

# **Why Banks Don't Lend: The Mexican Financial System**

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Abstract: By any comparative metric the Mexican banking system provides low levels of credit to firms and households. This paper assesses three hypotheses that explain Mexico's low level of private credit: the existence of alternative sources of finance; oligopolistic competition; and weak property rights. I find that the evidence is not consistent with the alternative sources of finance hypothesis, but is consistent with the oligopoly and property rights hypotheses. I suggest that both oligopoly and weak property rights are jointly caused by another characteristic of Mexico's twentieth century political economy: a seven decade long, party-based, dictatorship. The paper then assesses the challenges in reforming the institutions that underpin oligopoly and weak property rights in light of the fact that Mexico is in the process of democratic transition. I conclude that the reform of property rights is likely to be a very slow and costly process. Increasing market entry in banking, by comparison, implies no fiscal cost and can be accomplished more rapidly.

The Mexican economy has grown anemically since the signing of NAFTA more than one decade ago. From 1994 to 2005 real per capita GDP growth averaged only 1.3 percent per year—a slow rate by any comparative metric. Mexico’s rate of growth was 38 percent slower than the growth rate for comparable, middle income developing countries (2.1 percent per year), 43 percent slower than the U.S. growth rate (2.3 percent per year), and 54 percent slower than Mexico’s own growth rate from 1950 to 1980 (2.8 percent per year). (Haber, Klein, Maurer, and Middlebrook, forthcoming). It was also slow compared to the growth rate that would have been needed in order to provide employment for the roughly one million new entrants to Mexico’s labor market each year. More than half of these new workers did not find employment in Mexico. Instead, they migrated to the United States.

There are a number of reasons for Mexico’s sluggish economic performance, but one principal reason is the small size of the financial system (González-Anaya 2003; Tornell, Westermann, and Martinez 2004). A glance at Figures 1 and 2 makes the situation clear. Whether we compare Mexico to other members of the Organisation for Economic Cooperation and Development (OECD) or to the other countries of Latin America, Mexico has an extraordinarily small banking system. In fact, as Figure 1 demonstrates, the ratio of private credit to GDP in Mexico is the smallest of any OECD country. Moreover, it is small by a very wide margin, even when compared to the economies of Southern and Eastern Europe. Mexico also does not fare well when compared to the other countries of Latin America. As Figure 2 shows, Mexico’s banking system, as a percentage of GDP, is dwarfed by that of Chile, Brazil, Uruguay, Costa Rica,

Bolivia, Honduras, and even Nicaragua. It is even small by the standards of Peru, Ecuador, Colombia, and Guatemala. Indeed, there are only two countries in the region with banking systems that are appreciably smaller than Mexico's: Venezuela, and Argentina.

[Figures 1 and 2]

Mexico's banking system has also been shrinking over time. As Figure 3 makes clear, in 1994 the ratio of commercial bank credit to GDP was 33 percent. In 2005, the ratio was only 15 percent. To give readers a sense of just how low 15 percent is, consider that there has only been one other occasion in the past half century when the ratio of bank credit to GDP was lower: the 1980s, when the Mexican government expropriated the banks and used them to finance its budget deficits.

[Figure 3]

Equally striking is that the decline in credit to firms and households has not been uniform across all users of credit. Business enterprises have been hit harder than households. As Table 1 shows, from 1997 to 2003 there was a steady decline in the ratio of commercial credit to GDP. Even with a minor increase after 2003, the ratio of commercial credit to GDP at the end of 2005 was still one-third its level in 1997. At the same time, there has been an increase in credit granted to consumers and credit granted to SOFOLES (non-bank intermediaries that specialize in the construction and financing of new housing, usually with federal government repurchase agreements that reduce default risk). While all of these ratios are stunningly low by any international comparative metric, any explanation of Mexico's credit contraction has to account not only for the

overall trend, but also account for the differences in trends between credit allocated to business enterprises and credit allocated to households.

[Table 1]

The focus of this paper is to understand the causes of Mexico's small financial system and to offer recommendations for policy makers. I assess three hypotheses: that Mexico's small banking system is caused by the existence of alternative sources of finance, making the banking system of minor importance; that Mexico's small banking system is an outcome of an oligopolized market; and that Mexico's small banking system is an outcome of a weak property rights environment. I find that the evidence is not consistent with the alternative sources of finance hypothesis. The evidence is consistent, however, with both the oligopoly and property rights hypotheses.

I suggest that both of these features of the Mexican banking system are jointly determined by Mexico's long-run political institutions: they were endogenous outcomes of a 70 year long, party-based dictatorship. That dictatorship was swept aside in the 2000 elections. Nevertheless, democratization has not yet had a strong impact on the institutions that hold back financial development. Vested interests have strong incentives to lobby for the continuation of barriers to entry in banking. While there have been some reforms to property rights, these have been designed to sidestep the country's inefficient and corrupt judicial system. More fundamental property rights reforms will entail major reforms of the courts, property registries, and police forces. These are likely to be slow and costly processes.

### **Hypothesis 1: Alternative Sources of Finance**

One hypothesis that might be advanced is that the decline in bank credit in Mexico is an outcome of increases in other sources of finance, such as securities markets, foreign direct investment, and direct lending by international banks.

This hypothesis does not appear to be consistent with the evidence. One alternative source of finance for business enterprises is Mexico's securities markets. There is no evidence, however, of an expansion in those markets. As Figure 4 shows, the private bond market in Mexico is so small as to be non-existent: the ratio of private bonds to GDP has hovered at roughly three percent of GDP for the past decade. The stock market is somewhat larger, but by international standards it, too, is small. Moreover, it has been shrinking over the past decade. In the mid 1990s the ratio of the capitalization of the stock market to GDP hovered around 40 percent. It then collapsed in the wake of the 1995 peso crisis, and only began to stabilize in 2002. By 2005, the ratio of the capitalization of the stock market to GDP remained at only 23 percent.

[Figure 4]

Another alternative source of finance for business enterprises is direct investment by foreign firms. Here again, the evidence points in the opposite direction. As Figure 5 shows, there has been a dramatic decline in the absolute level of FDI flows to Mexico since 2001—so much so that in 2005 the nominal level of FDI was the same as it had been when NAFTA first went into effect in 1994.

[Figure 5]

A third alternative source of finance for business enterprises is direct loans by international banks. We do not have estimates of the extent to which Mexican business enterprises borrow outside the country, but indirect evidence provided by surveys of business enterprises regarding their use of the domestic banking system suggests that direct lending from foreign sources has not replaced lending by domestic banks. Larger firms are much more likely to be able to borrow in New York or other money centers than smaller firms. If Mexico's largest firms are borrowing abroad, we would expect to see a decline in the extent to which large firms rely on the domestic banking system, but we would not expect to see a decline in the use of the banking system by small and mid-sized firms. The surveys indicate, however, a monotonic contraction in the use of bank credit by firms of all size categories. Consider the experience of small firms. As Figure 6 shows, in December 2005, only 18 percent of small firms borrowed from domestic banks, down from 29 percent in December 1998. Borrowing by mid-sized firms fell by a roughly equal magnitude: in December 2005, 29 percent borrowed from domestic banks, down from 40 percent in December 1998.

[Figure 6]

One might be tempted to argue that all of these measures of alternative sources of business finance are imperfect. Indeed, the Banco de México surveys of business enterprises indicate that many firms are able to obtain credit from their suppliers—suggesting that some firms are able to replace bank credit with other sources.

Nevertheless, direct evidence on the ratio of Gross Fixed Capital Formation (GFCF) to GDP indicates a contraction in investment in Mexico over the past five years. In 2005 the ratio of GFCF to GDP was 19 percent, down from 21 percent in 2000. This means

that Mexico's current investment rate is no higher than it was at the time that NAFTA went into effect in 1994.

[Figure 7]

The weight of the evidence, in short, suggests that Mexico's small banking system is not a product of alternative sources of finance. The evidence suggests, instead, that there are constraints on the supply of credit. Economic theory suggests two possible causes. First, the Mexican banking system is highly concentrated, and thus banks may be operating as oligopolists, constraining credit in order to drive up risk-adjusted interest rates so as to maximize profits. Second, the Mexican banking system suffers from a weak property rights environment. Banks constrain credit because they seek to avoid recreating the disaster of the early 1990s, when lenders found that they could not easily repossess collateral in the aftermath of the 1995 peso crisis. Let us consider each of these hypotheses in turn.

### **Hypothesis 2: Mexico's Banks Act as Oligopolists**

There is little doubt that the Mexican banking system is highly concentrated. As Figure 8 shows, the entire retail banking business is comprised of only 19 banks. Two of these banks (denoted by horizontal lines in Figure 8) control just over 50 percent of total bank assets. The three next largest banks (denoted by vertical lines in Figure 8) control an additional 30 percent of assets. The remaining 14 banks (denoted by solid blocks in Figure 8) tend to be quite small, the largest having a market share of just over seven percent and the smallest having a market share of 0.1 percent

[Figure 8]

## Data and Methods

Detecting oligopolistic competition is less straightforward than documenting a market structure that is consistent with oligopoly. In order to estimate the impact of market structure on output and prices we employ bank level data compiled by Mexico's National Banking and Securities Commission (the Comisión Nacional Bancaria y de Valores, CNBV). These data include standard measures of bank performance (income, expenses, administrative costs, non-performing loans), bank size (assets, earning assets), and outputs (loans by broad type—consumer, commercial, housing, non-bank financial intermediary, and government). The data are reported on a quarterly basis. Haber and Musacchio (2006) have linked the quarterly CNBV data over time by tracking mergers and acquisitions in order to construct a panel data set.

In an ideal world, we would use fixed effects regressions to measure the impact of changes in a bank's market share on its pricing and output decisions. That empirical strategy requires, however, that there be a high degree of variance in banks' market shares over time, that there be large numbers of observations over time, and that there be no changes in the institutional environment that affect banks' output and pricing decisions independently of their market share.

These factors mean that we cannot employ fixed effects regressions in order to detect the impact of changes in bank market shares on pricing and output in the Mexican case. In the first place, the Mexican banking market has always been highly concentrated: a small number of banks have dominated the banking system for the past 120 years, with the four-firm ratio hovering stubbornly in the area of 60 to 70 percent (Haber 2006). In the second place, a major reform of accounting standards in 1997



makes it impossible to link pre- and post-1997 CNBV data. (Del Angel-Mobarak, Haber, and Musacchio 2006). In the third place, in 2001 Mexico carried out a series of reforms to its bankruptcy laws that were designed to allow banks to write loan contracts so as to place collateral outside of an individual's or firm's bankruptcy estate. These reforms, as we shall discuss below, did not affect the probability of collateral recovery uniformly across loan types. At the same time, the federal government carried out a major reform of its own housing loan programs, which resulted in a dramatic expansion of government housing lending and the growth of non-bank financial intermediaries that take advantage of those new federal programs. The combined impact of these legal and administrative reforms was that banks had incentives to reallocate their credit portfolios, independently of changes in their market shares.

These constraints require that we start our empirical analysis in 2002, after all of the accounting, administrative, and legal reforms had taken place. The short span of data available, in turn, requires that we exploit variance in market shares not within banks, but across banks. We therefore estimate OLS regressions on a panel data set of quarterly observations running from the first quarter 2002 to the fourth quarter of 2005.

Analyzing the data in cross-section implies, however, that we are likely to underestimate the ability of the largest banks to act as market-makers, constraining the volume of lending in order to drive up the spread between what they pay for deposits and charge for loans. The presence of a few market-makers may allow their smaller competitors to follow similar lending and pricing strategies, producing high net interest margins, low rates of non-performance, and stable returns on capital for all banks. For this reason, the estimates we present below of the impact of market structure on lending

volumes, prices, and profitability should be understood as lower-bound approximations of the impact of concentration on the availability and pricing of credit.

### Lending Volume

One indication of oligopolistic competition is that banks with market power constrain output in order to drive up prices. In the case of banking, they would constrain the volume of lending in order to drive up net interest margins. Figure 9 graphs the average value of credit granted by banks to households and business enterprises as a percentage of total assets during the period 2002-2005, with the banks ordered from largest to smallest.<sup>1</sup> The two banks with market shares greater than 24 percent are denoted by horizontal lines. The three banks with market shares of ten percent are denoted by vertical lines (there are no banks with market shares between 11 and 24 percent). All other banks are denoted by a solid block. The graphed means suggest that the largest banks in the system extend less credit than their smaller competitors.

One might argue that the graphed means do not control for banks' equity ratios (lower equity ratios tend to be associated with more risk taking, and hence more lending). Similarly, the results might be driven by one or two quarters of data. We therefore estimate an OLS regression in which we control for the ratio of equity to assets and control for outlying quarters by including quarterly dummies. In order to control for serial correlation we cluster the robust standard errors by quarter. We also employed alternative functional forms, such as Panel Corrected Standard Errors and Prais-Winstin

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<sup>1</sup> Private credit is the sum of commercial, consumer, and housing loans, plus credit granted by banks to SOFOLES. We do not include IPAB bonds as a form of private credit, and thus also net out IPAB bonds from assets. Our results, however, are not sensitive to the inclusion of IPAB bonds in the numerator and the denominator.

(AR1) and Prais-Winstin (PSAR1). These produce similar qualitative results. We therefore do not reproduce them here.

The regressions, reported in the first column of Table 2 do not support the null hypothesis: as market shares double, the ratio of private credit to assets falls by nearly a full percentage point. Given the wide variance in market shares (from 0.1 to 26.7 percent) and given that the sample mean for private lending is only 49 percent of assets, this result is of large magnitude. (See Appendix A).

### NPL Ratios

A second indication that the largest banks in the system are able to take advantage of their market power would be lower ratios of non-performing to total loans (NPL). Such differences in NPL ratios would indicate that the largest banks are able to skim off the best borrowers, leaving more risky lending to their smaller competitors. We therefore estimate a regression on the NPL ratio in the second column of Table 2 in which we control for the allocation of credit by loan types (commercial, consumer, SOFOL, and housing) as well as the equity ratio (higher equity ratios tend to reduce risk taking). The results are not consistent with the null hypothesis: as market shares double, the NPL ratio falls by 0.2 percentage points. Given the wide variance in market shares that the sample mean is only 3.9 percent, a movement of 0.2 percentage points as market shares double is of large magnitude.

## Net Interest Margins

If banks with market power are able to reduce their volume of lending and skim off the lowest risk borrowers, then one might imagine that they are able to charge higher risk-adjusted net interest margins (the spread between what banks pay for deposits and charge for loans). We therefore estimate net interest margins and graph them in Figure 10. The data indicates only one bank with outsized net interest margins: Banca Azteca, which specializes in lending for consumer white goods. The figure suggests, however, that there may be more subtle relationships among net interest margins and market share that are not being picked up in the graphed means because of differences across banks in lending portfolios and preferences for risk. We therefore estimate a regression in which we measure the elasticity of net interest margins as a function of market share, controlling for risk (as proxied by a bank's ratio of non-performing to total loans) and for the allocation of credit across loan types (as measured by the ratio of commercial, consumer, housing, and SOFOL lending to assets).<sup>2</sup> As before we include quarterly dummies and cluster robust standard errors by quarter.

The results of these NIM regressions are reported in the first column of Table 3. They indicate that, controlling for risk and for portfolio allocation, larger banks charge *lower* net interest margins. One might argue that this unexpected result is produced by the fact that larger banks can afford to charge lower interest rates, because they enjoy scale economies. We therefore add a control for scale economies (the ratio of

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<sup>2</sup> We report assets, and estimate loan to asset ratios, net of IPAB bonds, in order to control for differences in the degree to which banks hold these federal bailout bonds in their portfolios. Alternative specifications that include IPAB bonds in assets, and that then add controls for the ratio of IPAB bonds to total assets produce qualitatively similar results.

administrative costs to assets) in Column 2 of Table 3. Administrative costs enter the regression with the expected sign and significance (higher administrative costs are strongly correlated with higher net interest margins). The coefficient on market share is now no longer statistically significant, indicating that the lower margins we detected in specification 1 are a product of the scale economies enjoyed by larger banks. Nevertheless, the regression is consistent with the null hypothesis: it provides no evidence that large banks charge *higher* risk-adjusted net interest margins than smaller banks. In fact, the change in statistical significance on market share from specification 1 to specification 2 suggests that the larger banks in the system pass along the savings from their scale economies to consumers.

### Returns on Equity

If banks with market power do not charge higher net interest margins, it implies that they should also not earn higher rates of return on equity (ROE). Figure 11 displays the quarterly average ROE for all retail banks from 2002 to 2005, arranged (as before) by market shares. These suggest higher average ROEs for larger banks. This effect may be caused, however by the fact that there are significant scale economies in banking or by one or two outlying quarters. We therefore estimate a regression that controls for scale economies by introducing a variable for the ratio of administrative costs to total assets. We also include the NPL ratio, in order to control for the level of risk that banks are willing to bear.<sup>3</sup> In addition, we include quarterly dummies in order to control for

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<sup>3</sup> The NPL ratio enters the regression as not significant, and dropping it from the regression has no qualitative impact on the other estimated coefficients.

outlying quarters and cluster the (robust) standard errors at the quarterly level.<sup>4</sup> We report the regression results in the third column of Table 3.

The results indicate that there is a strong, positive association between market share and returns on equity. As market shares double, quarterly rates of return increase by 0.07 percentage points. Given the wide variance in market shares, and the fact that the sample mean is .026 an increase of .07 points is of large magnitude.

Taken together, our regression indicate that large banks are more profitable, but the source of their greater profitability is not their ability to charge higher risk-adjusted interest rates. Some other characteristic of large banks is driving their greater profitability.

#### Credit Allocation

One characteristic of larger banks that we have already identified is that they tend to constrain loan volume. In order to determine whether reduced loan volumes account for greater profitability, we introduce the credit allocation variables (the ratio of commercial, consumer, SOFOL, and housing loans to assets), and present the results in the fourth column of Table 3. One coefficient comes up as significant: the ratio of commercial credit to assets. That is, as commercial lending falls, rates of return increase. Market share is now no longer significant. The implication is that the greater profitability of larger banks is associated with extending less commercial credit than their smaller competitors.

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<sup>4</sup> Regression results that we do not report here detect significant scale economies. As market share doubles, the administrative cost ratio falls by 0.02 percentage points per quarter.

In order to determine whether large banks actually follow such a lending strategy we proceed in two steps: we graph the means of commercial loans by bank size and we estimate a set of regressions on loan volume by type. The graphed means on commercial lending are presented in figure 12, and strongly suggest that larger banks make substantially fewer commercial loans. The regression results, presented in Table 4 produce the same results. As market shares double, the ratio of commercial credit to assets falls by 1.2 percentage points. Equally striking is that this result is confined to commercial lending. Similar regressions that substitute housing lending or consumer lending as the dependent variable either produce results that are not statistically significant (consumer lending) or that have the opposite sign (housing lending).

### Commission and Fee Income

How could it be the case that large banks make more money by providing less credit, if they do not charge higher risk-adjusted net interest margins? The implication is that large banks earn outsized returns from some business other than taking deposits and making loans. One potential source of that income is their control of the payments system: their market power allows them to charge commissions and fees above the competitive level. In order to test this hypothesis we proceed in two steps. First, we estimate the percentage of total income from commissions and fees and graph the means by bank in Figure 13. All five of the large banks earn more than 10 percent of their total income from commissions and fees. Only three of the 14 remaining banks in the system earn more than 10 percent of their income from commissions and fees. We then estimate a regression on the return on equity from commissions and fees in the fifth column of

Table 3. We control for scale economies by including a control variable for the ratio of administrative costs to assets, include quarterly dummies, and cluster the (robust) standard errors by quarter. The results indicate that there is a strong association between market power and the rate of return on commissions and fees. As market shares double, commission and fee income (as a percent of equity) increases by 0.16 percentage points per quarter.

As a double check on our results we then re-estimate the regression on returns on equity presented in column 3 of Table 3, but now strip earnings from commissions and fees out of income. If we are correct in assuming that the higher rates of return for larger banks are driven by their ability to charge higher commissions and fees, the coefficient on market share should no longer be statistically significant. The results, presented in column 6 of Table 3, bear out this intuition.

### Taking Stock

Taken together, the regressions indicate that larger banks appear to be able to exert market power. They do not appear, however, to use their market power to charge higher risk-adjusted net interest margins than their smaller competitors. Rather, the evidence suggests that they use their market power to generate income from their control of the payments system. Mexico's largest bank, BBVA Bancomer, generates 17 percent of its income from commissions and fees. Mexico's second largest bank, Banamex, generates 24 percent of its income from commissions and fees. (See Figure 13) Their behavior in the loan market suggests risk aversion, particularly toward commercial loans—a subject to which we shall return shortly.



### **Hypothesis 3: Weak Property Rights**

The summary statistics on lending by type (Table 1) suggest that the contraction of credit since 1997 has not been uniform. While the levels of all the ratios are extremely low by any international comparative metric, the trend over time in Mexico has been positive for consumer credit and negative for commercial credit. Our regressions indicate that higher ratios of commercial credit are strongly associated with lower net interest margins and lower rates of return on equity, even when we condition on the ratio of non-performing loans. These findings suggest that there is something peculiar about the commercial loan market, relative to other segments of the Mexican credit market.

What might that peculiar feature of the commercial lending market be? One answer is that banks find it more difficult to assess risk and enforce contracts in the commercial credit market than in the market for consumer loans. This is not to argue that the property rights environment is good for consumer lending. It is to argue that it is difficult to assess risks and enforce contracts broadly speaking in Mexico, and that the environment facing commercial lenders is particularly difficult.

#### A Brief History of Contract Enforcement in Mexico

The ability of banks to enforce contracts requires that they be able to repossess collateral. One form that collateral takes is physical: a house, a farm, an inventory of raw materials. In order to repossess physical collateral banks need access to a system of property and commercial registries in order to verify the ownership of the collateral, and a system of laws, courts, and police that allows them to take legal and physical

possession of the collateral. Another form that collateral takes is reputational, the knowledge that failure to repay will prevent borrowing in the future. Typically banks assess reputational collateral through two means. The first is that banks themselves develop internal systems of credit analysis. The second is that they share this information with other banks, or other creditors generally through a credit reporting agency.

Virtually none of the institutions required to assess and attach collateral efficiently existed in Mexico until quite recently. Physical collateral was extraordinarily difficult to repossess. Mexico did not (and does not) have an efficient or accurate real property register. (Joint Center for Housing Studies, 2004). There was a commercial property register, maintained by the Secretary of Commerce, but it was not (and is not) available to the public. Thus, it was difficult for banks to attach property, because it was not always clear that the person or business that pledged the property actually owned it. In addition, in those cases when bankers did move to foreclose, debtors could take advantage of Mexico's extraordinarily inefficient bankruptcy laws. Not only were there few bankruptcy judges, the bankruptcy law required judges to pass resolutions on each and every objection presented by debtors. Debtors could therefore delay the recovery of property by raising a long string of objections. In addition, even when favorable judgments were rendered, they were not always enforced by the police.

Banks also could not assess the quality of reputational collateral. The banks themselves had weak internal systems of credit analysis. As Del Angel Mobarak (2002, 2005) has shown, prior to the bank expropriation of 1982, Mexico's industrial conglomerates typically owned both a commercial bank and an investment bank, and the portfolios of these banks tended to be composed of shares held in the enterprises that

were part of the conglomerates. The commercial and investment banks were, in essence, the treasury divisions of the industrial conglomerates: they had little relationship to the impersonal credit intermediaries of economic theory. They therefore had weak incentives to develop internal systems of credit analysis. During the period when the banks were run by the government (1982-91) whatever credit analysis systems that banks had developed were allowed to languish, because the banks were primarily used as a vehicle to finance government deficits. The net result was that when the banks were privatized in 1991 their internal systems of credit analysis were virtually non-existent (Mackey 1999, p. 56).

Banks could not rely on information gathered by private credit bureaus as a replacement for their own systems of analysis because until very recently there was no private credit reporting in Mexico. The Mexican Bankers Association started to pool credit information in the early 1930s, but in 1933 the central bank arrogated this authority from them. In 1964, this department of the central bank was constituted as a government-run credit agency. The problem with government run credit reporting is that bankers have weak incentives to provide the government with information about their client bases. The government, for its part, has weak incentives to provide accurate information to banks, because it is not motivated by the need to make a profit. As a result, the information available from this government run credit bureau was out of date and limited in scope. (Negrin 2000). In July 1993, the first private credit bureaus were finally founded, but it was not until February 1995 that rules were established governing their operation. (Mackey 1999, p. 25).

Under normal circumstances, when bankers lack the ability to repossess collateral through the legal system and cannot assess the quality of reputational collateral they do not make arm's length loans. Instead, they do what Mexico's bankers did before 1982—they lend primarily to their own enterprises. (Maurer and Haber, forthcoming; Del Angel Mobarak 2002, 2005).

At the time that Mexico's banks were privatized in 1991, however, the circumstances were far from normal. Mexico's banks had weak incentives to engage in prudent lending because neither the directors nor the major stockholders had much of their own capital at risk. The government had, in fact, allowed them to buy the banks with funds that they borrowed from the banks (Mackey 1999).

The absence of effective monitoring meant that credit expanded in Mexico at a prodigious rate. From 1991 to 1994 the compound rate of growth in bank lending was 24 percent per year. Even more rapid than the expansion of lending was the growth of non-performing loans. As early as December 1991 the ratio of non-performing to total loans was already 14 percent. By December 1994 it had hit 17 percent. It then skyrocketed to 36 percent by the end of 1995, and to 53 percent by the end of 1996 (Haber 2005). At the same time that non-performance rates surged, Mexico's bankers found that they could not easily repossess collateral. Even if we accept the highly unusual standards by which Mexican banks determined a loan to be non-performing, collateral recovery rates were amazingly low: five percent in 1991 and 1992, seven percent in 1993, and nine percent in 1994. If we apply more standard definitions of non-performance (employed in the estimates above), then collateral recovery rates were probably on the order of two to three percent. (Haber 2005). This situation produced a collapse of the banking system and a

government-financed bailout, the details of which are well known, and thus need not be repeated here.

As the banks emerged from government intervention and restructuring in 1997, the Zedillo government carried out a series of reforms designed to put the banks on a more sound institutional footing. For example, it limited loans to related parties, required banks to follow accounting practices that more closely approximate those in the rest of the OECD, placed limits on deposit insurance, and allowed multinationals to purchase Mexico's major banks. It also introduced a regulatory system that establishes reserve minimums that vary in accordance with the risk level of a bank's portfolio. In particular, banks are required to access, via a private credit bureau, the credit records of borrowers. Loans made without regard to this requirement, or loans made to a borrower whose credit record is poor, must be provisioned at 100 percent (Mackey 1999; 117).

These reforms did not, however, solve the weakness of contract rights. Mexican banks and the Mexican government have therefore carried out a series of reforms designed to make it easier repossess collateral. In 2001, the Fox government pushed through a bankruptcy reform, one of whose innovations was to sidestep the country's inefficient bankruptcy courts by placing assets being collateralized outside of an individual's or firm's bankruptcy estate. Contracts can now be drawn that assign assets to a lender. A simple example of such a contract is Mexico's recently developed "lease-to-own" automobile finance agreements. Under these arrangements, a borrower does not technically purchase a car with financing from a bank. Instead, the bank purchases the car, and then "leases" it to the borrower. The depreciation rate and interest rate used to calculate the lease payments are then structured so that the bank recoups its principal and

interest during the period of the lease. When the lease expires, the title passes to the borrower. Until that point, however, the bank holds title to the car, and can seize it as soon as a lease payment is missed.

A second example of this type of innovation was a 2001 reform of mortgage contracts that replaced liens on property with bilateral trusts—in which the bank is both the trustee and beneficiary of the trust. When payments are missed, the bank can evict the debtor and sell the house at auction. Debtors can legally contest the repossession, but they are unable to remain in the house during that process, which gives them strong incentives to negotiate an amicable repossession with the bank. (Caloca González, ND)

These steps are not, however, panacea for what at the end of the day is a country with a difficult property rights environment. It is not the case, for example, that all assets can equally be assigned to creditors, so as to avoid the legal process of foreclosure and bankruptcy. In order to be assignable, an asset has to be tangible, identifiable, and have value in a liquid market. As a result, some types of assets are easier to assign to creditors than others. At one end of the spectrum are assets such as automobiles, in which the bank may write the contract in the form of a lease. The automobile is, therefore, the bank's property, not the borrower's. Repossessing the car is a simple matter; an automobile is tangible, identifiable (by VIN number), has ongoing value, and can be sold in a liquid market for used cars. Moreover, the cost of repossessing the car (the rental rate of a tow truck, two pairs of large biceps, and a baseball bat) is low relative to the value of the asset.

At the other end of the spectrum are commercial loan contracts. Some types of commercial assets can be placed outside of a firm's bankruptcy estate through the same

mechanisms as consumer loans for automobiles. For example, trucks, cranes, and earthmoving equipment can be “leased” from the bank, and are tangible, individually identifiable, depreciate slowly, have secondary markets, and can be repossessed by driving them off the property. Other commercial assets, however, have characteristics that make them difficult to assign to the bank. Receivables, for example, are not tangible and can be difficult to identify. Indeed, firms can write sales contracts in such a way that their income is not credited to the category of receivables that has been assigned, but to some other category. The assignee can, of course, use the legal system to undo this subterfuge, but that presupposes the existence of an efficient legal system! Inventories of raw materials, to cite another example, are near impossible to identify individually (is the pile of coal that has been assigned the one in warehouse A or the one in warehouse B?). Moreover, inventories of raw materials are used up in production. Even most production machinery departs from the criteria for easy assignability. Production machines can, of course, be identified individually and tend to depreciate slowly. The problem is that most machines are designed for specific tasks in a specific setting. As a result, they do not always have liquid secondary markets. Much of the cost of these machines is embodied in their installation, not in the cost of the machine per se. In short, much production machinery tends to be expensive to remove relative to its value in a secondary market.

Differences in the degree of assignability of collateral are compounded by differences in the ease with which banks can obtain information about borrowers’ creditworthiness. Since 1995, Mexico’s new private credit bureau has been gathering data on consumers and business enterprises. Nevertheless, it is far easier to track consumers than it is businesses. Consumers cannot (easily) change their identities.

Business enterprises, especially small and mid-sized sole proprietorships and partnerships, can change their corporate identities virtually at will.

Finally, there are sizable differences between the ability of consumers and business enterprises to use the legal system to delay repossession. Mexican law allows judges an unusually high degree of discretion to issue *amparos* (injunctions) that can block the application of warrants and laws. It is relatively difficult for individuals, except those with considerable financial resources, to obtain an *amparo*. It is not, however, beyond the means of most business enterprises to obtain one.

What is true about commercial loan contracts is equally true about mortgage loan contracts, except that their enforcement is confounded by another weak institution: Mexico's property registers. The problems with Mexican property registers are numerous. They cannot be accessed online, but must be accessed manually, by consulting the sheaves of paper that comprise the file for each parcel. The individuals who consult the register often have access to the original documents in a parcel's file, not photocopies of the documents, which provide them with opportunities to tamper with the file. Many property sales go unrecorded in the property register, because purchasers seek to avoid the payment of property registration fees. Mechanics liens on property are unrecorded. There are often multiple owners recorded for the same parcel. The boundaries of parcels are not clearly specified. As if these problems were not serious enough, the public property registry is not integrated with the property tax registry. This reduces the incentive of the municipal governments that collect property taxes to make sure that the public registry is up-to-date. Finally, the public property registry does not cover lands held by *ejidos*, which are included in a separate Agrarian Property Registry.



This means that former ejido lands that have been converted to private use—typically by the sale of ejidos on the outskirts of cities to housing developers, who then create parcels that are resold to homeowners—do not have clear title histories. (Rajoy, ND).

The result is that there is typically a high degree of uncertainty as to whether the person who owns a parcel of land, whether it be a farm or an urban property, actually has clear title to it. (Joint Center for Housing Studies, 2004). Some sense of the seriousness of the problem can be gleaned from the following data point: because titling is so uncertain, across the entire country of Mexico in 2004, banks only made 18,601 loans for the purchase of pre-existing housing. Even more shocking, those 18,601 loans were a dramatic improvement from previous years, when there were almost no loans made. (Centro de Investigación y Documentación de la Casa and Sociedad Hipotecaria Federal, 2005: 21).

### **Are Oligopoly and Weak Property Rights Jointly Determined?**

From 1929 to 2000 Mexico was ruled by a single party, the PRI, which not only won all presidential elections, but dominated both houses of the legislature, controlled all the state houses, named the judiciary, controlled the press, and ran the educational system. So complete was the hegemony of the PRI that it was difficult to know, exactly, where the party ended and the government began.

The lack of checks on the authority and discretion of government created a thorny problem for Mexico's business class: there was nothing preventing the government from expropriating private assets once they had been deployed, which meant that the incentives to invest were weak. Weak incentives for investment created a thorny problem

for the PRI: it needed to generate jobs for the core constituencies that assured it electoral dominance. The PRI solved this problem the way many authoritarian governments do: it awarded a select portion of the country's business class with sets of special privileges designed to raise rates of return high enough to compensate them for expropriation risk. These privileges included low levels of taxation, trade protection, and barriers to entry. This is to say, high levels of market concentration were endogenous to Mexico's authoritarian political institutions. (Haber, Klein, Maurer, and Middlebrook, forthcoming).

The special privileges that the Mexican government crafted had an unforeseen consequence: low levels of tax collection. Mexico essentially had two economic sectors: a fast growing sector that received special privileges and was lightly taxed; and a slow growing sector that was subject (at least on paper) to heavy tax rates. The irony of this system is obvious: the part of the economy that produced most of the output paid little in taxes, while the rest of the economy produced so little that there was almost nothing to tax. The result was that, until the oil boom of the late 1970s, Mexican government revenues were less than 10 percent of GDP. Even after the oil boom, total government revenues typically ran at only 15 percent of GDP. As a consequence, the Mexican government provided very little in the way of public goods. Education, health care, old age pensions, and other "public" programs were targeted to subsets of the population—those that the PRI crucially needed in order to continually win elections.

The special privileges granted to a subset of the business class had a second unforeseen consequence: weak property rights institutions. As an emerging body of economic theory has demonstrated, wealth holders who are politically influential have

strong incentives to choose low levels of investment in the institutions that protect property rights because they can obtain all the property rights protection they need through private arrangements with public officials. In addition, their political power, when coupled to weak property rights institutions, allows them to prey on the assets of other members of society. (Sonin 2003). Indeed, weak property rights institutions serve as a barrier to entry to would-be competitors. Imagine, for example, two entrepreneurs: Entrepreneur A, whose political connections allow him to win all contract disputes brought against his firm; and Entrepreneur B, who knows that he will lose all disputes brought against him by Entrepreneur A. Entrepreneur B is beaten even before he begins. He therefore does not invest in the first place.

Not only do privileged elites have weak incentives to invest in property rights institutions, the government does as well. Establishing and maintaining property and commercial registers, as well as providing high enough levels of funding to create non-corrupt courts and police, comes at a fiscal cost. Funds spent on property rights institutions are funds not spent on satisfying the demands of core constituents (in Mexico's case, social insurance for unionized workers) and funds not available for extraction by public officials—which is to say not available to be stolen.

### **Policy Implications**

The transition to democracy swept away some of Mexico's authoritarian institutions. Elections are now closely contested. The President no longer rules as a virtual dictator. The PRI is now one of three major parties, and is struggling for its existence. This means that the political institutions that gave rise to barriers to entry and

weak property rights no longer operate. It does not mean, however, that barriers to entry and weak property rights disappeared once the PRI was voted out of office.

The policy implication is straightforward: Mexico could increase the amount of credit available either by reforming the property rights system or by making it easier to obtain a bank charter. These are not, of course, mutually exclusive policies. Indeed, they are likely to be complements of one another. As more banks enter the market, they will develop relationships with borrowers who currently do not access the banking system, and in so doing they will help those firms and households develop credit histories. Those banks are also likely to lobby for reforms to the property rights system. Similarly, as property rights become more easily enforced, incumbent banks will have incentives to extend credit to groups that they currently do not serve.

We would suggest, however, that the first policy goal, more liberal chartering, is likely to be more easily obtained. The second goal, better property rights, are likely not to be easily obtained except in the long run. The reason for the difference is that more liberal chartering involves changes to rules (legal codes), but better property rights involves changes to “systems” (interlinked sets of institutions). There are, of course, vested interests that can lobby against the rule changes that would be necessary to facilitate bank entry, but there are also interests (such as small and medium scale businesses and households) who, if they understood what was at stake, would lobby for those rule changes. Changes to systems, on the other hand, are difficult. Changing the way systems work requires a set of interlinked reforms across a broad front, and those sets of reforms can only be accomplished at high political or fiscal cost. In point of fact, it is not possible to establish a system of property in which claims and contracts can be

enforced universally and at low cost without first establishing the rule of law. Most obviously, if the courts and police are corrupt, then it is not possible to enforce even the most carefully-crafted contract or protect even the most clearly demarcated asset from encroachment.

The rule of law requires the creation of a broad range of institutions, and there is no road map for generating those institutions. Indeed, not all of the institutions necessary for rule of law are legally codified, many are embedded in sets of attitudes and beliefs among citizens about how the legally codified institutions of government *should* work. Thus, societies tend to find their way, through processes of experimentation and reform, to the creation of the institutions that produce rule of law. The empirical evidence strongly suggests that this is a slow process that is accomplished over generations, not something that is created in a few years.

Mexico is in the midst of such a process of experimentation and reform. A series of reforms in 1994, 1998, and 1999 enhanced the power and independence of the federal judiciary. In 1994, the Supreme Court was reorganized, with the number of members reduced from 26 to 11. In addition, the 1994 reform gave the legislature control over Supreme Court nominations: the Senate elects justices from a list of candidates provided by the executive by a two-thirds majority vote. In addition, the court gained constitutional review powers. Until this point, the Supreme Court was legally and politically subordinated to the executive branch of government. The 1994 reforms also removed the Supreme Court as the administrative head of the federal judicial system. That task was assigned to a new Judicial Council, whose members are chosen by the judiciary and by other branches of government. The Judicial Council manages the

careers of the hundreds of federal circuit and district court judges (as well as the judges for special agrarian, labor, military, and tax courts), which is to say that it has the power to sanction poor performance. It also administers entry exams for new judges.

(Domingo, 2000; Giugale, Lafourcade and Nguyen, 200: 736-37; Magaloni and Zepeda, 2004; Ríos-Figueroa, forthcoming).

Eighty percent of the caseload in Mexico, however, is adjudicated in state, not federal courts. Because Mexico has a federal system, state courts and other judicial agencies (prosecution, defense, judicial councils, court clerks), are organized independently of the federal judiciary and operate according to their own procedural and substantive laws. Judges continue to be named by state governors and are subject to a high degree of partisan influence. They and their staffs have a great deal of discretion, carry astronomically large caseloads, and are grossly under-funded as compared to the federal judiciary. Much the same is true of state prosecutor's offices. What is true of the prosecutors is even more true of the police, who continue to be very poorly paid and continue to be highly corrupt. (Giugale, Lafourcade and Nguyen, 2001: 137, 735-39; Magaloni and Zepeda, 2004).

What is true about establishing the rule of law is also true about establishing and maintaining property and commercial registers. The Fox government began a program to modernize property registries. This program is still, however, in its pilot phase. The government provided funding of \$4 million for the conversion of paper files to an electronic database in three states—Sonora, Colima, and Baja California. (Centro de Investigación y Documentación de la Casa and Sociedad Hipotecaria Federal, 2005: 73-

74) Many of the other problems with the property registry, even in these states, remain. In short, resolving the problem of uncertain titling remains a major challenge.

The implication is clear. In the short run, the most efficient way to increase credit in Mexico is to facilitate market entry. A number of small banks, such as Azteca in the consumer market and Mifel, Bansi, Banco del Bajío, and others have shown that it is possible to specialize in particular market niches and earn positive rates of return by developing long-term relationships with borrowers that allow the bank to assess credit risk on the basis of soft information. In this regard, Mexico might take a page out of the economic history of the nineteenth century United States, in which tens of thousands of very small banks provided most lending to farmers and manufacturers.

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