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THE GREAT REVERSALS: THE POLITICS OF FINANCIAL DEVELOPMENT IN THE 20TH
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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 inconsistent with most recent theories of why cross-country differences in financial development do not track differences in economic development, since these theories are based upon time-invariant factors, such as a country's legal origin. We propose instead an "interest group" theory of financial development. 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 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. According to this view, when opportunities arise in an economy that require financing, the economy will develop the necessary markets and institutions to finance these opportunities; In other words (those of Joan Robinson (1952, p86)) "where enterprise leads, finance follows". For example, the enormous financing requirements of railroads in the United States (one billion dollars up to 1867 and 10 billion dollars up to 1890) lead to the development of public markets for corporate debt and later for stock, with 40% of this capital coming from Europe.¹ Financial institutions such as investment banks, including the famous Morgan bank, emerged to underwrite and distribute these securities and to reassure European investors that the money was properly invested. Thus the financing needs of the railroads lead to the creation of financial infrastructure in the United States, which was then available to finance other industries that came later. What we have just described is nothing but the reverse of Say's Law – demand creates its own supply.

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 the existence of 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), and Rajan and Zingales (1999)), the evidence of a strong empirical correlation in recent times between whether a country is financially developed and whether it has a Common Law system is hard to ignore.

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.

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 differences, over and above what can be explained by demand, are best explained by the strength of political forces in favor of financial development. Clearly, there are structural aspects to these forces. The nature of government, the degree to which a country is centralized, the degree to which there are checks and balances on the legislature, the degree to which the legal system permits innovation, the degree to which individual rights are protected against government, will all affect the ease with which the dominant interest group comes to power and the rapidity with which it affects outcomes. But clearly the prime mover is the dominant interest group. Thus our focus in this paper will be on identifying this group and how its incentive and ability to favor or disfavor financial development varies across countries and over time. Hence we will propose an “interest group” theory of financial development.

The hardest aspect of such a theory is to identify who may be opposed to something as economically beneficial as financial development. We believe that incumbents -- whether in industry, agriculture, or finance -- can be hostile to arm's length markets because anonymous markets do not respect the value of incumbency, and instead can give birth to competition. Specifically, financial markets disproportionately favor new entrants over incumbents. Nevertheless, it is possible for the incentives of incumbents to oppose development to be muted. One such situation is when opportunities outside the economy explode. Incumbents then have a reason to allow the economy to open up, especially if access to other markets requires a quid-pro-quo response. When an economy faces both cross-border trade and capital flows, the resulting

competition from external sources in both the product and financial markets make it hard and unprofitable for domestic incumbents to continue to keep the domestic financial sector repressed.

We can therefore use the extent of an economy's openness as a proxy for the strength of incumbents' opposition to financial development. In support of our view that financial underdevelopment is a form of entry barrier, we find a strong negative correlation between the size of bureaucratic barriers to entry in a country as measured by Djankov, La Porta, Lopez de Silanes, and Shleifer (2000), and our measures of financial development.

Turning now to our test, we find in the initial decades of the twentieth century and the closing decades, both periods when cross-border capital flows were relatively plentiful, measures of a country's financial development are strongly correlated to exogenous measures of its openness to trade. This evidence is consistent with our hypothesis that incumbents' incentives to oppose financial development are relatively muted when a country's borders are open. 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 (stemming from the autarkic policies adopted during the Great Depression to the Bretton Woods agreement that favored trade at the expense of finance) we find that trade openness did not have a significant positive correlation 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.

For completeness, we then have to ask why economies first shut down in the 1930s and reopened to capital flows in the 1970s. The issue is particularly important because once arm's length financial markets and institutions are in place, they develop their own powerful interest groups. A case in point is the "City" of London, which some have argued became so powerful as a financial center that many decisions were taken by the British government against British industrial interests because they favored the financial sector. It is argued, for example, (see Green

(1992)) that the decision to bring England back on the Gold Standard in 1926 at the overvalued pre-World War 1 parity, was taken to maintain the pound's role as a stable international currency, despite the hardships it caused domestic exporters.

We will argue that the competitive forces unleashed by open markets have a downside in that they can destroy some forms of relationships and the associated insurance provided by domestic social and economic institutions (see, for example, Allen and Gale (2000), Diamond and Dybvig (1983), Eichengreen (1996), Mayer (1988), Polanyi (1944), Petersen and Rajan (1995)). These forces also reduced the ability of the political authorities in each country to intervene to provide the insurance. The consequences were not particularly troubling when economies were doing well. But as the world slid into depression towards the end of the 1920s, the public felt the loss of insurance when faced with severe and widespread shocks. These enabled the public to overcome collective action problems. The popular clamor from the masses for political action to reverse the effects of the market strengthened. Incumbents rode on the coattails of the popular demand for insurance to overcome any political strength accumulated by advocates of financial development during the period of openness. The consequence was that many countries departed from the Gold Standard to retreat into autarky, and initiated actions to restrain competition, some of which resulted in the virtual demise of certain domestic financial markets and institutions.

The post World War II Bretton Woods consensus recognized both the havoc caused by autarky, as well as the political need for insurance. The attempt for the next quarter century was to encourage the free flow of goods and services across borders while heavily restricting the flow of capital. The capital controls that were in place over this time had the effect, perhaps unintended, of hampering the revival of domestic financial markets. With the break down in Bretton Woods in the mid 1970s, and the increasingly free flow of capital across borders, domestic financial systems could no longer stay immune from foreign competition, and financial development took off again.

We are, of course, not the first to point to the influence of politics on financial development, though our focus is quite different from previous work. In their excellent study of English public finance after the Glorious Revolution, North and Weingast (1989) argue the English government had to build credibility that it would not expropriate, before public debt markets could develop in England. Roe (1994) suggests that the popular fear of financial monopolies in the United States lead to legislation like the Glass Steagall Act, limiting the activities and size of financial institutions in the United States. Jensen (1991) argues that legislation 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. Our paper is related to these, especially the last two 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. In section 3, we test both the time series and cross-sectional implications of this theory. In section 4 we explore the reasons why countries closed their borders to external flows, and in section 5 we explain why financial markets took time to reemerge after World War II even though trade resumed. We conclude in section 6 with a discussion of policy implications.

1. Evolution of Financial Development over the Twentieth Century

We face two challenges in documenting the changing levels of financial development over the course of the twentieth century. One, common to any attempt to compare financial

development, both across countries and over time, is how to measure financial development. There is no consensus on the correct method. Theoretically, the right measure would be the ease with which companies in need of external funds can access them, and the ease with which investors can get an adequate return. Presumably, the right measure also reflects the sophistication and competitiveness of, and transaction costs embedded in, the financial system. Unfortunately, these are not measures that can be easily computed even in the most developed countries today, let alone in the past for countries that have not been as fastidious about statistics.

The common practice in the literature (e.g., King and Levine (1993), Demirguc-Kunt and Maksimovic (1998), Levine and Zervos (1998), Rajan and Zingales (1998a)) is to compute ratios of different aspects of the financial system (such as deposits or equity market capitalization) to measures of the size of the economy. While not strongly motivated by theory, these ratios broadly capture a country's level of financial sophistication and they are standard in the literature. Thus, for ease of comparison we will try, as best as the available data allow us, to use these measures.

The second more formidable challenge, specific to the historical nature of our analysis, is the difficulty in gathering 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.

1.1. Historical Differences in Reporting Data

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 (the investment advice contained in the *Review of Financial Reviews*, a British analogue to Barrons, is suggestive).

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 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.

1.2 Various Measures of Financial Development

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

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. This measure captures only the liability side of banks, ignoring differences in the composition of bank's assets. This may matter. For example, German banks had a bigger fraction of their assets invested in commercial loans than British banks. The ratio of deposits to GDP, thus, will underestimate the importance of German banks in the credit market. 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.

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 important. 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 .

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.

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 provides a measure that is not tainted by fluctuations in stock market valuations and possible mismeasurement of the level of GDP. One drawback is that it is 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.

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.

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.

1.3. 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 mid 1990s. 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.

1.4. Stylized Facts

In Table 1, we report the average value of our four indicators of financial development for the period 1913 to 1999. Because there are missing observations, 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. 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.

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. Moreover, this distinction seems to be vanishing again in the most recent data.

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.

Recently, La Porta et al. (1997, 1998) have argued that differences in the level of financial development can be explained by the origin of a country's legal system. Common Law countries – they argue – are more likely to protect investors, thus facilitating financial development. Indeed, they find a very strong correlation between various measures of a country's financial development in 1990 and whether it has a legal system based on Common Law. One of the appealing features of this interpretation is that it traces financial development back to a factor (type of legal system) that is very stable over time and, as such, immune to suspicions of reverse causation.

One corollary of this theory, however, is that the origin of the legal system should have some explanatory power not only in 1990, but also before that. The lack of correlation between financial development in 1913 and 1990 suggests this may not be true. The more direct test is to regress our four measures of financial development against an indicator if the country has a Common Law system, controlling for the level of economic development. This is what we do in Table 6 (the coefficients of the logarithm of per capita income are not reported). In 1913 Common Law countries are not significantly more developed on any of the four measures of financial development. Common Law countries have higher indicators of financial development only after World War II, when Continental European countries and Japan had indicators far below their 1913 levels. In the 1950s Common Law countries have a higher ratio of stock market capitalization to GDP and more companies listed (though this difference is statistically significant for both measures only in 1980). Turning to the ratio of equity issues to GFCF, Common Law countries seem to issue more securities (especially after WWII), but the difference is statistically significant only in 1950.

In sum, even restricting our attention to our favored measures of financial development, the equity market capitalization to GDP and number of domestic companies listed to million inhabitants, the superiority of Common Law countries seems to emerge only after World War II. If we regress these two measures on an indicator variable for Common Law countries and an interaction between the Common Law indicator and an indicator for the years after World War II, we find that all the effect is concentrated in the later years (regression estimates not reported).

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 will 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.

2.1. The necessity for Government intervention.

The essential ingredients of a developed financial system start with respect, especially on the part of the government, for property rights. Who would keep money for others if he could be robbed at will, or more commonly in underdeveloped economies, if his funds could be requisitioned for an ostensibly higher national purpose by the government? In addition, a financial system requires clear laws, which are swiftly and fairly enforced; Else which lender would give out something so fungible as money if the courts took forever to enforce repayment, or if they were moved by the plight of debtors and refused to enforce repayment? Other essential ingredients of a healthy financial system include an accounting and disclosure system that promotes transparency, and evens the financial terrain for all, and a regulatory infrastructure that protects consumers, promotes competition, and controls egregious risk-taking.

No doubt, private self-regulatory 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 an influential and powerful group that we will call incumbents. What we mean by incumbents are people or firms who are already established in society or the economy, have substantial wealth and reputations, and have access to the levers of power. Rich incumbents are likely to receive proportionately fewer benefits from financial developments. It is useful in what follows to distinguish between incumbent industrialists and incumbent financiers.

An incumbent industrialist facing limited growth opportunities benefits very little from financial development. He (or she) can finance new projects out of retained earnings – as most established firms do -- without accessing external capital markets. Even when his business does not generate sufficient cash to fund desired investments, he can use the collateral from existing projects and his prior reputation to borrow. In addition, in an underdeveloped financial market, there is little transparency. The market knows little about anyone other than the incumbents because only they have a track record. Moreover, with legal enforcement being capricious, only incumbents have the power or contacts to secure the repayment of money invested in the projects of others (see Lamoureaux (1994) for a description of such financing patterns in early U.S. markets). As a result, incumbents not only require less outside funding, they are also natural magnets for it in an underdeveloped financial market.

On the other hand, industrial incumbents are likely to suffer indirectly from financial development. The better disclosure rules and enforcement in a developed financial market reduce the relative importance of the incumbents' collateral and reputation, while permitting newcomers to enter and compete away incumbent rents. For example, before the introduction of the Neuer Markt, a new stock exchange catering to small, high technology companies in Germany, very few companies raised funds by listing on the German Stock Exchanges. The few that did were companies with a long track record (an average age of 50 years according to Kukies (2000)) and an established reputation. The Neuer Markt, with its better disclosure standards, made it possible for young high-tech companies, with little track record or reputation, to raise equity. Kukies finds the average age of firms conducting an Initial Public Offering on the Neuer Markt to be only 12 years, and a majority of them have little or no history of profitability.

Financial development not only levels the playing field between industrial incumbents and entrants, it also hurts traditional ways of doing business. Better public disclosure reduces the informational advantage incumbents typically have because they are better connected. Prompt and unbiased enforcement subjects them to the same rules as everybody else, removing their

ability to influence the executive and the judiciary with appropriate threats and favors. Regulation further limits their ability to take advantage of their controlling position. In sum, the process of financial development brings along with it the disinfectant of transparency, which tends to exterminate cozy practices from the body economic.

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”. Relationship-based systems ensure a return to financiers by granting them some form of monopoly power over the firm being financed. The simplest form of power is when the financier has (implicit or explicit) ownership of the firm. Alternatively, the financier can serve as the sole or main lender, supplier, or customer. As with every monopoly, this requires some barriers to entry. These barriers may be due to regulation, or due to the lack of transparency--or "opacity"--of the system, which substantially raises the costs of entry to new intermediaries. Thus, the incumbent-friendly regulation and opacity that sustain a relationship-based system also provide formidable barriers to entry, ensuring rents to incumbent financiers. Conversely, the better disclosure rules and arm’s length enforcement that are required for a viable financial market eliminate many of these barriers, undermining the incumbent’s advantage.

In sum, a more efficient financial system facilitates entry by newcomers with ideas but little resources. More entry will lead to more competition and thus lower profits for incumbent firms and financial institutions. 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.

There is some evidence consistent with our basic thesis that financial development has a disproportionate effect on entry. Rajan and Zingales (1998a) find that the growth 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. Thus, an effective legal system, which is one component of a developed financial system, disproportionately helps the formation of *de novo* relationships.

2.3 Why Is Financial Repression a Better Way to Protect Incumbents' Rents?

While it is clear why incumbent financiers who want to restrict entry in their industry might oppose the reforms needed for financial markets to take off, it is not completely straightforward why industrial incumbents should also oppose them, because they have another channel to block entry. Could they not restrict entry into their industry directly through some kind of licensing scheme? Why choose a strategy, the repression of financial markets, which could be severely constraining when these incumbents occasionally need external finance? Why not ban entry into industry (or finance) outright? After, all, this ban could be better targeted at rank outsiders, leaving insiders to enjoy the benefits of a more developed system.

On closer scrutiny, however, we see that there are 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 the product whose market is restricted has many close substitutes. This is further complicated by the possibility that entrants innovate around banned items. Each new threatening innovation has to be identified, categorized and then banned. The bureaucracy that implements this "License Raj" will absorb substantial rents of its own, and may compete for power with incumbents. By contrast, 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!

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. For example, the requirements that firms have to be profitable for a number of years before listing can be sold to the public as a way of protecting them from charlatans, rather than as a way of preventing young unprofitable entrants from raising finance. The requirement also obviates the need to improve accounting standards, something that would tend to level the playing field between the established and the fledgling.

Finally, the problem with entry restrictions is that it does not give a clear rule about which of the incumbents will get the right to monopolize new areas of the economy that emerge as a result of innovation or expansion. The fight over the right to enter these areas, especially when outsiders join in, can be messy, costly, and very public. It also will take rents from incumbents and give it to the bureaucracy that administers the system. By contrast, when the financial market is underdeveloped, the set of potential competitors for any new business is well defined and small – restricted to those incumbents who currently have financial surplus. This leads to a “fair” allocation based on who is more profitable, and who has had time to digest the last expansion. Whatever cannot be allocated in this manner can be negotiated in smoke-filled backrooms in a more “civilized” manner by the incumbents who know each other.

This is not to say that direct entry restrictions are not used. Djankov et al. (2000) find that, across countries, an entrepreneur needs to follow an average of 10 bureaucratic procedures, requiring 63 days of traipsing around government offices, with a cost equal to one third of the average per capita income, to start a business. In some countries, however, the procedures are more onerous. In Bolivia the number of procedures is 20, with a cost equal to 2.6 times the

average per capital income. These regulations – the study suggests – do not seem to be used to screen out bad producers or protect the environment, but rather seem primarily for the purpose of extracting rents from entrants. Of course, the bureaucracy may be partially self-interested and partially driven by political forces, but if it is fulfilling the purpose of industrial incumbents then these entry barriers may be alternative instruments to financial repression for limiting entry.

This is, in fact, what we find. If incumbents use multiple instruments, and financial underdevelopment is an entry barrier similar to bureaucratic roadblocks, we should find the two to be strongly correlated. Figure 1 graphs the number of days to start a business in different countries 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. Consistent with our hypothesis, financial underdevelopment may indeed be a form of entry barrier!

2.4. What determines outcomes?

Now that we have specified motives, what determines outcomes? In a number of situations, incumbents may not have the ability, or the incentive, to oppose development, and that is when we will see rapid progress.

The first, of course, is when there is political change. From 1848 onwards into the 1850s and the 1860s, democratic revolutions swept through Europe. These had the effect of diminishing the power of the then establishment, the landed gentry, and giving more political power to would-be industrialists and financiers. Financial reform followed quickly, with the enactment of free incorporation with limited liability (earlier, only the owners of a select few corporations, typically with connections to the Monarchy, had the protection offered by limited liability), and the emergence of stock exchanges. Many new firms were formed, and new financial institutions like the Credit Mobilere in France sprang up to take on the establishment and provide credit to the upstarts.

Illustrating the importance of political change, Haber (1989) documents how the Brazilian Revolution in the last decade of the nineteenth century led to the development of financial markets, and large scale entry. By contrast, Porfirio Diaz, the Mexican dictator at that time, was much more a prisoner of incumbent interests. Mexico's financial markets remained underdeveloped during his reign. In a detailed case study of the real effects of finance on textile industry in both countries, Haber shows that Brazil's textile industry grew faster and was less concentrated, while Mexico's, started out with more advantages but lagged behind.

Industrial incumbents will also benefit from financial development when their investment opportunities are high relative to their ability to finance them. A sudden expansion in required scale, perhaps because of an opening of new markets, or because of technological change, increases their demand for financing. The increased scale may also serve as a natural barrier to new entrants, reducing the need for financial underdevelopment as an entry barrier. Alternatively, a sustained period of poor economic conditions may deplete the reserves of incumbents, necessitating the need for external finance, and allowing them to be more amenable to financial development when the economy turns up.

2.5. Financial Development and Openness.

One such period when opportunities expand disproportionately compared to available resources is when an economy opens up to foreign trade. It is not surprising that the periods of expansion in world trade – the latter halves of both the nineteenth and twentieth centuries – have been, broadly speaking, associated with increasing financial development. But we believe that openness promotes financial development, not just because it expands opportunities, but because it increases competition.

Periods of increasing openness have typically been ones where countries have opened their markets on a quid-pro-quo basis. While foreign markets bring opportunity, openness also brings foreign competitors to domestic markets. Foreigners may be less amenable to entering into cozy domestic arrangements, cemented through traditional and familial ties. As these practices

are forced to change, incumbents no longer need to protect them through restrictions on domestic entry. Moreover, foreign entry drives down monopoly rents giving domestic incumbents less of an incentive to oppose domestic entrants. In a similar vein, a domestic producer competing effectively in a large world market is unlikely to worry about a domestic entrant, who cannot have much effect on world prices. Finally, foreigners may have added strength as a result of support from sophisticated financial institutions and markets in their own countries, putting pressure on domestic incumbents to match them by allowing the domestic sector to develop.²

The salubrious effect of product market competition from foreigners on domestic financial development is especially enhanced when it is accompanied by the free flow of capital across borders. The opening of international capital markets allows the largest and healthiest firms to tap foreign markets for funds. This will introduce competition in the richest segment of the market, where domestic financial firms were previously earning their rents. Once they lose these rents, domestic financial institutions also lose the main reason to oppose financial development. In fact, when forced to compete in the international marketplace they often become the strongest promoters of financial development at the political level.

Free capital mobility even turns individual investors into a force for financial development. Once offered the choice, investors in a country that is financially repressed will rush to move their funds to more developed markets, where they can be better diversified and earn returns that are not diminished by transactions costs. The loss of a captive source of funds will further push domestic financial institutions to improve their returns to compete with foreign investment opportunities, again strengthening the push towards financial development.

A final source of pressure for financial development comes from the foreigners themselves. Since they are not part of the domestic social and political networks, they prefer

² We have not considered the government as an interest group in its own right. But it is one, and it has the incentive to support financial development when it sees, for example, that doing so will alleviate its budget constraint. Thus the government may support opening up if it finds that it can borrow resources from international markets, i.e., when the world economy is healthy.

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. Thus foreigners are a force for financial development, because they add a powerful established voice to the weaker voice of would-be entrepreneurs when the economy opens up.

In sum, exposure to foreign competition, both on the product market side and on the capital market side, undermines the coalition of powerful interests against financial development.

3. A Test of the Political Theory of Financial Development.

It is hard to test directly the claim that the absence of financial development, in countries that seem to have the capability of creating the necessary institutions, is essentially caused by political opposition. Direct measures of the political power of interest groups, and their ability to influence outcomes are controversial at best. Our theory, however, does lead to some indirect tests.

Whatever the configuration of domestic political power, both the incentive of domestic incumbents, and their ability, to hold back domestic financial development is likely to be the least when the country's product and financial markets are open. The testable hypothesis is that for any given level of demand for financing, a country's domestic financial development should be higher if it is open to product and capital flows. In other words, we use changes in openness over time, and across countries, as an instrument for changes in the degree of incumbent opposition to financial development, and thus tease out the effects of politics on development, over and above the effects of demand.

3.1. Preliminary concerns.

There are three immediate issues to deal with before we proceed to tests. First, what is the relevant measure of financial development from the perspective of our theory? Second, could there be more mechanical channels for the link between openness and financial development? Third, is openness not endogenous?

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)).

We will use the ratio of the sum of exports and imports of goods to GDP as our measure of openness (we will shortly explain why we do not use capital flows). We will need a proxy for the demand for financing. Bairoch (1982) calculates 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. 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. We will use per capita GDP when Bairoch's numbers are not available.

Problems of Reverse Causality.

We must also be cautious about the problem of reverse causality. Foreigners may choose to invest in a country, or raise financing from it, when its financial infrastructure is highly developed. This is why we cannot use cross-border capital flows as a measure of openness because it may be directly connected with financial development. In practice, there were few impediments to cross-border capital flows before 1929, and there are few today. On the other hand, cross-border flows were heavily restricted in the 1930s through the period the Bretton Woods agreement held sway (till the mid 1970s). The liberalization of cross-border flows started

soon after and continued through the 1980s. Therefore, our hypothesis has the strongest likelihood of holding in both the early and late part of the 20th century.

Another potential problem is that trade in goods may generate transactions on the capital market. In the early part of this century, other countries financed their imports of goods from England by raising money in London. Therefore, there may be a mechanical link between the volume of transactions on the international capital market and trade. For this reason, we only use the capitalization of domestic companies or the volume of their securities issues as our measure of financial development. This measure should not be mechanically linked to the volume of trade since it includes only domestic firms.

A less compelling argument is that financial transactions generated by trade in goods could spur domestic financial development (at the very least by increasing liquidity in financial markets). While this may have been important in the past, we are skeptical that it is of immense importance in the modern industrial economy. However, if we find circumstances predicted by the theory where openness to trade is not strongly positively correlated with domestic financial development (for instance, when capital flows are restricted), we will have stronger confidence there is no mechanical correlation.

Problems of Endogeneity

There is a large literature (see, for example, Gourevitch (1986), Rogowski (1989), O'Rourke and Williamson (1999)) where it is suggested 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. Our point is related in that we examine the incentives of incumbents, both in the financial sector and in the industrial sector, to press for financial development. But this literature suggests there may be common factors determining both the degree of openness and the degree of financial development, which is not our emphasis.

For example, if incumbents in the industrial sector are very efficient (perhaps because of an abundance of capital), 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. The concern the literature raises about our test is that trade openness and financial sector development may both be politically determined, but the former need not directly influence the latter.

The correlation stemming from a common causal omitted variable is certainly consistent with our political view of financial development, but we are more interested in the direct effect of openness on financial development, because evidence of such an effect would give greater credence to the details of our theory. One way to partially correct for the omitted variable is to include it -- in this case include a measure of the efficiency of the industrial sector. Bairoch's measure of per capita industrialization is a reasonable proxy. A second method, which we will also follow, is to use an instrument for openness that is correlated with openness but not with financial development.

3.2. Financial development in 1913

We will start by analyzing the effect of openness on financial development in 1913, the earliest date for which we have data for a sizeable number of countries. This is also a time when international trade and capital flows were relatively free.

In Table 7, we test our main proposition that financial development is greater for any given level of the demand for financing in countries that are more open to trade. We use the ratio of stock market capitalization to GDP as our primary indicator of financial development.

We first present summary statistics and pairwise correlations in Table 7 a and b. The ratio of equity market capitalization to GDP is positively correlated with the index for 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 7c, we report the coefficient estimates of a linear regression. In columns (i) to (iv) the dependent variable is ratio of equity market capitalization of domestic companies to GDP

in 1913. When we include only the index of industrialization as an explanatory variable (column (i)), it has a positive and statistically significant coefficient. When we include both the index of industrialization and the interaction between industrialization and openness in column (ii), the coefficient of 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. Interestingly, the estimated direct effect of the index of industrialization falls to less than half its value in the previous column, and is now statistically insignificant.

Since we have so few observations, we plot the data in Figure 2 to show that the results are not driven by outliers. In particular, the reason why the index of industrialization alone does not explain equity market capitalization so well is because some heavily industrialized countries were relatively closed to trade and had a relatively small equity market (e.g., the United States) at this time.

Recall that the endogeneity of openness may be a concern. One way to address this is to find some variable that is correlated with openness, but not with other factors that might drive financial development. One such variable may be the size of the country. Small countries typically have to be more open since it is difficult to manufacture everything internally (see Katzenstein (1985)). So we include the interaction between the index of industrial production and the country's population in 1913 as an instrument. The resulting two stage least squares estimate in column (iii) is about 40% larger in magnitude and still 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 (iv), and the two-stage least squares estimate (using the same instrument as in the previous column) is negative and significant.

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.

Thus, in column (v) the dependent variable is total issues to GDP in 1912.² 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 85 percent of its standard deviation. As Figure 3 suggests, these results are not driven by outliers.

Both the above measures of financial development are very sensitive to fluctuations in stock market valuations. Since security issues tend to be procyclical (Choe et al. (1993)), countries with a booming stock market will score high on both dimensions, even if their equity market is not a very developed source of financing. To alleviate this problem we resort to our third measure of financial development: number of domestic companies listed per million inhabitants. As column (vi) of Table 7 shows, the interaction between industrialization and openness has a positive and statistically significant impact on the number of companies listed. In fact, the relation between these two variables is remarkably strong, as Figure 4 shows.

3.3. Financial Development Over Time

All the above evidence suggests that in 1913, measures of financial development were higher in countries that were more open to trade. Before espousing a causal interpretation of this correlation, however, further tests are warranted. To begin with, does this correlation persist over

time? Does it vary according to the theoretical predictions? Our private-interest group theory of financial development predicts that trade openness should foster financial development especially when capital is also free to move across countries. Do we see evidence of this differential effect during the 20th century, where the first three decades were characterized by high international capital mobility, a level only approached again in the 1990s (see O Rourke and Williamson (1999), p213)? If trade openness affects the political consensus in favor of financial development through the channels we discussed earlier, we expect the correlation to be weaker in the middle part of the century.

To test this, we use the panel we have collected. Since the Bairoch index of per capita industrialization is available until 1980, we pool all our data up to that point in one sample. This amounts to seven cross sections; for the years 1913, 1929, 1938, 1950, 1960, 1970, and 1980. The first two cross sections are from a period of high international capital mobility, while the remaining five are all from a period of low international capital mobility.³ Thus, we separately estimate the slope of the interaction between per capita industrialization and openness in years with low capital mobility. We report the results in Table 8A. The specification is the same as the basic regression in Table 7, with the inclusion of an additional slope term for the years of low capital mobility.

As the first column indicates, the basic effect of trade openness on the ratio of equity market capitalization to GDP is positive and highly statistically significant. Even its magnitude is similar to the one estimated in 1913. The effect of trade openness, however, is significantly lower during the period of low capital mobility (1938-1980).

This result persists, albeit more weakly, if we insert country specific fixed effects (column (ii)). The weaker statistical significance is not surprising in light of the fact all our variables are measured with error. In such cases, fixed effect estimators tend to reduce the signal to noise ratio (Griliches and Hausman,1986). Nevertheless, it is interesting to notice that coefficients are fairly similar in size.

Since a country's degree of openness could be endogenous, we re-estimate the basic regression using instrumental variables (column (iii)). As an instrument for openness, we use the constructed trade shares computed by Frankel and Romer (1999). Frankel and Romer 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. The constructed trade share is a good exogenous instrument for trade, perhaps better than population, which is all we had in 1913. 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.⁴ When we use this instrument, the estimated coefficients increase slightly in magnitude and remain statistically significant at the 1% level. The effect of trade on financial development in periods of low capital mobility does not seem to be positive, unlike its effect in periods of high capital mobility.

Finally, to check that this result is robust to the particular measure of financial development used, in column (iv) we re-estimate the basic regression using the ratio of number of domestic firms listed to million inhabitants. Here too, the interaction between per capita industrialization and openness is positive and statistically significant at the 1% level. Similar to what we find in the previous columns, the coefficient estimate declines considerably during periods of low capital mobility.

A final task is to show that the strong positive correlation between trade and domestic financial development reasserts itself as capital mobility increases in the last decades of the twentieth century. Unfortunately, we cannot estimate one unified panel because we do not have Bairoch's measure of per capita industrialization over this period. Instead, we will make use of the logarithm of the dollar value of per capita GDP adjusted for difference in the purchasing power parity (as computed by the World Bank). We use this both as a stand-alone explanatory variable and in the interaction with openness.

The timing of the liberalization of cross-border capital flows varies from country to country. 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. We have reasonably comprehensive data only from 1980. For this reason we limit ourselves to two cross-sections: one using data at the beginning of the period 1980-82, a period when cross-border capital flows were just beginning to take off, and another at the end of the period (1996-98), which we consider a period of higher capital mobility. The greater availability of data (though only for capitalization) allows us to expand the sample. We impose the constraint that we have to have data on the country in both periods (after all, we are interested in the differential effect). The data for market capitalization to GDP in 1980-82 comes from Beck et al. (1999). The 1996-98 data come from the World Development Indicators. We average across three years to smooth the effects of the East Asian financial crisis.

The regression estimates are in Table 8B. The coefficient estimate of the interaction between log per capita GDP and openness is positive and statistically significant at the 5% level (column (i)). While the magnitude of the coefficient is not directly comparable with that in Table 8A because the measure of the demand for finance is different (in one case, Bairoch's index of per capita industrialization, in the other case the logarithm of per capita GDP), their economic magnitude is similar. A one standard deviation increase in the interaction of logarithm of per capita GDP and openness increases the ratio of market capitalization to GDP by 14%, which is equal to 35% of its standard deviation. The coefficient estimate for the period of lower capital mobility is about 32% smaller in magnitude but not statistically significantly smaller.

In column (ii), we report the fixed effect estimates, where we include country indicators. The coefficient of the interaction between log per capita GDP and openness more than doubles in size and remains highly statistically significant. The coefficient of the interaction in the low capital mobility years is smaller, but again this difference is not statistically significant. In column (iii), we report the instrumental variable estimates, where openness is instrumented with the

constructed trade share in Frankel and Romer (1999). The coefficient of the interaction between log per capita GDP and openness remains positive highly statistically significant and its magnitude is between the OLS estimate and the Fixed Effects estimate. Now, the coefficient of the interaction term in periods of low capital mobility is significantly smaller both statistically and in magnitude (55% smaller, difference significant at the 5 percent level). 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.

3.4 Summary of Results

Our theory suggests that openness reduces barriers to entry by reducing incumbents' incentive to press the government to create these barriers. If openness indeed has this effect, we should see that it should not only be negatively correlated with financial underdevelopment (an indirect barrier to entry), but also be negatively correlated with direct bureaucratic barriers to entry. We find the number of procedures it takes to open a business in a country (see Djankov, et al. (2000)) is negatively, and statistically significantly correlated with openness.

Overall, the results seems to support the idea that openness reduces the incumbents' incentives and/or ability to restrict entry, whether entry restrictions are measured as the number of bureaucratic procedures or financial repression. Our point is not that openness is the only determinant of financial development (after all, the demand for finance must play an important role) but that the evidence is fairly suggestive that a political economy explanation for differences in financial development both across countries and over time has merit. Cross-country differences in financial development, over and above the effect of demand, can be attributed to the different power and incentives of incumbents to oppose it. This can also explain the variation over time in financial development. The waning and waxing of financial markets over time can be broadly attributed to the world shutting down (when it went off the Gold Standard) and then re-opening up (after the breakdown of Bretton Woods) to cross-border capital flows. To complete our

analysis, however, we have to explain why the world closed down to capital flows and then opened up again. We will rely here on secondary sources.

4. Political Backlash

In the imperfect real world, where detailed long-term contracts are hard to write and even more difficult to enforce, rents stemming from restrictions on competition can sometimes enhance economic welfare. They facilitate the formation of long-term relationships, which can provide a form of insurance against bad times. By contrast, the increase in competition stemming from a development of markets puts great stress on long-term relationships because opportunities outside the relationship become more attractive. This makes it harder for parties to form relationships within which they can provide each other mutually beneficial insurance. More generally, the rise of competitive arm's length markets destroys traditional social and economic sources of insurance such as bank relationships, employment relationships, relationships within the community, etc. without creating new ones.

The reduction in insurance would not be a concern if similar insurance could be obtained in the marketplace. But relationships have a degree of flexibility and adaptability that arm's length contracts in the marketplace find hard to replicate. Contracts are typically incomplete; they cannot anticipate all eventualities. Moreover, explicit insurance is hard to commit to in many cases because the insured will not take adequate protection. Up to a point, therefore, the better the market works on some dimensions, the less the insurance available against calamitous downturns. In times of economic adversity, the destruction of traditional insurance that occurred imperceptibly in good times is felt. Those faced with destitution have strong incentives to agitate, and the free-rider problem that typically induces public stupor in normal times is overcome. Incumbents, then, find this an opportune moment to ride on the coattails of popular disaffection to press for the closure of external trade and financial flows, and the repression of domestic financial markets. In this section, we argue that such a backlash, as well as the political response to it, can

explain the closure to cross-border financial flows and the repression of financial markets that took place in the middle of the twentieth century.

4.1 The Shocks

Before World War I, there were four reasons why the inability of the market, broadly speaking, to provide insurance did not matter much. First, the economic upheavals that people had to face were less important than the ones that were to come. Second, the liberal belief in the relentless logic of the market made it unwise for governments to interfere in the Darwinian winnowing unleashed by market forces. Intervention, it was thought, would only prolong the pain. Third, 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 successive political and economic shocks, which combined to highlight the demand for insurance and trigger a coordinated response by governments.

The exigencies of war production during World War I had created all manners of hierarchical organizations throughout the economies of Continental Europe. For example, McNeill (1982, p339) describes the control of the war effort in Germany after 1916 thus

“...the generals in charge often became impatient with the financial claims and controversies that continually embroiled and sometimes obstructed prompt and deferential obedience to their demands. As shortages rose, one after another, the generals relied more and more on big labor and big business to remodel the economy according to military needs. Each party got more or less what it wanted: more munitions for the army, more profits for the industrialists, and consolidation of their authority over the work force for union officials.”

This “corporatization” of the economy seemed to work, at least in delivering the necessary arms, and thus provided an attractive template to return to during the years of the Depression.

At the same time the Gold Standard, while formally reintroduced in most countries by 1927, had lost its aura of infallibility.⁵ Its benefits seemed less and less clear. For example, one of its most attractive features for governments had been the ease with which they could finance their deficits by borrowing abroad. In fact, for significant periods in the decades preceding 1913, current account deficits exceeded 10 percent of GDP in Australia, Canada, and Argentina, while in the surplus countries of Britain, France, Germany and Netherlands, net capital outflows touched 9 percent.⁶ At the beginning of the Depression, international lending went virtually to zero and governments saw little direct reward in paying a political price to adhere to the Gold Standard. At the same time, industries that prospered during war-time autarky started to welcome the prospect of a unilateral abandonment of the Gold Standard.

Finally, labor was now organized. 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. With labor's newly found ideas and organization, it was clear that it would no longer continue unquestioningly to absorb the costs of adjustment to macro-economic imbalances.

With the onset of the Great Depression, domestic demands for insurance against severe economic conditions increased, and there was pressure for governments to do something, and not simply wait for the markets to return eventually to equilibrium. As Keynes famously wrote, "In the long run we are all dead".

4.2 The Political Response.

The response of governments to the problems of the depression varied in their details but typically had three common themes. The first was to depart from the Gold Standard. With no external discipline on the extent to which governments could intervene, they were now free finally to remedy what they saw as obvious defects of the market.

The second theme was to curb competition, both from external sources and from internal sources. With export markets no longer proving attractive, domestic elites had no reason to allow foreigners into the domestic market. Thus, imports of goods and people were curbed through prohibitive tariffs and restrictive immigration policies (see O'Rourke and Williamson (1999) for an excellent recent treatment). Domestic competition was also problematic. The head of the National Recovery Administration in the United States, Hugh Johnson, argued that employers were forced into layoffs during the Depression as a result of "the murderous doctrine of savage and wolfish competition". By contrast, he claimed "the very heart of the New Deal is the principle of concerted action in industry and agriculture under government supervision".⁷ The NRA sought to set prices, control overproduction by allocating production quotas, and thus stabilize wages.

The government's desire to curb competition, aided and abetted by incumbents, left no place for new entrants. Since control over financing was the easiest way to establish control over entry, it was natural that political attention would shift towards the financial markets and institutions. Because the financial sector was in disarray, political intervention could be effectively disguised as an attempt to introduce stability into the system.

Clearly, elements in the domestic financial sector would be opposed to controls that would reduce their profitability. If foreign capital had been flowing freely, the possibility of seeing business go to foreign financial institutions or foreign markets would have made the domestic financial sector extremely reluctant to accept constraints on its activities. Since cross border flows had virtually stopped, this was not a concern. Moreover, government controls brought with them the prospect of government enforced cartels, which could enhance rather than reduce profitability. With little prospect of foreign competition in the financial sector, and with financial markets moribund, domestic financial institutions were willing to accept curbs, especially on their market oriented activities, if other activities were consequently rendered more profitable.

If prices were no longer set in a competitive market, something had to take the place of the market in channeling resources. The command and control structure, only recently disbanded after the war, provided an attractive alternative to the politically unattractive prescription of classical economists to leave well alone and allow the market to find its own equilibrium. So the third common theme was a return to the corporatist hierarchical management of the economy, which had been “first explored during World War 1 [and] became unmistakable in many countries by the mid 1930s.”⁸ In the United States, the model for the NRA was the War Industries Board of 1917-18.⁹ While the NRA was declared unconstitutional by Supreme Court in 1935, in other countries hierarchical control of industry became firmly entrenched, especially Germany, Italy, and Japan. We illustrate all this with two examples, Italy and Japan.

4.2.1. Bureaucrats in Business: The Case of Italy.

One of the most significant aspects of government intervention was to bail out failing industrial firms and banks so as to protect jobs. This was a form of ex post insurance that prevented the financial market from winnowing out losers. The 1931 Italian bank-bailout, which led to the creation of the *Istituto per la Ricostruzione Industriale*, also known as IRI, was effectively one of the largest nationalizations in non-socialist economies.

The Italian economy was already very weak before the crash of 1929. The 1926 decision by Mussolini to revalue the lira necessitated a reduction in money supply and credit. Not only did industrial activity slow down because of the credit restrictions imposed by the Bank of Italy, bank balance sheets also became shaky as banks were forced to underwrite large equity issues for their client firms, as they attempted to bypass credit restrictions and obtain funding. For instance, the securities holdings of Comit, one of the largest banks, doubled between 1925 to 1929.¹⁰ When the 1929 stock market crisis hit and firms went to their main banks for credit, they found that these were already overextended. Some major industrial firms, such as Ansaldo, Ilva, and Terni, who were denied funding, became insolvent, making the two largest banks of the country (Comit and Credito Italiano) insolvent as well. The subsequent bailout cost the Italian Government 16 billion

liras, equal to 10% of the GDP.¹¹ As a result, the government took control of the two banks and other industrial firms representing 21% of the capital of all Italian corporations.¹²

The government may have been reluctant to intervene initially. Revealingly, the first head of the IRI, the holding company that held many of the firms the state took over, was not a member of the ruling Fascist party, but Enrico Beneduce, a former Member of Parliament of the Liberal Democratic Party.¹³ But intervention is addictive. The IRI, from being a temporary company holding the distressed assets taken over by the government, became a permanent organization in 1937.

A vibrant financial market tends to highlight economic mistakes, pushing down the price of securities of firms that are doing badly. The economic cost of intervention is made more visible, and this is politically very inconvenient especially when the initial economically motivated intervention gives way to helping political and personal friends for past and future favors. Hence the government joins industrial and financial incumbents in having a strong motive for suppressing arm's length financial markets. Instead of channeling credit through markets, it makes more sense to channel finance through a pliant, if not nationalized, banking system. Not only can the state control credit but it can also avoid "wasteful" competition. Such intervention was not unique to Italy.

4.2.2. Intervention in the Financial Sector

The intervention in the financial sector typically took two forms. The first was a restructuring of the banking sector in a way that promoted fewer, larger banks, and limited inter-bank competition. This fed into a bank consolidation movement that had started early in the century in many countries. Since better-diversified, more profitable, banks are more stable, it is hard to argue that these moves were not motivated by concerns about stability. But it is as difficult to be a little pregnant as it is to be a little interventionist. For instance, the opening up of the public purse to rescue failed banks sends a signal to healthy banks that poor business

decisions will not be severely penalized. The only way to prevent their taking advantage of these public subsidies is to regulate carefully their private activities (or take them over).

In the absence of external competition, it is all too easy for the government and the bankers to enter into a Faustian pact, with the government restricting entry and inter-bank competition, ostensibly in the interest of the stability of the system, and bankers obeying government diktats about whom to lend to in return for being allowed to be part of the privileged pack. Since incumbents in industry were likely to get the directed loans, they were willing to go along and the outcome in many countries, whether conscious or not, was a banking system that was more conservative in financing newcomers, and more accepting of government direction. Some countries went further. In Italy, for example, banks were restricted to offering short term credit, while long term credit was directed through newly set up government institutions called *Instituti di Credito Speciale*.

A pliant, conservative, banking sector is all for naught if the arm's length stock and bond markets continue to finance entry and compete with the banking system. This is where the second form of intervention took place. In addition to being concerned about the “ruinous” effects of financial competition on the health of the banking system, the government also wanted private investment to flow through the banking sector because these flows could be more easily directed to preferred activities than if they went through the arm's length markets where the government had little control. In a number of countries, measures were put in place restricting the ability of corporations to issue securities in the market, and reducing the attractiveness of certain securities. These ranged from requiring firms to seek government permission for issues (e.g., Italy, Japan) to prohibitions on paying high dividends (e.g., Germany, Japan). Even though banks often had market related activities such as underwriting, they were not averse to the restriction on arm's length financial markets for they recaptured even greater profits in the now-cartelized lending business.

Interestingly, the ideology under which these anti-market forces coalesced differed from country to country. But the basic outcome did not: the working of financial markets was severely impaired by the intervention of the Government, which assumed a greater direct and indirect role in allocating funds to industry. We will now discuss Japan in greater detail as an example of how such policies were approved and implemented.

4.2.3 An example: The Demise of Financial Markets in Japan

Japan, as our data suggest, was making rapid strides to developing strong financial markets before World War I. Until 1918, there were no restrictions on entry into banking, provided minimum capital requirements were met. While there were over one thousand banks when World War I began, by 1920 there were over two thousand banks. 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.¹⁴

The end of the war brought renewed competition in the markets that Japan's exporters had monopolized during the war. Compounding the pressure on profits, the Great Tokyo Earthquake in 1923 caused damage estimated at an incredible 38% of GDP. Many banks had to be bailed out by the government through medium term loans. However, when the loans came due many could not pay, and the loans were extended till 1927. In the Spring of 1927, the Finance Minister, Kataoka, precipitated a further crisis by announcing in the Diet that the Tokyo Watanabe Bank had been closed that day. While in fact the bank had not been closed, and his ostensible intent was to goad the Diet in to increasing relief measures, the outcome was a run on the Tokyo Watanabe Bank and a full-fledged banking crisis. The Bank Act of 1927, enacted in response to the crisis, made clear the preferences of the authorities for a concentrated and stable banking system by requiring banks to reach a minimum capital level of 1 million yen within five years. By 1932, at the end of this five-year period, there were only 538 banks.¹⁵ Throughout the 1930s, bank mergers were promoted by the Ministry of Finance so that by 1945, there were only 65 banks, and the share of Zaibatsu banks in total deposits had increased to 45.7 per cent.¹⁶

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.

While it seems undeniable that the transformation of post World War I competitive Japanese banking into the post World War II concentrated main bank system was orchestrated by the government, the 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.¹⁷ As bond defaults increased, 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.¹⁸ 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.

The equity markets were similarly choked through fiat. The attitude of the government towards shareholders is illustrated by the following statement by a bureaucrat¹⁹:

"The majority of shareholders take profits by selling appreciated stocks, sell in times when the price is expected to fall, and often seek dividend increases without doing anything to deserve them. If these shareholders control the directors of companies, influence strategies, and seize a substantial amount of profits, then the system of joint stock companies has serious flaws."

The Temporary Funds Adjustment Law crimped equity issues in 1937 by mandating that companies seek permission before issuing. The Corporate Profits Distribution and Fund Raising Order required firms to seek government approval for increases in dividends if the level of payout was greater than 10%, thus making equity unattractive. Still later, the Munitions Companies Act brought companies under the control of government bureaucrats, and they were allowed independence from the shareholders so long as they worked in the interests of the nation. Thus new stock issues, which accounted for 60-75 per cent of net industrial funding in 1935 and 1936 fell to 20 percent of funding by 1944-45.

Japan illustrates yet another point. Once a country walls itself off, the outside world has to be very attractive before it opens up again. Entrenched hierarchies have the power to defend themselves. Once the banks had power, they were unlikely to give it up easily. 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. Hoshi and Kashyap (1998) find that the effects of the government enforced bank-firm pairing under the designated bank system towards the end of the war persisted long after World War II. Of the 112 companies in 1974 that they found had descended from wartime munitions companies, the financial institution designated by the government during the war was still the largest lender and one of the top 10 shareholders in 61 of

the firms. They found that 88 of the 112 companies still had close ties to their designated institution over 30 years after the war!

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. It was only in the early 1980s, as Japanese firms decided to borrow abroad rather than depend on their antiquated financial system that Japanese banks had to loosen their stranglehold. The powers of the bond committee were curtailed. The markets had their revenge as the banks paid the price for years of being shielded from competition, made terrible credit decisions and drove Japan into an economic crisis that still persists.²⁰

4.2.4 Why not the United States?

An interesting question is why the backlash was not as severe in the country that was among the most severely hit by the Depression: the United States. We offer three possible reasons.

The first is that workers were not as well organized, and socialist ideas had not permeated as far, perhaps because the United States had not been as deeply involved in World War I. In fact, even in the late 1920s, the trade union leader, Samuel Gompers, railed against unemployment insurance as a form of socialism.

Perhaps more important is the fact that institutional checks and balances prevented quick radical change. Roosevelt genuinely felt that the way to address the desire of the people for insurance was through government intervention. Quoting from a progressive statesman, Elihu Root, he said in a fireside chat in September 1934²¹,

“The tremendous power of organization has combined great aggregations of capital in enormous industrial establishments...so great in the mass that each individual concerned in them is helpless by himself...The old reliance upon the free action of individual wills appears quite inadequate...The intervention of organized control we call government seems necessary.”

While Congress was amenable to Roosevelt's programs initially, his primary vehicle of intervention, the National Recovery Administration, was declared unconstitutional by the Supreme Court.²² Faced with repeated challenges to his programs in the Supreme Court, Roosevelt tried to pack the Court by proposing to add more judges that he would appoint, a bold move that generated opposition even within his own party. In an interesting twist, the Supreme Court suddenly dropped all opposition to Roosevelt's New Deal legislation, and the threat to pack it became a dead letter. But as historian David Kennedy points out, this was a pyrrhic victory. Roosevelt's fight against the Court brought together an opposing conservative alliance, which became nervous about growing executive powers, and growing threats to property. This coalition ensured that Congress, rather than the now pliant Supreme Court, held up much of the pending New Deal legislation.²³

Checks and balances alone could have not stopped the anti-market legislation indefinitely, but they served to delay it until the onset of the Second World War and the subsequent return to full employment. With insurance no longer being an important popular concern, anti-market legislation did not have popular support and was dropped.

The third possible reason is that the banking industry at the beginning of the Great Depression did not speak with one voice. Because of a strong ideological antipathy to concentration of power, whether it be in big finance (see Hammond (1957), Roe (1994)), big business (the anti-trust movement), or big government, the Great Depression hit the United States when it had an extremely fragmented banking sector. This fragmentation impeded the formation of a coalition between big firms and big domestic banks or between financial institutions themselves. As a result, in the United States, unlike in other countries, the regulatory reforms of the 1930s were not completely captured by big domestic financial institutions intent on maintaining their power. Instead, the political agenda was dominated by the disciples of Justice Brandeis, who in his fight against the "Money Trusts" believed that "Sunlight is said to be the best of disinfectants; electric light the most efficient policemen."²⁴ As a result, while some

reforms (such as the infamous regulation Q which put in place interest rate ceilings) were anti-competitive, others such as the Securities Act of 1933 tended to improve transparency and disclosure, and thus markets (though see Simon (1989) for a different view).

4.5 Summary

It is useful to summarize our analysis so far. In our view, economic crisis, whatever its origin, led to the retreat of financial markets and the concentration of the banking systems around the world. The channel we have argued for is the following: Crisis created a popular groundswell for insurance. The only way for governments to meet this demand was to escape from international discipline -- the fetters of gold in Eichengreen's felicitous terminology. But the barriers erected to international competition, and the dwindling of international capital flows, made it much easier, and more attractive, to erect barriers to internal competition both in the industrial and financial sectors.

Governments were willing accomplices in this process of concentration because it made it easier to pursue their own agenda, which was now reinforced by popular legitimacy. The most destructive agendas were those of governments with grievances carried over from the last war. These chose to focus resources on rearmament. Neighbors who were not actively militaristic had to respond because they were directly threatened by those who were arming. Regardless of why governments chose to co-ordinate resource allocation, the course of action was clear; since markets dance to the tune of profits and prices, and therefore are not responsive to the dictates of government, the sphere of markets had to be narrowed in favor of the sphere of hierarchies. Financial development suffered.

5. The Aftermath of World War II

Finally, why didn't financial development resume immediately after WWII and why did it resume in the last two decades of the 20th century?

5.1 Bretton Woods and Restrictions on Capital Movements

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 WWI level. This delay, by itself, can explain the slow advancements of financial markets after WWII. But an even more important reason is the restriction on free capital movements imposed by the Bretton Woods agreement.

The Bretton Woods agreement in 1944 advocated movement towards free trade in goods, but severely restricted international capital flows. 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 capital controls and the second class status accorded to finance in the post-war economic order.

If openness to trade is, by itself, insufficient to force financial development, then the restrictions on capital movements after WWII can explain why financial development did not take off after WWII, even though trade expanded. It can also explain why trade openness does not have power in explaining financial development in the 1938-1980 period (see section 3.3), while it has substantial power in 1913 and in 1996-98, both periods when international capital flows were relatively unrestricted.

5.2 The End of Capital Controls

The end of capital controls following the break down of the Bretton Woods system (see Eichengreen (1996) for a lucid exposition of the causes) may have been the precipitating factor for financial development across the world. By the end of the 1980s, controls had effectively been removed throughout Western Europe, Scandinavia, and Japan. The competition generated by 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. These privatizations further reduced the need of the Government to intervene in the allocation of savings. We believe that these are the main forces behind the enormous amount of financial development in the 1990s.

In particular, we believe the formation of the European Monetary Union has opened up domestic financial systems to immense competition and has been instrumental in the creation of new financial markets in Continental Europe. As Kukies (2000) points out, the main distinguishing feature of the successful new markets like the Neuer Markt or Nouveau Marche is not so much that they function under new laws, let alone new legal regimes, but that they have better disclosure requirements. What is also interesting is that these fledglings have been typically supported by the main financial markets and institutions in the country. While we believe that mandating better disclosure is an important aspect of financial development (see La Porta et al (1998), Rajan and Zingales (1998a), Sylla and Smith (1995)), we have to believe that it was not the inherent difficulty of implementing disclosure rules that prevented these exchanges from being born earlier. Instead, we believe it was the support of the patrons that was lacking, and it required the threat of foreign competition and loss of business to change their minds.

In our view, thus, the resurgence of markets in the last two decades of the 20th century is strongly associated with the expansion of international capital movements and the consequent difficulty of financial repression. That the recent resurgence of financial markets is particularly pronounced in Continental Europe should not come as a surprise. Thanks to European monetary integration, this is the region of the world where capital has gained the most mobility, even

though it was here that the post-war consensus emphasizing domestic policy autonomy at the expense of financial development was, hitherto, strongest.

5.3. Relationship to the literature.

A number of recent papers attempt, like us, to explain cross-country patterns in financial development. Verdier (1999) argues that political structure may explain the origins of universal banking in the 19th century, while Fohlin (2000) surveys the existing literature on legal and political forces affecting financial development to derive testable implications. Neither paper emphasizes the reversals, which are our focus.

Our view that the structural impediments to financial development are less important than previously thought is similar to 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 believe there are also constituencies opposed to financial development, so it is important that the constituency demanding reform have sufficient power, or that the constituency opposing it have little incentive to continue doing so.

Roe (1999) suggests that corporations in Continental Europe are 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. There is a commonality between our work and his in that he describes specifically how legislation intended to protect workers against the vagaries of market forces could have curtailed certain forms of financing. There are differences. For example, given the worker empowerment that is in place, he sees little incentive for firms to press for laws protecting minority investors. By contrast, we believe that worker empowerment and the protection of incumbent management is part of a wider pact mediated by governments that comes under pressure as an economy opens up.

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. Thus low investor protection and high employment protection go together, a prediction they verify empirically. Our model differs in the details in that incumbents settle for low financial development (cartelized banks, poorly developed financial infrastructure) if it keeps out competition, and workers may, or may not, be part of this consensus (they were not in Germany and Italy during the Fascist era). Our most important contribution is, however, to also try and understand when this consensus develops and when it breaks down – to attempt to reconcile dynamic change with static differences in financial development.

Our view that incumbents, once in place, have an incentive to seek legislation to protect their rents is similar to Bebchuk and Roe (1999) who argue that corporate governance regimes will be strongly influenced by the initial positions of owners. Our focus, however, is on how the environment can affect the incentives and abilities of incumbents to repress finance.

6. Discussion and Conclusion.

From a policy perspective, there are three important implications of our work. First, it does not seem that legal or cultural impediments to financial development are as serious as one might have concluded from the recent literature. Somewhat facetiously, one does not have to have the good fortune of being colonized by the British to be able to have vibrant financial markets.

However, the main impediment we identify – the political structure within the country – can be as difficult to overcome as more structural impediments. Nevertheless, our second main implication is that to the extent a country can be coaxed to be open, it makes it less easy for domestic incumbents to retard financial development.

We should express a note of caution, however. Even though supra-national organizations like the European Union have had a major role in forcing their members to become open, there are dangers in relying on them. Unlike Olson (1982), we are not confident that what he calls

“jurisdictional integration”, the joining together of two distinct political entities into one, will reduce the power of private interests. Olson suggests that, after integration, each country’s private interests may be too small to influence policy in the merged entity. We are less optimistic. For one, before integration some private interests may be large enough to take the national interest into account in influencing policy. After integration, they may simply refocus on their narrower private interests. Even if they are small enough to not worry about the national interest but large enough to influence policy before integration, they may seek out and merge with similar organized interests from other countries after integration and continue influencing policy in the merged entity. We therefore believe that while “jurisdictional integration” may work initially, eventually special interests will reassert themselves and capture the governance of the merged entity. Better yet to have jurisdictional separation and free competition between the countries. This will result in competition in regulation between countries, which almost invariably reduces the possibility of capture. In other words, openness permits the forces of regulatory and political competition to be felt, while supra-national organizations sometimes close down such competition.

Our work also suggests that closing down the foreign window can be more detrimental than current analyses admit. For example, unilateral capital controls imposed by a country can have long term consequences that far outweigh issues like credibility to foreign investors that have been the focus of recent debates. The cost to Malaysia of the recent 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.

Since openness has so many virtues, we believe that efforts should be made to increase insurance so as to permit greater openness. Our views are different from Rodrik (1997, 1998) who shows that more openness subjects a country to greater risk, and perhaps because he is less convinced about the merits of openness (or perhaps because he is more pessimistic about the

ability of countries to insure), advocates restrictions on trade rather than attempts to provide more insurance.

This leads to our final implication. If free markets have to be supported by minimum levels of insurance and if these are not provided by private sources, the political authority may have to step up to provide it. A complete hands-off attitude, while potentially successful if matters were allowed to run their course in the long run, risks undermining political support for markets and property rights in the short run. History suggests that the loss of political support could have long run consequences if incumbent interests reassert themselves and pass laws against markets. Markets need political support, and this realism should temper policy. This message is important for developing countries, especially in Asia, that are entering the world of volatile cross-border trade and capital flows with very limited social insurance.

In conclusion, we should be cautious against taking for granted that financial development is unidirectional, and that the current generalized consensus in favor of markets is irreversible because of the “obvious” efficiency of markets. We say this not simply because of a belief that history repeats itself, but because there are sound arguments for why in a time of crisis a political backlash against markets may occur, which can have very long-term consequences (also see Roe (1998)). Thus, even in times of prosperity (in fact, precisely in those times) it is wise to generate some forms of safety net. We believe that advances in finance have given us the tools to provide such insurance, and we should focus on implementing these advances. Hopefully, the world will do better in the face of crisis than it did after 1913.

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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 to GDP is the ratio of the 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 the amount 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.

	<i>Deposits to GDP</i>			<i>Stock Market Cap to GDP</i>			<i># companies to pop.</i>			<i>Equity Issues to GFCF</i>		
	Whole	N	Constant	Whole	N	Constant	Whole	N	Constant	Whole	N	Constant
			sample			sample			sample			sample
	Sample	N	N=20	Sample	N	N=10	Sample	N	N=10	Sample	N	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	0.57	11	0.49	33.80	14	27.75	0.35	15	0.34
1938	0.45	21	0.46	0.64	12	0.64	30.78	13	28.55	0.13	12	0.10
1950	0.33	22	0.34	0.31	14	0.28	38.63	16	23.80	0.06	11	0.03
1960	0.31	22	0.33	0.48	18	0.45	31.85	19	22.38	0.07	16	0.05
1970	0.31	22	0.33	0.51	19	0.45	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>								
	1913	1929	1938	1950	1960	1970	1980	1990	1999
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 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>								
	1913	1929	1938	1950	1960	1970	1980	1990	1999
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	1.03	1.92	0.86	1.15	1.99	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>								
	1913	1929	1938	1950	1960	1970	1980	1990	1999
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>								
	1913	1929	1938	1950	1960	1970	1980	1990	1999
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	108.66			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

The relationship between legal origin and financial development over time

The dependent variable in the regression is a measure of financial development (deposits to GDP, equity market cap. to GDP, number of companies per million inhabitants, and equity issues to GFCF) and the explanatory variables are a constant (coefficient not reported), the log of per capita GDP in constant 1990 dollars (Maddison, 1994) (coefficient not reported), and a dummy variable equal to one if the country has a Common Law system (the only coefficient reported). Standard errors are in parentheses. Coefficients in bold are statistically different from zero at the 10% level.

Dependent variable:	Year								
	1913	1929	1938	1950	1960	1970	1980	1990	1999
Deposits	-0.27 (0.12)	0.36 (0.30)	0.07 (0.15)	0.04 (0.08)	-0.09 (0.08)	-0.07 (0.06)	-0.14 (0.07)	-0.16 (0.09)	-0.16 (0.09)
R**2	0.37	0.17	0.27	0.37	0.27	0.40	0.38	0.26	0.32
N	22	20	20	22	22	22	22	21	20
Equity market capitalization to GDP	0.03 (0.17)	0.05 (0.29)	0.41 (0.38)	0.43 (0.09)	0.62 (0.14)	1.15 (0.22)	0.34 (0.12)	0.31 (0.26)	0.53 (0.33)
R**2	0.03	0.10	0.15	0.71	0.62	0.63	0.30	0.13	0.28
N	21	11	12	14	18	19	22	21	22
Number of companies per million	-10.94 (12.76)	-3.14 (17.96)	9.71 (18.26)	25.33 (17.00)	21.99 (13.15)	12.56 (10.96)	23.84 (9.55)	16.47 (7.07)	32.25 (11.49)
R**2	0.27	0.34	0.28	0.26	0.24	0.21	0.33	0.36	0.41
N	21	13	13	16	19	19	21	22	21
Equity issues/GFCF	-0.08 (0.10)	0.18 (0.24)	0.00 (0.16)	0.12 (0.04)	0.03 (0.19)	0.01 (0.05)	0.02 (0.01)	0.01 (0.02)	-0.01 (0.08)
R**2	0.08	0.15	0.31	0.55	0.70	0.12	0.16	0.01	0.01
N	12	15	12	11	16	16	18	20	20

Table 7
Financial Development and Openness in 1913

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).

7 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

7 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)

7 c. Financial Development and Openness in 1913

In the first four columns the dependent variable is equity market capitalization of domestic companies to GDP in 1913. In the fifth column the dependent variable is securities issued to GDP, which is the sum of equity and bond issues by domestic firms in 1912 to GDP. In the last column the dependent variable is the number of listed companies per million of population 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). Coefficient estimates and standard errors in columns (i)-(v) are multiplied by 1000. Standard errors are in parentheses. Columns (iii)-(vi) report instrumental variable estimates, where the instrument for openness is population size. (*) indicates significance at the 10% level, (**) at the 5% level, (***) at the 1% level.

Dependent variable:	Equity Market Capitalization/GDP				Securities issued/GDP	N companies/ million population
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Per Capita Industrialization	4.63** (1.61)	2.42 (1.71)	1.55 (2.05)	8.77** (3.18)	-0.02 (0.11)	-0.252* (0.137)
Interaction of Per Capita Industrialization and Openness		4.76** (2.03)	6.62** (3.08)		0.41** (0.17)	1.013*** (0.206)
Interaction of Per Capita Industrialization and Tariffs				-0.38* (0.22)		
Adjusted RSq	0.30	0.45	0.42	0.18	0.37	0.73
Observations	18	18	18	17	17	18

Table 8

Financial Development and Openness

Panel A: 1913-1980

This panel pools the cross-sections from the following years: 1913, 1929, 1938, 1950, 1960, 1970, and 1980. In the first three columns the dependent variable is the ratio of equity market capitalization to gross domestic product measure in a year. In the last column the dependent variable is the number of listed companies per million of population (measured in the same year). Per Capita Industrialization is the index of industrialization for that country in that year as computed by Bairoch (1982). 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. In column (ii) we insert country fixed effects. In columns (iii) and (iv) the interaction between per capita industrialization and openness is instrumented by the interaction between per capita industrialization and constructed trade share in Frankel and Romer (1999). All regressions include a calendar year dummy. All coefficient estimates and standard errors are multiplied by 1000. 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.

Dependent Variable:	Equity market cap/GDP			N companies/ Population
	OLS (i)	Fixed Effect (ii)	IV (iii)	IV (iv)
Per Capita Industrialization	0.541 (0.787)	0.308 (0.799)	1.301 (1.312)	18.5 (35.0)
Interaction of Per Capita Industrialization and Openness	6.340*** (1.322)	4.467 (3.316)	6.515*** (0.974)	873.4*** (106.8)
Interaction of Per Capita Industrialization and Openness *Indicator if period of Low International Capital Mobility	-7.343*** (1.804)	-4.853* (2.639)	-10.463*** (2.210)	-753.0*** (109.8)
RSq	0.17	0.66	0.06	0.26
Observations	100	100	100	104

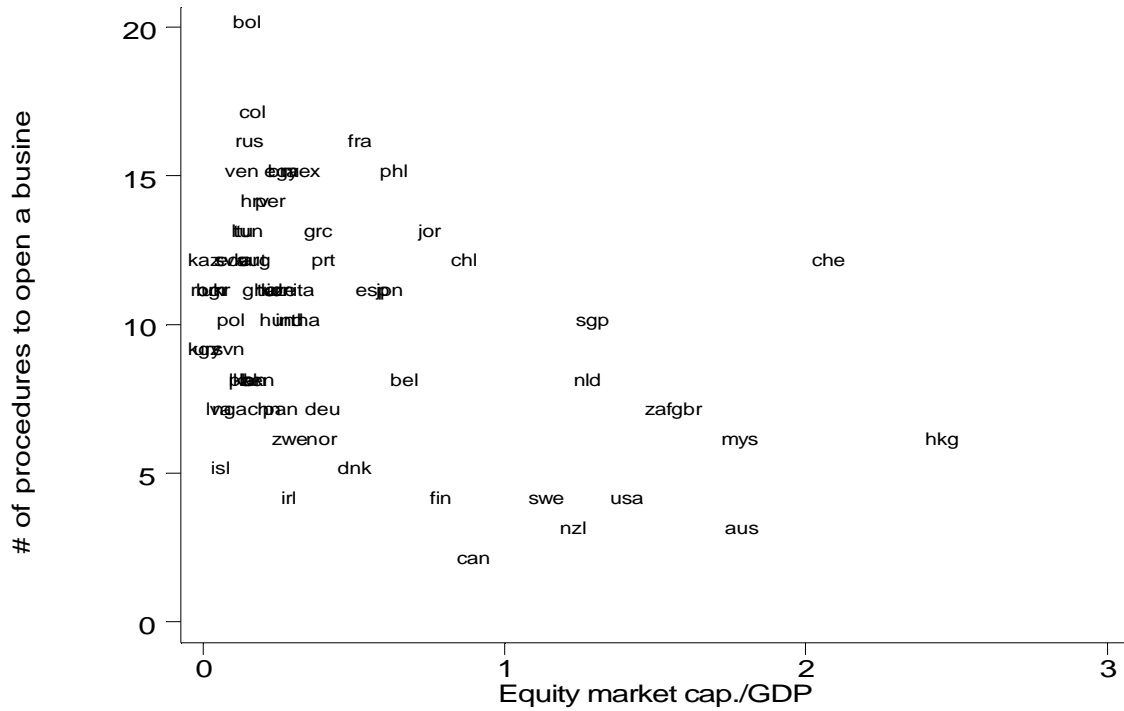
Panel B: 1980-82 and 1996-98

This panel contains data from two cross-sections: Averages over 1980-82 and 1996-98. The dependent variable is the ratio of equity market capitalization to gross domestic product averaged over 1980-82 (from Beck, et al. (1999)), and over 1996-1998 from the World Development Indicators (World Bank). 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). The indicator for Low International Capital Mobility equals 1 in 1980-82 and 0 in 1996-98. In column (ii) we also insert country fixed effects. In column (iii) the interaction between per capita industrialization and openness is instrumented by the interaction between per capita industrialization and constructed trade share in Frankel and Romer (1999). All regressions include a calendar year indicator. 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.

B: 1980 and 1997

Dependent Variable:	Equity market cap/GDP		
Estimation Technique:	OLS	Fixed Effect	IV
	(i)	(ii)	(iii)
Log Per Capita GDP	0.131*** (0.039)	0.112 (0.162)	0.124** (0.051)
Interaction of Log Per Capita GDP and Openness	0.051*** (0.016)	0.083*** (0.019)	0.062** (0.024)
Interaction of Log Per Capita GDP and Openness * Low International Capital Mobility Dummy	-0.016 (0.014)	-0.009 (0.009)	-0.033** (0.014)
RSq	0.56	0.90	0.55
Observations	92	92	92

Figure 1: Regulation of Entry and Financial Development



The number of procedures to start a business in different countries is from Djankov et al. (2000). Financial development is the ratio of equity market capitalization to gross domestic product averaged over 1996-98 (source World Bank).

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

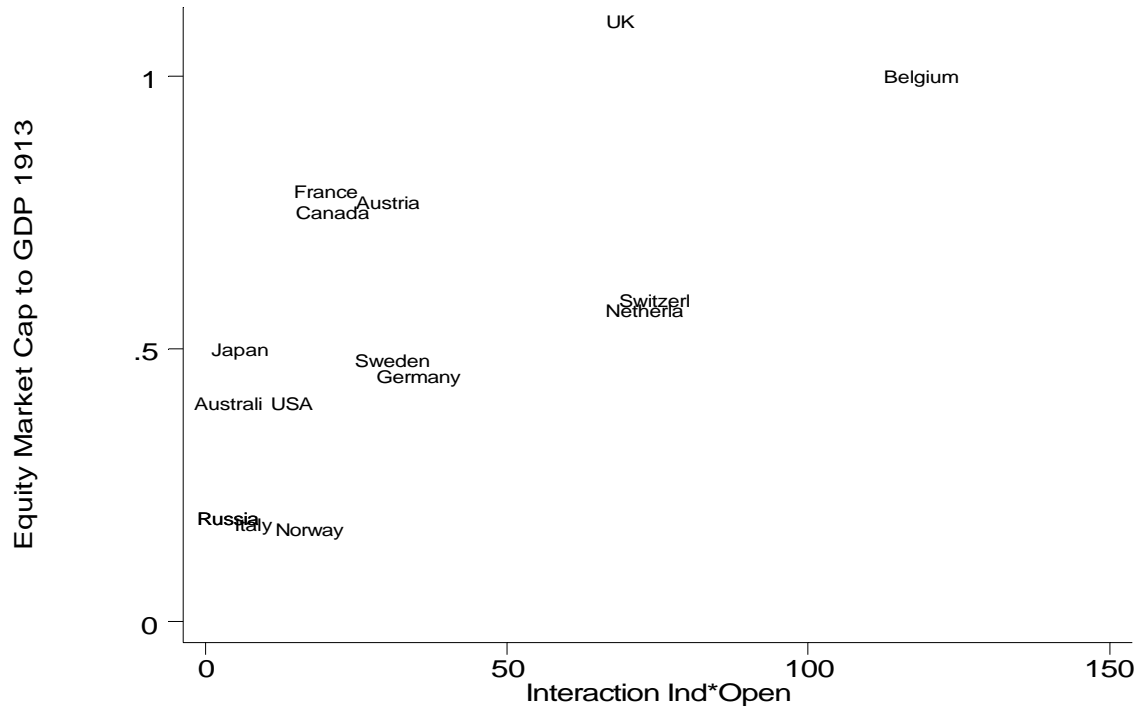


Figure 3: Securities Issues in 1912 vs. Interaction Between Industrialization and Openness

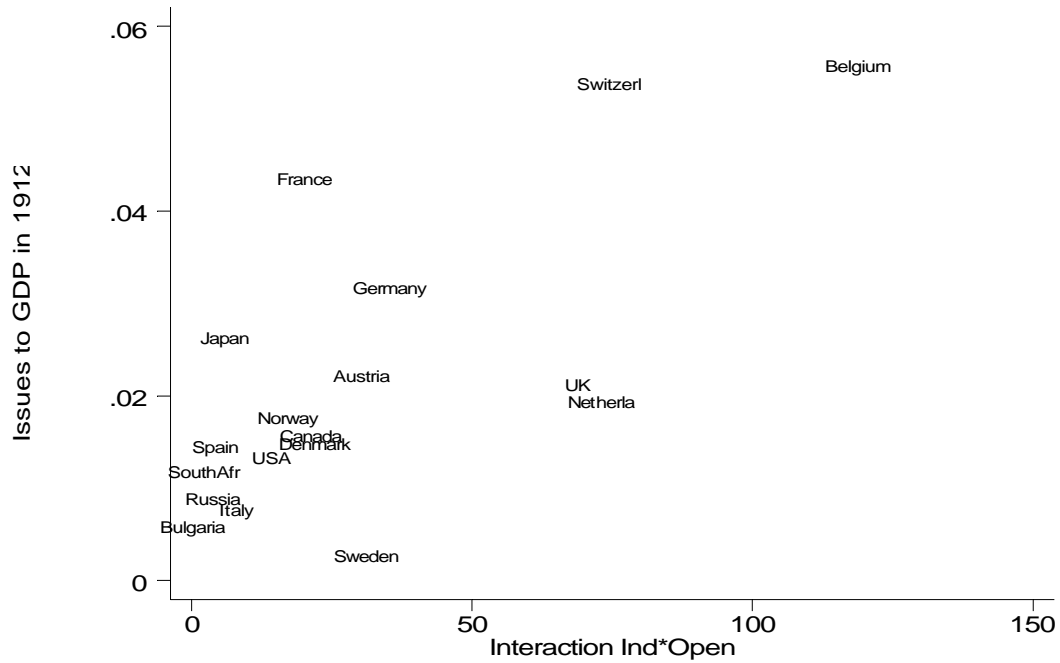
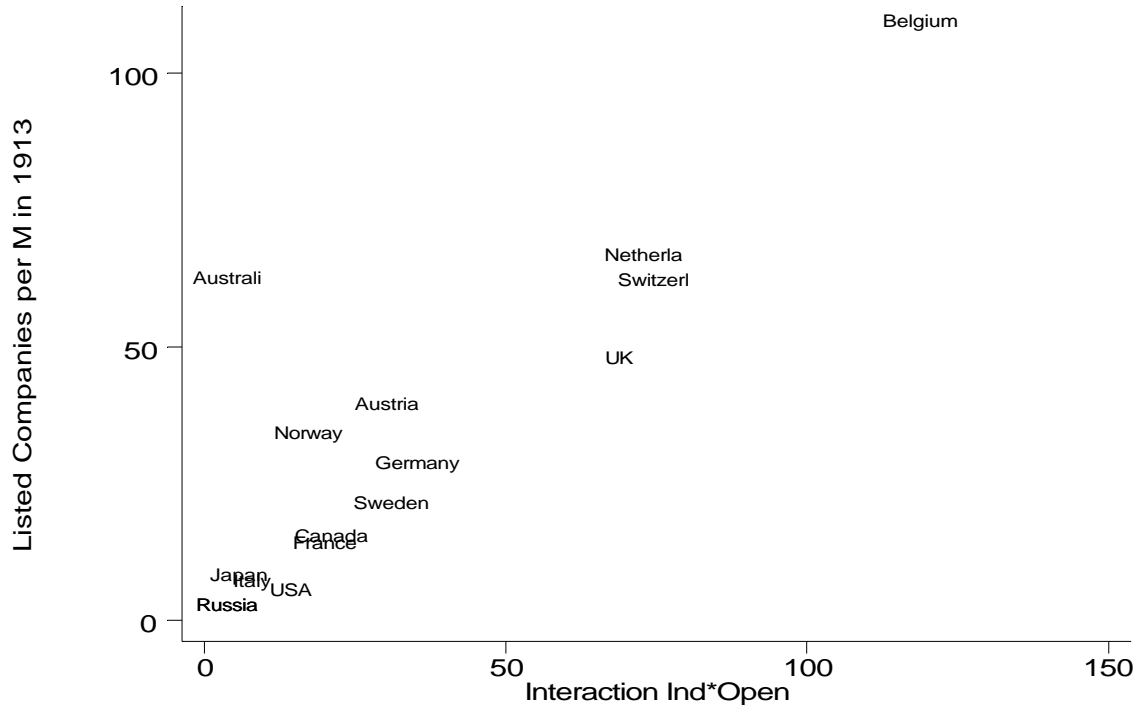


Figure 4: Number of Listed Companies in 1913 vs. Interaction Between Industrialization and Openness



¹ See Engelbourg and Bushkoff (1996) and Chandler (1990).

² As a denominator we use GDP rather than GFCF to maximize the number of observations available.

³ Based on figure 11.2 in O'Rourke and Williamson (1999) with the cut off for a year to be classified as high capital mobility being current account share to GDP of greater than 2 percent for the fourteen countries in their sample.

⁴ 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.

⁵ Eichengreen (1996, p48)

⁶ Bordo, Eichengreen and Irwin (1999, p28).

⁷ Kennedy (1999, p179-180)

⁸ McNeill, p346

⁹ Kennedy (1999, p177)

¹⁰ Aleotti (1990, p. 113).

¹¹ Mazzucchelli in *Rivista Bancaria* (1933), cited in Aleotti (1990) p. 117.

¹² Barca and Trento (1998) p. 188.

¹³ de Cecco, 1998.

¹⁴ Aoki, Patrick and Sheard (1994), and Hoshi and Kashyap (1998).

¹⁵ This paragraph is drawn from Hoshi and Kashyap (1998).

¹⁶ Aoki, Patrick and Sheard (1994)

¹⁷ These figures are from Teranishi (1994)

¹⁸ 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.

¹⁹ Okazi, 1991, p382, cited in Hoshi and Kashyap (1998).

²⁰ Bebchuk and Roe (1999) develop a theory of path dependence of governance to account for phenomena such as these.

²¹ Kennedy (1999, p246)

²² Kennedy (1999, p328)

²³ Kennedy (1999, p341)

²⁴ In Joel Seligman, *The Transformation of Wall Street*, Northeastern University Press, Boston 1995, p.42.