Democracy, Autocracy and Sovereign Debt: How Polity Influenced Country Risk in the First Financial Globalisation[1]

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The study of sovereign debt is ultimately a study of power. The capacity of states to govern, tax, and promote economic growth determines the risk of default. Creditworthiness tells a great deal about political conditions. The mainstream literature proposes that democracies tend to produce better borrowers because of the capacity of the Parliament to limit the power of the executive to commit to its contracts credibly and to protect the property rights of creditors against the action of sovereigns. This is not the case of autocracies, where too powerful governments are under the inevitable temptation of expropriating its creditors. North and Weingast (1989) present Post-Glorious Revolution Britain as a quintessential example of a country whose government, bounded by "good" institutions, managed to borrow at cheaper rates than autocratic regimes such as Spain and France.

The idea of a democratic advantage is debatable. There is no consensus on the topic today. Archer et al. (2007) found that policy consistency and stability rather than regime type explain country risk. Diuseppe and Shea (2016) claim that dictators tend to depend more on creditors to maintain the stability of their regimes, creating incentives for good borrowing behaviour. The historical literature also presents a debate for the early modern period. O'Brien (1999) and Horwitz (1977) criticise the assumption that Britain was a democracy in the century that followed the Glorious Revolution. Stasavage (2008) concludes that a particular form of party politics rather than polity explains Britain's capacity to tax and borrow in that period.

In contrast, the democratic advantage is virtually accepted without debate for the period of the first financial globalisation - from the 1870s to 1914. Most works on that era focus on

the creditor's decision to lend (the supply side) rather than the domestic political economy that determined the government's choices when taxing and borrowing. This is striking because governments are the main agent in the sovereign debt market: high officials have the final say when issuing bonds and, once in debt, whether to pay services on it. Furthermore, the century that follows 1848 was marked by institutional globalisation. Independent states across the world extended suffrage and introduced parliamentary checks and balances, in what Huntington (1993) called the first wave democracy. Ziblatt (2007) stresses that the second half of the nineteenth century was politically complex for it saw the emergence of both democracy and authoritarianism across the world.

This article addresses this gap in the literature by assessing the relation between polity and the cost of the credit of independent capital-importing countries in London between 1880 and 1914. It regresses the risk premium applied to 254 bonds issued by the central governments of 27 countries on dummy and continuous variables that capture polity, controlling for a series of variables that capture macroeconomic condition, market integration, and war capacity. The polity variables are from Banks (2001) and Polity IV. They measure the degree of competition of elections and the power of the legislative over the executive.[2] The controls are from a series of secondary and primary sources. The results of panels with pooling, time fixed effects and random effect suggest that governments borrowed cheaply the less they were limited by Parliaments and the less competitive were the processes that appointed their heads of state. At odds with the democracy advantage assumption, autocracies in the peripheries of the first financial globalisation were associated to lower risk premium than democracies.

The article is divided into four sections besides this introduction and the conclusion. Section 2 reviews the historical literature on polity and sovereign debt. Section 3 discusses the implication of that debate on the peripheries of the first financial globalisation. Section 4 presents the sources and model and Section 5 shows the result of the empirical exercise.

Polity, fiscal state and sovereign debt
In their seminal article, North and Weingast (1989) propose that the British political system that emerged from the 1680s Glorious Revolution enabled the state to tax consistently and efficiently and to borrow long terms at low costs. By allowing the Parliament to limit its decision to tax and spend, the executive was able to tax and borrow without causing revolts that disturbed the political order. The legislative reduced the executive's power to impose

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[2] Marshall et al. (2016)

lump-sum tributes and forced loans, which was usual practice in times of war. This arrangement smoothed the government consumption and guaranteed the compliance of taxpayers, who were represented in the Parliament. These authors' work opened an avenue for new research on the democratic advantage. Daunton (2010, 2012) asserted that post-Glorious Revolution British taxpayers believed that the government would not tax too much, while creditors trusted that the latter would repay. Both taxation and public debt increased thanks to such credible commitments, although in a much smoother trend than in France, where revolts commonly follow spikes in taxation. The 1789 revolution is presented as a dispute over taxation. Cox (2011) points out that the handing of ministerial responsibility to members of the Parliament played a crucial role in making the legislative more docile in accepting tax increases. That arguably solved the fiscal deadlock described by Hoffman and Rosenthal (1997), in which Parliaments prevented kings from raising the taxes, forcing them to rely on "fiscal predation" to finance personalist military projects.

At odds with the idea of democratic advantage, Stasavage (2008) focuses on the role of party politics rather than limited government in increasing taxation and reducing the risk of default. He presents Britain's fiscal credible commitment as the outcome of "cross-cutting cleavage" on ideals such as religious freedom and constitutional constraint over the executive, which united large landowners and London financiers under the Whig party. Thanks to their shared beliefs, the landowners agreed to pay taxes on property, whose revenue enabled the government to honour the debt owned by the financiers. The Whigs outnumbered the Tories, most of whom opposed religious freedom and taxes on land. According to this view, the Bank of England was not the product of limited government but an instrument of the victorious Whig compromise. Similar arrangement would not have appeared in France even if that country emulated Britain's institutions. Most French public creditors were members of the new aristocracy from Paris, where they were outnumbered by the bourgeoisie. These creditors were even weaker at the national level, for a traditional nobility that did not lend money nor paid taxes dominated the countryside. Stasavage claims that, in principle, a Whig-like arrangement could have appeared in an autocratic such as France as long as cleavages united different political groups around the issue of fiscal sustainability. It all depended on the political interaction of different social groups.

Although there is no consensus on the democratic advantage, it is clear that the states' ability to tax is crucial in its capacity to service its debt. Along the eighteenth century a permanent bureaucratic body emerged in Britain to collect taxes in a consistent way. The government used that flow of revenue to guarantee the payment of long term debt, which

reduced the cost of borrowing. By the nineteenth century the British government counted on permanent sources of direct taxation and long-term debt, completing a transition that, according to Neal (2010), characterises mature fiscal states. The question then is what factors conditioned the creation of fiscal states. The literature that sprang from North and Weingast (1989) presents democracy as the main driver. Bordo and Cortes-Condes (2001) point out that indirect taxes were more progressive than traditional direct taxes, as it included the politically powerful classes that were exempted from paying tributes. Acemoglu and Robinson (2006) propose that the appearance of full democratic regimes in the nineteenth century explain why the state introduced progressive direct taxation such as income tax. Aidt and Jensesn (2009) argue that states need democracy to rely on income tax, for individuals would not cooperate to display their income and pay accordingly in autocratic countries. Ardanaz and Scartascini (2011) show that countries that are not democratic or whose democracies are incomplete depend more on regressive indirect than on direct taxes today.

However, a number of studies demonstrate that the causality between democracy and taxation may work in different ways or not at all. According to Kato and Tanaka (2013), democracies appeared in the 1980s as a reaction to indirect regressive taxation. Mulligan et al. (2004) find that democracies have flatter personal income tax and a lower rate of tax-GDP. Profeta et al. (2013) accept that in theory democracy redistributes wealth but argue that empirical tests are inconclusive. Like the issue of the democratic advantage, it is still not clear whether democracy is a precondition for the emergence of the progressive direct taxation that characterises mature fiscal states.

A parallel debate is the role of war in the emergence of fiscal states. Besley and Persson (2009) propose that external threats raise demand for defence, a public good, making it politically easier for the state to tax. That is a proposition in line with the famous quote by Tilly (1990), according to whom "the state made the war and war made the state". Along the same lines, Ormord (1999) affirms that the Napoleonic Wars created the British fiscal state. O'Brien (2012) argues that Britain could make fiscal accounts public because it secured its borders after defeating France in the 1810s. Accountability is a feature of mature fiscal states that reduces information asymmetry and contributes to the fall in the cost of borrowing. In contrast, Cardoso and Lains (2010) affirm that military conflict was not a necessary nor a sufficient condition. Europe was a remarkably violent continent up to the early nineteenth century, but only Britain formed a fiscal state then. Other countries did so during the second half of the nineteenth century, a relatively peaceful period.

Neal (2010) stresses the role of a war-unrelated feature of early modern Europe in fostering the appearance of fiscal states: the trade and financial revolutions. By taxing traders and financiers, the state increased revenue without antagonising the traditional elites such as the clergy and the nobility. In order to tax trade, however, it needed to invest in a new permanent tax structure. The growth of fiscal revenue financed only part of this process, and for a determined period the states had to borrow to cover their deficit. Once a modern apparatus designed to collect duties was in place, the states imposed new direct taxes on wealth and income. This view endogenizes the emergence of fiscal states by stressing the role of social structure and economic dynamism, which may be captured by variables such as urbanisation and market integration.

The peripheries of the first financial globalisation

The literature discussed so far primarily focuses on the experience of central economies in North-West Europe in the early modern era. Inspired by this debate, our article assesses the role of polity on the cost of sovereign debt in the peripheries of the global economy during the first financial globalisation, from the 1880s to 1913. We define peripheries as independent capital importing countries from Latin America, Southern and Eastern Europe, Scandinavia, and Asia. Most of these countries borrowed heavily abroad in gold British pounds - sovereign debt is defined here as obligations of central governments denominated in foreign currency. Differently from domestically-denominated debt, sovereign debt created currency mismatch, which Eichengreen (1992) characterises as the original sin of financial crises.[3] External shocks such as fall in export prices and reduction of capital inflow often depreciated the national currency, increasing the cost of servicing the foreign-denominated debt vis-à-vis tax revenue and raising the risk of default. Balance of payment problems led to debt crises even in countries with sound fiscal policies. The first financial globalisation was an era of intense foreign borrowing as well as crises and events of debt defaults.

The globalisation of capital was concomitant to a global institutional catching-up, in which political institutions such as elections and parliamentary power over the executive appeared around the world. Purely autocratic polities, in which the executive was the only relevant power, started to become a rarity. This does not mean, though, that democracies spread

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[3] We deliberately leave out the analysis of domestic debt in this article, as it has not been yet possible to identify a comparable measure and definition of domestic debt across our polities which implemented a wide range of tools and mechanism to tap domestic savings in the form of domestic debt. Moreover, the data on domestic debt is extremely patchy if it ever exists preventing us to construct reliable time series comparable across polities.

across all countries in the same way. Parliaments were weaker, and systems of checks and balances were more imperfect in the peripheries than in the centre countries. According to Polity IV, the list of nineteenth century democracies includes only Anglo-Saxon countries (United Kingdom, United States, Australia, Canada and New Zealand); a few European countries (France, Switzerland, Belgium, and Greece); and tiny Costa Rica. Norway, Spain, Denmark, and Portugal are listed as democracies from 1898, 1900, 1902, and 1911, respectively. The group does not increase significantly until the post-war. Yet a significant number of countries that lacked democratic institutions such as competitive elections and free political participation did include some parliamentary constrain over the executive That was the case of Chile, Colombia, Italy, Japan, Ottoman Empire, Norway, Portugal, Spain, Sweden, and Uruguay.[4]

The institutional catch-up of the peripheries also involved the consolidation of centralised fiscal or semi-fiscal states. For instance, Argentina established Buenos Aires as its federal capital in the 1880s, around the same period when national politics stabilised, and the conquest of Patagonia formalized its southern borders. The Parliament played a role thereafter, representing regional oligarchies from the interior in their struggle to balance the influence of large and rich Buenos Aires province. Yet the legislative was not strong enough to limit the executive and elections were not competitive. The question then is how these political developments shaped the way the government managed the sovereign debt. In the Argentinean case, a coalition between the legislative and the executive pushed for a series of expansionist policies and over-borrowing in the 1880s, which by and large resulted in the default that triggered the 1890 Baring Crisis.[5]

Mexico was a failed state until the 1880s, when the authoritarian regime of Porfirio Díaz submitted regional authorities to the central government. Díaz administrations created nation-wide fiscal infrastructure that replaced old local duties on internal trade. The government converted its defaulted debt, suspending a long-lasting embargo that had isolated the country financially since the 1820s. Mexico borrowed at progressively cheaper rates in the 1890s and the 1900s in spite of the absence of democratic institutions. A revolution toppled Diaz's autocratic regime in 1911 and a new government attempted to build a democracy. However, a conflict opposing the revolutionaries and a counter-revolution coalition escalated to a civil war, whose fiscal consequences included a default in 1914.[6]

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[4] Marshall et al. (2016).
[5] Rock (2002, 118-124) and Ferns (1992).
[6] Weller (2018).

The Brazilian monarchy built stable sources of taxation and borrowed long term both domestically and in London. According to the Polity IV index, the Parliament had no means of controlling the executive because the emperor, himself a member of the executive, had the prerogative of inviting congressmen to form cabinets.[7] In contrast, Summerhill (2015) claims that the Parliament limited the executive in a political system that contributed for the appearance of a large domestic and external debt. A military coup established a republic in 1889, starting a turbulent decade during which Brazil nearly defaulted on its debt. The republic allowed underrepresented political groups such as regional oligarchies and the urban middle class to play a greater role in national politics, including in the newly-assembled Congress.[8] Political instability deteriorated fiscal accounts until a nation-wide oligarchic pact based on rigged elections provided the political stability the government needed to implement orthodox policies and re-established the country's credit abroad.[9]

An Ottoman parliament and the constitution for the first time emerged in 1876, which aimed at introducing accountability over fiscal matters and regularising the authority of the Sultan. However, in practice it did not empower any other group than the existing Ottoman political elite and bureaucracy. That is why there was no fight or resistance against Abdulhamid II's decision to suspend the constitution and the parliament just two years later. A representative assembly was not successfully established until after the Young Turk Revolution of 1908. From this year onwards, the representative assembly had the power to pass legislation over the Sultan's authority. Given this late emergence of representative institutions, the ability of the Ottoman state to raise taxes via consent was not significant, hence the government opted for the politically less costly path of external borrowing. From the 1850s to the 1870s the Ottoman government accumulated external debt by state borrowing and eventually declared a moratorium on its outstanding debt in 1876. This crisis led to the establishment of the Council for Ottoman Public Debt Administration in 1881. The primary aim of this organisation was to safeguard the position of those who held shares in the Ottoman public debt. Despite the popular resistance, the Ottoman government cooperated with its foreign creditors and OPDA, and international capital henceforth became available under better terms for the rest of the period.[10]

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[7] Marshall et al. (2016).
[8] Topik (2009) and Carvalho (1992).
[9] Topik (1993), Weller (2018).
[10] Tunçer (2015).

Greece, following its independence from the Ottoman Empire in 1844, introduced the first Greek constitution and representative assembly. In 1875, the King recognised the majority rule in the parliament to form a government, which practically meant a two-party system until the 1890s. During this period, Trikoupis emerged as the main political leader. He was a proponent of Westernisation of the economic and political institutions. At the other end of the spectrum, Deliyannis represented a more traditionalist and populist view, which was in favour of the idea of Greater Greece and a more adventurous foreign policy. The competition between these two political parties shaped the attitudes towards economic policy. The picture only slightly changed following a coup d'état in 1909 – similar in spirit to the Young Turk Revolution of 1908 – and a new constitution in 1911, which introduced a second chamber, called the Council of State, with supervisory function over legislation. Despite the early emergence of representative political institution, until 1879 Greece had no access to the international capital markets because the country had constantly been unable (or unwilling) to service its external debt, contracted during the period of the War of Independence. Greece, therefore, was refused to enter into any new commitments before the outstanding arrears had been settled. After 1879 and following an agreement with its main creditors, Greece began to borrow extensively in the international capital markets. However, this led the Greek state to another bankruptcy only fourteen years after it had contracted its first loan. As a result, similar to the Ottoman Empire an organisation of international financial control was established in 1898 and it started controlling almost one-third of Greek revenues. Unlike the Ottoman counterpart, however, the democratically elected Greek government did not show much willingness to cooperate with its foreign creditors and resisted to the reform attempts of foreign creditors. As a result, they did not benefit from a significant decline in borrowing costs compared to the Ottoman Empire.[11]

Following the Berlin Treaty in 1878, Romania gained full independence. In 1881, with the approval of the Powers and Romanian chamber, Romania became a kingdom and Karl took the title of king. Until 1888, the King and the Liberal party worked in harmony and extended administrative reforms towards political modernisation. From this year onwards until 1914, the Conservatives and the Liberals alternated power as the King Carol could take advantage of the existence of both fractions. Although two parties differed on issues of the role of government on the development of industry and protection against foreign competition, they agreed on supporting the monarchist government and external borrowing. From 1880 to 1914 the

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[11] Ibid.

Romanian government borrowed heavily from international financial markets mainly to finance military and administrative costs. Given that boyars (landowners) were influential in limiting direct taxation, and as the scale of urban sector did not allow significant increases in the indirect taxes, the most politically feasible solution was applying to the international financial markets.[12] Unlike the experiences of the Ottoman Empire and Greece, the history of foreign debt did not lead to a default and international financial control. On the contrary, the Romanian government could meet the debt service until 1913 regularly, and the Romanian government managed to channel the proceeds of these loans to productive activities including construction of railways and roads, infrastructure and agricultural credit.[13]

Bulgaria was also recognised as an independent following the Berlin Treaty in 1878, which gave way to a Western-style liberal constitution, universal male suffrage and parliamentary power with one chamber system. Yet the Bulgarian prince was dissatisfied with the democratic constitution which gave extensive powers to the local population and peasantry at the level of communes. Following a series of political struggle and turmoil between the parliament and the monarchy, in 1887 Prince Ferdinand dominated the political arena, and the two-party system of Bulgaria lost its importance. Right after achieving its political stability, Bulgaria contracted its first foreign loan in 1888 and until 1902 the volume of government debt remained manageable. In 1902 the outstanding debt of the government was consolidated with a new bond issue that was guaranteed by the excise tax on tobacco. This was a new era in the borrowing history of the Bulgarian government as the new issue required the presence of a representative of the bondholders who would directly acquire the proceeds of the tax revenues. The process was managed by the consortium of underwriting banks led by French Paribas and a representative of the bondholders who were in very close contact with the French government. The representatives had significant powers, including vetoing on monetary and fiscal policy decisions, and they were entrusted with the collection of relevant taxes and dealing with fiscal legislation. As the arrangement initially was condemned and rejected by the parliament twice, the King dissolved the parliament to pass the necessary law. Similar to the Ottoman Empire and Greece, the immediate impact of the arrangement was a recovery of borrowing costs of the Bulgarian government, and it facilitated the access to international financial markets until 1914.[14]

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[12] Lampe and Jackson (1982, p. 210).
[13] Feis (1974, p. 269), Berend (2003).
[14] Feis (1974, pp. 283–284), Ivanov and Tooze (2011).

The concomitant appearance of democratic institutions, emergence of fiscal and centralised states, and the globalisation of capital in the form of sovereign debt makes the case for the study of the peripheries between 1880 and 1913. Were these factors related? Were dictators penalised by creditors during the first financial globalisation, as one would assume from the literature inaugurated by North and Weingast (1989)? The remaining of this article presents a preliminary econometric exercise that addresses this question.

Polity and sovereign risk: data and analysis

In answering the questions put forward in the previous sections, we construct and analyse a cross sectional time series dataset covering the period 1880-1913 for 26 independent peripheries. In this section, first we briefly discuss the relevant empirical studies in the literature, their methodology and approach. Then, we move on to introduce our countries and variables, as well as our data sources and methodology.

<u>Literature</u>

There is a vast literature on cross-country determinants of sovereign risk during the called first era of globalisation. The classical work by Bordo and Rockoff (1996) is the pioneering study in terms of data and methodology, which for the first time brings together annual data for nine countries covering the period 1870-1914 and aiming to test the impact of adherence to the gold standard on sovereign risk. The article makes use of a basic of macroeconomic control variables (GDP, exchange rate, government spending, tax revenue, interest rate, money supply, population, terms of trade) to isolate the impact of the gold standard, but they do not discuss the role of political institutions. This and posterior work with similar methodology and control variables have attracted criticisms mainly due to the representativeness of the country set and control variables.

Flandreau and Zumer (2004) address this problem by mainly limiting their variables to those which were available to the contemporaries. Their work relies on 17 "capital rich" and "capital poor" countries during 1880-1913. In their study, they aim to identify the determinants of country spreads with a model which considers structural fiscal and trade indicators, exchange rate volatility, reputational factors (default and memory), political factors (suffrage and political crises), and the gold standard. Their findings highlight the importance of reputational factor and the debt burden, defined as the ratio between debt services and revenue. The results show no significance of the gold standard. The study deliberately avoids tackling with the political institutions due to lack of theoretical consensus on the relation between

political systems and creditworthiness. Moreover, they highlight that the lack of genuine changes during 1880-1913 for their country set pose methodological complications in incorporating political institutions into their model.[15] As a result, with regards to political variables, they only utilise the data on percentage of population enfranchised as a proxy for the extension of democracy. The authors conclude that extension of the suffrage (i.e. democracy) reduced the probability of default. Their finding in this regard is in contradiction with the earlier views that repression of democracy facilitated the operation of the pre-1914 gold standard by making the adjustment easier.[16] Moreover, they find that political crises (a number of wars, rebellions and uprising) had detrimental effect on the credit as they increased uncertainty.

Mauro et al. (2006) focuses on the period 1870-1913 and aim to explain the sovereign bond spreads of 18 emerging markets with reference to macroeconomic indicators, institutional reforms and political stability. They conclude that stability and absence of violence are the fundamental factors which determined low borrowing costs. They suggest that new institutions in many reforming countries did not have any impact on the credibility. The novelty of their analysis rests upon the systematic use of contemporary newspaper articles. For each country, they classify the contemporary newspaper articles on war and instability, bad-good-neutral economic news, investor friendly reforms and institutional changes, on foreign relations and finally news on domestic politics (i.e. on elections and political parties). They then count the number of news for each country to test their impact on sovereign credit. Besides these indicators, Mauro et al. (2006) also rely on macroeconomic data on government finance, exports and population. As far as the political institutions and reforms are concerned, they point out that the financial markets did not reward the political reform such as in the form of constitutions in the short term, for bondholders needed to see whether the constitutions would be respected over the following years to reduce the cost of credit.

Ferguson and Schularick (2006) run a similar exercise with a larger sample of countries to assesses whether British colonies benefited from an "empire effect" that reduced the cost of credit. Controlling for similar macroeconomic indicators, their empire dummies are significant and negative, with larger coefficient than the control variables. The authors conclude that the British creditors preferred to lend within the empire, and that was more important than the adherence to the gold standard of the sustainability of public accounts. Given their focus on colonization, their work does not include the impact of polity on credit costs.

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[15] Flandreau and Zumer (2004, p.37).
[16] Eichengreen, 1992.

Dincecco (2011) tests econometrically the role of limited government and centralisation on the rise of the fiscal state in the pre- and early modern period. He regresses both risk premium and taxation vis-à-vis GDP on dummies that interact these two factors. Dincecco finds that limited government in centralised states performed better than those fragmented and absolutist. Among all the combinations, centralised and absolutist states had the poorest performance. Yet the author uses a rather arbitrary approach to define limited government based on political events, with centralisation in Britain dating back to the tenth century. Also, his article does not analyse the variable urbanisation even though it appears significant with a much larger coefficient than polity in the regressions.

Covering a similar period, Karan and Pamuk (2013) highlight the role of urbanisation in the appearance of fiscal states. The authors regress the ratio of taxation and GDP on the size of wars, interacting the latter with regime type and urbanization for the period between the sixteen and the eighteenth centuries. They find that wars raised taxation in autocratic-rural states, where central governments repressed antagonist and pro-decentralisation rural elites. The same effect happened in representative-urban states, where urban elites collaborated with the central government. Karan and Pamuk are more careful in calculating limited government according to the number of times assemblies met. However, they do not assess if these assemblies had the power to limit the executive – regardless of their meeting frequency.

The empirical literature that studies the first financial globalisation assesses the effect of the gold standard, fiscal policy, news, and colonisation on the cost of credit. We contribute to this literature by addressing the role of polity, an issue that Dincecco (2011) and Karan and Pamuk (2013) have studied on a much earlier period – and hence in a different context. We also contribute by extending the number of countries to 27, all of which were independent states that borrowed abroad: Argentina, Austria-Hungary, Brazil, Bulgaria, Chile, China, Colombia, Costa Rica, Denmark, Ecuador, Greece, Guatemala, Italy, Japan, Mexico, Nicaragua, Norway, Ottoman Empire, Portugal, Romania, Russia, Serbia, Spain, Sweden, Uruguay and Venezuela. By having such an extensive list of countries, we may be more likely to capture the effect of variations among different polities on country risk.

Dependent variable

Our dependent variable is sovereign risk measured by sovereign bond spreads, calculated as the difference between current yield of government bonds and yield of British consols as a representative of risk free bond (see Figure 1). In calculating current yield of government bonds, we depart from the established practice of the literature. During the period in question,

a country could issue more than one bonds each with a different maturity rate, collaterals, underwriters, and characteristics. These differences in bond series can pose some problems in calculating spreads in certain cases, as finding a "representative" bond series, which will cover the entire period is not possible in many instances. As a result, we resort to the method of calculating weighted average of all available bond series for each country by using the outstanding amount of debt of each issue.[17] Our data is based on the contemporary source *Investors Monthly Manual*, which provide information on prices, interest rates as well as outstanding amount of each issue. We take monthly averages of each series to create annual time series. Finally, given the similarities in maturity structure, and the relatively short time window of the analysis, and for the sake of mimicking the kind of information and methods available to the contemporaries, we have preferred to use simplest measure current yield of bonds (coupon-price ratio) as oppose to yield-to-maturity. Country risk is defined as:

$$R_t = \sum \left(\frac{(r_{jt} - \delta_t)k_{jt}}{\sum k_{jt}} \right) \tag{1}$$

where:
r_{jt} = current yield applied to bond j in time t;
δ_t = current yield on the British consol in t.
k_{jt} = capitalization of j in t.

Figure 1 shows the bonds spreads applied to all the countries analysed in this article.

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[17] See Weller (2015) for application of this methodology in the case of Mexico.

Figure 1. Bond spreads
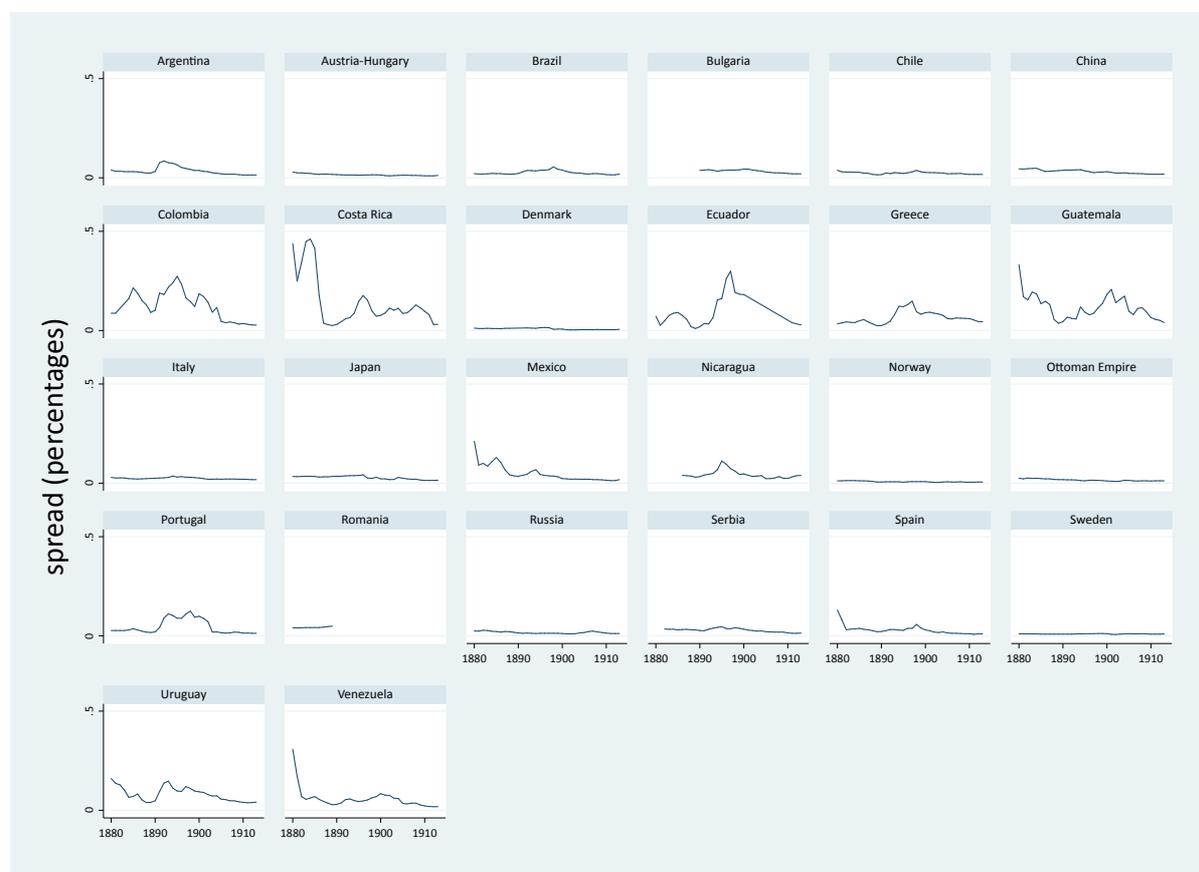
Source: Calculated from *Investor's Monthly Manual*.

Political variables

Our main aim is to test if checks on sovereign mean an increase his commitment to pay back. As presented in the literature review, the theory does not offer a conclusive view regarding the creditworthiness of authoritarian versus democratic governments, hence we concentrate most of our research effort on this indicator. We compile our political variables mainly from two sources: Banks (2001) and Polity IV. In the econometric analysis, we do not include these two groups of political variables in our regression at the same time due to their overlap and potential collinearity. From Banks (2001) we construct two dummy variables: effective legislature and elected executive (Figure 2).

Effective legislature: The countries we work on were the emerging markets of the time, and the development level of their political institutions differed significantly from case to case. Perhaps the biggest divide was regarding the existence of a legislative. If there is no legislature

in a particular country at a particular time, this dummy variable which takes the value of 0. For some of our countries, even though a legislative existed, it was not effective in limiting the executive in various instances. When the legislative is directly appointed by the executive, we consider this non-effective, and the dummy variable takes the value of 0. If the legislative is elected or independent from the executive with military, religious or bureaucratic characteristics, we classify this effective and the dummy variable takes the value of 1.

Elected executive: This is a dummy variable which takes the value of 1 if the executive is elected, otherwise it is 0. In this paper we do not differentiate the nature of the elected executive (directly elected with a popular vote or indirectly elected by an assembly representing the interests of urban versus rural groups). Figure 2 reports the variables Effective legislative and Elected Executive.

Figure 2. Effectiveness of political system
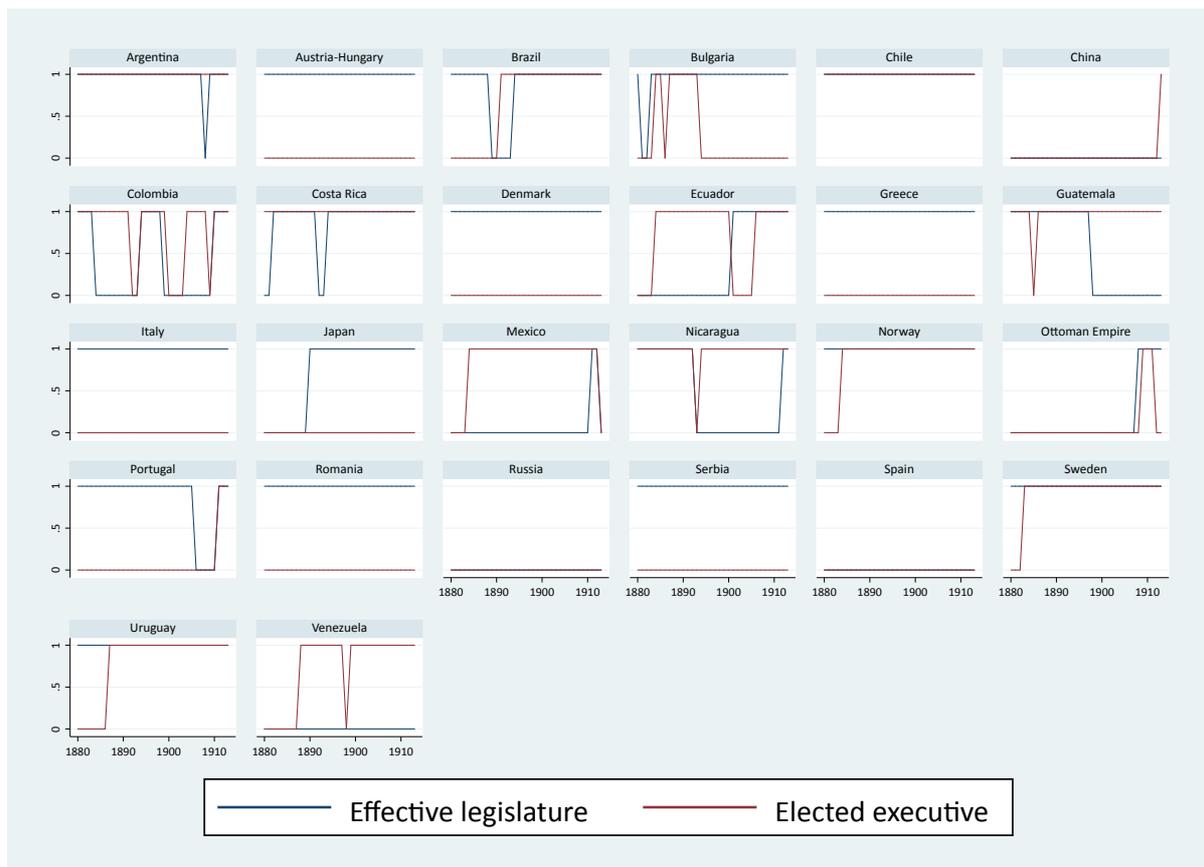
Source: Banks (2001).

Polity IV index: The Polity IV project evaluates political systems based on four continuous variables: (*i*) the competition of the process through which the head of the executive is chosen,

ranging from closed nomination to competitive elections; (*ii*) the openness to the executive, in which the process of choice is closed a few individuals in the most autarchic and open to all citizens who participate in the political system in democracies; (*iii*) the capacity of the legislative to limit the executive, ranging from no to full limitation; (i*v*) the degree of freedom of political participation at the individual level and the capacity of all political groups to compete for power. The variable Polity IV index is built as a weighted average of these variables, measured according to the weights attributed by the Polity IV project, which are: (*i*) 0.2, (*ii*) 0.1, (*iii*) 0.4, (*iv*) 0.3.[18] We have computed this variable ranging from -1 to 1, which refer to total autocracy and democracy, respectively

Executive Constrain: This variable is item *iii* in Polity IV as explained above. It relates to the variable Effective legislative from Banks (2001), although it is a continuous rather than a dummy variable. It ranges from -1 (no constrain over the executive) to 1 (constrained executive).

Executive Competition: this variable is given by item *i* in Polity IV and related to Elected executive from Banks (2001). It ranges from -1 (authoritarian choice of executive) to 1 (free and fair elections).

We have focused on these two specific indexes of Polity IV because they relate to the literature and are more relevant for the period analysed. Freedom of association only became an issue in the periphery after the First World War. Yet it is indirectly captured in the variable Polity IV index.

Figure 3 shows the variables Polity IV, Executive Constrain, and Executive Competition.

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[18] Marshall et al. (2016).

Figure 3. Polity IV
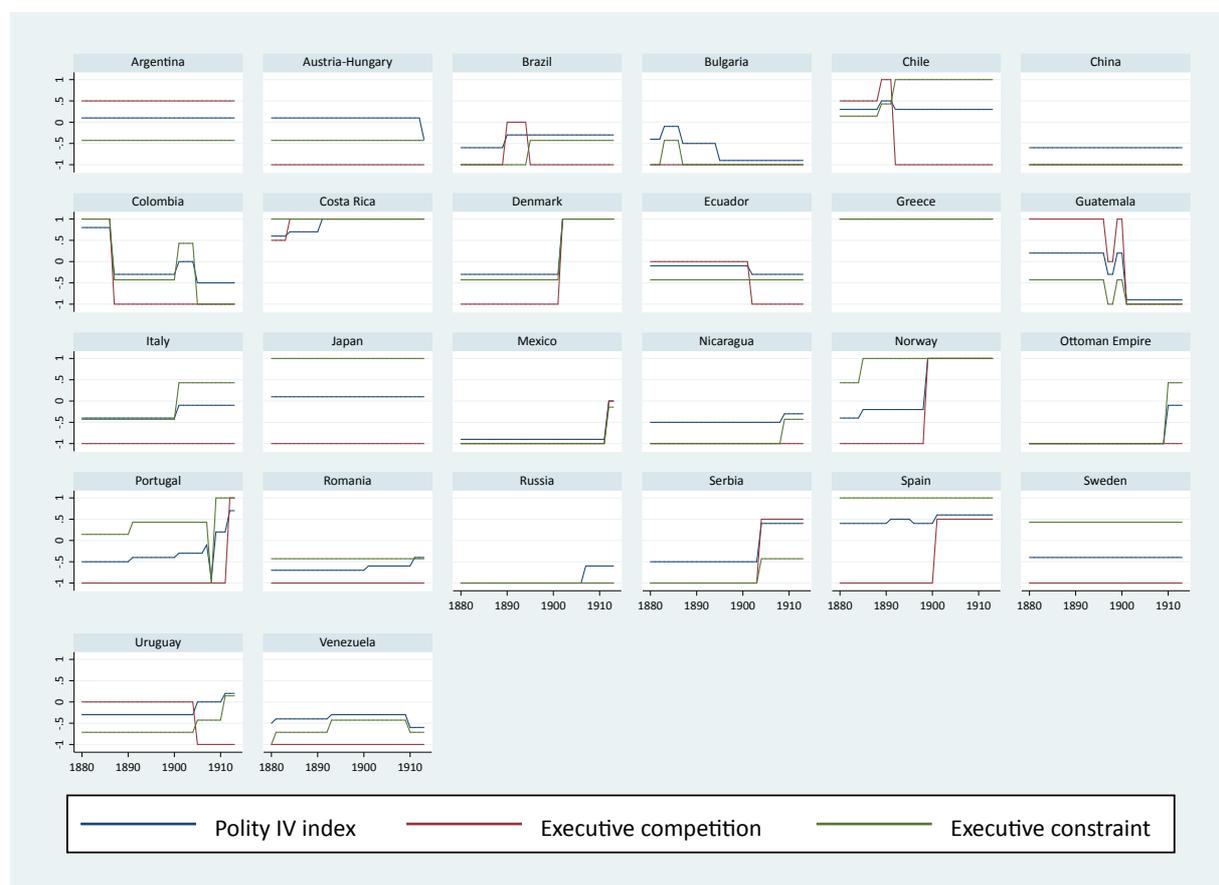
*Source***:** Marshall et al. (2016).

Control Variables

Monetary system: We do not aim to directly test the impact of the gold standard on sovereign risk for our se of countries. Not only the literature has moved on from this assumption, but also our countries were at the peripheries of the system, where the monetary regimes and instruments of monetary policy were still gaining shape. Nonetheless, to test the impact of monetary policy decisions on creditwhiness, we include a measure of exchange rate volatility inspired from Flandraeu and Zumer (2004). Similar to their analysis, we aim to capture the vulnerability of public finances to exchange rate fluctuations by giving weight to exchange depreciation and attributing zero to appreciation. Our main source for exchange rates is Denzel (2010).

Macroeconomic indicators: Fiscal indicators were definitely of importance to contemporary investors, as the contemporary publications had a wide range of such indicators. Moreover, previous studies have showed their importance for a different set of countries. In this regard, we include in our model budget balance, trade balance, and debt stock (debt per capita) as potentially important measures available to the nineteenth-century investors. Moreover, we include a dummy variable to capture the impact of years on default. Our main data source for fiscal indicators is Banks (2001) and Reinhart and Rogoff (2009), which we combine with Federico and Tena (2018) world trade historical statistics. We complement these secondary sources with extensive use of *Statesmen's Yearbook* (1880-1913).

War: The previous studies and historical sources suggest that domestic and international armed conflicts were detrimental for creditworthiness as it increased uncertainty and strained the government budget. In order to capture the impact of this, we use the ex-post indicator of military spending and scale it with population. Our major source for military spending is Banks (2001). We complement the missing series from *Statesmen's Yearbook* (1880-1913).

Social and infrastructure: In this category, we include one social and one infrastructure indicator to which contemporaries had access and may have mattered for creditworthiness. The infrastructure variable is Urbanization, defined as the share of the urban population (cities larger than 20,000) in total population. For infrastructure and market integration we use Railroad density, defined as the ratio between the length of the railway network and the total area of countries. These variables are compiled from Banks (2001).

Model

By using the abovementioned variables, we construct a time series cross-section dataset. The descriptive statistics of this dataset is summarised in Table 1. The time period in question is long enough to show unit-root, trending and autoregressive characteristics, but is not long enough to implement a comprehensive time series analysis. A standard panel data regression with country fixed effects could also pose problems since some of our explanatory political variables show little variation across time but more variation across countries. Therefore, in this paper we test our hypotheses by using three different models: a standard pooled OLS, pooled OLS with time fixed effects, and a simple random effects model.

Table 1. Descriptive panel statistics

Variable		Mean	Std. Dev.	Min	Max	Observations	
Spread	overall	0.0457034	0.0542254	0.003	0.461	N =	826
	between		0.0370433	0.0077647	0.1413824	n =	26
	within		0.0397968	-0.070679	0.365321	T-bar =	31.7692
Effective legislature	overall	0.6606335	0.4737624	0	1	N =	884
	between		0.4007114	0	1	n =	26
	within		0.2643522	-0.3099548	1.60181	T =	34
Elected executive	overall	0.4536199	0.4981261	0	1	N =	884
	between		0.4362607	0	1	n =	26
	within		0.2547922	-0.5169683	1.424208	T =	34
Polity IV index	overall	-0.1653846	0.5593848	-1	1	N =	884
	between		0.4976306	-0.9176471	1	n =	26
	within		0.2730019	-0.8653846	0.8375566	T =	34
Executive competition	overall	-0.5418552	0.7644059	-1	1	N =	884
	between		0.6080158	-1	1	n =	26
	within		0.4779635	-1.718326	1.340498	T =	34
Executive constraint	overall	-0.1719457	0.7711749	-1	1	N =	884
	between		0.7295985	-1	1	n =	26
	within		0.2868635	-1.550097	1.088558	T =	34
Years on default	overall	0.1572398	0.3642328	0	1	N =	884
	between		0.2342539	0	0.7352941	n =	26
	within		0.2825623	-0.5780543	1.127828	T =	34
Exchange rate volatility	overall	0.0213646	0.1048363	0	2.537945	N =	858
	between		0.0286783	0.0006927	0.1280485	n =	26
	within		0.1009897	-0.1066839	2.431261	T =	33
Military spending per capita	overall	0.031859	0.0325976	0	0.2287283	N =	884
	between		0.0262566	0	0.1164913	n =	26
	within		0.019974	-0.0268789	0.1516096	T =	34
External debt per capita	overall	6.02901	6.578311	0	35.00739	N =	884
	between		6.156607	0.0516923	27.32902	n =	26
	within		2.605173	-14.27598	23.71336	T =	34
Customs/revenue	overall	0.3599384	0.2288076	0.0031008	1.222222	N =	884
	between		0.20668	0.0134564	0.7274014	n =	26
	within		0.1059847	-0.167463	0.9892452	T =	34
Budget balance	overall	-2.777376	11.34079	-63.5	22	N =	884
	between		11.12911	-55.89118	2.479412	n =	26
	within		3.063547	-41.58325	21.31674	T =	34
Trade balance	overall	0.5156148	9.221346	-51.75019	55.08366	N =	884
	between		6.885742	-17.60435	20.48536	n =	26
	within		6.276284	-34.54628	35.11391	T =	34
Railroads/Area	overall	0.0084108	0.0109149	0	0.05975	N =	884
	between		0.0104888	0.00019	0.0398199	n =	26
	within		0.0036375	-0.006484	0.028341	T =	34
Urbanisation	overall	0.1399644	0.0777049	0	0.3870015	N =	884
	between		0.0734462	0.0214863	0.3490218	n =	26
	within		0.0290741	0.0130532	0.2483253	T =	34

We run all three models with robust standard errors to deal with heteroscedasticity, check unit-root characteristics by using Dickey-Fuller test, and test the multicollinearity among the independent variables by using VIFs (variance inflation factors).[19] The basic model is:

$$R_t = c + \alpha \, polity_t + \beta X_t + u_t \qquad (2)$$

where c is the constant, $polity$ is the political variables from Banks (2001) and Polity IV, X is the control variables, and u is the error.

Results

Table 2 shows the results of the standard pooled OLS regression. The political variables from Banks (2001) are not significant but the variables from Polity IV are significant with a positive sign. Hence, the results suggest that, controlling for variables that capture macroeconomic, war, social and infrastructure conditions, autocracies had access to better credit in London than democracies. This result is at odds with the literature that followed North and Weingast (1989) but is consistent with the cases we have briefly described in Section 3. Furthermore, the coefficient of the Polity IV Index is considerably high: it is nearly 1/5 of the coefficient of years on default.

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[19] We also consider using Prais-Winsten regression with a panel- specific autoregressive disturbance structure of AR(1). This approach, also known as the panel- corrected standard errors (PCSE) model, retains OLS parameter estimators, but replaces OLS standard errors by panel-corrected standard errors (PCSEs), which take into account the contemporaneous correlation of the errors and groupwise heteroscedasticity, though not serial correlation. However, given weak time series characteristics of our dataset, we consider this model less suitable for our purposes. See Beck and Katz (1995), Plümper et al. (2005), Kittel and Winner (2005), Wooldridge (2010). In order to address these characteristics, we can also consider employing a fixed effect vector decomposition model. However, given the on-going discussion on the reliability of this approach in the case of time invariant variables, we may need to be careful. See Plümper and Troeger (2007), Greene (2011), Breusch et al. (2011), Beck (2011).

Table 2 . Pooled OLS regression

	(1)	(2)	(3)	(4)	(5)
Effective legislature	-0.00162	0.00374			
	(0.00337)	(0.00315)			
Elected executive	0.00602	0.00757			
	(0.00494)	(0.00517)			
Executive competition	0.00233		0.00591***	0.00716***	
	(0.00308)		(0.00185)	(0.00180)	
Executive constraint	0.00188		0.00602***	0.00522**	
	(0.00380)		(0.00231)	(0.00230)	
Polity IV index	0.00940*				0.0149***
	(0.00546)				(0.00244)
Years on default	0.0735***	0.0776***	0.0743***	0.0786***	0.0793***
	(0.00609)	(0.00623)	(0.00613)	(0.00601)	(0.00597)
Exchange rate volatility	0.00309	0.00535	0.00572		
	(0.00722)	(0.00688)	(0.00725)		
Military spending per capita	-0.360***	-0.338***	-0.352***	-0.388***	-0.394***
	(0.0481)	(0.0484)	(0.0429)	(0.0427)	(0.0426)
External debt per capita	0.00237***	0.00228***	0.00233***	0.00246***	0.00247***
	(0.000567)	(0.000534)	(0.000523)	(0.000532)	(0.000502)
Customs/revenue	0.00334	0.00310	0.00957		
	(0.0114)	(0.0118)	(0.00800)		
Budget balance	0.0000	0.0000	0.0000		
	(0.0000)	(0.0000)	(0.0000)		
Trade balance	0.0000	0.0000	0.0000		
	(0.0000)	(0.0000)	(0.0000)		
Railroads/Area	-0.502***	-0.415***	-0.565***	-0.603***	-0.691***
	(0.114)	(0.104)	(0.0712)	(0.0696)	(0.0656)
Urbanisation	-0.0775*	-0.0729*	-0.0696**	-0.0688*	-0.0653*
	(0.0400)	(0.0390)	(0.0341)	(0.0367)	(0.0364)
Constant	0.0454***	0.0363***	0.0451***	0.0501***	0.0481***
	(0.00557)	(0.00446)	(0.00515)	(0.00369)	(0.00343)
Observations	803	803	803	826	826
R-squared	0.567	0.548	0.564	0.555	0.556

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Another striking result is that Military expenditure per capita is negative and significant with a large coefficient, leading to the conclusion that countries that spent more in war and defence borrowed cheaper. This is at least in principle at odds with the widely accepted assumption that wars increased the risk of default, and that spending in defence were not productive and thus bad for debt sustainability.[20] Yet it suits the interpretation that countries that had a centralised state (a novelty in the peripheries of the time) were able to tax and to borrow at lower rates than decentralised states, whose armies were weak vis-à-vis the forces of local authorities. Following this view, military expenditure was a condition for political stability, which most

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[20] See Ozler and Tabellini (1991), Panizza et al. (2009), Tomz (2007), and Fishlow (1995).

likely decreased default risk. External debt per capita, railways, and urbanisation are significant with the expected signs, supporting the reasonable conclusion that governments borrowed cheaply the less they overborrowed, the larger their countries' railway networks, and the more the population lived in cities. We did not find any significant macroeconomic variable, which is surprising given the importance of fiscal policy and exchange rate in the literature.

Table 3 and 4 shows the results with time fix effects and random effects.

Table 3 . Pooled OLS regression with time fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
Effective legislature	-0.00475 (0.00320)	0.00146 (0.00298)				
Elected executive	0.00860 (0.00532)	0.0102* (0.00564)				
Executive competition	0.00209 (0.00284)		0.00674*** (0.00171)	0.00818*** (0.00169)		
Executive constraint	0.000765 (0.00382)		0.00596*** (0.00230)	0.00509** (0.00225)		
Polity IV index	0.0125** (0.00548)				0.0162*** (0.00238)	0.0162*** (0.00240)
Years on default	0.0694*** (0.00561)	0.0743*** (0.00580)	0.0718*** (0.00581)	0.0759*** (0.00558)	0.0767*** (0.00552)	0.0782*** (0.00575)
Exchange rate volatility	-0.00763 (0.00911)	-0.00421 (0.00776)	-0.00320 (0.00873)			
Military spending per capita	-0.333*** (0.0468)	-0.313*** (0.0472)	-0.332*** (0.0413)	-0.378*** (0.0416)	-0.388*** (0.0414)	-0.427*** (0.0463)
External debt per capita	0.00232*** (0.000560)	0.00225*** (0.000528)	0.00222*** (0.000522)	0.00237*** (0.000522)	0.00240*** (0.000490)	0.00215*** (0.000371)
Customs/revenue	0.00636 (0.0110)	0.00605 (0.0116)	0.0132* (0.00741)			
Budget balance	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)			
Trade balance	-0.000113 (0.000113)	-0.000116 (8.10e-05)	-7.09e-05 (8.80e-05)			
Railroads/Area	-0.399*** (0.125)	-0.304** (0.119)	-0.527*** (0.0711)	-0.545*** (0.0703)	-0.645*** (0.0658)	-0.667*** (0.0705)
Urbanisation	-0.0726* (0.0395)	-0.0691* (0.0387)	-0.0600* (0.0338)	-0.0582 (0.0357)	-0.0533 (0.0353)	
Constant	0.0444*** (0.0102)	0.0342*** (0.00999)	0.0405*** (0.00992)	0.0755*** (0.0178)	0.0737*** (0.0177)	0.0697*** (0.0173)
Observations	803	803	803	826	826	826
R-squared	0.616	0.592	0.610	0.599	0.601	0.597
Time FE	YES	YES	YES	YES	YES	YES
Country FE	NO	NO	NO	NO	NO	NO

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The coefficients of the political variables derived from Polity IV and of military expenditure become higher when we introduce time fixed effects. This may be related to the fact that, along

the period analysed in the article, more countries established centralised fiscal states that were often the work of autocracies.

Table 4. Random effects GLS regression

	(1)	(2)	(3)	(4)	(5)
Effective legislature	0.000114	0.00139			
	(0.00479)	(0.00512)			
Elected executive	0.00493	0.00602			
	(0.00705)	(0.00728)			
Executive competition	0.00933*		0.00446*	0.00389	
	(0.00479)		(0.00245)	(0.00402)	
Executive constraint	0.0110		0.00449	0.00297	
	(0.00734)		(0.00432)	(0.00478)	
Polity IV index	-0.0149				0.00815*
	(0.0119)				(0.00472)
Years on default	0.0584***	0.0599***	0.0589***	0.0704***	0.0675***
	(0.00834)	(0.00912)	(0.00803)	(0.0108)	(0.00784)
Exchange rate volatility	0.00395	0.00439	0.00329		
	(0.00743)	(0.00746)	(0.00753)		
Military spending per capita	-0.340***	-0.342***	-0.342***	-0.284***	-0.370***
	(0.0861)	(0.0963)	(0.0914)	(0.0608)	(0.0946)
External debt per capita	0.00347	0.00338	0.00347		0.00309
	(0.00244)	(0.00250)	(0.00245)		(0.00235)
Customs/revenue	-0.0379	-0.0401	-0.0362		
	(0.0281)	(0.0284)	(0.0278)		
Budget balance	0.0000	0.0000	0.0000		
	(0.0000)	(0.0000)	(0.0000)		
Trade balance	0.0000	0.0000	0.0000		
	(0.0000)	(0.0000)	(0.0000)		
Railroads/Area	-0.769***	-0.654**	-0.873***	-0.772**	-1.008**
	(0.268)	(0.290)	(0.314)	(0.350)	(0.403)
Urbanisation	-0.0816	-0.0785	-0.0769		
	(0.0913)	(0.0982)	(0.0940)		
Constant	0.0596***	0.0539***	0.0605***	0.0528***	0.0381***
	(0.0115)	(0.0117)	(0.0114)	(0.00692)	(0.0109)
Observations	803	803	803	826	826
Number of panel_id	26	26	26	26	26

Random-effect GLS regression
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3 presents the results with random effects. The variables Elected executive and Executive competition are not significant, but the Polity IV index is still positive and significant at 10% confidence. Military expenditure remains highly significant. Hence the main conclusion that autocracies that spent in wars and defence borrowed cheaper than democracies that did not do so still hold in this more robust specification.

Conclusion

The democratic advantage does not seem to apply to the sovereign debt of the peripheries of the first financial globalisation. The empirical exercise presented in this article shows that, controlling for macroeconomic indicators, social factors and infrastructure, autocracies borrowed in London cheaper than democracies between 1880 and 1914. This is at odds with the literature inaugurated by North and Weingast (1989) but is not inconsistent with the cases of Latin American and Eastern European countries briefly introduced in this article. Also, credit costs fell the more governments spent in the military per capita. There is still an avenue of research so that we can fully understand these results. A working hypothesis is that autocratic and militarised governments were in charge of the emergence of centralised fiscal states. State capacity enabled governments to tax more efficiently and to promote political stability, which conditioned the fall in credit costs. According to this view, foreign creditors considered the stability of states more important than the implementation of democratic institutions, which may have been perceived as potentially dangerous for the governments' capacity to pay.

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