Political Institutions and Financial Development:

Evidence from the Economic Histories of Mexico and the United States

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Abstract:

Why is there considerable variation across countries in levels of financial development? The extant literature points to two explanations: legal origin and political institutions. This paper adjudicates between these two explanations by tracing the process by which the banking systems of the United States and Mexico developed from independence to 1913. This analysis indicates that political institutions—particularly those that created institutionalized competition among political entities—played a determinative role in the size and structure of each country's banking system. It therefore lends considerable support to the political institutions view of financial development, while providing no support for the legal origins view.

JEL Classifications:

G18, G28, N20, N21, N26

There is a broad consensus among economists that there is a strong positive association between the extent of a country's financial development and its rate of economic growth. There is also consensus that causality runs from finance to growth, not vice versa. (King and Levine 1993a, 1993b; Levine 1997, 1998; Levine and Zervos 1998; Levine, Loayza, and Beck 2000; Rajan and Zingales 1998). There is considerably less consensus, however, when it comes to understanding why there is a high degree of variance in financial development across countries. The dominant view is that financial development is largely determined by legal origin: countries that adopted British Common Law provide better protection to investors, and hence have larger financial systems, than countries that adopted the French Civil Code. Politics and political institutions, according to this view, either do not matter (La Porta, López de Silanes, Shleifer, and Vishny 1998) or they matter, but are less important than legal origin (Beck, Demirgüç-Kunt, and Levine, 2003; Levine forthcoming). A dissenting view, represented by Rajan and Zingales (2003), Acemoglu, Johnson, and Robinson (2004), Lamoreaux and Rosenthal (2005), and Acemoglu and Johnson (forthcoming) suggest that legal origin has little effect on financial development, or on economic growth more broadly. Rather, financial development is an outcome of specific laws and regulations, which are the product of politics and political institutions.

These two explanations of cross-country variance in financial development, which as shorthand we call the legal origins view and the political institutions view, share two common characteristics. First, they both stress that legal origins and political institutions were created through processes that occurred over long periods of time. It therefore follows that cross-sectional regression analysis is poorly suited to investigate how these mechanisms actually affect financial development. Second, with some exceptions, both explanations tend to focus

on corporate governance and the growth of securities markets. As Lamoreaux and Rosenthal (2005) point out, however, few firms in developed economies financed themselves through the sale of securities on organized exchanges until the twentieth century: banks were a far more important source of finance. What was true for developed economies in the nineteenth century is true today in less developed economies: few firms raise funds by selling shares on the market. It therefore follows that any discussion of variance in financial development needs to focus at least as much on the development of banking systems as it does on the development of securities markets.

This paper therefore offers a contribution to the debate on the determinants of financial development by tracing the process by which the banking systems of two countries—the United States and Mexico—developed from the time of their independence (1781 and 1821, respectively) to 1913.[1] I focus on these cases for three reasons. First, legal barriers imposed by Spain and Great Britain, respectively, prevented either country from developing a system of chartered banks during the colonial period. Second, policy makers in both countries, for both fiscal and political reasons, attempted to constrain the number of banks—and hence the size of the banking system. Third, owing to their common border, developments in one country were known in the other. One would be very hard pressed to argue that Mexico and the United States followed different regulatory policies because they were not aware of the comparative costs and benefits of those policies.

Regardless of the initial intentions of policy makers, the end results could not have been more different. At the end of the period under study, Mexico had a banking system characterized by the tight regulation of entry, segmented monopolies, high levels of insider lending, and a single bank that acted as the financial agent of the government in exchange for a

series of extremely lucrative privileges. Mexico's banks then shared some of the rents that resulted from regulated entry with governments, both central and state, in the form of low interest loans, as well as with public officials, in the form of board seats and/or loans that did not have to be repaid. These arrangements were able to persist over the long run because Mexico's political institutions allowed a small elite to centralize power.

The United States began with a banking system that resembled Mexico's: both the federal and state governments used their regulatory powers to create segmented monopolies, which then shared rents with those governments—and in some cases with public officials in those governments. The nature of U.S. political institutions, however, were dramatically different from those in Mexico: federalism, separation of powers, party competition, and the suffrage mutually reinforced one another to foment institutionalized political competition. As a result, the initial monopoly arrangements broke down, resulting in a highly unusual banking structure circa 1913: 27,000 banks that were legally enjoined from opening branches. Indeed, the competitive nature of U.S. political institutions even forced the federal government to operate without a central bank from 1836 (when the Second Bank of the United States lost its federal charter) to 1914 (when the Federal Reserve Bank began operations).

This is not to argue, of course, that Mexico and the United States were initially alike in all respects other than their political institutions. The purpose of drawing comparisons between country cases is not only, however, to do controlled experiments. Comparisons can also be drawn in order to trace differences in historical processes. When we trace the process by which segmented monopolies broke down in the United States, and were created in Mexico, it is difficult to escape the conclusion that much of the divergence in outcomes can be traced to differences in political institutions. In the United States, attempts by governments to limit the

supply of banks in the face of increasing demand for banking services tended to be sustainable only for short periods of time. In Mexico, on the other hand, the absence of institutionalized political competition meant that policy makers could constrain the number of banks in the face of increasing demand for banking services. In short, this paper lends support to the political institutions, view about the causes of financial development, while providing little support to the legal origins view.

II. The United States

During the decades after independence, banking in the United States was characterized by segmented monopolies. In exchange for regulations that protected banks from competition, bankers shared rents with state treasuries—and with state legislators as individuals. The central government had a commercial bank as well—the Bank of the United States, modeled on the Bank of England, which had a series of special privileges, including the sole right to operate branches across state lines.

These arrangements constraining the supply of banks, however, were susceptible to change because U.S. political institutions fostered political competition. The primary source of competition was, of course, democratic elections. But four other institutions were crucial to the erosion of limits on the supply of banks: the development of political parties that could articulate coherent policy options and that could force candidates to commit to those policies; the existence of horizontal competition among states for capital and labor; the existence of vertical competition between states and the central government; and the existence of separation of powers within the central government, which gave states the ability to use their congressional delegations to undermine federal initiatives.

Political Institutions, Public Finance, and Bank Chartering

The political institutions of the United States began to take shape even before independence was achieved in 1781. There was never any doubt that the United States would have democratic elections and a federal system of government, because colonial governance had taken place through independent, elected, colonial legislatures. What was up for debate, however, was how strong the central government would be.

The first experiment produced an extremely weak central government under the Articles of Confederation. The new government did what almost all new governments do: it founded a commercial bank—the Bank of North America (BNA)—whose purpose was to serve as the government's fiscal agent. The problem was that the Articles of Confederation were ambiguous as to whether the central government had the authority to charter a bank. The BNA was therefore rechartered by the state of Pennsylvania –and then almost immediately came into conflict with the Pennsylvania State Legislature. The BNA had been founded with the understanding that it would hold a monopoly on the issue of paper currency. It therefore took a strong position regarding the fact that the states were issuing bills of credit, which was paper money by another name. In retaliation, the Pennsylvania State Legislature revoked the BNA's charter in 1785. After a two-year battle, the BNA got its charter restored, but only after accepting a series of restrictions on its activities. (Bodenhorn, 2003: 128).

The extreme federalism of the Articles of Confederation soon proved unworkable because the central government lacked any independent taxation authority. In 1789, the Articles were replaced with the Constitution, which conferred on the central government a great deal more policy and taxation authority. Nevertheless, the American political system was still strongly federal.

The delegation of power to the states meant that they had the right, and the incentive, to charter and regulate banks. Under the Constitution, the states lost both the right to tax imports and exports and the right to issue paper money—both of these powers were vested with the federal government. The Constitution said nothing, however, about states chartering banks of issue, whose banknotes would circulate as currency. The ability to charter banks provided states with a ready source of finance. A bank charter was not just a license to do business, it conferred two very valuable concessions on its holders—the right to issue banknotes (and thereby profit from seignorage), and the right to limited liability. This meant that potential bankers were willing to pay handsomely for a charter, especially if they believed that they were receiving the only one. States, for their part, had every incentive to sell charters so that they could fill their treasuries. (Sylla, Legler, and Wallis, 1987; Wallis, Sylla, and Legler, 1994; Bodenhorn, 2003: 15).

State governments therefore owned sizable amounts of bank stock. Virginia, Massachusetts, and Pennsylvania were early models of exchanging bank charters for bank stock. New states, as they entered the union, copied the chartering model of the original 13 states: all of them were major owners of bank stock. Indeed, the basic pattern of state governments being major bank stockholders held just about everywhere—with the exception of New York, where (as we will discuss below) bankers did not just share rents with the state treasury, they shared them directly with legislators as individuals. (Sylla, Legler, Wallis, 1987; Wallis, Sylla, and Legler, 1994; Bodenhorn, 2003: 15, 84, 234-35; Bodenhorn 2004).

The chartering of banks helped solve the problem of state government finance. Sylla, Legler, and Wallis (1994) have calculated that circa 1810-30, bank dividends and bank taxes often accounted for one-third of total state revenues. Moreover, these estimates do not include

one-time cash payments by banks to state treasuries, the market value of bank stock distributed gratis (or discounted) to states, nor the transfers created by bank financing of public works projects or credit lines provided to states at favorable rates.

The financing of state expenditures via chartering bonuses created a problem of moral hazard: it created incentives for incumbent banks to offer bonuses to state legislatures to deny the charter applications of potential competitors; and it created incentives for state legislatures to accept those bonus payments—unless the newcomer was willing to offer a substantial share of its future stream of rent. (Bodenhorn, 2003: 17, 244).

In some states, problems of moral hazard extended beyond the incentives of the state treasury and affected the behavior of legislators as individuals. The most notorious such case was New York. From the 1810s to the late 1830s, bank chartering in New York was controlled by the so-called Albany Regency—a political machine run by Martin Van Buren. Bank charters were only granted to friends of the Regency, in exchange for which legislators were allowed to subscribe to initial public offerings of bank stock at par, even though the stock traded for a substantial premium. Banks also made direct bribes to legislators. (Gatell, 1966: 26; Bodenhorn, 2003: 134, 186-88; Bodenhorn 2004; Moss and Brennan 2004: 7).

Banking in the Early Republican United States therefore tended to be characterized by segmented monopolies. In fact, the four largest cities in the United States in 1800—Boston, Philadelphia, New York, and Baltimore—had only two state-chartered banks apiece. Smaller markets typically had only one bank, if they had a bank at all. Thus, as Table 1 demonstrates, in 1800 there were only 28 banks (with a total capital of only $17.4 million) in the entire country. These banks, it should be pointed out, did not lend to all comers. Indeed, they discriminated

on the basis of profession, social standing and political party affiliation. (Wallis, Sylla, and Legler, 1994: 135-39; Bodenhorn, 2003: 142; Majewski 2004a).

The federal government pursued a similar strategy to that of the states and chartered its own commercial bank, the Bank of the United States (BUS), in 1791. Unlike the states, the incentive of the federal government was not to produce a source of dividend income (dividends from the BUS were on the order of one percent of total federal revenues). Rather, it was to provide the federal government with a financial agent that could issue banknotes against customs duties and that could hold federal balances. Nonetheless, the BUS was founded and operated in much the same way as the segmented monopolies created by the states: it was a commercial bank fully capable of making loans to private individuals, and 20 percent of its initial capital of $10 million was owned by the federal government (which it paid for with a loan from the bank!). In exchange, the BUS received a set of valuable concessions: the right to hold federal government specie balances; the right to charge the federal government interest on loans from the bank (notes issued by the bank to cover federal expenses); and the sole right to open branches throughout the country. This gave it a tremendous competitive advantage over state chartered banks, which were not allowed to branch across state lines, and which did not have the advantage of having the federal government as their biggest depositor. Needless to say, the existence of the BUS generated considerable resentment from bankers who held state charters, and therefore from state legislatures. Some states even tried (unsuccessfully) to tax the bank notes of the BUS in order to constrain it from competing against their own banks. (Wettereau, 1942; Lane 1997; Sylla 2000).

Political Competition and the Breakdown of Segmented Monopolies

The strategies of the state and federal governments made sense from their points of view. In addition, the Bank of the United States made sense from the point of view of a sound system of public finance. That sound system of public finance was, in turn, an important ingredient in the creation of a government that honored property rights: investors did not fear that the government would have to fund itself via inflation or the seizure of assets. (Sylla 2000; Majewski 2004a). Nevertheless, the system of segmented state monopolies and a single national bank was not an equilibrium that was stable given the political institutions of the United States. As the U.S. economy grew so too did the demand from the public for banking services. That demand was channeled via the country's political institutions—parties, elections, separation of powers, and federalism—and it quickly undermined the initial organization of the banking system at both the national and state levels.

The first source of competition, and the one that has received the most attention from historians, was that between states and the federal government. Bankers with state charters, and hence state legislatures, had opposed the BUS from the time of its initial chartering in 1791. The reason for their opposition was straightforward: branches of the BUS undermined local banking monopolies. (Rockoff 2000). These state bankers formed alliances with the Jeffersonians, who were ideologically opposed to chartered corporations and "aristocratic" bankers. Thus, when the BUS charter expired in 1811, Congress did not renew it. The War of 1812 demonstrated, however, the importance of a bank that could serve as the financial agent of the federal government, and thus a new charter (for a Second Bank of the United States) was granted in 1816.

The Second Bank of the United States was founded on the same principals as the first bank, and it met the same fate. The Second Bank was a private enterprise, but the federal

government owned 20 percent of its $35 million in stock—which it paid for with a $7 million loan from the bank to the government. In addition, the bank paid a charter bonus to the government of $1.5 million. Much as happened with its predecessor, the holders of state banking charters, as well as state governments, resented the fact that the Second Bank held tremendous government balances—balances which state bankers believed should be part of their reserve base. Siding with these opponents were anti-bank Jacksonian populists. Thus, Andrew Jackson successfully vetoed the renewal of the bank's charter, forcing it to close in 1836. (Hammond 1947; Temin 1968; Engerman 1970; Rockoff 2000).

A second, and less obvious, source of competition was that between states for business enterprise and population. State legislatures were therefore under considerable pressure to hold business enterprises and labor in their states, and did so by providing economic opportunities. From the point of view of farmers, artisans, and merchants, one of the most important things that the state legislature could do was to construct canals that would funnel commerce through the state, instead of through rival states. State legislatures tended not, however, to have the ability to fund public works projects out of their meager tax revenues. One response by states was to issue bonds (which caused a rash of state debt defaults), but many states found supplementary funding for public works projects from "bonuses" levied on new bank charters. (Grinath, Wallis, and Sylla, 1997; Sylla 2000; Wallis and Weingast, 2004). Such charter bonuses created, however, an incentive for state legislatures to renege on their arrangements with incumbent banks. Quite a few banks were granted charters that undermined the monopolies of pre-existing banks, in exchange for which they provided financing for canals, ports, and (somewhat later) streetlights and railroads. These schemes were employed across

the country, even extending to Southern states that tended to be highly resistant to undermining their initial monopoly banks. (Bodenhorn, 2003: 86, 148, 152, 228-34).

Competition over capital and labor also drove states to expand the suffrage, and an expanded suffrage undermined the political coalitions that had supported restrictions on the number of bank charters. New states, eager to attract population, eliminated or reduced voting restrictions. As a consequence, the original 13 states were forced to respond by ratcheting their voting restrictions downwards. By the mid-1820s, property qualifications had been dropped or dramatically reduced in virtually all of the original states. (Engerman and Sokoloff, 2001). The extension of the suffrage allowed citizens to bring pressure to bear on legislatures, voting in legislators who were willing to remove constraints on the chartering of banks.

De Facto "Free Banking"

Political competition within and among states undermined the incentives of state legislatures to constrain the numbers of charters they granted. Massachusetts began to increase the number of charters it granted as early as 1812. This required that the state abandon its strategy of holding bank stock as a source of state finance (the value of those shares and their dividend streams would decline as the original banks faced increased competition), and instead levy taxes on bank capital. Pennsylvania followed Massachusetts's lead with the Omnibus Banking Act of 1814. The act, passed over the objections of the state's governor (he had vetoed an earlier bill), ended the cozy Philadelphia-based oligopoly that, until then, had dominated the state's banking industry. Rhode Island also followed Massachusetts' lead: in 1826 it sold its bank shares, increased the numbers of charters it granted and began to

tax bank capital as a replacement for the income it had earned from dividends. It soon became, on a per capita basis, America's most heavily banked state.

A necessary condition for this change in the institutions governing banking was that there be pent up demand within states for bank credit. That is, there had to be constituencies that demanded access to credit, but that been unable to obtain it under the earlier set of institutions. The existence of this demand can be clearly seen by four features of Pennsylvania's 1814 Omnibus Act. The first was that merchants, manufacturers, and farmers had long complained that the lack of capital and specie constrained their enterprises. The second was a peculiar requirement of the new law: banks had to lend at least 20 percent of their capital to those same three groups. The third was that the law spread the new banks throughout the state, with particularly prosperous counties getting multiple banks. The fourth was that the stockholders of these new banks viewed them as being extremely lucrative: demand for shares at the initial subscription prices far outstripped the supply. In fact, a Pennsylvania bank chartered prior to the 1814 Omnibus Act (the Mechanic's Bank in 1809) was viewed by potential shareholders as being so lucrative that they rioted in the streets of Philadelphia when they found that there were not enough shares to go around. (Bodenhorn, 2003: 142-43; Majewski 2004a, 2004b).

Not all states reformed their original laws at the same rate. Indeed, southern states tended to lag behind the rest of the country. Even with this regional variation in the reform of institutions, however, the U.S. banking system grew remarkably quickly. As Table 1 demonstrates, in 1820 there were 327 banks in operation with a total $160 million—roughly three times as many banks and four times as much bank capital as in 1810. By 1835, there were 584 banks, with $308 million in capital—a nearly two-fold increase in just 15 years. At this

point, larger cities often had a dozen or more banks, while small towns had as many as two or three. (Bodenhorn, 2003: 12). To put the size of this banking system into perspective, consider the case of England, which is usually thought of as the world's financial leader in the nineteenth century. In 1825, the United States had roughly 2.4 times the banking capital of England, even though the United States had a smaller population (Rousseau and Sylla 2000).[2]

De Jure Free Banking

By the late 1830s the de facto policies of many states in the Northeast to grant virtually all requests for bank charters became institutionalized in a series of laws known as free banking. Under free banking, bank charters no longer had to be approved by state legislatures. Rather, individuals could open banks provided that they registered with the state comptroller and deposited state or federal bonds with the comptroller as a guarantee of their note issues. Some states also had minimum capital requirements and specified a minimum number of directors. Many required that bank stockholders be doubly liable. These features of free banking laws were meant to encourage prudent behavior by the bankers: they prevented them from over-issuing notes, and gave shareholders strong incentives to monitor the bank directors.

The first state to make the switch (New York in 1838) to de jure free banking was not one that had previously carried out a de facto reform.[3] Indeed, free banking in New York was unambiguously a consequence of political competition undermining the coalition of upstate interests that had supported restrictions on bank charters. New York was among the last of the original 13 states to broaden its electoral laws: it was not until 1826 that it finally shifted to universal manhood suffrage. Once that happened, Whig candidates began to outpoll Democratic Republicans in elections for the state legislature. By 1837 the Whigs had gained a

majority, ending the reign of the Albany Regency. In the wake of the panic of 1837, which highlighted the fragility of unsecured bank notes, the Whig-dominated legislature was able to push through the free banking law. The new law made the establishment of a bank an administrative, rather than a legislative, procedure. Prudent behavior was enforced by requiring all bank notes to be 100 percent backed by high-grade securities. By 1841, New Yorkers had established 43 free banks, with a total capital of $10.7 million. By 1849, the number of free banks mushroomed to 111, (with $16.8 million in paid capital). By 1859 there were 274 free banks with paid in capital of $100.6 million. (Bodenhorn 2003: 186-92; Wallis, Sylla, and Legler, 1994; Moss and Brennan 2004).

Other states soon followed New York's lead: Georgia passed a free banking law in 1839; Alabama passed one in 1849; and then New Jersey, Illinois, Massachusetts, Ohio, Vermont, Connecticut, Indiana, Tennessee, Wisconsin, Florida, Louisiana, Iowa, and Minnesota all followed during the 1850s. Some variant of the New York law was ultimately adopted in 21 states.[4]

Readers may wonder how such a system of free entry could have been compatible with the fiscal needs of state governments. The answer lies in the fact that under free banking all bank notes had to be 100 percent backed by high-grade securities that were deposited with the state comptroller of the currency. The putative reason for this was that it protected note holders (if the bank failed, the comptroller of the currency could sell the bonds and compensate the note holders). States tended, however, to gradually restrict the range of securities that they would accept as backing for bank notes. Many required that notes be backed only by federal bonds or by bonds of the state in which the bank operated. As Moss and Brennan (2004) have

shown, free banks were forced, in essence, to grant a loan to the state government in exchange for the right to operate.

"Free banking" we hasten to point out, did not eliminate supply constraints on the number of banks. The free banking laws of the vast majority of states precluded the chartering of branch banks. Virtually all banks in the nineteenth century United States, except those in some southern states were unit (single branch) banks. This unusual organization of the banking system was the outcome of an unlikely political coalition: populists who feared bank monopolies at the state level allied to bankers who wanted to create local monopolies.

Political Institutions, War Finance, and the National Banking System

From the point of view of the federal government, state-administered bank chartering had a major drawback: it did not provide the federal government with a source of finance. This was not a major problem during the 1840s and 1850s (after the closure of the Second Bank of the United States in 1836), because the federal government had a low demand for debt. To the degree that it ran deficits, it was able to cover these by selling treasury bonds to the public and to European investors. The Civil War, however, dramatically increased the financial needs of the federal government. The response of the federal government was to do what most governments do when they need to finance a war: they turn to the banking system. It therefore passed laws in 1863, 1864, and 1865 that were designed to eliminate the state chartered banks and replace them with a system of federally chartered banks that would finance the government's war effort.

The laws creating national banks were designed so as to centralize bank chartering in the hands of the federal government. The laws did not abrogate the rights of states to charter

banks—that would have violated the Constitution. They also did not abrogate the right of state-chartered banks to issue bank notes, as that too would have been unconstitutional. The laws did, however, impose a ten percent tax on bank notes, and then exempted federally chartered banks from the tax. This created a strong incentive for state banks to obtain new, federal charters. In fact, the expectation of the federal government was that state banks would disappear.

The incentive of the federal government for doing this is not obvious until you consider a principal feature of the new law: federally chartered banks had to invest one-third of their capital in federal government bonds (which were then held as reserves by the comptroller of the currency against note issues). Consistent with the goal of maximizing credit to the federal government, the National Banking Act made the granting of a charter an administrative procedure: as long as minimum capital and reserve requirements were met, the charter was granted. It was free banking on a national scale. (Sylla 1975).

In the short run, the response of private banks was as the federal government expected: as Table 2 demonstrates, the number of state chartered banks declined from 1,579 in 1860 to 349 by 1865. Federal banks grew dramatically: from zero in 1860 to 1,294 in 1865. They then continued growing, reaching 7,518 by 1914, controlling $11.5 billion in assets in that year.

In the long run, however, the political institutions of the United States frustrated the federal government's goal of a single, federally chartered banking system. They also undermined the barriers to entry in banking that had been created by the National Banking System. The federal government had effectively nationalized the right to issue bank notes by creating a 10 percent tax on the notes of state chartered banks in 1865. The 1865 law did not, however, say anything about checks drawn on accounts in state-chartered banks. State banks

therefore aggressively pursued deposit banking, and checks drawn on those accounts became a common means of exchange in business transactions.[5] Moreover, the states rewrote their banking laws, reducing even further the requirements to obtain a charter. Most states did away with the requirement of "double liability" that had been part of most state free banking laws. State charters also tended to require lower minimum capital requirements than National Banks and had less onerous reserve restrictions. Finally, National Banks were not allowed to lend on real estate. State banks faced no such restrictions. (Sylla 1975: 62-73; Davis and Gallman, 2001: 272).

The result, as Table 2 indicates, was that state chartered banks actually outgrew federally chartered banks during the period 1865-1914. In 1865, state banks accounted for only 21 percent of all banks and 13 percent of total bank assets. By 1890 there were more state banks than national banks, and state banks controlled the majority of assets. Circa 1914, 73 percent of all banks were state banks, and state banks controlled 58 percent of assets.

The end result of this competition between states and the federal government was a banking system unlike that of any other country. In the first place, in 1914 there were 27,349 banks in the United States. In the second place, almost none of these banks had branches. Most states had laws that prevented branch banking, even by nationally chartered banks. Even those states that did not explicitly forbid branch banking had no provision in their laws for branches. Hence, with very few exceptions, the vast majority (more than 95 percent) of banks were unit banks. Moreover, the banks that did have branches tended to be small: the average number of branches operated by these banks was less than five. (Calomiris and White 1994; Davis and Gallman 2001: 272). Large numbers of small unit banks created problems of volatility, which were only partially compensated by the fact that the national banks had

correspondent relationships. It also made it difficult for banks to capture scale economies. (Bordo, Rockoff, and Redish 1994).

Unit banking did, however, confer two advantages. First, unit banking meant that all markets were contestable. Second, embedding banks into communities meant that bankers could overcome information asymmetries by tapping into local (and informal) networks for information about potential borrowers. (Lamoreaux 1994). Indeed, as Table 3 indicates, one feature that was particularly striking about this system was how many banks there were per person in the United States, and how geographically dispersed banks were.

In sum, constraints on the supply of banks in the United States tended to be short-lived. This was not because there were not attempts to constrain supply. Rather, it was because barriers to entry tended to be dissipated by the effects of competition—competition not among firms, but among (and within) the different political entities that could charter and regulate firms.

III. MEXICO

The colonial political institutions of Mexico were starkly different from those of the colonial United States. The purpose of Mexico's institutions was to maintain a hierarchical society that was run for the benefit of a small Spanish (and Mexican born, but culturally and ethnically Spanish) elite. Rather than having elected colonial assemblies, Mexico had a viceroy, who ruled through provincial level colonial officials. Until the late eighteenth century, these colonial officials typically married into, and became part of, the local economic elite.

As a consequence, the process of Mexican independence was the polar opposite of the process in the United States. Mexican elites pushed for independence not because they

resented royal authority, but because they were royalists. They declared independence in 1821 because the King of Spain had been forced to accept a liberal constitution by his own army.

Mexico's post-independence elite was not, however, all of one mind regarding the institutions that should govern the new country. Some sought to create a constitutional monarchy, and to maintain all of the other political and economic institutions of the colony, including the centralization of political power and exemptions from trial in civil courts for the army and clergy. Others wanted a federal republic—though one in which suffrage would be restricted on the basis of literacy, in a society where very few were literate.

These two groups, one conservative and centralist, the other liberal and federalist, were unable to craft a set of political institutions through which political conflict could be channeled. Instead, they engaged in a series of coups, counter-coups, and civil wars—often mobilizing the indigenous and mestizo populations in the process. When one or the other emerged victorious they would scuttle earlier constitutions, and redraft a new one.

The result was quite unlike what had occurred after independence in the United States. There, the Republicans and Federalists had each come to believe that they would be better off if they competed with one another through the country's formal political institutions (e.g., elections, congress, state legislatures) rather than going outside them. In order to do that, they each built an additional institution—political parties with coherent ideologies. In contrast, the conservatives and liberals in Mexico came to believe that they be better off if they went outside of the country's formal political institutions, by eliminating the other side. Why they chose this course of action invites speculation, but the social structure of Mexico, as contrasted with the United States, appears to have played a crucial role. At independence, the United States not only had a large and diffuse elite, it is also had a huge class of yeoman farmers and artisans

who were literature and politically aware. Mexico, on the other hand, had a small elite that could mobilize irregular militias of illiterate farmers on the basis of ties of clientage and patronage. These irregular armies faced a central government without the ability to mobilize sufficient financial resources to mount an effective defense. The central government of the United States had faced a somewhat similar problem under the Articles of Confederation, which resulted in the writing of a constitution that gave the central government control over import and export taxes.

Political Institutions, Public Finance, and Banking, 1821-1876

Mexico's first government after independence was a monarchy, whose leader (Agustín Iturbide) soon dissolved congress and declared himself emperor. The dissolution of congress left him with few supporters, and he was successfully overthrown by the liberals, who then instituted a federal republic. It lasted less than a decade, and was replaced by a conservative government headed by a military strongman (Antonio López de Santa Anna), who threw out the constitution and eliminated the federal system. A series of weak governments followed, most of them lasting only a few months.

In the early 1850s the conservatives made another effort to build a centralized state. They re-installed Santa Anna (in all, he served as President on 11 separate occasions between 1832 and 1853), who soon decreed that his rule should last indefinitely. This provided a lightening rod for the liberals to build a coalition to depose him, which resulted in yet another liberal government and yet another federal constitution in 1857. This liberal government was then challenged by the conservatives in a three-year long civil war. The liberals emerged triumphant, but exiled conservatives encouraged France to invade and occupy Mexico in 1862

(the nominal reason was to enforce payment of Mexico's external debt). When France withdrew its support in 1867 from the puppet regime of Archduke Maximilian the liberals retook power. Nevertheless, even this restored liberal regime was torn by internal conflict, and was overthrown in 1876 by Porfirio Díaz, a popular army officer who led a revolt against the government because the president (Sebastian Lerdo de Tejada) was attempting to centralize power and arrange his own re-election, in contravention of the constitution of 1857.

We will return to Díaz at length, but for now, let us consider the impact that this long period of political instability had on the development of the banking system. All sides in Mexico's nineteenth century coups, rebellions, and civil wars preyed on the property rights of their vanquished opponents. Indeed, the logic of the situation virtually required that they do so: they had to reward their allies, and the most readily available means to do so was the wealth of their enemies.

Every government that came to power also inherited a depleted treasury and no ready source of income that could be used to create a durable government. To meet their need for large infusions of cash, Mexico's nineteenth century governments borrowed from the country's private bankers. The problem was that when governments changed, or when governments faced sufficient threat, they reneged on these debts. Private bankers thus demanded interest rates that would compensate them for this risk. They also realized that they needed to collateralize the loans, and so the government mortgaged its meager customs revenues. The problem was, however, that new governments could (and did) abrogate these agreements, which only lowered the mortgage value of the customs in the next round of loans. (Tennenbaum 1986; Walker 1986).

In this environment—in which property rights were insecure and the government did not have a sound system of public finance—the incentives of private bankers to obtain charters were extremely low. Charters confer two advantages on bankers: they allow them to issue bank notes (and profit from seignorage), and they allow them limited liability (which allows them to sell equity to outsider investors). The disadvantage is that a charter makes the property rights of the banker transparent—and hence more subject to expropriation. The severity of this problem is made evident by one of the Mexican government's most desperate moves: it actually expropriated its own industrial development bank (the Banco de Avío) in 1842, closing its doors and ransacking its vaults in order to meet finance current expenditures. (Potash 1983). Not surprisingly, Mexico had no chartered banks at all until 1863—and that bank charter was granted to a foreign bank (the British Bank of London, Mexico, and South America) by the puppet government of a foreign power (the Emperor Maximilian, who had been installed by the French). The British stockholders of this bank (known in Mexico as the Banco de Londres y México—BLM) believed that the French government would not expropriate them.

The Transformation of Mexico's Political Institutions, 1876-1911

The unstable nature of Mexican politics, and the underdeveloped state of Mexico's banking system, changed dramatically during the 35-year dictatorship of Porfirio Díaz (1876-1911). Díaz confronted the same problem as all of the governments before him. He inherited an economy that had scarcely grown over the previous six decades. This meant that he lacked sufficient tax revenues to finance a government capable of unifying the country and putting an end to internecine warfare. Borrowing his way out of this situation was difficult, because

Mexico had a long history of defaulting on its debts to its international and domestic creditors. In fact, Díaz himself had reneged on debts to some of the banks that had been founded in Mexico City during the early years of his rule. (Marichal 2002; Maurer and Gomberg, 2005). Díaz also inherited a constitution, a congress and senate, and a federal system of government. These institutions may not have had much real bite, but Díaz, like his predecessors, knew that they could serve as a lightning rod for the opposition if he attempted to succeed himself in office.

Díaz did, however, have an advantage over earlier Mexican presidents. By the end of the nineteenth century the expansion of the U.S. railroad network and technological advances in trans-oceanic shipping had driven down international transport costs. Mexico could be integrated with the world economy in ways that were previously unimaginable. This meant that there was a tremendous source of rents that Díaz could tap—from foreign direct investment in mining, petroleum, and export agriculture—that could be used to buy off opponents, or build a state strong enough to intimidate them. The problem for Díaz was how to start the virtuous cycle of political stability, state capacity, foreign direct investment, and economic growth.

The solution that Díaz hit upon to jump-start this process had two mutually reinforcing components: undermine the extant political institutions by buying off the legislature and the state governors; and create a banking system that could finance the government. Tying these two components together was the fact that many of the country's most powerful politicians were rewarded with bank charters or seats on the boards of directors of banks. Indeed, recent research by Razo (2003) on the networks of political and economic elites in Porfirian Mexico demonstrates that the boards of directors of the country's largest publicly traded companies—

particularly those that needed federal largess and protection—were populated by a small group of powerful public officials. They went along with Díaz, in short, because they got rich in the process.

Díaz at first moved cautiously as he undermined the independence of congress and the state governors. Rather than succeed himself in office when his first term ran out in 1880, he handpicked a successor (General Manuel Gónzalez). During Gónzalez's term in office (1880-84) Díaz' allies in congress then amended the constitution, removing term limits and lengthening presidential terms from four to six years. This step allowed Díaz to legally return to office in 1884. Díaz then began moved to turn congress into a rubber stamp by sending the state officials who ran elections a list of his "preferred" candidates. Their job was to make sure that those candidates were then "elected." (Razo 2003). In order to pull this off, Díaz had to undermine Mexico's powerful state governors. Díaz again moved slowly: he gradually appointed men loyal to him to state level posts—for example, chief of the federal police garrison—and then promoted them into the governorship when the moment seemed propitious. These handpicked appointees—who were often from outside the state and had few local ties—remained in power for decades, and owed that power to Díaz. By the end of Díaz's rule in 1911 over 70 percent of the state governors were presidential favorites "imported" from outside. (Knight 1986). Moreover, congress had become a rubber stamp, typically voting unanimously in favor of Díaz's proposals. Indeed, it often voted him the blanket right to make policies by decree. (Razo 2003). In short, policy-making authority was centralized in the hands of Díaz and his long-term minister of the treasury, José Yves Limantour (1892-1911).

Regulated Entry, Public Finance, and the Supply of Banks in Porfirian Mexico

The second part of Díaz's strategy was to create a banking system that could finance the government. The problem was that Mexican states had the right to charter banks, and a number of northern Border States that had benefited from a mining boom had begun doing so in the late 1870s. In addition, foreign-born merchants in Mexico City obtained charters from the national government to operate banks in Mexico City. Thus, when Díaz returned to office in 1884, Mexico had eight chartered banks. He therefore moved to monopolize bank chartering as a means to provide itself with a ready source of credit. First, in 1884, he engineered the merger of the two large banks in Mexico City, creating the Banco Nacional de México (Banamex). The intention of the government was to model Banamex on the Bank of England, granting it a monopoly over the issuance of paper money in return for providing a credit line to the federal government and acting as the treasury's financial agent. In addition, the federal government granted Banamex the right to tax farm customs receipts and the right to run the mint. (Maurer and Gomberg, 2005). Second, Díaz simultaneously got congress to pass a commercial code that federalized the chartering of banks. As of 1884, states could no longer grant charters (Haber 1991).

What was crucial, from the point of view of Díaz and Banamex, was that the commercial code of 1884 erected high barriers to entry. Not only had the federal government monopolized the granting of charters, it also required that new banks obtain the permission of Congress and the Secretary of the Treasury in order to obtain a charter. They also had to pay a five percent tax on the issuance of bank notes. Banamex was exempted from the tax. Finally, Banamex was permitted to issue banknotes up to three times the amount of its reserves. Other banks were not afforded this privilege. In short, the federal government was attempting to exchange a set of special privileges for access to credit. (Haber 1991; Maurer 2002).

Mexico's already extant banks, particularly the Banco de Londres y México, realized that the commercial code and Banamex' special privileges put them at a serious disadvantage. They therefore sued in federal court and managed to obtain an injunction against the 1884 Commercial Code on the basis of the fact that the 1857 Constitution had an anti-monopoly clause. The ensuing legal and political battle ground on for 13 years, until Secretary of Finance José Yves Limantour finally hammered out a compromise in 1897. (Maurer 2002: chap 2).

There were four groups that pressured the federal government in the crafting of the 1897 General Credit Institutions and Banking Act: the stockholders of Banamex; the stockholders in the Banco de Londres y México; the stockholders in other, smaller, state-level banks; and the state governors (who wished to award cronies with bank charters). The resulting law could easily be predicted from knowledge of the players in the negotiations: Banamex shared many (although not all) of its special privileges with the Banco de Londres y México; the state banks were given local monopolies; and the state governors were able to choose which business group in the state would receive a bank charter from the federal government. Holding the arrangement together was the fact that the federal government monopolized bank chartering. Legal barriers to entry into banking could not be eroded by competition between states, or between states and the federal government, because states did not have the right to charter banks.[6]

Mexico's 1897 banking law was deliberately crafted to limit the number of banks that could compete in any market. First, the law specified that bank charters (and additions to capital) had to be approved by the Secretary of the Treasury and the Federal Congress. Second, the law created very high minimum capital requirements, initially U.S. $125,000, which was later raised to U.S. $250,000—more than twice the amount for national bank in the

United States. Third, the law established a two percent annual tax on paid-in capital. The first bank granted a charter in each state, however, was granted an exemption from the tax. Fourth, banks with territorial charters were not allowed to branch outside of their concession territories. This prevented banks chartered in one state from challenging the monopoly of a bank in an adjoining state. In short, the only threat to the monopoly of a state bank could come from a branch of Banamex or the Banco de Londres y México.

The existence of these segmented monopolies was made incentive compatible with the interests of Mexico's most important public officials, who received seats on the boards of the major banks (and thus were entitled to director's fees and stock distributions). Indeed, the Díaz government appears not to have chosen the groups that received a bank charter based on their entrepreneurial talents: it chose them based on their political connections. The board of directors of Banamex, for example, was populated by members of Díaz' coterie, including the President of Congress, the Under-Secretary of the Treasury, the Senator for the Federal District, the President's Chief of Staff, and the brother of the Secretary of the Treasury. Banks with limited territorial concessions were also chosen based on their political connections. The only difference was that state governors, rather than cabinet ministers, sat on their boards and received directors' fees, stock distributions, dividends, and in some cases loans made with no expectation of repayment. In some cases, the governor himself received the bank concession. In fact, the system was deliberately conceived to distribute benefits to the state governors, and give them a stake in the maintenance of Porfirio Díaz's rule. (Haber, Razo, and Maurer, 2003: 88-90; Razo, 2003: chaps. 8, 9).

The resulting banking system had one major advantage, and one major disadvantage. The advantage was that the construction of Banamex created, for the first time in Mexican

history, a stable system of public finance. Credit from Banamex meant that the Díaz government did not have to prey upon property rights in order to maintain its fragile hold on power. Instead, it gave Díaz the financial breathing room he needed to slowly redraft the tax codes governing mining, petroleum, and interstate commerce, gradually increasing government tax revenues to the point that he ran balanced budgets. It also allowed Díaz, with the help of Banamex's directors, to renegotiate Mexico's foreign debt—which had been in default for several decades. (Marichal 2002; Maurer and Gomberg 2005). Finally, the creation of Banamex allowed Díaz to subsidize the creation of a national railroad system—which had a huge positive impact on the country's overall growth. (Coatsworth 1981; Kuntz Ficker 1995).

The disadvantage was that was that Mexico had a very concentrated banking system. As Table 4 demonstrates, in 1911, there were only 34 incorporated banks in the entire country. The United States, for comparison purposes, had more than 27,000 banks and trust companies in that year. Moreover, the level of concentration in Mexico's banking system was extremely high: Banamex and Banco de Londres y México accounted for more than half of all assets. (Mexico, Secretaria de Hacienda, 1912: 236, 255). The vast majority of markets had, at most, three banks: a branch of Banamex, a branch of the BLM, and a branch of the bank that held that state's territorial concession. It was not uncommon for there to be only one or two banks in some states.

The Economic Effects of Concentrated Banking

A skeptical reader might argue that a concentrated banking system with branch networks might have been an efficient solution in a country with a low GDP. This hypothesis can be subjected to two kinds of tests against evidence, neither of which supports it.

The first test is an analysis of excess liquidity in the leading banks. Noel Maurer has demonstrated that the two largest banks in the system (Banamex and the Banco de Londres y México, which jointly controlled 60 percent of assets) acted like inefficient monopolists: they held excess liquidity in order to ration credit and drive up their rates of return. As a result, their stockholders earned substantial rents while they incurred very little risk. Indeed, the evidence suggests that all of Mexico's banks earned substantial rents. (Maurer, 2002: chap. 5).

The second test involves an analysis of the effect of Mexico's concentrated banking markets on downstream industries. The Mexican government may have been able to compensate the bankers for expropriation risk by limiting the number of banks in any market, but it did not have the ability to build the broad range of institutions necessary to enforce contract rights at low cost. Mexico's bankers therefore hit upon their own institutional solution to the problem of contract enforcement: they primarily lent to themselves and members of their own families. (Maurer and Haber forthcoming).

Had it been easy to obtain a bank charter, such "insider lending" would not have presented a problem for credit allocation. In the context of a banking system in which the number of banks in any market was limited by the government, however, access to credit worked as a barrier to entry in downstream industries. It is not possible, of course, to observe the universe of potential entrepreneurs who did not found firms for lack of credit. It is possible, however, to determine whether industries that are usually characterized by near-perfect competition were structured that way in Mexico. If we observe that industries with modest scale economies had competitively structured markets, the implication would be that entrepreneurs did not face financial barriers to entry. If we observe, however, that industries with modest scale economies had market structures similar to industries characterized by

increasing returns to scale, then the implication would be that entrepreneurs faced financial barriers to entry.

A series of papers by Haber (1991, 1997, 2003), and Maurer and Haber (forthcoming), which focus on the industrial structure of the Mexican cotton textile industry, addresses this question.[7] These papers specify three counterfactuals. The first compares Mexico to itself over time. Cotton textile manufacturing was an industry characterized by constant returns to scale technologies and the absence of entry barriers. We should expect that as the industry grew, concentration should have fallen. The second compares Mexico to three other countries (the United States, Brazil, and India) that had large textile industries, but which did not have Mexico's banking system. The third, following Sutton (1998), compares the Mexican textile industry's actual market structure to a hypothetical, fully competitive industry, in which the market structure was a function solely of industry size and a stochastic growth process.

The results of these experiments indicate that Mexican cotton textile industry was "too concentrated." First, concentration in Mexico actually increased over time, even though the industry was growing rapidly. (In the United States, Brazil, and India, unlike Mexico, concentration fell or remained stable as the textile industry grew.) Second, the Mexican cotton textile industry was much more concentrated than the American, Brazilian, or Indian cotton textile industry. Third, the Mexican cotton textile industry showed much higher levels of concentration compared to the ratio that would be expected in a perfectly competitive market. The implication is that some entrepreneurs were awash in funds, while others were starved for capital. In short, the evidence supports the view that the organization of Mexico's banking industry came at a cost to the real economy.

CONCLUSIONS AND IMPLICATIONS:

This paper has offered a contribution to the literature on the development of financial systems by tracing the process by which the banking systems of the United States and Mexico grew in the period before 1914. Obviously, sustaining the argument that institutions that encourage political competition translate into economic institutions that encourage competition in banking will require more empirical testing than I have provided here. Additional case studies, which focus on cases intermediate to the United States and Mexico, are required.

Nevertheless, the analysis presented here makes a strong case for the argument that institutions that foment political competition play a decisive role in the development of financial systems. All of the major reforms in banking law, both in Mexico and in the United States, were motivated by governments seeking sources of public finance. The difference in long run outcomes was not caused by the motivation of government, but by the institutions that limited the government. Both governments, at various times, sought to constrain competition in banking. These attempts failed in the United States, because they were inconsistent with the competitive nature of the political system. They succeeded in Mexico because its political institutions never had much real bite, and what bite they had was undermined by Díaz. As a result, the Díaz government was able to structure the regulations governing banking so as to maximize short-run government revenues and permit rent seeking by public officials.

One might be tempted to argue on the basis of these two cases that one particular political institution was crucial, and the others were merely incidental, to the development of the U.S. banking system. While I do not discount the possibility that research into cases

beyond those analyzed here might support that view, the cases analyzed here suggest that political institutions mutually reinforce one another—they do not operate in isolation.

One might be tempted to argue, for example, that electoral suffrage was the crucial institution, because it allowed voters in the United States to remove rent-seeking legislatures that maintained oligopolies. While it is true that voters did remove such legislatures, it is also true that they could not have done so had state legislatures themselves not voted to broaden the suffrage. The reason they did so had everything to do with federalism: states competed with one another for business and population. In addition, federalism worked directly to undermine oligopolized banking systems, because states had strong incentives to increase the numbers of charters they granted: first, in order to fund public works projects necessary to keep business and population in the state; and second in order to keep business and population from migrating to other states where it would be easier to obtain credit.

One might therefore be inclined to argue that federalism was therefore the crucial institution. This view, too, holds some water. Federalism explains why the United States had a banking system composed of tens of thousands of unit banks, instead of a banking system composed of a few large banks that could branch wherever they pleased. At the same time, however, federalism alone cannot explain why the United States had no central bank for most of the nineteenth century. Clearly, federalism played a role, because the congressmen who voted against the renewal of the Bank of the United States did so because they were representing the interests of bankers in their states. But, congressmen could only do this because of another institution: separation of powers in the national government.

An analysis of the Mexican case produces similar conclusions. When Porfirio Díaz came to power he inherited a constitution, a federal system, and a bicameral legislature. What

he did not inherit, however, were two other institutions that could have given federalism and separation of powers real bite: effective electoral suffrage and political parties. Díaz was therefore able to undermine the senate, the chamber of deputies, and the governors. The resulting rent-seeking network could not be challenged—at least not within the existing set of institutions. When it was eventually challenged, in 1911, it was by violent, not institutional, means.

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Footnotes

[1] I break off the analysis in 1913 because by that date the Mexican Revolution definitively shut down the banking system until the mid 1920s (Haber, Razo, and Maurer 2003). When the banking system was resurrected in the 1930s, government owned development banks played a sizable role in private credit markets.

[2] The relatively slower development of the British banking system can be tied to politically determined constraints on the supply of banks. The Bank of England was chartered as a monopoly. Until 1825, other banks were not allowed limited liability. Instead, they were restricted to unlimited liability partnerships of six or fewer people. Rousseau and Sylla 2000.

[3] Michigan was actually the first state to pass a free banking law, in 1837, but revoked the law in 1839. It reinstituted free banking in 1857.

[4] There has been considerable debate in the literature regarding the impact of free banking laws on competition among banks. The weight of the evidence indicates that free banking increased entry and contributed to the rapid growth of the number of banks operating in most markets. See: Rockoff (1974, 1985); Ng (1985); Bodenhorn (1990, 1993); Economopoulos and O'Neil (1995).

[5] Demand deposits were already becoming an important component of bank liabilities before the National Banking Act, as a consequence of the note security requirements of free banking acts. (Moss and Brennan 2004). With the complete demise of state bank note issues after 1865, however, state banks had even stronger incentives to pursue deposit banking.

[6] Had states had the right to charter banks, they would have been tempted to ratchet downwards the minimum requirements for a bank charter as they competed against one another for bank business.

[7] This research focuses on cotton textiles because it was an industry characterized by the lack of barriers to entry created by advertising, branding, or technology. It was also characterized by a small minimum efficient scale of production and capital divisibilities. At the same time, the existence of financial barriers to entry in this industry would be expected to indicate similar barriers in other industries.

Table 1

State Chartered Banks in the United States, 1790-1835

	New England		Mid-Atlantic		South		West		U.S. Total	
Year	Number of Banks	Authorized Capital (Millions)	Number of Banks	Authorized Capital (Millions)	Number of Banks	Authorized Capital (Millions)	Number of Banks	Authorized Capital (Millions)	Number of Banks	Authorized Capital (Millions)
1790	1	0.8	2	2.3					3	3.1
1795	11	4.1	9	9.4					20	13.5
1800	17	5.5	11	11.9					28	17.4
1805	45	13.2	19	21.7	6	3.5	1	0.5	71	38.9
1810	52	15.5	32	29.4	13	9.1	5	2.2	102	56.2
1815	71	24.5	107	67.1	22	17.2	12	6.4	212	115.2
1820	97	28.3	125	74.4	25	28.6	80	28.4	327	159.7
1825	159	42.2	122	71.2	32	33.3	17	9.4	330	156.1
1830	186	48.8	140	73.8	35	37.3	20	10.5	381	170.4
1835	285	71.5	189	90.2	63	111.6	47	35	584	308.3

Source: Sylla 2005.

Table 2

Number of U.S. Commercial Banks, 1860-1932

	State Chartered Banks		National Banks		Total Banks		National Banks as % of Total	
Year	Number	Assets (Millions $)	Number	Assets (Millions $)	Number	Assets (Millions $)	Number	Assets (Millions $)
1860	1,579	423			1,579	423		
1865	349	231	1,294	1,127	1,643	1,358	79%	83%
1870	325	215	1,612	1,566	1,937	1,781	83%	88%
1875	1,260	1,291	2,076	1,913	3,336	3,204	62%	60%
1880	1,279	1,364	2,076	2,036	3,355	3,400	62%	60%
1885	1,661	2,005	2,689	2,422	4,350	4,427	62%	55%
1890	4,717	3,296	3,484	3,062	8,201	6,358	42%	48%
1895	6,103	4,139	3,715	3,471	9,818	7,610	38%	46%
1900	9,322	6,444	3,731	4,944	13,053	11,388	29%	43%
1905	13,103	10,186	5,664	7,325	18,767	17,511	30%	42%
1910	18,013	13,030	7,138	9,892	25,151	22,922	28%	43%
1914	20,346	15,872	7,518	11,477	27,864	27,349	27%	42%

Sources: Lamoreaux 1991: 540; Davis and Gallman 2001: 268; Calomiris and White 1994: 151.
U.S. Federal Reserve 1943: 24.

Table 3

U.S. Commercial Bank Lending Resources Per Capita, By Region in 1909

Region	Number of Banks	Population (millions)	Persons Per Bank
New England	657	6.3	9,527
Eastern[1]	2477	20.1	8,121
Southern	4,961	25.4	5,130
Mid-West	7,059	26.0	3,681
Western	4,276	6.7	1,573
Pacific	1,326	3.7	2,828
United States	20,756	88.3	4,253

1. Mid-Atlantic States from New York to Washington D.C.

Source: Davis and Gallman 2001: 270.

Table 4
The Mexican Banking Industry, 1897-1913

Year	Number of Banks[1]	Total Assets (milions of nominal pesos)	Assets as Percent GDP	Average Equity Ratio[2]	Deposits as % of Assets	Deposits as % of GDP	Bank of Issue Assets as % of Total Assets
1897	10	147	12%	32%	2%	0%	93%
1898	16	175	15%	32%	3%	0%	94%
1899	18	211	18%	31%	2%	0%	90%
1900	20	259	20%	31%	5%	1%	90%
1901	24	264	15%	35%	4%	1%	87%
1902	25	317	19%	31%	5%	1%	88%
1903	31	380	20%	31%	4%	1%	86%
1904	32	435	24%	30%	3%	1%	88%
1905	32	535	24%	28%	6%	2%	87%
1906	32	629	28%	32%	9%	3%	88%
1907	34	724	31%	30%	9%	3%	83%
1908	34	757	31%	31%	9%	3%	81%
1909	32	917	35%	26%	16%	6%	80%
1910	32	1,005	32%	24%	16%	5%	80%
1911	33	1,119		22%	13%		81%
1912	34	1,086		23%	15%		78%
1913	28	1,105		21%	15%		77%

1. Includes banks of issue, mortgage banks, and investment banks (bancos refaccionarios).
1913 figure does not include 6 banks that did not report because of the revolution.
2. Weighted by assets.
3. Weighted by market capitalization.

Source: Number of banks, book equity, assets, and deposits calculated from Secretaria del Estado y del Despacho de Hacienda y Credito Publico y Comercio, Anuario de Estadistica Fiscal, 1912-1913.
GDP from Instituto Nacional de Estadistica Geografia e Informática (1994), p. 401.

Table 5
Industrial Concentration in Cotton Textiles,
Mexico, Brazil, India, and the United States

	Four Firm Ratio					Herfindahl Index		
Circa	Mexico	Mexico Expected	Brazil	India	U.S.A.	Mexico	Brazil	India
1888	18%	19%	37%		8%	0.022	0.058	
1893	29%	15%				0.038		
1895	33%	17%	35%			0.042	0.059	
1896	30%	16%				0.041		
1900	30%	14%		19%	7%	0.038	0.028	0.018
1904	33%	15%	21%			0.042		
1909	38%	15%				0.045		
1912	30%	14%		19%	8%	0.039		0.018
1913	31%	14%	14%			0.041	0.014	

Source: Maurer and Haber , forthcoming.