The Mexican financial system: reforms and evolution 1995-2005

José J. Sidaoui[1]

I. Background: the banking crisis of 1995

The Mexican banking crisis of 1995 contained many of the same characteristics as other banking crises: a massive expansion of credit in a short period of time, poor bank management, supervisory and regulatory loopholes, and a shock (both domestic and external). The perverse incentives created by a quasi-fixed exchange rate regime contributed to the onset of the crisis. However, the weakness of the financial system and loopholes within the regulatory and supervisory frameworks exacerbated its aftermath. The experience has provided important policy lessons. We divide the different factors that triggered the crisis and were responsible for its severity into the following categories: the macroeconomic environment, the incentives' structure faced by economic agents, and the legal and regulatory framework.

I.1 The macroeconomic environment

Financial deregulation, the signing of NAFTA at the end of 1992, and the fact that inflation had achieved single digits during 1993 and 1994,[2] induced an impressive sum of capital inflows into the country. While in 1988 there was a net disinvestment of 2.6 percent of GDP, by 1993 Mexico's capital inflows amounted to around 34 billion dollars, equivalent to 9.3 percent of GDP. About 84 percent of capital inflows entered in the form of portfolio investments, which made inflows more volatile and highly sensitive to macroeconomic variations. In fact, the predetermined exchange rate policy led speculators to foresee "one-sided bets".

Capital inflows produced a real exchange rate misalignment. At the same time, the economy was experiencing a consumption and investment boom in the non-tradables sector. The latter was reflected in an unsustainable current account deficit. Finally, an asset price bubble emerged which, in turn, attracted more short-term capital flows and the vicious cycle continued to feed on itself until it became unsustainable. The situation deteriorated further when the Federal Reserve decided to tighten its monetary policy and Mexico was subject to several political shocks. Domestic capital flight eventually drained the central bank's foreign reserves completely, forcing the abandonment of the quasi-fixed exchange rate regime at the end of 1994.

The collapse of the Mexican peso in December 1994 resulted in a more than 100 percent devaluation of the exchange rate. As a result, inflation skyrocketed from one digit to more than 50 percent, and nominal interest rates reached almost 100 percent. The real economy plunged, real wages collapsed and unemployment increased. GDP fell more than 6 percent during 1995. Firms and households were overwhelmed by the increase in interest rates to levels hovering at around 100 percent, accelerating the rate of debt amortization. The concurrent decline of real income also raised the debt burden. Banks suffered on both sides of their balance sheets. On the asset side, the amount of non-performing loans increased sharply, especially those denominated in foreign exchange. On the liability side, depositors demanded higher interest rates to keep their money in banks. Moreover, many Mexican banks required assistance to honor their foreign currency obligations.

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[1] Deputy Governor, Banco de México. The opinions expressed in this paper are the author's and do not necessarily reflect those of the Banco de México.

[2] In 1993 and 1994, inflation in Mexico was 9.7 and 6.9 percent, respectively.

I.2 The incentive structure

The crisis was preceded by a period of financial deregulation and abundant liquidity which led to a rapid surge in credit to the private sector. Banks did not take proper consideration of provisioning of credit risks. Domestic banks ended up with riskier loan portfolios, while low-risk firms had access to cheaper dollar financing from foreign banks. The increase in credit risk led to a rise in non-performing loans within the banking system.

The unlimited deposit insurance scheme, which protected all banks' liabilities without any restriction, induced moral hazard and increased the cost of banking resolution. Poor banking supervision, faulty accounting standards, the lack of proper credit controls and the absence of a risk management culture contributed to the severity of the banking crisis.

Poor banking skills and conflicts of interest played an important role in the assessment and allocation of bank credit in the years that preceded the crisis. La Porta et al. (2003) analyzed the consequences that related lending had in the crises of 1994. Their conclusions reveal that: (1) related lending accounted for a large proportion of banking business; (2) once the crisis emerged, banks that would eventually go bankrupt tended to increase their holdings in related lending loans; (3) related loans had better terms than unrelated ones; (4) related loans had much higher default rates than unrelated ones; and (5) the worst loans were those given to individuals and firms with the closest links to the individuals who controlled the banks. These conclusions demonstrate that related lending was an important cause of banks' fragility in 1994. In short, excessive credit expansion, poor bank management and an excessive related lending rate contributed significantly to the severity of the crisis. Interestingly, banks had demonstrated signs of weakness that were not recognized by the authorities in time. The drawbacks of financial authorities are explained in the next section.

The lack of appropriate banking rules, combined with weak supervisory practices, prevented financial authorities from detecting the fragility of the banking system before the crisis. For example, prior to 1994, the banks' accounting policies were not in line with international standards. A clear example was the policy of recording as non-performing loans exclusively the amount of payments due for more than 90 days, rather than the total amount of the outstanding loan. The ratio of past due loans to total loans had increased significantly before the crisis took place. However, this ratio underestimated the true figures due to faulty accounting standards. A related consequence was the lack of proper provisions for loan losses recognized by banks and, hence, the false perception of the existence of strong bank capital that could be used to confront eventualities.

I.3 The legal and regulatory framework

The Mexican banking crisis revealed the frailty not only of regulations, but also of the legal framework. Many loans were written off because of issues directly related to the inefficient judicial and regulatory procedures that involved the recovery of loans from bankrupted companies. The legal framework proved to favor debtors over creditors. Thus, it was not surprising to observe an excessive number of companies filing for bankruptcy, even when they were not in financial distress. Legal disputes were time consuming. In many cases, these processes took many years to be resolved. Moreover, creditors were required to take their claims to judicial instances as voluntary agreements between debtors and creditors were prohibited. Some analysts have suggested that the banking credit stagnation that persisted for several years after the crisis can be partially explained by the weakness of the legal and regulatory frameworks coupled with the lack of proper guarantees for creditors to mitigate their risks.

Once the banking crisis erupted, financial authorities confronted significant legal barriers when it came time to intervene and take possession of ailing banks. The legal framework prevents financial authorities from taking actions without giving banks' shareholders the right to a hearing. Banks' shareholders could also seek protection from the courts to stop any supervisory measures against their interests. Therefore, the legal framework barred authorities from acting more expediently, and oftentimes forced them to negotiate the friendly takeover of troubled banks with shareholders.

The next section describes the different measures taken by the government and Congress during the years that followed the Mexican banking crisis of 1995. An explanation is provided of the different laws and regulations that have been amended, as well as the ones enacted.

II. The reforms

It should be pointed out that, in banking crises of the same magnitude as the Mexican one, authorities have to react to events as they take place. In other words, there is not much time for planning ahead. Leaving aside debtor programs, the aim of the majority of the reforms was to realign the incentives faced by creditors, debtors, shareholders, bank managers and financial authorities.

The most important reforms can be classified as those geared towards: (1) stabilizing the economy; (2) realigning the incentives faced by debtors, creditors and authorities; and (3) strengthening the legal and regulatory framework.

II.1 Stabilizing the economy

A comprehensive macroeconomic stabilization program was implemented after the banking crisis. One of the goals of the program was to stabilize the economy in as quick and orderly a wayas possible. The policies and programs put in place allowed for a significant recovery of economic activity and inflation resumed its downward trend. It is clear that the two pillars for macroeconomic stability have been fiscal and monetary policy. Significant progress has been made in both areas in recent years. Such policies focused on maintaining sound public finances and abating inflation. In this setting, the importance of adopting a floating exchange rate regime must also be highlighted, since it has allowed the nominal exchange rate to adjust much faster to different shocks. This has also reduced the vulnerabilities of the Mexican economy.

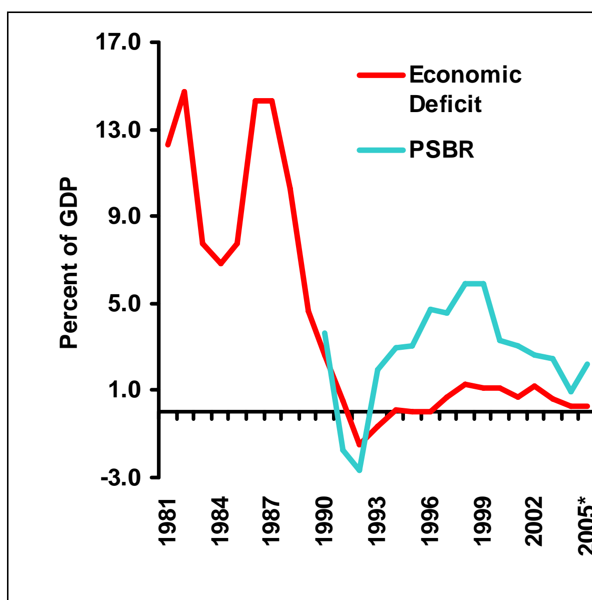
Fiscal policy

The public sector deficit has narrowed considerably, from a double-digit percentage of GDP in the 1980s to an expected figure close to 0.3 percent of GDP in 2005. Including other items that are usually excluded from the traditional fiscal accounts - such as PIDIREGAS, IPAB and FARAC liabilities - this broad definition of the public sector deficit is expected to be below 2.5 percent of GDP in 2005 (Graphs 1 and 2).

Graph 1

Fiscal deficit

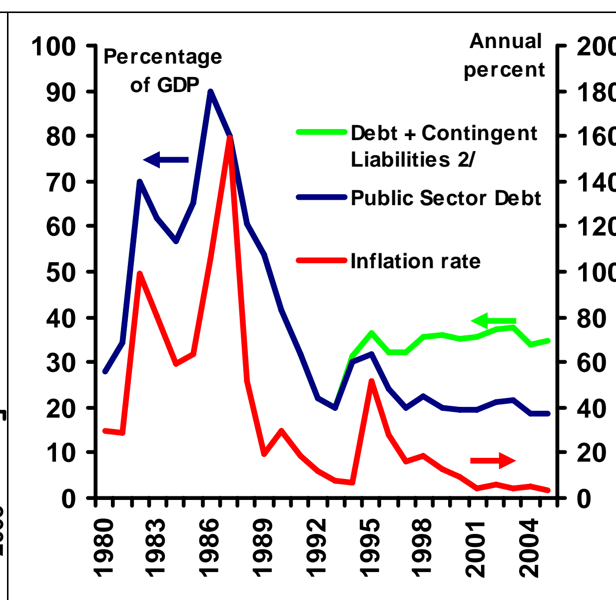
Percentage of GDP



Graph 2

Public sector total debt[1/] and inflation

Percent



* Estimated by Ministry of Finance in *Criterios Generales de Política Económica 2006*.

[1/] Data corresponds to the definition of broad net economic debt published by the Banco de México, which includes net liabilities from the federal government, institutions and enterprises, development banks and other public sector non-bank financial intermediaries. [2/] Since 1994, the following contingent items were included in the definition of broad net economic debt: IPAB, FARAC, direct PIDIREGAS, debtor support programs and UDIs restructuring programs.

In particular, authorities have pursued the following goals: (1) improving the debt amortization schedule; (2) reducing financial costs; (3) minimizing the vulnerability of public finances to changes in interest rates and to exchange rate fluctuations; (4) relying more on local currency debt; and (5) mitigating any possible unexpected adverse effects of a sudden capital reversal.

Appropriate management of public finances and the lower and sustainable levels of public indebtedness have enabled monetary policy to abate inflation. This has contributed to the development of domestic securities markets, allowing for the issuance of long-term fixed interest rate instruments (Table 1). This contrasts significantly with the structure of public debt observed in the late 1990s, when debt instruments were mostly short term or indexed to short-term interest rates or inflation. These factors have allowed the federal government to rely less on external debt markets. Since 2001, the federal government has financed its fiscal deficit totally through the domestic market. In recent years this strategy has been enhanced, and public sector foreign debt has been reduced considerably. In particular, federal government external debt decreased from 19.3 percent of GDP in 1998 to 9.4 percent in 2005.

Table 1

First issuance of fixed interest rate bonds

	3 years	5 years	10 years	20 years
Date	Jan 2000	May 2000	Jul 2001	Oct 2003

Monetary policy

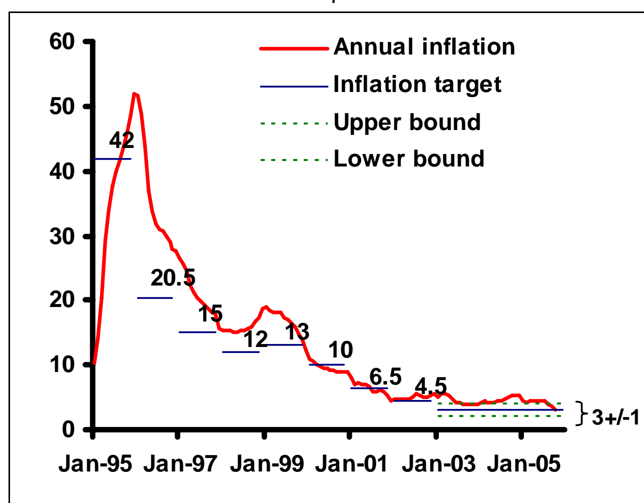
The main goal of the Banco de México's monetary policy was to regain public confidence and pursue price stability. Hence, the central bank made important efforts to improve its transparency, communication with the public and accountability. Among the most important elements of the Banco de México's new policy was the publication of:

- The level of foreign reserves.
- Daily publication of the monetary base.
- The implementation of monetary policy under transparent measures that are based on a strategy of communicating the monetary authority's targets, plans and decisions.
- The systematic assessment of the sources of inflationary pressures to evaluate the future path of inflation.
- The use of alternative measures of inflation, such as core inflation, to identify the medium-term trend of inflation.

Graph 3

Inflation: observed and target, 1995-2005

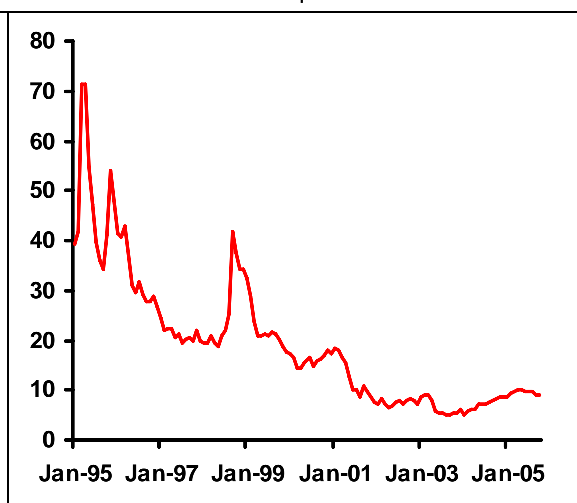
Annual percent



Graph 4

91-day Cetes interest rate

Annual percent



Adoption of a floating exchange rate regime

The Exchange Commission decided that from the end of 1994, the exchange rate would be determined freely by the market. A floating regime simplifies monetary policy management because it allows the exchange rate to adjust rapidly to domestic and external shocks, such as changes in international interest rates and in the terms of trade. Such conditions allow the economy to adjust to such shocks more easily. The floating regime makes it unlikely that the exchange rate will move considerably away from levels that are congruent with the country's fundamental economic conditions. Moreover, it also discourages short-term foreign investments because investors no longer have a promise from the Central Bank to provide dollars if they want to get out of peso securities.

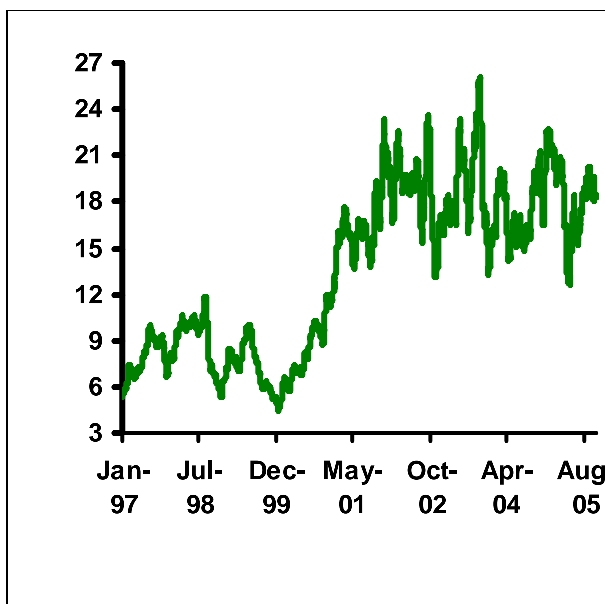
The adoption of the floating exchange rate regime has allowed the exchange rate to adjust more rapidly to different shocks. As a result, real shocks are now absorbed by the economy more through nominal exchange rate movements and less through changes in inflation. This has led to a more efficient adjustment mechanism and to a reduction in the exchange rate pass-through to CPI inflation. The fact that the exchange rate may fluctuate in any direction reduces speculation in financial markets and helps to de-link price formation in the economy with high frequency movements in the exchange rate. In this sense, monetary policy has gradually become the nominal anchor of the economy.

There is no doubt that the success of Mexico's floating exchange rate regime has relied heavily on a deep and liquid foreign exchange rate market. Daily trading in the Mexican exchange rate market accounts for an average of 18.1 billion US dollars, both in the swap and spot markets (Graph 5). The gradual improvement in macroeconomic stability has allowed for a significant reduction in the volatility of the peso-dollar exchange rate, similar to that of the main currencies (Graph 6).

Graph 5

Peso/US dollar daily average volume traded in the OTC market

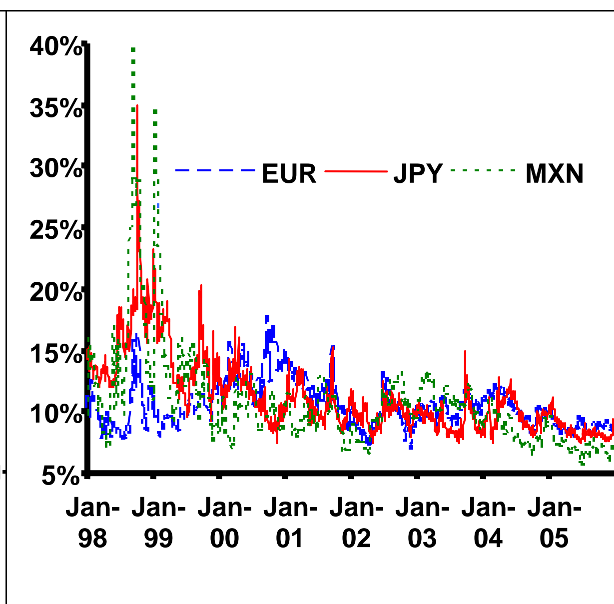
Billions of US dollars*/



Graph 6

Volatility implicit in peso/US dollar options in the OTC market

ATM 1 Month



*/ 20-day moving average.

Development of derivatives markets

One of the problems that became evident after the crisis was the lack of financial instruments and markets to allow participants to diversify and cover their risks. A first step towards promoting both, instruments and markets was the modification of the procedures to calculate market-reference interest rates in 1995. Hence, the so-called TIIE substituted the previous rate, known as the TIIP. The Mexican Derivatives Exchange (MexDer) began operations in 1998 as a self regulatory entity. The majority of its operations are linked to TIIE futures contracts.

Increase in derivative instruments traded in exchanges (e.g. the Chicago Mercantile Exchange, MexDer) and OTC markets has favored the development of foreign exchange rate and debt markets, providing commercial banks and investors in general with a wide range of low-cost alternatives to manage their market risks; thus, the development of derivatives markets has completed financial markets and fostered efficient risk allocation through the economy.

Development of long-term investors

In 1996, pension fund legislation was enacted in order to regulate private savings for retirement. Pension fund managers (Afores) were created to invest money in these funds. These intermediaries are subject to strict regulation concerning their investment regime. Initially, they were only allowed to invest in government securities. Subsequently, Afores were allowed to invest in high-quality corporate and bank bonds as well as in structured securities linked to a securities exchange, but were protected from principal losses. During the same year, banks and brokerage houses were authorized to operate derivatives. More recently, other financial intermediaries, such as mutual and pension funds, were also given permission to operate these instruments.

Increased transparency in primary and secondary securities trading

In 1997 and 2001, improved auction rules for government securities were established to make the process more simple and transparent, as well as to enhance competition among participants. An electronic system to conduct primary auctions made the bidding process more efficient and enabled the central bank to process and publish the auction's results faster, thus enabling insurance companies, mutual and pension funds to participate. The time span between the auctioning process and the announcement of results was reduced to 90 minutes. Even though the government has the right to reject bids at the primary auction, it has seldom exercised this right. The last time bid results were rejected was in early 1995 and then again in September 1998, at the height of the Russian crisis. The government announces its issuance program on a quarterly basis. This announcement lists the securities to be auctioned each week during the upcoming quarter, and the minimum amount offered by each type of security. To facilitate accurate price discovery[3] in trading debt securities, regulations were introduced in 1997 to oversee the establishment of voice and electronic inter-dealer brokers. These rules set up a framework for procedural requirements, trading models and safety protocols to ensure that these systems performed as they should.

Measures to increase liquidity in secondary markets

Price vendors were authorized in 1998, in accordance with international practices and to avoid potential conflicts of interest among financial institutions, which have to mark securities to market.

The figure of primary dealer, or market-maker, was introduced in 2000. Its objective is to enhance the liquidity of fixed rate securities in secondary markets by making continuous bid-ask offers in exchange for certain privileges, such as bidding for additional securities at the auction's average price results once they are known. Liquidity in short-term zero coupon bills (Cetes) and fixed-coupon bonds (Bonos) increased substantially after 2000.

In order to promote mortgage credit and a secondary market for these products, banks were allowed to issue "certificados bursatiles bancarios" that contain similar characteristics of banking bonds. These securities can be issued directly by banks or through a trust and can be used in repo and security lending operations. Because it is important that pension funds adopt recent risk management trends and in order to promote a more diversified and secure portfolio, these intermediaries can operate derivatives and invest in foreign securities of up to 20 percent of their total assets.

In 2005, repo rules were standardized for banks, broker houses, mutual funds and pension funds. The primary changes were: (1) banks, brokerage houses and pension funds are allowed to do reverse repos with foreign entities; (2) repos with private securities are allowed; (3) Some amendments to

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3 Price discovery is the process of establishing a market price at which demand and supply for an item are matched. By bringing buyers and sellers together and making the process transparent, financial markets facilitate price discovery. IMF, 2004, *Compilation Guide on Financial Soundness Indicators*, IMF, Washington DC, Appendix VII, Glossary.

master agreements were implemented; and (4) financial participants are required to guarantee repo operations between themselves and with their institutional investor counterparties. Table 3 shows how repo operations have had a huge positive trend in recent years.

In 2004, the Banco de México, as a financial agent of the federal government, published a new regulation that authorized “boot stripping” in some government securities (fixed rate bonds, “Bonos M” and inflation indexed bonds). This regulation allows coupons to be traded separately from principal as zero coupons.

II.2 The realignment of incentives

During the 1990s, banks encountered a series of perverse incentives that fostered both moral hazard and adverse selection problems. Full protection of depositors, poor information disclosure, the lack of proper credit information systems and underestimated capital requirements kept banks from self-discipline and promoted a distorted and poorly assessed allocation of credit and the taking of excessive risk, which eventually led to a loan portfolio deterioration. The onset of the crisis underlined the importance of the creation of proper incentives that promote market discipline and mitigate moral hazard behavior. As a result, both legislative and supervisory authorities promoted a series of reforms and initiatives intended to realign such incentives.

Limits to deposit protection insurance

Prior to the reform of the deposit insurance program, the government provided full and implicit coverage to all types of bank liabilities. Deposit protection was reduced gradually in terms of both the amount and type of liabilities covered. In January 1999, the Law for the Protection of Bank Savings was enacted by Congress, which created a new governmental organization known as IPAB.[4] This law establishes an explicit deposit insurance scheme[5] and supports programs that seek to provide aid to banking institutions in financial distress.[6] The reform introduced a limited deposit coverage of 400,000 Udis[7] (approximately 130,000 US dollars) per person, per institution. Deposit insurance is compulsory for all banks, with premiums paid in relation to the amount of each bank’s total liabilities.[8]

Information disclosure

After the crisis, disclosure requirements were increased in order to enhance market discipline. In 2003, the CNBV (the National Banking and Securities Commission) issued a regulation[9] that standardized and regulated the dissemination of banks’ financial information. The new information disclosure requirements focus on changes to banks’ financial statements, derivatives, investments, financial performance ratios, loan portfolio ratings, capital ratios, net worth, VaR measures and internal control systems.

Credit bureaus

The literature that addresses the benefits of credit information systems, commonly known as credit bureaus, is relatively abundant. Credit bureaus prevent adverse selection problems and moral hazard behaviors that arise as a result of information asymmetries (Pagano et al., 1993). On one hand, creditors with access to historical information on debtors’ behavior can discriminate, diminishing the risk of adverse selection and, thus, pricing their loans at lower rates. This is important for debtors as well, since good debtors would not have to pay rates that incorporate the risks related to bad debtors’

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4 IPAB stands for Instituto de Protección al Ahorro Bancario (Bank Savings Protection Institute).

5 Article 6.

6 Article 28.

7 UDIS are inflation indexed units of account.

8 Banks must pay a premium of 4 per thousand on the outstanding amount of protected deposits.

9 “Disposiciones de carácter general aplicables a la información financiera de las instituciones de crédito”, CNBV, June 2003.

behavior. On the other hand, debtors who have failed to honor their debts will have a negative record with the credit bureaus. This will have a dual impact, creating incentives to discipline debtors while at the same time contributing to the mitigation of the moral hazard problem. An additional argument in favor of credit bureaus is that they generate transparency for both creditors and debtors, since debtors can access their credit reports and certify their veracity.

In Mexico, there are two public central registries for bank credit. One registry is held by the central bank and is known as SENICREB (National Banking Credit Information Service). Banks and other financial institutions, such as financial factoring companies and leasing companies, report all of their credit exposures to SENICREB on a monthly basis. However, only credits greater than 200,000 pesos are reported on an individual basis, whether the credit is granted to firms or individuals. The information required for each major borrower includes: the debtor's identification, productive activity, tax identification number (known as RFC), geographical location, business activity, risk rating (from A to E according to the assessment performed by each of the three major ratings agencies), outstanding credit lines, the amount of each outstanding line (broken down by past due loans and performing debt) and, finally, the currency in which the loan was granted. Data received can be redistributed back to the reporting institutions upon request. Reporting institutions do not require authorization from the client to request information contained in SENICREB.

The second public central registry for bank credit is managed by the CNBV and is known as R04. This registry receives information on commercial loans from banks and credit unions, although it will soon receive information from other financial institutions as well. The information contained in R04 is extensive and includes: credit line and number, accounting and legal classification, amount outstanding, date of origination and maturity, amortization schedule, currency, interest rate, unpaid accrued interests, refinanced and capitalized interests, restructuring, risk rating based on the CNBV's methodology and provisions for losses, collateral or guarantees. The information is available to all supervisory authorities.

Public credit registries are primarily used for research and statistical purposes by financial authorities, and do not contribute significantly to the selection of debtors by financial institutions. The fact that these registries do not provide credit bureau services has reduced the entry barriers for private credit registries. Two private credit registries have emerged since the banking crisis: Buró de Crédito and Círculo de Crédito. The former began operations in 1996 and compiles information on individuals and firms. The latter began to operate this year and only provides information on individuals. Access to information is restricted to those firms that share their databases with a credit bureau. However, consumers can access their own information free of charge once every year. Both of these companies are subject to the Law Regulating Credit Information Societies, last amended in 2004. The central bank has issued the General Rules for Operations and Activities of Credit Bureaus and Their Users, which provides a regulatory framework for activities carried out by this type of firm.

Capital adequacy rules

As of 2000, capital adequacy regulation has gradually been made stricter. The most important modification is the obligation for investments in financial subsidiaries and non-financial firms to be deducted from banks' capital when they represent more than 15 percent of a firms' equity. Deferred tax assets cannot exceed 20 percent of banks' Tier 1 capital. Likewise, subordinated debentures or capital instruments cannot exceed 15 percent of Tier 1 capital.

Recapitalization: eliminating limits to foreign ownership

The new capitalization rules put an end to several facilities that were given to banks after the crisis. Banks' shareholders were forced to put more resources into their banks. The size of the resources required convinced authorities of the need to relax the remaining restrictions on foreign ownership. Mexican banks were privatized during the early 1990s, but at that time no person was allowed to own more than 10 percent of ordinary shares (banks had to be widely held) and foreign participation was limited to 30 percent in any single commercial bank. In 1992, changes to the regulations allowed more foreign participation. In 1994, under the North American Free Trade Agreement (NAFTA), wholly-owned subsidiaries were allowed, but were nonetheless limited to non-systemic banks. Their aggregate share in the banking system was also limited to 8 percent, and a time frame was established to gradually reduce these limits during the following six years.

After the Mexican crisis, the need to recapitalize banks led authorities to ease restrictions; yet foreign majority ownership was not permitted for the three largest banks. In 1999, all foreign ownership restrictions were removed for banks established in countries with which Mexico had free trade agreements. Recently, the Banking Law was amended so that there are now no ownership restrictions whatsoever on either domestic or foreign individuals owning a bank, as long as they have authorization from the Ministry of Finance. In order to get this authorization, they must comply with certain requirements established by law.

Accounting standards

In 1997, accounting standards were reviewed and amended to bring them in line with international criteria. Among the most important changes were: securities' classification in accordance with their acquisition purpose, marking to market all trading assets and the introduction of the concept of fair value. Another important amendment requires financial entities to register past due loans, considering both the loan's capital and interest as non-performing. Previously, financial institutions could register matured installments exclusively as past due loans.

Prudential regulation

Minimal criteria for credit manuals and for credit files were established, which comprised approval process requirements such as the credit bureau check. Provision requirements were therefore raised, and parametric models to classify and grade the loan portfolio were introduced. Banks can classify their loan portfolio using their internal rating methodologies based on default probabilities, loss severity and collaterals. In addition, lending limits were made considerably stricter, including related lending, which was reduced from a limit equivalent to regulatory capital to 75 percent of Tier 1 capital.

The most common approach to dealing with banks' foreign currency liquidity in emerging markets is to establish minimum liquidity requirements related to the size and term structure of foreign liabilities. Setting minimum requirements has certain advantages for both supervisors, as it is relatively easy to set minimum ratios and supervise compliance, and credit institutions, as it is convenient to comply with fixed parameters. Before the 1995 crisis, Mexico had already introduced liquidity coefficients for foreign currency liabilities. The fixed coefficient approach implemented in Mexico is by no means the best way to address liquidity risk management. However, this regulation is regarded as a necessary first step towards the implementation of an up to date regulatory framework for risk management, and the development and dissemination of modern risk practices in banks.

The goal of this regulation is to encourage banks to show prudent behavior in their foreign currency balance sheet, to compel them to maintain adequate liquid assets in foreign currency and to promote long-term financing in foreign currency. According to this regulation, foreign currency liabilities with less than 60 days left to maturity that have no corresponding assets of the same or shorter maturity must be matched entirely by high-quality liquid foreign currency denominated assets. Another regulation establishes that banks' foreign currency open positions cannot exceed 15 percent of their capital.

Corporate governance

Corporate governance determines not only how corporate objectives are set, but also how decisions in financial institutions are aligned with the specific interests of shareholders, regulators and other stakeholders. This subject plays an important role in banks and is the subject of particular attention in Mexico, where bank ownership is highly concentrated.

Corporate governance reforms in the Banking Law in 2001 had three main objectives: to improve shareholders' access to relevant information, to define the characteristics and number of independent board members and to create audit committees composed of board members. Furthermore, in order to promote more accountability in the decision-making process of credit institutions, the supervisor requires the signatures of board members and senior management on financial statements.

Creation of risk management units

In terms of risk management, in order to be allowed to operate derivative instruments, banks have to comply with internationally recognized regulations, such as risk units, which operate under approved

board guidelines and with modern systems that allow operators to constantly check risk exposure limits in real time. Additionally, internal and external audits have to periodically verify banks' compliance with these requirements.

II.3 Strengthening the legal and regulatory framework

Bankruptcy law and foreclosure procedures

As mentioned above, prior to Mexico's financial crisis, the legal framework did not provide the right incentives for debtors and creditors. Insolvency and foreclosure procedures were long and cumbersome. As a result, many laws were revised and reformed[10] to ensure secured creditors' interests and foster credit development. The Bankruptcy Law[11] stands out as one of the laws that was subject to major changes. Zúñiga (2005) highlights the main differences between the new law and the previous one by pointing out that one crucial benefit of the bankruptcy law reform was that it established an independent institution called IFECOM[12] in charge of managing bankruptcy claims. This institution must have the proper technical knowledge to deal with different issues involving insolvency disputes and, thus, should respond in a more efficient manner.

The setting of strict timelines among different stages of insolvency processes is another major advance. The pace at which insolvency claims are processed is essential to avoid the loss of value of the firm, since factors such as depreciation of assets and less careful management contribute to reduce such value, leading to a minor recovery from creditors. Zúñiga argues that resolution periods will be minimized not only because of the penalties that are established by law if judges do not honor the timelines established, but also thanks to the greater knowledge transfer ensured by this specialized institution.

The Law of Credit Instruments and Operations[13] was also amended. The reforms were intended to promote more efficient ways to back loans, complementing the Bankruptcy Law. The Commerce Code was also reformed in order to establish non-judicial procedures to execute guarantees.[14] This procedure allows creditors and debtors to establish an agreement for the execution, and is effective if there is no controversy regarding: (1) the effectiveness of the credit; (2) the amount to be paid; or (3) the delivery of the property given as collateral. To initiate the process, the creditor must request the property. Once the creditor has possession of the property, he can then proceed to execute such collateral. In the event that the collateral cannot be assessed, the judicial procedure will have to be followed.

Payment system reform

In 2002, the Payment System Law[15] was enacted, in line with the "Core Principles for Systemically Important Payment Systems" issued by the BIS.[16] Its main objectives are to promote efficient payment system operations and minimize systemic risk. This law ensures finality in all systemically important payment systems and gives legal certainty that the collateral submitted to the payment systems cannot be confiscated. In addition, it grants more power to the Banco de México to regulate, supervise, and implement adjustment programs to financial entities that are managing a systemically important payment system.

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[10] The Law of Commerce and the Law of Credit Institutions were amended on July 13th 2003 and June 13th 2003, respectively.

[11] The previous bankruptcy law, known as the "Ley de quiebras y suspensión de pagos" was replaced by the "Ley de concursos mercantiles," which was published in the Diario Official (the Oficial Federation Newspaper) on May 12, 2000.

[12] IFECOM stands for Instituto Federal de Especialistas en Concursos Mercantiles, the Federal Institute of Specialists in Commercial Bankruptcy.

[13] Created on August 27, 1932 and last amended on July 13, 2003.

[14] This procedure is also known as an execution agreement.

[15] Diario Oficial de la Federación, December 12, 2002.

[16] Committee on Payment and Settlement Systems, *Core Principles for Systemically Important Payment System*s, BIS, 2001.

Other measures intended to promote financial stability are related to the means by which the Banco de México provides credit to ensure the proper operation of payment systems. Currently, central bank credit is concentrated in one payment system and high quality collaterals are required for all participants.

Early warning and prompt corrective actions

The Banking Law now sets out immediate actions to be undertaken by banks if their capital adequacy falls short of the required minimum capital ratio. Mandatory and discretionary measures are prescribed by supervisors according to different capital levels. For instance, when a bank's capital ratio falls below 8 percent, the supervisor, among other measures, must order the bank to submit a recapitalization plan and prohibit the payment of dividends. Additionally, the supervisor may restrict the expansion of its risk-weighted assets or any other business that may further deteriorate the bank's capital ratio. If the bank's capital falls below 7 percent, the bank would automatically need supervisory approval to invest in non-financial assets, to open new subsidiaries or to undertake new lines of business. Under this scenario, the supervisor can also appoint new managers, board members or external auditors.

Finally, if a bank's capital ratio falls below 4 percent, the supervisor must inform the Ministry of Finance, the central bank and the Deposit Insurance Agency of the bank's situation in order for them to coordinate its resolution. At this point, the supervisor may order the bank to comply with any legally available corrective actions.

III. Evolution of Mexican banks

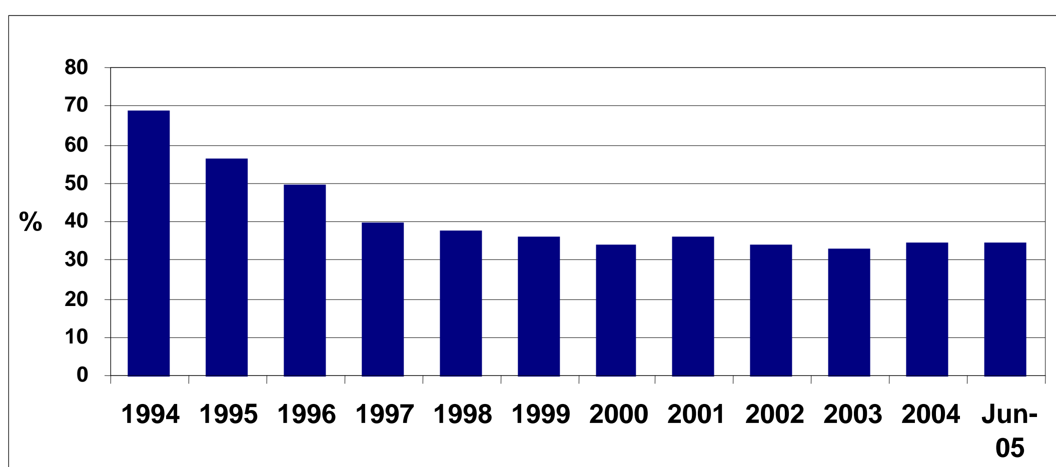
As a result of the banking crisis of 1995, commercial banks' balance sheet contracted significantly: total assets[17] as a share of GDP went from a historical high of almost 70 percent in 1994 to 34 percent in mid-2005 (Graph 7). Nonetheless, it has gradually started to recover. The crisis led to an important consolidation of the banking system. Foreign investment in the banking system has also grown considerably in recent years, from below 20 percent in 1997 to more than 80 percent in 2005. A large share of Mexican commercial banks is now part of global financial institutions, helping to improve risk management practices and diversifying part of the domestic risks at a global scale.

If measured by total assets as a percentage of GDP, the size of the banking sector has been stable during the last five years. As a percentage of GDP, the Mexican banking system is small even in comparison with other emerging economies.

Graph 7

Commercial banks

Total assets[1]/GDP



[1] Including repo operations.

Sources: CNBV; Banco de México.

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[17] Including repo operations.

Non-bank financial intermediaries have grown faster than banks, and banks' share in the financial system's total assets fell from 72 percent in 2000 to 51 percent in 2005. The fastest growing financial intermediaries are pension funds, non-bank banks and mutual funds, and only during and after 2003 did commercial banks total assets start to show positive real rates of growth. A consequence of this is that financing to the private sector has diversified. Financing from commercial banks in 1995 was equivalent to 65 percent of total financing[18] to the private sector; in 2005, this figure decreased to 30 percent.

Since the 1995 crisis, financial sector reforms, thoroughly described above, have been gradually implemented. Under this new regulatory framework, and in a stable macroeconomic environment, commercial banks' performance in Mexico has markedly improved. Especially since 2000, once the consolidation process after the crisis slowed down[19], banks have continuously enhanced their soundness and profitability indicators. The pretax return on shareholders' funds has grown since 1998, from negative numbers to almost 30 percent in September 2005.

Table 2

Return on equity*

	2000	**2002**	**2003**	**2004**	**IIIQ 2005**
Banking system	6.9%	10.0%	18.7%	22.0%	28.9%

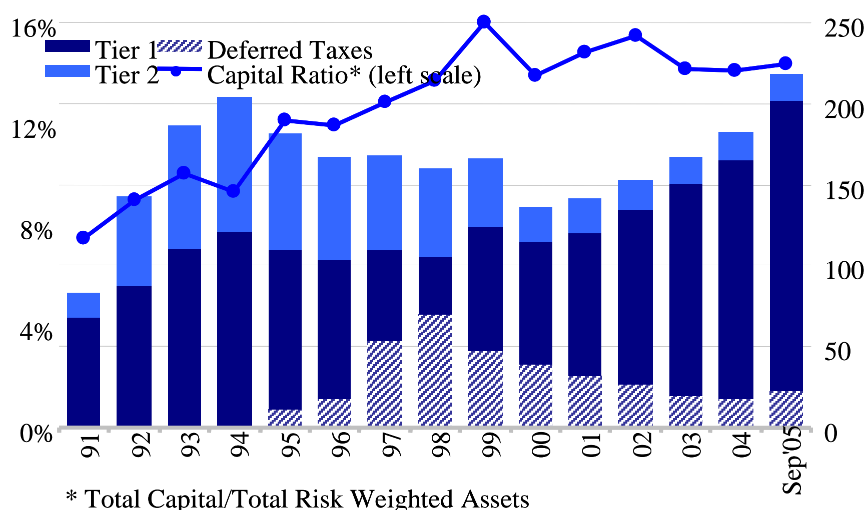
* ROE = Net income/average equity.

Source: CNBV.

Graph 8

Regulatory capital

Billions of pesos in real terms



Further, capital adequacy ratios are higher than five years ago and the composition of banks' regulatory capital has significantly improved. The losses originated during the 1995 crisis severely

[18] Total financing includes commercial and development bank credit, financing from abroad, suppliers' credit, and credit from non-bank financial institutions.

[19] The Mexican banking system consolidation process is described in Marcos Yacamán, *Competition and Consolidation in the Mexican Banking Industry*, BIS, 2001.

affected banks' capital, which decreased in real terms for the following five years. During these years, the banking system went through a consolidation process that implied a series of mergers and acquisitions which, apart from causing a reduction in its size, set the basis for its recent profitable performance.

In the last few years, banks' solvency has been reinforced. On the one hand, improvements in their financial structure and balance sheets, in particular in their asset quality, together with injection of new capital and retention of increasing profits, has strengthened banks' economic capital. On the other hand, regulatory limitations have been imposed to the inclusion of deferred taxes and of subordinated debentures in the definition of Tier 1 capital.

After 2000, foreign banks' participation increased, driven by BBVA's merger with Bancomer, Santander's purchase of Serfin, Citibank's acquisition of Banamex and, more recently, the entry of HSBC into the retail banking sector by acquiring Bital. The entry of foreign banks contributed to the recapitalization process of the banking system.

Bank activity and profitability

The strong performance of banks' profitability during the last five years is explained by several factors: (1) strategies implemented by banks to improve net interest income despite facing a contraction of interest rate spreads from 1998 to 2003 - after this period, rising rates of interest and spreads have benefited, especially retail banks; (2) higher income from fees and commissions; (3) improvement of the efficiency index measured as the ratio of operating expenses over income; and (4) decreasing requirements of loan loss provisions due to the improvement in the quality of loans.

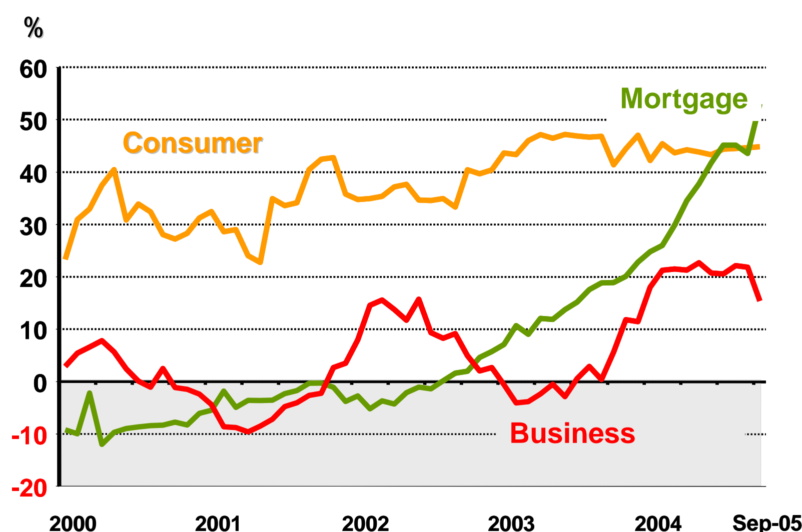
From 1998 until 2003, interest rate spreads in Mexico declined significantly. During this period, banks managed to sustain or even increase net interest income levels. Banks have improved their financial structure; to be precise, they are no longer financing non-earning assets with interest bearing liabilities. Additionally, the earning assets structure has improved with a growing share of high-yielding loans. At the same time, the cost of funding is much lower nowadays as banks hold a larger share of low cost deposits such as savings and checking accounts.

Credit growth

Credit granted to the private sector has recovered. The highest real rate of growth is that of consumer credit, which has been above 35 percent in real terms during the past four years. Next are mortgage loans which picked up more recently. Commercial credit has registered high real rates of growth during last year.

Graph 9

Performing loans annual real rates of growth (%)

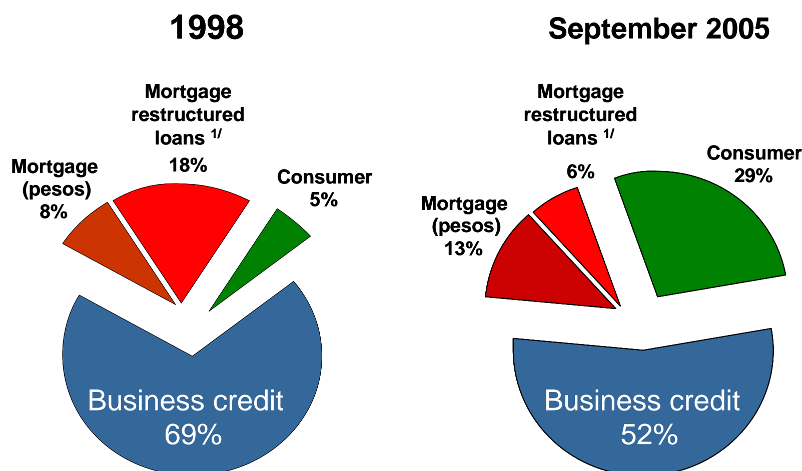


Overall household debt[20] has been expanding strongly since 2002. About 61 percent of household bank credit is consumer debt, of which roughly half corresponds to credit card loans. The dynamic expansion of household financing has changed the structure of credit granted to the private sector (Graph 10).

Graph 10

Credit to the private sector

Structure



Source: CNBV
1/ Restructured after the crisis and indexed to inflation

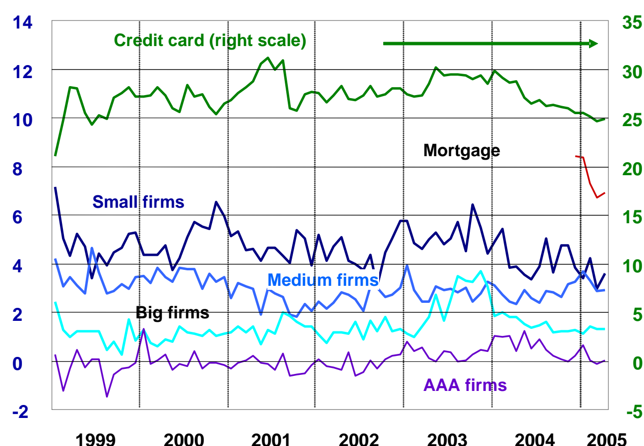
The new structure of credit to the private sector allowed banks to increase the level of interest income. While commercial credit offers a spread that varies from 1 to 5 percentage points above the inter-bank interest rate, depending on the size of the firm, banks can obtain a spread of 25 percentage points in loans through credit cards and approximately 6 points in mortgage loans, on average (Graph 11).

Graph 11

Interest rate spreads

Credit interest rate - Inter-bank rate

Percentage points



[20] Debt with the financial sector; it includes: bank credit (credit card loans, mortgage loans, car financing and personal loans) and credit from non-bank financial intermediaries such as non-bank banks.

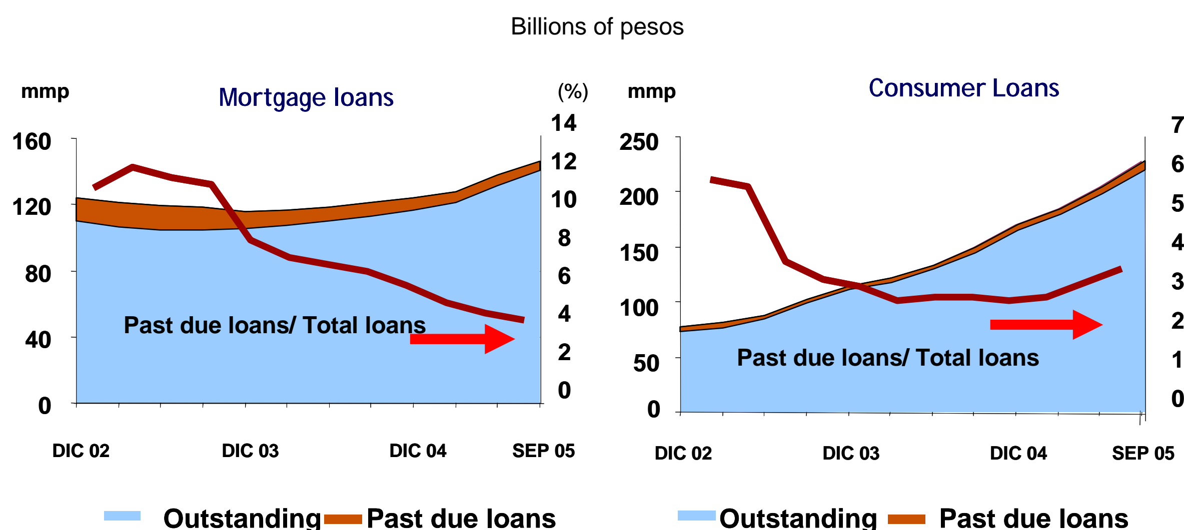
The increasing amount of resources aimed to finance the private sector and the high yield of this type of credit have increased interest income and changed its structure, as the importance of interest generated from financing the public sector diminishes. In 1998, 41.3 percent of interest income was generated by financing the private sector, in 2005 this percentage was raised to 56.5 percent.

However, the banking system risk exposure to household credit remains low as portfolio quality indicators are at sound levels (Graph 12).

Graph 12

Consumer credit trend

Billions of pesos



Low cost deposit base

Banks have improved their deposits structure. Low cost deposits represent almost 42 percent of the total deposit base; this figure was 31 percent in 1998. The deposit structure has allowed banks to significantly reduce their total cost of funds. In 1998, total cost of funds was equivalent to 78 percent of the inter-bank rate (TIIE), while in 2005 it was 67 percent of TIIE.

Table 3

Deposit trend

	1998		2005		1998-2004 Real rate of growth
	Amount	Structure	Amount	Structure	
Low cost deposits	530,523	31.6%	874,561	41.8%	64.8%
Money market	435,386	25.9%	228,146	10.9%	–47.6%
Deposits by banks	78,932	4.7%	136,657	6.5%	73.1%
Repos	298,324	17.8%	678,809	32.5%	127.5%
Foreign currency deposits	337,203	20.1%	173,568	8.3%	–48.5%
Total	1,680,369	100.0%	2,091,741	100.0%	24.5%

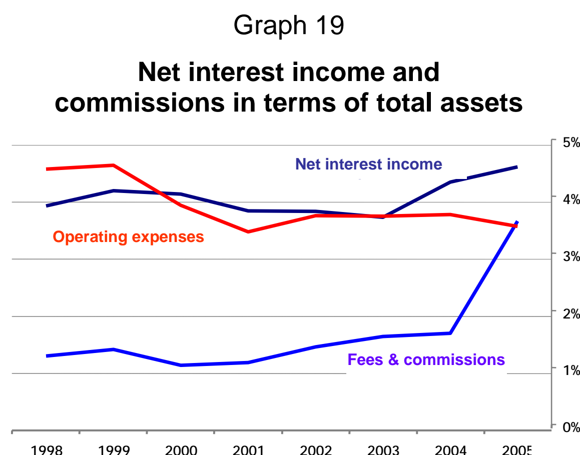
Sources: CNBV; and Banco de Mëxico.

Higher fees and commissions

Although net interest income continues to be the main source of income, fees and commissions have been growing steadily, increasing their contribution in banks' net income. Commissions and fees are increasing on two different fronts: by widening the scope of bank services with cost and their individual charge, and due to an increase in the volume of transactions.

Graph 19

Net interest income and commissions in terms of total assets



Improvement of the efficiency index

Efficiency measured as the ratio of operating expenses to total income has improved significantly. In 1998, this ratio was 87.7 percent and in September 2005 it decreased to 57.8 percent. Along with an improvement of income, in these years operating expenses decreased. In the reduction of operating expenses the contraction of the employment base plays an crucial role. Between 1998 and 2003, the employment base decreased 24 percent, by 32,700 employees. Consequently, in this same period wages expenses fell 16 percent in real terms. More than a thousand branches closed, thus expenses in rents dropped 42 percent in this period.

Table 4

ROE decomposition ratios

Banking system

	Net operating income/total income (A)	Total income RWA (B)	RWA/assets (C)	ROA (D)=A *B *C	Assets/equity (E)	ROE (F)=D *E	Efficiency index (G)
1998	–18.6%	9.1%	57.3%	–1.0%	14.4	–14.1%	87.7%
1999	–11.0%	10.4%	54.5%	–0.6%	13.7	–8.6%	82.9%
2000	13.9%	10.3%	51.4%	0.7%	13.1	9.6%	74.6%
2001	21.9%	10.5%	47.5%	1.1%	12.7	13.8%	69.2%
2002	17.3%	11.1%	47.0%	0.9%	11.6	10.5%	71.0%
2003	32.7%	10.2%	54.3%	1.8%	10.3	18.7%	69.8%
2004	34.0%	10.7%	56.7%	2.1%	10.7	22.0%	62.5%
2005[1]	42.4%	10.8%	58.1%	2.7%	10.8	28.9%	57.5%

[1] January-September in annual terms.

Efficiency index = operating expenses/(net interest income + commissions).

Final considerations

All the factors mentioned above help explain the increasing levels of banks profitability. Table 4 shows the ROE's decomposition ratios. These ratios show how an increasing share of total income results in profits (column A), indicating that at present 42 cents of every peso earned turns into profit. Increasing profits are obtained without a rise in income as a proportion of risk weighted assets (column B) and neither of increasing risk weighted assets as a ratio of total assets (column C). The positive trend in ROE indicators could also be due to a reduction of equity levels, which is not the case, as shown in column (E), revealing that leverage indicators have improved. Efficiency measured as the ratio of operating costs to total income advances in line with profitability, showing evidence of improving management.

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