differed on many other dimensions. French (ex-)colonies had significantly lower education and life expectancy than British (ex-)colonies in 1960, even though per capita GDP was similar. In addition, the French and the British tended to colonize different types of places, judging by the significantly higher initial European mortality in French colonies.[2] The second-to-last column of Table 1 also shows that colonies which received French civil law not directly from the French but from another colonizing power, such as Spain or the Netherlands, were doing as well as British (ex-)colonies in 1960. In sum, this simple table suggests that the identity of the colonizing power mattered for reasons other than whether that power brought

2 This may be related to the timing and geographic center of the respective colonial empires, most French colonies being situated in Africa.

Table 1. Colonial inputs and outcomes

	SD	Colonizer			
		French	British	Other French civil law country	Other
Log 1960 GDP per capita	0.94	7.56	7.85	7.89	8.10
Primary schooling 1960	0.32	0.51	0.74**	0.77***	0.96**
Life expectancy in 1960	12.43	45.84	53.55*	52.60**	60.30**
Log settler mortality	1.25	5.82	4.16***	4.44***	

Sources: colonizer: authors' coding; GDP: Heston, Summers, & Aten (2009); primary schooling (gross primary enrollment ratio) and life expectancy (at birth): Barro & Lee (1994); settler mortality: Acemoglu, Johnson & Robinson (2001).
Asterisks indicate results of *t*-tests against the null hypothesis that the group mean is the same as the mean for former French colonies; ***$p < 0.01$, **$p < 0.05$, *$p < 0.10$.

British common law or Continental civil law. The rest of this article pursues this point in more detail.

The focus on colonies is an important aspect of our analysis. Only former colonies received their legal system exogenously (from their colonizer).[3] By contrast, in the origin countries, such as England, France, and Germany, the legal system developed endogenously. Hence in the origin countries, legal "origin" was itself influenced by each country's economic and political structure, and correlations between economic outcomes and legal system may reflect unobserved country characteristics or a causal effect from economic structure to legal system, rather than the other way around. Countries that voluntarily adopted foreign legal systems—such as Japan, Thailand, and Turkey—present similar issues.

We employ two strategies, which we further elaborate in Section 2, to differentiate legal from other colonial channels. First, we exploit the fact that the correlation between colonial history and legal origin is not perfect. "French" civil law was imposed not only by the French but also by the Belgians, Dutch, Portuguese, Spanish, and others. Moreover, some former English colonies, such as South Africa and Sri Lanka, maintained legal elements from a previous colonizer and are therefore more properly considered "mixed" legal systems. To capture these fine points, we develop a new coding of legal and colonial history. Second, we employ proxies for the manner in which the colonial power treated the colony. Our main non-legal proxies measure educational investment and

3 To be sure, all colonies officially or unofficially retained substantial parts of their native legal system that competed and interacted with the European overlay. For the purposes of this article, all that matters is whether the foreign part that they did receive had a noticeable impact on development. Hence we will not mention this caveat in the remainder of this article.

life expectancy in 1960. Our preferred interpretation of these variables is as a measure of the colonizing powers' investment in human capital, but our main argument would be unaffected if these variables were instead proxies for other favorable policies or even, in the case of life expectancy, geographic factors (in which case correlations with colonial history would reflect selection). We compare the explanatory power of these proxies to that of variables, such as judicial independence or the use of juries, that reflect differences between the common and civil law. For these legal proxies, we expand existing data sets to increase country coverage considerably.

In Section 3, we begin our empirical exploration with economic growth as the dependent variable. We focus on growth in per capita GDP after 1960, the period when data becomes available for a large sample of countries. One of us (Mahoney 2001) has shown that common law countries grew faster during this period than civil law countries. In general, the legal origins literature has documented many correlations between common law and institutions generally considered conducive to economic growth, such as property rights, financial markets, labor markets, and less bureaucratic and less corrupt government. We find, however, that only former French colonies, rather than French civil law countries as a whole, grew more slowly than common law countries between 1960 and 2007, and that mixed jurisdictions grew faster than all other groups. Moreover, all of these differences are entirely accounted for by proxies for non-legal colonial policy—education and life expectancy in 1960. Legal system proxies, such as the recognition of case law and judicial independence, appear to have no influence on growth at all.

In Section 4, we look at other dependent variables that according to the legal origins literature (e.g., La Porta, Lopez-de-Silanes, & Shleifer 2008) are strongly influenced by legal origins: the ratio of equity market capitalization to GDP, the ratio of private credit to GDP, unemployment, corruption, and the duration of court proceedings. The results are mixed and, mostly, not statistically significant. In Section 5, we discuss the discrepancies between the growth and other results, as well as the general interpretation of our findings. We conclude in Section 6.

While the results of this article undermine some of the earlier, more simplistic explanations for the correlation between economic performance and legal origin, they are not incompatible with more recent interpretations. In their 2008 survey, La Porta, Lopez-de-Silanes, & Shleifer (2008, 286) "adopt a broad conception of legal origin as a style of social control of economic life." Under this view, legal origin is not just whether a country has a legal system based on the *Code Napoléon* or on the precedents of the English common law. Nor is legal origin simply about whether the judiciary is a bureaucracy tasked with textual interpretation rather than a high-status independent group with

de facto law making powers. Rather, legal origin stands for "strategies of social control" that either "support private market outcomes" or implement specific state policies (*id.*). Mahoney (2001, 505) also connects legal origin to "different views about the relative role of the private sector and the state." This broad conception of legal origin might be better measured by the identity of the dominant colonial power than by comparative lawyers' classification of legal systems. Strategies of social control might be more influenced by educational systems and governmental structure than by whether code or precedent was the dominant source of law, or whether judges or juries were the principal fact finders.

The paper most similar to ours in the existing literature is Rostowski & Stacescu (2006). They investigate the impact of legal and colonial history on post-colonial economic growth (1960–1995) by inserting dummy pairs for ex-British and ex-French colonies and British and French legal systems, respectively, into standard growth regressions. Like us, they find that (French versus British) colonial history seems more important than (French versus British) legal origin. Our analysis is broader and deeper, however, in that we also investigate other dependent variables. In addition, we attempt to unpack legal origin and colonial history by looking at the institutions that they may have influenced. Moreover, we develop what we feel is a superior classification of legal origin and colonial history (cf. Section 2.1 below),[4] and analyze the data without imposing a linear structure on the interaction of legal origin and colonial history.

Our emphasis on colonial history has some affinity to Acemoglu, Johnson, & Robinson (2001). They argue that colonists were more inclined to build good institutions when the colony was hospitable to European settlements and investigate the lasting effect of such institutions on long-term economic growth using settler mortality in earliest colonial times as an instrument. Acemoglu, Johnson, & Robinson's (2001) argument focuses on the conditions in the colonies rather than on the identity of the colonizer. As they point out (*id.*, 1388), their argument may nevertheless explain some of the correlations

4 Rostowski & Stacescu (2006) classify four former English colonies as having French civil law—Malta, Mauritius, Seychelles, and Swaziland. With the exception of Swaziland, all of these are more properly classified as mixed legal systems. They were under British control for more than a century, during which time England imposed much of its own law, especially in commercial matters. Similarly, Rostowski & Stacescu classify seven common law countries as not former British colonies—the USA, Canada, New Zealand, Australia, Israel, Ireland, and the UK. With the exception of the UK and possibly Israel, all of these were former colonies, although Rostowski & Stacescu do not count them as such because they were independent before the mid-20th century. Because of these questionable classifications, we believe our article provides a more persuasive foundation for the relative importance of legal and colonial origin.

between colonizers and outcomes because some European powers, particularly the English, colonized more favorable places than others.[5] We are sympathetic to this view, and some of our estimated differences between colonizers may be the result of such selection. At the same time, we believe it is not the whole story. Indeed, our proxies for colonial policy remain jointly significant when we control for settler mortality in our growth regressions (unreported). We do not pursue this question further because settler mortality data is available for only about half of our sample.

In this article, we remain within the cross-country regression framework of the legal origins literature.[6] Cross-country regressions have well-known limitations; among them is an excess of potentially relevant independent variables (Levine & Renelt 1992).[7] Our findings reinforce these concerns in that we put forward yet another independent variable that was not considered in previous papers. We also cannot address the concern of Rajan & Zingales (2003) and Roe & Siegel (2009, 792–794) that the legal origins results may be an artifact of data for the 1980s and 1990s, except that we note that our results for growth also hold, although in an attenuated manner, if we restrict the sample to the years 1960–1980 (unreported); data for the other dependent variables are not available for that time period.

2. EMPIRICAL STRATEGY—INDEPENDENT VARIABLES

The close historical link between colonial and legal origin makes it challenging to distinguish empirically between the two. Doing so is important, however, if we are to focus on the features most important to institutional and economic development. It is also essential for the development of sound policy recommendations. We pursue two strategies for distinguishing legal origin and

5 The correlation of British colonies with raw and log-transformed settler mortality is −0.01 and −0.30, respectively. It is striking to note that 12 of the 13 countries with the lowest settler mortality rates are former British colonies, and only one of the 30 countries with the lowest settler mortality rates is a former French colony. For criticism of the settler mortality data, see Albouy (forthcoming).

6 The cross-sectional nature of our data and tests also prevents us from testing dynamic theories such as Spamann's (2009b) diffusion theory.

7 La Porta, Lopez-de-Silanes, & Shleifer (2008) address some of the most relevant competing variables, notably religion, culture, and politics. The economic growth literature has sought to overcome the problem with techniques such as Bayesian averaging, but the results are not always straightforward to interpret. For example, Sala-i-Martin et al. (2004) find relatively low probabilities that Spanish ($p = 0.12$) and British ($p = 0.03$) colonies grew more slowly or faster, respectively, than other colonies after de-colonization (they do not control for legal origin). But they also find a very high probability that GDP, schooling, and life expectancy around 1960 had sizeable effects on growth, and as we show below, these seem to have differed systematically by the identity of the colonizer.

colonial history. First, we exploit the fact that the correlation between colonizer and legal origin is not perfect. Second, we employ proxies for colonial policy and compare their explanatory power to that of proxies for key features of the legal system. As we discuss below, neither strategy is perfect but, taken together, they allow us to obtain a rough estimate of the relative importance of legal origin and colonial history.

2.1. Countries for Which Legal Origin and Colonial History do not Coincide

As explained above, former colonies generally received their legal system from the country that colonized them, meaning that colonial and legal origin overlap. In particular, no former British colony now has a civil law system[8] and no French (or other continental European) colony now has a common law system. There are, however, two groups of countries for which legal origin and colonial history do not coincide perfectly: (i) countries with French civil law that were not colonized by France; and (ii) former British colonies with legal systems containing elements of both common and civil law. We can exploit these two groups to investigate whether legal origin or colonial history is more relevant for post-colonial development.

Our coding of legal origin relies on a review of all the standard sources.[9] The main difference between our and La Porta, Lopez-de-Silanes, & Shleifer's (2008) legal origin coding is the classification of some jurisdictions as "mixed," which we exploit for the test discussed in subsection 2.1.2. below. That subsection also discusses mixed jurisdictions in greater detail. Our coding also differs for five other countries, although those differences are only relevant to the regressions using dependent variables other than GDP growth 1960–2007, because that dependent variable was not available for these five countries.[10]

8 Swaziland is an exception. It was colonized first by the Dutch and then by the British, but British colonization seems to have no lasting impact on the law. There are no data on GDP growth 1960–2007 for Swaziland so this exception is relevant only to some of the non-growth regressions.

9 In addition to Flores & Reynolds, *Foreign Law*, and the *CIA World Factbook*, which seem to have been the main sources of La Porta et al. (1998), we examined: Roberts-Wray (1966), Zweigert & Kötz (1998), Campbell (2006), *International Encyclopedia of Comparative Law, Law & Judicial Systems of Nations, Modern Legal Systems Cyclopedia,* and University of Ottowa, World Legal Systems Website, http://www.droitcivil.uottawa.ca/world-legal-systems/eng-monde.html.

10 Although La Porta, Lopez-de-Silanes, & Shleifer (2008) classify Yemen as French civil law, we coded it as Islamic Law because of the dominant influence of sharia law, even in commercial matters. For similar reasons, we would have differed from La Porta, Lopez-de-Silanes, & Shleifer (2008) and coded Afghanistan, the Maldives, Oman, Qatar, Saudi Arabia, and the United Arab Emirates as Islamic Law as well. These countries, however, were not included in any of our regressions because they lack GDP growth data 1960–2007 and we do not classify them as former colonies (so they were excluded from the non-growth regressions). We also change the coding of Swaziland from common law to French civil law (see footnote 8 above). Brunei, East Timor, and Kiribati were not coded by La

The results of all our tests, except those relying on comparisons between mixed and common law countries, are unaffected if we use the coding of La Porta, Lopez-de-Silanes, & Shleifer (2008).

Our colonial history variable encodes the dominant colonial power, if any, in the period 1750–2007, based primarily on *Encyclopedia Britannica Online*.[11] Where the country was colonized by multiple countries, we generally coded the most recent colonial power, on the theory that this country was the one that was likely to have had the biggest effect on education, health, and infrastructure at the time of independence. However, when the more recent colonial power controlled the country for a relatively brief period, we coded the prior colonial power as the dominant one.[12]

To test the impact of colonial history without losing precious degrees of freedom, we group countries into five groups: former English colonies, former French colonies, former colonies of French civil law countries other than France (Belgium, Italy, the Netherlands, Portugal, Spain, Ottoman Empire,[13] and pre-communist Russia), other former colonies, and countries never colonized.[14]

Table 2 below shows the legal origin/colonial history combination for all countries in our growth sample. We now describe the two most important

Porta, Lopez-de-Silanes, & Shleifer (2008); we code them as common law, French civil law, and common law, respectively.

11 Occasionally, where *Encyclopedia Britannica Online* did not provide the relevant information, we also consulted other sources, such as the *CIA Factbook* and Wikipedia. Countries formed by joining colonies of multiple powers, such as Cameroon, were coded according to the colonial power of the more populous part.

12 For this reason, League of Nations Mandates in the Middle East—Iraq, Israel, Jordan, Lebanon, and Syria—were coded as former Ottoman colonies rather than former French or English colonies. This coding is most debatable for Israel, where Ottoman influence largely disappeared with the influx of Jewish settlers. Nevertheless, in order to be consistent about the coding of Israel and Jordan, which had very similar colonial histories, we coded Israel as a former Ottoman colony. We did check, however, that none of our results are dependent on that coding. For reasons similar to the Mandate countries, Egypt was coded as a former Ottoman colony (rather than a British colony). The Philippines was also a close call. It had been a Spanish colony for over 300 years when it was ceded to the USA in 1899, which governed the Islands until 1946. We code the USA as the dominant colonial power, but one could argue that the years as a Spanish colony were more important. Recoding the Philippines as a Spanish colony does not substantially change our results.

13 We classify the Ottoman Empire as governed by French civil law, because the Ottoman Commercial Code of 1850 and other mid-19th century Ottoman codes were based primarily on French codifications (Zweigert & Kötz 1998, 109ff.).

14 For some robustness checks, we also used a sixth group: countries that were part of the Austro-Hungarian Empire.

Table 2. GDP growth rates 1960–2007, by legal and colonial origin *(in italics: countries not independent by 1960)*

	Former French colony	Former British colony	Former colony of other French civil law country		Other former colony	Never colonized	Average
French Legal origin	Average 0.95 *(0.67)* 2.93 Morocco 2.66 Italy 2.63 Belgium 2.26 Netherlands *2.14 Congo* *2.11 Mauritania* *1.63 Gabon* *1.25 Mali* *1.04 Burkina Faso* *1.04 Chad* *0.96 Benin* *0.86 Cameroon* *0.83 Algeria* *0.58 Comoro Island* *0.53 Cote D'Ivoire* *0.1 Togo* −0.03 Guinea *−0.13 Madagascar* *−0.22 Senegal* −0.35 Haiti *−0.76 Niger* *−1.25 Central Africa*		Average 1.79 *(1.24)* Belgian colony −1.12 *(−1.12)* *0.18 Burundi* *−0.03 Rwanda* *−3.50 Zaire* Dutch colony 3.35 3.54 Indonesia 3.17 Luxemburg Ottoman colony 2.80 3.25 Greece 3.09 Egypt 2.06 Syria Portuguese colony 1.84 *(1.65)* *2.88 Cape Verde* 2.40 Brazil *1.51 Mozambique* *0.56 Guinea-Bissau* Russian colony 3.90 3.90 Romania	Spanish colony 1.80 *(7.08)* *7.08 Equatorial Guinea* 3.03 Panama 3.01 Dominican Rep. 2.48 Chile 1.97 Mexico 1.94 Colombia 1.76 Costa Rica 1.67 Ecuador 1.47 Guatemala 1.44 Uruguay 1.31 Paraguay 1.21 Peru 1.17 Argentina 1.02 El Salvador 0.99 Honduras 0.59 Bolivia 0.78 Venezuela −0.47 Nicaragua		Average 2.37 3.51 Spain 3.43 Portugal 2.43 France 2.34 Turkey 1.87 Iran 0.63 Ethiopia	1.53

(continued)

Table 2. Continued

	Former French colony	Former British colony		Former colony of other French civil law country	Other former colony	Never colonized	Average
Common Law		Average 2.04 *(1.66)* *5.24 Hong Kong* *5.08 Singapore* 4.49 Malaysia 3.82 Ireland *2.9 Trinidad And Tob.* 2.89 India 2.87 Pakistan *2.56 Barbados* 2.31 Australia 2.26 Canada 2.12 United States *1.56 Fiji*	1.50 New Zealand *1.49 Malawi* *1.38 Tanzania* 1.36 Ghana *0.86 Bangladesh* *0.82 Uganda* *0.68 Jamaica* *0.44 Kenya* *0.29 Nigeria* *0.11 Gambia* *−0.19 Zambia*		Average 1.92 *(1.92)* Australian colony 1.92 Papua New Guinea	Average 1.69 2.15 UK 1.23 Nepal	2.01
Mixed Legal origin		Average 3.05 *(3.29)* *5.67 Botswana* *4.28 Cyprus* *3.48 Seychelles* 3.32 Sri Lanka	*3.06 Mauritius* *2.67 Lesotho* 1.43 South Africa *0.57 Zimbabwe*	Average 1.71 Ottoman colony 2.66 Israel 0.75 Jordan	Average 2.00 *(1.10)* U.S. colony 2.44 3.22 Puerto Rico 1.66 Philippines South African colony *1.10 Namibia*	Average 4.39 4.39 Thailand	2.73
German legal origin					Average 5.52 Japanese colony 5.86 Taiwan 5.19 Korea, Rep.	Average 3.26 5.14 China 3.60 Japan 2.73 Austria 1.58 Switzerland	4.01
Scandinavian legal origin					Average 2.86 Danish colony 2.87 Iceland Swedish colony 2.85 Finland	Average 2.51 3.05 Norway 2.32 Denmark 2.15 Sweden	2.65
Average	0.95	2.30		1.78	3.08	2.66	1.98

Sources: colonizer and legal origin: authors' coding; GDP growth: Heston, Summers, & Aten (2009).

groups of countries for which the two origins do not overlap, followed by a brief discussion of why other groups are unsuitable for comparison.

2.1.1. Imposition of French civil law by different colonial powers

French civil law, as this concept is understood in the legal origins literature, was imposed not only by the French, but also by the Belgians, the Dutch, the Ottomans, the Portuguese, and the Spanish, who all followed a variant of French civil law at home. Furthermore, as discussed above, these colonial powers pursued rather different colonial strategies. Hence if colonial history mattered, we should expect to see systematic differences between these groups. By contrast, if the legal system were the dominant channel through which colonial history mattered, we would expect insignificant differences between French colonies and colonies of other countries which imposed French civil law.

To be sure, this test presupposes that the various Continental powers really exported the same law, or at least that the differences between these colonizers' variants of French civil law were small relative to the differences between their other colonial policies. This is not an innocuous assumption, particularly with respect to countries colonized during different periods. When Portugal and Spain colonized Latin America in the 15th and 16th centuries, their own legal systems were not yet codified, and hence the laws they imposed on their colonies were quite different from the codes that the Belgians, French, and also the Portuguese and Spaniards themselves later brought to Africa. The Portuguese and Spanish colonies in Latin America later codified based on French models in the 19th century, but only after gaining independence—which puts into doubt whether their legal origin can be considered exogenous. Similarly, it is questionable if it makes sense to categorize certain European countries, such as Ireland or Belgium, as former "colonies" of England and France, respectively.[15] In our preferred specifications, we exclude these countries. At the same time, the results with these countries included are qualitatively similar.

2.1.2. Mixed legal systems

Some former British colonies are generally considered to have "mixed" legal systems that combine elements of civil law with elements of common law

15 We do not categorize Spain or Portugal as former French colonies because French occupation of these countries was contested, so the French were unable to impose significant changes. Switzerland is a closer call, but we have similarly not categorized it as a former French colony. Luxembourg was conquered by the French who successfully imposed the Napoleonic Code, but Luxembourg is coded as a former Dutch colony, because it was governed by the Duke of Orange from 1815 to 1867.

(e.g., Zweigert & Kötz 1998, §16 V; Kim 2010). These countries were initially colonized by a country that imposed the civil law (e.g. France, the Netherlands, or the Ottomans) and therefore initially had some form of civil law. Later, England conquered them, but only partially replaced civil law with common law. Prominent examples include South Africa and Sri Lanka, which the British took from the Dutch in 1795–1796. Overall, there are 11 former British colonies with mixed legal systems in our sample (cf. Table 2 below).[16]

These countries present a combination of British colonial history with a hybrid of common law and civil law origin, i.e., *less than full common law origin*. We can therefore test the respective importance of legal origin and colonial history by comparing former British colonies with mixed legal systems to other, pure common law British colonies. To the extent that legal origin is the driver of former British colonies' advantageous outcomes, mixed jurisdictions should perform worse. By contrast, if other colonial influences are decisive, mixed jurisdictions should do as well as other British colonies.

This test is subject to two major qualifications. First, it assumes that while legal influences of the first colonizer persisted, other influences of the first colonizer were completely superseded by the intervention of the second colonizer. This is a strong assumption, but one that, to us, appears to be in conformity with the legal origins literature, which attributes an extraordinary degree of persistence to legal institutions, tracing contemporary differences in regulation as far back as to legal developments in the 12th century (Glaeser & Shleifer 2002; La Porta, Lopez-de-Silanes, & Shleifer 2008). By contrast, education or local governance policies can presumably be changed over a century or more of rule by a later colonial power.

Second, and more problematically, the genesis of mixed jurisdictions suggests two possible sources of selection bias. Because Britain was the dominant world power from the late 18th century until the 20th century, countries that the British acquired may have been particularly desirable places with above-average development potential. Moreover, among the colonies that were colonized by two consecutive colonial powers, many, such as Tanzania and Malaysia, did not become mixed jurisdictions but instead fully adopted the second colonizer's legal template. Those that did preserve their initial

16 Botswana, Cyprus, Guyana, Lesotho, Malta, Mauritius, Seychelles, St Lucia, Sri Lanka, South Africa, and Zimbabwe. No GDP growth data 1960–2007 were available for Guyana, Malta, and St Lucia, so these countries are not in Table 2. There are some additional countries with mixed legal systems in our sample, but, because they were not colonized by the British, they do not present clean tests for the relative importance of legal origin and colonial history. We did not code as "mixed" countries where most of the country had one legal system, but a region (such as Louisiana, Quebec, or Scotland) had a different legal system. Instead, we coded such countries according to the legal system that governed the majority of the country.

legal-colonial heritage and became mixed jurisdictions may have been those in which (legal) institutions were already working relatively well at the time of second colonization. Both of these biases would lead us to overestimate the beneficial effect of the second colonization by the British, or, by the same token, to underestimate the beneficial effect of the common law. For this reason, in the discussion below we place more weight on the results derived with our other empirical tests. Those other results are substantively similar if we code all mixed jurisdictions as common law countries, as in La Porta, Lopez-de-Silanes, & Shleifer (2008).

2.1.3. Tests with other comparison groups?

For various reasons, other group-pairs are problematic for testing the respective influence of legal origin and colonial history. Most importantly, it is not helpful to compare countries that were never colonized to one another because, as emphasized in the introduction, their legal origin is endogenous.

A more subtle but ultimately equally unconvincing use of non-colonized countries would be the following. To assess differences in colonial policies, one might consider a difference-in-differences type approach comparing the difference in growth rates between colonizer A and its colonies to the difference in growth rates between colonizer B and its colonies. One might claim that (i) the difference in growth rates between countries A and B (and their respective colonies) reflect differences in the institutional quality of A versus B, in particular the relative quality of their legal systems, (ii) the difference in growth rates between the colonizer and its respective colonies reflects the effect of being colonized in general, while (iii) the difference-in-differences reflects differences in colonial policies between colonizers A and B. For example, in this view, and fully consistent with our thesis, one could interpret the slow growth of former French colonies relative to France and other French legal origin non-colonies compared with the faster growth of former British colonies relative to the UK (see Table 2 below) as evidence that, wholly unrelated to the legal system, French colonization was more harmful than British colonization. This argument would have to assume, however, that the effect of a certain legal system is the same in the origin countries and the colonies, or at least that the loss or gain of transplanting the system to a colony is independent of the system. Neither of these is plausible. In particular, it has been argued that French civil law was unsuitable for export to developing countries, either because its formal exhortation of the code was prone to misunderstandings (Merryman 1996) or because the more state-heavy French approach failed when transplanted to environments with lower civic capital (Djankov et al. 2003).

Another comparison that would be consistent with our thesis but conceptually problematic is between territories of the former Ottoman empire that are civil or common law countries. As shown in Table 2, those that had French civil law (Greece, Egypt, Syria) grew considerably faster, on average, than those that had a mixed system, i.e., had significant common law influence (Israel, Jordan). This would speak in favor of our thesis. We believe, however, that the number of observations is too small. In addition, the classification of Jordan and Israel as former Ottoman territories simplifies their more complex history. Unlike Greece and Egypt, both were League of Nations Mandates administered by the UK. While we classify them as Ottoman colonies because the Mandate period was relatively brief (less than 30 years), the British Mandate period makes comparison with Greece and Egypt problematic. Syria was a League of Nations Mandate administered by France, and so more comparable to Israel and Jordan, but comparison among just three countries has little power.[17]

We could also compare former Ottoman and US colonies that are now mixed jurisdictions to former British colonies that are now mixed jurisdictions, and this would again point to a relatively benign effect of British colonization. But there are only three countries of the former group in the sample, so we do not pursue this argument here.

There are a number of other colonial/legal origin combinations in Table 2, but these contain at most two observations. Moreover, many of them do not present useful variation: all former colonies of German legal origin were Japanese colonies, and vice versa; and all former colonies of Scandinavian legal origin were Danish or Swedish colonies.

2.2. Institutional Channels

Another strategy suggested by Spamann (2009a, 2010) that we pursue is to investigate directly possible *channels* through which legal origin and colonial history might influence the legal system and, by extension, development in the second half of the 20th century. For this purpose, we compare the explanatory power of a set of variables that proxy for the ostensible core differences between common and civil law to the explanatory power of variables measuring the impact of other colonial policies. A major advantage of this strategy is that it is constructive—it not only tests the importance of legal origin and colonial history in the abstract but points to the concrete mechanisms, which might explain *why* legal origin and/or colonial history would matter.

17 Moreover, the influx of European Jews into Israel after Second World War, which was not caused by any reason related to legal origin, and which has no parallel for either Jordan or Syria, makes any comparison of just these three countries problematic.

We do not have in mind contemporary legislation, which is the basis of most of the findings reported in La Porta, Lopez-de-Silanes, & Shleifer (2008). Such legislation is transitory and open to reconsideration by the legislature at any time. Rather, we are interested in deeper, persistent institutional features that might exert influence over long periods of time. These characteristics might also have the capacity to bring about the systematic differences in legislation documented in La Porta, Lopez-de-Silanes, & Shleifer (2008).

To be sure, we cannot exclude the possibility that there are other deep features of legal and colonial origin that matter for development. But identifying some aspects that do matter would considerably enhance the credibility of either theory. Conversely, the inability to verify empirically a concrete channel through which legal origin or colonial history influences contemporary outcomes would cast doubt on both.

2.2.1. Legal origins: juries, judicial independence, and case law

Most attempts to explain the documented differences between common and civil law countries have focused on what are traditionally considered the most fundamental differences between common and civil law. These are the common law's more independent judges, use of juries (Glaeser & Shleifer 2002), and acceptance of case law as a source of law (Beck, Demirgüç-Kunt, and Levine 2003).[18] To test these theories, we employ a variable for the legal system's acceptance of judicial precedent as a source of law ("case law") circa 1973, which, following La Porta et al. (2004), we construct from country reports in the *International Encyclopedia of Comparative Law* (Réné David et al. 1973–1988); a dummy for the use of juries in 1960, which we construct from Vidmar (2000); and a measure of constitutionally guaranteed Supreme Court tenure in 1960, which we construct from the Comparative Constitutions Project database (Elkins, Ginsburg, & Melton 2010) and which, following La Porta et al. (2004), we interpret as a proxy for judicial independence. The appendix describes the construction of these variables.

2.2.2. Colonial history: income, health, and education in 1960

As discussed above, the various colonizers' legacies differ in many ways other than law. We cannot possibly test the impact of all these differences—suitable

18 The other difference that is often considered fundamental is the civil law's stronger absorption of Roman law influences in the course of its development, but it is hard to see how this could in itself influence economic outcomes today.

data do not exist for many of them, and in any event our list is probably incomplete. Instead, we focus on those variables that previous work suggests are most relevant for economic growth. Among the top 10 variables identified by Sala-i-Martin, Doppelhofer, & Miller (2004) as probably relevant for economic growth, three are possibly related to colonial policy: GDP per capita in 1960, education in 1960, and life expectancy in 1960. Life expectancy in 1960 measures both the colonizer's public health investments and climatic and geographic characteristics that affect longevity. It thus measures both the colonizing powers' policies about which areas to colonize and the colonizing powers' governance policies. We do not attempt in this article to disentangle these two aspects of colonial policy. We obtain the GDP data from the Penn World Tables 6.3 (Heston, Summers, & Aten 2009), and the education and life expectancy data from Barro & Lee (1994).

For lack of a principled alternative, we use these same independent variables also with dependent variables other than growth. Since the connection between those two sets of variables is less tight, we do not necessarily expect to find any strong results. Nevertheless, we can at least compare the power of these non-legal control variables to that of the legal control variables described in the previous subsection.

3. GROWTH

We first illustrate our argument with respect to economic growth before moving to other dependent variables of interest in Section 4. We begin with growth because it is arguably the ultimate variable of interest and should serve as a summary variable for other variables, such as financial market development or corruption. Mahoney (2001) has shown that common law countries grew faster than civil law countries. Similarly, Grier (1999) and Bertocchi & Canova (2002) have shown that former English colonies grew faster than former French colonies. Neither, however, tried to measure the relative importance of legal and colonial origin. We do, and we find that the identity of the colonizer, rather than legal origin, is the driving factor. Human capital variables plausibly related to general colonization policy explain nearly all of the variation, while variables capturing differences between legal families have almost no explanatory power.

Since we are interested in the effects of institutions (implanted during colonial times) rather than the effects of colonization per se, we use growth data

from 1960–2007 rather than GDP levels.[19] We use purchasing-power-parity-(PPP)-adjusted data from the Penn World Tables 6.3 (Heston, Summers, & Aten 2009) to filter out noise from currency fluctuations.[20]

As Table 2 shows, common law countries grew faster than French civil law countries over the period 1960–2007 (2.01 percent versus 1.53 percent), but the difference is not statistically significant ($p = 0.19$ in a two-sided t-test), and other legal origins groups (German, Scandinavian, Mixed) grew even faster. By contrast, former British colonies grew much faster than former French colonies (2.30 percent versus 0.95 percent), and the difference is statistically highly significant ($p = 0.001$). This simple comparison suggests that colonial origin may be more important than legal origin, and we now investigate the driving force behind these numbers.

As discussed in Section 2.1 above, the most informative comparison is between former French colonies and colonies of other French civil law countries (e.g., colonies of the Netherlands, Portugal, and Spain). These colonies all had versions of the French civil law, but their colonial histories were different. The former French colonies grew much more slowly. In fact, the growth rate of former colonies of French civil law countries other than France is not statistically distinguishable from that of former British colonies ($p = 0.29$) or, for that matter, pure common law countries ($p = 0.40$).

Another informative comparison is between former British colonies that are pure common law systems and those that are mixed. Were legal origin truly important and the common law beneficial, as the literature often finds, then the pure common law countries should do better. As Table 2 shows, however, if anything, the opposite is true: the mixed legal systems do slightly better.

Inspection of the relevant cells of Table 2 reveals that neither of these two results is driven by outliers, and both results hold when we restrict attention to countries that were still colonies in 1960 (Countries still colonies in 1960 are in italics). We will show in Table 3 that the results hold up when controlling for initial GDP per capita in 1960. Together, these two comparisons suggest that broader colonial policy, rather than legal origin, influences growth in the post-colonial era. In particular, it appears that French colonial policy had

19 We have also regressed levels of GDP in 1998–2007 on our legal and colonial dummies. The results are similar to those we obtain here, but mostly not statistically significant. We cannot perform our other analyses using proxies for colonial and legal origins, respectively, with levels data because the institutions we are interested in, such as education, health, and the judiciary, are themselves strongly influenced by the level of development. In the growth regressions, we can partially account for this by controlling for starting GDP; with the other dependent variables, we account for this by controlling for contemporaneous GDP.

20 We use the new and improved RGDPL2 linkage, and the new and improved coding of China.

Table 3. GDP Growth 1960–2007, saturated regressions

	Full sample			Former colonies without Europe, Latin America			Former colonies independent after 1960		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Legal × colonial dummies									
French law × French colony	−0.31 (1.30)	4.31 (1.49)	−0.20 (1.57)	0.02 (2.04)	5.01 (2.14)	−0.39 (2.51)	−1.23 (3.06)	2.78 (2.97)	−0.78 (4.20)
French law × other colony	0.49 (1.34)	3.95 (1.43)	0.93 (1.58)	1.14 (2.00)	4.40 (1.99)	1.23 (2.43)	−0.59 (2.98)	1.36 (2.82)	0.12 (4.01)
British colony × common law	0.72 (1.36)	4.53 (1.47)	0.98 (1.50)	1.16 (2.20)	5.00 (2.15)	1.10 (2.47)	−0.36 (3.25)	2.68 (2.98)	0.92 (4.07)
British colony × mixed law	1.80 (1.37)	4.75 (1.36)	1.86 (1.51)	2.29 (2.17)	5.17 (2.00)	2.03 (2.46)	1.31 (3.22)	3.52 (2.79)	2.08 (4.23)
Other (legal × colonial) dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Other variables									
Ln(GDP pc PPP, 1960)	0.17 (0.17)	−1.10*** (0.26)	0.14 (0.21)	0.10 (0.27)	−1.29*** (0.38)	0.15 (0.34)	0.26 (0.42)	−1.11** (0.51)	0.23 (0.56)
Primary schooling 1960		1.62* (0.85)			1.61 (1.12)			−0.21 (1.30)	
Life expectancy 1960		0.09*** (0.02)			0.11*** (0.03)			0.15*** (0.04)	
Supreme Court tenure			0.73* (0.38)			0.66 (0.55)			0.38 (0.88)
Case law			−0.26 (0.25)			−0.39 (0.38)			−0.75 (0.56)
Juries			−0.37 (0.50)			−0.47 (0.88)			−0.65 (1.28)
N	110	97	94	66	58	53	45	38	33
R^2	0.71	0.82	0.72	0.64	0.77	0.65	0.50	0.69	0.47
Combinations of Legal × colonial coefficients									
French × French − French × other	−0.80* (0.41)	0.35 (0.36)	−1.13** (0.49)	−1.12* (0.64)	0.61 (0.61)	−1.62* (0.84)	−0.65 (0.84)	1.42* (0.73)	−0.91 (1.31)
Common × British − French × Other	0.23 (0.41)	0.58* (0.33)	0.05 (0.57)	0.02 (0.66)	0.61 (0.58)	−0.13 (1.00)	0.22 (0.90)	1.32* (0.76)	0.80 (1.48)
Common × British − Mixed × British	−1.08* (0.61)	−0.22 (0.53)	−0.88 (0.69)	−1.13 (0.69)	−0.17 (0.64)	−0.93 (0.82)	−1.68* (0.90)	−0.84 (0.80)	−1.16 (1.30)
p-values from Wald tests of joint hypotheses									
All Legal × colonial dummies	0.00	0.29	0.01	0.01	0.47	0.02	0.15	0.20	0.18
Additional controls		0.00	0.26		0.00	0.50		0.00	0.60

Sources: GDP growth: Heston, Summers, & Aten (2009); colonizer, legal origin, supreme court tenure, case law, and juries: authors' coding; primary schooling (gross primary enrollment ratio) and life expectancy (at birth): Barro & Lee (1994).

The regressions are estimated without a constant. OLS standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.10$ (we do not attach asterisks to the estimates for the Legal × colonial dummies; these estimates only represent group-specific constants).

deleterious consequences for the affected territories. (On other possible comparisons, see Section 2.1.3 above.)

We now add covariates to see if the data tell a plausible story why either legal or colonial origin would matter for growth 1960–2007. In Table 3 we translate the above tests directly into a regression framework, using separate dummies for each *combination* of legal and colonial origins, i.e., for each non-empty cell of Table 2, and no constant. The estimated dummy coefficients are the direct equivalent of the simple averages shown in Table 2, after controlling for the effect of initial GDP. This makes the results directly comparable to Table 2 and allows for arbitrary interaction effects of legal and colonial origin. Nevertheless, for purposes of comparison, we also present regressions using the more traditional set-up of separate sets of dummies for legal and colonial origins in Table 4. We perform all our tests on the full sample of independent countries, a subsample that were a colony at some point between 1750 and 2007 *and* for which legal origin is clearly exogenous, and a sub-subsample that became independent in 1960 or later. We considered legal origin exogenous unless the country made major changes to its legal system shortly after independence, as most Latin American countries did.[21] We also considered legal origin endogenous in all European countries. Substantively, the results are the same in all samples and specifications.

Model 1 of Table 3 is the direct regression equivalent of Table 2, except that it controls for initial GDP per capita. We report only the four intercepts corresponding to the four groups that are relevant for the group-comparison-tests described above. In the bottom rows, we report point estimates and standard errors for linear combinations of coefficients corresponding to group-comparison tests: the difference between former French colonies and former colonies of French civil law countries other than France (e.g., Spain and Portugal); the difference between British colonies and colonies of French civil law countries other than France; and the difference between British colonies with pure common law and mixed legal systems, respectively. Finally, we show an *F*-statistic from a Wald test for the joint null-hypothesis that all the intercepts are equal and, where applicable, an *F*-statistic from a Wald test for the joint null-hypothesis that the coefficients on all the additional control variables, if any, are zero (i.e., the coefficients on primary schooling and life expectancy, or on juries, case law, and Supreme Court tenure, as the case may be). For the regressions with competing sets of legal and colonial dummies in Table 4, we

21 Brazil, Haiti, and Spanish colonies in continental Latin America adopted versions of the Napoleonic Code shortly after independence. When they were colonies, these countries had uncodified law.

Table 4. GDP growth 1960–2007, separate legal and colonial dummy sets

	Full sample			Former colonies without Europe, Latin America			Former colonies independent after 1960		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Law									
Common	−0.97 (0.79)	−0.21 (0.63)	−0.54 (0.97)	−1.18 (1.50)	0.15 (1.28)	−0.94 (1.74)	0.11 (1.44)	−0.84 (0.80)	−1.16 (1.30)
Mixed	−0.03 (0.72)	−0.09 (0.57)	0.29 (0.79)	−0.23 (1.34)	0.19 (1.10)	−0.02 (1.48)	1.48 (1.44)		
German civil	1.45* (0.83)	0.43 (0.70)	1.62* (0.89)	3.41* (2.03)	2.35 (1.79)	4.00 (2.60)			
Scandinavian civil	−0.05 (0.91)	−0.44 (0.75)	0.63 (1.04)						
Colonizer									
Britain	2.05** (0.84)	0.42 (0.70)	1.83* (1.02)	2.39 (1.48)	−0.10 (1.31)	2.43 (1.80)	0.90 (1.37)	0.74 (0.91)	2.86** (1.26)
French civil law country other than France	0.81* (0.41)	−0.36 (0.36)	1.16** (0.49)	1.11* (0.64)	−0.61 (0.61)	1.62* (0.84)	0.62 (0.84)	−1.42* (0.73)	0.91 (1.31)
Other	1.87** (0.87)	0.92 (0.79)	2.07* (1.06)	1.34 (1.69)	−0.37 (1.57)	1.04 (2.34)		1.38 (1.66)	
None	1.40** (0.64)	0.47 (0.51)	1.52** (0.69)						
Other variables									
Ln(GDP pc PPP, 1960)	0.10 (0.16)	−1.22*** (0.25)	0.11 (0.20)	0.06 (0.27)	−1.3*** (0.38)	0.15 (0.34)	0.16 (0.41)	−1.11** (0.51)	
Primary schooling 1960		1.69** (0.83)			1.53 (1.11)			−0.21 (1.30)	
Life expectancy 1960		0.10*** (0.02)			0.12*** (0.03)			0.15*** (0.05)	
Supreme Court tenure			0.68* (0.38)			0.66 (0.55)			0.38 (0.88)
Case law			−0.33 (0.24)			−0.39 (0.38)			−0.75 (0.56)
Juries			−0.40 (0.49)			−0.47 (0.88)			−0.65 (1.28)
Constant	0.23 (1.27)	4.95*** (1.43)	0.03 (1.54)	0.33 (2.00)	5.14** (2.13)	−0.39 (2.51)	−0.48 (2.97)	2.78 (2.97)	−0.78 (4.20)
R^2	0.23	0.53	0.27	0.27	0.53	0.32	0.18	0.54	0.24
N	110	97	94	66	58	53	45	38	33
p-values from Wald tests of joint hypotheses									
Legal origin dummies	0.07	0.83	0.24	0.04	0.47	0.20	0.24	0.30	0.38
Colonial dummies	0.11	0.35	0.10	0.21	0.72	0.23	0.62	0.11	0.44
Legal and colonial dummies	0.00	0.26	0.00	0.01	0.43	0.02	0.13	0.20	0.18
Common = mixed	0.08	0.80	0.20	0.15	0.95	0.26	0.11	0.30	0.38
Additional controls		0.00	0.26		0.00	0.50		0.00	0.60

Sources: GDP growth: Heston, Summers, & Aten (2009); colonizer, legal origin, Supreme Court tenure, case law, and juries: authors' coding; primary schooling (gross primary enrollment ratio) and life expectancy (at birth): Barro & Lee (1994).
OLS standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.10$.

also show separate *F*-statistics from Wald tests for the joint null-hypotheses that all coefficients on the legal and colonial dummies, respectively, are zero.

As with raw growth rates, when we control for initial GDP per capita there are substantial differences between the different legal/colonial groups. As before, however, broader colonial history rather than legal origin correlates with growth differences. As shown in Models (1), (4), and (7) of Table 3, and as in Table 2, for all the samples, French civil law countries colonized by countries other than France did economically and statistically significantly better than former French colonies, and in fact did approximately as well as former British colonies with common law legal systems. Also as before, former British colonies with mixed legal systems did even better than former British colonies with pure common law systems. We obtain similar results with the competing dummy sets in Models (1), (4), and (7) of Table 4. Controlling for the colonizer, common law jurisdictions are statistically indistinguishable from civil law jurisdictions; in fact, the point estimate suggests that common law is associated with *lower* growth, and common law jurisdictions grew statistically significantly less than German civil law jurisdictions and mixed jurisdictions (in the full sample). By contrast, the British colony coefficient is economically significantly positive, and statistically significantly so in the full sample, implying that former British colonies grew on average approximately 2 percent faster per year than former French colonies. Moreover, former colonies of French civil law countries other than France also grew approximately 1 percent per year faster than French colonies; this difference is statistically significant except in the small sample of former colonies independent after 1960 [Model (7)].

Further confirmation of the importance of colonial rather than legal origins comes from the additional control variables that we introduce in the other regressions of Tables 3 and 4. Our proxies for broader colonial policy—initial schooling and life expectancy—absorb most of the effect of the colonial dummies, and are at least jointly highly significant, both statistically and economically. The point estimates in Models (2) and (5) of Table 3 suggest that a one-standard deviation increase in initial schooling and life expectancy is associated with approximately 1.75 percent higher annual growth over the period 1960–2007. We showed in Table 1 above that former British colonies had significantly higher initial education and life expectancy around 1960. Together, these estimates provide reason to believe that the colonizing powers had an important differential effect on post-colonial development through their non-legal policies.

By contrast, we find no evidence that legal institutions imposed by the colonial powers had any effect on subsequent growth. The estimates for juries, case law, and Supreme Court tenure are neither individually nor collectively significant, with the exception of Supreme Court tenure in Model (3) of

Table 3. Moreover, two of the three coefficients—case law and juries—point in the "wrong" direction, i.e., they appear to be associated with lower growth, the opposite of what the legal origins hypothesis would suggest (cf. Section 2.2.1 above).

4. OTHER DEPENDENT VARIABLES: FINANCIAL MARKETS, UNEMPLOYMENT, AND INSTITUTIONS

We now perform identical tests for other dependent variables. As we will see, the picture that emerges here is much less clear than for growth, and we have verified that this is not a consequence of differing samples or different time periods.[22] We defer the discussion of these discrepancies to Section 5 below.

While there are potentially hundreds of dependent variables to look at, we focus on the key areas of the legal origins literature, as summarized in La Porta, Lopez-de-Silanes, & Shleifer (2008, tables 1–3, Panels B): equity markets, debt markets, employment, corruption, and the functioning of the judiciary. For each of those broad areas, we retain from La Porta, Lopez-de-Silanes, & Shleifer (2008, tables 1–3, Panels B) the dependent variable with the greatest country coverage: stock market capitalization to GDP, private credit to GDP, unemployment, corruption, and the duration of court proceedings to enforce a debt. Unlike La Porta, Lopez-de-Silanes, & Shleifer (2008), however, we are not constrained by the use of time-variant legal variables to work with data for a particular time period, and we therefore use the most recent available data with the greatest country coverage. With one exception, we average the data over a 10-year period to filter out cyclical noise and to maximize sample size.[23]

In particular, we average 1998–2007 data on stock market capitalization over GDP, private credit over GDP, and unemployment from the World Bank's World Development Indicators (WDI), and meta-data on corruption (rescaled so that higher numbers indicate more corruption) from the World Bank's World Governance Indicators. In addition, we use the World Bank's latest Doing Business Report (World Bank 2008) data on the duration of enforcing a simple business debt in the year 2006.[24] As La Porta, Lopez-de-Silanes, &

22 Running our growth regressions for the period 1998–2007 yields few significant results, presumably because of the relatively short time window, but the coefficient estimates are similar to those of our baseline growth regressions.

23 In averaging the data, we average over all available years for the particular country in the relevant time period, instead of dropping countries with missing data for some of those years.

24 The latest Doing Business data replace those of Djankov et al. (2003) and the World Bank's first Doing Business Report (World Bank 2004); as documented in Spamann (2009a), they deviate substantially from the earlier, less sophisticated data.

Shleifer (2008) do, we control in all regressions for the natural logarithm of GDP per capita from WDI, PPP-adjusted and averaged over 1998–2007. The other independent variables are the same as in the growth regressions.

While our regression specifications and tests are otherwise identical to those used for growth above, we condense the presentation because we now have five times as many regressions. We report for each regression only the coefficients and test statistics that are directly relevant for distinguishing legal and other colonial origins in these data, as explained in Section 2 above and applied with respect to growth in Section 3. We also report only results for the conceptually most convincing sample, namely former colonies outside of Europe and Latin America, for which legal origin is clearly exogenous. We have verified, however, that results for the full sample are similar.

In addition to single-equation test statistics, we also show *p*-values from corresponding joint cross-equation Wald tests using the covariance matrix estimate from unweighted system OLS.[25] Since we have considerably fewer observations for equity market capitalization than for our other dependent variables, we also show cross-equation tests for the other four dependent variables.

Table 5 shows results from regressions with dummies for the various *combinations* of legal and colonial origin, i.e., the equivalent of Table 3, Models (4)–(6). Panel A shows the regressions controlling only for contemporaneous GDP per capita and legal/colonial origin. The picture is almost the opposite of what we find for growth. Among French legal origin countries, former French colonies now perform better than other colonies with French civil law on all five dimensions. Although the individual differences are not statistically significant, collectively they are, if market capitalization is omitted from the test. The exclusion of market capitalization is important, because it doubles the sample size. Also unlike for growth, non-French colonies with French civil law perform much worse than former British colonies with common law. Among former British colonies, the mixed jurisdictions perform better than pure common law countries in some areas but not in others, and only one of those differences is individually statistically significant (the joint *p*-value is 0.01, but it confounds positive and negative deviations).

We get results more consistent with our growth results in Panel B of Table 5, which shows results from regressions with controls for non-legal colonial

25 Some of these *p*-values need to be interpreted with caution because they do not account for the direction in which an estimate deviates from the null hypothesis. For example, if common law countries perform worse than French civil law countries in one equation and better in another, these deviations from a null hypothesis of no differences do not cancel out but rather add up in the cross-equation test.

Table 5. Other dependent variables, saturated regressions

	Market cap /GDP	Credit/GDP	Corruption	Unemployment	Court duration	Joint *p*-values for equations	
	(1)	(2)	(3)	(4)	(5)	(1)–(5)	(2)–(4)
	A. No additional control variables						
N	50	103	73	105	100	43	70
R^2	0.51	0.56	0.13	0.61	0.11		
French × French – French × Other	14 (33)	3 (9)	−4 (3)	−0.2 (0.2)	−73 (96)	0.18	0.02
Common × British – French × Other	47** (22)	20** (8)	−3 (2)	−0.5*** (0.2)	−92 (92)	0.00	0.00
Common × British – Mixed × British	34 (23)	−10 (11)	−6** (3)	0.1 (0.2)	−206 (129)	0.01	0.03
p-values from Wald tests							
All legal × colonial dummies	0.47	0.24	0.46	0.09	0.54	0.03	0.19
	B. Proxies for colonial policy (education, life expectancy)						
N	36	62	47	62	61	33	46
R^2	0.58	0.66	0.37	0.75	0.18		
French × French – French × Other	11 (61)	−10 (15)	1 (4)	−0.0 (0.2)	−58 (134)	0.55	0.28
Common × British – French × Other	71 (49)	1 (14)	−1 (4)	−0.1 (0.2)	−83 (126)	0.32	0.12
Common × British – Mixed × British	41 (29)	−11 (15)	−9*** (3)	0.1 (0.2)	−220 (142)	0.01	0.00
p-values from Wald tests							
All legal × colonial dummies	0.37	0.98	0.09	0.95	0.70	0.00	0.00
Colonial policy proxies	0.07	0.27	0.06	0.02	0.49	0.13	0.21
	C. Proxies for legal families (juries, case law, Supreme Court tenure)						
N	37	64	48	64	60	32	45
R^2	0.59	0.67	0.21	0.70	0.23		
French × French – French × other	5 (32)	12 (12)	−2 (4)	−0.5** (0.2)	−75 (117)	0.65	0.18
Common × British – French × Other	6 (30)	2 (15)	−2 (4)	−0.6** (0.3)	−58 (145)	0.15	0.05
Common × British – Mixed × British	16 (19)	−23* (13)	−6** (3)	0.1 (0.2)	−222* (127)	0.04	0.01
p-values from Wald tests							
All legal × colonial dummies	0.78	0.78	0.64	0.50	0.30	0.43	0.00
Legal family proxies	0.51	0.01	0.49	0.25	0.51	0.62	0.16

This table only shows linear combinations of coefficients and corresponding OLS standard errors (in parentheses), as well as *p*-values for joint hypotheses within and across equations. The full regression specifications of panels A–C are identical to those of equations (4)–(6), respectively, of Table 3, with the exception of the dependent variables and the control for ln(GDP per capita) (1998–2007 from the World Development Indicators, instead of 1960 from Heston, Summers, & Aten 2009). The first four dependent variables are averaged over the years 1998–2007 and come from the World Bank's World Development Indicators (stock market capitalization over GDP, private credit over GDP, and unemployment) and World Governance Indicators (corruption, rescaled so that higher numbers indicate more corruption); the fifth dependent variable (duration of enforcing a simple business debt in the year 2006) is from World Bank (2008). ***$p < 0.01$, **$p < 0.05$, *$p < 0.10$.

policy, namely education and life expectancy in 1960 (see Section 2.2.2 above). These proxies absorb most of the differences between the various legal/colonial groups, particularly the differences between French and other former colonies with French civil law; and the differences in average private credit, corruption, and unemployment between former British, common law colonies and former non-French, French civil law colonies. By contrast, the differences between common law and mixed former British colonies are unaffected. The colonial proxies themselves are not statistically significant except in the unemployment and corruption equations, but this may be due to the fact that the particular proxies we use are not well-matched to the dependent variables (see Section 2.2.2 above).

The results from regressions with proxies for common/civil law differences, namely juries, case law, and Supreme Court tenure (see Section 2.2.1 above), are consistent with our growth results in so far as these legal proxies are jointly insignificant across all equations and in every single equation except the credit market regression.

We have also run the Table 5 regressions with competing sets of legal and colonial origin dummies, i.e., the equivalent of the growth regressions in Table 4 [Models (4)–(6)]. The unreported results confirm those of Table 5. In particular, across all five dimensions, common law is associated with favorable outcomes, while British colonial influence is associated with unfavorable outcomes. These estimates, however, are statistically insignificant except for market capitalization.

To sum up, we find, for the other dependent variables, mixed jurisdictions perform on the whole as well as common law jurisdictions, while the legal origins theory would predict that they do worse. At the same time, unlike for growth and contrary to the colonial history hypothesis, former French colonies do better for the other dependent variables than colonies of French civil law countries other than France. Neither proxies for colonial policy (education and life expectancy in 1960) nor for legal institutions (juries, case law, Supreme Court tenure) seem to matter in these regressions.

5. DISCUSSION

In order to interpret our results, we first need to reconcile our results for growth with those for other dependent variables. While the former strongly suggest that colonial history rather than legal origin explains performance differences, the latter are more ambiguous and, in part, point in the opposite direction. As already mentioned, we have verified that the differences are only partially explained by differing time periods and samples.

The discrepancy is puzzling because most economists believe that these other dependent variables—capital markets, labor force utilization, and institutions—are important for economic growth (see, e.g., for capital markets Bekaert, Harvey, & Lundblad 2005), and also that there is a feedback effect from economic development to these other variables. We would therefore expect these estimates to go in the same direction, and the discrepancy, if it is one, is more than the usual statistical outlier that we would expect when conducting multiple *independent* tests. Of course, there is no puzzle to explain if the results for the other dependent variables are simply non-results, i.e., noise. This is plausible because few if any of the results for the other dependent variables were statistically significant by conventional standards.

To be sure, the "noise explanation" is ultimately not satisfactory, and calls for additional work. Another possibility is that common law countries may have negative features, which offset the advantages identified by La Porta, Lopez-de-Silanes, & Shleifer (2008) and others. Spamann (2009a) shows that common law countries have higher incarceration rates and more crime. Similarly, Cutler, Glaeser & Shapiro (2003) find that common law countries have higher obesity rates. These and other yet undiscovered negative characteristics of common law countries may counteract the positive characteristics more prominent in the literature.

For the time being, we read the evidence that we find here in conjunction with other papers that shed light on the respective relevance of colonial history and legal origins. While we are the first to address the former as an alternative to legal origins, others have questioned the theory behind the legal origins explanation from different angles. Roe (2006) points out that much of the evidence of the legal origins literature is drawn from highly regulatory areas of law, such as securities or conscription, which have no obvious link to what are traditionally perceived to be the main differences between common and civil law, such as the recognition of case law and various aspects of civil procedure. Moreover, Spamann (2010) shows that the best available data on civil procedure (World Bank 2008) exhibit no measurable differences between common and civil law countries. Together with the results of this article, this suggests that non-legal colonial explanations deserve to be taken seriously as explanations for the observed cross-country differences between "common law" and "civil law" countries.

6. CONCLUSION

In this article, we argue that colonial history is a plausible alternative to purely legal explanations for the empirical patterns documented in the legal origins

literature. The colonial powers not only imposed their legal system but also had other profound influences on their colonies, including educational policy, health policy, and local administration and self-government. Empirically, we can show that the identity of the colonizer is indeed a better predictor of post-colonial growth rates than legal origin, and this is bolstered by our finding that proxies for broader colonial policy, but not proxies for legal origin, can explain much of the growth differential between the colonial groups. For other dependent variables, the results are mixed, pointing to the need for further research.

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Appendix: Coding of juries, case law, and Supreme Court tenure

1. SUPREME COURT TENURE

This variable takes the value 1 if judges of the highest ordinary court had constitutionally protected terms of indefinite duration in 1960; otherwise this variable takes the value 0. The highest ordinary court was the highest court to which appeals of contract and other non-constitutional, non-administrative cases could go. (This means, for example, that in most former French colonies in Africa, the "Cour Supreme" is not considered "the highest ordinary court" because it deals primarily with constitutional issues and impeachments.) The tenure of judges on special constitutional, administrative, or impeachment tribunals was not considered. If a constitution provided life tenure, or if it provided no fixed terms for judges and had procedures making removal difficult (e.g., limited grounds for removal implemented only by legislative supermajorities), this variable takes the value 1. If a constitution provided for a mandatory retirement age which could not be waived by the legislature or executive, this variable takes the value 1; if it could be waived (e.g., Ghana, Guyana, Jamaica, and Nauru), this variable takes the value 0. If life tenure followed a probationary period (e.g., Burundi), this variable takes the value 0. Coding was based on the authors' own reading of full-text constitutions in Elkins, Ginsburg, and Melton (2010). The relevant constitution was the one in force on December 31, 1960, or, if the country was not independent or did not otherwise have a constitution in 1960, the first constitution enacted before December 31, 1970. The database was accessed between March 31, 2010 and June 14, 2010.

2. JURIES

This variable takes the value 1 if juries were used for any purpose, civil or criminal, in 1960. It is based on Neil Vidmar (2000). Because this source does not always specify whether there was a jury in 1960, if this source indicates that juries were used any time in the period 1940–1970, and there is no

indication that the country stopped using juries before 1960 or started using juries only after 1960, this variable takes the value 1. The variable takes the value 1 even if juries were only used by a small segment of the population (e.g., Kenya, where juries were only for whites), but not if only a very small part of a country had juries (e.g., Yemen and Tanzania, even though Aden and Zanzibar had juries). Since Vidmar's most complete source is a 1942 survey of Commonwealth countries, the juries variable may be biased in that Commonwealth countries are more likely to be coded as having a jury.

3. CASE LAW

This variable takes the value 0 if case law is not a source of law, 1 if case law is a minor source of law, and 2 if case law is an important source of law. Coding was based on the authors' own reading of the National Reports in *The International Encyclopedia of Comparative Law* (David et al. 1973–1988). This variable takes the value 0 if there is no mention of precedent or case law, or if precedent or case law is mentioned only for the purpose of stating that it is not a source of law. This variable takes the value 1 if precedent or case law is said to have a role but that role is not called important or significant (e.g., Bolivia, Brazil, Chile, Colombia, Egypt, Ethiopia, Iran, Italy, Lebanon), if precedent or case law is said to have only persuasive authority (e.g., Cote D'Ivoire), if precedent or case law has authority only in special circumstances (e.g., a decision of the full bench) (e.g., Iran), if the common law or English law applies but there is no mention of the binding effect of local decisions (e.g., Antigua, Barbados, Belize, Bermuda, Kenya, Zambia), if there is case law but cases are not published (e.g., South Korea), if Roman Dutch common law applies (e.g., Zimbabwe), or if the scope of judge made law is very narrow (e.g., Sudan). This variable takes the value 2 if precedent or case law is a source of law, if stare decisis applies, or if case law or precedent is binding, influential, decisive, important, or often followed, even if case law or precedent is not a formal source of law or technically binding (e.g., Austria, Belgium, France, The Netherlands, Spain). Mexico is coded as 2, because much case law is said to be "compulsory." This variable is similar to the case law variable of La Porta et al. (2004) in that it is based on the same source (David et al. 1973–1988), but it is different in a number of ways, including: (i) greater country coverage; (ii) it can take three values (0, 1, or 2), rather than just two (0 or 1); (iii) it considers case law to be an important source of law if David et al. (1973–1988) says that it is important, influential, or often followed, even if case law or precedent is not a source of law or formally binding; and (iv) errors, such as the coding of Honduras, are corrected. In any event, unreported regression results with the original case law variable from La Porta et al. (2004)

extended to the same sample[26] are similar (in fact, the estimated coefficient for the original variable is more negative than in the regressions reported above, and sometimes statistically significant).

26 The extension starts with the data from La Porta et al. (2004) and adds additional countries using the following coding rule: case law is coded as 1 if David et al. (1973–1988) states that the authority of cases or precedent follows English principles, or is similar to that of England or other common law countries, the authority of case law is between that common law and continental countries (e.g. Israel and Norway), case law or precedent is binding or a source of law, or the doctrine of precedent or stare decisis applies, judicial decisions are a source of law even if the country does not recognize the binding authority of precedent (e.g., Denmark, Indonesia, Japan), judicial decisions are important or decisive (and David et al. 1973–1988 does *not* state that precedent is not a source of law or binding) (e.g. Argentina), judge-made law must fill large gaps even though judicial decisions are not fully authoritative (e.g. Finland), a consistent line of court decisions has binding effect (e.g. Germany, South Korea), special decisions have binding effect (but makes no general statement limiting power of precedent) (see Ecuador), the common law of England or English Law or English case law applies, or Roman Dutch common law applies (Zimbabwe); in all other cases, case law is coded as 0.