

Political Institutions and Financial Development: Evidence from New World Economies

Stephen Haber, Stanford University

Abstract: There is a consensus among economists that the development of banking systems plays a causal role in economic growth. What remains unresolved is why some countries have large banking systems that allocate credit broadly, while other countries have small banking systems that allocate credit narrowly. This paper draws on the economic history of the United States, Mexico, and Brazil in order to test three propositions: there are systematic differences in the incentives facing bankers and political entrepreneurs under democracy and authoritarianism; there are systematic differences in the incentives facing bankers when authoritarian governments cannot credibly propose to share rents; and there are systematic differences in the incentives facing bankers and political entrepreneurs in democracy when suffrage is limited, as opposed to when it is not limited.

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This paper is motivated by a puzzle: why do some countries have large banking systems that allocate credit broadly while other countries scarcely have any banks at all. The differences across countries are not trivial: in 2005, private banks made loans to firms and households that equaled 98 percent of Gross Domestic Product (GDP) in Japan, 131 percent in Spain, and 155 percent in the United Kingdom; in that same year private banks allocated credit equal to only four percent of GDP in Sierra Leone, eight percent in Cambodia, and 15 percent in Mexico.¹

The question of whether finance causes growth or is an outcome of growth has now largely been settled: causality runs both ways, but there is strong evidence that the supply of banks and financial markets does not respond automatically to changes in demand for capital. Moreover, there appear to be substantial variations across countries in these supply constraints. Indeed, in some countries limits on the supply of finance constitute binding constraints on growth.²

If finance is a binding constraint on growth, then why don't governments in poor countries simply found lots of banks? One clue comes from a recent study by Barth, Caprio, and Levine that measured the the association between democracy and banking development

¹ World Bank Financial Structure Database.

² Raghuram G. Rajan and Luigi Zingales, "Financial Dependence and Growth." *American Economic Review* 88, no. 3 (1998): 559-586; Ross Levine, "The Legal Environment, Banks, and Long Run Economic Growth." *Journal of Money, Credit, and Banking* 30, Pt. 2 (1998): 596-620; Ross Levine, "Finance and Growth: Theory and Evidence," in Philippe Aghion and Steven Durlauf, eds. *Handbook of Economic Growth* (Amsterdam: Elsevier, 2005).

around the World in 2003.³ They found that democratic political institutions are associated with greater ease in obtaining a bank charter and fewer regulatory restrictions on the operation of banks. The association between democracy and banks holds up even when we move beyond cross-sectional analysis. In table one we estimate a pooled, cross-sectional regression on the relationship between democracy (as measured by the number of constraints on the executive, from the Polity IV dataset) and the ratio of bank credit to GDP (as measured by the World Bank's Financial Structure Database) from 1960 to 2003. Each step increase in constraints on the executive (the scale runs from 1 to 7) is associated with nearly a five percentage point increase in bank credit. If we include country dummies, in order to control for unobserved heterogeneity, the relationship continues to hold: a one step increase in executive constraints is associated with a 1.5 percentage point increase in private credit.

We wonder why there is an association between democracy and larger banking systems? Do democracies put fewer constraints on the supply of banking institutions? If so, what are the mechanisms that cause them to do so? Or is it the case that causality runs the other way—from large banking systems to, to economic growth, to democratic political institutions?

Answering these questions requires that we look at variance over time within countries. The development of states, the development of banking systems, and the creation of institutions that govern both states and banks are not independent phenomena: states need banks in order to finance their operations, and banks need states in order to enforce financial

³ James R. Barth, Gerard Caprio Jr., and Ross Levine, *Rethinking Bank Regulation: Till Angels Govern* (Cambridge, 2006).

contracts and structure credit markets. This means that there is much to be learned by focusing on how states, banks, and the institutions that govern both of them co-evolved over time. It is to say, in short, that providing an answer to the question of why there is wide variance in the size and structure of banking systems across the globe requires social scientists to practice comparative history.

A Simple Framework

As a first step, let us be clear what we mean by the term bank—a business whose purpose is to lend money at interest *that has a charter from the government*. A charter is not just a license to do business: it confers a number of very valuable concessions on its holders. These may include limited liability for shareholders, priority as a creditor in the event of debtor bankruptcy, insurance for depositors, and (until the 20th century) the right to print currency. Not surprisingly, potential bankers will pay handsomely for a charter—especially if they believe that they are receiving the only one.

As a second step, let us imagine a society composed of three groups: a group of potential bankers (who have a comparative advantage in organizing financial markets and institutions—typically a group of financiers who have accumulated wealth as merchants); a group of political entrepreneurs (who have a comparative advantage in organizing collective action and who run the government); and everyone else.

Let us now consider the interests of each of these groups regarding banks. The goal of the potential bankers, first and foremost, is to constrain the number of bank charters and make sure those they receive the charters that are available. This both affords them rates of return above the competitive level in banking, and it allows them to deny credit to potential rivals in other sectors of the economy where they may have interests, such as manufacturing.

The goal of the political entrepreneurs, first and foremost, is political survival—which is to say that they seek to maintain their control of the government. In order to do that, they need to finance the government. This means that they have an obvious incentive to encourage the formation of banks, because those banks represent sources of government income, through taxes, charter fees, or loans.

The members of the rest of the society obviously have all kinds of interests—but those interests are not inconsistent with sets of finance-dependent, material goals, such as buying a farm or house, starting or expanding a small business, or educating their children. All things being equal, it is therefore in their interest to favor competitive banking markets, because competitive markets will produce the greatest availability of credit at the lowest price.

Aligning the incentives of these three groups regarding the banking system is not easily accomplished. There is an obvious mismatch between the interests of the potential bankers and everyone else: the first group favors constraints on competition; the second group favors open competition. There is a less obvious, but no less consequential, problem of interest alignment between the potential bankers and the political entrepreneurs. The bankers need a government strong enough to enforce debt contracts and structure markets; but any government strong enough to do that is also strong enough to seize the wealth of the banks. This problem is particularly difficult to solve because the government does not have to carry out a de jure expropriation in order to appropriate bank wealth: it can borrow from the banks and then default on the loans; it can require banks to hold part of their deposit base in government bonds so as to create a “deposit reserve” and then it can raise the deposit reserve rate to 100 percent; it can print money wildly, setting off an inflation that acts as a tax on the holders of cash; or it can raise taxes to the point that it expropriates all bank profits.

The historical record suggests that there are a limited number of stable solutions to the problem of interest alignment in banking. Each of these solutions implies differences in the rules and regulations that govern the distribution of bank charters, differences in the size and competitive structure of the banking system, and differences in the institutions that limit the authority and discretion of government.

One quite common solution is that the potential bankers so fear government predation that they do not seek bank charters at all: they know that as soon as they deploy their wealth in a bank the government will expropriate it. The result is that there are no privately-owned banks. To the degree that the society has any chartered banks at all, they will be government owned—Iraq under Saddam Hussein being a classic case in point.

A second common solution is a coalition between the potential bankers and the political entrepreneurs who run the government that is based on the generation and sharing of economic rents. Such coalitions form when political entrepreneurs coaxe potential bankers to deploy their wealth by granting them privileges that raise their rates of return high enough to compensate them for the risk of expropriation.⁴ These privileges can include lucrative concessions, such as the right to collect taxes or hold government deposits, but they always come on top of tight restrictions on the number of chartered banks. The problem is that there is nothing that prevents the government from renegeing on the deal once the bankers have deployed their wealth. The bankers must therefore align the incentives of the political entrepreneurs, and they typically do this by sharing some of their rents with them, by putting the political entrepreneurs on their boards of directors, by making them loans with no

⁴ Noel Maurer and Andrei Gombert, “When the State is Untrustworthy: Public Finance and Private Banking in Porfirian Mexico,” *Journal of Economic History* 64 (2004): 1087-1107.

expectation of repayment, or by bribing them. The Suharto regime in Indonesia, in which the dictator's family and friends populated the country's largest corporations, is a classic case in point.⁵ These arrangements, however, come at a cost to everyone else, because their access to credit is constrained. It logically follows that this solution can only be stable if the rest of society lacks mechanisms pressure the political entrepreneurs into changing the rules governing bank chartering.

A third solution is that the bankers tie the hands of the political entrepreneurs by creating sets of institutions that limit their authority and discretion. The exact configuration of these institutions varies across societies, but one feature that they always have is a legislature in which the bankers and other creditors are represented. Putting the bankers in the legislature in sufficient numbers to prevent expropriation does, however, also give them the power to determine the rules about bank chartering—which, as Summerhill has pointed out, means that they will constrain the number of chartered banks.⁶ The acts of parliament that made the Bank of England the only joint stock, limited liability bank in the entire country from 1694 to 1825 is an obvious example of the phenomenon.⁷

⁵ Raymond Fisman, "Estimating the Value of Political Connections," *The American Economic Review* 91, no. 4 (2001): 1095-1102.

⁶ William R. Summerhill, *Inglorious Revolution: Political Institutions, Public Debt, and Financial Underdevelopment in Imperial Brazil* (Cambridge: Cambridge University Press, forthcoming).

⁷ Laurence J. Broz and Richard S. Grossman, "Paying for Privilege: The Political Economy of Bank of England Charters, 1694-1844," *Explorations in Economic History* 41, no. 1 (2004): 48-72; P.L. Cottrell and Lucy Newton, "Banking Liberalization in England and Wales, 1826-1844," in Richard Sylla, Richard Tilly, and Gabriel Tortella eds., *The State, the Financial System, and Economic Modernization* (Cambridge: Cambridge University Press, 1999), 75-117.

What would happen if the legislature was elected by the common people, and they had the ability to organize around the issue of the availability of credit? They would be able to pressure the government into granting more bank charters. This would be incentive compatible with the interest of the political entrepreneurs, because there is no reason why they could not use this more competitive banking system as a source of government finance. It would not, however, be incentive compatible with the the interest of the bankers, because they would only receive a competitive rate of return on capital, and they would not be able to easily block entry into finance-dependent lines of economic activity in which they had interests. The historical record suggests that if this solution is to be stable, there have to be institutions that constrain the common people from voting in a legislature that will expropriate the banks. These other institutions typically include executive vetoes, judicial review, and super-majority voting rules in the legislature. Not surprisingly, this particular solution is found in a very limited number of countries.

What it comes down to is this. Obviously, the growth of banking systems is as much a function of the demand for finance as it constraints on the supply of banks. Thus, to a certain extent, the development of banking systems are endogenous to the development of the rest of the economy. At the same time, however, political institutions can give rise to constraints on the number of banks. Authoritarian governments either produce no banks at all, government-owned banks, or concentrated banking systems that allocate credit narrowly. Which of the three they wind up with depends on the ability of political entrepreneurs and potential bankers to forge a coalition. Democratic governments—which is to say governments in which the

authority and discretion of political entrepreneurs is limited by political institutions, such as elected legislatures, independent judiciaries, and the like—either produce concentrated banking systems that allocate credit narrowly, or large banking systems that allocate credit broadly. Which of the two they wind up with depends on the degree to which non-bankers can align the interest of political entrepreneurs with their own—and that depends crucially on whether they have access to the suffrage.

Let us now move beyond simplified representations of reality to reality itself. In an ideal world we would focus on cases in which banks did not precede the development of the nation state—otherwise, the banks could be driving the political institutions and not the other way around. We would also want cases which differed among one another in terms of their political institutions, and which differed over time within the cases. We therefore focus on three New World economies—Mexico, Brazil, and the United States—in the period from their political independence to the early twentieth century. All three entered their existence as independent countries with no prior history of chartered banking (Brazil is a partial exception, which we will explore below) and all three differed in their political institutions both among one another and among themselves over time.

Mexico

During Mexico's first 55 years as an independent country the political system was so unstable, and the risk of expropriation was so high, that the country's potential bankers chose not to obtain bank charters. When the country finally obtained political stability during the dictatorship of Porfirio Díaz (1877-1911) a coalition between the potential bankers and the Díaz allowed a banking system to develop, but that system provided credit only to the enterprises owned by the bankers and the government. Everyone else was starved for funds.

This narrow banking system that had been founded under Díaz disappeared during the Mexican Revolution (1910-20), when the banks were again subject to expropriation risk. After the revolution was over, a new coalition of political and economic elites re-created an oligopolized banking industry. That banking sector, characterized by low levels of credit extension to consumers and non-elite businesses, has persisted until the present day.

Mexico achieved independence from Spain in 1821, but Mexico's post-independence elite was not 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, engaged in a series of coups, counter-coups, and civil wars from independence to the 1870s. All sides in these conflicts preyed on the property rights of their opponents. Every government that came to power also inherited a depleted treasury and no ready source of income. To meet their need for large infusions of cash, Mexico's nineteenth century governments borrowed from the country's wealthy merchant-financiers. When governments changed, or when governments faced sufficient threat, they reneged on these debts.⁸

⁸ David W. Walker, *Business, Kinship, and Politics: The Martinez del Rio Family in Mexico, 1824-1867* (Austin, TX: University of Texas Press, 1987); Barbara Tennenbaum, *The Politics of Penury: Debt and Taxes in Mexico, 1821-1856* (Albuquerque: University of New Mexico Press, 1986).

Given this environment, the incentives of the country's merchant-financiers to obtain bank charters were extremely low. The severity of this problem is made evident by one of the Mexican government's most desperate moves. Precisely because there was so little bank credit, in 1830 the country's manufacturers pressured the government into founding a government-owned industrial development bank (the Banco de Avío). In 1842, desperate for cash, the government ransacked the vaults of its own bank.⁹ Not surprisingly, Mexico had no private, chartered banks at all until 1863—and that 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 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.¹⁰

⁹Robert Potash, *The Mexican Government and Industrial Development in the Early Republic: The Banco de Avío* (Amherst: University of Massachusetts Press, 1983).

¹⁰ Maurer and Gomberg, "When the State is Untrustworthy"; Carlos Marichal, "The Construction of Credibility: Financial Market Reform and the Renegotiation of Mexico's

Díaz did, however, have an advantage over earlier Mexican presidents. By the end of the nineteenth century the dramatic growth of the U.S. economy meant that Díaz could attract foreign direct investment in mining, petroleum, and export agriculture that would create a tax base. The problem for Díaz was how to start the virtuous cycle of foreign direct investment, state capacity, economic growth, and political stability.

The solution that Díaz hit upon to jump-start this process was to create a banking system that could finance the government.¹¹ He did this by engineering the merger of the two largest banks in Mexico City, establishing a monopoly bank of issue—the Banco Nacional de México (Banamex). The deal was simple: Banamex got a charter from the government that gave it a set of extremely lucrative privileges; and, in return, Banamex extended a credit line to the government. These privileges included the ability to issue banknotes up to three times the amount of its reserves, the right to act as the treasury's fiscal agent, the right to tax farm customs receipts, and the right to run the mint. In addition, the government established a five percent tax on all banknotes, and then exempted Banamex notes from the tax. Díaz simultaneously got congress to pass a commercial code that removed

External Debt in the 1880's," in Jeffrey L. Bortz and Stephen H. Haber eds., *The Mexican Economy, 1870-1930: Essays on the Economic History of Institutions, Revolution, and Growth* (Stanford, CA: Stanford University Press, 2002).

¹¹ Noel Maurer, *The Power and the Money: The Mexican Financial System, 1876-1932* (Stanford, CA: Stanford University Press, 2002); Stephen Haber, Armando Razo, and Noel Maurer, *The Politics of Property Rights: Political Instability, Credible Commitments, and Economic Growth in Mexico, 1876-1929* (Cambridge: Cambridge University Press, 2003).

the authority of state governments to issue bank charters. Any bank that wanted to compete with Banamex had to obtain a charter from Díaz' Secretary of the Treasury.¹²

Mexico's already extant banks, some of which were owned by powerful provincial politicians, realized that the commercial code and Banamex' special privileges put them at a serious disadvantage. They therefore obtained 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 1897.¹³

Under this agreement, 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.

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 (which

¹² Maurer, *The Power and the Money*; Maurer and Gomberg, "When the State is Untrustworthy"; Haber, Razo, and Maurer, *The Politics of Property Rights*.

¹³ Maurer, *The Power and the Money*, chap. 5.

was a rubber stamp for the dictator).¹⁴ Second, the law created very high minimum capital requirements—more than twice the amount for a 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, preventing 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 political elite, who received seats on the boards of the major banks (and thus were entitled to director's fees and stock distributions). 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 similarly populated with powerful politicians, the only difference being that state governors, rather than cabinet ministers, sat on their boards.¹⁵

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, which allowed Díaz the financial breathing room he

¹⁴ Armando Razo, "Social Networks and Credible Commitments in Dictatorships: Political Organization and Economic Growth in Porfirian Mexico, 1876-1991" (PhD. diss., Stanford University, 2003).

¹⁵ Haber, Razo, and Maurer, *The Politics of Property Rights*, 88-90; Razo, "Social Networks and Credible Commitments in Dictatorships," chaps. 8, 9.

needed to slowly redraft tax codes and increase federal 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. Finally, it created in Mexico a banking system that was quite large by the standards of contemporary LDCs: the ratio of bank assets to GDP was .35 at the end of the Díaz period. (See Table 2).¹⁶

The disadvantage was that was that Mexico had a very concentrated banking system. In 1911, there were only 34 incorporated banks in the entire country. Half of all assets were held in just two banks: Banamex and Banco de Londres y México.¹⁷ 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. The high level of concentration of the banking system had a variety of negative effects on the rest of the economy. As Maurer has shown, Banamex and the Banco de Londres y México acted like inefficient monopolists, driving up their rates of return by holding excess liquidity.¹⁸ As Haber, and Maurer and Haber, have shown, the concentrated nature of the banking industry gave rise to concentration in the rest of the economy. Mexico's banks tended only to allocate credit to firms owned by their own board members. The logical implication of a small number of banks and insider lending was that there was a reduced number of firms in finance-dependent, downstream

¹⁶ Noel Maurer and Stephen Haber, "Related Lending and Economic Performance: Evidence from Mexico," *The Journal of Economic History* 67, no. 3 (2007); Maurer, *The Power and the Money*; Marichal, "The Construction of Credibility."

¹⁷ Mexico, Secretaria de Hacienda, *Anuario de Estadística Fiscal, 1911-12* (Mexico City, 1912) 236, 255.

¹⁸ Maurer, *The Power and the Money*.

industries. The phenomenon is shown in the four firm ratio of Mexico's cotton textile industry, as compared to the cotton textile industries of the United States, Brazil, and India. (See Table 3). Work by Haber has shown that this organization of the textile industry slowed Mexican industrial productivity growth as compared to that of Brazil.¹⁹

Díaz' solution to aligning the interests of Mexico's bankers with those of his government fell apart after three decades. Space constraints prevent us from discussing the process by which Díaz fell from power, but suffice to say that the same set of institutions that underpinned growth in banking—an alliance between economic and political elites that came at the expense of everyone else—also existed in other sectors of the economy. As was the case in banking, the resulting growth in those sectors tended to heighten inequality, and produced, in time, organized resistance to the dictatorship. That resistance took up armed force in 1910, forcing Díaz from power in 1911. The departure of Díaz opened a decade-long period of coups, rebellions, and civil wars in which every side preyed on property rights.

Our conceptual framework would predict that the banking system would disappear under these conditions: the political entrepreneurs who struggled for power all had strong incentives to expropriate the banks in order to obtain the resources necessary to defeat their

¹⁹ Stephen Haber, "Industrial Concentration and the Capital Markets: A Comparative Study of Brazil, Mexico, and the United States, 1830-1930," *The Journal of Economic History* 51, no. 3 (1991): 559-80; Stephen Haber, "Financial Markets and Industrial Development: A Comparative Study of Governmental Regulation, Financial Innovation, and Industrial Structure in Brazil and Mexico, 1840-1930," in Stephen Haber, ed., *How Latin America Fell Behind: Essays on the Economic Histories of Brazil and Mexico, 1800-1930* (Stanford, CA: Stanford University Press, 1997), 146-178; Stephen Haber, "Banks, Financial Markets, and Industrial Development: Lessons from the Economic Histories of Brazil and Mexico," in José Antonio González, Vittorio Corbo, Anne O. Krueger, and Aaron Tornell, eds., *Latin American Macroeconomic Reforms: The Second Stage* (Chicago, IL: University of Chicago Press, 2003), 257-292; Noel Maurer and Stephen Haber, "Related Lending and Economic Performance: Evidence from Mexico," *The Journal of Economic History* 67, no. 3 (2007).

enemies and reward their allies. As Table 4 shows, that is exactly what happened. By the mid-point of Mexico's ten-year long conflict, the banking system had become a shell, stripped of all its liquid assets, existing in a moribund state.²⁰

Space constraints prevent us from exploring in detail how Mexico's post-revolutionary political institutions conditioned the development of the banking sector. Suffice to say, however, that the party-based dictatorship that came to rule Mexico until the 2000 elections created a new coalition with Mexico's economic elite. One basic element of that coalition was the creation of a banking system that was remarkably similar to that which had existed under Díaz: the number of banks was limited, bankers tended to make loans only to enterprises that they controlled, and everyone else was starved for credit. These features of the Mexican banking system have been loosened only in recent years, as a result of the country's transition to democracy.²¹

Brazil

Brazil is a prime example of a country in which the lack of constraints on the authority of the political elite—in this case the Portuguese Emperor Dom Joao VI and his court—gave

²⁰ Maurer, *The Power and the Money*; Haber, Razo, and Maurer, *The Politics of Property Rights*.

²¹ Gustavo Del Ángel-Mobarak, "La banca mexicana antes de 1982," in Gustavo del Ángel Mobarak, Carlos Bazdresch Parada, and Francisco Suárez Dávila, eds., *Cuando el estado se hizo banquero: consecuencias de la nacionalización bancaria en México* (Mexico City: Fondo de Cultura Económica, 2005); Stephen Haber, "Mexico's Experiments with Bank Privatization and Liberalization, 1991-2003," *Journal of Banking and Finance* 29, nos. 8-9 (2005): 2325-53; Stephen Haber, "Banking with and Without Deposit Insurance: Mexico's Banking Experiments, 1884-2004," in Asli Demirguc-Kunt, Edward Kane, and Luc Laeven eds., *Deposit Insurance Policy* (Cambridge: MIT Press, 2007).

rise to a banking system in which there was only one chartered bank. Ultimately, the Emperor would expropriate the wealth of that bank. When political reform came, in the form of a constitutional monarchy, Brazil's political and economic elites formed a coalition that allowed the economic elite to block the development of banks that were not under their control. This set of arrangements only came under threat one time, when the monarchy was overthrown in 1889 and the new government allowed virtually unlimited access to bank charters. Nevertheless, within a few years of the creation of the republic, the old set of arrangements was re-created and Brazil went back to a system in which the economic elite were granted lucrative bank charters in exchange for which banks extended credit to both the national and state governments. Indeed, Brazil's version of Banamex—the fourth Banco do Brasil—maintained its position as both the largest commercial bank in the country, and the official bank to the government—all the way until 1967.

Brazil's first bank, the Banco do Brasil, was founded in 1808 by the Emperor Dom Joao VI when he, and his entire court, were transported to Brazil by the British Navy following the invasion of Portugal by Napoleon. From the point of view of Dom Joao, the purpose of the Banco do Brasil was clear: finance the expenses of his government. From the point of view of the wealthy merchant-financiers and landowners that held stock in the bank, the purpose was also clear: to earn a profit by taking advantage of the privileges that were afforded to the bank. These privileges included a monopoly on the issuance of paper money, a monopoly on the export of luxury goods, a monopoly on the handling of government financial operations, the right to have debts to the bank treated as having the same legal

standing as debts owed to the royal treasury, and the right to collect new taxes imposed by the emperor—and then hold those taxes as interest free deposits for a period of ten years.²²

These goals were not, however, fully incentive compatible, because there was nothing to stop the emperor from renegeing on his promises and expropriating the bank. The merchants and landowners who the government needed to buy the bank's shares remained so wary that the Banco do Brasil was unable to achieve its original capitalization goals until 1817, 11 years after it was founded. Their wariness was not unfounded: most of the bank's business consisted of printing bank notes that were then used to buy bonds issued by the imperial government. As the amount of banknotes increased, so too did inflation. This meant, in effect, that the bank was little more than the government's agent in creating an inflation tax, and that inflation tax hit everybody, including the bank's shareholders, who likely did not receive an inflation-adjusted rate of return adequate to compensate them for the opportunity cost of their capital. Indeed, the average rate of return on owner's equity from 1810 to 1820 was ten percent per year, which, as near as it can be known, probably equaled the rate of inflation.²³ Not surprisingly, the shareholders of the bank paid out virtually all of the available returns to themselves as dividends. (See Table 5) Worse, in 1820, Dom Joao renegeed on the arrangement by which the bank could hold the proceeds from new taxes that he had created. The following year, he returned to Portugal, and took with him all of the metals that he and his court had deposited in the bank, exchanging them for whatever

²²Carlos Manuel Peláez, "The Establishment of Banking Institutions in a Backward Economy: Brazil, 1800-1851," *The Business History Review* 49, no. 4 (1975): 460-61.

²³ Author's estimates, based on data in Peláez, "The Establishment of Banking Institutions in a Backward Economy," 459, 462.

banknotes they had in their possession. The Banco do Brasil then continued to function through the rest of the 1820s, and was used by Dom Joao's son, the Emperor Dom Pedro I, much in the same way as it had been used previously—to finance government budget deficits through note issues.²⁴

In 1822 Dom Pedro, at the urging of local elites and with the consent of his father, declared Brazil independent. Independence, however, occasioned a major change in Brazil's political institutions. The merchants, private bankers, and landowners who drafted the Constitution of 1824 specified that it was parliament, and not the emperor, that had the ultimate responsibility to tax, spend, and borrow. They also specified an elected lower house of parliament, and tightly restricted the vote on the basis of wealth so that the lower house represented their interests. Indeed, less than five percent of the population had the legal right to vote. As Summerhill has pointed out, this had two consequences: the emperor could not default on loans that he had contracted from the economic elite; and the economic elite could use its control of parliament to make sure that competing economic groups could not obtain bank charters. In point of fact, from the closing of the Banco do Brasil by parliament in 1829 to the mid-1850s, parliament granted only seven bank charters—all of which had limited provincial charters that created local banking monopolies.²⁵

This set of arrangements worked well for Brazil's economic elite, but it came at a cost to the emperor: after 1829 the imperial government did not have a bank that it could use to finance budget deficits. A solution to this problem proved difficult, because the creation of a

²⁴ Peláez, "The Establishment of Banking Institutions in a Backward Economy."

²⁵ Summerhill, *Inglorious Revolution*.

national bank large enough to finance the government required aligning the incentives of all the incumbent bankers—some of whom were able to use their considerable political influence to undo whatever deals the emperor struck. Thus, parliament authorized a second Banco do Brasil in 1853, but then removed its right to issue bank notes just four years later.²⁶

A compromise was only reached in 1860. The 1860 law specified that corporate charters, including those for banks, not only needed the approval of parliament and the emperor's cabinet, they also required approval from the Emperor's Council of State, whose members enjoyed life tenure. In 1863, the Second Banco do Brasil was allowed to merge with two other Rio de Janeiro banks, the Banco Comercial e Agrícola and the Banco Rural e Hipotecario, which transferred to the Banco do Brasil their rights of note issue, thereby creating, something that the emperor had been seeking for a decade: a note issuing bank that acted as the government's fiscal agent.²⁷ The deal, in short, was that the government got its bank, and the economic elite got their banks, but no one else could get a bank charter—and no one from outside the small group of "barons" who sat on a bank board was eligible for a loan.²⁸

Some sense of how restricted the banking industry in Brazil was can be gleaned from the following data point. As late as 1888, Brazil had but 26 banks, whose combined capital

²⁶ Carlos Manuel Peláez and Wilson Suzigan, *Historia Monetária do Brasil: Análise da Política, Comportamento e Instituições Monetárias* (Brasília: Editora Universidade de Brasília, 1976), 82-87.

²⁷ Peláez and Suzigan, *Historia Monetária do Brasil*, 103.

²⁸ Summerhill, *Inglorious Revolution*; Anne G. Hanley, *Native Capital: Financial Institutions and Economic Development in Sao Paulo, Brazil, 1850-1905* (Stanford: Stanford University Press, 2005).

totaled only \$48 million U.S. Fifteen of these 26 banks were located in Rio de Janeiro—and the largest of them, the Banco do Brasil, controlled more than 40 percent of all bank assets. Another ten banks were located in the state of Sao Paulo—half of these were, in fact, affiliates of Rio de Janeiro banks. This meant that across the other 18 states in Brazil, there were only six banks.²⁹ Let us put this into comparative perspective. In 1888, bank assets per capita in Brazil totaled \$2.40 U.S. In Mexico in 1897, they were nearly three times this level, at \$6.74. In the United States, in 1890, they were \$85.

This set of arrangements, a coalition between the political entrepreneurs who controlled the government and a small number of merchant-financiers that created a narrowly based banking system, came under threat only once, when the monarchy was overthrown and a federal republic was created. Space constraints prevent us from exploring how and why the coalition that had supported the emperor fell apart, but one crucial piece of the story was the abolition of slavery in 1888. Abolition drove a wedge between Brazil's planter class and the imperial government. In an effort to placate the planters by making credit more easily available, the imperial government awarded concessions to 12 banks of issue and provided 17 banks with interest free loans. The easy credit policies of 1888 were not enough, however, to stem the tide of Brazil's republican movement. In November of 1889 Dom Pedro II was overthrown in a military coup and a federal republic was created.

²⁹ Peláez and Suzigan, *Historia Monetária do Brasil*; Hanley, *Native Capital*; Steven Topik, *The Political Economy of the Brazilian State, 1889-1930* (Austin: University of Texas Press, 1987); Flávio Azevedo Marques de Saes, *Crédito e Bancos no Desenvolvimento da Economia Paulista, 1850-1930* (Sao Paulo: Instituto de Pesquisas Econômicas, 1986).

The creation of a federal republic undermined, for a time, the arrangements that had supported a small and concentrated banking industry. The central government no longer had a monopoly on the chartering of banks, because the 1891 Constitution gave each of Brazil's 20 states considerable sovereignty. This put the federal republic's first finance minister, Rui Barbosa, under considerable pressure: if he did not grant additional charters to new banks in order to satisfy the demand for credit from Brazil's growing regional economic elites, those elites would get their own state governments to do so. As a result, Rui Barbosa, quickly pushed through a series of financial reforms, one of whose features was that the federal government allocated bank charters to virtually all comers through a general incorporation law, and another of whose features was that banks could engage in whatever kind of financial transactions they wished, including the right to invest in corporate securities.

The results of these reforms were dramatic. Recall that in 1888 there were only 26 banks in the entire country. In 1891 there were 68.³⁰

The problem was that Brazil's political institutions did not create any mechanisms that tied the hands of the federal government. In the first place, the central government concentrated power in a strong presidency, with congress being more of a consultative forum than a body that initiated legislation.³¹ In the second place, the president was selected by congress, which allowed the two largest states, Minas Gerais and Sao Paulo, to form a coalition and trade the presidency between them. In the third place, less than five percent of

³⁰ Peláez and Suzigan, *Historia Monetária do Brasil*; Hanley, *Native Capital*; Topik, *The Political Economy of the Brazilian State, 1889-1930*; Saes, *Crédito e Bancos no Desenvolvimento da Economia Paulista, 1850-1930*.

³¹ Gail D. Triner, *Banking and Economic Development: Brazil, 1889-1930* (New York: Palgrave, 2000), 18.

the population had the right to vote. The implication is clear: it was near impossible for non-elites to influence government policy.

Brazil's central government soon found itself in a difficult position. The 1891 constitution denied it access to a crucial source of tax income, revenues from export taxes, which which were now collected directly by states. The government therefore contracted gold-denominated foreign loans to make up for the budget shortfall. The government also allocated the right to issue to banknotes to a number of banks, each of which aggressively printed and lent currency. Their note issues, in addition to driving a speculative boom in the stock market, were also driving up inflation.³² The result was a currency mismatch: a hard-currency denominated debt, a domestic-currency denominated source of income (import taxes paid in Brazilian milreis), and an inflation that drove down the international value of the domestic currency. The central government had three options: spend less, raise taxes, or curtail the growth of the money supply. It chose options two and three. In 1896 the government decided once again to restrict the right to issue currency to a single bank—the Banco da República, which like its predecessors was a private commercial bank that had a special charter that made it the agent of the treasury. Two years later, the government increased taxes and restructured its foreign debt. These more restrictive regulations, coupled with the already shaky financial situation of many of the banks, produced a massive contraction of the banking sector, taking down, among other banks, the Banco da República.

³² Hanley, *Native Capital*.

In 1891 there were 68 banks operating in Brazil. By 1906 there were only ten, and their capital was only one-ninth that of the 1891 banks.³³

That contraction occasioned yet another round of reform, which produced in 1906 a fourth Banco do Brasil. Like its predecessors, the fourth Banco do Brasil was a private commercial bank. It differed from the others, however, in that the central government was a major stockholder, subscribing to almost one-third of its shares, and the President of the Republic had the right to name the president of the bank, along with one of its four directors.³⁴

For the better part of the next three decades, the Brazilian banking system was dominated by the Fourth Banco do Brasil, which acted both as a commercial bank and as the treasury's financial agent. The charter that created the bank included a number of lucrative privileges, not the least of which was that it was the only bank that was allowed to branch across state lines.³⁵ The fact that it was the only bank with a national network gave it an insurmountable advantage over its competitors: it soon came to control one-quarter of total bank deposits. This meant that the primary role of the largest bank in Brazil was to finance federal budget deficits.³⁶ Private commercial banks, which were chartered by state

³³ Paolo Neuhaus, "A Monetary History of Brazil" (PhD diss., University of Chicago, 1974), 22; Triner, *Banking and Economic Development*, 47.

³⁴ Steven Topik, "State Enterprise in a Liberal Regime: The Banco do Brasil, 1905-1930," *Journal of Interamerican Studies and World Affairs* 22, no. 4 (1980): 402, 413.

³⁵ Gail D. Triner, "Banks, Regions, and Nation in Brazil, 1889-1930," *Latin American Perspectives* 26, no. 1 (1999): 135.

³⁶ Topik, "State Enterprise in a Liberal Regime," 406, 409, 411, 417.

governments, existed as well, but these were few in number and were typically the treasury arms of large conglomerates—much as was the case of territorial banks in Porfirian Mexico. Some sense of how narrowly drawn this banking system was can be gleaned from the following data: if we take the ratio of banks and bank branches per 100,000 people as a rough index of the size of the banking system, the index for Rio de Janeiro in 1912 (the most heavily banked state in Brazil) was. 0.15. The comparable figure for the United States was 2.94.³⁷ In the years following World War II, state governments increasingly copied the model of the Banco do Brasil, establishing state-owned banks whose purpose was to finance their budget deficits. That is, the banks took deposits from private individuals, and then invested the proceeds in the bonds of state governments. The disadvantage of this system, however, was that it allocated credit very narrowly: to state governments, the federal government, and large business enterprises whose owners were tied to the banks.³⁸

The United States

The United States entered nationhood with a vastly different set of political institutions than did Mexico or Brazil. A federal system was part of the political landscape even before independence. As of 1789, the authority and discretion of the central government was also strongly limited by a bicameral legislature. Thus, potential bankers in the United States did not worry about the threat of expropriation the way their Brazilian and Mexican counterparts did.

³⁷ Topik, “State Enterprise in a Liberal Regime,” 405.

³⁸ Morris Bornstein, “Banking Policy and Economic Development: A Brazilian Case Study,” *The Journal of Finance* 9, no. 3 (1954): 312-13.

This is not to say, however, that America's initial political institutions were the same as they are today. The principle of judicial review of legislation as well as the organization of political competition on the basis of parties were only created in the decades after the constitution went into effect. Moreover, the political elite that wrote the U.S. constitution was deeply concerned about the threat to property that was posed by the "tyranny of the majority." It was precisely for this reason that the authors of the Constitution provided for a bicameral legislature, and then came up with the novel innovation of an indirectly-elected federal executive who could veto legislation. It was also for this reason that all of the original states restricted the right to vote property owners.³⁹

This set of political institutions—a central government whose authority and discretion were limited, coupled to limits on suffrage—produced an initial organization of America's banking system that was strikingly different from the system that exists today. In point of fact, the new federal government lost little time in chartering a monopoly bank—the Bank of the United States (BUS), founded in 1791. The BUS was a commercial bank, owned and operated by wealthy Federalist financiers, that was fully capable of taking deposits and making loans to private parties. It was also the federal government's fiscal agent. Twenty percent of the BUS' capital was subscribed by the federal government, but the federal government did not actually pay for these shares: instead, it received a loan from the bank and then repaid the loan out of the stream of dividends it received as a shareholder in 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

³⁹ Alexander Keyssar, *The Right to Vote: The Contested History of Democracy in the United States* (New York: Basic Books, 2000).

the bank (notes issued by the bank to cover federal expenses); and the sole right to open branches throughout the country.

Had America's political institutions granted the federal government the sole right to charter banks, it is possible that the BUS would have maintained a monopoly for a very long time (much in the same way that the Bank of England was that country's sole joint stock, limited liability bank from 1694 to 1825). America's political institutions prevented that from happening, however. The Constitution provided that any power not explicitly delegated to the federal government could be exercised by the states. 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, in exchange for which the federal government assumed the considerable debts that the states had amassed under the Articles of Confederation. Having been denied their traditional sources of finance, the states began to search for alternative sources of revenue. The Constitution said nothing about the ability of states to charter banks of issue, whose banknotes would circulate as currency. States, therefore, had every incentive to sell bank charters so that they could fill their treasuries, and every incentive to own stock in those the same chartered banks. In fact, virtually all state governments in the early nineteenth century were major owners of bank stock. Circa 1810-30, bank dividends and bank taxes often accounted for one-third of total state revenues.⁴⁰

⁴⁰ Richard Sylla, John B. Legler, and John Wallis, "Banks and State Public Finance in the New Republic: The United States, 1790-1860," *The Journal of Economic History* 47, no. 2 (1987); John Wallis, Richard E. Sylla, and John B. Legler, "The Interaction of Taxation and Regulation in Nineteenth Century U.S. Banking," in Claudia Goldin and Gary D. Libecap eds., *The Regulated Economy: A Historical Approach to Political Economy* (Chicago: University of Chicago Press, 1994), 122-144.

The existence of federalism, in and of itself, did not guarantee a broad-based banking system. Just as the federal government had an incentive to maintain the BUS as a monopoly, state governments had incentives to constrain the growth of the banking systems within their borders. 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.⁴¹

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.⁴²

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,

⁴¹ Howard Bodenhorn, *State Banking in Early America: A New Economic History* (New York: Oxford University Press, 2003), 17, 244.

⁴² Bodenhorn, *State Banking in Early America*, 134, 186-88; Howard Bodenhorn, “Bank Chartering and Political Corruption in Antebellum New York: Free Banking as Reform,” NBER Working Paper 10479 (2004); Frank Otto Gatell, “Sober Second Thoughts on Van Buren, the Albany Regency, and the Wall Street Conspiracy,” *The Journal of American History* 53, no. 1 (1966): 26; David Moss and Sarah Brennan, “Regulation and Reaction: The Other Side of Free Banking in Antebellum New York,” Harvard Business School Working Paper 04-038 (2004): 7.

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. In 1800 there were only 28 banks (with a total capital of only \$17.4 million) in the entire country (See Table 6). 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.⁴³

The system of a single national bank and segmented state monopolies was not an equilibrium that was stable given changes in American political institutions. 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 was 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. Some states even tried (unsuccessfully) to tax the bank notes of the BUS in order to constrain it from competing against their own banks. Once the Federalist party had gone into decline, these state bankers were able to form alliances with the Jeffersonians, who were ideologically opposed to chartered corporations

⁴³ Wallis, Sylla, and Legler, “The Interaction of Taxation and Regulation in Nineteenth Century U.S. Banking,” 135-39; Bodenhorn, *State Banking in Early America*, 142; John Majewski, “Jeffersonian Political Economy and Pennsylvania's Financial Revolution from Below, 1800-1820,” Mimeo, UCSB (2004).

and “aristocratic” bankers. Thus, when the BUS charter expired in 1811, Congress did not renew it.⁴⁴

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 when Andrew Jackson successfully vetoed the renewal of the bank’s charter, forcing it to close in 1836.⁴⁵

A second, and less obvious, source of competition was that between states for business enterprise and population. One of the most important things that the state legislature could do in this regard was to construct canals that would funnel commerce through the state. 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 another response was to charge a “charter bonus” on new bank charters. Such charter bonuses created, of course, an incentive for state legislatures to renege on the

⁴⁴ Carl Lane, “For a ‘Positive Profit’: The Federal Investment in the First Bank of the United States, 1792-1802,” *William and Mary Quarterly* 54, no. 3 (1997): 601-12; James O. Wettereau, “The Branches of the First Bank of the United States,” *Journal of Economic History* 2 (1942): 66-100; Richard Sylla, “Experimental Federalism: The Economics of American Government, 1789-1914,” in Stanley Engerman and Robert Gallman eds., *The Cambridge Economic History of the United States Vol. II* (Cambridge, Eng., Cambridge University Press, 2000); Hugh Rockoff, “Banking and Finance, 1789-1914,” in Stanley Engerman and Robert Gallman eds., *The Cambridge Economic History of the United States Vol. II* (Cambridge, Eng., Cambridge University Press, 2000).

⁴⁵ Bray Hammond, “Jackson, Biddle, and the Bank of the United States,” *The Journal of Economic History* 7, no. 1 (1947), 1-23; Peter Temin, “The Economic Consequences of the Bank War,” *The Journal of Political Economy* 76, no. 2 (1968): 257-274. Stanley L. Engerman, “A Note on the Economic Consequences of the Second Bank of the United States,” *The Journal of Political Economy* 78, no. 4 (1970); Rockoff, “Banking and Finance, 1789-1914.”

monopoly deals that they had already made with the incumbent banks. The incumbents could respond, of course, by offering bonuses for the legislature not to grant additional charters, but those efforts typically failed: the incumbent had to be willing to transfer most of its rents to the legislature. It was better off allowing its new competitor to take this disadvantageous position.⁴⁶

Competition over capital and labor also drove states to expand the suffrage, and an expanded suffrage undermined the 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.⁴⁷ 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.

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 and instead levy taxes on bank capital. Pennsylvania followed Massachusetts's lead with the Omnibus Banking Act

⁴⁶ Arthur Grinith III, John Joseph Wallis, and Richard E. Sylla, "Debt, Default, and Revenue Structure: The American State Debt Crisis in the Early 1840s," National Bureau of Economic Research, Historical Working Paper (1997); Sylla, "Experimental Federalism"; Bodenhorn, *State Banking in Early America*, 86, 148, 152, 228-34.

⁴⁷ Stanley L. Engerman, and Kenneth L. Sokoloff, "The Evolution of Suffrage Institutions in the New World," NBER Working Paper 8512 (2001); Keyssar, *The Right to Vote*.

of 1814. The act, passed over the objections of the state's governor, 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.

While the rate at which states reformed varied—with Southern States lagging the Northeast by a wide margin—the overall trend was that the U.S. banking system grew remarkably quickly. As Table 6 shows, in 1820 there were 327 banks in operation with a total \$160 million in capital—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.⁴⁸ 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.⁴⁹

As the density of banks increased, competition among them increased as well, so much so that they began to extend credit to an increasingly broad class of borrowers. The result was that banks, particularly in the Mid-Atlantic States, which have been studied

⁴⁸ Bodenhorn, *State Banking in Early America*, 12.

intensively by Wang and Wright, lent funds to a wide variety of merchants, artisans, and farmers.⁵⁰

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.

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. 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 and allowing the legislature to reform the state's banking laws. 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

⁴⁹ Peter Rousseau and Richard Sylla, "Emerging Financial Markets and Early U.S. Growth," Mimeo (2000).

⁵⁰ Ta-Chen Wang, "Courts, Banks, and Credit Markets in Early American Development," (PhD. diss., Stanford University, 2006).

million in paid capital). By 1859 there were 274 free banks with paid in capital of \$100.6 million.⁵¹

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, and as the laws changed they encouraged bank entry and increased competition among banks.⁵²

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. 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 all supply constraints on the number of banks. The free banking laws of the vast majority of states precluded the

⁵¹ Bodenhorn, *State Banking in Early America*, 186-92; Wallis, Sylla, and Legler, "The Interaction of Taxation and Regulation in Nineteenth Century U.S. Banking"; Moss and Brennan, "Regulation and Reaction."

⁵² Howard Bodenhorn, "Entry, Rivalry, and Free Banking in Antebellum America," *Review of Economics and Statistics* 72, no. 4 (1990): 682-86; Howard Bodenhorn, "The Business Cycle and Entry into Early American Banking," *Review of Economics and Statistics* 75, no. 3 (1993): 531-35; Andrew Economopoulos and Heather O'Neill, "Bank entry during the Antebellum Period," *Journal of Money, Credit, and Banking* 27, no. 4 (1995): 1071-85; Kenneth Ng, "Free Banking Laws and Barriers to Entry in Banking, 1838-1860," *The Journal of Economic History* 48, no. 4 (1988); Hugh Rockoff, "The Free Banking Era: A Reexamination," *Journal of Money, Credit, and Banking* 6, no. 2 (1974): 141-67; Hugh

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.

From the point of view of the federal government, allowing the states to charter banks had a major drawback: it did not provide the federal government with a source of finance. This problem came to the fore during the Civil War, when the financial needs of the federal government skyrocketed. The federal government therefore passed laws in 1863, 1864, and 1865 that were designed to eliminate the state chartered banks and replace them with a system of national 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, nor did they abrogate the right of state chartered banks to issue banknotes—those steps 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

Rockoff, "New Evidence on Free Banking in the United States," *The American Economic Review* 75, no. 4 (1985).

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.⁵³

In the short run, the response of private banks was as the federal government expected: 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. (See Table 7).

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 an increasingly common means of exchange in business transactions.⁵⁴

⁵³ Richard Sylla, *The American Capital Market, 1846-1914: A Study of the Effects of Public Policy on Economic Development* (New York: Arno Press, 1975).

⁵⁴ Moss and Brennan, "Regulation and Reaction"; Sylla, *The American Capital Market, 1846-1914*, 62-73; Lance E. Davis and Robert E. Gallman, *Evolving Financial Markets and International Capital Flows: Britain, the Americas, and Australia, 1865-1914* (Cambridge Eng.: Cambridge University Press, 2001), p. 272.

The result 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. (See Table 7).

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, 95 percent of banks were unit banks, and the banks that did have branches tended to be small: the average number of branches operated by these banks was less than five.⁵⁵ This banking structure was not without its disadvantages: large numbers of small unit banks exacerbated banking crises; made it difficult for banks to capture scale economies; and allowed bankers to earn rents from local monopolies.⁵⁶ Unit banking with free entry did, however, mean that all markets in the United States were contestable: any market that generated rents for a monopolist was subject to entry by a competitor seeking

⁵⁵ Charles W. Calomiris and Eugene N. White, “The Origins of Federal Deposit Insurance,” in Claudia Goldin and Gary D. Libecap eds., *The Regulated Economy: A Historical Approach to Political Economy* (Chicago: University of Chicago Press, 1994), 145-188; Davis and Gallman, *Evolving Financial Markets and International Capital Flows*, 272.

⁵⁶ Michael D. Bordo, Hugh Rockoff, and Angela Redish, “The U.S. Banking System from a Northern Exposure: Stability Versus Efficiency,” *The Journal of Economic History* 54, no. 2 (1994), 325-341.

those rents. In the course of the twentieth century, even these constraints would be knocked down. By the 1970s, most states were doing away with anti-branching provisions. In 1994, restrictions on interstate branch networks were removed.

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 by governments to constrain supply. Rather, it was because attempts by governments to constrain supply were undermined by the country's political institutions.

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 Mexico, Brazil, and the United States grew in the period roughly before 1930. 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 are required.

Nevertheless, the analysis presented here makes a strong case for the argument that institutions that limit the ability of political entrepreneurs to prey upon private wealth, and that limit the ability of political entrepreneurs to form rent-sharing coalitions with economic elites, play a decisive role in the development of financial systems. All three governments, at various times, sought to constrain competition in banking. These attempts failed in the United States, because they were inconsistent with the interests of the majority of the population, and those interests could be expressed through a number of mutually reinforcing institutions: the suffrage, party competition, a bicameral legislature that represented state

interests, and federal system of government that allowed states to chart their own policies. These efforts at constraining competition succeeded in Mexico and Brazil because political entrepreneurs and bankers were able to form durable coalitions, creating sources of finance for the government and monopoly rents for bankers. In those countries, the nature of political institutions meant that the choice was not between concentrated banking systems that allocated credit narrowly and a competitively structured banking system that allocated credit broadly; it was between a concentrated banking system that allocated credit narrowly, or no banking system at all.

Table 1

Regressions of Private Credit/GDP on Political Institutions, 1960-2003

Robust T Statistics in Parentheses

	<u>Pooled OLS</u>	<u>OLS with Country Dummies</u>
Constraints on Executive	0.048 [6.53]***	0.015 [5.39]***
Constant	0.073 [3.35]***	
Observations	3428	3428
Number of countries	131	131
R-squared	0.18	0.73

* significant at 10%; ** significant at 5%; *** significant at 1%
Driscoll-Kraay Standard Errors (Robust to AR1 serial correlation)

Source: Constraints on the executive from Jagers and Gurr Polity IV dataset; Private credit as percent of GDP from World Bank Financial Structure Database.

Table 2
The Mexican Banking Industry, 1897-1913

Year	Number of Banks ¹	Total Assets (millions 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 Estadística Fiscal, 1912-1913. GDP from Instituto Nacional de Estadística Geografía e Informática (1994), p. 401.

Table 3
Industrial Concentration in Cotton Textiles,
Mexico, Brazil, India, and the United States

Circa	Four Firm Ratio					Herfindahl Index		
	<u>Mexico</u>	<u>Expected</u>	<u>Brazil</u>	<u>India</u>	<u>U.S.A.</u>	<u>Mexico</u>	<u>Brazil</u>	<u>India</u>
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, 2007.

Table 4
The Mexican Banking Industry, 1897-1929

Year	Assets as Percent <u>GDP</u>
1897	12%
1898	15%
1899	18%
1900	20%
1901	15%
1902	19%
1903	20%
1904	24%
1905	24%
1906	28%
1907	31%
1908	31%
1909	35%
1910	32%
1921	5%
1922	3%
1923	3%
1924	4%
1925	4%
1926	8%
1927	10%
1928	10%
1929	12%

Source: Assets and Equity from Haber, Razo, and Maurer, 2003, chap. 4;
Haber and Maurer 2007. GDP from instituto Nacional de Estadística Geografía
e Informática (1994), p. 401.

Table 5**Accounts of the First Banco do Brasil**

All Units in Thousands of Contos de Reis

	Subscribed <u>Capital</u>	Reserve <u>Fund</u>	Taxes Deposited <u>by Govt</u>	Annual Taxes Transferred to Bank <u>as Deposits</u>	Owner's <u>Equity</u> ¹	Annual <u>Dividends</u>	Annual Growth <u>Reserves</u>	Estimated <u>Earnings</u> ²	Return on <u>Equity</u>	Dividends as % <u>Earnings</u>
1809	116	0		0	116	0	0	0	0%	
1810	120	0.3		0	120	1	0.3	1.3	1%	77%
1811	122	1		0	123	4	0.7	4.7	4%	85%
1812	172	2		0	174	5	1	6	3%	83%
1813	397	5.6	63	63	403	18	3.6	21.6	5%	83%
1814	502	14	121	58	516	43	8.4	51.4	10%	84%
1815	581	29	183	62	610	74	15	89	15%	83%
1816	690	53	271	88	743	120	24	144	19%	83%
1817	1189	83	336	65	1,272	153	30	183	14%	84%
1818	1719	122	411	75	1,841	202	39	241	13%	84%
1819	2037	163	484	73	2,200	208	41	249	11%	84%
1820	2215	207	500	16	2,422	227	44	271	11%	84%
1821	2235	275	500	0	2,510	353	68	421	17%	84%
1822	2248	329	500	0	2,577	282	54	336	13%	84%
1823	2357	404	500	0	2,761	392	75	467	17%	84%
1824	2662	482	500	0	3,144	424	78	502	16%	84%
1825	3600	570	500	0	4,170	451	88	539	13%	84%
1826	2600	692	500	0	3,292	640	122	762	23%	84%
1827	3600	819	500	0	4,419	669	127	796	18%	84%
1828	3600	954	500	0	4,554	716	135	851	19%	84%
1829	3600	1083	500	0	4,683	686	129	815	17%	84%

1. Capital plus reserve fund.

2. Dividends plus change in reserves from previous year.

Source: Calculated from data in Pelaez 1975, tables 3 and 4.

Table 6**State Chartered Banks in the United States, 1790-1835**

<u>Year</u>	<u>New England</u>		<u>Mid-Atlantic</u>		<u>South</u>		<u>West</u>		<u>U.S. Total</u>	
	<u>Number of Banks</u>	<u>Authorized Capital (Millions)</u>	<u>Number of Banks</u>	<u>Authorized Capital (Millions)</u>	<u>Number of Banks</u>	<u>Authorized Capital (Millions)</u>	<u>Number of Banks</u>	<u>Authorized Capital (Millions)</u>	<u>Number of Banks</u>	<u>Authorized Capital (Millions)</u>
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 7**Number of U.S. Commercial Banks, 1860-1932**

Year	State Chartered Banks		National Banks		Total Banks		National Banks as % of Total	
	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.