Mexico

Banking Outlook

March 2011

Economic Analysis

- Since May of 2010 there has been a reactivation of credit to the private sector

- Despite the depth of the recession, there has not been a significant regression of the penetration of credit in the economy

- Credit hand in hand with economic recovery: a panorama of credit growth is expected for this year

- In a quantitative evaluation of the Mexican financial system, an improvement is seen in the country's competitive position at an international level

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1. Summary

Since April 2010 there has been a reactivation of credit to the private sector
After the severe recession of the Mexican economy in 2009, comparable in depth to that of 1995, credit to the private sector was affected up until April 2010. During this recession, the most significant contraction was seen in consumer credit and in second place in credit to companies. In turn, the growth rate of housing credit simply suffered moderation. At the close of 2010, all the components of credit showed a positive real growth rate, that is, surpassing the inflation rate.

Despite the depth of the recession, there was no significant regression in the penetration of credit in the economy
In comparative terms, the 2009 recession was characterized because the contraction of credit occurred in that year and was quite moderate throughout part of 2010. This drop was due more to conditions of demand than to a restriction of the credit supply. The most extreme episode of the contraction and later sluggishness of credit in Mexico occurred due to the crisis of 1995, and as a reference of a limited effect on credit corresponding to the recessive period that occurred between 2001 and 2002.

There are various reasons that explain this better performance of credit in 2009 and 2010 compared to other recessions. From a macroeconomic standpoint, the positive advances in price stability prevented the deterioration of families' income and the significant increase in the cost of financing. As for conditions in the sector there is now an improvement in loan origination, the result of better practices in credit institutions, the use of statistical measurement tools to determine risk and a better supervisory and regulatory environment together with banking regulations.

Credit goes hand in hand with economic recovery
As productive activity and employment recovered in 2010, the recovery of credit also began. A review of the performance of credit in recent years shows that there is a delay in its reactivation compared with economic activity, which could be between six and nine months. As household income stabilizes as a result of the recovery of employment, and an improvement in the economy is perceived, greater consumer confidence is recovered. As the above conditions occur, the demand for credit is again reactivated, first for consumption and later for housing. In the case of companies, it is not only necessary to have an improved economy but also to motivate a certain use of installed production capacity in order to spur greater investment and consequently, the demand for company credit.

A panorama of credit growth is expected for 2011
As economic recovery consolidates, credit will grow this year; both because of a greater demand among credit recipients and due to supply conditions that incorporate lower risk. In this sense, the growth of bank credit is estimated to be around three times the growth of GDP, with which the dynamic trend observed before the recession will resume.

The high solvency of resident banks in Mexico is one of the conditions that will again make possible the expansion of credit

Another positive sign of the evolution of the economy during the past recession is the strength of the banking system, which on this occasion has been a support rather than a source of economic instability. The reasons that explain this situation are: high capitalization levels prior to the change in the economic cycle, the financing of the balances in the banks with local currency sources, and the non-investment or issue of high risk instruments, known as "toxic" products.

The banking system in Mexico has high capitalization levels, surpassing those required by the new international regulations

The new guidelines established by Basel III demand greater capital requirements and quality for international banking. In Mexico's case, bank capital levels are high and allow for this regulation to easily enter into operation without generating pressure on the country's banking system. Moreover, as a result of the publication of the Basel III requirements, the market perceives a reduction of risk for foreign banks operating in Mexico.

In a quantitative evaluation of the financial system in Mexico, rather than through surveys, the perception is that the country's competitive position has improved at an international level, although there is still room for improvement

The above mentioned performance of the banking system in Mexico compared with other recessions, as well as the positive results of other reports, are not reflected in the country's position in the **Global Competitiveness Report 2010-2011** of the World Economic Forum. It is possible that the perception contained in the surveys on which such measurements are based is altered, perhaps due to the recession and the violence associated with organizaed crime, and does not necessarily accurately reflect the progress in other indicators that are measurable using quantitative data. In this edition of ***Banking Outlook Mexico*** an exercise is presented that shows that if the banking system in Mexico were classified based on the data observed, it would rank between 44 and 62 in the pillar of development of the financial market of the **Competitiveness Report** instead of the 96th position that it holds.

Greater and better quality of information on credit holders and the sharing of such information among the credit bureaus could facilitate and expand the credit supply

Credit bureaus are institutions engaged in processing information on the payment performance of credit holders, which allows reducing the risk of non-payment of credits granted. In the case of Mexico, there has been significant progress in the matter of coverage of credit holders and gradually, the available information has grown. However, there is still room for improvement.

Three proposals have been identified to improve and expand the information in the credit bureau

There is international evidence that suggests that there is greater granting of credit when credit bureaus have broader quality information with regard to credit holders. In particular, this happens when "positive" information is included that indicates compliance of payment of loans and services.

In this sense, in Mexico, data of the contributions made by companies on behalf of workers to the INFONAVIT (workers' housing fund) and the IMSS (the Mexican Social Security Institute). Also, data on the payments made to supplier companies of public services such as electricity and water could be included. Finally, the information contained in the Tax Administration Service (SAT for its Spanish initials) and the Federal Electorate Institute (IFE for its Spanish initials) to validate the veracity of the personal data of credit holders in the credit bureau. All these elements would expand and improve the information base for credit holders, which would allow for a better estimate of the credit risk of credit users.

2 Credit and Savings Situation

2.1 Bank Credit to the Private Sector: Recent Evolution and Outlook

This section of **Banking Outlook Mexico** analyzes the evolution of bank credit. First, its performance in 2010 is examined and reference is made to the factors that allowed it to resume growth as of the second half of the year. Later, the characteristics of the current reactivation are compared with those following the economic crisis of 1995 and the recession of 2001. What is most significant is that the recovery of credit in 2009 was fast because the recession that year did not affect credit holders' payment capacity nor did it make credit more expensive, as occurred in 1995. Third, an analysis is done with a broader historic perspective, starting from 1960 to 2010. The evidence analyzed in this period allows concluding that as long as there are no great macroeconomic imbalances associated with high inflation levels, credit will resume growth once the adverse macroeconomic environment is overcome. Finally, based on GDP growth estimates of 4.3% for 2011, there are favorable perspectives for credit to grow at a faster rate than it did in 2010.

This section includes two insets. Inset 1 is a comparison between the statistics published by the central bank (Banco de Mexico or Banxico) and the National Banking and Securities Commission (CNBV for its Spanish initials). The information provided by Banco de Mexico has greater temporary coverage than that of the CNBV with regard to credit and financing to the public and private sectors. The Banxico information has greater temporary coverage than that of the CNBV, in addition to the fact that the central bank provides information in a more timely manner and with greater frequency than the CNBV. These characteristics make the information provided by the central bank to be used in the analysis of credit performance. In turn, the information provided by the CNBV is also important because it considers the financing granted to the public sector from a broader standpoint than that of the central bank. Inset 2 examines the situation of the Mexican financial sector, in relation to the rest of the world, based on the reports on international competitiveness prepared by some institutions. From this analysis, it is concluded that, as long as the measurement of competitiveness is based more on surveys or perceptions than on "hard" data, the rating of the strengths of the Mexican banking and financial system is not objective.

The reactivation of bank credit began as of May 2010
The severe economic recession of 2009 was characterized by a 6.1% contraction of GDP and of formal employment at an annual average of 3.1%. This environment affected the performance of credit granted by the commercial banks to the private sector. As shown in Graph 1, it posted negative growth rates from April 2009 to May 2010. In real terms, the reduction of this type of credit was moderate, as shown in Graph 2. Once GDP and employment resumed growth, bank credit began to recover in real terms. Compared with the immediate previous month, this first occurred in April and compared with the same month the previous year, recovery began in June. At the end of 2010 all credit components (consumer, housing and company) posted positive annual growth rates, which also occurred in January of 2011.

The year 2010 was one of recovery, with economic growth the highest of the last ten years, with a GDP growth rate of 5.5%. Moreover, in 2010, there was a faster creation of formal jobs than in similar episodes, with an annual average of 5.2%. Therefore, the expansion of GDP and employment were key factors bolstering the reactivation of credit to the private sector.

Graph 1
**Bank Credit to the Private Sector
Total Current Loan Portfolio,
Real annual growth rate, %**

Source: BBVA Research with Banxico (central bank) data

Graph 2
**Bank Credit to the Private Sector,
Total Current Loan Portfolio, Balances in
billions of December 2010 pesos**
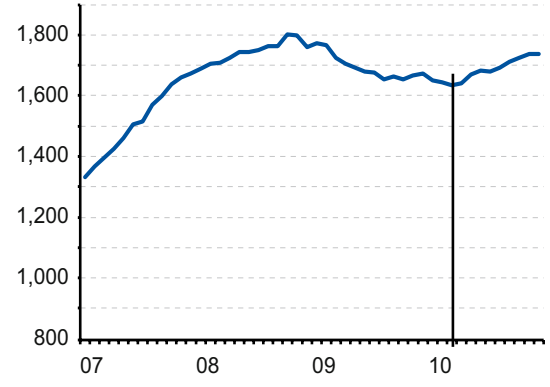
Source: BBVA Research with Banxico (central bank) data

**Consumer credit: the category that posted the greatest contraction during the recession;
it began to grow at the end of 2010**
Since the last quarter of 2008, consumer credit posted negative growth rates; this continued until
October of 2010. In November, it showed its first positive real annual growth rate, of 0.3%, which
in December 2010 grew to 2.6% and in January 2011 rose to 4.8%.

It should be mentioned that consumer credit is closely related to the evolution of formal employment
(Graph 3), which in turn influences the recovery of consumer confidence. Another element that
limited the performance of consumer credit since 2008 were the signs that in specific segments
of the population there was a certain degree of saturation of this credit category. To the extent that
GDP, employment and family income recovers in a sustained manner, a significant and prolonged
expansion of consumer credit can be expected. These conditions are beginning to be present.
For example, the performance of total wages, that is, overall income received by workers in the
formal sector, is one example. In turn, employment already recovered the levels prior to the crisis,
which has allowed for the gradual growth of total wages. In 2010, this was greater than that of the
previous year (Graph 4), and it is expected that in the first half of 2011, it will reach the 2008 level.
In this manner, greater employment and higher total wages will continue to spur consumer credit.

Graph 3
**Consumer Credit and Total Employment
as shown in the IMSS
Real annual growth rate, %**

— Consumer credit   -- IMSS total employment
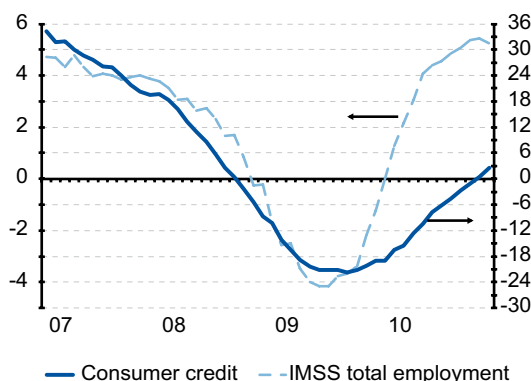
Source: BBVA Research with Banxico (central bank) and STPS
data

Graph 4
**Real Total Wages of Private Formal
Employment, IMSS Index 2008=100 and
annual % change**

— Annual % change (right)   ■ Wage (left)
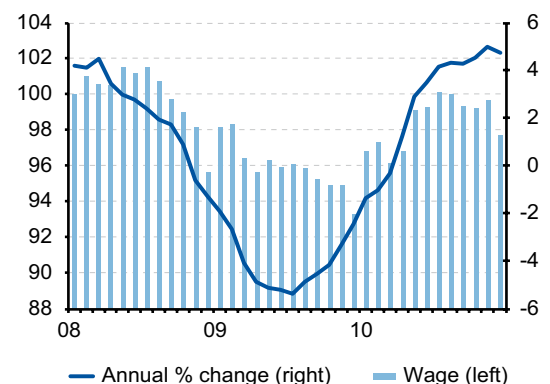
Source: BBVA Research with Banxico (central bank) and STPS
data

BBVA Research

Housing credit: this was the credit category with the best performance in 2010, with an always positive growth rate

Housing credit is the only component of bank credit granted to the private sector with a positive real annual growth rate throughout the recession of 2009, and, in 2010, it continued to post positive real growth rates (Graph 5). Its average real annual growth rate for 2010 was 9.6%; in December of that year, it was 5.9% and in January 2011 it was 4.1%.

Housing credit grew throughout 2010 (Graph 5) due to demand, which was maintained as a result, among other factors, of the housing deficit in the country (Graph 6)[1]; the recovery of employment; and because credit contractual conditions did not undergo major modifications. For example, the conditions of various insurance policies applied to mortgage products (life, unemployment and others) were not modified, in addition to the fact that the interest rates on these loans remained stable.[2]

Graph 5
Housing Credit
Real annual growth rate of its balance, %

Source: BBVA Research with Banxico (central bank) data

Graph 6
Housing Deficit and the Economically Active Population (EAP)
Figures in millions

■ EAP ■ Housing shortage
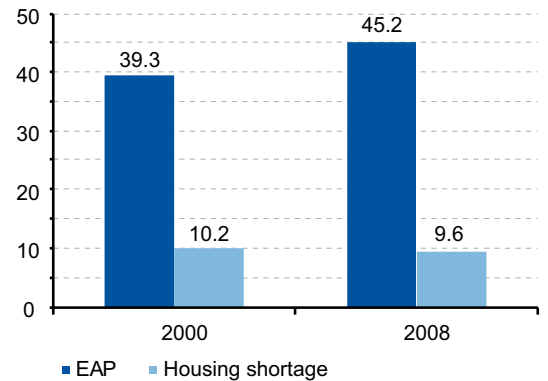
Source: BBVA Research with INFONAVIT data

Credit to companies; its reactivation in 2010 was gradual, which, in turn, shows the lag in private investment

The contraction of GDP affected corporate credit causing the postponement of investment projects and the productive units to reduce their working capital needs. These factors reduced corporations' demand for credit. As shown in Graph 7, in the first half of 2009, the growth of credit to companies slowed down and, toward the end of that year it was even negative. The contraction of its balance continued during the first five months of 2010, and it was not until June 2010 that it resumed growth. At the end of 2010, its real annual growth rate was 4.3% and in January of 2011 it was 6.4%.

Graph 7 also indicates that there is a positive relationship between the growth of credit to companies and GDP growth, as measured by the General Index of Economic Activity (IGAE for its Spanish initials), showing a 6-month lag. That is, economic activity recovers in a sustained manner and six months later credit to companies resumes growth. In turn, other indicators suggest that companies' investment levels could be reactivated in 2011, as is the case for indices of producer confidence and the use of installed capacity. The former is at similar levels to those of 2008 and the latter shows important advances, as shown in Graph 8. These factors also indicate expectations of greater demand for credit, which could grow at high rates throughout the year.

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[1] The January 2011 issue of Real Estate Outlook Mexico presents the most recent estimate by the Infonavit for housing shortage figures.
[2] In 2008 the interest rate on mortgage loans posted an average of 12.35%; in 2009 this rose to 12.79% and in 2010 dropped to 12.46%.
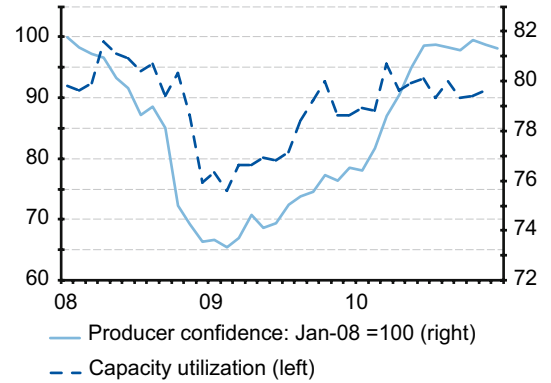
Graph 7

Credit to Companies and the General Index of Economic Activity (IGAE) Real annual growth rate, %

- - IGAE (6 months ago)
— Credit companies
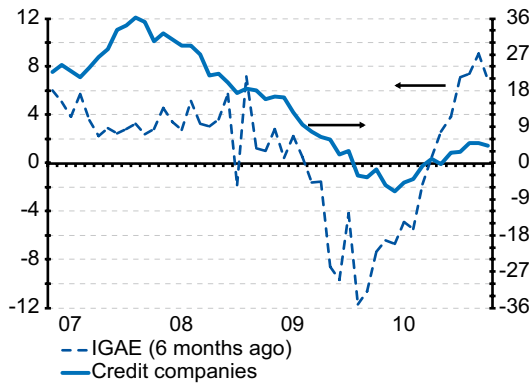
Source: BBVA Research with Banxico and INEGI data

Graph 8

Producer Confidence Index and Use of Installed Capacity, %

— Producer confidence: Jan-08 =100 (right)
- - Capacity utilization (left)

Source: BBVA Research with Banxico and INEGI data

The contraction of credit in 2009 was moderate; its recovery is among the fastest compared with other similar episodes

In 2009, the contractions in GDP (-6%) and in formal employment (-3.1%) were severe. However, this was not reflected in a great reduction of the balance of bank credit to the private sector. For example, in December of 2009, its real annual growth rate was -4.8% and the average real growth rate for the entire year was -2.9%. As mentioned previously, toward mid 2010, bank credit to the private sector began its reactivation process by again posting positive growth rates after which production and employment resumed growth.

Graph 9

Total Bank Credit and IGAE (General Index of Economic Activity): December 1995 - December 2010 Real annual growth rate, %

— Total credit   - - IGAE: 3-month moving average
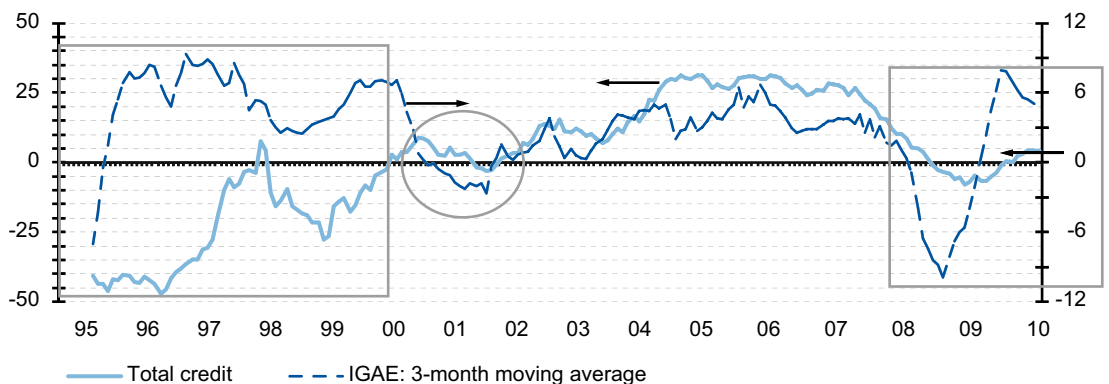
Source: BBVA Research with Banxico and INEGI data

Graph 9 shows the severe deterioration of bank credit, which lasted several years due to the 1995 crisis, and which did not occur with the recessions of 2001 and 2009. The reason is that the latter recessions were not accompanied with a strong inflationary process as occurred in the former case. The high inflation affected credit activity because: i) it rapidly reduced real income in a great proportion and the payment capacity of economic agents; and ii) it raised interest rates on the great majority of credits granted, since a high proportion of these were granted at variable interest rates in line with inflation.

Also, Graph 9 shows the impact on credit of the recession of 2001, since, in that year, GDP contracted -0.9%. That recession termporarily affected credit by causing its slowdown in the second half of 2001 and its slight contraction in the early part of 2002. The reactivation of credit after the recession of 2001 was fast, and in May of 2002 it posted its last negative real annual growth rate (-1.1%), and, seven months later, it was positive and high (8.5%). A similar performance has occurred in the case of the effect of the recession of 2009 with credit, although the rate of recovery has been lower. For example, in May of 2010, total credit posted its last negative growth rate (-1.4%) and, on the seventh month, it was 3.8%. Perhaps the difference in the rate of recovery of credit after the recessions of 2001 and 2009 is due to the fact that the contraction of GDP in the first case (-0.9%) was much lower than that of 2009 (-6.1%), and to the fact that the penetration of credit in the first case was lower than in the second.

Graph10
Bank Credit and of Other Financial Intermediaries in the Country
Percentage of GDP, %

Expansion during stabilizing development: High GDP growth, there was low inflation and macroeconomic imbalances (no recurrent crises)

Contraction due to: high inflation in banking, recurrent macroeconomic crises

Accelerated expansion during privatization without measurement of irrigation: macroeconomic crisis of 1995 (high inflation, falling GDP), inadequate regulatory framework

Growth since 2000: low inflation, better branking regulatory framework, adequate risk measurement

* Up to 1993, the data is from the World Bank. These include bank credit or that from other internal sources. As of 1994, the data is from the Banco de Mexico. These include: bank credit (from the commercial and development banks), from non-bank financial intermediaries in the country; and Infonavit and Fovissste credit.
Source: BBVA Research with Banxico, World Bank and INEGI data

Performance of Credit from a Historic Standpoint
Graph 10 provides a broader temporary horizon of the negative effect that high and persistent inflation and macroeconomic imbalances have had on credit. The presence of these factors raised the risk of granting credit and limited its demand in a disproportionate manner, as occurred from the mid 1970s to the beginning of the 1990s. As of 1991, demand rose in an accelerated manner without its expansion supported by an appropriate measurement of its risk. This contributed to the severity of the bank crisis of 1995. As seen in Graph 10, as of 2000, the relative importance of credit in the economy again rose. This coincided with the reduction of inflation to one digit and its conservation at low levels, with annual average inflation of 5.1% from 2000 to 2010. Additionally, the introduction of a more solid regulatory framework which facilitated the faster recovery of guarantees on unpaid loans, together with stricter standards that seek to preserve the banks' financial health are additional factors that prevented the recession of 2009 from affecting the evolution of credit in terms of its balance and its proportion of GDP.

Graph 11
Total Commercial Bank Credit and GDP Real annual growth rate, %
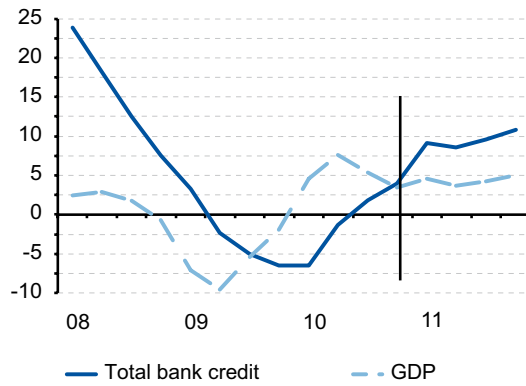
Source: BBVA Research with Banxico data and our own estimates.

Chart 1
Total Bank Credit up to 2010; estimated for 2011

	Annual Growth Rate	
	Annual % average of:	
	Real Rate	**Nominal Rate**
2008	15.5	22.3
2009	-2.7	3.4
2010	-0.6	4.0
2011	9.5	13.5

Source: BBVA Research with Banxico data and our own estimates.

The Outlook for Bank Credit in 2011: Gradual and Sustained Recovery

As illustrated throughout this section of ***Banking Outlook Mexico***, growth of GDP and employment are essential factors that have bolstered expansion and the recovery of bank credit to the private sector. It should be mentioned that GDP growth is first and then, after a lag that is generally of three quarters, bank credit begins to grow. This could be due to the fact that the economic agents and banks first confirm that GDP growth is sustained and after confirming that this is so, they then demand and offer new credit.

Considering the topics commented on, our base macroeconomic scenario for this year indicates expected GDP growth of 4.3%, which in turn will allow bank credit to increase its growth rate, and, as indicated in Chart 1, this would be a real average growth rate of 9.5% (13.5% nominal) for the year. It is estimated that its most dynamic component in 2011 will be consumer credit (10.4% real and 14.5% nominal), followed by housing credit (10% real and 14.1% nominal) and credit to companies (8.9% real, 12.9% nominal).

In conclusion, as shown by the experience in Mexico, sustained expansion of credit requires a favorable macroeconomic environment (low inflation, growth of GDP and of family income), together with no macroeconomic imbalances. In addition, the long-term expansion of credit also requires the continued improvement of the regulatory framework in order to limit risks. In this manner, the financial solvency of institutions will be safeguarded, allowing credit to continue flowing as has been seen since the second half of 2010.

Inset 1: Financing to the Public and Private Sector: Comparison of CNBV and Banxico Measurements

To complement the quarterly measuring of financial savings that the National Banking and Securities Commission (CNBV) began to undertake in October 2010, the CNBV also specifies how much financing and credit is earmarked for the public and private sectors. The similarity and differences between the statistics released by the Banco de Mexico (Banxico) and the CNBV are presented in chart 2.

The information presented by the CNBV is broader than the data released by the central bank, because it considers both the financing that is granted to the private sector as well as credit received by the public sector. Thus, in addition to incorporating the statistics on the traditional credit products, the CNBV also includes information on public sector debt placements in the international and domestic financial markets. In turn, Banxico, in its quarterly statistics, offers a greater level of detail on credit and financing to the private sector, both in its bank and non-bank components. In addition, the central bank, as part of the monthly statistics that it publishes, presents data on bank credit to the public sector and does not include internal and external debt placements made by the public sector, as does the CNBV.

The data issued by the CNBV allows for a comprehensive appreciation of the financing received by the public sector broken down by the different corresponding sources, specifically, bank credit and financing plus debt issues. As indicated by the figures presented in chart 2, the financing to the public sector is much greater in relative terms than credit granted to the private sector. This represents a sign

that enables us to envision a scenario in which eventually public sector demand for financing can be very high and, therefore, this could limit the availability of resources for the private sector.

The previously mentioned situation could pave the way toward the shifting of financing to the private sector in favor of credit for the public sector, a development that in economic theory is known as the crowding out effect. It should be pointed out that at the present time such a situation has not emerged. However, and as illustrated in graph 12, it is possible that this could occur in the future because the available savings that could be channeled to the banks after satisfying the demand for resources from the public sector might not be sufficient to meet the demand for credit on the part of the private sector. In other words, as long as the country does not strengthen its public finances in terms of revenue and an improvement in the quality of public sector spending on all levels of government, the structural weakness of financing for the public sector will persist, which can limit savings being channeled to bank instruments. This could limit the credit that the banks grant to private sector productive projects that spur GDP growth and improve the population's well-being.

Acknowledgments:
We would like to acknowledge the comments and observations made by Sirenia Vazquez and Darío Luna, both of the CNBV.

Graph 12
Commercial banks: Deposits and Credit to the Private Sector, as a percentage of GDP,%

Uptake* — Private sector credit
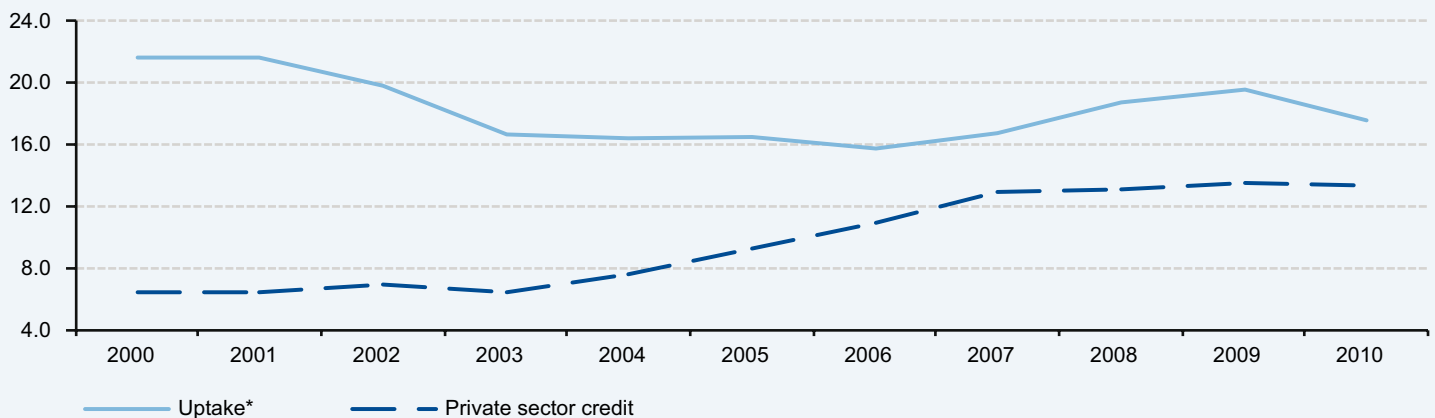
* Deposits include those of the commercial banks in the country and of their overseas agencies.
Source: BBVA Research with Banxico and INEGI data

Chart 2

Comparison of Figures from the National Banking and Securities Commission and from the Banco de Mexico regarding Total Credit and Financing Granted *

	Banxico Classification Percentage of GDP,% **	CNBV Classification	Banxico Classification Figures in billions of pesos	CNBV Classification
	3Q10	3Q10	3Q10	3Q10
A. Credit and financing to the private sector				
I. Total bank credit to the private sector	13.9	14.0	1,789.5	1,793.9
Commercial banks	13.2	13.2	1,691.0	1,695.4
Consumer credit	3.1	3.0	400.1	387.5
Housing	2.9	2.8	370.8	355.7
Companies	7.2	7.4	920.1	952.2
Development banks	0.8	0.8	98.5	98.5
Consumer credit	0.1	0.1	12.3	12.3
Housing	0.1	0.1	7.6	7.6
Companies	0.6	0.6	78.6	78.6
II. Total non-bank credit to the private sector	24.3	16.8	3,124.2	2,162.7
Consumer	0.9	0.5	120.3	65.5
Non-bank financial intermediaries	0.5	0.5	69.3	65.5
Department stores	0.4	Not considered	50.9	Not considered
Housing	6.8	6.8	872.1	871.4
Non-bank financial intermediaries	0.2	0.2	25.0	24.3
Infonavit	5.5	5.5	705.4	705.4
Fovissste	1.1	1.1	141.8	141.8
Companies	16.6	9.5	2,131.8	1,225.8
Mexico's non-bank financial intermediaries	0.7	0.5	85.0	67.7
Factoring	0.0	0.0	1.1	1.1
Leasing	0.0	0.0	4.5	4.3
Credit unions	0.2	0.2	25.0	25.0
Sofoles	0.1	0.1	16.3	16.8
Other non-bank financial intermediaries	0.3	0.2	38.0	20.4
Debt placements	2.1	2.0	254.8	254.8
Company suppliers	2.8	Not considered	365.2	Not considered
Other business sources of financing	3.7	Not considered	479.5	Not considered
External financing	7.4	7.0	947.2	903.3
III. Total financing and credit to the private sec. = I + II	38.3	30.8	4,913.6	3,956.6
B Bank credit to the public sector				
IV. Total bank credit to the public sector	7.5	3.2	960.5	412.3
Commercial banks	5.8	2.3	766.2	298.4
States and Municipalities	1.6	1.3	204.2	170.3
IPAB, Pidiregas, and Fonadin	0.6	0.6	76.5	82.8
Public sector (federal government)	3.8	0.4	485.5	45.3
Credit	0.7	Not considered	90.4	Not considered
Securities	3.1	Not considered	395.1	Not considered
Development banks	1.6	0.9	194.3	113.9
States and Municipalities	0.4	0.3	57.1	42.3
IPAB, Pidiregas and Fonadin	0.4	0.2	49.8	23.8
Public sector (federal government)	0.7	0.4	87.4	47.8
Credit	0.7	Not considered	87.4	Not considered
Securities	0.0	Not considered	-	Not considered
C. Total credit = A. Priv. Sec. (III) + B. Pub. Sec. (IV)	45.7	34.0	5,874.1	4,368.9
D. Public sector debt: internal + external	Not considered	38.6	Not considered	4,955.4
Public sector domestic debt	Not considered	31.4	Not considered	4,027.2
Federal government	Not considered	20.6	Not considered	2,648.9
Banco de Mexico	Not considered	1.7	Not considered	213.7
Decentralized government agencies	Not considered	1.4	Not considered	174.5
FARAC	Not considered	1.2	Not considered	157.9
IPAB, Pidiregas, and Fonadin	Not considered	6.0	Not considered	775.3
State and municipal government debt	Not considered	0.4	Not considered	57.1
Public sector external financing	Not considered	7.2	Not considered	928.3
Overseas Credits	Not considered	3.7	Not considered	469.2
Federal government overseas debt issues	Not considered	3.6	Not considered	459.1
E. Total = Total credit (C) + Pub. Sec. Debt (D)	45.7	72.6	5,874.1	9,324.4
D Difference in GDP ratio: CNBV - Banxico, (%)	26.9		3,450.2	

* Some of the differences between the information that is compiled by Banxico and the CNBV consist of the following: Banxico considers in its data financing granted by non-financial entities such as credit granted by department stores and financing by suppliers, which does not occur in the case of the CNBV. In addition, in the case of the development banks, Banxico considers the credit portfolio that these banks place as financial agent of the federal government, which are the credits granted to Mexico by international financial institutions that are managed by the development banks.
** The latest available data of the CNBV is from 3Q10.
Source: BBVA Research, Banxico, and CNBV

Inset 2: Evaluation of the Mexican Financial System through Perception Surveys and the Importance of Incorporating Observed Data

Recently, the World Economic Forum (WEF) released its **Global Competitiveness Report 2010-2011**. The financial sector is among the items that are evaluated in this report. For this component, Mexico dropped from 66th to 96th place between 2009 and 2010[3]. This result does not correspond with the data contained in the **Financial Development Report 2010** issued by the same institution, in which it indicates that Mexico has remained in 43rd place for the last two years, even though the number of countries increased to 57, compared to 52 in 2008[4]. The apparent contradiction in the results of these reports can be explained by the type and the coverage of the variables

that each evaluates. In the Global Competitiveness Report, the pillar for financial market development uses nine indicators, eight of which come from a survey and, therefore, correspond for the most part to perceptions. Meanwhile, the Financial Development Report uses 122 variables, about 70% of which are based on data observed. Another result that stands out in this former survey is that countries with an income level very much below that of Mexico and not very developed financial systems, are ahead of Mexico in this pillar. For example, Nigeria, Bangladesh, and Zambia are respectively ranked in 84th, 66th, and 49th place.

Chart 3

2010-2011 Global Competitiveness Report issued by the World Economic Forum (WEF)

Pillar 8: Financial market development		
WEF indicator	**WEF question**	**Variables proposed for measuring the indicator**
8.01 Availability of financial services	In this country, does the financial sector provide a wide variety of financial products and services for companies? 1 = not at all; 7 = provides a wide variety]	Restriction of activities. Source: World Bank Database on regulations and supervision
8.02 Accessibility of financial services	To what extent does the competition among suppliers of financial services in the country ensure the supply of such financial services at affordable prices? [1 = not at all; 7 = to a large extent]	1. Bank Concentration (assets of the 3 largest banks as a % of total commercial banking system assets). 2. Net interest margin to assets. Source: World Bank-Financial Structure Base.
8.03 Financing through the local stock market	How easy is it to obtain money through the placement of securities in the country's stock market? [1 = very difficult; 7 = very easy]	1. Capitalization of the stock market (% of GDP). 2. Shares traded (% GDP). Source: World Bank.
8.04 Ease by which loans are obtained	Is it easy to obtain a bank credit in the country with a guarantee or collateral if a good business plan is presented? [1 = very difficult; 7 = very easy]	1. Domestic credit provided by the banking sector (% of GDP). 2. Bank credit to bank deposits ratio. Source: World Bank.
8.05 Availability of venture capital	How easy is it in the country to obtain venture capital for businessmen who have innovative but risky projects? [1 = very difficult; 7 = very easy]	
8.06 Restriction on capital flows	How restrictive are the norms on international capital flows in the country? [1 = very restrictive; 7 = not at all restrictive]	1. Financing via international financial markets (% of GDP). Source: World Bank. 2. Capital controls. Source: The 2009 Economic Freedom of the World Annual Report by Gwartney et.al.
8.07 Strength of the banking system	How should the strength of the country's banks be evaluated? [1 = they are insolvent and might require government bailouts; 7 = they are generally strong and post healthy balance sheets]	1. Ratio between bank capital and assets (%). 2. Ratio between liquid reserves and bank assets (%). 3. Regulatory index. Source: World Bank. 4. Bank supervision. Source: eStandards Forum.
8.08 Stock market regulation	How should regulations governing the country's stock market be evaluated? [1 = ineffective; 7 = effective]	Stock market regulation. Source: eStandards Forum.
8.09 Legal rights index	Degree of legal protection of the rights of lenders and borrowers on a scale of 0–10 (best)	

Source of questions 8.01-8.08: World Economic Forum, Executive Opinion Survey 2010.
Source of question 8.09: Doing Business Report 2010-2011 issued by the World Bank.
Source: Our own preparation, BBVA Research.

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[3] 3 From among 139 countries in 2010 and 134 in 2009. This report is available at http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2010-11.pdf.
[4] This report is available at http://www3.weforum.org/docs/WEF_FinancialDevelopmentReport_2010.pdf.

Considering that during the recent global crisis, Mexico has been one of the countries with the greatest decline in GDP, with a -6.1% fall in 2009, and that violence associated with organized crime has also increased, it is possible that the perception in the surveys will alter and will not necessarily nor accurately reflect the progress registered in other indicators that can be more accurately measured. In order to evaluate this behavior, an exercise was undertaken in which for each question from the financial market development pillar, variables were chosen that could be measured or evaluated as reliably as possible, in such a way that the quantitative indicators would allow their evolution over time to be more consistently compared.

The questions of the development pillar of the financial market and the variables that were used for the exercise in each one of the questions are described in chart 3

The exercise consisted in classifying Mexico as per with its position among the total number of countries in the sample for each variable observed. In accordance with the percentile that the country occupies in the sample, the ranking and value in the WEF variable are assigned that corresponds with that percentile. The results of this exercise indicate that, if Mexico were classified based on the observed data, its ranking would be between 44 and

62 in the financial market development pillar, instead of position 96 where it was placed. This same behavior can be observed in practically all the components of this pillar. For example, in the accessibility of financial services category, Mexico would advance from 105th to 54th place; in facility at which loans are obtained, from 96th to 75th place, and in banking system strength from 42nd to 25th place. The results, in terms of ranking and score, for each of the components of the financial market development pillar are contained in chart 4:

Employing surveys as evaluation tools is very useful. However, in order for this mechanism to identify the points where there is improvement, it is important that the surveys reliably reflect the condition of the variable to be evaluated. With this in mind, it is important that the surveys are applied to a sufficiently large sample so that they are correctly evaluating the conditions of the population, and that the individuals, who respond to the survey, do so with the greatest amount of information possible and preferably know the hard data. It would also be desirable for the two above-mentioned reports to have a certain approximation in terms of their bases of comparison, so as to allow for results that are less dispersed and more coherent over time.

Chart 4
Comparison of the Rankings in the Results of the WEF Surveys vs. the Data Observed

	Pillar 8: Financial market development			
	WEF ranking (survey)	Ranking that could be achieved with hard data	WEF score (survey)	Score that could be achieved with hard data
Pillar 8 Financial market development	96	62-44	3.82	4.0-43
8.01 Availability of financial services	79	46	4.3	5.1
8.02 Accessibility of financial services	105	80-54	3.6	4.0-4.5
8.03 Financing through the local stock market	94	67-14	3.0	3.6-4.6
8.04 Ease by which loans are obtained	96	75	2.4	2.7
8.05 Availability of venture capital	96	ND	2.3	na
8.06 Restrictions on capital flows	42	14	4.9	5.6
8.07 Strength of the banking system	42	68-25	5.5	5.2-5.8
8.08 Stock market regulation	91	28	3.8	5.1
8.09 Legal rights index	86	NA	4.1	NA

NA: Is not applicable because the WEF already uses observed data, the source of which is the World Bank Doing Business Report
na: Not available because thus far a variable to measure the availability of venture capital for the total sample has not been found.
Source: BBVA Research

2.2 Recent Evolution in Savings

In this section of **Banking Outlook Mexico,** we analyze the performance of savings based on the definition of financial savings that emerges when considering the M4a monetary aggregates –which is the broadest monetary aggregate reported by the Banco de Mexico (the central bank)– minus bills and coins held by the public. With this definition of financial savings, we review the evolution of savings in its four categories, that is, savings that are channeled to: i) depository institutions (banks); ii) the retirement savings system (SAR for its Spanish initials) in its component of resources that are not managed by the Afores; iii) debt issued by private corporations; and iv) debt issued by the public sector. In turn, these four categories refer to whether the savings are voluntary or obligatory, or whether they are internal or external, aspects that are also analyzed.

In turn, during the fourth quarter of 2010, the National Banking and Securities Commission (CNBV for its Spanish initials) presented its methodology for the classification of Financial Savings. This is itemized in Inset 3 and is compared with the definition based on the broad central bank (Banxico) monetary aggregates which are used in this section. The comparison allows itemizing the differences between each classification as well as the advantages and disadvantages of each.

Deposits in the commercial banks: growth of demand deposits and total deposits due to the economic recovery
As shown in Graph 13, traditional deposits in the commercial banks in the country grew 4.9% in real annual terms at the end of 2010, and 7.2% in January 2011. In December 2010, the term deposits component contracted 0.5%, while that of demand deposits grew 9.5% in real annual terms. In turn, in January 2011, demand and term deposits grew 8.5% and 5.6% respectively, in real annual terms.

Graph 13
Total Bank Deposits, Demand and Term, Real Annual Growth Rate, %
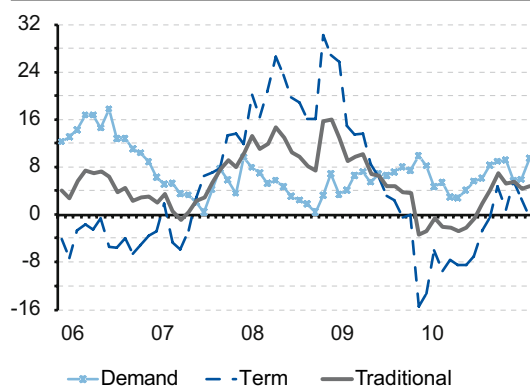
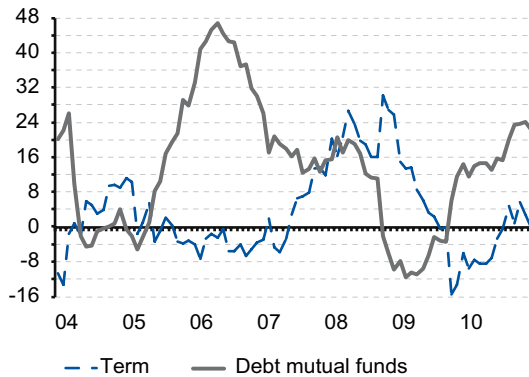Source: BBVA Research with Banxico (central bank) data.

Graph 14
Commercial Banks Demand Deposits, Term and Total, Percentage of GDP, %
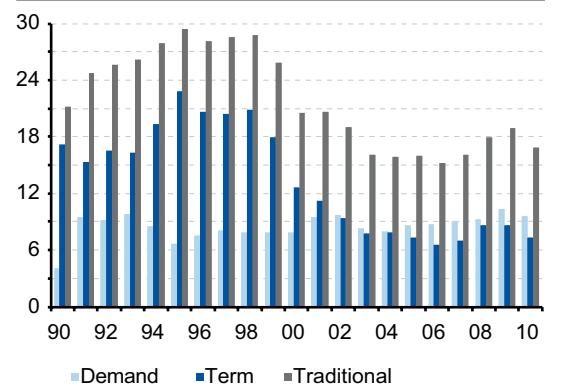
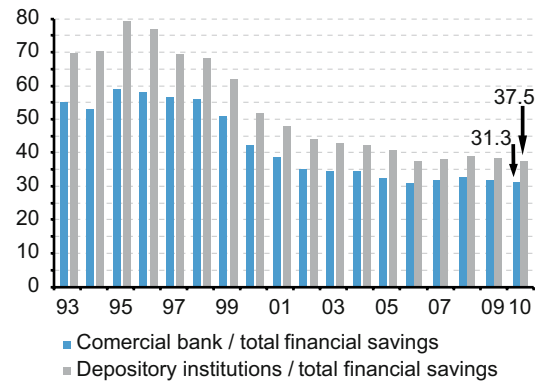Source: BBVA Research with Banxico (central bank) and INEGI data.

Graph 14 indicates that the ratio of total deposits in the commercial banks to GDP began to contract since 1996, and it was not until 2007 that it again began to increase. The lower relative importance of bank deposits to a great extent was the consequence of the reduction of the term deposit component. This is due to the growth of savings in non-bank instruments, such as debt mutual funds instrument,. which have displaced or partially replaced term deposits, since, in general, when one grows the other is reduced, as illustrated in Graph 15. At the end of 2010, debt mutual funds grew 22.2% in real annual terms, while term deposits were reduced by 0.5%.

BBVA Research

Graph 15
Bank Term Deposits and in Debt Mutual Funds--Real Annual Growth Rate, %

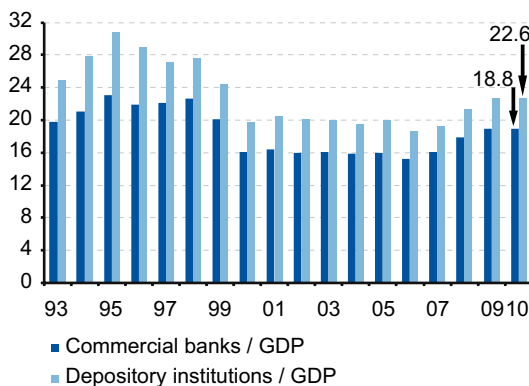Source: BBVA Research with Banxico (central bank) data.

Graph 16
Commercial Bank Deposits and in Depository Institutions*
Ratio of total financial savings, %

* Depository institutions deposits include deposits in: commercial banks, commercial bank agencies abroad, development banks, savings and loan institutions (SAPs).
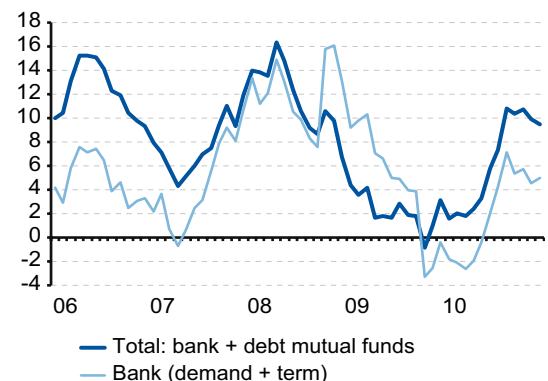Source: BBVA Research with Banxico (central bank) data.

It should be mentioned that resident commercial bank deposits are part of the deposits in depository institutions. These are comprised of: resident commercial banks; the branches or agencies of commercial banks abroad; development banks; and Savings and Loan Associations (S&Ls). Graph 16 shows the relative importance of savings deposits in depository institutions and resident commercial banks in total financial savings (FS). At the end of 2010, the latter represented 31.8% of total financial savings, while the share of the savings institutions was 37.5%.

Graph 17
Deposits in Commercial Banks and in Depository Institutions*
Percentage of GDP, %

* Depository Institutions deposits--includes deposits in: Commercial banks, commercial bank agencies abroad; development banks, Savings and Loan Associations (S&Ls).
Source: BBVA Research with Banxico (central bank) data

Graph 18
Bank Deposits and Extended Deposits (Demand + Term + Debt Mutual Funds)
Real annual growth rate, %

Source: BBVA Research with Banxico (central bank) data.

The lower relative importance of the commercial banks and the depository institutions is also reflected in a lower percentage of GDP, as shown in Graph 17. This has been the result of non-bank savings instruments such as public sector securities, and the introduction of new savings instruments, such as that of the Retirement Savings System (SAR for its Spanish initials).

Debt Mutual Funds are non-bank savings instruments that have contributed to the growth of extended bank deposits
An alternative form of analyzing the performance of savings that the commercial banks attract or help to intermediate is to analyze the sum total of traditional bank deposits in the country (demand plus term) with investments in Debt Mutual Funds, since a high proportion of savings that is channeled to these is operated through financial entities afilated with the banks.

Graph 18 indicates that before the capital losses of debt mutual funds were presented in the latter part of 2008, the growth rate of extended deposits, comprised of traditional bank deposits plus the balance of debt mutual funds, showed a higher growth rate than traditional bank deposits. Once the debt mutual funds recovered toward the end of 2009, the growth rate of extended deposits has again been greater.

Moreover, demand deposits in banks have grown persistently in real terms, as a result, among other factors, of the strength of economic activity, of the greater level of employment and of low inflation, particularly as has been observed after 2000, which has led to a low cost of opportunity in maintaining liquid funds. In the case of debt mutual funds, in addition to the above factors, these have a preference among savers due to some of their characteristics, such as the diversity of their investment portfolios, their profitability and liquidity.

Retirement Savings System Funds (SAR Funds) that are not managed by the Afores (Retirement Fund Management Companies)
The SAR or Retirement Savings System began to operate in 1992 and is comprised of the obligatory fees that private companies and public sector entities must collect for their workers' retirement and housing funds. A part of the resources for retirement are managed by the Afores through Specialized Associations for Investment of Retirement Funds (Siefores), which they operate. The other part of the SAR resources corresponds to the funds that are not deposited in the Siefores. These include the contributions to the housing fund, the funds deposited in the concentrated account of the Banco de Mexico (the central bank), and the ISSSTE (*Instituto se Seguridad y Servicios Sociales de los Trabajadores del Estado*) the Social Security and Social Services Institute for Government Workers pension bond.

The second component of total financial savings are the SAR funds that are not managed by the Afores. It should be mentioned that the resources that are managed by the Afores are not considered an item of total financial savings because the funds that the Siefores manage are invested in savings instruments that are part of other items in total financial savings. In this manner, if the resources managed by the Afores were accounted here, there would be dual accounting of some savings funds.

Graph 19
**Retirement Savings System (SAR)
Total, in Siefores and outside of Siefores,
Percentage of GDP, %**

■ SAR outside Siefores ■ Siefores ■ Total SAR
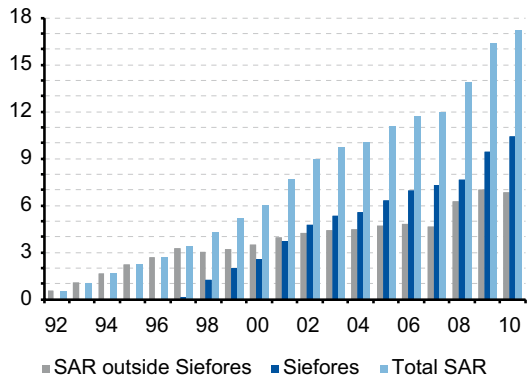
Source: BBVA Research with Banxico (central bank) and INEGI
data

Graph 20
**Financial Savings without SAR and Total
SAR
Percentage of GDP, %**

■ Total SAR / GDP ■ FS without total SAR / GDP
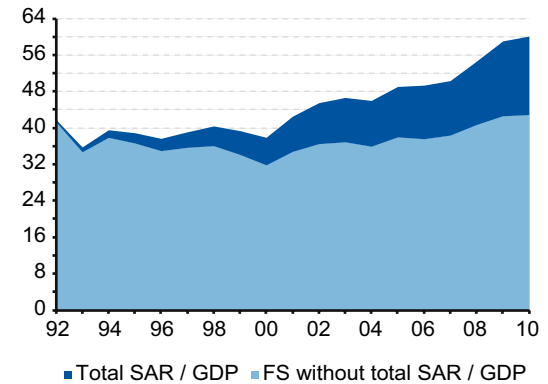
Source: BBVA Research with Banxico (central bank) and INEGI
data

Graphs 19 and 20 show how total SAR funds have become more important in terms of percentage of GDP and in total financial savings. At the end of 2010, total resources in SAR represented 17.2% of GDP. More specifically, on that date, the SAR funds that are not in the Siefores represented around 6.8% of GDP, while those that are in the Siefores were 10.4% of GDP. The same as with the rest of the SAR funds, the relative importance of this type of obligatory savings will continue to increase, due to which the balance of these resources will increase as the obligatory contributions of private companies and public sector entities are channeled to the SAR.

Debt issued by Private Companies: their amount and percentage of GDP are reduced
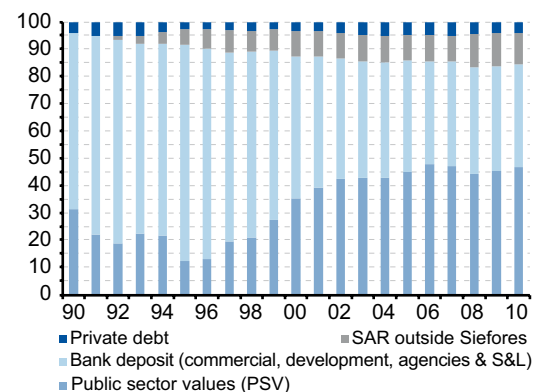The third item of total financial savings is debt issued by private companies. As shown in Graph 21, the share of the balance of private companies' debt as a proportion of GDP is reduced and significantly lower than the ratio of commercial bank deposits and the SAR (the Retirement Savings System) outside the Siefores in terms of GDP. Moreover, Graph 21 indicates that since 2007, the relative importance of this category of total financial savings has not increased and has been at around 2.5% of GDP. Graph 22, in turn, shows that at the end of 2010, the savings channeled toward the acquisition of private sector debt accounted for only 4.2% of total financial savings.

Graph 21
**Debt Issued by Private Companies
Proportion of GDP, %**
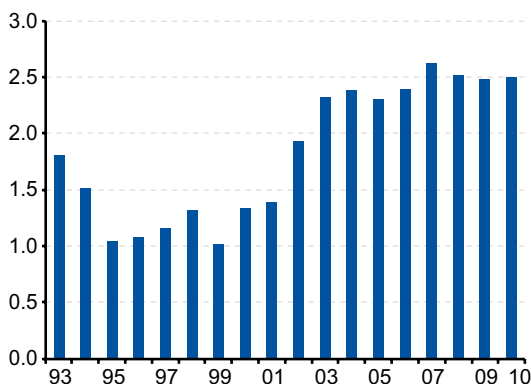
Source: BBVA Research.

Graph 22
**Total Financial Savings Percentage
structure by entity or fund receptor
instrument, %**

■ Private debt ■ SAR outside Siefores
■ Bank deposit (commercial, development, agencies & S&L)
■ Public sector values (PSV)

Source: BBVA Research.

Public Sector Securities (VSP for the Spanish Valores del Sector Público): their dynamic growth is a reflection of the policy to replace foreign debt with internal debt and the growth of debt of states, municipalities and decentralized government agencies

The VSPs[5] or public sector securities are the fourth and main item of total financial savings and in addition are non-bank savings instruments, the importance of which began to grow in an accelerated manner in total financial savings. This was the result of the government policy at the end of the nineties which consisted in reducing the country's external debt at the same time partially replacing it with internal debt. As shown in Graph 22, this led the public sector securities' share of total financial savings to grow from 19.4% at the end of 1997 to 46.8% in 2010. This has also been reflected in a growing proportion of public sector securities in terms of GDP. As shown in Graph 23, at the end of 2010, this type of non-bank savings instrument represented slightly more than 28.1% of GDP. In turn, Graph 24 shows that, in addition to the securities issued by the federal government (78% of total VSPs at the end of 2010) those corresponding to the following were also important: the IPAB or Institute for the Protection of Bank Savings (12.1%); and those in the category of Others (9.9%) which includes debt issued by states, municipalities and government-owned agencies (PEMEX and the CFE, the Federal Electricity Commission).

Graph 23
**Public Sector Securities (VSP)
Percentage of GDP, %**
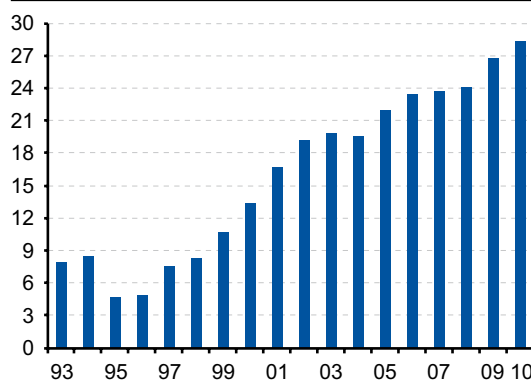
Source: BBVA Research.

Graph 24
**Public Sector Securities by Issuing Entity
Balances in billions of December 2010
pesos**
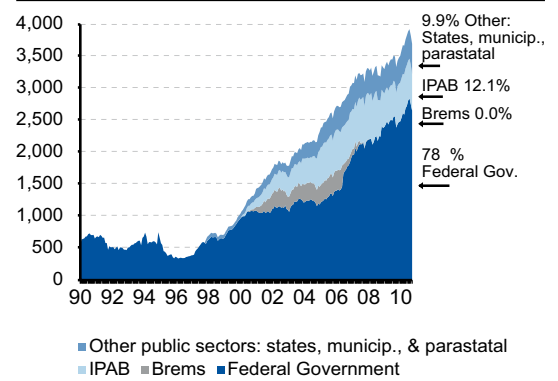
Source: BBVA Research.

The issue of public sector securities reflects the financing needs and strategies of the federal government and of the other entities of the public sector. Also, we should mention that a great proportion of the greater supply of public sector securities has been channeled to form part of the investment portfolios of debt mutual funds. At the end of 2010, 74% of the securities in debt mutual funds were public sector securities (VSPs) and their amount represented 20% of the total balance of VSPs. In the case of the Siefores, VSPs represented 85% of the investment portfolio and the amount invested in these accounted for 33.4% of the total balance of public sector securities. Moreover, holdings of VSPs by foreign investors represented 17.2% of the total balance of these securities. That is, at the end of 2010, 71% of the VSP balance or public sector securities was in these three types of investments. The remaining percentage of this non-bank savings instrument was in direct holdings of certain savers or as securities repos.

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[5] VSPs are comprised of debt issued by the federal government (Cetes, "M" bonds; Udibonds, Bondes and others), monetary regulation bonds issued by the Banco de Mexico, IPAB bonds and debt issued by the states, municipalities, and government-owned agencies and corporations.

Total Financial Savings: its dynamic growth is due mainly to obligatory savings in the Retirement Savings System (SAR): and to a lower extent to external savings
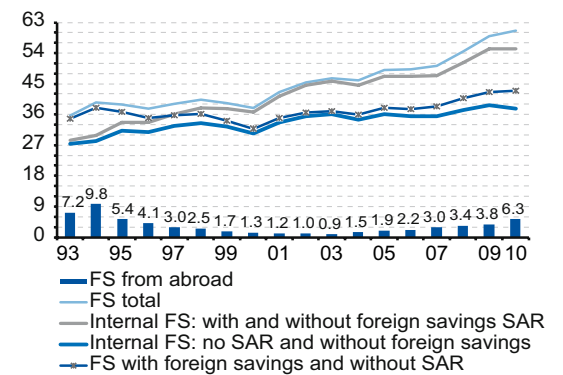
Based on the information of the monetary aggregates that the Banco de Mexico publishes we can also distinguish, on one hand, between voluntary and obligatory savings, and on the other, between internal savings or those in the country, and those derived from abroad. The latter is that which the banking system attracts from foreign residents, plus that of the branches or agencies of the commercial banks abroad, and that which comes from abroad through public sector debt instruments held by foreigners.

Graph 25
Financial Savings*
Proportion of PIB, %
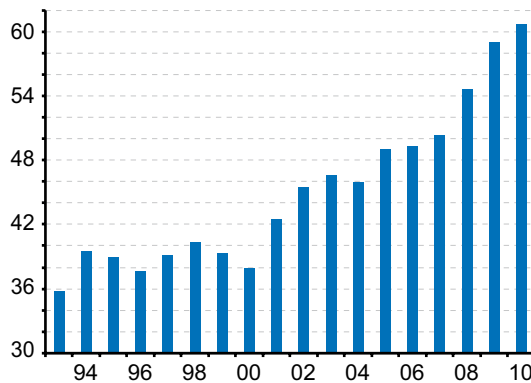
*Total Financial Savings = M4 a minus bills and coins held by the public
Source: Banco de Mexico (ample monetary aggregates) and INEGI.

Graph 26
Total Financial Savings, Total Internal, and Internal without SAR
Proportion of GDP, %

- FS from abroad
- FS total
- Internal FS: with and without foreign savings SAR
- Internal FS: no SAR and without foreign savings
- FS with foreign savings and without SAR

Source: BBVA Research.

Graph 25 clearly shows the increase shown by total financial savings as a percentage of GDP, in particular since 2001. The result was that at the end of 2010 they represented 60.1% of GDP. Graph 26 shows that the most important source of the expansion of total financial savings is the obligatory savings that are channeled toward the total retirement savings system (SAR). As mentioned above, total SAR is comprised of the retirement funds that are deposited in the Siefores as well as those outside the Siefores (the Specialized Retirement Fund Management Companies).

Graph 26 also indicates that a very important component of total financial savings has been the savings that come from abroad, either as deposits in the branches of Mexican commercial banks abroad (as occurred up to 1994) or derived from holdings of public sector securities held by foreigners (from 2006 to date). It should be mentioned that the savings from abroad in financial savings which represented 9.8% of GDP in 1994, was reduced to 0.9% in 2003 and in recent years its relative importance increased. In 2010 it represented 6.3% of GDP:

Once the portion of obligatory savings (total SAR funds) is deducted from total financial savings as well as that of savings from abroad, we refer only to internal financial savings without SAR that are generated in the country. As shown in Graph 26, its percentage of GDP has also grown, but to a lower degree than what occurs considering total financial savings. For example, the average ratio of internal financial savings without SAR from 1997 to 2000 in terms of GDP was 32.3%, and this grew to 37.0% on average for the years from 2007 to 2010.

**Outlook for Extended Bank Deposits**

As mentioned previously, commercial bank deposits are an important part of total financial savings and their outlook for growth are important because to a great extent they are indicative of what to expect in terms of the evolution of total financial savings in general and of savings in all depository

institutions in particular. In this sense, expected GDP and employment growth for 2011, together with expectations that inflation will remain at low levels, are factors that will allow demand deposits in banks to continue to grow dynamically. Moreover, the favorable macroeconomic environment expected for 2011 will also allow debt mutual funds to continue growing, although their growth will be more moderate than in 2010. The more gradual growth expected toward the end of 2011 for the resources channeled toward this type of mutual funds, together with greater estimated income, will allow for bank term deposits to grow moderately in 2011.

The BBVA Research macroeconomic base scenario for 2011 is positive for the growth of financial savings, with estimated GDP growth of 4.3% and average formal employment growth of 4.6%, in addition to stable average inflation for the year of 3.9%. This will allow extended deposits in 2011 (the sum of bank deposits plus debt mutual funds) to post a real average growth rate in the year of 9% (12.9% nominal). Moreover, its most dynamic component would be debt mutual funds, which could show real average growth of more than 15% (more than 19% nominal). In turn, demand deposits could grow around 8% in real terms (12% nominal) and term deposits at less than 4% in real terms (less than 8% nominal), which implies that traditional bank deposits could grow in 2011 an annual average of slightly more than 6% in real terms (more than 10% nominal), which would be greater growth than that of the previous year.

Graph 27
Extended Deposits: Bank Deposits + Resources in Debt Mutual Funds Real annual growth rate, %
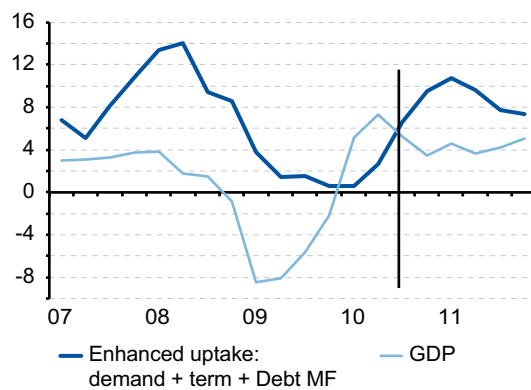
Source: BBVA Research with Banxico data and own estimates

Chart 5
Extended Deposits Annual growth rate observed until 2010; estimated for 2011, %

	% annual average of:	
	Real Rate	**Nominal Rate**
2008	11.4	17.3
2009	2.4	7.6
2010	4.7	9.1
2011	9.0	13.0

Source: BBVA Research with Banxico data and own estimates

Conclusions: 2011 will be a year of greater savings growth and in the medium term will depend partially on the performance of public finances
The country has shown important advances in the design and expansion of available internal savings. This is due to a great extent to the positive effect of the introduction of the Retirement Savings System (SAR for its Spanish initials). In this sense, dynamic and important support has been the obligatory savings plan derived from the SAR program. The challenge remaining is to bolster voluntary savings so that deposits in the bank institutions will also grow at sustainable high rates, and not just the savings channeled toward the acquisition of public sector securities (VSPs) will show this type of favorable performance. It should be mentioned that to the extent that savings in public sector securities continue to grow at a great rate to cover the various needs of the public sector, eventually resources could be directed toward supporting the expansion of private sector projects. However, if this were not to happen and savings could continue to flow toward productive projects, it would also be necessary to strengthen the finances of the public sector at all levels. Otherwise, the financing needs of the public sector will persist, with the possible displacement of savings first toward the banks and later toward the private sector in the form of credit.

Inset 3: Financial Savings: Two Ways of Measuring Them, Based on CNBV (National Banking and Securities Commission) and Banxico (the central bank) Statistics

A widely known and traditionally used mechanism for measuring financial savings consists in using the broadest monetary aggregate, which is the M4a, and subtracting from this figure all the bills and coins held by the public. This mechanism for measuring financial savings can be calculated monthly since that is the frequency with which Banxico (the central bank) releases information on the monetary aggregates. In addition, the historical data began to be compiled as of December 1985 and the information on the monetary aggregates refers to the country's net savings, thereby avoiding double accounting in calculating financial savings.

Meanwhile, in October 2010 the CNBV published a document entitled **Financial savings and their intermediation in Mexico (2000-2010)** [6]. The database on which the CNBV document is based begins in September 2000 and subsequent quarterly publication. The CNBV's methodology for measuring financial savings is broader than that of the central bank and has the advantage of identifying where the savings are earmarked by type of instrument and financial institution. The differences between these two ways of measuring financial savings are illustrated in chart 6.

Chart 6

Financial Savings According to Classification, Billions of current pesos

A - D		I - IV		1 - 4	
Banco de Mexico statistics		**CNBV statistics**			
M4a - bills and coins held by the public		**Entity and instrument in which the savings are received; institution that holds them or origin**			
		Entity and institution that holds the savings		Instrument or origin of the savings	
	Sep-10		Sep-10		Sep-10
M4a	**8,305.2**	**I. Intermediaries deposits**	**2,371.6**	**1. Intermediaries deposits**	**2,371.6**
- Bills and coins held by the public	514.3	I.1 Multi-purpose and develop. banks	2,318.8	1.1 Multi-purpose and develop. banks	2,318.8
Financial savings = M4a - Bills and coins	**7,790.9**	I.2 Savings & Loan Ass'n (S&L)	52.5	1.2 Savings & Loan Ass'n (S&L)	52.5
		I.3 Credit unions	0.3	1.3 Credit unions	0.3
A. Depository institutions	**2,770.4**	I.4 Hous. fund (Infonavit + Fovissste)	613.7	**1.4 Hous. fund (Infonavit + Fovissste)**	**613.7**
A.1 Commercial banks	2,301.6	**II. Holdings in fixed income securities**	**4,827.8**	**2. Fixed income securities**	**4,827.8**
A.2 Development banks	339.3	**II.1 Institutional investors**	**2,574.2**	**2.1 Government securities**	**3,804.7**
A.3 Foreign agen. of commercial banks	78.0	II.1.1 Mutual funds	983.4	**2.2 Bank securities**	**399.7**
A.4 S. Savings and Loan Ass'n (S&L)	51.6	II.1.2 Insurance companies	311.4	**2.3 Private securities**	**329.1**
B. Public sector securities	**3,819.1**	II.1.3 Retire. funds (IMSS + ISSSTE)	105.9	2.4 Foreign securities	132.4
B.1 Issued by the federal gov't	2,757.4	II.1.4 Siefores	1,173.6	**2.5 Retire. funds (IMSS + Fovissste)**	**105.9**
B.2 Brems	1.0	**II.2 Private Investors**	**2,253.6**	2.6 Other debt securities	56.0
B.3 IPAB bonds	607.8	II.2.1 Intermediary position	678.5		
B.4 Other government securities	452.9	II.2.1.1 Banks	666.3		
		II.2.1.2 Brokerage houses	12.2		
C. Securities issued by companies	**308.2**	II.2.2 Relevant treasuries	396.3		
		II.2.3 Companies and individuals	1,178.8		
D. Retirement Savings System (SAR)	**893.3**	**III. Stocks (Variable income)**	**nd**	**3. Stocks (Variable income)**	**nd**
without including Siefores		**IV. External savings**	**2,357.7**	**4. External savings**	**2,357.7**
D.1 Housing (Infonavit + Fovissste)	613.7	**IV.1 Fixed income secu. (nonresident)**	**526.2**	**4.1 Fixed income secu. (nonresident)**	**526.2**
D.2 IMSS + ISSSTE B. de M. account	105.9	IV.2 Ext. savings. Finan. for the Public Sec.	928.3	4.2 Ext. savings. Finan. for the Public Sec.	928.3
D.3 Rest (ISSSTE pension bond + others)	173.7	IV.3 Ext. savings. Finan. for the Pri. Sec.	903.3	4.3 Ext. savings. Finan. for the Pri. Sec.	903.3
TOTAL = A + B + C + D	7,790.9	TOTAL = I + II + III + IV	10,170.9	TOTAL = 1 + 2 + 3 + 4 = I + II + III + IV	10,170.9

Source: BBVA Research, Banxico, and CNBV

[6] The statistical information can be consulted at: www.cnbv.gob.mx/Prensa/Paginas/estudiosdelacnbv.aspx

As is detailed in chart 7, the main difference between these two methodologies for measuring financial savings consists in that the CNBV considers foreign savings that provide financing to the federal government and the private sector as part of the country's financial savings. In both cases, this involves credits from abroad and public and private sector debt issued overseas. This item represents 77% of the difference in the figure for financial savings as calculated by the CNBV and the corresponding statistic as obtained based on the central bank monetary aggregates.

Based on the information in chart 6, other items can be identified that explain the differences between the CNBV's methodology for measuring financial savings and the methodology that uses information on Banco de Mexico monetary aggregates. The concepts that represent these differences are itemized in section D of chart 7 and these are: banks' own position (item II.2.1) plus holdings of foreign securities in mutual funds, insurance companies, relevant treasuries and companies and individuals (item 2.4) minus the ISSSTE pension bond (item D.1). The

remaining difference between the CNBV's methodology for measuring financial savings and the method based on monetary aggregates is minimal.

In conclusion, the items that the CNBV considers within the country's financial savings are broader, which means that the financial savings calculated by the National Banking and Securities Commission are greater than the figure obtained from estimating financial savings based on Banco de México monetary aggregates. The advantage of the first methodology is that it is broader and more detailed than the second, while the latter has the advantage that financial savings can be calculated based on central bank data more in advance and with greater frequency than when the CNBV measurement methodology is used.

Acknowledgments:
We would like to acknowledge the comments and observations of Sirenia Vazquez and Darío Luna, both of the CNBV.

Chart 7
Differences in Measuring Financial Savings

CNBV methodology in relation to the monetary aggregate methodology (Banxico)		
Billions of current pesos		
Differences in measuring financial savings in Chart 1	Sep-10	Differences in measuring financial savings,%
CNBV	10,170.9	
- M4a - bills and coins held by the public	7,790.9	
A. Total difference in financial savings	2,379.9	100.0
B Difference in financial savings explained by external savings (CNBV)	1,831.5	77.0
4.2 External savings that finance the public sector	928.3	39.0
4.3 External savings that finance the private sector	903.3	38.0
C Remaining difference from: A - B	548.4	23.0
D Sum = II.2.1 + 2.4 (without Siefores holdings) - ISSSTE pension bond	536.3	22.5
II.2.1 Banks' own position: +	666.3	
2.4 Holdings in foreign securities without including Siefores +	43.8	
D.1 ISSSTE pension bond	173.7	
E. Remaining difference = C - D	12.1	0.5

Source: BBVA Research, Banxico, and CNBV

3 Special Topics

3.1 Effects of the Changes in International Regulation in Banks in Mexico

Heading toward a better and more capitalized international banking system, with better supervision

The international community has arrived at accords that will strengthen the solvency of the banking institutions in view of sudden changes and of great magnitude in the environment, such as those which we have observed in the recent global financial crisis. The objective is to achieve at all times an appropriate functioning of the financial system; that is, to preserve the standards of financial intermediation: reception of resources, placement of credit and the correct functioning of the payment means in the economy. These accords are set by means of regulatory measures known as Basel III, which will enter into force gradually between 2013 and 2018.

The main regulatory changes to be implemented through the regulatory Basel III framework are concentrated on increases in the banks' capital and on measures to face liquidity problems.

The measures by which to increase and improve capital and reduce leverage are:

i) To increase the minimum common capital from 2% to 4.5%.[7]

ii) To create a cushion for the conservation of capital of 2.5%, which, added to the 4.5% of the common capital, brings it to 7%.

iii) To increase the basic capital from 4% to 6%. The total capital coefficient of 8% continues without change.[8]

iv) To create a counter-cyclical provision within the range of 0%-2.5% of common capital. The objective of this component is to set a macro-prudential regulation in order to protect the banking sector from periods of excessive credit growth.

Graph 28
Requirements of Basel III Capital, % of assets subject to total risk

- Common stock
- Core capital
- Preservation of capital cushion
- Provision counter
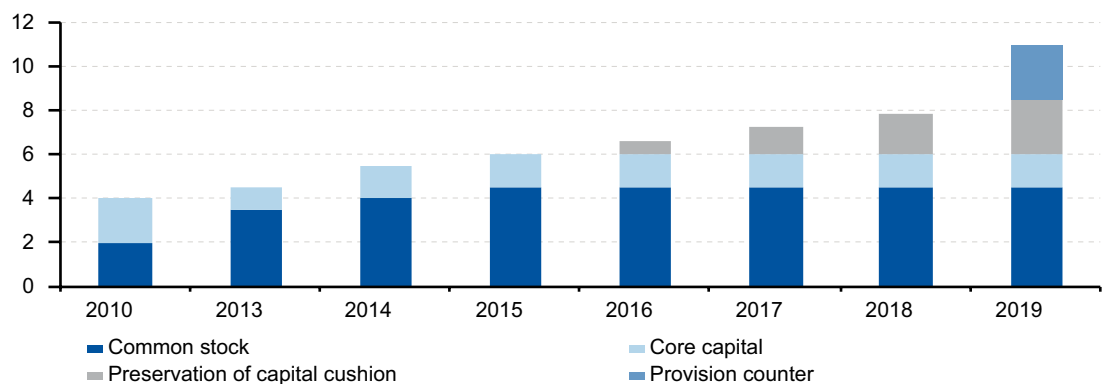
Source: Bank of International Settlements

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[7] As per Basel III, common capital is defined as the sum of ordinary shares, retained earnings and reserves.
[8] Basic capital is the sum of common capital and financial instruments with capacity to absorb losses.

v) More deductions have been introduced for constituting common capital, among which is the amount over the 15% limit for investment in financial institutions, the payment of securitizations and deferred taxes.

vi) It is also sought to implement a leveraging coefficient where the limit of the basic capital coefficient, among less intangible total assets, would not be greater than 3%.

So as to minimize liquidity risks, the purpose is to establish the two following measures which are currently under evaluation:[9]

i) The coefficient of liquidity coverage (at short term). This requirement seeks for banks to have the necessary liquidity so as to be able to face cash outlays in the short term, specifically during a 30-day period, in view of the existence of a stress scenario.

ii) The coefficient of net stable financing (at long term). With this coefficient, the intention is that the funding structure of the banks be consistent with the characteristics of the maturity of its assets, in addition to creating incentives for the banks to finance themselves with long-term liabilities.

In addition to the above-mentioned measures, macro-prudential regulation is strengthened, which constitutes one of the most important changes in the international supervision and regulation model. In this sense, throughout 2010, new supervisory organisms have been created both in the United States and Europe, and in Mexico as well (Council for the Stability of the Financial System[10]), which undoubtedly will acquire a growing importance in the global and regional spheres of financial regulation. As a complement to the new regulation, by the end of 2011, the additional requirements for establishing the banks under consideration as systemic will be made known. That is, those that due to their own characteristics –relative importance, level of interconnectivity, sustainability, etc.– could contaminate the financial system as a whole. The Financial Stability Board (FSB) and the Basel Committee for Banking Supervision (BCBS) are currently working out a methodology and a specific regulation with the aim of approaching the relative problem of those entities considered as systemic. The **G-20 leaders have recently approved the general proposal of the Financial Stability Board**, which consists in increasing the capacity to absorb losses of systemic institutions and ensuring the capabilities and capacities of the national regulator for resolving them without altering the financial system or recurring to the taxpayers for support.

Impact of the measures announced on the financial markets

The accords regarding the global standards for minimum capital were published on Sunday, September 12th, 2010 by the Bank of International Settlements. The Monday following the announcement, the cost of the derivatives of credit non-compliance, of the central offices of the banks operating in Mexico decreased, as is shown in Graph 29. This indicates that the market considers that this measure reduces the probability of bankruptcy of the foreign banks in Mexico by around 5% on average.

[9] The details of these measures can be found at http://www.bis.org/publ/bcbs165.pdf.
[10] The Financial Stability Board of Mexico was installed on August 11, 2010, and is formed by the Finance Ministry, the Banco de Mexico, the National Banking and Securities Commission, the National Insurance and Bonding Commission, the National Retirement Savings System Commission, and the Institute for the Protection of Bank Savings (IPAB). The functions of this Board are: i) to identify in a timely manner those risks that could substantially alter the operation of the financial system; ii) to recommend and coordinate the policies and measures that each financial authority, in its respective sphere of action, should undertake to avoid said risks or, in a given case, to minimize their impact; iii) to be the agency for consultation of the Federal Executive with regard to financial stability; and iv) to work out an annual report regardomg the status of the financial stability of the country.

Graph 29
Average Cost of Protection of CDS of the Bank Central Offices Operating in Mexico, basic points*
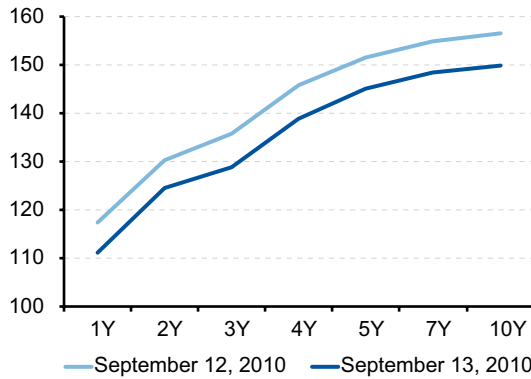
*Banks included: BBVA, CITIBANK, HSBC, ING and Santander.
Source: Bloomberg and BBVA Research.

Graph 30
Probability of implicit non-compliance of CDS maturing at 1 Year of the Banks Central Offices operating in Mexico, percentage*
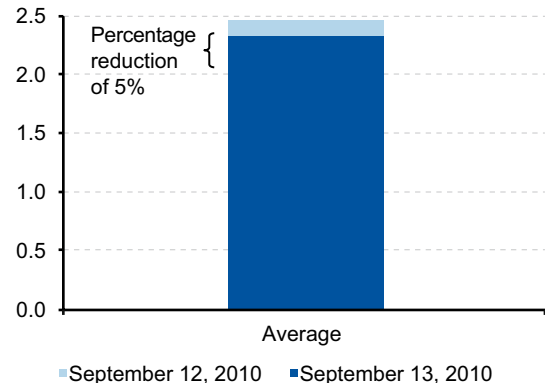
*Banks included: BBVA, CITIBANK, HSBC, ING and Santander.
Source: Bloomberg and BBVA Research.

Moreover, as a result of the implementation of Basel III, the market perceives an improvement in the sovereign risk. A greater solvency of the banks translates into lower probability that they will have to be rescued by the governments. Thus, the financial position of the public sector is less exposed to a banking bankruptcy. The improvement in the sovereign risk is perceived to a greater extent in countries where there are large banks in terms of the size of the economy, as is the case of Spain and the United Kingdom.

Graph 31
Reduction in the cost of Protection of one-year term CDS between Sept. 12 and 13. Percentage change
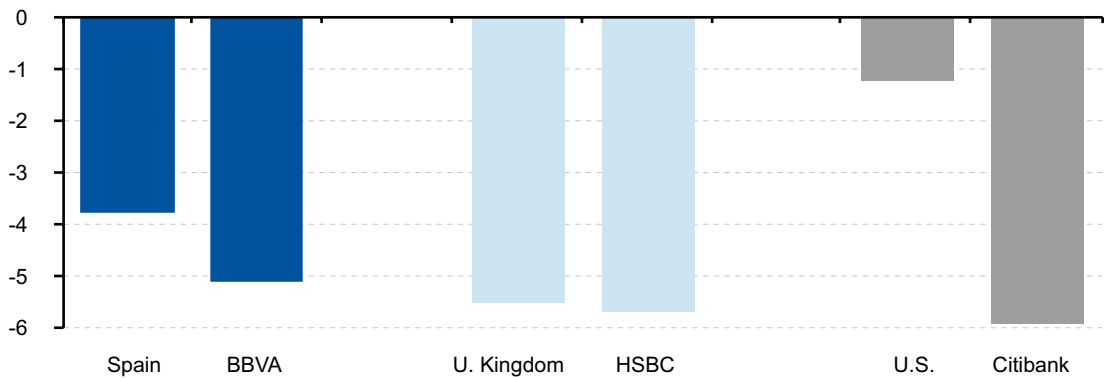
Fuente: Bloomberg y BBVA Research.

Banking in Mexico is already meeting the capital requirements
Despite the fact that the Basel III norm will begin to be implemented progressively as of 2013, the banks in Mexico are already complying with it. This is due to the fact that the banks have high levels of capital, even before the crisis, and to the fact that the regulation and the appropriate supervision allowed said capital to be of high quality (see ***Banking Outlook Mexico*** corresponding to February 2010, pages 27 and 28). The following box shows the calculation for the banking system in Mexico of common capital, basic capital and the ratio for leverage that the new regulation introduces. The calculation incorporates the concepts and the deductions that comprise common and basic capital under the new regulation.

Chart 8
Complying with Basel III

New Basel Regulation	Basel II	Require. Basel III	7 largest banks	Sit. Mex. System
Common cap / Assets subject to total risk	2.0%	4.5%		
Cushion for capital conservation	-	2.5%		
Min. demand for common or "core capital"	2.0%	**7.0%**	15.0%	13.2%
Basic cap. / Assets subject to total risk	4.0%	**6.0%**	15.6%	13.2%
Leverage ratio (Tier 1/adjusted assets)	-	**3.0%**	10.7%	nd

Source: Strategic Analysis BBVA Bancomer, BBVA Research, and CNBV. Data available through September 2010.

The results show that banks in Mexico maintain levels that by far surpass those required by Basel III in common capital, basic capital and leveraging. Even the 7 largest banks have common capital of more than double that required, even when this was increased from 2% to 7% of the assets subject to total risk. In basic capital and leveraging, the levels of these banks are around 3 times higher than those required.

As can be observed in Chart 4, the margin that the banking system in Mexico has in terms of capital is quite broad. Nevertheless, it is necessary to be aware of the possible medium- and long-term effects that the new regulation could bring with it, the result of the demand for capital that the market might cause for the banks, For example, if the banks in the developed countries increase their capital, as expected, the banks in the emerging countries could see the need of doing the same thing. This, due to the fact that, comparatively, the gap between the banks in developed countries and the banks in the emerging countries is reduced, and given the greater credit risk in the emerging countries, both clients and investors could demand more capital from them. Since the higher levels of capital and liquidity are associated with the availability and the cost of credit (see Box 4), and this, in turn, affects economic development, then there could be negative effects regarding greater financial depth and growth in the medium and long terms.

The specific treatment for the global systemic institutions, the so-called G-SIFIs (Global Systemically Important Financial Institutions), will introduce an element of differentiation between the global and local dimensions of the financial sector. As a result, the emerging countries, characterized by a high presence of foreign banks in their financial system, could be affected by the creation of asymmetries among institutions, given that the G-SIFIs compete directly with the SIFIs (Systemically Important Financial Institutions) on the local market.

Additional measures that could lead to greater solvency in the institutions
An alternative so as not to concentrate the regulatory changes only on greater capital and liquidity levels would be to improve and expand the scope of supervision. To this regard, the Financial Stability Board (FSB) has made the following proposals for Mexico:

• To monitor groups with non-financial central offices and financial subsidiaries.

• To consolidate the supervision at a level of financial conglomerates, to monitor the level of capital at a group level and to suggest that the regulators should conduct joint inspections.

• To expand the regulatory perimeter of the large Multiple Purpose Financial Management Companies (Sofomes for their Spanish initials).

- The CNBV (National Banking and Securities Commission) should have the authority to:

  - Revoke the license of any bank, non-bank subsidiary or financial group.

  - Approve the investment or outsourcing of critical functions of all the banks and financial groups.

  - Examine the institutions at a group level, regardless of the jurisdiction.

  - Supervise financial or non-financial institutions established by Mexican individuals that form banks in another jurisdiction.

- The authorities should consider greater independence for the CNBV:

  - Budget.

  - Organization: establish a presidency or chairmanship with a minimum period and with restrictions for their removal, that of independent directors and with a fixed period.

  - To transfer the license authorization of financial groups from the SHCP to the CNBV (as has occurred already with the licenses for the banks).

- The financial authorities should adopt a macro-prudential financial regulation and supervision plan that will cover the entire financial system, that is, to incorporate the non-banking financial intermediaries.

  - The Financial System Stability Board that was established in the country is the first step. For it to be more effective, it should have a clear mandate, high coordination levels among the member institutions, an infrastructure to gather and share data, and should have macro-prudential tools.

The events during the crisis showed that a deep knowledge of the financial institutions by the supervisors is both a preventive tool and a basic element for implementing mechanisms that will allow the recovery of an institution or, should it be necessary, its resolution. Therefore, effective supervision should be a key challenge to be established in the new regulatory framework.

In brief, notwithstanding the fact that the new international regulation regarding capital will begin to be implemented until 2013, the banking system in Mexico is already complying with it. In addition, this new capital regulation has improved the perception of solvency that the financial markets of foreign banks with operations in Mexico have.

Despite the high level of capital and liquidity that the banking system has in emerging countries like Mexico, it is important not to base the new regulatory norm only on capital and liquidity, since it is also important to improve the supervision, both of the institutions individually and the market as a whole. This is particularly important, given that the requirements of capital and liquidity are associated with a lower penetration of the banks. That is, in Mexico, for its benefit, there are banking institutions with high solvency that fully comply with the new requirements. However, it is necessary to avoid that regulatory changes limit the expansion and penetration of the financial system in the future, in particular, where the challenge for bank services coverage is still very broad.

Acknowledgments

Inset 4: Impact of Financial Regulations on Emerging Economies

In July 2010, the Group of Governors and Heads of Supervision, whose activity consists in supervising and regulating the financial system of their respective countries, reached an agreement involving the reform package of the Basel Committee on bank capital adequacy and liquidity, known as Basel III. Although some studies on the effects of this new international regulation on the developed countries have already been undertaken, it is only recently that students have emerged on its effects in the emerging economies[11]. It is important to analyze the specific effects of the international regulation on the emerging economies given the relative backwardness they experience in relation to the developed countries in terms of the population's income and the penetration and coverage of the financial system, variables on which the new international regulation could have an effect. For the purpose of analyzing these potential effects we will discuss the recent article by Abascal, Carranza, Ledo and López-Marmolejo (2011)[12], which deals with the potential impact of a higher level of capital and liquidity on bank penetration and on the economic development of the emerging economies.

At the present time, the emerging economies have very high capital and liquidity levels and in many cases they are above those that will be called for in the Basel III accords, and, therefore, it is expected that the stronger regulation will affect them. However, according to Abascal et al. (2011), with a view to the future, the stronger regulation could lead to these countries maintaining a large capital "cushion" and thus limit the growth of credit. For example, if banks in developed countries increase their capital, as is expected with the new regulation, it is very possible that the banks in the emerging economies will see the need to do the same. This is because comparatively the gap between banks will decrease and, given the higher credit risk in the emerging economies, it is to be expected that both clients as well as investors will demand more capital from them. In the medium or long term, this could have negative effects on the deepening of the financial markets and access to

financial services. An interesting fact that suggests that this could occur is that during the low end of the cycle the small banks increase their capital level very much above the regulatory requirements, while the big banks maintain them relatively constant. This seems to indicate that the market demands more capital, in relative terms, from the banks that it considers of greater risk. The authors suggest that the banks could transfer the cost of the stronger regulation for capital and liquidity to consumers, since the managers, usually employed by many passive shareholders, maintain control as long as: (i) they comply with the regulation and there is no intervention on the part of the regulatory agency, and (ii) the shareholders are satisfied with how the bank is managed, in terms of maintaining an acceptable risk and return profile in comparison with the market and new capital injections associated with deficient management are not required. In this sense, the greater capital and liquidity requirements do not discourage risky behavior on the part of banks; what they would generate would be efforts to make the greater amount of capital profitable[13].

In this article, to quantify the macroeconomic effects of the changes in regulation and liquidity, an econometric exercise will be undertaken in two stages. In the first stage, the impact of capital and bank liquidity on the financial system will be estimated, concretely in terms of price (net interest margin to assets) and amount (bank credit to the private sector in relation to GDP). In the second stage, the exercise estimates the impact of these variables —credit and margin—on per capita GDP. As a result, the impact of the regulation on GDP is estimated through a chain rule. This article is focused on the direct channel of the effect of the greater regulation on the availability and cost of credit in the emerging economies. And even though it recognizes that an indirect channel can exist, through the impact on capital flows to emerging economies that affect the terms of exchange or through changes in the structure of the sector, the exercise does not quantify these.

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[11] Institute of International Finance (2010) and Bank for International Settlements (2010).

[12] Available as a working paper from BBVA Research. The analysis is based on a panel of 129 countries with observations for 1997 to 2008. However, the data for analyzing bank penetration are only available for a sample of around 80 countries. The emerging economies used in the analysis are Argentina, Brazil, Bulgaria, Chile, China, Colombia, Egypt, Estonia, Philippines, Hungary, Indonesia, Jordan, Latvia, Lithuania, Malaysia, Morocco, Mexico, Oman, Pakistan, Peru, Poland, Czech Republic, Slovakia, Russia, Sri Lanka, Thailand, South Africa, and Turkey.

[13] According to McKinsey (2010), the new regulatory measures led to a decline in the profitability of the banking industry of between 5 and 6 percentage points in return on equity (RoE), with investment banking being the most affected, with a 9 percentage point fall.

Stage I: Financial Regulation and Development of the Financial System
The estimate in the first stage uses two regression models. In the first, the dependent variable is bank credit to the private sector in relation to GDP, and in the second it is the net interest margin to assets. The explanatory variables that reflect the direct channels are capital/risk-weighted assets, liquid reserves/assets, and the regulatory capital quality index. The control variables that could reflect the indirect effects are the financial freedom index and degree of concentration, and the rest of the control variables are inflation and the business environment. Using these regression models, results are obtained for the elasticity of bank credit and the net interest margin with regard to capital and liquidity.

The results show that a 1% increase in capital reduces the bank credit/GDP ratio by -0.53% in the emerging economies and by -0.30% in the total sample. In addition, a 1% increase in liquid reserves reduces credit as a percentage of GDP by -0.13% in the emerging economies and by -0.08% in the total sample. Therefore, the effects of capital and liquidity are greater in the emerging economies in terms of bank credit/GDP. Capital quality, measured through the capital regulation index, has a positive effect on the level of credit. It is also important to note that the business environment is a very important determining factor in bank penetration[14].

Chart 9
Elasticity of Credit in relation to the Following Variables:

	Total	Emerging Economy
Capital/assets (%)	-0.30	-0.53
Liquid reserves/assets (%)	-0.08	-0.13
Regulatory Capital Index	0.41	0.37
Business environment	-1.22	-0.99

Using 2008 values and the coefficients of column (2) Emerging refers to the emerging markets
Source: BBVA Research

In terms of price, a 1% increase in capital generates growth of around 0.30% in the net interest margin both for the emerging economies as well as for the total sample. The effect of the liquid reserves on the margin is close to zero.

Stage II: Financial Development and Economic Performance
In the second stage the determining factors in calculating

per capita GDP are estimated. The bank credit to GDP and net margin to assets ratios are among the explanatory variables, in addition to the terms of exchange and capital flows, among others. To quantify the transmission process of capital and liquidity to per capita GDP, the elasticity of per capita GDP to bank credit and net interest margin are obtained. Using specifications different from the model, an interval is obtained for the results.

Chart 10
Elasticity of the Net Interest Margin to the Following Variables:

	Total	Emerging Economy
Capital/assets (%)	0.29	0.31
Liquid reserves/assets (%)	0.03	0.00
Capital Regulatory Index	-0.22	-0.23
Business environment	0.31	-0.29

Using 2008 values and the coefficients of column (2)
Source: BBVA Research

By adding together the two transmission channels —bank credit and net interest margin— the effect of capital and liquidity on per capita GDP is obtained.

Chart 11
Elasticity of Per Capita GDP to the Following Variables:

	Low interval	High interval
Bank Credit	0.05	0.19
Net interest margin	-0.03	-0.07
Business environment	-1.42	-2.86

Using 2008 values and the coefficients of column (2) for the low interval and of column (6) for the high interval, since it has the highest R squared
Source: BBVA Research

The results show that a 1% increase in both capital and liquid reserves generates a decrease of between -0.04% and -0.15% in per capita GDP in the emerging economies, while the effect is between -0.03% and -0.10% for the total sample. If the capital to assets ratio increases by 10%, the impact on per capita GDP would be -1.3% for the emerging economies (in the high interval), and -0.8% for the sample. In the case of liquid reserves to assets, if the former were to increase by 10%, the effect on per capita GDP would be around -0.2% (in the high interval).

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[14] The details of the estimate and the statistical tests realized are in: Abascal, et al. (2011).

Chart 12

Adding the Bank Credit Channel and the Net Interest Margin, Effect on Per Capita GDP of a 1% increase on the following variables:

	Total		Emerging Economy	
	Low interval	High interval	Low interval	High interval
Capital/assets (%)	-0.02	-0.08	-0.04	-0.13
Liquid reserves/assets (%)	-0.01	-0.02	-0.01	-0.02
Capital regulatory index	0.03	0.10	0.03	0.09
Capital and liquid reserves	-0.03	-0.10	-0.04	-0.15

Using 2008 values.
Source: BBVA Research

In conclusion, although the recent financial crisis has demonstrated that an updating of the regulatory framework is required in order to preserve financial stability, it is necessary to keep in mind the effects of the new regulatory framework on financial penetration and long-term growth, particularly in the emerging economies, which can be the most affected in these variables.

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3.2 Credit Bureaus: toward the Incorporation of More and Better Information

Introduction

Credit bureaus and public registries are entities that are present in economies to help reduce the risk of granting credit, that is, that loans are granted with definite characteristics (amount, term, interest rate, guarantees, etc.) based on an appropriate measurement of the risk of non-compliance by the borrower or receiver of such loans. This section of ***Banking Outlook Mexico***, describes these entities and their recent development at an international level and in Mexico. Then, the information that the databases that these entities usually have is described and some recent empirical evidence regarding the importance that this information not be limited to a mere data exchange on non-compliance of payments. In this sense, the section ends with three proposals to expand and improve that quality of the databases of the credit information institutions in Mexico.

The credit bureaus and public registries allow for the granting of credits based on a better evaluation of risks

The credit bureaus (CB) are associations or private companies organized by banks or other financial institutions that appear in regions or specific segments spontaneously for the voluntary exchange of data and information. These bureaus first appeared in the United States and Sweden during the XIX Century, and sometime after in Austria, Finland, Canada, Germany, Chile, Peru and Uruguay.[15]

In many countries, where this type of associations did not appear or these had limited data bases, the governments have intervened actively to create a public registry of credit information (PRCI) or a favorable institutional framework for CBs to be developed. In Germany and France, the first PRCIs were created in 1934 and 1946, respectively, under the auspices of the central banks.

In Mexico, up until the beginning of the decade of the nineties, there was a public registry of credit information operated by the Banco de Mexico (the central bank), denominated National Service of Bank Credit Information (SENICREB for its Spanish initials) and a company created by some banks to share data on persons who were users of credit cards. But, because of its design, the SENICREB data base functioned more to generate statistics than to provide a consultation service; between 1993 and 1998, the central bank issued various dispositions to propitiate the creation of more CBs, through one clear definition of the rules to create their databases and operate them. Of the three companies which received authorization to begin operations in that period, only one of them (the Credit Bureau) currently continues to operate, since of the other two companies, one merged to form part of this company and the other one left the market.

Later, in 2002, the Law to Regulate Credit Information Societies (SIC for its Spanish initials) was enacted. This law, in addition to strengthening the rules of operation for SICs, considers various mechanisms to protect the rights of persons relative to their data, such as requirements of consent, guarantee of access to credit reports, and low-cost procedures for disputing and correcting wrong Information. Since then, this law has been reformed in 2004, 2008, 2009 and 2010 with the aim of strengthening various provisions related to aspects such as the structure and corporate government of the SICs, the rendering of accounts to the supervisory authorities, the definition of the additional services that could be provided both to the credit granting companies users, and to the client persons to whom the data refer, the stipulation of the type and term of storage of the data that these

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[15] For further details on the development of the CBs (credit bureaus) in Latin America, see Turner and Varghese (2007).

bases can incorporate, and the determination of conditions so that the various SICs may exchange data among themselves. Even though, at the beginning, the motivation of many of these changes had been to achieve that the databases of the SICs have the amplest coverage possible, in order to increase the access to credit, in more recent years some of the changes have been spurred by the concern of increasing the degree of protection of the personal data, which can be attributed in good measure to the fact that, until 2010, a general law on this topic did not exist in Mexico.[16]

Due to the recent introduction of some of these legal reforms, it is very difficult to measure their impact on the sector, beyond the predictions of economic theory and that some of them comply with the best international practice. Currently there are two SICs operating in Mexico. One of them is the Credit Bureau, which up to 2005 operated practically as the only mechanism for sharing information, since it also displaced the SENICREB (not designed to allow for the consultation of credit data). The other is the Credit Circuit which entered the market in 2005 and in 2009 reached a 30% share of the credits or accounts (out of a total of 222.8 million) and serves 42% of the users (of a total of 98.5 million), and attends to 16% of users (bank financial intermediaries and regulated non-bank, micro-financing companies, and commercial and services companies).

Graph 32
Coverage of Private Credit Bureaus in Mexico
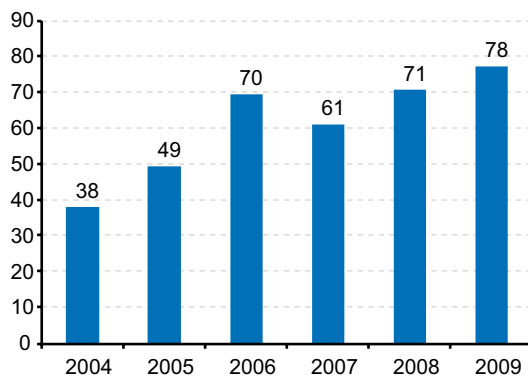
Note: Percentage of adult population
Source: BBVA Research with World Bank data (World Development Indicators and Doing Business Project, several years).

Graph 33
Coverage of Credit Bureaus in Ten Selected Countries
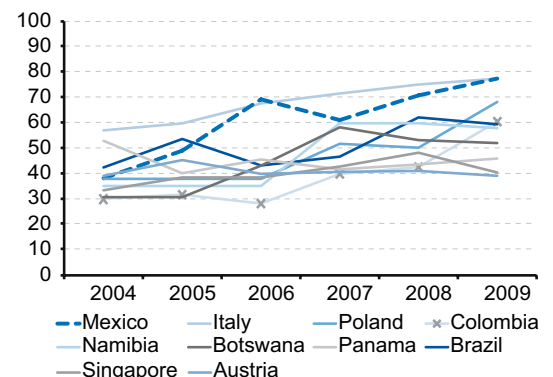
Note: Percentage of adult population
Source: BBVA Research with World Bank data (World Development Indicators and Doing Business Project, several years).

As refers to the growth of the database coverage of the adult population, potential claimants of credit, the international comparisons suggest a good performance in Mexico compared to that of other economies. According to World Bank statistics, coverage rose from 38% to 78% of the adult population between 2004 and 2009 (graph 32), that is, it more than doubled in that time period[17]. Such growth is more dynamic than that experienced in nine other countries, which in 2004 had similar coverage to that of Mexico (graph 33). The result of this increase in 2009, Mexico stood in position 20 of 131 countries in the CB indicator of coverage (graph 34). When considering the percentage of the adult population covered both in CBs and in the PRCI (public registry of credit information) in that year, Mexico's place drops to position 27 of that sample of countries.

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[16] For further details on the history of credit bureaus in Mexico see Negrin (2000) or Report Systems of Bank Loans and Credits in Mexico, World Bank and and Latin American Center of Monetary Studies 2005.
[17] The coverage datum of the private credit bureaus that the World Bank reports refers to the number of individuals or companies listed in credit bureaus with data on payment history, non-paid debts or current credits that it collects for its database of indicators of economic development. For further details, consult http://data.worldbank.org/indicator.

Chart 13
Credit Information Systems in Selected Countries

Country	Public registries of credit information	Number of Credit Bureaus		Total
		That maximize earnings	That do not maximize earnings	
Sweden		6		6
Italy	1	2	1	4
Chile	1	3		4
Slovakia	1	2		3
Spain	1	2		3
United States		3		3
United Kingdom		3		3
Rumania	1	2		3
Germany	1	1		2
Australia		2		2
Austria	1		1	2
Bulgaria	1	1		2
Denmark		2		2
Slovenia	1		1	2
Japan		2		2
Lithuania	1	1		2
Mexico		2		2
Netherlands		1	1	2
Portugal	1	1		2
Czech Republic	1	1		2
Belgium	1			1
Cyprus		1		1
Estonia		1		1
Finland		1		1
France	1			1
Greece		1		1
Hungary		1		1
Ireland		1		1
Latvia	1			1
Malta		1		1
Poland		1		1
Luxembourg				0

Source: For Mexico, National Banking and Securities Commission. For the European countries, Report of The Expert Group on Credit Histories, European Commission, 2009. For the other countries, Negr'n (2000) and the World Bank (Doing Business Project).

In countries where there is a CB, the percentage of the adult population registered tends to be higher

To determine what is the optimum number of SICs and the CB and PRCI composition for an economy is not an easy problem from a theoretical standpoint. As refers to the number of SICs, of note is the fact that this is about a service the provision of which is subject to strong network economies, in addition to economies of scale associated with significant initial costs and notably decreasing unitary or marginal costs. But some specialists on this topic are of the opinion that these characteristics as not sufficiently important in the industry to suggest that their optimum structure be a natural monopoly. Moreover, they argue that the possibility of offering heterogeneous products expands the possibility that some companies compete through a differentiation of their products. So as to appreciate what the data are saying with respect to the number of CBs and PRCIs, the data of a sample of 30 countries that are presented in chart 13 indicate that what is most common is that the number of institutions tends to be reduced, of one or two, and that, in cases in which there are two, that one be an PRCI and the other a CB. In this sample, the CBs are also more frequent that seek to maximize their earnings than those which do not.

Although the World Bank database does not contain information on the number of CBs and PRCIs operating in the countries, it is useful for appreciating the relationship between the extent of the coverage and the market share of the CBs and the PRCIs. The data in graph 34 indicate that in the group of 13 countries with 100% coverage of the population or more, they all have CBs and only four of them also have an PRCI. This can also be appreciated in the data of 131 countries that are presented in graph 35 since in those countries where there is higher coverage, a greater participation of the CB is more common. In reality, only in four of the countries where the PRCI have majority participation, the percentage of the adult population registered is greater than 50%: Spain, Belgium, China and Portugal. It should be noted that only in four of them, the coverage is higher than in Mexico. Therefore, this basic comparison also points to the fact that the mechanisms to share information in Mexico have had an efficient performance in recent years.

Graph 34

Credit Bureau Coverage and Public Registries of Credit Information during 2009 in Selected Countries

■ Public records of credit information
■ Credit bureaus
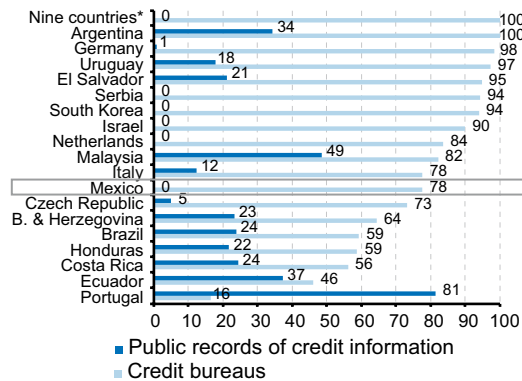
Note: Percentage of adult population.
* Nine countries with 100% CB coverage: Australia, Canada, United Kingdom, Ireland, Iceland, Norway, New Zealand, Sweden, United States.
Source: BBVA Research with World Bank data. (World Development Indicators and Doing Business Project, 2011).

Graph 35

Credit Bureau Coverage and Public Registries of Credit Information and Participation of the PRCIs in the Total during 2009 in Selected Countries
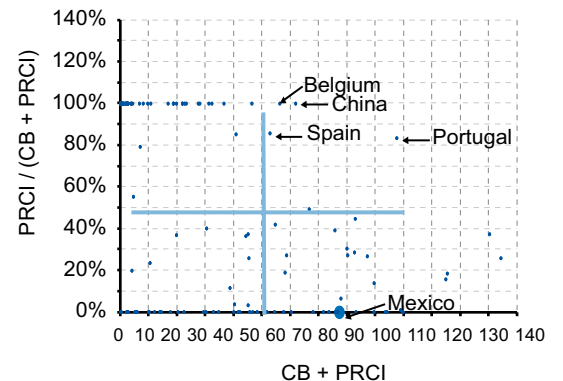
Note: Sample of 131 countries for which the CB or the PRCI coverage is higher than zero. Other 48 countries reported zero coverage for both types of entity.
Source: BBVA Research with World Bank data (World Development Indicators and Doing Business Project 2011).

More data or better quality data?
The percentage of registered credit recipients in the CB is a first dimension that determines their quality, but the type of data that is stored and shared by the CB is also important. This information can be negative or positive.

The negative information generally consists of facts associated with a performance of payment default of the contracts of persons or companies, that is, on non-payment, debts pending and bankruptcies. It can also include data on lawsuits, guarantees, frauds and legal resolutions that are obtained from the courts or other official sources. It is important to point out that the precise definition of this concept varies from country to country.

In turn, the positive information, the definition of which also varies from country to country, covers facts of compliance with contracts. It generally consists of details regarding the amounts and types of debts pending, guarantees, payment terms and personal data on the borrower.

The exchange of strictly negative information allows lessening the problems of "adverse selection" and "moral risk", that entities granting credit have to face.[18] The problems of "adverse selection" refers to the fact that persons and companies with projects of greater risk of failure

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[18] Fudenberg and Tirole (1991) present more formal definitions of the concepts "adverse selection" and "moral risk"

and non payment, when requesting credit are more willing to pay higher interest rates in order to obtain the resources (in reality, when someone has not paid a debt he has contracted with a private lender, he has the incentive to ask other lenders for a loan). The problem of "moral risk" refers to the fact that once the credit has been granted, the receiver can act in a way that will make it more probable for him to default. The probability that the entities may easily ascertain, thanks to the information available in the CB or in the PRCI if a an applicant for credit does not pay and then not grant him the credit, also increases the incentives for him to pay his debts, so that he might continue accessing new credit in the future. Therefore, given the efficiency of negative information for reducing credit risk, the debate on whether this type of information should be exchanged is limited mainly to the period of time during which it should be stored and be available for such an effect.

On the other hand, the exchange of positive information is a reason for further discussion. Those arguing in favor point out that positive information is very useful in measuring risks and preventing over-indebtedness, which makes it easier for credits to be granted in a more secure and responsible manner. They also consider that the higher costs of processing and storing data for the SICs are more than compensated due to the benefits that are derived from having higher quality information, such as the reduction of losses and greater monitoring of loans, lower prices of the financial products and greater mobility and access to credit by certain applicants and easier entry for new competitors.

In turn, the detractors of the use of positive information not only are of the opinion that the processing and storing of information costs are considerable and the benefits not too important; they also worry that its use implies a loss of personal privacy and that the personal information may be improperly used. As a result, in many countries, the exchange of positive information is limited by laws protecting persons' privacy.

In many countries of Latin America, the CB enters databases with negative and positive information of bank credits. In Mexico, by law, credit reports must include regarding each operation, al least the credit background, the dates of the credit opening, the dates of the last payment and the closing when pertinent, the credit limit in its case, the total balance of the transaction and the amount to be paid, and the applicable codes of observation and prevention (the inclusion of certain negative and positive information is considered)[19]. It is important to note that the Credit Report received by a financial entity which resorts to the CB to know the credit background of a potential client, does not contain details or numbers of the credit account of the client, or the identity of other entities which have granted him credit or services[20]. These data, however, are available for the client in his Special Credit Report. Also, clients may request a free Special Credit Report every year, which will allow them to verify that their information is correct and, if not, to request that it be corrected. This is very important in order to have quality data so as to make better decisions.

In Mexico, in addition to the banks, other diverse financial and commercial entities contribute to the data bases of the CB (and they consult them), such as the regulated Sofoles and Sofomes which grant credits for housing and consumption, bonding companies, real estate companies, credit unions, savings banks, micro-financing companies, automobile financing companies, foreign exchange houses, leasing companies, factoring agencies, department and commercial stores, cellular phone companies, cable TV companies, some real estate companies, sports clubs and schools. The Federal Tax Administration Service (SAT for its Spanish initials) is already providing data on firm fiscal credits to the CB.[21]

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[19] Article 36 Bis, Law to Regulate Credit Information Companies.
[20] This practice is quite common in CBs and is due to the fact that the companies have no incentives to reveal to possible competitors those who are good clients so as not to lose them. For further details see Pagano and Japelli (1993).
[21] As per Article 69 of the Fiscal Code of the Federation, in force, the official personnel that intervene in the relative transactions of the application of the tax provision will be obliged to keep in absolute reserve anything concerning the declarations and data submitted by taxpayers or by third parties related to them as well as those obtained in the exercise of the faculties of verification. However, said reserve does not include the information relative to the firm fiscal credits of the taxpayers that the tax authorities provide to the Credit Information Societies, authorized by the Finance Ministry.

More data and of better quality is relevant: the evidence of the United States and Colombia corroborates this

For many years now, empirical evidence amply backs that the existence of CBs and an RPCI allows increasing credit to the private sector; this evidence basically indicates that credit to the private sector as a proportion of GDP is higher in countries that have this type of institutions (Pagano and Japelli, 1993). Also, it confirms that the level of non-compliance is also lower in countries that have a CB and an RPCI than in those which lack them. Subsequent research has evaluated whether the inclusion of positive information in the data bases of CBs and RPCIs is of value.

The germinal study of Barron and Staten (2003) found that the use of complete credit information, a positive and negative credit background in preparing credit qualification models (points or scoring), allows lenders to grant more credit and better manage their risks. Their simulations with CB data of the United States (which is the country that has the most complete credit files for a higher percentage of its adult population)[22], show that for an acceptance rate, the use of complete credit information in a model of generic credit qualification produces a loan portfolio with fewer non-payments and payment default, that is, lower risk. In terms of symmetry, for any value of the default index, lenders who use the complete credit information may grant more credits than those who are restricted to use only the negative information in their evaluations of credit risk.

For example, according to data in charts 2 and 3 of Barron and Staten (2003), for an acceptance rate of credit applications from consumers of 60%, a default rate of 1.90% is obtained if the estimate uses the complete information and of 3.35% if the estimate uses only negative information, and for a default Index of 3%, the percentage of consumers that receive the credit is 74.8%, when the credit qualification information model is used with complete information and 39.8% when the model of credit qualification is used with only negative Information.

In the same study, Barron y Staten also research the value of the existence of data from various credit grantors in the CB and not just the banking and financing insitutions. For the exercise that they realize, they compare the databases where data of financial and commercial entities are shared with databases that only share the data of financial entities (credit cards) or commercial entities (commercial loans). As per the estimates in their charts 6 and 8, considering a default rate of 3%, the percentage of consumers who obtain credit from a commercial entity is 83.4% if the model with data from both groups is used and 75.4% if a model with data from commercial entities only is used. In turn, the percentage of consumers who obtain a bank credit is 79.6% with the model with data from both groups and 75.6% with the model with bank data only. It should be seen that the decrease of the percentage of consumers who obtain a credit is higher for commercial entities than for financial entities. Also, by symmetry, the exercise shows that for an acceptance level of 60%, the deterioration of the default index for commercial entities is from 1.18% to 1.90%, whereas for financial entities, it is only from 1.70% to 1.27%.

These findings have been reproduced in multiple later studies. Recently, Turner and Varghese (2007) used the methodology that Barron and Staten developed to determine the degree of deterioration of credit bureau bases that takes place when users provide less positive information, using a database of the Acierta de Colombia bureau. The simulations of

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[22] By law, the CB of the United States maintain four data categories in their credit files.1) Information on personal identification (name, address, social security number, etc.) 2) Credit lines in force (credit cards, loans and car leasing, mortgages, personal loans, etc.) with data on the balance, credit limit, date of opening of account, date of the last movement and payment history; 3) Elements of public registry relative to the use of credits, including bankruptcies, accounts referred to collection agencies, collection and guarantees lawsuits; and 4) Consultations of the credit file, including the date and identity of the consultant of at least two years before. For further details see Barron y Staten (2003).

these authors also show that the acceptance rates for a given default index decrease as the users provide increasingly less positive information to the database and that the decrease is higher than the lower and healthier default levels For example, as per the data of their chart 5, when the proportion of suppliers who deliver positive information decreases from 100% to 50%, if the default index is 12%, the acceptance rate for loans is reduced from 77.8% to 76.49%. However, if the default index is 3%, the acceptance rate for loans is reduced from 10% to 4.73%.

Turner and Varghese also find that the negative effect on access to credit is not uniform among demographic segments. Although all the segments experience lower access to credit, women and young people, even though neither gender nor age are parameters of decision, suffer more from the lack of positive information than men or older adults. This seems to be due to the fact that men and older adults have longer credit histories whereas, younger people because they have little time of compliance with legal requirements and women, even if they are older do not, because it is common for them to use accounts that are in the name of the husbands or that they are more reliable in their financial obligations (so indicate various models of micro-credit businesses which operate by lending money mainly to women (graphs 36 and 37). Therefore, the inclusion of positive information in credit information bureaus importantly benefits the population segments that have not had access to credit.

Graph 36
Credit Acceptance Rate for a Default Index of 7% in Colombia, by Gender
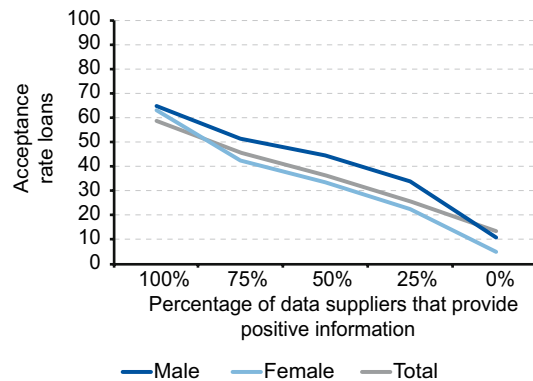
Source: BBVA Research with data from charts 5 and 7 by Turner and Varghese (2007).

Graph 37
Credit Acceptance Rate for a Default Index of 7% in Colombia, by Age
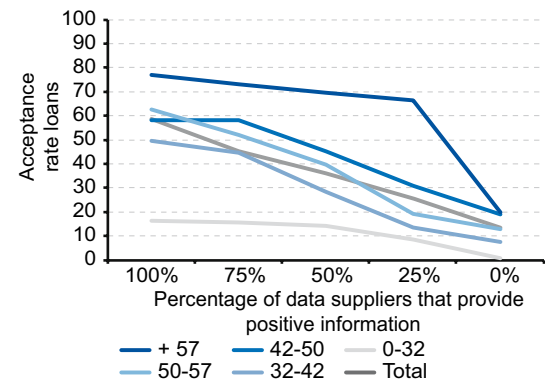
Source: BBVA Research with data from charts 5 and 7 by Turner and Varghese (2007).

This type of findings have motivated the authorities of various countries not only to rethink certain restrictions already existing with regard to the use of positive credit information, but also to think that other data of analogous nature can be added to CB databases. In the United States, where it is estimated that there are still more than 35 million adults outside the credit system, some experts have proposed adding to the databases information regarding the payment of various services, based on the evidence that, in that country, accredited groups lacking a traditional credit history have risk characteristics similar to that of other accredited persons, once data on their payment patterns for services of electricity and telecommunications are considered.[23]

In December 2010, on the last day of his mandate, President Luiz Inácio Lula da Silva issued a presidential decree so that in Brazil, where the CB only used negative information, would begin to include the names of those consumers and those companies that pay their accounts

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[23] For further details see: "Give Credit Where Credit is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data", Political and Economic Research Council and The Brookings Institution Urban markets Initiative, 2006.

on time.[24] In Australia, New Zealand and France, where up to now the CBs are also restricted to using negative information (and despite the fact that the first two countries have 100% coverage of their adult population, see graph 34), they are also discussing legal projects for incorporating positive information.[25]

Three proposals to improve the data in the SICs (Credit Information Systems)

Three general elements of the credit reporting system have been identified that are important to encourage growth and security for the financial sector of a country: 1) that they be of private property: the CBs reach greater coverage than the PRCIs (Public Registries of Credit Information); 2) that complete credit information be reported, negative and positive; and 3) that there be an ample and active participation of users, that the databases of the CBs be entered with information from various credit and service grantors and not only from the banking sector.

In Mexico, only the CBs are operating and this has translated into a duplication of the percentage of adult persons registered in five years. Also, the law now permits that SIC (credit information) databases include information on credit transactions and others of an analogous nature that are provided to them by users, and they do it like that.[26] However, being that diverse international statistics indicate that Mexico still has to progress more in terms of bank services coverage, it is important to carry out actions that allow increasing the coverage of the SIC databases by increasing the positive information of other entities.

For example, to improve the coverage of companies of the SIC, the SIC databases could be provided with the information on the contributions made by companies for workers' accounts to the INFONAVIT (workers' housing fund) and to the IMSS (the Mexican Social Security Institute). As per preliminary results of certain studies by the CNBV (within the context of the design of the new methodology to determine the preventive reserves of the banks under the item of credit to companies), more precise PYME (small and medium businesses) credit qualifications are obtained when the information on the accumulation of points based on the credit obligations are complemented by the contributions by companies to the workers' INFONAVIT accounts. Thus, if an institutional mechanism for the INFONAVIT and the IMSS to provide their data on companies to the SIC, the number of company registries would increase.

Furthermore, it is necessary to consider that the INFONAVIT is the main grantor of mortgages in the country (in 2010 it granted around 475,000 mortgages, while the banks and the Sofoles granted around 95,000.). Also, the INFONAVIT has a greater presence among the segments of the lowest-income population that traditionally has had a more limited access to financing from the financial institutions. In this sense, there could be important benefits for INFONAVIT affiliated workers and of the other public institutions that provide financing for housing (FOVISSSTE and OREVIS, Government Housing Organizations) that will provide their information to the SICs on current payments on mortgages.[28] This positive information would allow improving the qualifications of those workers so that they might obtain another type of credit from other financial entities.

At the same time, more institutional arrangements could be considered to add the data of payments made to those companies providing the public services of electricity and water. The advantage of doing this consists in that, according to information of the National Survey of Household Income and Expenses, the percentage of homes with access to these public services is much higher than those who have bank and commercial credit cards or with private services that already form part of these databases (chart 14). The information of the expense

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[24] It should be noted that this decree was issued after President Da Silva had vetoed, some days before, a bill approved by the Senate with the same objective. For further Information, see Jeffris (2010).

[25] For further details see "Positive credit reporting set for 2011", The Adviser Industry News for Mortgage and Finance Brokers, January 13, 2010.

[26] Article 20, Law to regulate the Credit Information Societies.

[27] For further details, see "Metodologías de reservas de cartera crediticia bancaria" (Reserve Methodologies for Bank Credit Portfolios", Presentation, CNBV, November 2010.

[28] It should be recalled that neither the INFONAVIT nor other public institutions that provide housing financing, currently use credit reports to grant their loans (they are not obliged to do so, like the banks are, for example), because such credits are a right of the affiliated workers, However,,the law to Regulate Credit Information Societies does consider that among the entities that can be users of the information of the SICs, both the development banks and the public organizations, the main activity of which is the granting of credit. So there is no legal restriction for these institutions not to provide their data to the SICs.

examiners that is used to calculate the National Consumer Price Index point to the fact that the benefits of incorporating data surrounding the prompt payment of electricity in the short term can be important, being that a representative home spends on the payment of the provision of electricity more than on other various services for the home, such as fixed and mobile telephone service, gas, pay TV and Internet (chart 15). As to water, even though it is true that the spending proportion is low and it is a service provided at a local level (in contrast to the provision of electricity which currently in Mexico is through a single company with a sole database) many federal entities in recent years have made important efforts to have electronic databases of their users, within a context of the improvement of the quality of their public services (for example, the Federal District). All of this information is useful for identifying payment patterns and reducing credit risk, and its addition represents another benefit for the responsible user of these services.

Finally, being that the quality of the databases depends on the amount of information and that it be accurate, the third porposal is to establish institutional accords for the SIC to be able to have access to the databases of the government and other entities of the public sector, such as the Tax Administration Service (SAT for its Spanish initials) and those of the Federal Electoral Institute (IFE for its Spanish initials). The only aim of these accords would be to validate that the personal data of those accredited are correct.[29]

Chart 14
Situation of Access to Diverse Services in Mexican Households

	Number of households	**Percentage of households with access**
Water (from the public housing network or outside of it, but inside its property)	23,215,030	87%
Electricity (of the public service)	25,618,338	96%
Gas (stationary or non stationary tank)	22,358,014	84%
Fixed telephone line	12,710,434	48%
Mobile telephone line	15,183,736	57%
Pay TV	6,217,006	23%
Internet	3,688,535	14%
Bank or commercial credit cards	5,057,822	19%

Source: BBVA Research with data from the National Survey of Household Income and Expenses 2008.

Chart 15
Proportion of Household Expenses Destined for the Payment of Various Household Services as per Examiners of the Expenses of the National Consumer Price Index/[1]

	As a proportion of the INPC (National Consumer Price Index) (%)	As a proportion of the housing sub-index/[2] (%)
Electricity	3.56	12.25
Domestic Gas provision LP and natural	1.75	6.02
Fixed telephone line	1.52	5.23
Mobile telephone line	1.45	4.98
Water provision rights	0.88	3.04
Pay TV and Internet/[3]	0.88	3.03

Notes:
1. Base: second half of December 2010 = 100
2. The housing sub-index constitutes 28.2% of the INPC, and the housing index plus Internet services and pay TV: 29.1%.
3. Pay TV and Internet expenses are classified in the sub-index of Education and Recreation and not under the housing sub-Index.
Source: BBVA Research with INEGI and Banco de Mexico (central bank) data.

[29] In this sense, in various countries that have PRCI (Public Registry Credit Information), the information registered for the obtaining of national identity documents is used to feed the databases of the bureau. Turner and Varghese (2007) comment that such is the case of Costa Rica. It should be pointed out that in their analysis of the benefits of reporting personal information, these authors find that such information is of less value to improve the credit point counts than that which refers to non-compliance and current payment patterns.

Conclusion

Even though there has been important progress in Mexico in the expansion of credit, thanks in part to the formation of the CB, for the following stage of institutional improvement, it is advisable to explore more deeply those mechanisms with which to incorporate in the data of the SIC the information of those persons that up to now have been excluded from the financial system. Thus, the information will be enriched by which credit risk is measured and the expansion of credit to these segments would be more dynamic and it would hold up on more solid and broader fundamentals. The improvement of the quality of the SIC databases is a complementary action to other legal reforms which entered into force last year, directed toward granting credit in Mexico in a more secure and responsible manner.[30]

Acknowledgment

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[30] For further details on the reforms to the applicable legal framework to multiple banking that was approved last year see the July 2010 issue of **Banking Outlook Mexico**. For example, of note is article 18 Bis 1 of the Law for Transparency and Ordering of Financial Services, which obliges financial and commercial companies to grant credits, loans or revolving loans associated to a card to which, before realizing it, make an estimate of the viability of the payment by the applicant, using to that end an analysis as of the quantitative and qualitative information that will allow establishing his credit solvency and payment capacity.

4. Statistical Appendix

Chart 16
Financial savings: Balances in billions of December 2010 pesos

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% struct. 2010
M4a	4,019	4,487	4,685	5,121	5,456	6,063	6,587	7,061	7,739	7,916	8,498	
- Bills and coins held by the public	282	296	326	356	387	418	466	495	535	561	599	
= Financial savings *	3,737	4,191	4,359	4,765	5,069	5,645	6,122	6,565	7,205	7,355	7,899	100.0
I. Depository institutions	1,943	2,014	1,929	2,042	2,152	2,306	2,311	2,518	2,819	2,835	2,966	37.5
Resident commercial banks (demand + term)	1,585	1,620	1,531	1,646	1,750	1,832	1,891	2,092	2,365	2,354	2,470	31.3
Demand	610	742	779	850	882	991	1,080	1,184	1,224	1,282	1,403	17.8
Term	975	878	752	796	868	841	811	907	1,140	1,072	1,067	13.5
Foreign agencies of commercial banks	88	73	62	44	50	52	62	83	91	77	85	1.1
Savings & Loan Associations (S&L)	8	9	10	12	15	18	20	22	23	49	52	0.7
Development banks	262	312	326	340	337	404	338	320	341	355	358	4.5
II. Securities issued by the public sector	1,320	1,649	1,840	2,035	2,163	2,530	2,917	3,099	3,185	3,333	3,697	46.8
III. Securities issued by private companies	132	137	185	237	262	266	297	343	333	310	328	4.2
IV. SAR (Retirement Savings System) outside of Siefores	342	392	405	452	491	544	597	605	868	878	908	11.5
Financial savings = I + II + III + IV	3,737	4,191	4,359	4,765	5,069	5,645	6,122	6,565	7,205	7,355	7,899	100.0
Instruments included in financial savings												
TOTAL SAR = Siefores + SAR outside of Siefores	596	761	861	994	1,107	1,273	1,457	1,560	1,879	2,054	2,273	–
Siefores	254	369	456	543	615	730	860	954	1,011	1,176	1,365	–
SAR outside of Siefores	342	392	405	452	491	544	597	605	868	878	908	–
Financial savings without SAR total	3,141	3,430	3,498	3,771	3,962	4,372	4,664	5,006	5,326	5,301	5,626	–
Debt mutual funds	239	382	406	418	421	539	701	807	728	833	1,018	–
Real annual percentage change,%												
M4a	3.5	11.6	4.4	9.3	6.5	11.1	8.6	7.2	9.6	2.3	7.4	–
- Bills and coins	1.7	4.7	10.4	9.2	8.6	8.0	11.4	6.4	7.9	4.9	6.9	–
= Financial savings *	3.7	12.2	4.0	9.3	6.4	11.4	8.4	7.2	9.7	2.1	7.4	–
I. Depository institutions	-13.0	3.7	-4.2	5.9	5.4	7.2	0.2	9.0	12.0	0.5	4.6	–
Resident commercial banks (demand + term)	-13.9	2.2	-5.5	7.5	6.3	4.7	3.2	10.6	13.1	-0.5	4.9	–
Demand	8.5	21.6	5.0	9.1	3.8	12.4	8.9	9.7	3.4	4.7	9.5	–
Term	-23.8	-9.9	-14.4	5.9	9.0	-3.1	-3.5	11.9	25.7	-6.0	-0.5	–
Foreign agencies of commercial banks	-29.7	-16.9	-15.2	-28.4	13.4	4.4	18.3	34.7	9.0	-15.1	10.5	–
Savings & Loan Associations (S&L)	-19.4	13.2	12.4	21.5	19.4	19.0	16.6	9.3	2.4	115.2	5.6	–
Development banks	2.2	19.2	4.5	4.1	-0.7	19.8	-16.4	-5.1	6.4	4.1	1.1	–
II. Securities issued by the public sector	34.1	24.9	11.6	10.6	6.3	16.9	15.3	6.3	2.7	4.7	10.9	–
III. Securities issued by private companies	42.0	3.6	35.6	27.9	10.7	1.2	11.7	15.4	-2.9	-7.0	6.0	–
IV. SAR outside of Siefores	16.3	14.5	3.3	11.5	8.8	10.6	9.9	1.3	43.4	1.1	3.5	–
Financial savings = I + II + III + IV	3.7	12.2	4.0	9.3	6.4	11.4	8.4	7.2	9.7	2.1	7.4	–
Instruments included in financial savings												
SAR TOTAL = Siefores + SAR outside of Siefores	24.7	27.6	13.2	15.5	11.3	15.1	14.5	7.0	20.5	9.3	10.7	–
Siefores	38.3	45.3	23.6	19.1	13.4	18.6	17.9	11.0	6.0	16.3	16.0	–
SAR outside of Siefores	16.3	14.5	3.3	11.5	8.8	10.6	9.9	1.3	43.4	1.1	3.5	–
Financial savings without SAR Total	0.5	9.2	2.0	7.8	5.1	10.3	6.7	7.3	6.4	-0.5	6.1	–
Debt mutual funds	-12.4	60.2	6.2	2.8	0.9	27.8	30.1	15.2	-9.7	14.4	22.2	–
Percentage of GDP												
Financial savings = I + II + III + IV	37.9	42.5	45.5	46.7	46.0	49.1	49.3	50.3	54.6	59.1	60.1	–
I. Depository institutions	19.7	20.4	20.1	20.0	19.5	20.0	18.6	19.3	21.3	22.7	22.5	–
Resident commercial banks	16.1	16.4	16.0	16.1	15.9	15.9	15.2	16.0	17.9	18.9	18.8	–
Development banks	2.7	3.2	3.4	3.3	3.1	3.5	2.7	2.5	2.6	2.8	2.7	–
I Rest (Agencies abroad + S&L)	1.0	0.8	0.7	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0	–
II. Securities issued by the public sector	13.4	16.7	19.2	19.9	19.6	22.0	23.5	23.8	24.1	26.8	28.1	–
III. Securities issued by companies	1.3	1.4	1.9	2.3	2.4	2.3	2.4	2.6	2.5	2.5	2.5	–
IV. SAR outside of Siefores	3.5	4.0	4.2	4.4	4.5	4.7	4.8	4.6	6.6	7.0	6.9	–
Percentage of GDP, other concepts included in financial savings, %												
Total SAR	6.0	7.7	9.0	9.7	10.0	11.1	11.7	12.0	13.9	16.4	17.2	–
Siefores	2.6	3.7	4.8	5.3	5.6	6.3	6.9	7.3	7.7	9.4	10.4	–

Source: Banco de Mexico (broad monetary aggregates) and INEGI

Chart 17
Credit and Financing to the Private Sector: Balances in billions of December 2010 pesos

	IV 00	IV 01	IV 02	IV 03	IV 04	IV 05	IV 06	IV 07	IV 08	IV 09	IV-10	% struct. 2010
Total: All categories	3,265	3,048	3,177	3,305	3,531	3,734	3,875	4,507	5,101	4,849	4,851	100.0
Bank	1,180	1,024	988	954	987	1,122	1,409	1,729	1,853	1,770	1,851	38.2
Non-bank	2,086	2,025	2,189	2,351	2,543	2,612	2,466	2,778	3,249	3,079	3,000	61.8
Total consumer	122	154	205	242	332	460	582	664	628	550	547	11.3
Bank	68	87	114	159	225	333	460	557	519	416	414	8.5
Non-bank	54	67	91	83	107	126	123	107	109	135	133	2.7
Total housing	703	716	757	797	856	906	995	1,188	1,202	1,221	1,273	26.2
Bank	313	255	225	188	181	226	291	334	353	371	395	8.2
Non-bank	389	461	533	609	675	679	704	854	849	850	877	18.1
Total companies	2,441	2,179	2,215	2,266	2,343	2,368	2,298	2,655	3,272	3,078	3,031	62.5
Bank	798	681	650	607	582	563	658	838	981	983	1,041	21.5
Non-bank	1,643	1,497	1,565	1,659	1,761	1,806	1,639	1,817	2,291	2,095	1,990	41.0

V Real annual percentage change,%

	IV 00	IV 01	IV 02	IV 03	IV 04	IV 05	IV 06	IV 07	IV 08	IV 09	IV-10	
Total: All Categories	6.1	-6.6	4.2	4.0	6.8	5.8	3.8	16.3	13.2	-4.9	0.0	–
Bank	-15.6	-13.2	-3.4	-3.4	3.4	13.6	25.6	22.7	7.2	-4.5	4.6	–
Non-bank	24.2	-2.9	8.1	7.4	8.2	2.7	-5.6	12.6	17.0	-5.2	-2.6	–
Total consumer	15.8	26.2	33.1	17.9	37.2	38.7	26.6	14.1	-5.4	-12.4	-0.5	–
Bank	15.3	27.7	30.4	39.7	41.4	48.3	37.9	21.2	-6.8	-19.9	-0.3	–
Non-bank	16.4	24.1	36.8	-9.3	29.2	18.4	-3.1	-12.5	1.6	23.4	-1.2	–
Total housing	-4.9	1.9	5.8	5.2	7.4	5.8	9.9	19.3	1.2	1.6	4.2	–
Bank	-24.6	-18.7	-11.9	-16.2	-4.0	25.1	28.9	14.6	5.7	5.2	6.5	–
Non-bank	20.4	18.4	15.6	14.2	11.0	0.6	3.6	21.3	-0.6	0.1	3.2	–
Total companies	9.3	-10.7	1.7	2.3	3.4	1.1	-3.0	15.5	23.2	-5.9	-1.5	–
Bank	-13.5	-14.6	-4.6	-6.6	-4.2	-3.3	17.0	27.3	17.0	0.2	5.9	–
Non-bank	25.4	-8.9	4.5	6.0	6.1	2.5	-9.2	10.8	26.1	-8.6	-5.0	–

Percentage of GDP, %

	IV 00	IV 01	IV 02	IV 03	IV 04	IV 05	IV 06	IV 07	IV 08	IV 09	IV-10	
Total: All Categories	33.1	30.9	33.2	32.4	32.0	32.4	31.2	34.6	38.7	38.94	37.10	–
Bank	12.0	10.5	10.4	9.4	9.0	9.8	11.4	13.3	14.1	14.3	14.2	–
Non-bank	21.1	20.5	22.7	22.9	23.0	22.6	19.8	21.2	24.5	24.6	22.9	–
Total consumer	1.2	1.6	2.1	2.4	3.0	4.0	4.7	5.1	4.8	4.4	4.2	–
Bank	0.8	1.0	1.3	1.6	2.1	3.0	3.8	4.3	4.0	3.4	3.2	–
Non-bank	0.5	0.6	0.8	0.7	0.9	1.0	0.9	0.7	0.8	1.0	0.9	–
Total housing	7.1	7.3	7.9	7.8	7.8	7.9	8.0	9.1	9.1	9.8	9.7	–
Bank	3.2	2.6	2.3	1.8	1.6	2.0	2.3	2.6	2.7	3.0	3.0	–
Non-bank	3.9	4.7	5.6	6.0	6.1	5.9	5.7	6.5	6.4	6.8	6.7	–
Total companies	24.8	22.1	23.1	22.2	21.3	20.6	18.5	20.4	24.8	24.7	23.2	–
Bank	8.1	6.9	6.8	5.9	5.3	4.9	5.3	6.4	7.4	7.9	7.9	–
Non-bank	16.7	15.2	16.3	16.2	16.0	15.7	13.2	13.9	17.4	16.8	15.3	–

Infrastructure and Number of Bank Cards - Units

	IV 00	IV 01	IV 02	IV 03	IV 04	IV 05	IV 06	IV 07	IV 08	IV 09	III-10	
ATMs	nd	nd	17,011	7,758	0,416	2,900	5,687	9,333	1,932	3,905	5,438	–
POS terminals	nd	nd	9,971	6,029	0,289	1,852	5,144	8,128	6,025	6,792	67,63	–
Branches	nd	nd	7,849	7,768	7,788	7,972	8,404	9,230	0,722	0,731	11,381	–

Number of current cards at the end of the quarter (figures in millions)

	IV 00	IV 01	IV 02	IV 03	IV 04	IV 05	IV 06	IV 07	IV 08	IV 09	III-10	
Credit	nd	nd	7.8	9.4	11.6	14.7	21.4	24.8	25.2	22.1	21.9	–
Debit	nd	nd	32.4	32.2	31.8	36.1	51.7	51.9	56.9	60.8	71.5	–

Credit and Financing to the Public Sector: Balances in billions of December 2010 pesos

	IV 00	IV 01	IV 02	IV 03	IV 04	IV 05	IV 06	IV 07	IV 08	IV 09	III-10*	% struct. III 2010
Commercial bank credit	340	315	346	340	268	269	200	196	170	255	304	5.6
Federal government	315	271	281	248	109	68	37	34	24	30	46	0.8
States and Municipalities	23	16	21	35	68	75	64	74	94	136	174	3.2
Decentralized gov't agencies	2	29	43	57	91	126	98	88	52	88	84	1.5
Development bank credit	160	173	196	159	158	164	153	148	153	119	116	2.1
Federal government	103	114	107	82	82	94	79	94	97	48	49	0.9
States and Municipalities	9	11	13	14	32	30	32	32	28	42	43	0.8
Decentralized gov't agencies	48	48	75	64	45	40	43	22	28	29	24	0.4
Debt issued in the country	1,303	1,636	1,953	2,237	2,388	2,741	3,192	3,432	3,593	3,908	4,105	75.0
Federal government	873	1,015	1,116	1,293	1,336	1,459	1,876	2,069	2,186	2,484	2,700	49.3
States and Municipalities	-	0	8	19	26	26	44	51	56	58	58	1.1
Decentralized gov't agencies	-	-	-	20	61	127	158	150	139	150	178	3.3
IPAB	110	225	324	417	492	614	709	794	783	796	790	14.4
Banco de Mexico	250	302	365	314	299	323	205	209	270	259	218	4.0
FARAC	70	93	141	173	175	191	199	159	159	161	161	2.9
External financing	878	871	940	1,064	1,017	895	640	613	728	985	946	17.3
Credit and financing TOTAL	2,681	2,995	3,435	3,800	3,833	4,069	4,185	4,389	4,644	5,267	5,471	100.0

Real annual percentage change in the balance, %

	IV 00	IV 01	IV 02	IV 03	IV 04	IV 05	IV 06	IV 07	IV 08	IV 09	III-10*	
Commercial bank credit	nd	-7.1	9.6	-1.7	-21.0	0.4	-25.8	-2.0	-13.3	50.2	37.7	–
Federal government	nd	-13.9	3.8	-11.7	-56.0	-37.4	-46.0	-8.9	-29.5	27.8	93.8	–
States and Municipalities	nd	-31.4	34.6	64.6	96.1	10.6	-14.4	14.4	27.4	45.1	50.7	–
Decentralized gov't agencies	nd	1328.6	50.4	30.9	60.4	38.1	-21.8	-10.2	-41.0	69.7	3.2	–
Development bank credit	nd	7.7	13.6	-18.7	-0.6	3.4	-6.3	-3.5	3.0	-22.1	8.7	–
Federal government	nd	10.3	-5.5	-24.0	0.7	14.3	-16.2	19.2	3.5	-50.1	4.5	–
States and Municipalities	nd	27.1	17.6	4.1	128.4	-4.4	4.9	1.2	-13.2	50.3	21.6	–
Decentralized gov't agencies	nd	-1.4	57.8	-15.3	-30.1	-11.4	8.7	-48.4	24.5	3.4	-1.9	–
Debt issued in the country	nd	25.6	19.4	14.5	6.8	14.8	16.4	7.5	4.7	8.8	2.7	–
Federal government	nd	16.3	9.9	15.9	3.3	9.3	28.6	10.2	5.7	13.7	6.1	–
States and Municipalities	nd		5610.1	147.6	37.7	0.8	65.7	18.1	8.5	3.6	7.2	–
Decentralized gov't agencies	nd				200.6	107.1	24.8	-5.4	-7.3	8.1	11.2	–
IPAB	nd	104.9	44.0	28.7	17.8	25.0	15.5	12.0	-1.4	1.6	0.5	–
Banco de Mexico	nd	20.8	20.9	-14.1	-4.7	7.9	-36.4	1.6	29.5	-4.2	-24.8	–
FARAC	nd	33.4	51.3	23.3	0.7	9.6	3.8	-19.9	0.3	1.0	-0.1	–
External financing	nd	-0.7	7.9	13.2	-4.4	-12.0	-28.5	-4.1	18.7	35.3	-2.0	–
Credit and financing TOTAL	nd	11.7	14.7	10.6	0.9	6.2	2.8	4.9	5.8	13.4	3.4	–

Credit and Financing: Percentage of GDP, %

	IV 00	IV 01	IV 02	IV 03	IV 04	IV 05	IV 06	IV 07	IV 08	IV 09	III-10*	
Commercial bank credit	3.4	3.2	3.6	3.3	2.4	2.3	1.6	1.5	1.3	2.0	2.3	–
Federal government	3.2	2.7	2.9	2.4	1.0	0.6	0.3	0.3	0.2	0.2	0.4	–
States and Municipalities	0.2	0.2	0.2	0.3	0.6	0.7	0.5	0.6	0.7	1.1	1.3	–
Decentralized gov't agencies	0.0	0.3	0.5	0.6	0.8	1.1	0.8	0.7	0.4	0.7	0.6	–
Development bank credit	1.6	1.8	2.0	1.6	1.4	1.4	1.2	1.1	1.2	1.0	0.9	–
Federal government	1.0	1.2	1.1	0.8	0.7	0.8	0.6	0.7	0.7	0.4	0.4	–
States and Municipalities	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.2	0.3	0.3	–
Decentralized gov't agencies	0.5	0.5	0.8	0.6	0.4	0.3	0.3	0.2	0.2	0.2	0.2	–
Debt issued in the country	13.2	16.6	20.4	21.9	21.7	23.8	25.7	26.3	27.2	31.4	31.4	–
Federal government	8.9	10.3	11.6	12.7	12.1	12.7	15.1	15.9	16.6	19.9	20.6	–
States and Municipalities	0.0	0.0	0.1	0.2	0.2	0.2	0.4	0.4	0.4	0.5	0.4	–
Decentralized gov't agencies	0.0	0.0	0.0	0.2	0.6	1.1	1.3	1.1	1.1	1.2	1.4	–
IPAB	1.1	2.3	3.4	4.1	4.5	5.3	5.7	6.1	5.9	6.4	6.0	–
Banco de Mexico	2.5	3.1	3.8	3.1	2.7	2.8	1.7	1.6	2.0	2.1	1.7	–
FARAC	0.7	0.9	1.5	1.7	1.6	1.7	1.6	1.2	1.2	1.3	1.2	–
External financing	8.9	8.8	9.8	10.4	9.2	7.8	5.2	4.7	5.5	7.9	7.2	–
Credit and financing TOTAL	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	–

* latest available data through III-10
Source: Banco de México and National Banking and Securities Commission

5. 2010 Reforms to the Legal Framework Applicable to Multiple-Purpose Banking Institutions

Based on the banking industry reform approved by the Mexican Congress and published in the Diario Oficial de la Federación (the Official Daily Gazette of the Federation) on May 25, 2010, Mexico's financial authorities have issued new secondary standards, among the most important of which are the following:

a. Greater transparency in the definition and disclosure of bank interest rates and commission fee charges.

b. The publication of the information and indicators on the behavior of interest rates and commissions in the different market segments in clients' account statements.

c. The offering of basic banking products exempt from commission fee charges, such as credit cards and payroll, deposit and/or savings accounts.

Even though new legal reforms to banking industry standards were not approved from September to December of 2010, Congress is preparing:

d. New legislation to strengthen the prevention and sanctioning of money laundering and terrorism financing;

e. Reforms to the Federal Civil Code and other procedural provisions to establish standards governing the exercise of collective lawsuits, and

f. Issuing of the Law on Public Private Associations, which would strengthen the financing of economic and social infrastructure projects.

6. Special Topics Included in Previous Issues

July 2010
• Does Judicial Efficiency Reduce the Cost of Credit?

• Credits to Related Parties

• Restrictions on external financing: effects on investment and growth for countries in the demographic window

• "Mobile Money" in Kenya

February 2010
• Credit to the Private Sector

• TAC, Total Annual Cost of Financing

• Regulatory Changes and Consumer Protection

• Changes to the Rules for the Creation of Loan Loss Provisions for Consumer Credit through Credit Cards

• Trends in Supervision and Regulation on an International Level

• Solvency of the Mexican Banking System

• A Brief Review of the Literature on Determining Factors in Credit Penetration Brazil's Correspondent Bank Model

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