# Suffrage Institutions and Financial Development: Does the Middle Class Have a Say?*

by

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**ABSTRACT**

The historical expansion of voting rights impacts the financial development of a country. Initially, voting rights were limited to wealthy elites, with only a gradual expansion towards middle and lower classes. Political support for stock market development rather than banking development occurs because enfranchised elites are implied in it. The expansion of the franchise changes political equilibria with the banking sector finding political support from the newly enfranchised segment of the electorate. This newly enfranchised electorate is typically sparsely endowed in terms of financial holdings and has thus less advantage in the uncertainty that stock markets bring. Our panel data evidence covering the period 1830-1999 shows that countries with tighter restrictions on their voting franchise rely more on stock markets, whereas countries with broader voting franchise are more conducive towards the banking sector, consistent with Perotti and von Thadden's (2006) predictions. Our results are robust to controlling for other political determinants and the use of alternative datasets.

**JEL classification codes:** D72, G10, 016, P16
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## 1. Introduction

The political economy literature shows that stock market finance and bank finance confer distinct outcomes for society in terms of distribution of wealth, risk, and power (e.g., Pagano and Volpin, 2005; Perotti and von Thadden, 2006). The benefits and constraints of these outcomes are differently distributed across interest groups in society as each interest group – say, the various firms' stakeholders –[1] has a different set of claims on firm revenues (Hellwig, 2000; Rajan and Zingales, 2003a). The interest groups have to win political majorities that promote the financial environment they advocate. Political majorities are determined by formal institutions of preference aggregation (e.g., suffrage institutions[2]). Explaining historical changes in financial systems require therefore evaluating shifts in political power that countries encountered over time (Rajan and Zingales, 2003b; Roe, 2003; Gourevitch and Shinn, 2005; Perotti and von Thadden, 2006; Haber, North, and Weingast, 2007; see also North, 1990).[3] Our paper is the first to empirically investigate how the historical expansion of voting franchise for national parliamentary elections impacts the development and structure of a country's financial system.

There is ample evidence that policies aimed at protecting minority shareholders and creditor rights and at supporting private contractual arrangements do matter for financial development (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997; Levine, 1998). The population with the right to vote can influence political decisions and induce policy choices that better suit its preferences. Benmelech and Moskowitz (2010) for example support empirically the view that financial regulation was exploited by elites with political power for

[1] For a rich discussion on preferences of company's stakeholders and the possible alignments between them, see Gourevitch and Shinn (2005).
[2] We use the terms "suffrage" and "franchise" interchangeably throughout the paper.
[3] Little consensus exists among financial economists on the forces driving financial development. Important bodies of research focus on country's structural impediments to financial development such as legal origin (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997, 1998), religion (Stulz and Williamson, 2003), mode of settlement (Beck, Demirgüç-Kunt, and Levine, 2003) and social capital endowment (Guiso, Sapienza, and Zingales, 2004).

their own interests in nineteenth century America. They provide evidence that usury laws – aiming at limiting the maximum legal interest rates – were used to hamper competition and control entry. States that restricted suffrage to taxpaying property owners tended to impose more strict usury laws. Haber (2011) documents for Brazil, Mexico, and the United States that less inclusive suffrage institutions amplified the political power of elites and that their power inhibited policies governing banks, which in turn shaped the size and competitive structure of banking sector.[4] In this paper, we argue that structural political changes have affected the historical development of financial systems. A crucial political change in many countries during the late nineteenth and twentieth century is the expansion of the voting franchise. The advent of universal suffrage was long and not introduced at the same time across countries. The voting rights were restricted across time and space according to wealth, social status, education, gender and race. Broadly speaking, by the early twentieth century most current established democracies allowed the right to vote only to the wealthiest elites. They enlarged it afterwards gradually to adult males and then to female adults.[5]

Paying attention to suffrage institutions gives insights into the shifts in political equilibria affecting financial systems over time. The expansion of the voting franchise, by moving progressively the pivotal voter towards the middle class, modifies markedly the electoral spectrum. In particular, democratically elected politicians become accountable to a broader fraction of the population. The resulting political agenda may influence market outcomes towards the political preferences of the newly enfranchised middle class. Because middle class preferences received political support, a country's reliance on stock markets or bank credit can be (re)oriented. We examine how interest groups endowed with voting rights

[4] Further examples on the influence of elites on financial regulation can be found in Lamoreaux and Rosenthal (2005), who describe well the history of the incorporation laws in France and the United States. See also Rajan and Zingales (2003b), Perotti and Volpin (2007), and Rajan and Ramacharan (2009), whose studies suggest that elites hinder financial development in order to restrict barriers to entry.

[5] The point in time the expansion of voting franchise took place varies considerably across country. For instance, New Zealand extended the voting right to all adult women in 1893 whereas Switzerland gave full voting right to women in 1971 only (see Section 3 and, e.g., Ramirez, Soysal, and Shanahan, 1997).

have affected stock markets and loan markets across time, embedded in the premise underlying interest group theory of suffrage institutions (Engerman and Sokoloff, 2005).

Our main analysis relies on a panel dataset of 18 today's established democracies covering the nineteenth and twentieth century and for which we obtained sufficiently reliable data on suffrage institutions and financial development – but results are robust to employing a broader set of countries for a more recent time span. Summary statistics indicate that voting franchise was low at the beginning of the twentieth century, with on average 16.5% of the population allowed to vote in 1900. This percentage increased to 24.2% around 1913 and crossed the 50% mark generally after the Second World War only. Our evidence shows that the expansion of the voting franchise had a strong economic and statistical effect on financial development. Countries with tighter restrictions on their voting franchise tend to rely more on stock markets, whereas countries with broader voting franchise are more conducive towards the banking sector, reflecting the political support of the newly enfranchised population. Employing our most conservative estimates, a one standard deviation greater voting franchise leads to a 32.7% lower degree of stock market capitalization and a 12.1% greater banking development. Countries with tighter restrictions on voting franchise tend to have a more market-oriented financial structure. These finding holds regardless whether franchise is based on the number of registered voters or valid votes cast. Our results are also robust to the inclusion of alternative political explanations considered in previous studies.

We further find that the time of adopting universal suffrage has long-lasting impacts on the relative market orientation of financial systems. Our long-run evidence based on 35 countries reveals an impressive impact of the delayed introduction of the universal suffrage on the form of today's financial systems: a 25-year delay in the introduction of universal suffrage relates to a remarkable 17.5% increase in the today's importance of stock markets relative to the banking system.

Our study on the expansion of suffrage for national parliamentary elections finds parallels in many other fields in finance, most importantly in debates on internal corporate governance mechanisms. For example, our analysis can provide insights on the impacts of low participation of retail investors in shareholder meetings of publicly listed companies. While retail investors also hold voting rights just like institutional investors, they often do not participate in shareholder meetings (Hewitt, 2011). This is a worldwide phenomenon and is often viewed as leading to weak "effective" minority shareholder rights due to corporate governance structures that discourage small investors to attend shareholder meetings. Recently, the SEC started investigations on the poor participation of retail investors and initiated rule-making proposals that would provide incentives for retail investors to participate more often in shareholder meetings.[6] These include ways to reduce costs for retail investors to cast votes and obtain relevant information. Similarly, the European Union voted in 2007 the European Shareholder's Rights Directive that enhances rights of small shareholders, as well as facilitates participation in shareholder meetings of firms located outside their national boundaries. Both initiatives may lead to an increase in the "effective" suffrage of retail investors, who most likely have different economic preferences than large institutional shareholders.

A second application is shareholder-based versus stakeholder-based corporate governance systems. A good example of the latter is Germany, where employee representatives have codetermination rights in board meetings (Fauvera and Fuerst, 2006). The suffrage base is then broader than in a shareholder-based system where only legal owners (i.e., the shareholders) have a say. Fauvera and Fuerst (2006) show that enlarging the voting rights in boards to employee representatives leads to different corporate governance structures and thus firm value, notably when cooperation between management and employees is most

[6] See, for instance, http://online.wsj.com/article/SB125734615206828065.html; see also http://www.sec.gov/investor/alerts/votingrules2010.htm (both websites viewed on July 4, 2012).

needed. One reason is that employees have different economic preferences than shareholders, since their claims are less sensitive to the upside potential of firms. In contrast, shareholders may have incentives to favour riskier corporate activities.

The remainder of this paper is structured as follows. Section 2 presents the related literature and our testable hypotheses. Section 3 describes the data and proceeds with a discussion of initial assessments of our hypotheses. Section 4 contains our empirical results while the robustness analysis is presented in Section 5. Section 6 concludes.

## 2. The Politics and Finance Nexus

This section reviews the existing literature and thereby clarifies the channel through which voter political preferences affect financial development and structure. In this way, we lay out the main hypotheses.

### *2.1. Related Literature*

Economic historians have long recognized that political forces exert a first-order effect on changes in financial development (Haber, North, and Weingast, 2007).[7] In their work, Engerman and Sokoloff (1997) shed light on the type of institutions arising during the colonial era in the New World. According to them, the emergence of differing institutions is due to initial conditions faced by New World colonial societies established by the Europeans – their respective factor endowments – that fostered equality or inequality. Close to their endowments argument, Engerman and Sokoloff (2005) show that greater inequality was generally associated with tighter restrictions on voting franchise. With tight restrictions on

[7] Haber and Perotti (2008) provide an excellent survey on the political economy underpinnings of financial development. See also Roe and Siegel (2009).

voting franchise, elites wield disproportionate political power. This allows them to shape a regulatory environment that is favorable to themselves in terms of access to finance and economic opportunities. Limited political accountability allows regulatory capture by elites, which causes distortions in financial development. As discussed in the Introduction, Benmelech and Moskowitz (2010) and Haber (2011) document how powerful elites influence regulation in order to limit competition and access to credit; see Rajan and Zingales (2003b), Perotti and Volpin (2007), and Rajan and Ramacharan (2009), for other examples pertaining to entry barriers. Investors on the London Stock Exchange react negatively to the passage of the Britain 1867 Reform Act, aiming at extending the voting franchise as it would undermine their property rights and their freedom of contract (Turner and Zhan, 2012).

Improving political institutions undermine, however, the regulatory capture by elites (see Barth, Caprio, and Levine, 2006, among others). Institutions of preference aggregation – i.e., elections – constitute indeed a corner stone in democracy since they have a fundamental effect on financial policy choices made by elected politicians (Gourevitch and Shinn, 2005). Governments' activity and orientation have generally major implications for how wealth and power are distributed over their population, which determine economic and financial outcomes. The rules and the conduct of elections, including the determination of the enfranchised population, have an equally important effect on the distribution of wealth and power in society.

Pagano and Volpin (2005) model the impact of electoral rules (majoritarian versus proportional) on the design of financial systems in established democracies. Although their model stresses the role of interest group preferences, which are determined by the distribution of equity ownership in the economy, it does not lend to explain fully variations in the financial systems within a country as changes in electoral rules are rare. To account for evolution of financial environments over time (Rajan and Zingales, 2003b; Franks, Mayer,

and Rossi, 2009), Perotti and von Thadden (2006) take in turn the view of the median voter. Authors support the view that median voter preferences for financial systems are indeed subject to changes in response to exogenous shocks. The settings of their model suggest that median voter preferences for bank- over stock market-dominance depend on its distribution of wealth relative to human capital. They build on the empirical observation that political support (by the median voter) for corporatist arrangements and bank-dominance appear when the middle class mainly relies on labor income and the wealthiest class concentrates financial wealth in their hands. A political support for stock market-dominance is possible when the middle class also has a high degree of participation in the stock market. Perotti and Schwienbacher (2009) propose an empirical test of this view, but they do not look directly at financial development. They show that large shocks in wealth distribution through hyperinflation in the interwar period explain the emergence of different structures of pension system in democratic countries.

### *2.2. Theoretical Framework and Testable Hypotheses*

The models of democratic choice described in Section 2.1 predict that a financially solid middle class is essential for democratic support for a stock market-oriented system, as they generate regulations that foster investor protection and thereby stock market development. In contrast, economies with poor middle class will tend to have stronger banks, as median voter will have little financial wealth and mostly labor income. Labor income is better secured through bank finance, since it generate less risk-taking by firms (Perotti and von Thadden, 2006). To analyze the links between the variation of the "voting" population and the levels of financial development over time and space, we assume that the distribution of financial wealth within the population is fixed.

By extending the franchise, the median voter preferences reached the middle class preferences, diluting thus elites' political power and changing subsequent political equilibria.[8] More precisely, we conjecture that a country's reliance on specific financial market environments is affected by its median voter preferences on financial return and risk prevailing at each period of development. Put differently, we hypothesize that, as an exogenous political change, the expansion of the voting franchise has allowed switching political majorities towards the preferences of the newly enfranchised middle class. By consequence, the level and the composition of a country's financial development is affected by the franchise expansion, since added voters were drawn mostly from the lower end of the wealth distribution.[9] If poor people are allowed to vote, then one expects a lower degree of reliance on stock markets to find increased support as universal suffrage is put in place. Thus, more voters imply less capital market development but more bank-based financing as the poor had hardly any financial holdings. They have in turn less advantage with the uncertainty and disruptions that stock markets bring. In contrast, banks tend to limit risk-taking behaviour of corporate managers, since, as debt-holders, they do not benefit from the upside potential of riskier investments. We therefore expect that countries with tighter restrictions on voting franchise tend to have higher levels of stock market development. In contrast, countries with broader franchise tend to have higher levels of banking sector development. A third prediction is that countries with tighter restrictions on voting franchise tend to have a less market-oriented financial structure.

[8] Economic theory provides different channels leading political elites to broaden the voting franchise. According to Acemoglu and Robinson (2000, 2006), the expansion of the voting franchise can be understood as a rational response by the governing elites to avoid revolution. In contrast, Lizzeri and Persico (2004) and Llavador and Oxoby (2005) argue that the expansion of the voting franchise was the result of the divergence of interests existing within the elites.

[9] In this respect, our study also complements another strand of the literature devoted to the economic effects of suffrage. This literature, echoing earlier concerns of Alexis de Tocqueville's *Democracy in America* ([1835] 1965), largely associated the expansion of the franchise with increases in the size of government (e.g., Husted and Kenny, 1997; Justman and Gradstein, 1999; Aidt, Dutta, and Loukoianova, 2006).

A closer look at different countries offers valuable insights into the economic channel through which the expansion of suffrage affected financial development. Högfeldt (2005) describes how the expansion of voting franchise in Sweden has institutional settings that affected the financial structure of the country. Until universal suffrage was introduced in 1921, the Swedish economy had a well-developed stock market, with a large fraction of the economy held by a few very rich families. Expansion of suffrage however secured long-lasting political power to the Social Democratic Party from 1932 onwards, creating the ground for a more egalitarian economy based on strong corporatism and less stock market development. Along the same lines, the initial introduction of codetermination in Germany by a 1922 law of the Weimar Republic passed to strike a compromise in a politically divided country (Pistor, 1999). The introduction of this legislation increased "economic democracy" in large companies and followed a period of structural political reforms including the expansion of voting franchise. In 1919, all states (*Länder*) in Germany introduced universal suffrage for adult men and women which changed balance of power within the country.

## 3. Data and Initial Assessments

We now introduce the dataset we use throughout our main analysis of the paper and present preliminary assessments of the link between suffrage institutions and financial development. We document that countries with (1) tighter restrictions on voting franchise are conducive to higher levels of stock market development; (2) countries with broader voting franchise are conducive to higher levels of banking sector development; and in turn (3) countries with tighter restrictions on voting franchise tend to have a more market-oriented financial structure. To this end, Table 1 provides definitions of our variables and their sources, Table 2 contains descriptive statistics, and Table 3 depicts the evolution of suffrage

institutions in our sample countries. Table 2 also provides tests of differences in suffrage institutions for low and high countries' levels of financial development. Appendix Table A1 presents a pairwise correlation matrix.

<insert Table 1 about here>

*3.1. The Sample*

Time-series variation in voting franchise is important to capture its impact on financial development. Our base sample employs an 18-country panel dataset which covers the longest time span possible, composed of different years spaced by around ten years. The analysis on stock market development covers the nineteenth and twentieth centuries while the analysis on banking sector development and financial structure is restricted to the twentieth century due to data availability. Our dataset comprises a set of today's established democracies for which we have sufficient information on stock markets, banking sector, suffrage institutions, and country-specific characteristics. The countries included in the panel dataset are reported in Appendix Table A2 (in bold). We are dealing with an unbalanced panel (see Table 2). However, every country is well covered in the time-series dimension as the average number of observations for a country in the twentieth century is 9 (out of maximum of 10).

*3.2. Indicators of Financial Development*

We use indicators capturing the importance of equity markets and the banking sector in a country over time. The goal is to proxy for the degree of availability of stock market finance and bank finance. We rely on a variety of indicators that are commonly used in the

literature on comparative financial development and structure (see e.g., Beck, Demirgüç-Kunt, and Levine, 2000).

We employ two indicators for the size of a country's equity market. The first is stock market capitalization to GDP (CAPITALIZATION). We combine several data sources to obtain the longest time series possible (1830-1999) – Goldsmith (1985), Rajan and Zingales (2003b), and Musacchio (2010). We mainly rely on data provided by Rajan and Zingales (2003b) where the stock market capitalization to GDP is covered from 1913 to 1999 and reported for 24 countries. Musacchio (2010) however proposes improved estimates for 1913 and complements it with 1900, as Sylla (2006) and La Porta, Lopez-de-Silanes, and Shleifer (2008) had questioned the accuracy of Rajan and Zingales' figures in 1913: the inclusion of corporate bonds and cross-listed companies produced poor estimates in 1913. We therefore employ the re-estimated data of Musacchio (2010) for the years 1900 and 1913 and the data of Rajan and Zingales (2003b) for the following years. Goldsmith (1985) provides additional data on stock market capitalization to GDP for the nineteenth century but for fewer countries. We complete our dataset by using Goldsmith (1985) yielding us with observations going back to 1830. The second indicator of the size of the stock market is the number of publicly listed domestic companies per million of inhabitants (LISTED COMPANIES). This variable is less prone to fluctuation of stock valuations and is retrieved from Rajan and Zingales (2003b), but is available for the period 1913-1999 only.

BANK DEPOSITS is our indicator of banking sector development. It is defined as the ratio of commercial and savings deposits to GDP. While this indicator does not provide clear information about the amount of private credit granted by the banking sector, it is one of the few that has been compiled in a standardized manner for a long time-series and for a large cross-section of countries.

Finally, we also look at the orientation of the financial system by using a measure of the importance of stock markets as compared to the banking sector. We define STRUCTURE as the ratio of CAPITALIZATION to BANK DEPOSITS; if this indicator is greater than one, it means that in a given country the size of the stock market is larger than the size of the banking sector, thereby suggesting that the financial system is market-oriented. The indicator captures both changes of orientation within a country over time as well as cross-country variation.

Some countries from the Rajan and Zingales' (2003b) dataset are not in our dataset since our concern is primarily the period covered before World War II and financial data available for this period are somewhat sparse. Our sample ends up being 18 countries over the time period of 1830-1999 for CAPITALIZATION and 1913 to 1999 for LISTED COMPANIES, BANK DEPOSITS and STRUCTURE.[10]

<insert Table 2 about here>

The top part of Panel A in Table 2 reports the descriptive statistics for our indicators of financial development – mean, standard deviation (overall), standard deviation (within), and standard deviation (between). The mean value of CAPITALIZATION is 0.578 and the within country standard deviation is 0.412. We also note substantial variation across countries in CAPITALIZATION with a between standard deviation of 0.319. This substantial variation between and within countries is confirmed using the other stock market development indicator, LISTED COMPANIES. Table 2 further indicates high variability between and within countries for our indicator of banking sector development, BANK DEPOSITS.

[10] Years under consideration are 1830, 1850, 1861, 1875, 1880, 1881, 1895, 1899, 1900, 1913, 1929, 1938, 1950, 1960, 1970, 1980, 1990, and 1999. The years prior to 1913 are not available for LISTED COMPANIES and BANK DEPOSITS variables. Rajan and Zingales (2003b) also employ the fraction of gross fixed-capital formation raised through equity issues. We do not use this indicator as it is not available for many countries and years under consideration before World War II.

Regarding financial structure, the average value of STRUCTURE is 2.059, indicating that on average countries in our sample have a market-based financial structure. STRUCTURE varies quite a bit over time. As an illustration, in 1913, STRUCTURE identifies Spain and Japan (Norway and Austria) as having the most market-based (bank-based) financial systems. In contrast, the United States and the United Kingdom (Austria and Belgium) are classified as countries with the most market-based (bank-based) financial systems in 1999.

*3.3. Indicators of Suffrage Institutions*

We employ two indicators of suffrage institutions and median voter preferences that may explain both static and dynamic variations in financial development and structure among countries. First, we use the number of registered voters (i.e., those eligible to register and vote) as a percentage of total population (SUFFRAGE). Second, we employ the number of valid votes cast (for the most recent election during the year under consideration) for the lower house of the national legislature as a percentage of total population (EFFECTIVE SUFFRAGE). Both measures capture restrictions on voting franchise across countries. EFFECTIVE SUFFRAGE is used in order to capture the extent to which the enfranchised citizens effectively use their voting right, since not everyone who is allowed to vote may do so. We combine several sources to compute SUFFRAGE and EFFECTIVE SUFFRAGE. Information is mostly collected from the Arthur S. Banks' (2011) Cross-National Time-Series Data Archive (CNTS, from Databanks International), which goes back to 1815 for some countries. When there are missing data or when no elections are held for the year in question, we took the most recent data available going back to a maximum of ten years. We complement our dataset before World War II with data reported in Mackie and Rose (1982) and Colomer (2001), and since 1945 with the International Institute for Democracy and

Electoral Assistance (IDEA) database. We further find that our data are consistent with those in Flora (1983).

Table 2 (Panel A) and Table 3 provide descriptive statistics on our voting franchise indicators – SUFFRAGE and EFFECTIVE SUFFRAGE. Panel A of Table 2 shows there is substantial variability in voting franchise within and between countries. Table 3 presents the evolution over time as well as the variation within a specific time period. We learn that voting franchise has evolved gradually over time. While SUFFRAGE was only 14.1% throughout the nineteenth century, the percentage has grown to over 70.6% by the end of the twentieth century. This reveals a substantial increase of the fraction of total population that was eligible to vote over time. Table 3 also shows that there is substantial variation in voting franchise across countries within a particular period even in the late twentieth century. For instance, in 1980, the voting franchise still ranged from 9.7% to 74.9%. In terms of votes effectively cast (EFFECTIVE SUFFRAGE), the expansion shows a very similar pattern, with on average 10.1% of total population participating in the elections in the 1830-1899 window and 50.6% in 1999. Interestingly, the standard deviation exhibits an inverted U-shaped pattern for both indicators of suffrage institutions. We observe that the heterogeneity in voting franchise was comparatively low in the beginning of the twentieth century, but then almost doubled in subsequent decades. It became lower towards the end of the twentieth century.

<insert Table 3 and Figure 1 about here>

Universal suffrage is another indicator of the expansion of the voting franchise. It is a critical milestone in any country as it leads to a substantial expansion of voting franchise and gives the right to vote to all men and women above a certain minimum age. Figure 1 shows in which period countries have introduced universal suffrage for a dataset of 35 countries (a

broader dataset we will exploit when looking at the long-run effect of suffrage institutions on financial development (Section 5)). We observe a great variation in the timing of the introduction of universal suffrage, with a few countries having introduced it already before World War I (New Zealand, Australia, and Finland) while other countries only introduced it late in the twentieth century (Switzerland, Portugal, and South Africa).

Panel B of Table 2 provides an initial assessment on whether countries with stricter voting franchise have a greater stock market development, lower bank development and a structure which is more market-oriented (see also the correlation matrix in Appendix Table A1). We compare our voting franchise indicators for country-year observations where financial development is below and above the sample median, respectively. SUFFRAGE and EFFECTIVE SUFFRAGE are 5 and 9 percentage points lower in countries where CAPITALIZATION is above the median than those below the median, respectively (only EFFECTIVE SUFFRAGE is statistically significantly different, however). Similar insights apply for LISTED COMPANIES even if these data capture only the twentieth century implying that the voting franchise indicators are somewhat higher. In contrast, countries with an above median sized banking system (BANKING DEPOSITS) have a larger fraction of their population endowed with voting rights (SUFFRAGE and EFFECTIVE SUFFRAGE are 9 and 6 percentage points higher, respectively). Finally, countries with an above median STRUCTURE have a SUFFRAGE and EFFECTIVE SUFFRAGE which is 9 and 11 percentage points lower than those with a below median STRUCTURE. This suggests that country-years with a greater market orientation have a lower voting franchise. All in all, the differences in means reported in Panel B of Table 2 and the correlations in Appendix Table A1 suggest that the extent of the voting franchise is associated with financial development and structure.

*3.4. Controls*

Our empirical analysis controls for other determinants of financial development and structure beyond those related to suffrage institutions. We include the contemporaneous GDP per capita (GDP PER CAPITA) as richer countries are more likely to have more developed financial systems. Another potential determinant is the degree of urbanization (URBANIZATION RATE), defined as the proportion of the population that lives in cities with more than 100,000 inhabitants. The progressive transformation of a rural population towards an urban population may affect patterns of financial development. A rural population involved mainly into agriculture is more likely to finance its investment via trade or bank credit, whereas an urban population goes hand in hand with industrialization and the appearance of new sectors (technology, services) that rely more on market-based finance.

Economic historians have provided detailed evidence that factor endowments such as climate, geography, natural resources, or soil conditions help explain long-run economic success of some countries through their impacts on market institutions (Engerman and Sokoloff, 1997). Hall and Jones (1999) and Acemoglu, Johnson, and Robinson (2001) exploit empirically this argument and propose an analysis complementary to this story by arguing that the effect on market institutions stems from the mode of Western European settlement around the world. [11] The mode of settlement can be divided into two broad categories that are related to factor endowments: those where Western Europeans had little interest in settling due to harsher and unfavorable conditions. In these areas they developed "extractive institutions", which allowed little protection of private property rights and few checks and balances against government expropriation; and those where Western Europeans settled in larger numbers and therefore developed institutions more defensive of private property and of system of checks

[11] More closely related to our work, Beck, Demirgüç-Kunt, and Levine (2003) extend this argument to financial institutions.

and balances in government. Countries close to the equator appear less likely to be settled by Western Europeans since the climate is not similar to Western Europe and the mortality rate is higher. Still, Western Europeans settlers conquer and exploit areas of the world rich in natural resources such as silver and gold. In these areas, Western Europeans' incentives were the extraction of these natural resources without the concern to leave behind them favorable institutions. We therefore rely on control variables measuring factor endowments, namely the distance from the equator (LATITUDE) and the number of square kilometers of the landmass (LAND AREA). LATITUDE captures the climate and geographic endowments, while LAND AREA captures the natural resource endowments.

Comparative legal scholars have stressed the role played by legal traditions in explaining cross-country variations in investor protection, contracting environment, and hence financial development. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998) find that countries with English Common law legal tradition tend to have broader stock markets than Civil law countries. We control for this by adding COMMON LAW ORIGIN dummy variable, which equals one if the country adopted legal institutions from the English Common law and zero otherwise.

An argument dating back to Max Weber places greater emphasis on the crucial role of religion to explain the development of capitalism and its institutions. Starting from Weber's work, Stulz and Williamson (2003) shed light on the importance of religion in our understanding of the degree of investor and creditor protection across countries. To control for the impact religion may have on financial development, we add a dummy variable CATHOLIC which is equal to one if the Catholic religion is the primary religion in the country.

We include two other political economy determinants of financial development and structure to further identify the channel that voting franchise has on development. First, the

quality of democratic institutions may exert an influence on financial development (Barth, Caprio, and Levine, 2006; Huang, 2010). Indeed, the accountability of the government to legislative bodies (i.e., the lower house) or the electorate's real political influence may have direct impact on financial regulations and development.[12] Countries vary greatly from each other in terms of the degree of restraints on the powers of the executive, the competitiveness of political participation, or the extent to which electorate can effectively express their preferences about ruling coalitions and policies via elections. We include a dummy variable POLITY 2, which is based on the *polity 2* variable from the Polity IV database to control for the impact associated with political openness and competitiveness (i.e., the quality of democratic institutions). It equals one when *polity 2* is positive (i.e. when the quality of democratic institutions is sufficiently high) and zero otherwise. Second, the passage from a majoritarian (predominant throughout the nineteenth and early twentieth century) to a proportional electoral rule is another institutional political reform that may affect financial development and structure. Accordingly, the type of the electoral rule induces politicians to shape their platforms to cater towards different segments of the electorate. This in turn affects financial regulations and thus financial development and structure (Pagano and Volpin, 2005). We therefore include the dummy variable MAJORITARIAN RULE which equals one when the lower house was elected by the plurality rule and zero otherwise.[13]

Lastly, all models include time fixed effects. Some models also contain country fixed effects implying we then exploit within country variation.

[12] By the late nineteenth and early twentieth century, Germany demonstrated a fairly wide voting franchise but the lower house (*Bundestag*) had little control on her executive. To contain the political consequences of her large electorate, the executive was not chosen by the lower house but by the upper house (*Bundesrat*), which was not directly elected. Contrasting with neighboring countries such as Belgium, the executive in Germany was indeed largely unaccountable to the lower house and therefore to their electorate (Colomer, 2001). When the so-called Weimar Republic was established in 1918, democratic institutions have been improved and notably the executive was made responsible to the lower house.

[13] As an example, Germany has introduced in 1918 a proportional representation electoral rule, together with the extension of the right to vote to all men and women who were 20 years old.

## 4. Regression Results

This section presents the main results and it is outlined as follows. We first discuss our econometric specification and identification strategy. Then, we present successively our panel data evidence on the stock market development (subsection 4.2), banking sector development (subsection 4.3), and financial structure (subsection 4.4). We close this section by discussing endogeneity pitfalls of suffrage institutions (subsection 4.5).

### *4.1. Econometric Methodology*

The econometric model we employ to identify the relationship between voting franchise and financial development and structure can be written as:

$$Y_{it} = \alpha \cdot S_{it} + \beta \cdot Z_{it}^{'} + u_{it}, \quad (1)$$

where $Y_{it}$ is the outcome variable of interest for country $i$ in year $t$, i.e., our indicators of stock market development (ln(CAPITALIZATION) and ln(LISTED COMPANIES)), banking sector development (ln(BANK DEPOSITS)), or the financial structure (STRUCTURE). $S_{it}$ is one of the two measures of suffrage institutions (SUFFRAGE and EFFECTIVE SUFFRAGE)[14], and $Z_{it}$ is the set of other controls (based upon the economic and political economy theories explaining financial development discussed in section 3). The parameter of interest is $\alpha$, whereas $\beta$ is a vector capturing effects of the control variables in $Z_{it}$,

[14] As robustness, we also cap the variable SUFFRAGE at 30%, in order to assess whether the effect is strongest at lower levels of suffrage changes. This is likely the case when the richer upper class constitutes a small fraction of the population. Results show that the effect is qualitatively similar as when using the uncapped variable SUFFRAGE. We therefore do not report them explicitly in our tables.

and $u_{it}$ is an error term. Depending upon the specification we add time and country fixed effects:

$$u_{it} = \lambda_t + \varphi_i + \varepsilon_{it},$$

where $\varepsilon_{it}$ is the remaining stochastic disturbance term. For some specifications, we estimate equation (1) without country fixed effects as these wipe out any time-invariant country characteristics. We base inference on panel corrected standard errors (PCSE) as recommended by Beck and Katz (1995).[15] This procedure allows controlling for disturbances that are both heteroskedastic and contemporaneously correlated across countries.[16]

*4.2. Suffrage Institutions and Stock Market Development*

Our findings on the impact of suffrage institutions on our two indicators of stock market development (ln(CAPITALIZATION) and ln(LISTED COMPANIES)) are shown in Tables 4 and 5, respectively. Models (1) to (3) and (4) to (6) in Tables 4 and 5 show the results for SUFFRAGE and EFFECTIVE SUFFRAGE each time including different controls, respectively. As the results are quite robust across the different models, we first discuss the impact of the voting franchise indicators of interest on our two stock market development indicators before turning to our discussion of the control variables. Models (3) and (6) include country fixed effects implying that the time-invariant controls become encompassed; we then focus on the impact of within country variation of voting franchise on stock market development.

[15] To be reassured that our results are robust to the econometric model, we also ran regressions using fixed effects estimates with year and country dummies. Our results do not change qualitatively, although we are less confident in these estimates.

[16] When we checked for stationarity in our data by plotting them against time, we did not detect trends. Conventional panel unit root tests are not feasible due to the unbalanced nature of our dataset and the presence of gaps in data.

<insert Table 4 about here>

First, Table 4 provides strong evidence in support of the prediction that a more restrictive voting franchise leads to a higher stock market capitalization (over the period 1830-1999). A one percentage point higher SUFFRAGE leads to a drop of 1.935%*** (Model (1)) to 2.020%*** (Model (2)) in the size of stock markets relative to GDP. Similarly, a one percentage point increase in the fraction of votes cast (EFFECTIVE SUFFRAGE) corresponds with a drop of 1.779%** (Model (4)) to 2.012%** (Model (5)) in stock market development. Our results are economically meaningful. For example, a one standard deviation drop in SUFFRAGE (i.e., a drop of 0.244 in Model (2)) or EFFECTIVE SUFFRAGE (i.e., a drop of 0.202 in Model (5)) implies a 49.3% or 40.6% higher CAPITALIZATION, respectively. The inclusion of country fixed effects in Model (3) leaves the coefficient of SUFFRAGE almost unaltered: a one standard deviation (within the same country) drop of SUFFRAGE leads to a 32.7% higher CAPITALIZATION (i.e. 0.226*1.445). The inclusion of country fixed effects makes EFFECTIVE SUFFRAGE insignificant.

<insert Table 5 about here>

Second, Table 5 shows that increasing the voting franchise to a broader fraction of the electorate leads to a reduction in the number of companies listed on stock markets. These results are independent of the inclusion of country fixed effects or not. An increase of SUFFRAGE by one percentage point corresponds with a 0.904%* (Model (3)) to 2.609%*** (Model (2)) drop in LISTED COMPANIES. Similarly, a one percentage point increase in the proportion of votes cast (EFFECTIVE SUFFRAGE) relates to a 1.642%** (Model (5)) to 2.096%*** (Model (6)) drop in LISTED COMPANIES. Based on Models (2) and (5), a one

standard deviation drop in SUFFRAGE (i.e., 0.244) and EFFECTIVE SUFFRAGE (i.e., 0.202) leads to a 63.7% and 33.2% greater LISTED COMPANIES. We therefore find clear evidence that the breadth of the stock markets is undermined with a broader voting franchise. Using either measure, there is a strong robust effect of suffrage institutions.

We now turn to a discussion of the results of the control variables included in Tables 4 and 5. Our findings are in accordance with previous literature. Richer countries (measured by GDP PER CAPITA) have more developed stock markets both in terms of stock market capitalization (Table 4) and number of listed companies (Table 5). In general we also find that a higher degree of urbanization (URBANIZATION RATE) has positive effects on stock market development although it is not always statistically significant. LAND AREA has a negative and significant coefficient in all specifications, meaning that greater natural resource endowments produce adverse effects on stock market development. This is consistent with predictions from e.g., Beck, Demirgüç-Kunt, and Levine (2003). In a same vein, LATITUDE is positive and statistically significant suggesting that the further away a country is from the equator the higher its reliance on stock markets. In line with prior findings of the law and finance literature, countries with English Common law legal tradition (COMMON LAW ORIGIN) tend to have more developed stock markets. Catholic religion seems to affect negatively (but significantly at 10% level only) the number of listed firms.

Tables 4 and 5 further include two important control variables underpinned by the literature on political institutions and financial development. In these tables, Models (2) and (5) control for the quality of democratic institutions (POLITY 2) and for the electoral rule (MAJORITARIAN RULE). Except for Model (5) in Table 5, those measures of political institutions are insignificant. More importantly, our results remain robust to the inclusion of

those variables showing that our suffrage variables do not capture other institutional political design of the era.[17]

Overall, the results in this section suggest that broader suffrage institutions have a first-order negative effect on stock market development. The next section investigates whether this pattern is similar when considering banking sector development.

*4.3. Suffrage Institutions and Banking Sector Development*

We now turn to the impacts voting franchise has on banking sector development. Table 6 displays the results of our empirical analysis where the period covered is the twentieth century. As before, Models (1) to (3) and (4) to (6) show the results for SUFFRAGE and EFFECTIVE SUFFRAGE, each time including different controls or country fixed effects, respectively. We first discuss our findings on our voting franchise variables of interest before turning to the control variables.

<insert Table 6 about here>

Table 6 shows that SUFFRAGE and EFFECTIVE SUFFRAGE positively impact banking development. In particular, a one percentage point increase in SUFFRAGE implies a

[17] In unreported regressions we further include POLITY 2 and MAJORITARIAN RULE together with country fixed effects; in general the results on our suffrage indicators of interest remain unaffected. It is also worth emphasizing that the "original" *polity 2* index (coded on a scale from -10 to 10 as provided in the POLITY IV database) correlates over time with our suffrage indicators. This is expected since several subcomponents of the *polity 2* index are related to elections and thus voting franchise. We adopt a twofold strategy to disentangle their respective effects and avoid misleading conclusions about the role played by our suffrage indicators of interest. First, the use of a simple dummy variable, taking the value of one if the *polity 2* index is positive and zero if negative, reduces the potential problem of collinearity between these variables in our models. Considering the "original" *polity 2* index makes however little difference for our results in the reported models. Second, we include in our models only the subcomponent of the *polity 2* index which is not capturing elections (i.e., the constraints on chief executive which reflects the real political impact of parliament as measured by the variable *xtconst* in the POLITY IV database). Our results with this *xtconst* variable become somewhat stronger, but are not reported to save space. A similar footnote applies for our other indicators of financial development and structure.

0.536%** (Model (3)) to 0.801%** (Model (1)) higher BANK DEPOSITS. Taking Model (3) with country fixed effects, a one standard deviation higher SUFFRAGE goes together with a 12.1% larger BANK DEPOSITS (i.e., 0.226*0.536). The remaining models of Table 6, which use our second indicator of suffrage institutions, show results consistent with those in previous models. Models (4) to (6) of Table 6 show that the estimated coefficients for EFFECTIVE SUFFRAGE are between 1.142*** (Model (6)) and 1.533*** (Model (4)). Also the impact of EFFECTIVE SUFFRAGE is largely economically relevant: a one standard deviation higher EFFECTIVE SUFFRAGE (using the coefficient of Model (6)) relates to an impressive 19.4% greater BANK DEPOSITS. These results indicate that a broader voting franchise has a considerable positive impact on banking sector development.

We now discuss our control variables. We include the same set of control variables as in explaining stock market development. Furthermore, and specific to banking development, all models in Table 6 include a dummy variable for Switzerland (except for Models (3) and (6) where country fixed effects make the Switzerland dummy redundant). Switzerland has long been a safe haven for international bank deposits and its high banking development may capture this characteristic. GDP per capita positively influences banking development. URBANIZATION RATE however is not statistically significant in all models. LAND AREA is statistically significant only in one specification but overall negative, showing that countries with a greater surface have lower banking development. There is no significant effect of LATITUDE on the levels of development of the banking sector whereas it positively influenced stock market development. The measures of legal origin (COMMON LAW ORIGIN) and religion (CATHOLIC) are not significant determinants of bank finance.

The quality of democracy indicator, POLITY 2, enters with the expected sign in regressions but its impact is only significant in Model (5). MAJORITARIAN RULE is negative and statistically significant in Model (2) consistent with the predictions from the

political economy literature. This significance does not persist when we consider EFFECTIVE SUFFRAGE as variable of interest.

In sum, our results on banking development suggest that the newly enfranchised population has on average strong preferences for greater banking development.

*4.4. Suffrage Institutions and Financial Structure*

Subsections 4.2 and 4.3 provided robust and contrasted effects of suffrage institutions on financial development, with a negative effect on stock markets and a positive effect on the banking sector. In this subsection, we ask ourselves whether suffrage institutions impact the financial structure, i.e., the relative importance of stock markets vis-à-vis banks. Table 7 examines this aspect for the period 1913-1999.

<insert Table 7 about here>

Models (1) to (3) and (4) to (6) study the impact of SUFFRAGE and EFFECTIVE SUFFRAGE including different sets of controls respectively. Models (1) to (3) show that a one percentage point greater SUFFRAGE goes together with a 2.022%*** (Model (2)) to 2.205%*** (Model (1)) lower STRUCTURE. This shows that the proportion of the population eligible to vote produces a strong adverse effect on the market-orientation of the financial structure. The economic significance is considerable as a one standard deviation increase in SUFFRAGE within the same country (based on Model (3)) leads to a 49.0% (i.e., 0.226*2.166) lower STRUCTURE. Increasing the size of the voting population augments both the size of stock markets and reduces banking sector development. This is reflected in a drastic decrease in market orientation. Results shown in Models (4) to (6) of Table 7,

considering EFFECTIVE SUFFRAGE as variable of interest, are qualitatively similar (32.9% increase as a result of a one standard deviation increase in EFFECTIVE SUFFRAGE, according to Model (6)). We do not discuss the results on the control variables as they go in the same direction as discussed above.

Our results on financial structure show that the impact of suffrage institutions on financial development is big enough to influence the orientation of the financial structure. Suffrage institutions play thus a key role in our understanding of the divergent orientation in the forms of financial system across countries. Suffrage institutions capture the political process and the shocks that caused a change in the median voter political preferences on financial structure, as argued by Perotti and von Thadden (2006). We think of the expansions of the voting franchise across space and time as being exogenous shocks affecting the location of the median voter and thus its preference about the orientation of the financial structure. We now turn to further examining the exogeneity of suffrage institutions.

### *4.5. On the Exogeneity of Suffrage Institutions*

Our evidence on the impact of suffrage institutions on financial development may potentially be subject to some forms of endogeneity, being in our case mostly reverse causality.

Reverse causality (i.e., a causal link from financial development to suffrage institutions) in our framework echoes the "modernization hypothesis". This hypothesis postulates that economic development drives the creation and the consolidation of democracy (Lipset, 1959). While earlier studies support the "modernization hypothesis", the latest empirical studies reject these earlier conclusions mainly because these earlier studies failed to control for endogeneity. By using extensive panel data and providing careful attention at

omitted variables bias and reverse causality, Acemoglu, Johnson, Robinson, and Yared (2008) do not find any impact of income on the level of democracy. Similarly, Acemoglu, Johnson, Robinson, and Yared (2009) identify no causal effect of economic development on the transitions into and away from democracy. Aidt and Jensen (2011) look directly at the effect of economic development on suffrage institutions and refute in turn empirically the "modernization hypothesis". These works are rather consistent with the idea that institutional changes during certain critical historical junctures (such as factor endowments affecting the mode of settlement) led to divergent economic and political development.[18] Based on these latest results, reverse causality does not seem to constitute a major concern in our study and suffrage institutions can be considered as exogenous and we could stop the discussion on endogeneity here.

We nevertheless make two additional steps to deal with potential endogeneity of our voting franchise indicators, even though the latest evidence on the "modernization theory" does not point towards reverse causality problems. First, we perform econometric tests to investigate the exogeneity of our voting franchise indicators, SUFFRAGE and EFFECTIVE SUFFRAGE. We employ the Wu-Hausman test, with the null hypothesis that the ordinary least squares (OLS) estimator is consistent with the instrumental variables (IV) estimator. A rejection of the null indicates that the endogeneity of the regressors has a significant influence on the estimates, and that equation (1) should be estimated using IV. We employ two instruments. The first is the threat of revolution and the second is the international norms concerning voting rights. The argument for the first instrument is that political elites opt for universal male suffrage in order to make a credible commitment for future redistribution and to avoid social unrest and revolution. In doing so, elites preserved the returns to their property and the social stability (Acemoglu and Robinson, 2000, 2006).[19] The second instrument is a

[18] See Engerman and Sokoloff (1997) and Acemoglu, Johnson, and Robinson (2001), among others.
[19] Aidt and Jensen (2011) have recently provided striking empirical evidence supporting this argument.

proxy for the international norms concerning voting rights. The diffusion of these norms has been amplified by the proclamation by the United Nations in 1948 of the Universal Declarations of Human Rights, aiming at banning all kinds of discrimination and at asserting equality of rights between men and women. While this diffusion effect is relatively weaker for the introduction of male suffrage, it is overwhelming for expansions involving women. Detailed information on the definition and construction of the instruments is provided in Table 1. [20]

Second, we estimate IV/2SLS regressions for the main specifications of Tables 4, 5, 6, and 7; detailed results are available upon request. Under both theoretical and historical grounds that our two instruments are valid, it must be noted that *F*-statistics for the first stage regressions are significant, meaning a sufficient correlation between the instruments and the potential endogenous variables. Also, *p*-values of the Sargan statistics are higher than 5% in most of the cases. This indicates that our instruments are sufficiently uncorrelated with the residual term of the structural equations. We therefore rule out a potential reverse effect of financial development on suffrage institutions. Except for ln(CAPITALIZATION), test results indicate (given the validity of our instruments) that the exogeneity assumption is not rejected. Therefore, the method of estimation used throughout the paper does not lead to inconsistent and biased estimates and are preferred to IV/2SLS methods. Our key results remain however qualitatively similar with IV/2SLS regressions.

## 5. A long-Run Perspective

[20] Another instrument used was fragmentation within the elite. Some authors argue that fragmented elites grant male universal suffrage voluntary, in their own interest, either because they prefer public goods over transfers (Lizzeri and Persico, 2004) or because they want to obtain an electorate for particular economic policies (Llavador and Oxoby, 2005). We prefer not to take fragmentation within the elites into account because this argument is rather confined in the nineteenth century's context, a period not covered by Tables 5, 6, and 7.

Section 4 showed that the scope of voting franchise impacts financial development contemporaneously. But is the impact of voting franchise only immediate or does it also generate slower adjustment effects and generate a longer-run effect? We observe today convergence paths of both countries' suffrage institutions and of countries' reliance on capital markets. Indeed, in our sample countries, the fraction of the voting population converged in the post-World War II era and most capital markets recovered in the last decades. This is largely due to the fact that all the countries considered nowadays have introduced universal suffrage for all men and women. Given that all the countries exhibit high levels of voting participation, one might expect that suffrage has no explanatory power anymore if it only generates immediate effects. If suffrage has explanatory power, one might expect that the adjustment process affecting financial development is slow or that suffrage has long-lasting effects. Our empirical analysis below shows that the scope of voting franchise produces longer run effects, i.e. suffrage institutions exert persistent influence on market-orientation of the financial structure at the end of the twentieth century.[21] It seems important to note that we do not argue that this convergence path of suffrage institutions cannot reverse in the future,[22] but rather that this convergence path, in a period where stock markets have mostly recovered, still produce persistent effect on countries' financial system orientation.

To shed light on this long-run effect, we investigate whether the orientation of a country's financial system – averaged over the period 1980-1995 – is related to the time of introduction of universal suffrage in that country.[23] We focus on two indicators of the market orientation of the financial system as constructed and previously employed by Beck, Demirgüç-Kunt, and Levine (2000). The first is the ratio of stock market capitalization to

[21] Along the same lines, Perotti and Schwienbacher (2009) consider the long-lasting effect of politics on countries' reliance on capital markets.
[22] Acemoglu and Robinson (2006) present theoretical arguments, historically well-grounded, on the reasons why some democracies once created collapsed, whereas in others the democratic process endures and consolidates.
[23] In a related context, Bordo and Rousseau (2006) show that the advent of universal suffrage impacted the ratio of broad money to GDP, which is a broader measure than ours and more related to monetary economics issues.

private credit (FINANCIAL STRUCTURE[24]). The second indicator is the average of the deviations from the mean of three measures capturing the relative importance of stock markets vis-à-vis the banking sector in terms of size, activity, and efficiency (FINANCIAL STRUCTURE INDEX). To measure the impact of voting franchise, we employ the year of introduction of the universal suffrage (UNIVERSAL SUFFRAGE), i.e., the year of the first parliamentary election in which all males and females of voting ages are allowed to vote in a given country (Flora, 1983; Ramirez, Soysal, and Shanahan, 1997). We enlarge our sample to 35 countries listed in Appendix Table A2. We did not consider those additional 17 countries before due to a lack of data on the early twentieth century. Figure 1 illustrates when universal suffrage was introduced in our 35-country dataset and clearly shows a clustering around both World Wars. Similarly to previous sections, we include the same set of control variables where we replace the GDP per capita by the initial GDP per capita (INITIAL GDP PER CAPITA).[25]

<insert Table 8 about here>

Table 8 reports the results of estimating the impact of UNIVERSAL SUFFRAGE on FINANCIAL STRUCTURE and FINANCIAL STRUCTURE INDEX. Econometric specifications in Models (1), (3), (5), and (7) consider the whole sample of 35 countries, while Models (2), (4), (6), and (8) restrict the sample to the 18 countries employed in Section 4. We present results for OLS regressions and IV/2SLS regressions. The date of introduction of universal suffrage (UNIVERSAL SUFFRAGE) has an impressive positive (statistically and

[24] We scale stock market capitalization by private credit in our long-run analysis and by bank deposits in Section 4. To distinguish them clearly, we label the scaling by private credit as FINANCIAL STRUCTURE.

[25] The construction of the proxy for economic development, called INITIAL GDP PER CAPITA, is slightly different since it is the real GDP per capita in 1980 using data from Summers-Heston. URBANIZATION RATE, LAND AREA, LATITUDE, COMMON LAW ORIGIN, and CATHOLIC are defined in Table 1 and are related to the year 1980.

economically) effect on the orientation of the financial system over the period 1980-1995. Model (1) of Table 8 shows that a 25-year delay in the introduction of universal suffrage implies a 17.5 percentage point increase in the relative importance of stock markets as compared to banks and other financial intermediaries (i.e., 0.007*25). Model (2) indicates a similar impact (an increase of 15%, i.e., 0.006*25) when we restrict the sample to the 18 countries previously considered in Section 4. Next, the introduction of universal suffrage has also a striking effect on our second indicator of orientation, FINANCIAL STRUCTURE INDEX, as can be seen from Models (5) to (8). A 25-year delay in the introduction of universal suffrage is related to a FINANCIAL STRUCTURE INDEX which is 10 percentage points higher (using coefficients of Model (5), i.e. 0.004*25), suggesting an increased dominance of stock markets over banks when universal suffrage arose later. Results are stable to restricting our analysis to the 18 countries previously employed. To deal with potential endogeneity, we instrument UNIVERSAL SUFFRAGE with the number of countries already having introduced up to that point universal suffrage (i.e., INTERNATIONAL NORMS FOR SUFFRAGE). [26] These international norms should not influence the financial development of a specific country directly but be correlated with UNIVERSAL SUFFRAGE, making it a good instrument. Qualitatively similar coefficients arise from IV/2SLS estimations as can be seen from Models (3), (4), (7) and (8). By focusing on the long-run effect, these cross-section findings provide further support for our predictions.

## 6. Conclusions

This paper investigates whether the scope of voting franchise impacts financial development and the orientation of the financial system. An expansion of the voting franchise

[26] This is the only instrument used in Table 8 since it is specifically related to universal male and female suffrage, whereas the other instrument, proxing the threat of revolution, rather relates to universal male suffrage.

shifts the median voter whose political preferences may differ. A voting franchise which is restricted to more wealthy people will be more conducive to stock market development. A voting franchise where the median voter is poorer will be more conducive to protect creditor rights and therefore banking development.

Our empirical evidence covering the nineteenth and twentieth century shows that a more restricted voting franchise leads to a greater stock market development. In contrast, a broader voting franchise is conducive to banking development. Our results are consistent with Perotti and von Thadden (2006) whose work suggests that the size and the composition of financial development reflects the preferences of the voting median class, which are influenced by its equity stake and risk aversion profile.

We further document that the voting franchise effects are not only temporarily but have long-lasting effects on the orientation of financial development. We find that countries which introduced later universal suffrage exhibit a more market-oriented financial system at the end of the twentieth century. Our findings emphasize thus the critical role of both the median voter preferences and the persistence of political effects.

This study raises follow-up research questions as to whether expansion of voting rights had impact on many other dimensions of financial and economic development. One interesting area to explore is deposit insurance, which has been introduced in most of the democratic countries from 1960 onwards (Demirgüç-Kunt, Kane and Laeven, 2008). Deposit insurances represent financial safety nets to primarily protect the middle class and its introduction did not take place at the same time; while some introduced it in 1960s, many other countries did so in 1990s or even later. Understanding the motivation for quick introduction requires exploring the effect of suffrage expansion.

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**FIGURE 1. The Introduction of Universal Suffrage**
This figure shows the number of countries that introduced universal suffrage in our 35-country dataset. The y-axis gives the number of countries whereas the x-axis the different time periods.

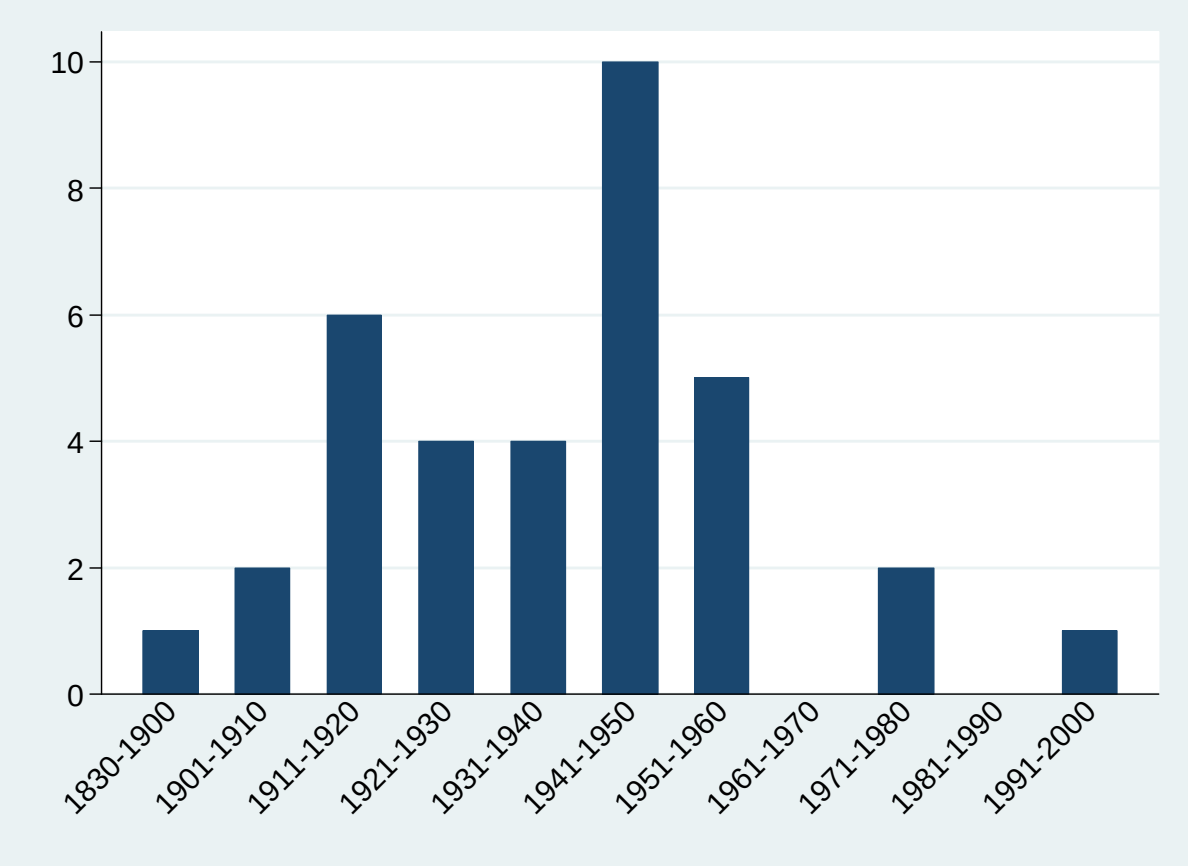

**TABLE 1. Description of Variables**

| Variable | Description | Sources |
|---|---|---|
| **Financial Development** | | |
| CAPITALIZATION | Stock market capitalization divided by GDP. | Rajan and Zingales (2003b), Musacchio (2010), and Goldsmith (1985) |
| LISTED COMPANIES | Number of publicly traded domestic companies per million of inhabitants. | Rajan and Zingales (2003b) |
| BANK DEPOSITS | Deposits at commercial banks and savings banks divided by GDP. | Rajan and Zingales (2003b) |
| STRUCTURE | Ratio of stock market capitalization to bank deposits. | Rajan and Zingales (2003b), and Musacchio (2010) |
| **Suffrage Institutions** | | |
| SUFFRAGE | The number of registered voters for the lower house of the national legislature divided by total population. | Mackie and Rose (1982), Colomer (2001), Banks (2011), and International Institute for Democracy and Electoral Assistance (IDEA) |
| EFFECTIVE SUFFRAGE | The number of valid votes cast for the lower house of the national legislature divided by total population. | Banks (2011) |
| **Controls** | | |
| GDP PER CAPITA | Per capita GDP (1990 international Geary-Khamis dollars). | Maddison (2003) |
| URBANIZATION RATE | The proportion of the population that lives in cities with more than 100,000 inhabitants. | Banks (2011) |
| LAND AREA | Land area (sq. km). | Banks (2011) |
| LATITUDE | Absolute value of the latitude of a country, scaled between zero and one. | La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999) |
| COMMON LAW ORIGIN | Dummy variable equal to one for English common law legal tradition, and zero otherwise. | La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999) |
| CATHOLIC | Dummy variable equal to one if Catholic religion is the religion practiced by the largest fraction of the population, and zero otherwise. | Stulz and Williamson (2003) |
| POLITY 2 | Dummy variable equal to one if *polity 2* is positive and zero if negative. *polity 2* is an index summing a *democracy score* (ranging from 0 to 10) for each country and year with an *autocracy score* (ranging from 0 to -10), with higher values associated with better democracies. The former is an institutional measure of democracy based on country's competitiveness and openness in selecting the executive, political participation, and constraints on the chief executive, whereas the latter scores autocratic limitations on the same dimensions of democratic rights. | Polity IV Database |
| MAJORITARIAN RULE | Dummy variable equal to one if the country elected its lower house exclusively through plurality rule in the most recent election, whereas for other (mixed and proportional) rules it equals zero. | Flora (1983), Colomer (2001), and Persson and Tabellini (2003) |
| **Instruments** | | |
| THREAT OF REVOLUTION | Index of the threat of revolution. It is a simple count of major revolutionary events occurring in other countries in a given year. The index remains at its value in each year after the introduction of adult male suffrage. | Mackie and Rose (1982), Aidt and Jensen (2011), Banks (2011), and authors' own calculations |
| INTERNATIONAL NORMS FOR SUFFRAGE | Proportion of countries around the world having introduced universal suffrage for all men and women. The measure remains at its value in each year after universal suffrage. | Ramirez, Soysal, and Shanahan (1997), and authors' own calculations |

**TABLE 2. Descriptive Statistics and Tests of Differences: Panel Data**

| **Panel A: Descriptive Statistics** | | | | | | |
|---|---|---|---|---|---|---|
| **Variable** | **Mean** | **Std Dev (Overall)** | **Std Dev (Between)** | **Std Dev (Within)** | **Nb of Countries** | **Nb of Obs** |
| **Financial Development** | | | | | | |
| CAPITALIZATION | 0.578 | 0.511 | 0.319 | 0.412 | 18 | 176 |
| LISTED COMPANIES | 33.288 | 26.131 | 20.597 | 15.688 | 18 | 136 |
| BANK DEPOSITS | 0.421 | 0.302 | 0.173 | 0.251 | 18 | 162 |
| STRUCTURE | 2.059 | 2.382 | 1.713 | 1.629 | 18 | 142 |
| **Suffrage Institutions** | | | | | | |
| SUFFRAGE | 0.474 | 0.244 | 0.106 | 0.226 | 18 | 190 |
| EFFECTIVE SUFFRAGE | 0.378 | 0.202 | 0.125 | 0.170 | 18 | 169 |
| **Controls** | | | | | | |
| ln(GDP PER CAPITA) | 1.814 | 0.790 | 0.308 | 0.737 | 18 | 195 |
| URBANIZATION RATE | 0.255 | 0.151 | 0.111 | 0.104 | 18 | 194 |
| ln(LAND AREA) | 5.958 | 1.763 | 1.803 | 0.210 | 18 | 198 |
| LATITUDE | 0.516 | 0.117 | 0.123 | 0.000 | 18 | 198 |
| COMMON LAW ORIGIN | 0.273 | 0.446 | 0.461 | 0.000 | 18 | 198 |
| CATHOLIC | 0.500 | 0.501 | 0.514 | 0.000 | 18 | 198 |
| POLITY 2 | 0.874 | 0.333 | 0.150 | 0.297 | 18 | 198 |
| MAJORITARIAN RULE | 0.535 | 0.500 | 0.389 | 0.331 | 18 | 198 |

| **Panel B: Tests of Differences** | | | |
|---|---|---|---|
| | **Low (< Median)** | **High (>= Median)** | **Test Diff. (*p*-value)** |
| | ln(CAPITALIZATION) | ln(CAPITALIZATION) | |
| SUFFRAGE | 0.504 | 0.456 | 0.208 |
| EFFECTIVE SUFFRAGE | 0.424 | 0.336 | 0.006 |
| | ln(LISTED COMPANIES) | ln(LISTED COMPANIES) | |
| SUFFRAGE | 0.610 | 0.518 | 0.007 |
| EFFECTIVE SUFFRAGE | 0.484 | 0.404 | 0.009 |
| | ln(BANK DEPOSITS) | ln(BANK DEPOSITS) | |
| SUFFRAGE | 0.500 | 0.588 | 0.008 |
| EFFECTIVE SUFFRAGE | 0.403 | 0.462 | 0.045 |
| | ln(STRUCTURE) | ln(STRUCTURE) | |
| SUFFRAGE | 0.605 | 0.514 | 0.008 |
| EFFECTIVE SUFFRAGE | 0.491 | 0.385 | 0.000 |

*Note:* This table presents descriptive statistics (Panel A) and tests of differences (Panel B) for our 18-country panel dataset spanning from 1830 to 1999. Panel B tests the difference in means, for each indicator of suffrage institutions, between low and high countries' levels of financial development (i.e., values below and above the median). Table 1 summarizes variables definitions and sources.

**TABLE 3. Descriptive Statistics of Suffrage Institutions Indicators by Sample Year**

| Year | Mean | Median | Minimum | Maximum | Std Dev | Nb of Countries | Mean | Median | Minimum | Maximum | Std Dev | Nb of Countries |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SUFFRAGE | | | | | | EFFECTIVE SUFFRAGE | | | | | |
| **1830-1899** | 0.141 | 0.160 | 0.018 | 0.333 | 0.097 | 9 | 0.101 | 0.091 | 0.010 | 0.284 | 0.080 | 9 |
| **1900** | 0.165 | 0.190 | 0.019 | 0.339 | 0.093 | 17 | 0.120 | 0.104 | 0.026 | 0.306 | 0.079 | 13 |
| **1913** | 0.242 | 0.229 | 0.024 | 0.626 | 0.139 | 16 | 0.166 | 0.143 | 0.106 | 0.348 | 0.068 | 12 |
| **1929** | 0.428 | 0.501 | 0.055 | 0.650 | 0.184 | 17 | 0.343 | 0.360 | 0.041 | 0.549 | 0.134 | 15 |
| **1938** | 0.472 | 0.564 | 0.105 | 0.684 | 0.199 | 17 | 0.383 | 0.445 | 0.083 | 0.595 | 0.149 | 15 |
| **1950** | 0.545 | 0.609 | 0.108 | 0.681 | 0.176 | 18 | 0.455 | 0.503 | 0.089 | 0.584 | 0.154 | 14 |
| **1960** | 0.549 | 0.606 | 0.108 | 0.691 | 0.171 | 17 | 0.467 | 0.520 | 0.076 | 0.615 | 0.150 | 16 |
| **1970** | 0.575 | 0.646 | 0.099 | 0.710 | 0.166 | 17 | 0.451 | 0.511 | 0.068 | 0.620 | 0.167 | 17 |
| **1980** | 0.647 | 0.696 | 0.097 | 0.749 | 0.155 | 18 | 0.511 | 0.560 | 0.040 | 0.745 | 0.163 | 18 |
| **1990** | 0.716 | 0.729 | 0.583 | 0.797 | 0.059 | 17 | 0.565 | 0.582 | 0.242 | 0.665 | 0.103 | 14 |
| **1999** | 0.706 | 0.735 | 0.422 | 0.853 | 0.100 | 18 | 0.506 | 0.553 | 0.239 | 0.649 | 0.124 | 18 |

*Note:* This table reports descriptive statistics for our suffrage institutions indicators (as defined in Table 1) for several sample periods.

**TABLE 4. The Effect of Suffrage on Stock Market Capitalization, 1830-1999: Panel Data**

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| **Suffrage Institutions** | | | | | | |
| SUFFRAGE | -1.935*** | -2.020*** | -1.445*** | | | |
| | (0.702) | (0.665) | (0.552) | | | |
| EFFECTIVE SUFFRAGE | | | | -1.779** | -2.012** | -0.625 |
| | | | | (0.763) | (0.857) | (0.563) |
| **Controls** | | | | | | |
| ln(GDP PER CAPITA) | 0.592*** | 0.594*** | 0.514** | 0.522*** | 0.542*** | 0.621* |
| | (0.212) | (0.214) | (0.247) | (0.164) | (0.170) | (0.331) |
| URBANIZATION RATE | 0.439 | 0.460 | 1.963** | 0.782** | 1.061** | 2.437** |
| | (0.353) | (0.456) | (0.863) | (0.391) | (0.537) | (0.995) |
| ln(LAND AREA) | -0.138*** | -0.139*** | | -0.156*** | -0.138** | |
| | (0.046) | (0.054) | | (0.046) | (0.055) | |
| LATITUDE | 0.583** | 0.624** | | 0.652* | 0.748* | |
| | (0.295) | (0.280) | | (0.349) | (0.388) | |
| COMMON LAW ORIGIN | 1.188*** | 1.161*** | | 1.183*** | 1.151*** | |
| | (0.197) | (0.197) | | (0.243) | (0.258) | |
| CATHOLIC | 0.004 | 0.007 | | 0.039 | 0.065 | |
| | (0.072) | (0.078) | | (0.072) | (0.063) | |
| POLITY 2 | | 0.123 | | | 0.119 | |
| | | (0.258) | | | (0.164) | |
| MAJORITARIAN RULE | | 0.025 | | | 0.129 | |
| | | (0.208) | | | (0.144) | |
| **Fixed Effects** | | | | | | |
| Year | Yes | Yes | Yes | Yes | Yes | Yes |
| Country | No | No | Yes | No | No | Yes |
| $R^2$ | 0.511 | 0.512 | 0.641 | 0.521 | 0.523 | 0.670 |
| Wald $Chi^2$ (*p*-value) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Number of Countries | 18 | 18 | 18 | 18 | 18 | 18 |
| Number of Observations | 170 | 170 | 170 | 155 | 155 | 155 |

*Note:* This table reports results relating the stock market capitalization over GDP to suffrage institutions. The dependent variable is the logarithm of CAPITALIZATION. All the regressions include a constant, whose coefficient is not reported. Depending on the specifications, the regressions control for economic development, urbanization rate, factor endowments, legal origin, religion, degree of democracy, electoral rule, year effects, and country fixed effects. The panel spans the 1830-1999 interval and includes 18 countries. Table 1 summarizes variables definitions and sources. Numbers in parentheses are panel-corrected standard errors (Beck and Katz, 1995). *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

**TABLE 5. The Effect of Suffrage on the Number of Listed Companies, 1913-1999: Panel Data**

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| **Suffrage Institutions** | | | | | | |
| SUFFRAGE | -2.416** | -2.609*** | -0.904* | | | |
| | (0.995) | (0.964) | (0.524) | | | |
| EFFECTIVE SUFFRAGE | | | | -1.728** | -1.642** | -2.096*** |
| | | | | (0.827) | (0.827) | (0.567) |
| **Controls** | | | | | | |
| ln(GDP PER CAPITA) | 0.650** | 0.623** | 0.746*** | 0.281 | 0.109 | 0.662*** |
| | (0.323) | (0.312) | (0.269) | (0.211) | (0.201) | (0.228) |
| URBANIZATION RATE | 1.273*** | 1.275*** | 0.191 | 1.355*** | 1.056*** | 0.789 |
| | (0.292) | (0.291) | (0.239) | (0.352) | (0.405) | (0.571) |
| ln(LAND AREA) | -0.169*** | -0.170*** | | -0.238*** | -0.276*** | |
| | (0.045) | (0.030) | | (0.043) | (0.053) | |
| LATITUDE | 1.754*** | 1.844*** | | 2.001*** | 1.999*** | |
| | (0.343) | (0.302) | | (0.532) | (0.541) | |
| COMMON LAW ORIGIN | 0.880*** | 0.774*** | | 1.052*** | 0.976*** | |
| | (0.194) | (0.130) | | (0.178) | (0.176) | |
| CATHOLIC | -0.134* | -0.098 | | -0.136* | -0.134* | |
| | (0.079) | (0.075) | | (0.081) | (0.081) | |
| POLITY 2 | | 0.614 | | | 0.665 | |
| | | (0.651) | | | (0.611) | |
| MAJORITARIAN RULE | | 0.138 | | | 0.344** | |
| | | (0.154) | | | (0.152) | |
| **Fixed Effects** | | | | | | |
| Year | Yes | Yes | Yes | Yes | Yes | Yes |
| Country | No | No | Yes | No | No | Yes |
| $R^2$ | 0.319 | 0.341 | 0.816 | 0.294 | 0.324 | 0.830 |
| Wald $Chi^2$ (*p*-value) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Number of Countries | 18 | 18 | 18 | 18 | 18 | 18 |
| Number of Observations | 133 | 133 | 133 | 123 | 123 | 123 |

*Note:* This table reports results relating the number of listed companies per million of inhabitants to suffrage institutions. The dependent variable is the logarithm of LISTED COMPANIES. All the regressions include a constant, whose coefficient is not reported. Depending on the specifications, the regressions control for economic development, urbanization rate, factor endowments, legal origin, religion, degree of democracy, electoral rule, year effects, and country fixed effects. The panel spans the 1913-1999 interval and includes 18 countries. Table 1 summarizes variables definitions and sources. Numbers in parentheses are panel-corrected standard errors (Beck and Katz, 1995). *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

**TABLE 6. The Effect of Suffrage on Bank Deposits, 1913-1999: Panel Data**

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| **Suffrage Institutions** | | | | | | |
| SUFFRAGE | 0.801** | 0.731** | 0.536** | | | |
| | (0.360) | (0.351) | (0.248) | | | |
| EFFECTIVE SUFFRAGE | | | | 1.533*** | 1.364*** | 1.142*** |
| | | | | (0.283) | (0.258) | (0.349) |
| **Controls** | | | | | | |
| ln(GDP PER CAPITA) | 0.538*** | 0.540*** | 0.828*** | 0.395*** | 0.337*** | 0.807*** |
| | (0.155) | (0.137) | (0.204) | (0.114) | (0.120) | (0.302) |
| URBANIZATION RATE | -0.042 | 0.250 | 0.589 | -0.455 | -0.333 | -0.202 |
| | (0.257) | (0.308) | (0.515) | (0.352) | (0.335) | (0.629) |
| ln(LAND AREA) | -0.062** | -0.027 | | -0.043 | -0.040 | |
| | (0.031) | (0.039) | | (0.039) | (0.048) | |
| LATITUDE | 0.286 | 0.266 | | -0.421 | -0.438 | |
| | (0.317) | (0.314) | | (0.422) | (0.417) | |
| COMMON LAW ORIGIN | -0.046 | -0.040 | | -0.014 | -0.109 | |
| | (0.126) | (0.129) | | (0.119) | (0.117) | |
| CATHOLIC | -0.105 | -0.064 | | -0.142 | -0.112 | |
| | (0.117) | (0.134) | | (0.160) | (0.167) | |
| POLITY 2 | | 0.067 | | | 0.604*** | |
| | | (0.191) | | | (0.220) | |
| MAJORITARIAN RULE | | -0.240*** | | | 0.042 | |
| | | (0.093) | | | (0.104) | |
| **Fixed Effects** | | | | | | |
| Year | Yes | Yes | Yes | Yes | Yes | Yes |
| Country | No | No | Yes | No | No | Yes |
| Switzerland | Yes | Yes | No | Yes | Yes | No |
| $R^2$ | 0.416 | 0.433 | 0.592 | 0.417 | 0.454 | 0.573 |
| Wald *Chi²* (*p*-value) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Number of Countries | 18 | 18 | 18 | 18 | 18 | 18 |
| Number of Observations | 153 | 153 | 153 | 137 | 137 | 137 |

*Note:* This table reports results relating bank deposits over GDP to suffrage institutions. The dependent variable is the logarithm of BANK DEPOSITS. All the regressions include a constant, whose coefficient is not reported. Depending on the specifications, the regressions control for economic development, urbanization rate, factor endowments, legal origin, religion, degree of democracy, electoral rule, year effects, country fixed effects, and Switzerland effect. The panel spans the 1913-1999 interval and includes 18 countries. Table 1 summarizes variables definitions and sources. Numbers in parentheses are panel-corrected standard errors (Beck and Katz, 1995). *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

**TABLE 7. The Effect of Suffrage on Financial Structure, 1913-1999: Panel Data**

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| **Suffrage Institutions** | | | | | | |
| SUFFRAGE | -2.205*** | -2.022*** | -2.166*** | | | |
| | (0.639) | (0.594) | (0.713) | | | |
| EFFECTIVE SUFFRAGE | | | | -3.114*** | -3.001*** | -1.937* |
| | | | | (0.827) | (0.801) | (1.083) |
| **Controls** | | | | | | |
| ln(GDP PER CAPITA) | -0.359* | -0.399* | -0.293 | -0.209 | -0.148 | -0.303 |
| | (0.201) | (0.215) | (0.376) | (0.160) | (0.186) | (0.571) |
| URBANIZATION RATE | 0.712 | 0.239 | 0.251 | 1.313** | 1.234* | 1.263 |
| | (0.484) | (0.464) | (0.973) | (0.594) | (0.641) | (1.096) |
| ln(LAND AREA) | -0.002 | -0.045 | | -0.048 | -0.046* | |
| | (0.036) | (0.041) | | (0.031) | (0.034) | |
| LATITUDE | 0.774* | 0.776** | | 1.270** | 1.294** | |
| | (0.424) | (0.387) | | (0.547) | (0.536) | |
| COMMON LAW ORIGIN | 1.174*** | 1.181*** | | 1.089*** | 1.167*** | |
| | (0.270) | (0.263) | | (0.305) | (0.280) | |
| CATHOLIC | 0.033 | -0.031 | | 0.111 | 0.081 | |
| | (0.172) | (0.205) | | (0.192) | (0.206) | |
| POLITY 2 | | -0.245 | | | -0.515 | |
| | | (0.293) | | | (0.317) | |
| MAJORITARIAN RULE | | 0.321 | | | -0.056 | |
| | | (0.213) | | | (0.200) | |
| **Fixed Effects** | | | | | | |
| Year | Yes | Yes | Yes | Yes | Yes | Yes |
| Country | No | No | Yes | No | No | Yes |
| Switzerland | Yes | Yes | No | Yes | Yes | No |
| $R^2$ | 0.546 | 0.557 | 0.673 | 0.595 | 0.604 | 0.690 |
| Wald $Chi^2$ (*p*-value) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Number of Countries | 18 | 18 | 18 | 18 | 18 | 18 |
| Number of Observations | 136 | 136 | 136 | 126 | 126 | 126 |

*Note:* This table reports results relating financial structure to suffrage institutions. The dependent variable is the logarithm of STRUCTURE. All the regressions include a constant, whose coefficient is not reported. Depending on the specifications, the regressions control for economic development, urbanization rate, factor endowments, legal origin, religion, degree of democracy, electoral rule, year effects, country fixed effects, and Switzerland effect. The panel spans the 1913-1999 interval and includes 18 countries. Table 1 summarizes variables definitions and sources. Numbers in parentheses are panels corrected standard errors (Beck and Katz, 1995). *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

**TABLE 8. The Long-Run Effect of Universal Suffrage on Financial System Orientation: Cross Section Data**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | FINANCIAL STRUCTURE | | | | FINANCIAL STRUCTURE INDEX | | | |
| **Suffrage Institutions** | | | | | | | | |
| UNIVERSAL SUFFRAGE | 0.007** | 0.006** | 0.007** | 0.006*** | 0.004** | 0.005** | 0.004** | 0.006*** |
| | (0.003) | (0.002) | (0.003) | (0.002) | (0.002) | (0.002) | (0.002) | (0.001) |
| **Controls** | | | | | | | | |
| ln(INITIAL GDP PER CAPITA) | 0.049 | -0.499*** | 0.051 | -0.491*** | 0.062 | -0.041 | 0.067 | -0.003 |
| | (0.114) | (0.119) | (0.100) | (0.092) | (0.060) | (0.084) | (0.053) | (0.068) |
| URBANIZATION RATE | 0.287 | 0.225 | 0.297 | 0.252 | 0.095 | 0.137 | 0.118 | 0.252 |
| | (0.372) | (0.298) | (0.332) | (0.233) | (0.196) | (0.211) | (0.175) | (0.171) |
| ln(LAND AREA) | 0.041 | -0.061** | 0.042 | -0.059*** | 0.032* | -0.001 | 0.034** | 0.008 |
| | (0.032) | (0.030) | (0.028) | (0.023) | (0.017) | (0.021) | (0.015) | (0.017) |
| LATITUDE | -0.065 | 0.546 | -0.052 | 0.578* | -0.053 | 0.131 | -0.022 | 0.268 |
| | (0.451) | (0.455) | (0.403) | (0.349) | (0.237) | (0.322) | (0.213) | (0.257) |
| COMMON LAW ORIGIN | 0.329*** | 0.649*** | 0.329*** | 0.644*** | 0.185*** | 0.286*** | 0.186*** | 0.263*** |
| | (0.115) | 0.111 | (0.101) | (0.084) | (0.061) | (0.079) | (0.053) | (0.062) |
| CATHOLIC | -0.122 | -0.078 | -0.123 | -0.077 | -0.086 | -0.095* | -0.088* | -0.093** |
| | (0.118) | (0.070) | (0.098) | (0.052) | (0.059) | (0.049) | (0.052) | (0.038) |
| Method of Estimation | OLS | OLS | IV/2SLS | IV/2SLS | OLS | OLS | IV/2SLS | IV/2SLS |
| Sample | Whole | Narrow | Whole | Narrow | Whole | Narrow | Whole | Narrow |
| *F*-Statistic for First Stage | | | 0.000 | 0.000 | | | 0.000 | 0.000 |
| Wu-Hausman *F*-Test (*p*-value) | | | 0.878 | 0.789 | | | 0.515 | 0.075 |
| $R^2$ | 0.449 | 0.925 | 0.813 | 0.973 | 0.481 | 0.855 | 0.480 | 0.843 |
| Number of Observations | 35 | 18 | 35 | 18 | 35 | 18 | 35 | 18 |

*Note:* The regression estimated is : FINANCIAL SYSTEM ORIENTATION$_i$ = $\alpha$ + $\beta$ UNIVERSAL SUFFRAGE$_i$ + $\gamma$ $X_i$ + $\varepsilon_i$, where FINANCIAL SYSTEM ORIENTATION is either FINANCIAL STRUCTURE or FINANCIAL STRUCTURE INDEX. FINANCIAL STRUCTURE is the ratio of stock market capitalization to private credit. FINANCIAL STRUCTURE INDEX is the average of the deviations from the mean for the inverse of *dbmcap*, the inverse of *dbtvt* and *tvtover*, which are variables drawn from Beck et al. (2000). Higher values of this index indicate a more market-oriented financial system. FINANCIAL SYSTEM ORIENTATION dependent variables are averaged over the period 1980-1995 as provided by Beck, Demirgüç-Kunt, and Levine (2000). UNIVERSAL SUFFRAGE refers to the year of the first parliamentary election to which all males and females of voting ages were allowed to vote in a given country (retrieved from different sources: Flora, 1983; Ramirez, Soysal, and Shanahan, 1997). The regressions also include a vector of control variables, X. INITIAL GDP PER CAPITA is the real GDP per capita in 1980, using data from Summers-Heston. URBANIZATION RATE, LAND AREA, LATITUDE, COMMON LAW ORIGIN, and CATHOLIC are defined in Table 1 and are related to the year 1980. The whole sample includes 35 countries and the narrow sample is restricted to the 18 countries used in the panel data analysis. In columns 1, 2, 5, and 6, regressions are estimated using Ordinary Least Squares. In columns 3, 4, 7, and 8, regressions are estimated using Instrumental Variables, Two-Stage Least Squares. The instrument used is INTERNATIONAL NORMS FOR SUFFRAGE, as defined in Table 1. Numbers in parentheses are standard errors. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

**APPENDIX TABLE A1. Pairwise Correlations: Panel Data**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) ln(CAPITALIZATION) | 1.000 | | | | | | | | | | | | | |
| (2) ln(LISTED COMPANIES) | 0.264*** | 1.000 | | | | | | | | | | | | |
| (3) ln(BANK DEPOSITS) | 0.177** | 0.079 | 1.000 | | | | | | | | | | | |
| (4) ln(STRUCTURE) | 0.831*** | 0.242*** | -0.400*** | 1.000 | | | | | | | | | | |
| (5) SUFFRAGE | -0.012 | -0.193** | 0.273*** | -0.300*** | 1.000 | | | | | | | | | |
| (6) EFFECTIVE SUFFRAGE | -0.116 | -0.199** | 0.207** | -0.391*** | 0.929*** | 1.000 | | | | | | | | |
| (7) ln(GDP PER CAPITA) | 0.182** | 0.040 | 0.311*** | -0.058 | 0.798*** | 0.712*** | 1.000 | | | | | | | |
| (8) URBANIZATION RATE | 0.212*** | 0.101 | -0.049 | 0.197** | 0.512*** | 0.483*** | 0.503*** | 1.000 | | | | | | |
| (9) ln(LAND AREA) | 0.132* | -0.013 | -0.298*** | 0.326*** | 0.005 | -0.09 | -0.003 | 0.220*** | 1.000 | | | | | |
| (10) LATITUDE | -0.047 | 0.084 | 0.383*** | -0.280*** | 0.174*** | 0.147* | 0.137* | -0.298*** | -0.365*** | 1.000 | | | | |
| (11) COMMON LAW ORIGIN | 0.404*** | 0.264*** | -0.195** | 0.522*** | -0.003 | -0.134* | 0.107 | 0.402*** | 0.693*** | -0.262*** | 1.000 | | | |
| (12) CATHOLIC | -0.129* | -0.100 | 0.013 | -0.135 | -0.090 | -0.040 | -0.039 | -0.250*** | -0.292*** | -0.021 | -0.386*** | 1.000 | | |
| (13) POLITY 2 | 0.136* | 0.149* | 0.109 | -0.009 | 0.440*** | 0.412*** | 0.405*** | 0.236*** | 0.088 | 0.002 | 0.197*** | -0.167** | 1.000 | |
| (14) MAJORITARIAN RULE | 0.116 | 0.094 | -0.231*** | 0.281*** | -0.362*** | -0.466*** | -0.330*** | 0.099 | 0.482*** | -0.224*** | 0.343*** | -0.061 | -0.202*** | 1.000 |

*Note:* This table reports pairwise correlation coefficients between variables defined in Table 1. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

**APPENDIX TABLE A2. Country Coverage**

| Country Name | | | | |
|---|---|---|---|---|
| Argentina | Cyprus | Ireland | **Netherlands** | **Sweden** |
| **Australia** | **Denmark** | Israel | New Zealand | **Switzerland** |
| **Austria** | Finland | **Italy** | **Norway** | Turkey |
| **Belgium** | **France** | **Japan** | Peru | **United Kingdom** |
| Brazil | **Germany** | Korea, Republic of | Portugal | **United States** |
| **Canada** | Greece | Malaysia | **South Africa** | Uruguay |
| **Chile** | India | Mexico | **Spain** | Venezuela |

*Note:* This table lists the 35 countries of the cross section analysis and the 18 countries of the panel data analysis (in bold).