

# **The Great Reversals: The Politics of Financial Development in the 20<sup>th</sup> Century<sup>1</sup>**

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## **Abstract**

We show that the development of the financial sector does not change monotonically over time. In particular, we find that by most measures, countries were more financially developed in 1913 than in 1980 and only recently have they surpassed their 1913 levels. This pattern is not fully consistent with structural theories that attribute cross-country differences in financial development to time-invariant factors, such as a country's legal origin or culture. We propose instead an "interest group" theory of financial development where incumbents oppose financial development because it breeds competition. The theory predicts that incumbents' opposition will be weaker when an economy allows both cross-border trade and capital flows. This theory can go some way in accounting for the cross-country differences in, and the time series variation of, financial development.

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There is a growing body of evidence indicating that the development of a country's financial sector greatly facilitates its growth (e.g., King and Levine (1993), Jayaratne and Strahan (1996), Demirguc-Kunt and Maksimovic (1998) and Rajan and Zingales (1998a)). Why then do so many countries still have underdeveloped financial sectors?

The simple answer, and one favored by many economists, is the absence of demand. Certainly demand is a prime driver of financial development, but it cannot be the only explanation; Demand (as proxied for by level of industrialization or economic development) cannot explain why countries at similar levels of economic development differ so much in the level of their financial development. For instance, why was France's stock market much bigger as a fraction of its GDP than markets in the United States in 1913, even though the per capita GDP in the United States was not any lower than France's? It is hard to imagine that the demand for financing in the United States at that time was inadequate – the demand for more, and cheaper, credit was a recurrent theme in political debates in the United States, and it was among the most industrialized countries in the world even then.

An alternative explanation is that there are structural impediments to supply rising to meet demand. Perhaps a country does not have the necessary levels of social capital or “savoir faire” to create a viable financial sector (see Bencivenga and Smith (1991) and Greenwood and Jovanovic (1990)). Or perhaps it has not inherited the right legal, cultural, or political system. In particular, the seminal work of LaPorta, Lopez de Silanes, Shleifer, and Vishny (1997, 1998) shows that countries with a Common Law origin seem to have better minority investor protection, and furthermore, these countries have more highly developed equity markets. While there has been some debate as to the precise channel through which a country's institutional inheritance affects its financial development (see, for example, Berglof and Von Thadden (1999), Coffee (2000), Holmen and Hogfeldt (2000), La Porta, et al. (1999a, 1999b), Rajan and Zingales (1999) and Stulz and Williamson (2001)), and even whether the influence of certain forms of Civil Law

heritage can be distinguished from the influence of a Common Law heritage (see Beck et al. (2000)), there is a burgeoning literature suggesting that a country's "structure" matters .

But one implication of the "structural" theories of financial development that has not been explored as yet is that financial development should either take-off permanently (for example, once the country attains the necessary social or human capital), or remain permanently constrained (for example, if the inherited legal system is hostile to investor protection and financial markets).

To test this implication, we collect various indicators of financial development in developed countries over the twentieth century. By most measures, countries were more financially developed in 1913 than in 1980 and only recently have they surpassed their 1913 levels. Furthermore, the pattern across countries was quite different then from that in the 1990s. In 1913, France's stock market capitalization as a fraction of GDP was almost twice that of the United States (0.78 vs 0.41) – even though the French Civil Code is not friendly to investors according to La Porta et al. (1998). By 1980, roles had reversed dramatically -- it was now barely one-fourth the capitalization in the United States (0.09 vs 0.46). And in 1999, the two countries seem to be converging (1.17 vs 1.52). More generally, by most indicators, the main countries of Continental Europe were more developed financially in 1913 than the United States. In fact, in contrast to the findings of La Porta et al. (1997) for the 1990s, we find that countries with Common Law systems were not more financially developed in 1913. What is especially interesting is that indicators of financial development fell in all countries after 1929, reaching their nadir around 1980. Since then, there has been a revival of financial markets.

It is not sufficient to point to the Great Depression and the Second World War as sufficient causes for the reversal in financial markets. Even the hardest hit countries recovered within a decade or two. Why did it take financial markets till the late 1980s to stage a recovery? Moreover, such a delay was not seen after the First World War.

A comprehensive theory, thus, should be able to explain both the time series variation in financial development as well as cross-sectional differences. In our view, the strength of political forces in favor of financial development should be a major aspect of such a theory. One challenge with such a theory is to identify who may be opposed to something as economically beneficial as financial development. We believe that incumbents, in the financial sector and in industry, can be hostile to arm's length markets. This is because arm's length financial markets do not respect the value of incumbency and instead can give birth to competition (see, for example, Rajan and Zingales (1998a)). There are occasions, however, when the incentives, or the ability, of incumbents to oppose development is muted.

In particular, we argue that when a country's borders are open to both trade and capital flows, we will see the opposition to financial development most muted, and development flourish. We test this implication of the theory in two ways. The world was relatively open to capital flows in the beginning of the twentieth century and towards the end. We test in the cross-section of countries if financial development is positively correlated with the exogenous component of a country's openness to trade (correcting for the demand for finance), both in the beginning of the century and towards the end of the century. It is!

By contrast, in the intermediate periods (from the 1930s to the 1970s) when cross-border capital flows had dwindled to a trickle for a variety of reasons, we find that trade openness did not have as strong a positive correlation (if at all) with financial development. These findings suggest that it takes the combination of openness in product and financial markets to mute incumbent incentives to oppose financial development. They also suggest a rationale for why indicators of financial development fell between the 1930s and the 1970s: Cross-border flows, especially of capital, were relatively small, so incumbents could oppose financial development without constraints.

We are, of course, not the first to point to the influence of private interests on financial development, though our focus is quite different from previous work. Jensen (1991) argues that

legislation motivated by potential targets crimped the market for corporate control even while it was having salutary effects on U.S. industry. Kroszner and Strahan (1999) explain the timing of financial liberalization across states in the United States in the 1970s and 1980s with variables that relate to the power of private interest groups. Morck, Strangeland and Yeung (1998) find that the share prices of heir-controlled Canadian firms fell on news that the Canada-US free trade agreement would be ratified. One reason they suggest is that the treaty had a provision for greater capital market openness, which would reduce the advantage heir-controlled firms had from access to capital. Bebchuk and Roe (1999) argue that corporate governance regimes will be strongly influenced by the initial positions of owners. Our paper is related to all these in that we also emphasize the role of private interests in retarding financial development, but we differ in that we attempt to find general patterns across countries.

We will postpone a discussion of the other related literature until we have presented the theoretical reasoning and tests. The rest of the paper is as follows. In section 1 we describe how we collected the data, then we present measures of financial sector development in different countries at various points in the 20th century. In section 2, we present our interest group theory of why some countries develop their financial systems and others not and argue why this could explain the reversals seen in the data. In section 3, we test both the time series and cross-sectional implications of this theory. We then conclude.

## **1. Evolution of Financial Development over the Twentieth Century**

A historical analysis of the evolution of financial development over the Twentieth Century is faced with two problems. First, it is the difficulty in obtaining reliable sources for historical information about financial market. In the appendix, we describe how we dealt with it. The second problem is how to measure financial development.

### **1.1. What do we mean by financial development**

The right measure would capture the ease with which any needy entrepreneur or company with a sound project can obtain finance, and the confidence with which investors anticipate an adequate return. Presumably, also, a developed financial sector can gauge, subdivide, and spread, difficult risks, letting them rest where they can best be borne. Finally, it should be able to do all this at low cost.

In our view, the most important word in the above definition is “any”. In a perfect financial system, it will be the quality of the underlying assets or ideas that will determine whether finance is forthcoming, and the identity of the owner (to the extent it is orthogonal to his capability of carrying out the project) will be irrelevant. Because our focus is on how easy it is to raise finance without prior connections or wealth, our measures of financial development will emphasize the availability of arm’s length market finance (and if the data were available, the availability of non-relationship-based bank finance).

This choice is not innocuous. In some financial systems, capital is easily available for anyone within a circle of firms and financiers, but it does not percolate outside (Hellwig (2000), Rajan and Zingales (1998a)). It may well be that most investment opportunities originate within this closed group, and this group can undertake more daring investment than would be possible in an economy with more widespread access. We would not deem this economy to be financially developed. In a sense, we adopt the Schumpeterian view that a critical role of finance is creative destruction, and this is possible only if there is a constant flow of capital into new firms and out of old firms.

Our definition of development then suggests different ratios of the size of arm’s length markets to the size of the economy as our measures of financial development – ratios such as equity market capitalization to GDP, volume of equity issues to gross fixed capital formation, or number of listed firms to population in millions. While they are no doubt crude proxies, these ratios broadly capture a country’s level of financial sophistication and they are standard in the

literature. For the sake of comparison, we will also report a measure of the development of the banking sector.

## **1.2. Various Measures of Financial Development**

Let us now describe the various indicators of financial development we use.

### *1.2.1. Banking Sector*

We use the ratio of deposits (commercial banks plus savings banks) to GDP as a measure of the development of the banking sector. One shortcoming is that this measure captures only the liability side of banks, ignoring differences in the composition of the banks' assets. Another shortcoming is that this measure cannot indicate if banks operate as a cartel, forming a closed shop to new industrial entrants. Despite this shortcoming, the measure has the virtue that it is available for a long time series and for a large cross section of countries. In more recent periods, we have domestic credit from the private sector to GDP, which will be our measure of banking sector development.

### *1.2.2. Equity Issues*

One measure of the importance of equity markets is the fraction of investments that are funded through equity issues. The proxy we use is the ratio of equity issues to Gross Fixed Capital Formation (GFCF) during the year. Ideally, we would have liked to normalize corporate equity issues by the amount of corporate investments, but this datum is not consistently available. In interpreting the results, therefore, it is important to realize that our measure will tend to underestimate the level of financial development of countries where agriculture (which does not enter in corporate investments but does enter in total investments) is more significant. It will also tend to underestimate the level of financial development in the earlier part of the century, when corporate investments were a smaller fraction of total investments.

Another drawback of this measure stems from the well-known cyclicity of equity issues. A disproportionate amount of equity issues are concentrated during boom years (Choe, Masulis and Nanda (1993)). This can bias cross-country comparisons, to the extent stock market

booms are not contemporaneous across economies. It also biases the time series comparisons if one of the reference years was a boom year.

### *1.2.3. Capitalization*

A more stable measure of the importance of the equity market is the total stock market capitalization. A drawback is this measure captures the amount of equity listed, not the amount of equity raised. Thus, the presence of few companies that have greatly appreciated in value can give the impression of an important equity market even when the amount of funds raised in the market is tiny. On the positive side, however, this measure is less cyclical than the previous one, and thus is better for making comparisons across countries and across time periods.

In measuring both equity issues and stock market capitalization we restrict ourselves, whenever possible, to domestic companies. London and Paris at the beginning of the twentieth century, and New York more recently, have attracted many foreign listings. We are especially interested, however, in how a country's financial and legal institutions help domestic industries raise funds, and as some have argued (see Kennedy (1989) for example), the financial sector's ability to fund foreigners may not imply an ability to fund domestic firms. Moreover, our focus reduces the possibility of mechanical correlations in our tests. This is why we limit ourselves to domestic companies.

### *1.2.4. Number of companies listed.*

A final indicator of the importance of equity markets is the number of publicly traded domestic companies per million of population. This is a measure that is not tainted by fluctuations in stock market valuations and possible mis-measurement of the level of GDP. This also suggests a drawback with it: It may be too slow moving a measure to fully capture high frequency changes in the environment. The measure will be affected by the process of consolidation as well as by the fragmentation of the industrial structure. Countries with a more concentrated industrial structure will have fewer, but larger, companies and thus might score low according to this measure. Since

concentration may reflect, only in part, limited access to finance, this measure will be a noisy proxy for what we want to capture.

In sum, any indicator has its own drawbacks. This is the reason why they should be looked at together to get a better sense of the development of a country's financial structure.<sup>1</sup>

### **1.3. Stylized Facts**

In Table 1, we report the average value of our four indicators of financial development for the period 1913 to 1999. The countries in our sample are those for which we could get pre-World War II financial market data. Since the availability of data on financial development has exploded recently, in our tests for the most recent years (see later), we include all the countries we can get data on. For every indicator we report both the average across all available observations and the average for the countries with observations throughout the sample period. In Table 2 to 5, we report the value of each indicator for each country. An analysis of these tables suggests the following facts:

#### *1) Financial systems were highly developed in 1913.*

Regardless of the way we measure, the average level of financial development in 1913 was quite high, comparable to that in 1980 or 1990. The average ratio of deposits to GDP in 1913 is very similar to that in 1980 (see Table 1).

The data on the capitalization of the stock market (Table 1 and Table 3) indicate that in most countries, equity markets were bigger relative to GDP in 1913 than in 1980. Only by the end of the 1990s do they seem to exceed their 1913 level.

Equity issues were also a relatively more important source of funds for corporate investments in 1913 than in 1980 (and even 1990) for most countries we have data for (see Table 1 and Table 4). This is particularly noteworthy when we recognize that the 1913 figures are biased downwards relative to the 1990 ones, because we normalize by Gross Fixed Capital Formation, and corporate investments represent a much smaller proportion of GFCF in 1913 than in 1990.

Most countries have the same number of listed companies per million people in 1913 as in 1980 (see Table 1 and Table 5). In some countries, even with the explosion of financial markets during the late 1990s, the 1913 level has not been surpassed.

While, in general, the richest countries had highly developed financial sectors in 1913, the degree of development does vary widely. The level of economic development explains only 14% of the cross-country variation in the deposit-to-GDP ratio and it is not even statistically significant in explaining the level of equity market capitalization. Argentina, for instance, had about the same per capita GDP as Germany and France, but its level of deposits is only about two thirds that of France and Germany. Similarly, in 1913 Argentina's per capita GDP was three times as big as Japan's, but the relative size of its equity market was only one third of Japan's.

## 2) *Countries that were most advanced in 1913 were not necessarily as advanced recently*

By our measures, countries that were financially developed in 1913 are not necessarily countries that were financially advanced in recent times. In 1913, equity issues appear to be more important in France, Belgium and Russia, than they are in the United States. Thus, by this measure, some Continental European markets seem to be at least as developed as the U.S. market at that time. The data on market capitalization in Table 3 confirm this impression. While the U.K. had a high capitalization in 1913, Belgium, France, Germany, and Sweden were close, ahead of the United States. The distinction between Continental Europe and Anglo-American countries, which has been highlighted in recent studies, does not seem to hold then. In fact, this distinction seems to be a post-WWII phenomenon implying financial markets in Civil Law countries appear to have declined more between 1913 and the early 1990s (though the gap has narrowed since).

Another way of seeing the change in patterns is to compute the correlation between indicators of financial development at different points in time. Using the Spearman rank correlation test, we find a correlation of 0.4 between capitalization to GDP in 1913 and capitalization to GDP in 1999. We reject the hypothesis that the two distributions across countries are independent at the 10 percent level (21 observations). The cross-country pattern of financial development in 1999 is

positively correlated with that in 1913! However, this is not true a decade earlier. The correlation of the 1913 data with 1990 and 1980 data is lower (0.21 in 1990, -0.07 in 1980) and we cannot reject the hypothesis that the distributions are independent.

By way of comparison, consider the cross-country correlation of per capita GDP measured at two different points in time. Using the Spearman rank correlation test, we find a correlation of 0.55 between per capita GDP in 1913 and per capita GDP in 1999 (independence rejected at the 1 percent level with 22 observations). The correlation of the 1913 data with 1990 and 1980 data is equally high (0.62 for 1990, 0.73 for 1980). Thus over long periods, the relative ranking of countries according to financial development seems to be more volatile than their ranking according to economic development.

### *3) Indicators of financial development fall then rise between 1913 and 1999.*

The most striking fact that emerges from Table 1 is that indicators of financial development fall considerably and then rise again. It is not easy to define precisely where the indicators start falling, but the data suggest that the turning point is somewhere in the 1930s or 1940s.

It is worth noting that the decline in indicators is not limited to the countries that lost the war, although it is more pronounced for such countries. It is not even seen only in countries involved in the war, since we see it in Sweden, Argentina, and Brazil. Finally, it cannot be attributed to a decline in the standard of living, since during the same period the average per capita GDP in 1990 dollars increased from \$ 4,476 to \$4,935.

While we cannot also date the recovery in indicators precisely, the turning point lies somewhere in the 1970s or 1980s. Over the 1980s and 1990s, for the countries reporting throughout, the average ratio of deposits to GDP increased by 35%, the average ratio of stock market capitalization to GDP increased four times, and so did the fraction of GFCF raised via equity. The number of listed domestic companies shows a more modest increase (30%).

## **2. An Interest Group Theory of Financial Development.**

We now describe a parsimonious theory that will attempt to explain the broad patterns we have noted in the data. In essence, it will suggest why financial development can differ so much between countries at similar levels of economic and industrial development. It will then explain why the same forces that lead to financial development can also cause its reversal. No doubt, the specifics of each country will differ and the theory, on occasion, may seem a caricature, but this is the price we have to pay for parsimony.

### **2.1. The necessity for government intervention.**

The essential ingredients of a developed financial system include the following: Respect for property rights, an accounting and disclosure system that promotes transparency, a legal system that enforces arm's length contracts cheaply, and a regulatory infrastructure that protects consumers, promotes competition, and controls egregious risk-taking.

No doubt, private arrangements could go some way in achieving all this. But the government has the ability to co-ordinate standards, and enforce non-monetary punishments such as jail terms, that give it some advantage in laying out and policing the ducts in which financial plumbing will go. For instance, a number of studies suggest that the mandatory disclosures required by the Securities Act of 1933 did improve the accuracy of pricing of securities (see, for example, Simon (1989)). Given that government action is needed for financial development, the focus of our inquiry then shifts to when there is a political will to undertake these actions.

### **2.2 The Political Economy of Financial Development**

Financial development seems so beneficial that it seems strange that anyone would be opposed to it. However, financial development is not always win-win. It could pose a threat to some.

Consider, for instance, established large industrial firms in an economy, a group we will call industrial incumbents. In times of stability, these incumbents rarely need a developed financial system to provide for their needs. They can finance new projects out of earnings – as most established firms do -- without accessing external capital markets. Even when their business

does not generate sufficient cash to fund desired investments, they can use the collateral from existing projects and their prior reputation to borrow. Industrial incumbents do not ordinarily need a developed financial system to obtain external funds -- even a primitive system will provide funds willingly against collateral. Indeed, they may be hurt by financial development. The better disclosure rules and enforcement in a developed financial market reduces the relative importance of incumbents' collateral and reputation, while permitting newcomers to enter and compete away profits.

Similar arguments apply to incumbent financiers. While financial development provides them with an opportunity to expand their activities, it also strikes at their very source of comparative advantage. In the absence of good disclosure and proper enforcement, financing can only be "relationship-based". The financier uses his connections to obtain information to monitor his loans, and uses his various informal levers of power to cajole repayment. Key, therefore, to his ability to lend are his relationships with those who have influence over the firm (managers, other lenders, suppliers, politicians, etc.) and his ability to monopolize the provision of finance to a client (either through a monopoly over firm-specific information, or through a friendly cartel amongst financiers). Disclosure and impartial enforcement tend to level the playing field and reduce barriers to entry into the financial sector. The incumbent financier's old skills become redundant, while new ones of credit evaluation and risk management become necessary. Financial development not only introduces competition, which destroys the financial institution's rents and its relationships (see Petersen and Rajan (1995)), it also destroys the financier's human capital.<sup>2</sup>

In sum, a more efficient financial system facilitates entry, and thus leads to lower profits for incumbent firms and financial institutions. From the perspective of incumbents, the competition-enhancing effects of financial development may offset the other undoubted benefits that financial development brings. Moreover, markets tend to be democratic, and they particularly jeopardize ways of doing business that rely on unequal access. Thus, not only are incumbents likely to benefit less from financial development, they might actually lose. This would imply that

incumbents might collectively have a vested interest in preventing financial development, and might be small enough (Olson (1965), Stigler (1971)) to organize successfully against it. In doing so, they will be able to rely on other incumbent groups such as organized labor that previous studies have shown benefit from an economy with limited competition (for evidence that unions share in rents from industrial concentration see, for example, Salinger (1984) and Rose (1987)).

The above arguments rely on financial development aiding the entry of new firms and enhancing competition. There is some evidence for this. Rajan and Zingales (1998a) find that the growth in the number of new establishments is significantly higher in industries dependent on external finance when the economy is financially developed. Johnson et al. (2000), in an interesting recent study of trade credit in transitional economies, find that an important consequence of an effective legal system in a country is that a firm offers more trade credit to new trading partners. Firms that believe in the effectiveness of the legal system are also more likely to seek out new trading partners.

Financial development also seems to affect product market competition. In a comparative study of the textile industry in Mexico and Brazil around the beginning of the twentieth century, Haber (1989) shows that Brazil, following its political revolution, liberalized finance, and saw the textile industry grow faster and become less concentrated than the Mexican textile industry. Porfirio Diaz, the Mexican dictator during this period, was much more a prisoner of incumbent interests. Mexico's financial markets remained underdeveloped during his regime, with the consequence that Mexico's textile industry, while starting out larger and relatively more competitive, had less entry, and ended up smaller and more concentrated than Brazil's.

### **2.3 Financial Repression is Not the Only Way to Protect Incumbent Rents.**

Financial underdevelopment is not the only barrier to entry. Incumbents with political influence could restrict entry into their industry directly through some kind of licensing scheme. Why not ban entry into industry (or finance) outright? There are, however, some advantages for incumbents from leaving finance underdeveloped as opposed to banning entry.

First, direct entry restrictions often require very costly enforcement. Enforcement becomes particularly difficult, if not impossible, when innovation can create substitutes for the product whose market is restricted. Each new threatening innovation has to be identified, categorized and then banned. Second, the active enforcement of restrictions on entry is a very public, and therefore, politically transparent process. In a democracy, citizens have to be convinced that restrictions on entry benefit them, and this is a hard sell when they are faced with the poor service and extortionate prices of the local monopoly. By contrast, the malign neglect that leads to financial underdevelopment is less noticeable – it goes with the grain to have comatose bureaucrats who do not act rather than have overly active ones -- and can be disguised under more noble motives such as protecting citizens from charlatans. Leaving finance underdeveloped is an act of omission with few of the costs entailed by an act of commission such as the use of the apparatus of the state to stamp out entry. Malign neglect may be as effective as active harassment but much easier to implement!

In general, however, we would expect direct entry restrictions and financial underdevelopment to be used as complementary tools. In Figure 1, we graph the Djankov et al. (2000) measure of the number of days in different countries to start a business (a measure of the direct barriers to entry) against the accounting standards in that country (a measure of financial development). The correlation is significantly negative, and regression estimates (not reported) show that it persists after correcting for the level of GDP. Financial underdevelopment does seem to be present along with other barriers to entry!

#### **2.4. What determines outcomes?**

In an industrialized economy, incumbent industrialists and financiers ordinarily would have enough political power, because of their large economic weight and small numbers, to collectively decide the development of the economy's financial sector.<sup>3</sup> So financial development will take place only when the country's political structure changes dramatically, or when the incumbents want development to take place.

By creating a fresh power structure, political change can foster anti-incumbent institutions, one of which may be financial infrastructure. For example, a number of new mortgage banks and institutions like the Credit Mobilier were supported by the government of Louis Napoleon after its coming to power in 1848. They were meant as a counter to the Bank of France and the Rothschilds who were thought to be sympathetic to the deposed monarchy (Cameron (1965)). More recently, Weber and Davis (2000) find that a country's transition to a multi-party democracy increases its estimated rate of creation of a stock exchange by 134% during the subsequent three years.

If, however, we examine a period of relatively little structural political change, we should see finance develop faster when both financial and industrial incumbents will it to do so, and slower when both are against it. When one of these powerful groups is for development, while the other is against, predictions are likely to be more ambiguous.

The incentives of incumbents are likely to be powerfully affected by competition. Even if incumbents can control internal competition, they may not be able to control competition from outside their political borders. Let us now see why openness to outside competition might spur financial development in an economy. We will argue that openness in both the industrial and financial sector may be necessary for the pro-finance forces to coalesce. We will take openness as exogenous for now, and later discuss what may have caused changes in openness in the period we are interested in.

## **2.5. Financial Development and Openness**

Consider first openness to trade flows alone. While foreign markets bring opportunity, openness also brings foreign competitors to domestic markets. Foreign entry drives down domestic rents. Lower profits means established firms have lower internal cash flow, making them more dependent on external finance. At the same time, outside opportunities (or the need to defend domestic markets against superior foreign technologies) increase the need for incumbents to invest more.

Unfortunately, the need for external finance need not translate into reforms that improve transparency and access in the financial system. In fact, given their greater need for finance, industrial incumbents may press for greater financial repression so that the available finance flows their way. Financial incumbents may also be unwilling to accept the increased competition in the financial sector (from greater transparency and access) for the additional industrial clientele that reforms may generate. It may be far more profitable to support the existing relationships with industrial incumbents and ply them with greater amounts of capital they now need.

Industrial incumbents may also petition the government for loan subsidies in the face of foreign competition, instead of improving the quality of the domestic financial system. Selective government intervention may further reduce the transparency of, and the access to, the financial system. Thus openness to trade flows (i.e., industrial sector openness) alone may not be enough to convince either, or both, dominant interest groups to support financial development.

Consider next the possibility of cross-border capital flows (or financial openness) alone. Free access to international capital markets will allow the largest and best-known domestic firms to tap foreign markets for funds. But in the absence of domestic or foreign competition in product markets, these firms will have little need to access external funds. And given the state of information asymmetries across markets, it is unlikely that small domestic firms are likely to be financed directly by foreign investors. Thus cross-border flows alone are unlikely to generate entry, making the industrial sector more competitive. Industrial incumbents will still retain an incentive to oppose financial development. Even though the domestic financial sector will see its sizeable profits from providing finance and services to the largest industrial firms diminish as these firms are able to (or equivalently, able to threaten to) tap foreign financial markets and institutions, it will face the opposition of domestic industrial incumbents if it tries to liberalize access and improve transparency. So cross-border capital flows alone are unlikely to convince both our interest groups to push for financial development.

It is when both cross-border trade flows and capital flows are unimpeded that industrial and financial incumbents will have convergent incentives to push for financial development. Industrial incumbents, with depleted profits and the need for new investment, will need funds to meet foreign challenges. But with free cross-border capital flows, the government's role in directing credit to incumbents will become more circumscribed. As product markets become more competitive, the risks in, and information requirements for, lending will increase. The potential for large errors from the centralized direction of credit will increase. Moreover, the ability of the government to provide large subsidized loans to favored firms will decrease as mobile capital forces governments to maintain macro-economic prudence (see, for example, Loriaux (1997) description of the constraints on French intervention in domestic credit in the 1980s). The government's role in the financial sector will diminish.

The healthiest industrial incumbents will be able to tap the now open foreign markets for finance. These firms, able to compete in international markets, may not be much worried, or affected, by domestic entry, and thus may not oppose domestic financial development. While the not-so-healthy industrial incumbents may be the hardest hit by foreign product market competition, there are reasons why they too may not oppose financial development, and may in fact support it: They will need finance. And their existing financiers will be reluctant to lend to them on the old cozy terms.<sup>4</sup> Difficulty in financing will lead these firms to push for greater transparency and access so that their own access to finance improves. Unlike the case when the country is only open to capital flows, industrial incumbents now will also push for financial development. The accompanying threat of domestic industrial entry will now seem relatively minor, given the competitive state of product markets.

Moreover, as the domestic financial sector loses some of its best clients, domestic financial institutions will want to seek new clients among the unborn or younger industrial firms that hitherto did not have the relationships to obtain finance. Since these clients will be riskier, and less well known, financial institutions will have no alternative but to press for improved

disclosure and better contract enforcement. In turn, this leveling of the playing field will create the conditions for more entry and competition in the financial sector.

An example of such a virtuous circle is provided by Rosenbluth (1987). As the most reputable Japanese exporters escaped their financial system in the 1980s to raise arm's length finance from the Euromarkets, Japanese banks were forced to change their practices. One beneficial outcome was that access to the Japanese corporate bond markets, that hitherto had been tightly controlled by the banks, was now liberalized.

Other influences will kick in over time. As the domestic financial incumbents improve their skills, they will seek to compete abroad. As they look for new clients outside, they will be forced as a quid pro quo to increase access for foreigners, and dismantle domestic regulations that give them their privileged competitive positions. For example, the German government banned lead underwriting of Deutschmark bonds by Japanese financial institutions until Japan agreed in 1985 to allow foreign securities firms to act as lead underwriters for Euroyen bonds (see Rosenbluth (1987)). Foreign financial firms that enter the domestic market are likely to be another powerful constituency for financial development. Since they are not part of the domestic social and political networks, they would prefer transparent arm's length contracts and enforcement procedures to opaque negotiated arrangements. It is not a coincidence that these are the very requirements of would-be domestic entrepreneurs who are also outsiders to the domestic clubs.

## **2.6. The Endogeneity of Openness**

We have treated openness as an exogenous force acting on the incentives of domestic interest groups. Yet a country's openness to trade and capital flows is also a matter of government policy, liable to influence by different interest groups. A large literature (see, for example, Gourevitch (1986), Rogowski (1989), O'Rourke and Williamson (1999)) suggests that the decision to open up or close down an economy to trade is a political one, based on the relative strengths of the sectors that stand to gain or lose from openness.

There are two reasons why it is important to account for why countries open up or close down. One is from the econometric perspective of testing our theory. We may mistake factors that cause both opening up and financial development for a causal link between the two. For example, if incumbents in the industrial sector are very efficient, they may welcome the opportunity to trade. Also, because they are so efficient, they may not fear domestic competition. As a result, they may welcome financial development. Trade openness and financial sector development may both be politically determined, but the former need not directly influence the latter. The obvious solution to the econometric problem is to use an instrument that is correlated with openness but not with other endogenous factors that may determine the decision to open up. This is what we will do when we test our hypothesis.

There is, however, a second reason to study why countries open or close up: It may explain the reversals we note in the data. In the beginning of the twentieth century, the world economy was generally very open, both in terms of trade and capital flows. What followed was a series of large adverse shocks that caused the world to descend into virtual autarky by the middle of the century. This coincided with the period of contraction of indicators of financial development. The initial focus of mid-century policy makers was to allow global trade to recover, while clamping down on global capital flows. While the world economy recovered from the ravages of war and depression by the mid 1970s, domestic financial markets did not. Eventually this policy of selective openness became unsustainable, and the world became open again to both trade and capital flows. The last decades of the century, when capital flows revived to accompany the already significant trade flows, coincided with the revival of financial markets. Thus the waning and waxing of cross-border capital flows (which we will argue were not directly caused by the interest groups we have identified) may explain the great reversal.

While we have presented a sketch of how we think the reversals can be explained by changes in openness interacting with a private interest theory of financial development, our aim in the tests that follow is more modest. We want to use the cross-sectional and time series

variation in openness across countries to see whether openness does indeed correlate with financial development in ways predicted by the theory. This would then suggest there might be some basis for our private interest theory and our explanation of the reversals.

### **3. A Test of the Private Interest Theory of Financial Development**

Direct measures of the political power of interest groups, and their ability to influence outcomes are controversial at best. The following example should illustrate the problems. French financial liberalization was kicked off in 1983 by a Socialist government. Socialists do not seem to be an interest group that would push for liberalization. A more detailed study (e.g., Helleiner (1994)) suggests that there was a liberalizing faction in the French Socialist party, led by Prime Minister Pierre Mauroy and Finance Minister Jacques Delors, whose hand was strengthened by France's increased trade integration into the European Community. This faction argued that liberalization was necessary to preserve trade, and won the day. How could one ever hope to capture the strength of such factions in a large sample cross-country study without a subjective country-by-country exercise?

Our theory, however, does lead to some indirect, but more objective, tests. According to our theory, incumbent interests are least able to co-ordinate to obstruct or reverse financial development when a country is open to both trade and capital flows. When a country is open to neither, it is likely to be financially repressed. Matters are unlikely to be much better when a country is open only to capital flows or only to trade. In the former case, incumbent industrial interests may hold back financial development, fearful of the domestic competition that might be financed, while in the latter case, both industrial and financial incumbents may want to deepen existing financial relationships to combat the foreign threat. Free access and transparency are likely to get short shrift at such times.

#### **3.1. Some Preliminary Issues**

There are some issues to deal with before we proceed to tests. First, what is the relevant measure of financial development from the perspective of our theory?

### *3.1.1. The Relevant Measure of Financial Development*

As we have argued, the amount of funds raised from arm's length financial markets or the amount of credit offered by competitive banking systems could be measures (albeit crude) of financial development. Unfortunately, we do not know how competitive the banking system is – we only have measures of the quantity of deposits. The banking system could be concentrated and captive to incumbent interests, dominated by state owned banks, or just plain inefficient. Therefore, we prefer to use the size of the arm's length financial markets as our measure of development. This also accords well with the view that arm's length markets will emerge only when financial infrastructure such as disclosure requirements (see Sylla and Smith (1995)) and investor protection are reasonably developed (see La Porta et al. (1998)), while banks can exist even when infrastructure is primitive (see Rajan and Zingales (1998b)).

### *3.1.2. The Test*

In periods of high capital mobility, countries that conduct a lot of foreign trade are also likely to have developed capital markets. Countries that conduct little trade are unlikely to have developed capital markets (they are open on only one dimension). So

*1). For any given level of demand for financing, a country's domestic financial development should be positively correlated with trade openness at a time when the world is open to cross-border capital flows.*

International capital mobility has varied during the 20<sup>th</sup> century. The first three decades were characterized by high international capital mobility. As a result of the restrictions on flows imposed during the Great Depression and the Bretton Woods agreement, this level was only approached again in the 1990s (see O'Rourke and Williamson (1999), p213). This suggests

*2) The positive correlation between a country's trade openness and financial development should be weaker when worldwide cross-border capital flows are low.*

We will need a proxy for the demand for financing. Bairoch (1982) computes an index of industrialization across a group of countries for a number of years. The index number in a year

reflects a country's absolute level of industrialization in that year, with England in 1900 set at 100. The index is calculated on the basis of data on per capita consumption of manufactured goods, and from the sectoral distribution of labor. The index was computed in two stages, with the data for the U.K. calculated in the first stage, and the relative importance, sector by sector, of other countries calculated in the second stage. There are measurement issues with any index, but this one seems well accepted among economic historians. Bairoch's index will be our preferred control for the demand for financing whenever it is available. This is because GDP is a poorer proxy for the demand for financing in earlier years, when much of GDP may have been generated by agriculture. We will use per capita GDP when Bairoch's numbers are not available, though sectoral differences between countries at very different levels of development will add noise.

To test the first hypothesis, we examine the effect of openness on financial development in 1913, the earliest date for which we have data for a sizeable number of countries, and 1996-98, the last period for which we have data. Capital flows were relatively free in both periods. Since it is implausible that any single country “caused” the extent of worldwide capital flows (and since capital flows are harder to control through policy when other countries are open – see Eichengreen (1996) or Helleiner (1994)), we feel comfortable in assuming these periods to be exogenous and all countries to be open to capital flows at these times. However, a country's trade is likely to be an endogenous function of its policies, so we will instrument for it in most of the regressions that follow.

### **3.2. Financial development in 1913**

Consider first financial development in 1913, a period of relatively free capital flows, and varying degrees of openness to trade. We present summary statistics and pairwise correlations in Table 6 a and b. The ratio of equity market capitalization to GDP is positively correlated with Bairoch's index of industrialization (0.58,  $p=0.01$ ) and with openness (0.33,  $p=0.19$ ), and negatively correlated with tariffs on manufacturing (-0.37,  $p=0.15$ ). The correlation with the

interaction between the index of industrialization and openness is both high and very significant (0.67,  $p=0.002$ ).

In Table 7, panel A, the ratio of stock market capitalization to GDP is our measure of financial development. As the estimates in column (i) show, more industrialized countries have more developed financial markets. More relevant to our hypothesis, more open countries have more developed financial markets, but due to the small number of observations, this effect is not statistically significant at conventional level. Our hypothesis, however, is that for any given level demand for financing, more openness should lead to more financial development. Therefore, in column (ii) we include the interaction between openness and the index of industrialization, which is our proxy for the demand for finance. The coefficient estimate for the interaction term is highly statistically significant ( $p=0.034$ ). The magnitude of the effect is also large. A one standard deviation increase in the interaction term increases the ratio of stock market capitalization to GDP by 50 percent of its standard deviation. Since we have so few observations, we plot the data in Figure 2 to show the result is not driven by outliers.

We can try to tell the effect of openness apart from the effect of openness working through demand by including both the level of openness and the interaction term in column (iii). It turns out that only the interaction has a positive coefficient estimate, and the explanatory power of the specification in column (ii) is not enhanced by including openness. The magnitude of the interaction coefficient is higher than in column (ii) but its standard error also goes up. The problem is that openness and the interaction are highly correlated ( $=0.69$ ), so it is hard to tell their effects apart with so few observations. Since the correct specification could be debated, in what follows we will present estimates for both the effect of openness and the effect of the interaction.<sup>5</sup>

The results thus far indicate that in more open countries, a given demand for finance is correlated with more financial development. Because openness and financial development may be simultaneously determined by some omitted variable, we instrument openness with the size of a country's population in column (iv). Small countries typically have to be more open since it is

difficult to manufacture everything internally (see Katzenstein (1985)). The point estimate of the effect of openness interacted with industrialization increases by 50% and, in spite of an inevitable increase of the standard error, remains statistically significant at the 5% level.

Another concern may be that we proxy for openness with the volume of goods traded, and there may be a disguised link between the volume of trade and the volume of financing. One measure of openness that is not directly a measure of volume is the tariff on manufactured goods. We use this as a proxy for the extent of openness in column (v), and the two-stage least squares estimate (using the same instrument as in the previous column) is negative and significant.

As discussed before, the ratio of equity market capitalization to GDP is a very imperfect measure of financial development. It is sensitive to fluctuations in relative valuations and to mistakes in the computation of the GDP (national accounts statistics were widely calculated only after WWII, all previous numbers are estimates computed in recent years). An alternative measure, which is immune to both these criticisms, is the ratio of the number of publicly listed companies to population. In panel 7b, we re-estimate the specifications in panel 7a with this alternative dependent variable. The correlations are even stronger. Openness has a positive and significant correlation with development even when included alone. When both openness and openness interacted are included, the latter remains statistically significant at the 5% level.

Finally, our measure of financial development captures only the size of the equity market, while the bond market has also played an important role in some of these countries. Unfortunately, we were unable to obtain data for the size of the corporate bond market for the same set of countries. We did obtain data, however, from the 1915 Bulletin of the International Statistical Institute (IIS) in Vienna on the total issues of public corporate securities (both equity and corporate bonds) by domestic firms in a set of countries in 1912. The IIS sample is slightly different from our 1913 sample (which we have put together from different sources for each country). We have checked that the data in the IIS sample seem accurate by comparing with independent sources, and they do seem to represent net rather than gross issues.

In panel 7c, we re-estimate the same specifications using total issues to GDP in 1912 as dependent variable.<sup>6</sup> Here again, the interaction between industrialization and openness has a positive and statistically significant coefficient. A one standard deviation increase in the interaction term increases the ratio of total issues to GDP by 68 percent of its standard deviation.

### **3.3. Financial development in 1997**

Regardless of the measure used, openness seems to have facilitated financial development in 1913. The paucity of observations, however, is worrisome. But our hypothesis suggests the results should also be present in recent times, when cross-border capital flows have regained the levels they had reached in the early part of the twentieth century.

We re-estimate the specifications in Table 7 using the largest cross section of data available today. We obtain data for market capitalization from the World Bank's World Development Indicators, data on the number of domestic listed companies from the Emerging Market Factbook, and data on security issues from Beck et al. (1999). Since Bairoch's index of industrialization is not available, we use instead the log of per capital GDP in PPP dollar, also from the World Bank's World Development Indicators.

To smooth the effects of the East Asian financial crisis we averaged the dependent variable across three years (1996-98). As Panel A (with dependent variable equity market capitalization to GDP) shows, the results are very similar to those in 1913. Openness has a positive and statistically significant effect on financial development. This is true both if we use openness directly (see column (i)) and if we interact it with our proxy for the demand for finance, the log of per capital GDP (see column (ii)). A one standard deviation increase in the interaction term increases the ratio of stock market capitalization to GDP by 25 percent of its standard deviation.<sup>7</sup>

Frankel and Romer (1999) predict bilateral trade between two countries using an expanded version of the gravity model of trade (where trade is proportional to the distance between countries). Their constructed trade share, then, is simply the sum of these fitted values

across all possible trading partners, and is a good instrument for trade, perhaps better than population, which is all we had in 1913. When we use this instrument, the estimated coefficient almost doubles (see column (iii)) and remains statistically significant at the 1% level.

We show these results hold for other measures of financial development. In Panel B the dependent variable is the number of domestic companies listed per million inhabitants in 1997, while in panel C it is the sum of equity and long-term private debt issues to GDP. To deal with the cyclical nature of equity and debt issues, we use an average across all the years during the 1990s that are available in Beck et al. (1999). These panels confirm the finding that financial development is higher for any level of demand when a country is more open.

### *3.3.1. Robustness.*

The greater availability of data at the end of 1990s allows us to explore the robustness of our results. La Porta et al. (1997) suggest that a better measure of financial development than market capitalization is the amount of equity held by outsiders. Using this measure of development, openness or openness interacted with GDP per capita have a positive and statistically significant correlation with equity held by outsiders (estimates not reported). Similarly, a good indicator of the ability to raise external funds, and thus a measure of the development of a financial market, is the quality of the accounting standards, as measured by the Center for International Financial Analysis and Research. This measure is available only for 39 countries, nevertheless openness alone and openness interacted with GDP per capita are positively and statistically significantly correlated with it (estimates not reported).

One might worry that there is a mechanical link between openness and financial market development. We know that financial liberalization leads to an increase in stock prices (Henry, 2000) and, thus, at least temporarily to an increase in the ratio of stock market capitalization to GDP, which is one of our measures of financial development. For example, a large trade deficit has to be financed through capital inflows. If domestic government assets are insufficient, and if foreign direct investment is small, the inflows will be reflected in a larger private market for

financial assets. Is the link we have found merely the flip side of a trade deficit? We re-estimate the basic specification using the ratio of trade surplus to GDP as a substitute for openness (estimates not reported). Trade surplus does not seem to be correlated with domestic financial development. When we include the interaction of openness with log per capita GDP, trade surplus loses statistical significance, while the interaction term remains positive and statistically significant.

Another way of getting at this is to look at a form of financing that may not be arm's length -- domestic bank credit -- and is therefore less likely to be influenced by openness. Openness does not seem to be statistically significantly correlated with the ratio of domestic credit to the private sector to GDP (obtained from Beck et al. (1999)). Thus there does not seem to be a mechanical link between openness and financing -- instead the link is to arm's length financing (or we conjecture, if we could measure it, competitive private credit).

### **3.4. Financial Development Over Time**

Our results thus far indicate that both in 1913 and in 1997, for any given level of demand, measures of financial development were higher in countries that were more open to trade. Of course, many good institutions are associated with more trade (see, for example, Wei (2000) who finds lower corruption in countries that trade more). If trade openness affects the political consensus in favor of financial development, in part by generating larger cross-border capital mobility in the country, we should expect the correlation between trade openness and financial development to be stronger in periods of high international capital mobility than in periods of low mobility. Starting with Taylor (1997), it has become standard to measure capital mobility with the mean absolute value of current account over GDP over five year intervals for a sample of fourteen developed countries.

As this indicator shows, international capital mobility remained high only up to 1930s (3.8 percent before WWI and 3.2 percent in the 20s, dropping to 1.6 in the 1930s). Following the Depression and Bretton Woods, capital movement remained severely curtailed till the 1980s

(oscillating around 1.4 percent). The United States opened up in the mid 1970s, United Kingdom and Japan in 1980, while the countries of Continental Europe only in the late 1980s. As a result, the indicator rises to 2.1 percent in the 1980s and 2.6 in the 1990s). Thus the changes in capital mobility over time give us the data to test our second hypothesis.

To begin with, we estimate our basic regression (specification (ii) in Table 7a) year by year. Unfortunately, we do not have Bairoch's measure of per capita industrialization over the entire period. Thus, the first seven cross sections (for the years 1913, 1929, 1938, 1950, 1960, 1970, and 1980) use Bairoch's index as a proxy for demand, while the last two use the logarithm of per capita GDP adjusted for difference in the purchasing power parity (as computed by the World Bank). Consequently, the magnitude of the coefficient before 1980 and after 1981 are not directly comparable.

As Table 9 shows, the interaction between openness and demand for finance has a reliable and statistically significant positive correlation with financial development both at the beginning and at the end of the sample (1913, 1929 and 1997), which correspond to the periods of high international capital mobility. During the period of low capital mobility the effect is statistically insignificant or even negative, when we measure financial development by the ratio of equity market capitalization to GDP.

To formally test whether the effect of openness is smaller during periods of low capital mobility, we pool the different cross sections. We first report the results for the panel 1913-1980 in Table 10 column (i), where Bairoch's index is our measure of demand. The specification is the same as column (iv) of Table 7, with the inclusion of an additional slope term for the years of low capital mobility and year indicators.<sup>8</sup> The interaction term is significantly positive, and the additional effect in periods of low capital mobility is significantly negative as predicted.

In Table 10 column (ii), we report the results for the panel 1981-1997, where the log of per capita GDP is our measure of demand. The specification is the same as column (iii) of Table 8, with the inclusion of an additional slope term for the years of low capital mobility. Again, the

interaction term is significantly positive, and the additional effect in periods of low capital mobility is significantly negative as predicted.

As discussed earlier, Bairoch's index is probably a better measure of demand for finance in the early years than per-capita industrialization. Since we do not have it for later years, the only panel we can estimate for all the years is one with log of per capita GDP as a measure of demand. This is what we report in column (iii). The interaction effect is positive (though not statistically significant) and it is significantly lower in years of low capital mobility.

Finally, perhaps we should let the data define periods of low and high capital mobility. In column (iv), instead of multiplying by a dummy indicating periods of low capital mobility, we multiply the interaction by the ratio of cross border flows to GDP in that year (obtained from Taylor (1997)). The coefficient estimates indicate, as predicted, that the interaction is significantly higher in periods of high capital mobility.

We obtain qualitatively similar results to those in Table 10 (not reported) when we use the ratio of number of domestic firms listed to million inhabitants as a measure of financial development or when we use openness rather than openness interacted with demand. Overall, these results suggest that the positive correlation between openness and financial development re-emerged, and became stronger, in the last two decades of the twentieth century, in concert with the increased cross-border capital mobility.

### **3.5 Summary of Results**

Overall, the results suggest that financial development is positively correlated with trade openness in periods when cross border capital flows are high, but less so, or not at all, when cross-border capital flows are low. This is consistent with our theory that incumbents are most able to coordinate opposition to financial development when cross-border capital and trade flows ebb, but not when they are vibrant. Of course, there may be other theories that are consistent with the evidence we have presented. Nevertheless, when viewed in conjunction with the descriptive

histories of financial development in the twentieth century (see below for examples), our theory seems to be an important part of the explanation.

The reversal in financial development in the data is then explained by the diminution of cross-border capital flows that started during the Depression and continued post-World War II until the break down of the Bretton Woods agreement. What we will do now is give the reader a sketch of why countries collectively shut their borders in the 1930s and 1940s and opened up again only recently. Briefly, and as others have argued, the intent behind capital controls was to allow governments the freedom to implement the social programs that were being demanded by their citizenry, without the constant fear of how international capital markets would react. In the process, however, incumbents were given the protection to reassert themselves.

### **3.6. Shutting and Re-opening Borders**

*Why did the world shut down in the 1930s?*

In the open developed economies in the beginning of the twentieth century, the role of the government was relatively small. Government expenditure as a fraction of GDP was only 12.7 percent in 1913 for a sample of 17 developed countries, compared to 45.6 percent in 1996 (see Tanzi and Schuknecht (2000)). Part of the reason for the relatively small role played by the government was that it did not provide insurance to the people to the extent it now does. Only 20 percent of the labor force in Western Europe had some form of pension insurance in 1910, and only 22 percent had health insurance (vs 93 percent and 90 percent respectively in 1975).

Before World War I, there were a number of reasons why the government played such a small role in social insurance. The prevailing liberal belief in the relentless logic of the market suggested it was unwise for governments to interfere. Intervention, it was thought, would only prolong the pain. Furthermore, the Gold Standard simply did not allow governments to dislocate their budgets by providing social security and welfare support to the needy (see Eichengreen (1996)) even if they wanted to. Last but not least, the poorer sections of society -- the workers,

the small farmers, and the unemployed – were not organized, and had little political voice (see Maier (1987), Eichengreen (1996)).

The First World War and the Great Depression, which followed a decade after, were huge consecutive political and economic shocks, which combined to create an organized demand for insurance and triggered a coordinated response by governments.

Labor was organized by the war. The senseless carnage of a war that left all its main protagonists worse off led many to doubt the caliber and motives of their political leaders, and discredited the pre-war free-market consensus. The trenches during the war served as classrooms where the working class absorbed radical ideas. Labor, with its newly found ideas and organization, gave notice even in the 1920s that it would no longer continue unquestioningly to absorb the costs of adjustment to the rigors of the Gold Standard.

The onset of the Depression immensely increased the size of economic adjustments countries would have to undergo to stay on the Gold Standard. Classical liberal economics indicated the cure to falling output was a steep fall in wages. This was simply not acceptable to labor. Faced with increasing resistance from labor, politicians saw little reward in paying a political price to adhere to the Gold Standard. With little thought for the collective consequences, they also started erecting barriers to imports in an attempt to “trade” their way out of depression. As everyone attempted to beggar their neighbors, trade and capital flows ceased.

Clearly, incumbents were not idle in the policy debates in the 1930s. Equally clearly, many of them welcomed the descent into autarky, for it strengthened their positions. But it would be incorrect to claim that broad policy was shaped primarily, or even largely, by these interests. The Depression had affected too many people for “business as usual” to prevail. For example, in Sweden, labor and agrarian interests came together in 1932 in what has been termed the “cow trade”. Labor accepted higher food prices and price supports in return for stable wages, policies for full employment, and social services. The business interests opposed this coalition at first, but

became more accommodating when the party representing labor, the Social Democrats, became stronger in the election of 1936.

Economic policy in the developed democracies was thus broadly a response to the large, across-the-board, adverse shock affecting the uninsured masses. Autarky allowed the governments to implement various insurance schemes that may have been more difficult had the economies been open and the Gold Standard in place. The increase in insurance coverage was significant. Over 56 percent of the workforce in Western Europe was covered by pension insurance by 1935 and 47 percent had health insurance coverage. Unemployment insurance was introduced for the first time in a number of countries, including the United States, during the Depression.

What incumbents could do was to use the protection afforded by autarky to mould policies in their own favor. Thus, Japan, for example, moved from an economy with a flourishing financial market, and a competitive banking system, to an economy with small financial markets and a concentrated banking system. These moves had the support of the government, which felt it could better control resource allocation were funds to be channeled largely through the banks. The reversal in openness provided the conditions under which financial markets could be, and indeed were, repressed.

*Why did financial markets take so long to recover?*

The disruption to international trade caused by the two wars and the Great Depression was significant. While the average degree of export openness (merchandise exports as a percentage of GDP) was 8.2 in 1913, it was just 5.2 in 1950 (O'Rourke and Williamson (1999), p. 30). It was only in the 1970s that international trade regained its pre World War I level. This delay, by itself, can explain the slow advancements of financial markets after World War II. But an even more important reason is that the Bretton Woods agreement in 1944 implicitly endorsed the restriction on free capital movements – the priority was to restore free trade first. As Keynes, its architect, said (cited in Helleiner (1994, p164)):

“Not merely as a feature of the transition but as a permanent arrangement, the plan accords every member government the explicit right to control all capital movements. What used to be heresy is now endorsed as orthodoxy.”

The rationale was clear. Fixed exchange rates would facilitate trade in the same way as did the Gold Standard. But if capital was allowed to flow freely, it would hamper the ability of governments to provide the various sorts of insurance that was demanded of them as they became welfare states. Thus the argument for controlling capital flows and the second-class status accorded to finance in the post-war economic order. This should be contrasted with the general desire of countries after World War I to return to the Gold Standard and thus reduce barriers to capital flow. If openness to trade is, by itself, insufficient to force financial development as we have argued, then the restrictions on capital movements after WWII can explain why financial development did not take off after WWII, even though trade expanded, while they recovered rapidly after World War I. Even though the toll taken by the wars was admittedly very different, an important part of the explanation must be that there was no Bretton Woods after World War I endorsing capital controls.

#### *The End of Capital Controls*

The break down of the Bretton Woods system (see Eichengreen (1996) for a lucid exposition of the causes), which led to the dismantling of capital controls, may then have been the precipitating factor for financial development across the world. Starting with the Euromarkets, spreading to the United States, and then moving to Europe and Japan, cross-border capital flows went from a trickle to a torrent. Accounts of the process by which this happened suggest that the cross-border flows increased despite, rather than because of, the efforts of domestic interest groups (see, for example, Helleiner (1994)). Given the growing volume of trade, it was simply too difficult to control the potential leakage of capital, especially when there were countries abroad where the money could be deposited.

By the end of the 1980s, controls had effectively been removed throughout Western Europe, Scandinavia, and Japan. The competition generated by trade and free international capital movements forced a modernization of the financial system and a progressive withdrawal of the State from the economy, through privatization in the industrial and banking sectors. This then would explain the other leg of the reversal. Before we go further, it may be useful to see two case studies.

### **3.7. The Case of Japan**

Japan, as our data suggest, was making rapid strides to developing a strong financial sector before World War I. Until 1918, there were no restrictions on entry into banking, provided minimum capital requirements were met. There were over two thousand banks in 1920. The five large Zaibatsu (translated as "financial cliques") banks accounted for only 20.5 per cent of the deposits before the war, and there were many small banks.<sup>9</sup>

As a result of increased competition in the post-World War I years and the Great Tokyo Earthquake in 1923, which caused damage estimated at an incredible 38% of GDP, more and more banks became troubled. This gave the government the excuse to enact regulations promoting mergers in the name of stability. By 1945, there were only 65 banks, and the share of Zaibatsu banks in total deposits had increased to 45.7 per cent.<sup>10</sup>

At the same time as the banking system was becoming more concentrated, the government's control over it was increasing. This became especially pronounced as the government sought to direct funds towards supplying the war against China in 1937. With the Temporary Fund Adjustment Act in 1937 and the Corporate Profits Distribution and Fund Raising Act in 1939, the government, through the Industrial Bank of Japan, assumed control of financing. All security issuances and lending decisions above a certain amount had to be approved by the government, and those that were not related to the war effort were typically not approved. Further Acts simply strengthened the government's control and this culminated in the designated lending system by which each munitions company was designated a major bank which

would take care of all its credit needs. By the end of the war, the banking system was not only concentrated, but well and truly under the control of the government.

The accompanying demise of the arm's length financial markets was aided and abetted by the banks. In 1929, 26 per cent of the liability side of large Japanese firm balance sheets consisted of bonds while only 17 percent was bank debt.<sup>11</sup> As bond defaults increased as a result of the earlier crisis and depression, a group of banks together with trust and insurance companies seized on the poor economic conditions to agree in 1931 to make all subsequent bond issues secured in principle. This immediately made it harder for their clients to issue public debt. With the acquiescence of the Ministry of Finance, the agreement was formalized in 1933 through the formation of a Bond Committee. The Committee determined which firms could issue bonds, on what terms, and when. All bonds were required to be collateralized, and banks were to serve as "trustees" for the collateral in exchange for a substantial fee. Giving banks the responsibility for determining firms' right to access the public bond markets was like giving a fox who resided in a chicken coop the right to determine which chickens could leave.<sup>12</sup> The obvious outcome was that a flourishing bond market was killed off. By 1936, bonds were down to 14 percent while bank debt was up to 24 percent of the liability side. By 1943, 47 percent of liabilities were bank debt while only 6 percent were bonds.

Japan illustrates yet another point. Entrenched hierarchies have the power to defend themselves. For example, despite their best efforts to break up the bank firm combines established during the period of militarization, the post-war American occupying forces could not prevent them re-emerging as the Keiretsu or main bank system (see Hoshi and Kashyap (1998); also see Miwa and Ramseyer (2001) for the view that Keiretsus are a fiction). Similarly, the Bond Committee, set up ostensibly to improve the quality of bond issuance during the Depression, survived until the 1980s. Even as Japanese industrial firms invaded the rest of the world in the 1970s, their bond markets remained miniscule, and Hitachi, an AA credit, was denied the ability to issue unsecured bonds. It was only in the early 1980s, as Japanese firms decided to borrow

abroad in the Euromarkets rather than depend on their antiquated financial system that Japanese banks had to loosen their stranglehold. The powers of the bond committee were eventually curtailed, not by a far-seeing government, but the forces of outside competition.<sup>13</sup>

### **3.8. Why Not the United States?**

As with any large sample study, there are exceptions. The United States undertook a variety of market friendly actions including passing legislation requiring greater disclosure in financial markets, setting up the Securities and Exchange Commission, and passing the Glass Steagall Act, which brought more competition among financial institutions by breaking up the universal banks. Was the United States an exception to the trend at this time?

First, it is possible to overstate the extent to which proposed legislation was market friendly. The National Recovery Administration, which was set up under the New Deal, sought to fix prices in industry in order to eliminate “ruinous” competition, while Regulation Q attempted to do the same thing in the banking sector. The U.S. government defaulted on the Gold Clause to the detriment of creditors, and the sanctity of contracts (see Kroszner, (1999)). That markets and competition were not seriously affected in the long run was not for the want of effort by the New Deal politicians. But legislative zeal in the United States was also tempered by checks imposed by the judiciary, a characteristic of Common Law countries (though it was the independent judiciary rather than Common Law that was the source of the check). Roosevelt’s primary method of intervention, the National Recovery Administration, was declared unconstitutional by the Supreme Court.<sup>14</sup> When the Supreme Court eventually became more pliant after threats to pack it, Congress became more nervous about growing executive powers, and growing threats to property, and became the main obstacle to proposed New Deal legislation.<sup>15</sup>

Checks and balances are not sufficient to explain the pro-market legislation. Of course, the legislation was not as pro-market as it is often made out to be. Mahoney (2000) argues that the ostensibly pro-market and pro-competitive Securities Act of 1933 and the Glass Steagall Act, were really protection in disguise for established investment bankers. Various aspects of the

Securities Act reduced price competition among investment bankers, while the Glass Steagall Act forced commercial banks out of the underwriting business. Mahoney provides evidence that the Securities Act increased concentration in the underwriting business.

Nevertheless, even if private interests were at work, the United States did not go the way of Japan. In part, the private interests were more fragmented. Investment banks did not see eye to eye with commercial banks, nor did large banks form common cause with small banks. The variety of conflicting private interests, more than any other factor, may have been the reason why outcomes in the United States were not more anti-competitive. There was no way markets could be closed down without hurting some powerful faction in the financial sector.

So this then leaves us with the final question – why were there so many different groups within the financial sector? Roe (1994) suggests an answer: There has always been an undercurrent of opposition in the United States to anyone getting overly powerful in the financial sector. Whether it be the setting up of the Federal Reserve to undercut the power of JP Morgan, the Glass Steagall Act to curtail the power of large universal banks, or the refusal of the Federal Reserve to act to save Drexel Burnham, the United States has managed to cut powerful financiers down to size. Perhaps it was its ability to ensure even in normal times that no small group of incumbents ever became really powerful that enabled the United States to pass through crisis relatively unscathed.

### **3.9. Does structure matter at all?**

Does structure matter at all? Financial markets in countries with a Civil Law system were not less developed than those in countries with Common Law in 1913 and in 1929. Our data suggest that the ascendancy of markets in Common Law countries that has been found in La Porta et al. (1997, 1998) is a post World War II phenomenon, though the differences have narrowed again more recently. What accounts for their findings?

Since the work of La Porta et al (1997, 1998), there has been some debate as to whether the legal origin of a country appears to matter so much for financial markets because it reflects

the inherent superiority of Common Law over Civil Law for financial transactions and investor protection or whether it matters because it reflects something about a country's culture, religion, or politics (see, for example, Acemogulu and Johnson (2000), Beck et al (2000), Berglof and Von Thadden (1999), La Porta et al. (1999), Rajan and Zingales (1999), and Stulz and Williamson (2001)).

Rajan and Zingales (1999) argue that many complex legal constructs that first emerged in Common Law, such as limited liability, were readily imitated by Civil Law countries. In fact, they argue, when the government has a will, Civil Law countries may have a greater ability to translate governmental policy into law because laws emanate from the center rather than evolving through judicial decisions. Whether the tighter control the center maintains over the judiciary in Civil Law countries is because the Civil Law system evolved in France in the 12<sup>th</sup> and 13<sup>th</sup> centuries when the king was weak (Glaezer and Shleifer (2001)) or whether it simply reflects a general propensity for centralization of power in these countries is not relevant to the argument we will make. What is critical, however, is that private interests have a greater chance of seeing their agenda enacted in a Civil Law country.

One reason is simply that if the governance system is more centralized, it is easier for small private interests to capture it. If, in addition, the legal system is important for validating and enforcing new policy, the Civil Law system is again easier to capture. The focus of influence activity in a Civil Law country only has to be the legislator. By contrast, the judiciary in a Common Law country can restrain a new political climate, and because it is dispersed and subject to local influences, is less easy to capture.

A second reason is that Common Law evolves at the periphery, and innovates around legislative or administrative roadblocks set up by the center. In England, for instance, after the Bubble Act placed constraints on the incorporation of limited liability companies in 1720 (primarily to bolster the position of companies that were already incorporated), Common Law courts continuously evolved their own interpretation of which companies did not contravene the

spirit of that law. It was precisely to overcome this ability of the judiciary to defy the will of the center that Napoleon introduced the Civil Code as a way to prevail over judges still loyal to the *Ancien Regime*.

In summary, in a Civil Law country, it is easier for a small group representing private interests, such as large incumbent industrialists and financiers to influence the implementation of friendly policies. This need not be all bad. When these private interests are aligned with the national interests, good policy can also be implemented quickly. But when interests are misaligned, matters can become much worse. Empirically, this would suggest that Civil Law countries went further in repressing financial markets when borders closed down (explaining the La Porta et al. findings in the mid 1990s), but have also begun developing them again as borders have opened up again in recent years (explaining the convergence seen in the most recent data). In summary, structure might matter, not so much in directly favoring or disfavoring financial development, but in filtering the impact of interest groups and the forces that affect their incentives.

The data seem to support this view. In Table 11 columns (i) and (ii), we regress the change in the stock market capitalization for a country between 1913 and the breakdown of Bretton Woods (1970) against the changes in its per capita income in constant dollars and an indicator for Civil Law. Both when we used level changes and when we use percentage changes the coefficient estimate for the Civil Law indicator is strongly negative, suggesting that stock markets in Civil Law countries did indeed fall by more over the period of the reversal. In columns (iii) and (iv), the dependent variable is the change in stock market capitalization for a country between the beginning of Bretton Woods's breakdown (1970) and the end of our sample period (1999). In this case, the coefficient estimate for the Civil Law indicator is strongly positive, suggesting that stock markets in Civil Law countries did indeed recover by more in recent times.

While certainly not a test, this evidence suggests that structure may have been found to matter for financial development in recent papers because Civil Law systems may have more

exaggerated reactions to changes in private interests. A related finding is that a country's legal or cultural heritage plays the strongest role when a country is shielded from foreign competition – Stulz and Williamson (2001) find that the correlation between creditor rights and religion weakens when a country is more open to trade. If we compare systems during a point of transition, we may come away with the impression that structure has a strong influence on levels of development while, it may have more of an influence on rates of change.

### **3.8. Related Literature**

Our view that institutional differences between countries serve to modify the impact of private interests offers a different view of convergence across countries than Coffee (2000). In his view, financial development will take place through changes in practices when a constituency emerges that demands it. Much later, the formal legal system will adapt to reflect these demands. Thus he attributes the convergence to “Anglo-Saxon” norms of Corporate Governance practices in Continental Europe to the privatization in the 1980s, which created a constituency of minority shareholders. We differ primarily in that we attribute a strong role to private interests (not just for, but also against, development) and potentially, a role for structure in modifying the influence of private interests.

Before concluding this section, we must note two other explanations for the reversals. Roe (1999) suggests that corporations in Continental Europe became more closely held because of the potential for higher agency costs there as a result of pro-labor legislation passed in the 1920s and 1930s. This diminished the size of public markets. While we do believe that the shrinkage of public equity markets and the passage of pro-labor legislation were coincident in some countries, his theory does not account for the greater government intervention and cartelization witnessed in many countries, or for the demise of corporate bond markets in some.

Pagano and Volpin (2000) develop a model in which entrepreneurs, who have already raised finance, want low investor protection (so as to indulge in private benefits), and get the support of workers by promising them high employment protection. This model of incumbent interests

(entrepreneurs who already have finance) is similar to ours (and suggests a different explanation for the correlation Roe finds – that incumbent industrialists bribed workers with pro-worker legislation to go along with anti-finance legislation) but our emphasis on openness as a modifying influence is different, and it helps us explain both pro-market and anti-market legislation.

#### **4. Conclusion.**

We see four contributions of this work. The first is to document the reversal in financial markets, a finding inconsistent with pure structural theories of financial market development. The second is to add a new fact – that trade openness is correlated with financial market development, especially when cross-border capital flows are free. The third is to argue that these findings are consistent with interest group politics being an important factor in financial development across countries. The last is to suggest that a country's institutions might slow or speed-up interest group activities. This might indicate that institutions matter, though the way they matter might primarily be in tempering interest group activities.

If our understanding of the impediments to financial development is correct, then it suggests that the recent fashion of emphasizing the development of “institutions” (e.g., The World Bank's World Development Report 2001) to aid economic growth is misplaced. It is not that the cognoscenti in developing countries are not aware that the country needs good institutions, it is simply that too many interests will lose out if the institutions are developed (also see, for example, Olsen (1982)).

There is, however, a Catch-22 situation. Without institutional development, a developing country may bear tremendous risk in opening up its borders (see, for example, Kaminsky and Reinhart (2001) suggesting the financial liberalization is typically followed by crisis). But if a country does not open its borders to capital and trade flows, finance is likely to remain underdeveloped. One way to break the Gordian knot and put incumbents on notice is to commit to open borders by a future date, a date far enough in the future to allow the necessary institutions to be developed, but firm enough that incumbents are put on notice. How to achieve such

commitment is the 64 billion dollar question. Regional organizations like the European Union have been effective in the past in enforcing a commitment to openness. Whether other countries can benefit through similar arrangements is worth studying.

Our paper also suggests that closing down borders has costs that have not been the focus of attention so far. The cost to Malaysia of the recent capital controls may not be so much that foreign investors are wary of a repeat, but that domestic financial institutions were merged in a non-transparent way during the period of controls – a way that appears to favor the current political establishment (see also Johnson and Mitton (2001)).

Finally, while openness has virtues, it also has costs (see, for example, Rodrik (1997, 1998)). How to preserve its virtues while spreading and softening its costs so as to make markets more sustainable deserves far more study (see Rajan and Zingales (2002) for an attempt at a beginning). There is ample scope for further work.

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## **Appendix: Important Notes on Data Collection.**

### **Historical Differences in Reporting Data**

A formidable challenge, specific to the historical nature of our analysis, is the difficulty in obtaining reliable sources for historical information about financial markets. Primary sources are often lost or inaccessible, while secondary sources are contradictory, or repeat uncritically the same primary sources. To further complicate our task, the type of information statisticians and governing bodies of stock exchanges were interested in at the beginning of the twentieth century seems quite different from the ones we are interested in today (this seems a topic worthy of a separate study). We discuss some of these differences because they help shed some light on the different perceptions of the nature and role of financial instruments at that time.

A number that is often reported is the total nominal value of securities outstanding in a country. This clubs together not only stocks and corporate bonds, but also Government bonds, making the number difficult to interpret. The clubbing of information on corporate bonds and stocks, which is pervasive even in the United Kingdom, probably the most sophisticated financial market at that time, reflects the similarity of these two instruments at that time. The use of preferred stock paying a fixed dividend was widespread. Also, common stock paid very high dividends, making them more similar to bonds. One consequence of the high dividend payout ratio was that most stocks traded fairly closely to their nominal value. In fact, stock prices in many countries were quoted as a percentage of their nominal value. Thus, even from an investor's point of view, bonds and stocks were perceived as very close substitutes.

A second problem is that the official statistics at the beginning of the twentieth century report the total universe of corporations existing at that time, rather than the subset of those that are publicly traded. To make the numbers more comparable across time we classify companies as publicly traded only if the firm is quoted during the year. Even with this requirement, we may still have very infrequently traded stock.

A final problem comes from the existence of regional exchanges. At the beginning of the century, not only was trading more fragmented across exchanges, but so was listing. For example, the Banco do Brazil is listed in the Rio Stock Exchange but not in San Paulo. Companies listed only in Osaka represent a not inconsiderable portion of the total companies listed in Japan. Most extreme is Germany, probably as a consequence of the delayed political reunification. In 1913 Germany had nine major stock exchanges and Berlin represented only about 50% of the total capitalization.

Data for regional (or secondary) stock exchanges are especially challenging. Since many have disappeared or have been absorbed by the main exchange, they tend not to be well documented. We try, as best as possible, to reconstruct a measure that includes all the major stock exchanges, eliminating double listing. When this is not possible for the date of interest, we compute the ratio of the capitalization of the secondary exchanges to main exchange at the earliest date available and then use this ratio to extrapolate backwards the value of these exchanges. Since the importance of regional exchanges has gone down over time, this procedure clearly biases downwards the estimate of the total stock market capitalization in countries with fragmented stock markets. This should be kept in mind in the analysis.

## **Data Sources**

### *Stock Market Capitalization and Number of Companies Listed*

Our starting point was the official publication of the stock exchanges as well as those of the Federation Internationale des Bourses Valeurs (FIBV). These provide extensive information only starting in 1980. Official publications of individual stock exchanges often go back only to WWII. When these are not available, we use information contained in private guides to stock exchanges. Only for Japan and the United States did we find official publications before WWII.

To assess the importance of the equity market in 1913 we rely on two approaches. Whenever possible we secured a copy of a stock exchange handbook in 1913 (or the closest year before 1913). Using the handbook we identify the number of domestic companies listed, the

number of shares of each company, and the price per share. We then compute the total stock market capitalization as the sum of the product of price times the number of shares. We were able to do this for Australia, Brazil, Canada, Cuba, Denmark, Germany, Italy, Netherlands, Russia, Sweden, Switzerland, the United Kingdom, and the United States.

A second source was various issues of the Bulletin of the International Institute of Statistics (IIS). Starting in the late nineteenth century, statisticians from all over the world met every year for a conference. This association formed a special group to compute the importance of security markets in different countries. Unfortunately, many of the reports club together stocks and bonds but we do obtain some disaggregate information for some countries.

#### *Data on Equity Issues*

Data on equity issues are relatively easier to get for the pre WWII period than for the period immediately after the war. For example, the *League of Nations* statistics include this information, even though it is not contained in more modern publications like the United Nations Statistics, or the Financial Statistics of the International Monetary Fund. This may reflect the greater importance that was attributed to this information before World War II. When not available from official statistics, we gather this information from financial newspapers of that time such as the Economist, Commercial and Financial Chronicle, Deutsche Oekonomiste, etc.

#### *Data on Deposits and National Accounts Data*

Data on deposits, national income, and gross fixed capital formation come from Mitchell (various issues). Mitchell's data are available until the mid1990s. We extrapolate this to 1999 for deposits by using the growth rate of deposits from the IMF's International Financial Statistics. For national accounts, we use the data from the NBER web site whenever available. Post WWII national accounts data come from the IMF's International Financial Statistics. We indicate whenever data come from a different source. A comprehensive data appendix is available on request.

Table 1

### Evolution of the Different Indicators of Financial Development

Whole sample indicates an average across all the countries we have data for. Constant sample indicates an average across countries for which we have data every year. Deposits to GDP is the ratio of commercial and savings bank deposits to GDP. Stock market Cap to GDP is the ratio of the aggregate market value of equity of domestic companies divided by GDP. Number of companies to population is the ratio of number of domestic companies whose equity is publicly traded in a domestic stock exchange to the country's population in millions. Equity issues to GFCF is the ratio of funds raised through public equity offerings (both initial public offerings and seasoned equity issues) by domestic companies to gross fixed capital formation. N is the number of observations. Sources are in the Data Appendix, which is available on request from the authors.

Year	Deposits to GDP			Stock Market Cap to GDP			# companies to pop.			Equity Issues to GFCF		
	Whole Sample	N	Constant sample	Whole Sample	N	Constant sample	Whole Sample	N	Constant sample	Whole Sample	N	Constant sample
			N=20			N=10			N=10			N=7
1913	0.38	22	0.40	0.57	22	0.40	28.68	22	24.00	0.12	12	0.13
1929	0.49	21	0.51	0.60	11	0.53	33.80	14	27.75	0.35	15	0.34
1938	0.45	21	0.46	0.58	13	0.57	30.12	13	27.69	0.13	12	0.10
1950	0.33	22	0.34	0.30	14	0.27	38.63	16	23.80	0.06	11	0.03
1960	0.31	22	0.33	0.47	18	0.44	31.85	19	22.38	0.07	16	0.05
1970	0.31	22	0.33	0.49	19	0.42	23.66	19	21.22	0.06	16	0.02
1980	0.34	22	0.35	0.26	22	0.25	26.70	21	23.71	0.03	18	0.03
1990	0.41	21	0.40	0.57	21	0.51	22.18	22	23.21	0.05	20	0.05
1999	0.46	21	0.45	1.02	23	1.08	26.30	22	24.46	0.13	20	0.18

Table 2

**Evolution of the ratio of Deposits to GDP**

Deposits to GDP is the ratio of commercial and savings deposits divided by GDP. Until 1990 the source is Mitchell (1995). We extrapolate the 1999 data from the 1994 data in Mitchell using the rate of growth of deposits as reported in *International Financial Statistics* published by the International Monetary Fund.

<i>Country</i>	<i>Year</i>								
	<b>1913</b>	<b>1929</b>	<b>1938</b>	<b>1950</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>1999</b>
Argentina	0.29	0.36	0.36	0.30	0.22	0.19	0.28	0.07	0.24
Australia	0.37	0.45	0.45	0.69	0.43	0.38	0.29	0.42	0.49
Austria	1.12	0.37	0.33	0.21	0.28	0.31	0.62	0.73	0.70
Belgium	0.68	0.48	0.69	0.44	0.35	0.40	0.39	0.38	0.85
Brazil	0.12	0.16	0.21	0.20	0.15	0.12	0.17		
Canada	0.22	0.13	0.16	0.17	0.13	0.37	0.47	0.49	0.61
Chile	0.16	0.15	0.09	0.10	0.06	0.07	0.07	0.12	0.19
Cuba									
Denmark	0.76	0.46	0.39	0.32	0.27	0.25	0.28	0.55	0.54
Egypt				0.17	0.17	0.14	0.31	0.67	0.51
France	0.42	0.44	0.36	0.24	0.30	0.33	0.45	0.42	0.47
Germany	0.53	0.27	0.25	0.15	0.23	0.29	0.30	0.32	0.35
India	0.04	0.09	0.12	0.08	0.08	0.09	0.08	0.09	0.09
Italy	0.23	0.21	0.31	0.23	0.81	0.54	0.59	0.40	0.28
Japan	0.13	0.22	0.52	0.14	0.21	0.33	0.48	0.51	0.53
Netherlands	0.22	0.32	0.52	0.28	0.28	0.26	0.25	0.73	0.69
Norway	0.65	0.89	0.56	0.52	0.43	0.49	0.30	0.50	0.49
Russia	0.21								
South Africa	0.09	0.09	0.16	0.18	0.18	0.16	0.12	0.16	0.21
Spain	0.07	0.24	0.24	0.33	0.37	0.53	0.44	0.66	0.71
Sweden	0.69	0.69	0.73	0.59	0.54	0.50	0.48	0.40	0.39
Switzerland	0.93	1.08	1.13	0.79	0.78	0.69	0.69	0.54	0.66
UK	0.10	2.88	1.34	0.67	0.32	0.22	0.14	0.33	0.39
US	0.33	0.33	0.44	0.40	0.30	0.25	0.18	0.19	0.17

Table 3

**Evolution of Stock Market Capitalization over GDP**

Stock market capitalization to GDP is the ratio of the aggregate market value of equity of domestic companies to GDP. Sources are in the Data Appendix, which is available on request from the authors.

<i>Country</i>	<i>Year</i>								
	<b>1913</b>	<b>1929</b>	<b>1938</b>	<b>1950</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>1999</b>
Argentina	0.17	.	.	.	0.05	0.03	0.11	.	0.15
Australia	0.39	0.50	0.91	0.75	0.94	0.76	0.38	0.37	1.13
Austria	0.76	.	.	.	.	0.09	0.03	0.17	0.17
Belgium	0.99	1.31	.	.	0.32	0.23	0.09	0.31	0.82
Brazil	0.25	.	.	.	.	.	0.05	0.08	0.45
Canada	0.74	.	1.00	0.57	1.59	1.75	0.46	1.22	1.22
Chile	0.17	.	.	.	0.12	0.00	0.34	0.50	1.05
Cuba	2.19	.	.	.	.	.	.	.	.
Denmark	0.36	0.17	0.25	0.10	0.14	0.17	0.09	0.67	0.67
Egypt	1.09	.	.	.	0.16	.	0.01	0.06	0.29
France	0.78	.	0.19	0.08	0.28	0.16	0.09	0.24	1.17
Germany	0.44	0.35	0.18	0.15	0.35	0.16	0.09	0.20	0.67
India	0.02	0.07	0.07	0.07	0.07	0.06	0.05	0.16	0.46
Italy	0.17	0.23	0.26	0.07	0.42	0.14	0.07	0.13	0.68
Japan	0.49	1.20	1.81	0.05	0.36	0.23	0.33	1.64	0.95
Netherlands	0.56	.	0.74	0.25	0.67	0.42	0.19	0.50	2.03
Norway	0.16	0.22	0.18	0.21	0.26	0.23	0.54	0.23	0.70
Russia	0.18	.	.	.	.	.	.	.	0.11
South Africa	.	.	.	0.68	0.91	1.97	1.23	1.33	1.20
Spain	.	.	.	.	.	.	0.17	0.41	0.69
Sweden	0.47	0.41	0.30	0.18	0.24	0.14	0.11	0.39	1.77
Switzerland	0.58	.	.	.	.	0.50	0.44	1.93	3.23
UK	1.09	1.38	1.14	0.77	1.06	1.63	0.38	0.81	2.25
US	0.39	0.75	0.56	0.33	0.61	0.66	0.46	0.54	1.52

Table 4

### Evolution of Fraction of Gross Fixed Capital Formation Raised via Equity

Amount of funds raised through public equity offerings (both initial public offerings and seasoned equity issues) by domestic companies divided by gross fixed capital formation. Sources are in the Data Appendix, which is available on request from the authors.

<i>Country</i>	<i>Year</i>								
	<b>1913</b>	<b>1929</b>	<b>1938</b>	<b>1950</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>1999</b>
Argentina	.	.	.	.	0.01	.	0.01	0.10	0.02
Australia	.	0.13	.	0.19	0.09	0.05	0.05	0.09	0.24
Austria	.	0.07	.	.	0.04	0.07	0.00	0.07	0.03
Belgium	0.23	0.85	0.03	.	0.09	0.08	0.03	0.01	0.06
Brazil	.	.	.	0.20	0.19	0.19	0.06	0.01	0.07
Canada	.	1.34	0.02	0.03	0.03	0.01	0.04	0.01	0.07
Chile	.	.	.	.	.	.	.	.	.
Cuba	.	.	.	.	.	.	.	.	.
Denmark	.	0.03	0.01	.	.	.	0.01	0.08	0.09
Egypt	.	.	.	.	.	.	.	.	0.31
France	0.14	0.26	0.03	0.02	0.04	0.04	0.06	0.02	0.09
Germany	0.07	0.17	0.06	0.00	0.04	0.02	0.01	0.04	0.06
India	.	.	.	.	.	0.00	0.00	0.00	0.08
Italy	0.07	0.26	0.03	0.02	0.08	0.02	0.04	0.04	0.12
Japan	0.08	0.13	0.75	.	0.15	0.03	0.01	0.02	0.08
Netherlands	0.38	0.61	0.45	0.02	0.02	0.00	0.01	0.10	0.67
Norway	.	0.05	0.01	.	.	.	.	0.04	0.06
Russia	0.17	.	.	.	.	.	.	.	.
South Africa	.	.	.	.	.	0.33	0.08	0.10	0.14
Spain	0.01	0.33	.	0.08	0.11	0.07	0.03	0.06	0.10
Sweden	0.08	0.34	0.06	0.01	0.03	0.00	0.00	0.03	0.10
Switzerland	0.03	.	.	.	0.02	.	.	0.02	.
UK	0.14	0.35	0.09	0.08	0.09	0.01	0.04	0.06	0.09
US	0.04	0.38	0.01	0.04	0.02	0.07	0.04	0.04	0.12

Table 5

**Evolution of Number of Listed Companies per Million People**

The number of listed companies per million people is the number of domestic companies whose equity is publicly traded in a domestic stock exchange divided by the population in millions. Sources are in the Data Appendix, which is available on request from the authors.

<i>Country</i>	<i>Year</i>								
	<b>1913</b>	<b>1929</b>	<b>1938</b>	<b>1950</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>1999</b>
Argentina	15.29	.	.	.	26.78	15.58	9.85	5.54	3.63
Australia	61.74	76.92	84.88	122.05	93.72	.	68.53	63.89	64.91
Austria	38.72	42.62	30.06	16.29	13.34	12.05	8.74	12.57	12.02
Belgium	108.7	.	.	55.09	42.60	38.39	22.85	18.50	14.33
Brazil	12.43	9.85	5.17	41.02	.	4.32	4.06	3.86	3.18
Canada	14.65	.	.	66.61	62.43	55.20	50.52	42.99	130.13
Chile	20.62	.	.	.	44.52	38.72	23.78	16.32	19.03
Cuba	12.69	.	.	.	.	.	.	.	.
Denmark	38.22	54.86	85.25	81.28	75.75	52.14	42.54	50.18	44.80
Egypt	16.58	13.44	.	.	10.58	1.76	.	11.01	13.71
France	13.29	.	24.64	26.20	18.34	15.98	13.99	15.05	.
Germany	27.96	19.73	10.91	13.22	11.33	9.07	7.46	6.53	12.74
India	0.82	1.81	2.59	3.13	0.00	0.00	3.11	7.31	6.48
Italy	6.32	6.40	3.11	2.70	2.79	2.46	2.36	3.82	4.54
Japan	7.53	16.65	19.48	9.15	8.35	15.19	14.80	16.76	20.00
Netherlands	65.87	95.48	.	.	21.42	15.95	15.12	17.39	15.14
Norway	33.51	41.50	45.98	37.98	37.10	37.90	44.53	44.80	49.62
Russia	2.02	.	.	.	.	.	.	.	0.81
South Africa	.	.	.	69.05	60.93	51.39	42.48	20.75	15.86
Spain	.	.	.	.	.	.	25.20	10.96	22.25
Sweden	20.64	16.36	14.93	12.83	14.04	13.18	12.39	14.14	31.46
Switzerland	61.53	67.80	55.46	52.47	51.74	58.72	78.03	49.61	34.01
UK	47.06	.	.	.	.	.	47.22	29.63	31.11
US	4.75	9.72	9.16	8.94	9.33	11.48	23.11	26.41	28.88

Table 6  
**Summary Statistics**

Equity market cap./GDP is the equity market capitalization of domestic companies to GDP in 1913. Issues to GDP is the sum of equity and bond issues by domestic firms in 1912 to GDP in 1913. Per Capita Industrialization is the index of industrialization for that country in 1913 as computed by Bairoch (1982). Openness is the sum of exports and imports of goods in 1913 obtained from the League of Nations Yearbook divided by GDP in 1913. Tariffs are import duties as a percentage of special total imports (1909-1913) obtained from Bairoch (1989).

**6 a. Summary Statistics**

	Mean	Standard Deviation	Minimum	Maximum	Observations
Equity Market Cap./GDP	.490	.294	.02	1.09	18
Issues to GDP in 1912	.022	.015	.002	.055	17
Per Capita Industrialization	49.5	37.08	2	126	18
Openness (Trade Volume/GDP)	.59	.51	.11	2.32	18
Tariffs	13.0	9.5	0.4	37.4	17
Interaction of Per Capita Industrialization and Openness	29.1	31.1	.36	118.67	18

**6 b. Pairwise Correlations Between Variables (Significance in Parentheses)**

	Equity market Cap. to GDP	Per Capita Industrialization	Openness (Trade Volume/GDP)	Tariffs
Per Capita Industrialization	0.58 (0.01)			
Openness (Trade Volume/GDP)	0.33 (0.19)	0.01 (0.98)		
Tariffs	-0.37 (0.15)	-0.24 (0.35)	-0.37 (0.15)	
Interaction of Per Capita Industrialization and Openness	0.67 (0.00)	0.55 (0.02)	0.69 (0.00)	-0.37 (0.15)

**Table 7**  
**Financial Development and Openness in 1913**

In panel A the dependent variable is equity market capitalization of domestic companies to GDP in 1913, in panel B it is the number of listed companies per million of population in 1913, and in panel C it is the total amount of securities issued to GDP, which is the sum of equity and bond issues by domestic firms in 1912 to GDP. Per Capita Industrialization is the index of industrialization for that country in 1913 as computed by Bairoch (1982). Openness is the sum of exports and imports of goods in 1913 (obtained from the League of Nations Yearbook) divided by GDP in 1913. Tariffs are import duties as a percentage of special total imports (1909-1913) obtained from Bairoch (1989). Coefficient estimates for per capita industrialization, its interaction with openness, and the corresponding standard errors are multiplied by 1000. Columns (iv)-(v) report instrumental variable estimates, where the instrument for openness is population size. All the regressions include a constant, whose coefficient is not reported. Standard errors are in parentheses. (\*) indicates significance at the 10% level, (\*\*) at the 5% level, (\*\*\*) at the 1 % level.

**7a: Equity Market Capitalization/GDP**

Dependent variable:	Equity Market Capitalization/GDP				
	(i)	(ii)	(iii)	(iv)	(v)
Per Capita Industrialization	4.61*** (1.52)	2.42 (1.71)	2.11 (2.25)	1.55 (2.05)	8.77** (3.18)
Openness	0.18 (0.11)		-0.04 (0.19)		
Interaction of Per Capita Industrialization and Openness		4.76** (2.03)	5.44 (3.69)	6.62** (3.08)	
Interaction of Per Capita Industrialization and Tariffs					-0.38* (0.22)
Adjusted RSq	0.37	0.45	0.42	.	.
Observations	18	18	18	18	17

**7b: Number of domestic companies listed/million population**

Dependent variable:	N. companies/million population				
	(i)	(ii)	(iii)	(iv)	(v)
Per Capita Industrialization	215.8 (133.6)	-210.6 (116.0)	-199.5 (152.8)	-252.0* (137.0)	927.7** (442.3)
Openness	38.8*** (9.6)		-1.5 (12.7)		
Interaction of Per Capita Industrialization and Openness		924.1*** (138.1)	899.8*** (250.8)	1012.8*** (206.0)	
Interaction of Per Capita Industrialization and Tariffs					-60.9** (29.9)
Adjusted RSq	0.50	0.74	0.72	.	.
Observations	18	18	18	18	17

**7c: Total securities issued/GDP**

Dependent variable:	Securities issued/GDP				
	(i)	(ii)	(iii)	(iv)	(v)
Per Capita Industrialization	0.17 (0.10)	0.02 (0.10)	-0.09 (0.12)	-0.02 (0.11)	0.52** (0.22)
Openness	0.1 (0.01)		-0.01 (0.01)		
Interaction of Per Capita Industrialization and Openness		0.33** (0.11)	0.56** (0.19)	0.41** (0.17)	
Interaction of Per Capita Industrialization and Tariffs					-0.03* (0.01)
Adjusted RSq	0.14	0.39	0.44	.	.
Observations	17	17	17	17	17

Table 8

**Financial Development and Openness in 1997**

In panel A the dependent variable is the ratio of equity market capitalization to gross domestic product averaged over 1996-1998 from the World Development Indicators (World Bank). In panel B the dependent variable is the number of domestic companies listed over million inhabitants in 1997 from the Emerging Market Factbook. In panel C the dependent variable is the sum of equity and long-term private debt issues to GDP averaged over the 1990s from Beck et al. (1999). Log Per Capita Gross Domestic Product is the logarithm of the per capita GDP in PPP dollars as reported in the World Development Indicators. Openness is the sum of exports and imports of goods divided by GDP in 1980-82 and 1996-98 (source World Bank). In column (iv) the interaction between logarithm of the per capita GDP and openness is instrumented by the interaction between logarithm of the per capita GDP and constructed trade share in Frankel and Romer (1999). All the regressions include a constant, whose coefficient is not reported. The standard errors are in parentheses. (\*) indicates significance at the 10% level, (\*\*) at the 5% level, (\*\*\*) at the 1% level.

**8a: Equity Market Capitalization/GDP**

	(i)	(ii)	(iii)
Log Per Capita GDP	0.264*** (0.044)	0.243*** (0.046)	0.198*** (0.063)
Openness	0.214*** (0.082)		
Interaction of Log Per Capita GDP and Openness		0.025*** (0.009)	0.048*** (0.024)
Adjusted RSq	0.34	0.34	.
Observations	96	96	82

**8b: Number of domestic companies listed/million population**

	(i)	(ii)	(iii)
Log Per Capita GDP	10.96 <sup>***</sup> (3.83)	8.86 <sup>**</sup> (3.98)	4.26 (4.71)
Openness	25.10 <sup>***</sup> (7.11)		
Interaction of Log Per Capita GDP and Openness		2.69 <sup>***</sup> (0.76)	5.35 <sup>***</sup> (1.78)
Adjusted RSq	0.20	0.20	.
Observations	91	91	81

**8c: Security issues/GDP**

	(i)	(ii)	(iii)
Log Per Capita GDP	0.026 <sup>***</sup> (0.007)	0.025 <sup>***</sup> (0.007)	0.018 <sup>*</sup> (0.009)
Openness	0.022 <sup>**</sup> (0.011)		
Interaction of Log Per Capita GDP and Openness		0.002 <sup>*</sup> (0.001)	0.006 <sup>**</sup> (0.003)
Adjusted RSq	0.39	0.38	.
Observations	34	34	34

Table 9

### Financial Development and Openness over time

The dependent variable in each regression is a measure of financial development (equity market cap. to GDP and number of companies per million inhabitants). The explanatory variables are a constant (coefficient not reported), a measure of industrialization (coefficients not reported), and the interaction between this measure of industrialization and openness (the only coefficient reported). For the period 1913-1980 the measure of industrialization is Bairoch (1982)'s index of industrialization, for the period 1981-1997 it is the logarithm of the per capita GDP in PPP dollars as reported in the World Development Indicators. Coefficient estimates for the interaction of the per capita industrialization index with openness and the corresponding standard errors are multiplied by 1000. Standard errors are in parentheses. Coefficients in bold are statistically different from zero at the 10% level.

Dependent variable:	Year								1981	1997
	1913	1929	1938	1950	1960	1970	1980			
	<i>Coefficient of Interaction Term (Demand = Index of Industrialization)</i>							<i>Coefficient of Interaction Term (Demand=Log Per Capita GDP)</i>		
<i>Equity market capitalization To GDP</i>	<b>4.76</b> (2.03)	7.02 (4.94)	5.53 (14.25)	1.76 (3.19)	-1.90 (2.85)	-1.39 (2.28)	-0.65 (0.89)	<b>0.036</b> (0.05)	<b>0.046</b> (0.01)	
Adjusted RSq	0.45	0.13	-0.14	-0.07	-0.14	-0.13	-0.09	0.56	0.46	
N	18	10	12	13	13	16	18	45	45	
<i>Number of companies per million</i>	<b>924.1</b> (138.1)	<b>1741.7</b> (531.6)	<b>1627.5</b> (675.8)	552.3 (388.5)	190.6 (181.9)	<b>128.5</b> (63.8)	35.7 (68.3)	<b>1.78</b> (0.72)	<b>2.71</b> (0.53)	
Adjusted RSq	0.74	0.45	0.26	0.00	-0.07	0.17	-0.06	0.21	0.53	
N	18	12	12	15	14	15	18	49	49	

Table 10  
**Financial Development and Openness 1913-1980**

The dependent variable is the ratio of equity market capitalization to gross domestic product measure in a year. This panel pools the cross-sections from the following years: 1913, 1929, 1938, 1950, 1960, 1970, and 1980. The estimates are obtained by instrumental variables, where openness is instrumented by constructed trade share in Frankel and Romer (1999). In the first column the proxy for demand for finance is the index of industrialization for that country in that year as computed by Bairoch (1982) divided by 1000. In the other columns is the logarithm of the per capita GDP. Openness is the ratio of the sum of exports and imports of goods to GDP that year (source Mitchell (1995)). The indicator for low international capital mobility equals 1 in the years from 1938 to 1980 and 0 otherwise. The level of capital mobility is the mean absolute level of current account in fourteen countries as computed by Obstfeld and Taylor (1997) and extended by us to 1999. All regressions include a calendar year dummy. The standard errors, which are corrected for possible clustering of the residual at a country level, are in parentheses. (\*) indicates significance at the 10% level, (\*\*) at the 5% level, (\*\*\*) at the 1 % level.

Sample period:	1913-1980	1981-1997	1913-1999	1913-1999
	(i)	(ii)	(iii)	(iv)
Demand for finance	1.201 (1.220)	0.127** (0.054)	0.143 (0.106)	0.145 (0.108)
Interaction of Demand for finance and Openness	6.549*** (0.976)	0.062** (0.024)	0.037 (0.036)	-0.162 (0.097)
Interaction of demand for finance and Openness *Dummy =1 if period of Low International Capital Mobility	-10.420*** (0.222)	-0.034** (0.015)	-0.077* (0.040)	
Interaction of demand for finance and Openness * Level of International Capital Mobility				6.695** (3.038)
Observations	100	90	151	151

Table 11  
**Openness and Legal System over time**

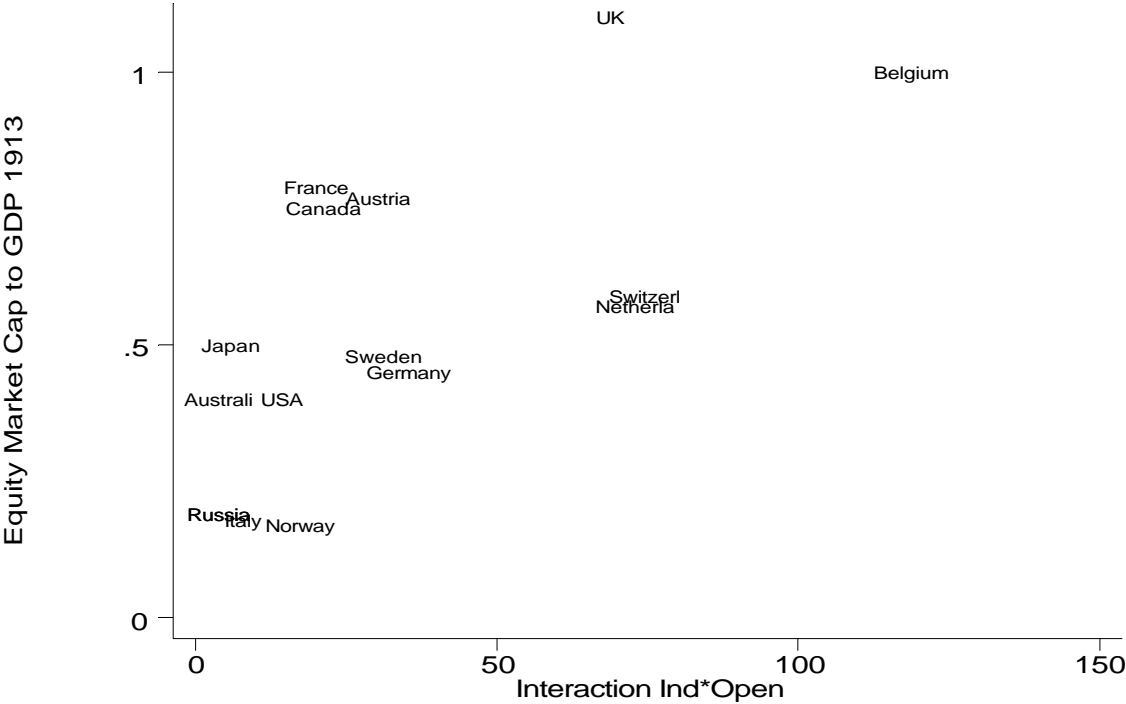
In the first two columns the dependent variable is the change in the ratio of equity market capitalization to gross domestic product between 1913 and 1970 (the first column is the absolute change, the second the % change). In the second two columns the dependent variable is the change in the ratio of equity market capitalization to gross domestic product between 1970 and 1999 (the third column is the absolute change, the fourth the % change). In the first two columns the proxy for the change in the demand for finance is the change in the index of industrialization for that country in that year as computed by Bairoch (1982) divided by 1000. In the second two columns the proxy for the change is the change in the logarithm of the per capita GDP in PPP dollars as reported in the World Development Indicators. Civil law dummy equals one in country with a coded law system. All regressions include calendar year indicators. The standard errors, which are corrected for possible clustering of the residual at a country level, are in parentheses. (\*) indicates significance at the 10% level, (\*\*) at the 5% level, (\*\*\*) at the 1 % level.

	Change in stock market capitalization/GDP over the 1913-1970 period		Change in stock market capitalization/GDP over the 1970-1999 period	
	Absolute change	% change	Absolute Change	% change
Change in demand for finance	0.655 (0.792)	-2.270** (1.063)	- 0.398 (1.014)	-3.650 (3.687)
Civil Law Dummy	-0.745*** (0.165)	-1.551*** (0.221)	0.762* (0.393)	3.207** (1.428)
RSq	0.57	0.77	0.10	0.16
Observations	16	16	18	18

**Figure 1: Regulation of Entry and Financial Development**



**Figure 2: Market Capitalization vs. Interaction Between Industrialization and Openness**



## Endnotes

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<sup>1</sup> One indicator that is missing from our list is the volume of securities traded. Unfortunately, the way volume is recorded (even today) is quite controversial. The Federation Internationale Bourses Valeurs (FIBV) classifies data on volume traded into two groups: trading system view (TSV) and regulated environment view (REV). The TSV system counts as volume only those transactions which pass through the exchange's trading floor, or which take place on the exchange's trading floor. The REV system includes in volume all the transactions subject to supervision by the market authority, with no distinction between on- and off-market transactions. As the FIBV warns, comparisons are not valid between stock exchanges belonging to different groups, because the numbers differ substantially depending on method used. For example, in Paris, according to the TSV method the volume of equity traded in 1999 was \$770,076 million, while the REV method suggests a volume four times greater (\$2,892,301 million). Given the magnitude of the difference and the impossibility of obtaining consistent data both across countries and over time, we chose to disregard this indicator.

<sup>2</sup> One could also argue for the existence of political incumbents. To the extent that financial development makes matters transparent, and constrains the political favors they can do or the power they have, they may also be opposed.

<sup>3</sup> In earlier times, the landed gentry may have been more powerful in many developed countries than the "commercial" interests. How their power waned is a matter beyond the scope of this paper.

<sup>4</sup> For one, because of product market competition, these firms will now be much less profitable, while needing much more investment. Moreover competition in financial markets will make long term relationships, through which the traditional financier could have hoped to recover investments, more difficult. Both factors would combine to make finance more difficult.

<sup>5</sup> Our claim is that openness matter, not that we can separate a direct effect of openness from a interaction between openness and our proxy for the demand for finance. Between the two we expect the interaction to be more important, because it is more directly linked to what the theory predicts.

<sup>6</sup> As a denominator we use GDP rather than GFCF to maximize the number of observations available.

<sup>7</sup> In spite of the very high correlation between openness and the interaction between openness and log per capita income, the larger cross section allows us to distinguish the two, and it is the interaction that is positively significantly correlated (estimates not reported).

<sup>8</sup> As an instrument for openness, we use the constructed trade shares computed by Frankel and Romer (1999). While this instrument will be weaker as we go back in time because it is constructed based on country borders in the 1990s, all we care about is that it be correlated with trade and not with financial development. We use population in Table 7 as an instrument because it is available contemporaneously in 1913, but we check that the results hold even when we use the Frankel and Romer instrument.

<sup>9</sup> Aoki, Patrick and Sheard (1994), and Hoshi and Kashyap (1998).

<sup>10</sup> Aoki, Patrick and Sheard (1994)

<sup>11</sup> These figures are from Teranishi (1994)

<sup>12</sup> That this was a cartel is further reinforced by Hoshi and Kashyap's observation that security houses that were not part of the 1931 agreement started competing fiercely for underwriting business and continued to underwrite unsecured bonds. Thus the market itself did not appear to develop a distaste for unsecured bonds.

<sup>13</sup> Bebchuk and Roe (1999) develop a theory of path dependence of governance to account for phenomena such as these.

<sup>14</sup> Kennedy (1999, p328).

<sup>15</sup> Kennedy (1999, p341).