BBVA Research

Mexico

Banking Outlook

July 2010

Economic Analysis

- Credit and savings, as well as the economy, in a process of reactivation.
- The impact of credit on economic growth, an approximation of Mexico’s case.
- Correspondent banks and mobile telephony, an opportunity to expand financial services at the municipal level.

BBVA Bancomer

Contents

* External collaboration of María José Rodríguez, based on her Bachelor’s degree thesis, June 2008. *Instituto Tecnológico Autónomo de México (ITAM)*. Ex - ITAM Research Award Mention and Honorable Mention, Banamex Economics Award.
** Person in charge of the section: Eduardo Amerena

Closing date: July 14, 2010

1. Summary

The performance of credit and savings is consistent with the dynamics of the economy, both in process of reactivation

The Mexican economy initiated its recovery process some time ago, after the strong recession of 2009. The initial boost came from external demand, which was then gradually transmitted to domestic demand; in this way, recovery was consolidated. During the recession, the greater adjustment in credit was seen in the segment of consumer credit, due to the loss of jobs and the decline in purchasing power. Credit to companies posted a lower adjustment and its trend is upward. Housing loans continue to maintain positive growth rates, which will be more dynamic as the rise of internal demand consolidates. The sustained recovery of employment is indispensable for housing, passing from a process of the creation of low-income and temporary jobs to a higher strata of a more permanent nature, which will sustain a rise in consumer confidence toward the levels reached in 2008, prior to the start of the global crisis. For companies, greater investment is necessary, which will be supported by expectations of greater demand for their goods and services.

Total savings maintain positive growth rates, although these are differentiated among the less favorable performance segments. The least favorable performance is seen in traditional bank deposits (term and demand deposits), a consequence of a decline in disposable income, while the most dynamic performance—in part due to the substitution effect—is seen in investment in mutual funds.

The positive environment notwithstanding, 2010 should be interpreted as a year of change in trends, toward areas of growth, anticipating full recovery toward 2011. The main risks, although limited, are in the external environment, due to the fact that not all doubts have been dispelled of a sustained and dynamic recovery in the U.S., Mexico's main trading partner, and uncertainty remains in the financial markets regarding the process of adjustment of the European economies. Internally, the recovery of domestic demand at a more solid pace is indispensable.

In light of this environment, it is important to quantify how credit can contribute to economic growth

The greater availability of resources, both for the young population, as well as for countries that maintain a demographic premium, such as in Mexico's case, allows expanding the possibilities of growth, which will be greater as credit restrictions are reduced, allowing for the financing of greater consumption and investment with a current account deficit. In this issue, we present a summary of a study of more than 150 countries, where the evidence supports the fact that, in countries like Mexico, with a demographic premium, less than what is desired is invested, in accordance with the structure of the population. This could be explained by a limited number of countries that save to finance a high current account. Results such as these confirm once more that it is important not only to avoid excessive regulation, which inhibits credit growth, but on the contrary, to create the conditions to attract financing.

On another note, different estimates are presented for Mexico's case regarding the impact of credit on economic growth. The results show that a 1% increase in credit has a positive impact on GDP, within a range between 0.020% and 0.057%. Moreover, we also quantify how much credit could increase over the next few years in response to a series of measures that the authorities seek to implement this year in collaboration with the financial institutions. According to our estimates, the reforms could allow for a 16% credit growth rate on average per year, which could translate into an additional increase in the real GDP growth rate of between 0.3% and 0.9% annually. Among the measures to promote a greater expansion of credit, we note the very necessary improvement of legal aspects that enforce the rule of law. Its impact not only is reflected in the performance of credit, but is also incorporated in the risk premium on bank interest rates. The conclusion is coherent with the day-to-day evidence: an improvement in legal and juridical aspects could lead to lower transaction costs for the economy and consequently, lower financing cost and greater growth.

Correspondent banks and mobile telephony offer the opportunity of accelerating the coverage of financial services

The year 2010 could be very important for the expansion of the network to provide banking services, since the bases have been set for the growth of correspondent banks and for banking services through mobile telephony. In the former case, we quantify the expansion of banking services worldwide, based on the incorporation of different networks of establishments—large commercial chains, development banks, telegraph offices, convenience stores and even gasoline stations, which will allow providing banking services to the population that is more dispersed throughout the country and in places that are far from the large urban centers. The different incentives are analyzed for the incorporation of these networks. The effort that is required to achieve this is significant, but feasible in the medium term. Recently, the CNBV (the National Banking and Securities Commission) announced that between Novemeber 2009 and May 2010, traditional correspondent banking offices had been established with 655 companies, which constitute a network of 5,107 establishments, with which the size of the network of correspondents is already almost half that of the current network of branches of the commercial banks. In the medium term, the effect of the opening of 29,817 new contact points in commercial establishments and of service ("traditional correspondents"), in addition to the bank branches, the number of municipalities without coverage of banking services could be reduced from 67% to 20%.

The above does not consider mobile telephony. Because mobile telephony is already a consolidated market, with more than 85 million cellular phones in the country, the penetration and coverage of this medium of communication is an appropriate platform for the rapid expansion of basic banking services. In this issue, some data are presented on the experience of Kenya, which is a successful example of the expansion of basic banking services. Its analysis could be useful in projecting what could occur in our country in the short term.

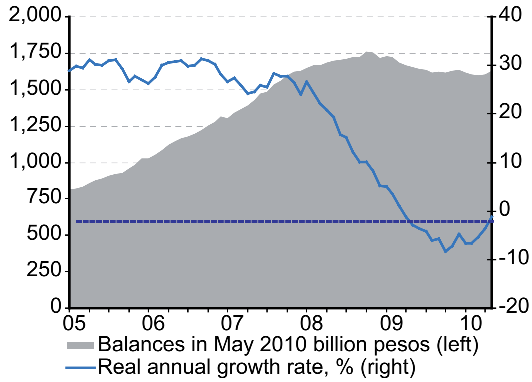
The trends of these two additional networks, both the correspondent offices as well as the potential of mobile telephony, point in the same direction; they represent an opportunity for the rapid expansion and coverage of banking services. It is probable that initially, they will facilitate payment mediums and conduct simple transactions such as consultation of bank balances and transfer of funds, but it will be important and necessary to make major efforts and different risk estimates, which will allow for a similar increase in other types of transactions and with other segments of the population that are not yet bank customers.

2. Current Situation of Savings and Credit

Recent evolution of bank credit

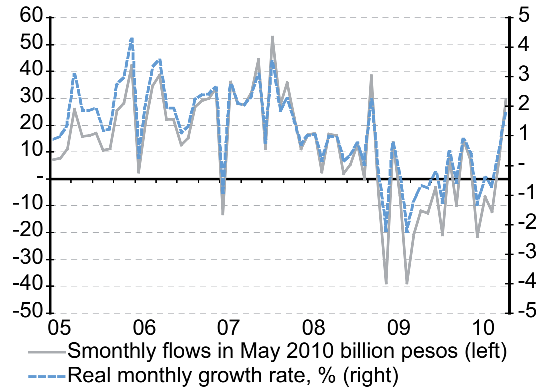
As of the third quarter of 2009 and more clearly since the beginning of 2010, recovery is seen of total bank credit to the private sector, both in real annual and monthly growth rates

Graph 1
Total commercial bank credit to the private sector



Source: BBVA Research with Banxico data

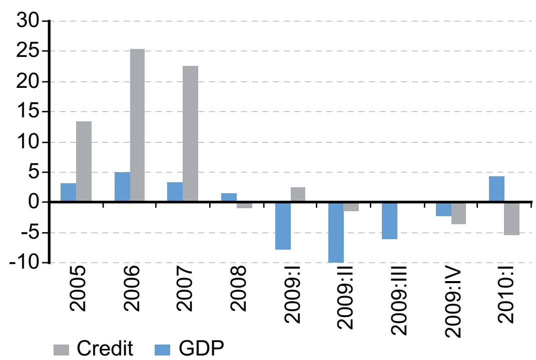
Graph 2
Total bank credit to the private sector



Source: BBVA Research with Banxico data

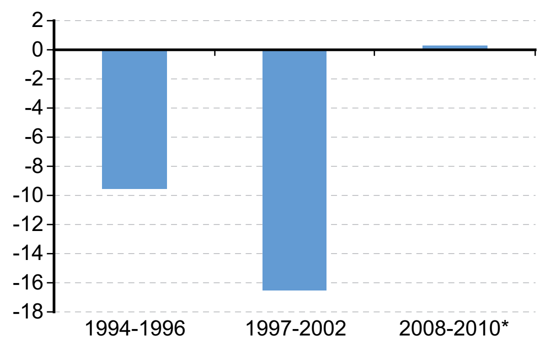
In particular, the trend in the recovery is seen in the evolution of GDP and credit. In fact, during last year's recession, credit decreased less than in other crisis episodes

Graph 3
Credit and GDP growth (real % change)



Source: BBVA Research with Banxico data

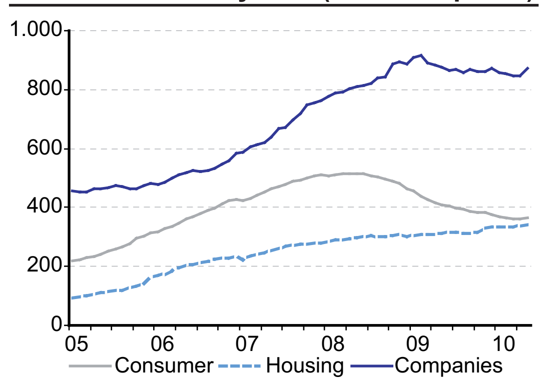
Graph 4
Change in bank credit (percentage of GDP)



*Data through the first quarter.
Source: BBVA Research with Banxico and INEGI data

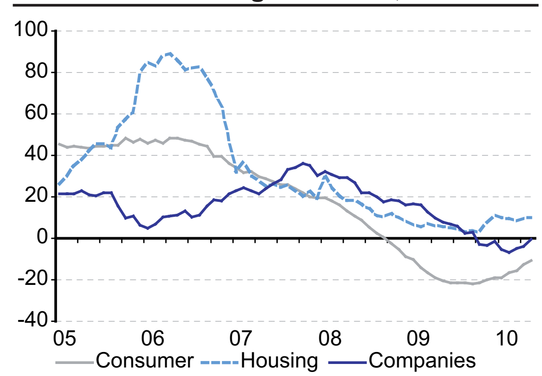
The recovery of credit is stronger in credit segments for companies and for the acquisition of housing, trends consistent with the recovery of the economy

Graph 5
Credit balances May 2010 (billions of pesos)



Source: BBVA Research with Banxico data

Graph 6
Real annual credit growth rate, %



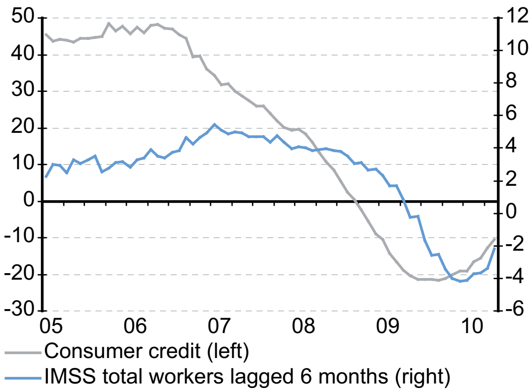
Source: BBVA Research with Banxico data

Evolution of the various credit segments

Greater economic activity leads to greater credit growth rates. In particular, as greater employment supports the recovery of consumer confidence, greater credit growth rates will correspond to consumption and housing

Graph 7

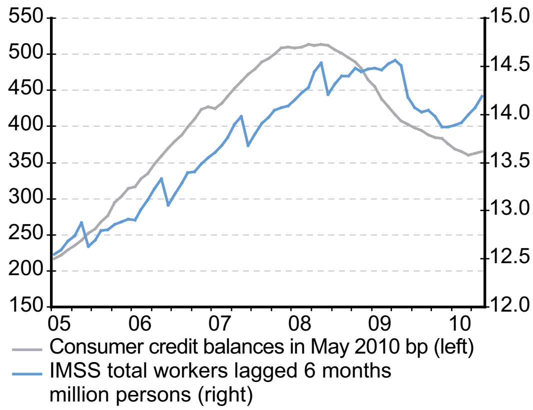
Credit and IMSS-affiliated workers (Real annual growth rate, %)



Source: BBVA Research with Banxico data

Graph 8

Credit and IMSS-affiliated workers (Balances in billions of pesos May 2010 and millions of persons)

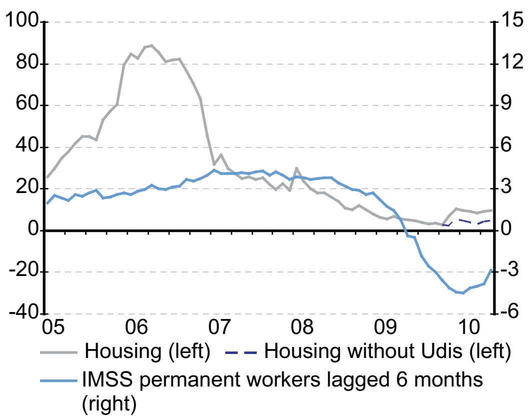


Source: BBVA Research with Banxico data

The greater growth rates in housing loans reflect the recovery of employment and the transfer of the loan portfolio into credit in UDIs that took place as of November 2009

Graph 9

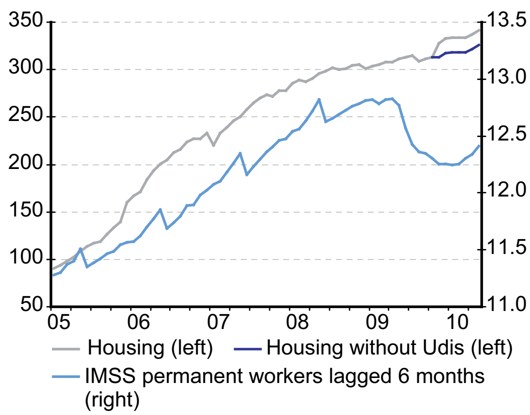
Housing loans and IMSS-affiliated workers (Real annual percentage change, %)



Source: BBVA Research with Banxico data

Graph 10

Housing loans and IMSS-affiliated workers (balances in billions of pesos May 2010 and millions of persons)

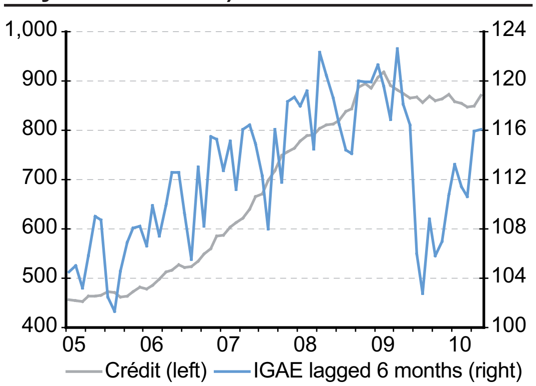


Source: BBVA Research with Banxico data

Also contributing to the better performance of production is the recovery of credit to companies, measured by the IGAE (*Índice General de Actividad Económica* or General Index of Economic Activity)

Graph 11

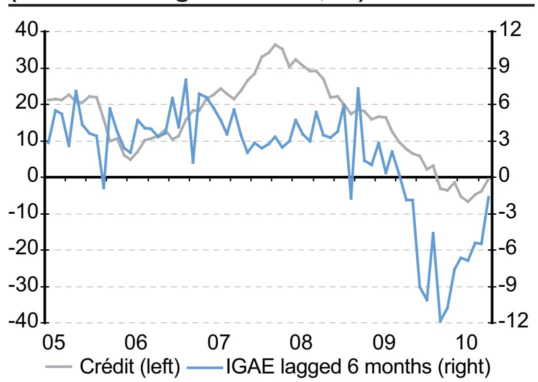
Credit to companies and the GEAI (Balances in billions of pesos May 2010 & index)



Source: BBVA Research with Banxico data

Graph 12

Companies to companies and the IGAE (Real annual growth rate, %)

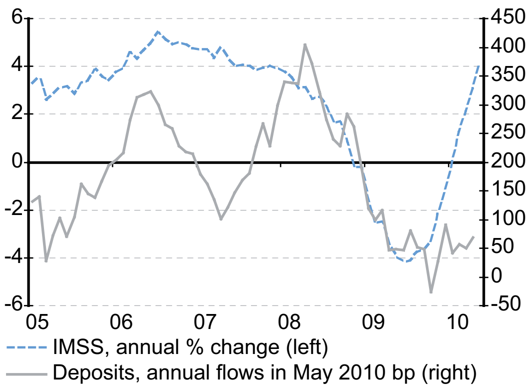


Source: BBVA Research with Banxico data

Evolution of savings

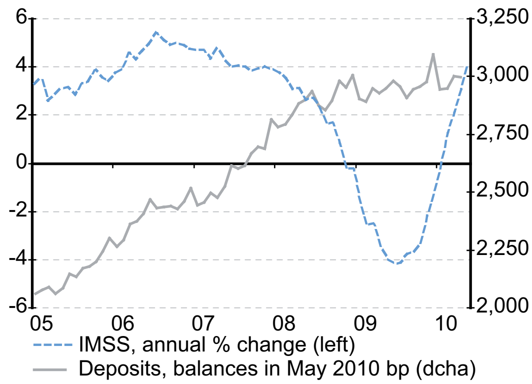
The recovery in employment has also had an influence on total deposits

Graph 13
Total deposits and IMSS-affiliated workers



Source: BBVA Research with Banxico data

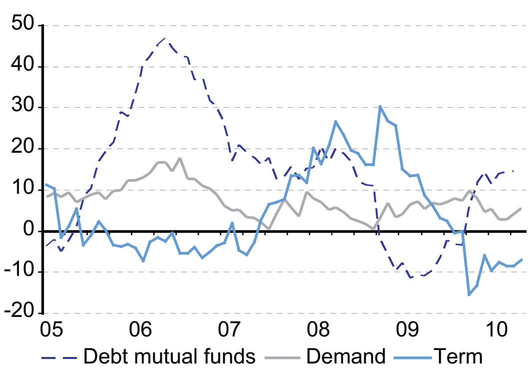
Graph 14
Total deposits and IMSS-affiliated workers



Source: BBVA Research with Banxico data

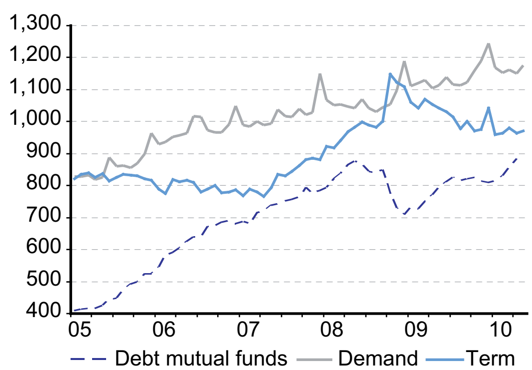
Since January 2010, greater growth rates in deposits can be seen in demand deposits and mutual funds. The most dynamic are the mutual funds

Graph 15
Deposits
(Real annual % change)



Source: BBVA Research with Banxico data

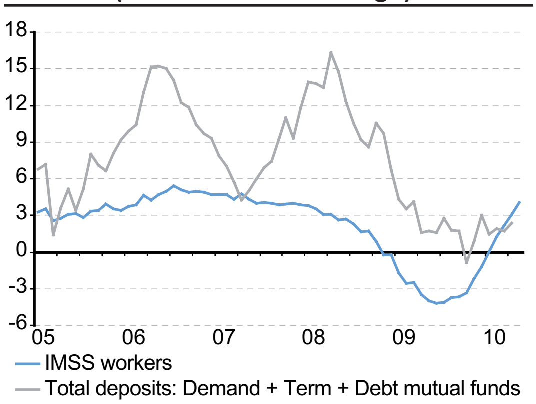
Graph 16
Deposits
(Figures in billions of May 2010 pesos)



Source: BBVA Research with Banxico data

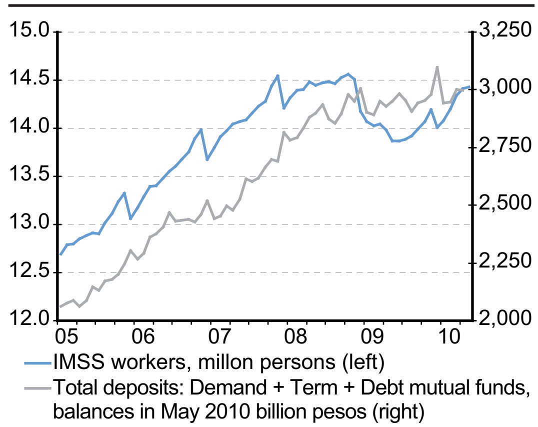
For a sustained recovery in savings, a consistent rise in available income is necessary through greater employment and the recovery of wages

Graph 17
Total deposits and IMSS-affiliated workers (Real annual % change)



Source: BBVA Research with Banxico data

Graph 18
Total Deposits and IMSS-affiliated workers



Source: BBVA Research with Banxico data

3. Special Topics

3a. Credit and Economic Recovery

The Mexican economy is heading toward a recovery phase after the global crisis of 2008 and 2009. On this occasion, as opposed to previous crises, the Mexican banking system has been an element of strength, maintaining high levels of liquidity and solvency that have allowed keeping up the credit[1] supply levels. During this start of economic recovery, it is appropriate to quantify the impact of the activity of the financial sector on economic growth. Therefore, in this section we review, in the first part, some of the recent references of economic studies on this topic; in the second part we present estimates on the effect of credit on growth in Mexico, Finally, we offer a medium-term vision of the possible contribution of the growth of credit to the economy in case a series of measures that the authorities are working on are implemented.

Recent studies on the impact of the financial system on economic growth

In the last decade, there has been great debate on the relationship between the operation of the financial system and economic growth. An article that reviews this debate extensively is Levine (2004), where the author concludes that the predominant evidence suggests that both financial intermediaries as well as the financial markets are important for long-term growth of the economy. The theory suggests that the financial system promotes growth by facilitating information and reducing transaction costs, and therefore, improves the acquisition of information about companies, corporate government and risk management, among others, which generates the mobilization of resources toward more efficient and productive projects.

Thus, the financial system promotes a more efficient accumulation of capital and finances those companies that have better technology, which see their growth supported through financing. In conclusion, financial activity generates a greater accumulation of capital and investment in technologoy at an aggregate level, which generates greater long-term economic growth.

Through the statistical analysis of a group of countries and credit data for Mexico, some authors have estimated the increase in the real per capita GDP growth rate in Mexico resulting from a deeper financial system, in particular from a 1% increase in credit over GDP. The results are summarized in the following table:

1: The banking system in Mexico has maintained its strength, among other reasons, because the banking system: i) did not invest in activities linked to the U.S. mortgage market; ii) maintained high levels of capital prior to the global crisis; iii) funded bank credit with internal sources and both loans as well as funding was denominated in local currency, so there was no risk from the weakening of the currency in its balances and; iv) it is under proper supervisión and regulation. These factors are analyzed in the February 2010 **Banking Watch Mexico**.

Table 1

Elasticity of the real per capita GDPgrowth rate with regard to:

Credit to the Private Sector/GDP[a]	0.020
Bank Credit/GDP[b]	0.002-0.008

a: Beck, Levine and Loayza (2000), number of countries: 74, period of study: 1961-1995.
b: Beck and Levine (2004), number of countries: 40, period of study:1976-1998.
Source: Beck, Levine and Loayza (2000), Beck and Levine (2004) and BBVA Research

According to the Beck, Levine and Loayza (2000) study, an exogenous increase in Credit to the Private Sector of 23% of GDP, which is the average in Mexico for the 1960-1995 period, at 27.5%, the median for the sample of countries in their study would have resulted in additional real per capita GDP growth of 0.4 percentage points per year.

Additionally, Beck and Levine (2004) establish that if the ratio of bank credit to GDP in Mexico had been 71%, which is the average for the OECD (Organization for Economic Cooperation and Development) countries, instead of the 16% observed in the period under study, real per capita GDP in Mexico would have been 2.6 percentage points more per year. It is important to note that growth of bank credit of this magnitude is a great challenge. For example, it has taken Chile, starting in 1990, on average, 8-year periods to raise the level of bank credit by 10 points of GDP.

The majority of studies on economic growth and financial development have focused on structural improvement, which means a deeper, broader financial system and therefore, the focus is on long-term growth. Nevertheless, it is also useful to quantify the effect of credit on short-term growth, which could result from greater consumption driven by credit. For example, Bishop (2001) finds that the economic expansion of the 1990s in the United States was based on the growth of consumption bolstered by credit. There are, however, contrasting opinions; Loayza and Ranciere (2002) establish that the development of financial intermediation maintains a positive relation with long-term growth, although not necessarily in the short term[2]. Perhaps it can be concluded that, in the short term, the effect on growth will depend on different variables such as conditions in the banking system, productivity in the economy and the transmission mechanism of monetary policy, among others (Alfaro, R. et al., 2003 and Eickmeier, S. et al., 2006).

An approximation for Mexico's case

It is advisable to approach the effect of credit on GDP growth in Mexico using different econometric methodologies. The data used are quarterly and correspond to the 1997-2009 period. Four different models are estimated, ordinary squared minimums, regression in two phases, regression with a component not observed that changes over time; this component is chosen to minimize errors in a simple linear regression, and finally, a self-regressive vector.

The results show elasticity between 0.03 and 0.04, depending on the model used.

2: Their study indicates that a negative relationship can also be observed in the short term when bank credit becomes a signal of the beginning of financial crisis and economic recession.

Table 2

GDP Elasticity in relation to credit

GDP	Ordinary Squared Minimimums (OLS)	Regression in two phases[1] (STEPWISE)	Regression with a component not observed	Self-regressive Vector (VAR)
Total credit	0.039	0.036	0.032	0.040
	(0.006)*	(0.018)*	(0.009)*	(0.057)

*Significant at 5%.
Standard errors in parenthesis. Variables of control: inflation, interest rate of monetary policy, investment, exports and delayed GDP.
Sample: 1997-2009.
[1]Delayed credit was used one period.
Source: BBVA Research

These estimates for Mexico are in line with other studies, For example, the next table shows that by extrapolating the results of Beck and Levine (2004), an interval similar to that obtained with our estimates is obtained.

Table 3

Elasticity of the Real GDP Growth Rate in relation to Credit from Financial Institutions

BBVA Research	0.020 - 0.057
Beck and Levine (2004)	0.015 - 0.047

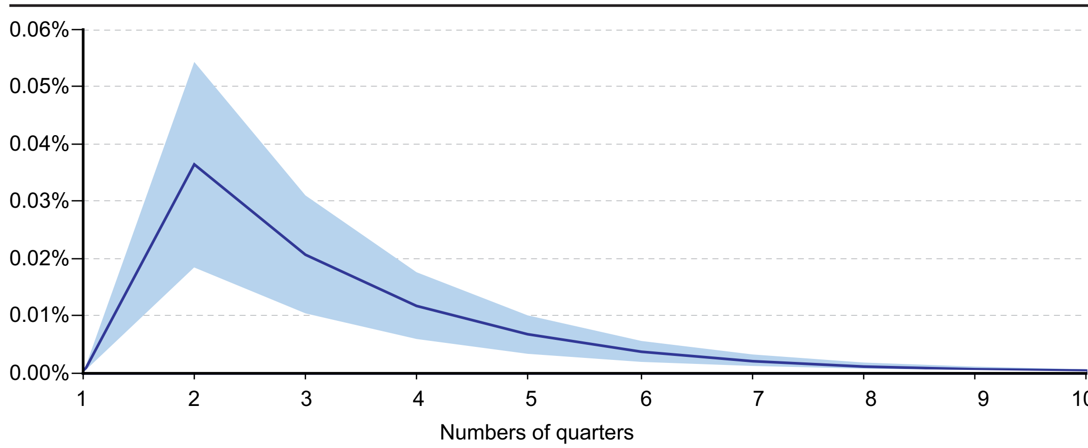
Period of study: Beck and Levine (2004), 1975-1998; BBVA Research, 1997-2009. The value estimated by BBVA Research incorporates the confidence intervals obtained in the estimates.
Source: BBVA Research

From these estimates it is inferred that a 20% credit growth rate could cause an increase in annual GDP growth of between 0.4% and 1%. Or, seen in another manner, an increase of 1% in credit has a positive impact on GDP in a range between 0.020% and 0.057%.

Using the results of the estimates, we can also calculate the effect on GDP over time of a 1% exogenous increase of credit.

Graph 19

Mexico: Effect on GDP of a 1% increase in credit



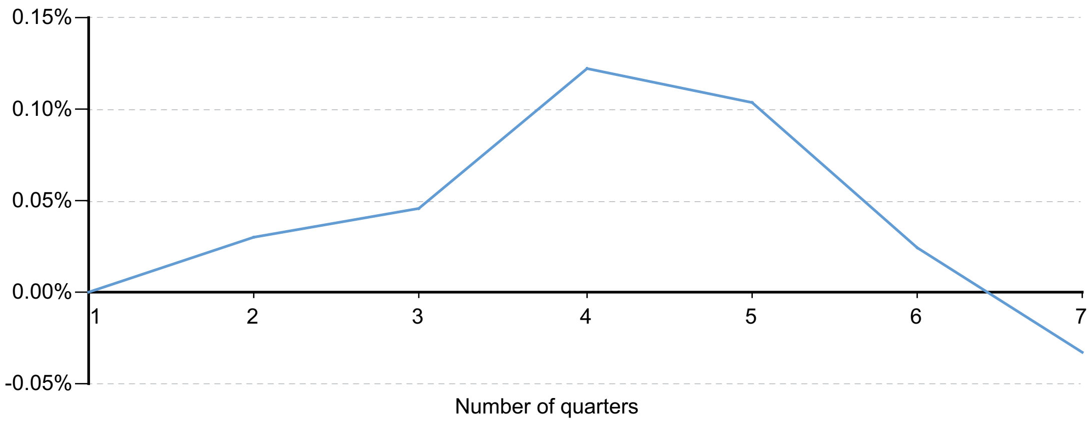
Source: BBVA Research based on estimates of the model of regression in two phases

The table shows that the greatest effect on GDP of an increase in credit, is seen in the quarter when the credit increase takes place. The effect is diluted as time passes until it practically disappears after the seventh quarter.

The short-term effect on GDP of an increase in credit in the United States is similar to that observed in Mexico. In the U.S., production elasticity in relation to credit is at around 0.07, while in Mexico it is 0.04.

Graph 20

U.S.: Effect on GDP of a 1% increase in credit

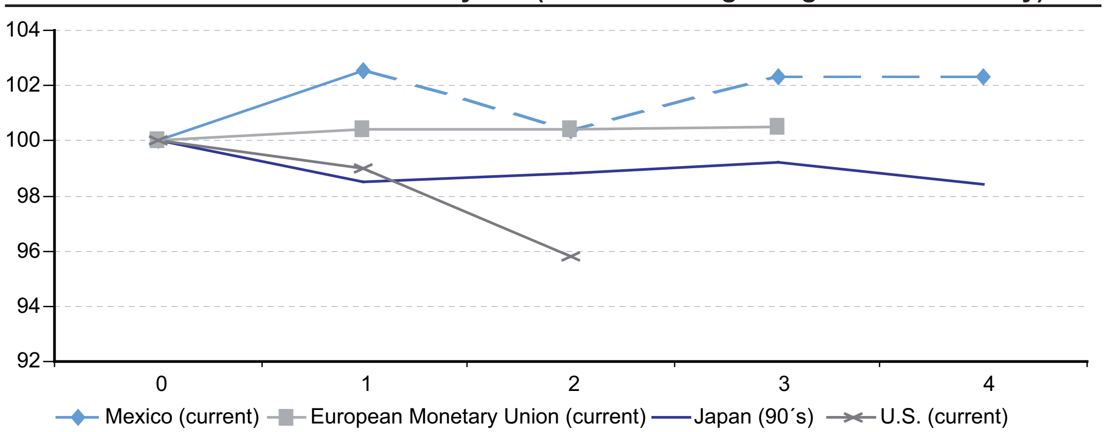


Source: BBVA Research

The latest data observed in Mexico, together with forecasts of the *Asociación de Bancos de México (ABM)* (the Mexican Bank Association), lead us to think that credit will remain dynamic in the economic recovery that started at the beginning of 2010. This contrasts with what occurred in other countries. The data observed in the United States in the early months of its recovery seem to indicate that credit will maintain a slower pace in relation to its economy. A similar situation occurred in Japan in the decade of the 90s. However, even in that country, which took time to recapitalize its banking system, credit in relation to GDP in the recovery, did not maintain as negative a pattern as shown by the first data in the United States. In Europe, credit in relation to GDP seems to maintain a constant ratio in this recovery.

Graph 21

Credit / GDP in different economic cycles (=100 at the beginning of each recovery)



The growth rate of bank credit in Mexico estimated by the ABM for 2010 es 10%
Source: BBVA Research and ABM

A quantification of the impact in the medium term

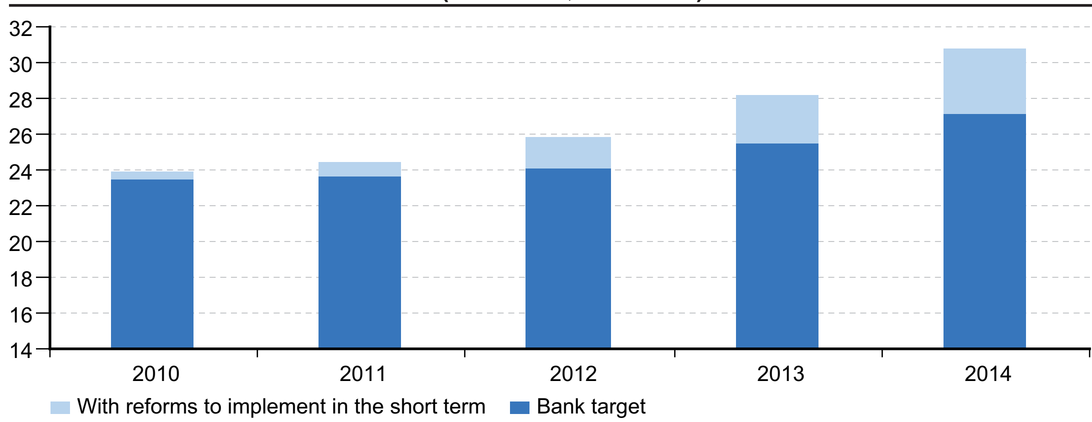
Since the financial system has a positive effect on long-term economic growth, the benefit of promoting public policies to eliminate barriers or bottlenecks that are curbing greater development is evident. In April 2010, during the 73rd Banking Convention, the Ministry of Finance (*Secretaria de Hacienda y Crédito Público (SHCP)* and the Mexican Bank Association (the *ABM*) announced a series of measures that they agreed to promote, together with other authorities, to increase banking penetration. These measures include: greater flexibility in the requirements to grant credit to businesses, increasing the guarantee fund for first losses of Nacional Financiera (a government development bank), establishing reserves for mortgage loans by states in accordance with their legal security, create special courts in commercial activities to reduce the term of compliance of contracts (under study), promote the *Ley de Asociaciones Público-Privadas* (Law of Public-Private Associations) and create a funding program for small-scale projects of under 150 million pesos. The implementation of some of these measures require a joint endeavor among different authorities, among them the legislative and the judicial.

These proposals are designed to improve credit policies in order to reach new segments, increase credit promotion and make the government's role in this more efficient, and improve the legal framework. Various researchers and analysts believe that one of the most important impediments for the sustained expansion of credit is in the latter area, so that it is necessary to improve ownership rights and shorten the times for the resolution of controversies and execution of guarantees, to mention just some elements for improvement. These aspects can not only limit the supply of credit, but they also affect interest rates on loans. An interesting study on the subject is summarized in Table Number 1: Can judicial efficiency reduce the cost of credit?

These reforms could raise the Credit / GDP ratio in Mexico two percentage points in 2010 and four percentage points in 2014 (see the following table). This increase implies that credit would grow at an average rate of 16% per year. According to the estimates, this dynamic growth in credit could translate into an increase in a real GDP growth rate of between 0.3% and 0.9%.

Graph 22

Credit of the financial institutions (% of GDP, balances)



Source: BBVA Research and ABM

In addition to the measurse to increase credit described above, other measures have been taken recently to enable credit to reach a greater number of persons, such as reducing the credit limit that a bank can provide to related parties, which is designed to bring regulations in Mexico closer to international standards. This measure is more fully commented in Inset 2, on Loans to Related Parties. New models of correspondent banks have also been developed, as well as mobile telephony that allows expanding coverage of banking services, especially in the smaller towns that are located far from urban centers.

Conclusions: the importance of adequate banking supervisión and regulation as a necessary condition for greater flow of bank credit

For bank credit to flow and promote sustained growth, the banking sector must be capitalizad and well regulated and supervised. The banking system in Mexico complies with these conditions. Its capitalization index through the month of April is at 15%, a level almost double the minimum level proposed by international regulatory standards of 8%. Regulation and supervision in Mexico has been the object of notable improvement as a result of the 1994-1995 crisis. The National Banking and Securities Commission (*Comisión Nacional Bancaria y de Valores, CNBV*) has established, among other measures, strict criteria on the quality of banks' capital, making the rules stricter with regard to provisions for credit risk and it is possible that in the second half of 2010, a new law on banking bankruptcy will appear that will contribute to minimizing systemic risk and the fiscal costs resulting from a bank´s insolvency.

At the international level, a new wave of changes in banking regulatory standards has been generated due to the fact that deficient supervision and regulation in some developed countries was one of the causes of the crisis. In this sense, it is very important to take care that such regulatory changes are based on technical proposals, to recognize different needs and priorities in different countries and to strengthen the financial system instead of distorting it. Otherwise, over-regulation could delay the process of developing a greater banking culture in some emerging countries, among them Mexico, and could reduce economic growth in the developed countries. For example, the International Finance Institute estimates that the recent changes proposed on regulation could reduce real GDP 4 percentage points in Europe and 3 points in the United States, in a period of five years.

Bibliographical References

Alfaro, R., Franken, H., Garcia, C. and Jara A. (2003), "Bank Lending Channel and the Monetary Transmission Mechanism: The Case of Chile", Banco Central de Chile Work Documents, No. 223.

Beck, T. and R. Levine (2004), "Stock Markets, Banks and Growth: Panel Evidence", Journal of Banking and Finance, 423-442.

Beck, T., R. Levine and N. Loayza (2000), "Finance and the Sources of Growth", Journal of Financial Economics, 58: 261–300.

Bishop, M. (2001), "Credit Spending and Its Implications for Recent U.S. Economic Growth", Issues in Political Economy.

Eickmeier, S., Hofmann, B. and A. Worms (2006) "Macroeconomic fluctuations and bank lending: evidence for Germany and the euro area", Deutsche Bundesbank Discussion Paper Series 1: Economic Studies No 34/2006 .

Instituto de Finanzas Internacionales (International Finance Institute) (2010), "Interim Report on the Cumulative Impact on the Global Economy of Proposed Changes in the Banking Regulatory Framework".

Levine. R. (2004), "Finance and Growth: Theory and Evidence", Chapter 12 in Handbook of Economic Growth, 2005, vol. 1, Part A, pp 865-934 from Elsevier.

Loayza, N. and R. Ranciere (2002), "Financial Fragility, Financial Development, and Growth", World Bank mimeo.

Inset 1: Does Judicial Efficiency Reduce the Cost of Credit?

The article written by Luc Laeven and Giovanni Majnoni published by the World Bank (2003) investigates the effect of judicial efficiency on interest rate margins for bank loans in a large number of countries. In the analysis, interest rate margins are used on an overall level for 106 countries and on the level of each bank in 32 nations. The authors find that, after compensating for a series of characteristics of the countries under consideration, judicial efficiency, in addition to inflation, is the main determining factor behind the interest rate spreads between countries. This suggests that in addition to improving a country's macroeconomic situation, judicial reforms, through a better execution of legal contracts, are of critical importance in reducing the cost of financial intermediation for households and companies.

This article concentrates on the direct effect that the quality of the judicial system has on the cost of bank credit. Before this study there was only indirect evidence of this correlation. For example, Demirguc-Kunt and Huizinga (1999) find a positive correlation between judicial reforms and the ratio of net interest income to total assets. Meanwhile, the article by Claessens, Demirguk-Kunt, and Huizinga (2001) investigates the role of foreign banks and demonstrates that their entry in the market reduces the net interest margin, which can also give an idea of the effect of judicial or political reforms dealing with competition on the cost of credit.

It is important to know the direct effect of judicial reform on the cost of credit because two factors come into play in the final analysis. First, the interest rate spread decreases as a result of a decline in the expected loss, since the amount of the recovery increases in case a loan becomes delinquent. Second, the lending rate spread can increase due to a change in the composition of the loans in which riskier clients and those not previously subject to financing have access to loans due to a more efficient judicial process.

Methodology

The regression method is used to determine the weight on the financial margin (dependent variable) of each of the following variables. As variables of judicial efficiency, there is the degree of protection of property rights in the country and the rule of law. Control variables include inflation, the existence of liquidity requirements, restrictions to entry in the banking sector, limits on developing certain non-bank financial activities, the percentage of the banking system belonging to the state, concentration in terms of deposits, the existence of a public credit registry, the degree of dollarization in the country in terms of deposits, and the operating efficiency of the banking system measured as operating expenditures to assets. The variables correspond to the year 2000 and the number of countries in the sample varies between 17 and 106, depending on the specification. The financial margin is the difference between the average interest rate on the loans and the average funding cost on a country level.

Results

The ratios obtained from the variables on property rights indicate that, on average, an improvement (increase) of one point in the scale of these indicators can lead to a decrease in the banks' lending rate spread, measured in real terms, of between 141 and 184 basis points. Keeping in mind that the spread in the average value of the property rights indicator among the G-10 countries and medium-income countries is equal to 1.4, it can be projected that the medium-income countries could achieve a reduction of the banks' lending rate spread of between 2.0 and 2.5 percentage points as a result of an improvement in their legal protection of property rights to the average level of the G-10 countries. In the case of the medium-low income countries, the reduction could fluctuate between 2.6 and 3.1 percentage points.

In conclusion, judicial efficiency, in addition to inflation, appears to be the main determining factor behind interest rate margins. This suggests that in addition to bolstering a country's macroeconomic climate, judicial reforms to improve the execution of legal contracts are key in reducing the cost of financial intermediation.

Table 4

Determining factors behind interest margins

	Effect
Property rights	**-**
Rule of Law	**-**
Inflation	**+**
Liquidity requirements	+
Concentration in 5 banks in terms of deposits	+
Restrictions on developing non-bank financial activities	Not significant
Percentage of the banking system owned by the government	Not significant
Existence of a public registry on credit	+
Percentage of applications for bank licenses denied	Not significant

Source: BBVA Research based on Laeven and Majnoni (2003)

Bibliographical References

Claessens, Stijn, Asli Demirguc-Kunt, and Harry Huizinga, (2001), "How Does Foreign Entry Affect Domestic Banking Markets?", Journal of Banking and Finance 25, 891-9111.

Demirguc-Kunt and Huizinga (1999), "Determinants of Commercial Bank Interest Margins and Profitability: Some International Evidence", World Bank Economic Review, 13: 379-408.

Laeven, L. and G. Majnoni (2003), "Does Judicial Efficiency Lower the Cost of Credit?", World Bank Policy Research Working Paper 3159.

Inset 2: Credits to Related Parties

A modification is in progress to place limits on credits that the multi-purpose banking institutions can grant to applicable related parties, that is, individuals or business entities, national or foreign, that maintain a 20% or more share in the capital stock of the bank in question. This modification to the rules and regulations is aimed at promoting a greater degree of diversification to the operations of the multi-purpose banking institutions. This, in turn, will lead to adequate risk management by reducing the concentration of the banks' transactions.

The new rules and regulations stipulate that the limit to each bank's exposure to related parties will decrease, from the current level of 50% of its basic capital to 25% in 2014. This reduction will occur gradually over the next five years[3]. In 2011 the limit will be 40%; in 2012, 35%; and in 2013, 30%. The established limit is at a similar level to what is applied in the United States and Spain, both at 20%.

The measure reduces the maximum possible exposure to a series of related parties from 238 billion to 119 billion pesos on a system level in March 2010. From the standpoint of the bank's capital, the limit has a different impact among the financial institutions. The impact on bank capital is the amount of the additional capital that the bank must have to meeting the established limit, given the level of exposure to related parties at the time the calculation is made. The measure has a very reduced effect on larger banks and has an important impact on some banks whose owners have important business and corporate ties with non-financial companies.

Table 5

Maximum exposure with related parties

Impact on capital (Limit: 20% of basic capital)	
Small subsidiaries	7 pb
Banks associated with non-financial companies	354 pb
6 largest banks	34 pb
Medium and small banks	15 pb

Banks associated with non-financial companies: Autofin, Azteca, Bancoppel, Famsa, Fácil, Multiva and VW. Small subsidiaries: Barclays, ING, and Tokyo-Mitsubishi. The six largest banks: Banamex, Banorte, BBVA Bancomer, HSBC, Inbursa, and Santander. Medium and small banks: Afirme, Bansi, Compartamos, Del Bajio, Interacciones, Invex, Mifel, Scotiabank, and Ve por Más. Weighted average by assets, bp=basis points. .
Source: BBVA Research and ABM

This new disposition on related credits is positive since it reduces the counterpart risk for the banks and promotes greater stability in the credit available for the population in general, particularly in a period of stress. The counterpart risk decreases due to a greater diversification of the banks' debtors. The greater stability in the availability of credit for the population is generated by restricting large loans to related parties. As a result, the corresponding related parties would have to seek financing under similar conditions for the rest of the market.

3: Resolution that modifies the provisions of a general nature applicable to credit institutions issued by the National Banking and Securities Commission (CNBV) and received for their review by the Federal Commission for Regulatory Improvement (COFEMER) on July 7, 2010.

Inset 3: Restrictions on external financing: effects on investment and growth for countries in the demographic window[4]

Economic theory indicates that the youngest economies should show lower levels of savings or even debt patterns, and, as a result, current account deficits – in order to finance their growth. Based on these principles, in a study conducted by María José Rodríguez, a simple model of intertemporal trade was designed to examine the relationship between demographic structure and international capital flows and thus verify if these predictions are met in the case of Mexico, Latin America and for a sample of 150 countries for the period between 1960 and 2004.

The life-cycle theory applied to the countries and the case of Mexico

Life-cycle theory is based on the idea that individuals prefer a level of stable consumption over time. To achieve such a level, young people fall into debt consuming resources today that they will obtain in the future and with which they will pay their debts. This theory can be extrapolated to countries, through the concept of demographic bonus, the idea that a younger population incurs debt to increase consumption, because it feels that in the future the supply of labor will increase and this could translate into a real per capita increase in resources without generating negative pressures on growth if the country is in the stage prior to the demographic window. For this increase in resources to occur, it is necessary that the country has the sufficient capacity to absorb the labor force, incorporating it into the productive process. That is, it is necessary to increase investment in order to provide each work unit with sufficient capital.

In economies open to international trade, a country with a young population entering the labor market should consume and invest more, financing this greater internal demand with debt to the detriment of its current account, which would be covered by the surplus savings of the countries with an older population, in accordance with the life-cycle theory[5].

Is this Mexico's case? In one aspect, it is. The country has a relatively young population, has a higher than average child/dependency ratio and is in the stage prior to the demographic window and therefore has a labor force whose growth rate is above the world average. In addition, Mexico can be considered a net debtor, since its current account has, in general, posted a deficit. However, investment has shown a downtrend.

This latter phenomenon can be explained by the existence of credit restrictions in the international market that limit the desired use of external savings. Thus, what could be occurring in Mexico and in other low-income countries, which, in general, are those that have a younger population such as is the case of Latin America, is that the demographic dividend increases current consumption through internal debt, while less access to external indebtedness leads to a reduction in investment to maintain a pattern of balanced consumption.

Specification of the model

Based on a simple model of intertemporal trade, changes were introduced in the growth rate of the availability of labor to incorporate the effects of a young population. As a result of an increase in this growth rate, external savings diminish (the current account balance worsens) and investment rises, and therefore the fall in external savings exceeds the increase in investment and total savings decline. The model predicts that the young economies will incur greater debt, to the detriment of the current account. This is consistent with the international evidence in this regard (Graph 23).

However, the model also predicts that the young economies should post increasing levels of investment, when the evidence indicates that this only occurs in the high-income countries[6]. Thus, in medium-low income countries, investment and the child/dependency ratio maintain a negative correlation (Graph 25). Taking this phenomenon into consideration, the model was adjusted to distinguish between countries by income level. The countries with medium and low-income levels in general face higher borrowing rates, since investments in these nations are

4: This article is based on "Bono demográfico y restricciones de crédito en una economía abierta" (Demographic Bond and Credit Restrictions in an Open Economy), BA Thesis, María José Rodríguez García, June 2008. Instituto Tecnológico Autónomo de México /Autonomous Technological Institute of Mexico) (ITAM). Ex - ITAM research acknowledgment award and Banamex honorable mention award in economics. We would like to thank the author for her collaboration in the preparation of this article.
5: Henrisken (2003) in "A Demographic Explanation of US and Japanese Current Account Behavior" concludes that the difference in ages and population growth rates between Japan and the United States explain the difference in the behavior of the current account.
6: According to the World Bank classification, the high-income countries are those whose per capita GNP adjusted for purchasing power parity is higher than 9,386 dollars.

risky due to the lack of legally protected property rights, low capacity to enforce contracts, and risk of default. These high rates translate into less access to international credit, and therefore a limit is introduced in the model to the maximum amount of external indebtedness that is permitted.)

The model indicates a negative correlation between investment and the child/dependency ratio, consistent with the data observed for medium and low-income countries, for the Latin American region and for Mexico (Graph 26 and 27). In an open economy with restrictions on external debt, an environment is generated that is equivalent to that of a closed economy. Since it is no longer possible to save little and invest much with external financing, the only vehicle for deferring income is national investment.

These credit restrictions are costly for investment. Independently of external financing, the growth in the availability of labor reduces total savings; however the performance of investment will depend on the resources for its financing. With access to international credit, such investment will increase; if, on the contrary, financing faces restrictions, then investment will diminish to maintain balanced consumption.

Therefore, the hypothesis of the study indicates that: *A young economy, in the stage prior to the demographic window, will invest more, financing this investment with debt in detriment to the current account if it has free access to international credit. If it faces credit restrictions it will consume more, financing consumption with internal and external debt in detriment to the current account and investment.*

Effects on labor allocation and long-term growth

In studies on economic growth, the process of reallocating labor among productive sectors in the economy is known as structural transformation. It is characterized by a declining trend in the percentage of the work force engaged in agriculture, a growing trend in the percentage involved in the services sector and an inverted "U" for the manufacturing industry.

Even though this process is common to many countries, the moment in which it begins varies, among other factors, depending on the level of income in each economy. In this regard, it has been pointed out that, in the poor countries the lack of investment in infrastructure is one of the causal factors behind the late start. In this sense, it is possible that these countries' credit restrictions can delay the process of structural transformation due to the distortion that they cause in the intersectoral allocation of labor.

In the intersectoral allocation of labor model there is a distortion due to the reduction of the debt in the first period and of its payment in the second period, so it is possible that the credit controls associated with revenue might play a role in the allocation of labor in the economy. In the model, when a country obtains less external financing, imports are reduced, which boosts the labor supply earmarked for the trade sector in detriment to the non-trade sector. It is generally accepted in studies on the matter that the services sector is basically non-trade, and taking this into consideration, the model predicts that in countries with credit restrictions, a lower percentage of the work force will be assigned to the services sector, delaying the process of structural transformation.

The consequences are no minor matter, given that the lack of complete use of the demographic dividend limits these countries' potential growth.

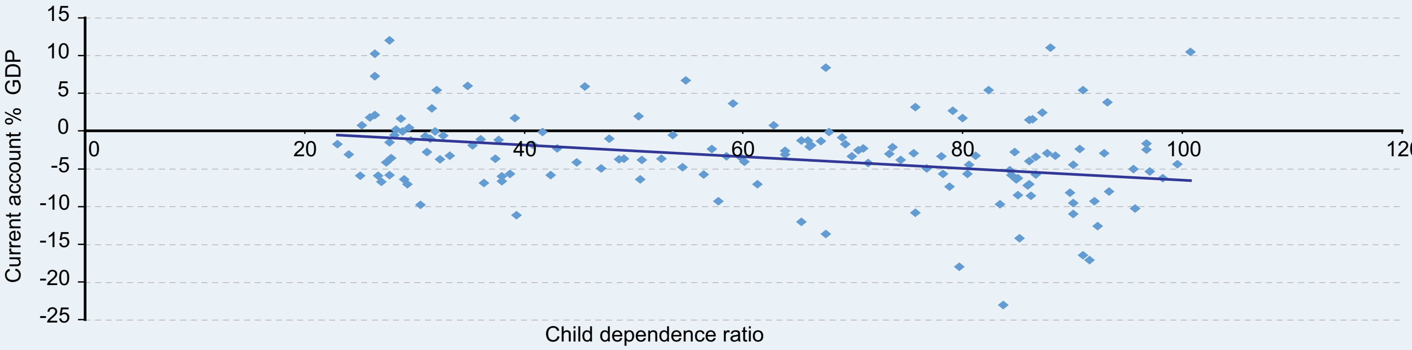
Conclusions

According to this intertemporal trade model, the effect of having a young population should generate greater consumption and investment for countries with a demographic dividend provided there are no credit restrictions on external financing. When such restrictions exist (for example, due to the low development of the conditions that attract external capital):

1. The potential growth of the countries is limited because the demographic dividend cannot be fully taken advantage of since all of the desired investment cannot be financed.
2. Labor is reallocated in favor of the trade sector and to the detriment of the national services sector. This can delay the process of structural transformation where the percentage of the work force engaged in the services sector should increase with the passage of time.
3. The model with restrictions appears to adjust well to the evolution of the economies of Latin America and particularly to that of the case of Mexico.

Graph 23

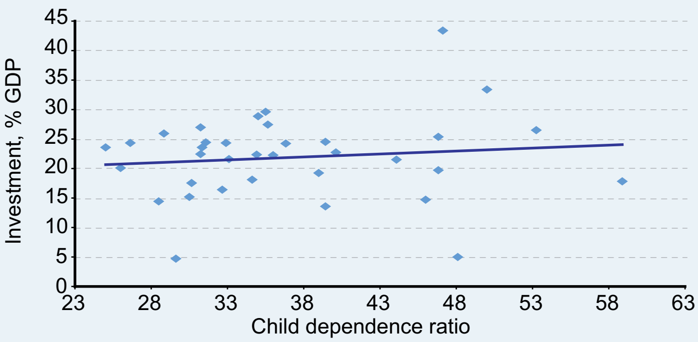
Current account and the child dependence ratio



Source: Rodríguez García Ma. José. "Bono demográfico y restricciones de crédito en una economía abierta". ("Demographic Bond and Credit Restrictions in an Open Economy"). The author's own research with information from the PENN database (investment) and the United Nations database (dependence ratio) for 1960-2004. The study uses the averages of both variables for 150 countries

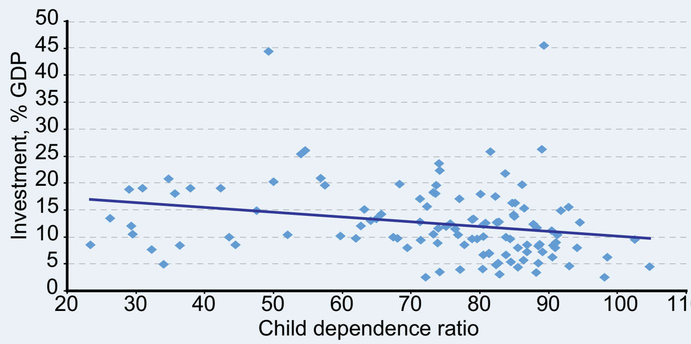
Graph 24

High-income countries' investment



Graph 25

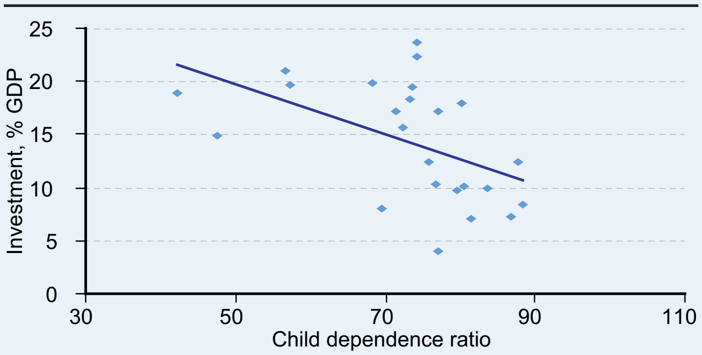
Medium and low-income countries' investment



Source: Rodríguez García Ma. José. "Bono demográfico y restricciones de crédito en una economía abierta". ("Demographic Bond and Credit Restrictions in an Open Economy"). The author's own research with information from the PENN database (investment and income) and the United Nations database (child/dependence ratio) for 1960-2004. The study uses the averages values of both variables for 150 countries

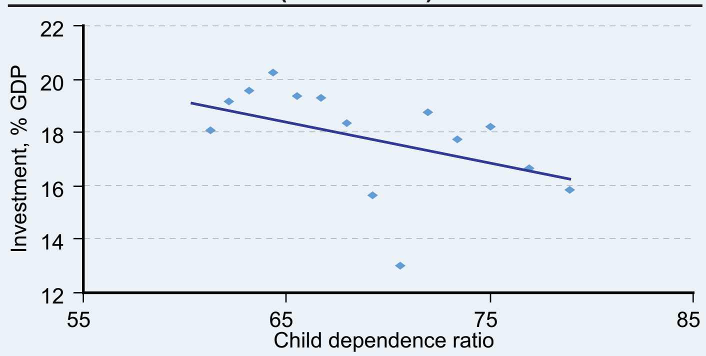
Graph 26

Investment in Latin America



Graph 27

Investment in Mexico (1988 - 2002)



Source: Author's own preparation with PENN data (investment and income) and United Nations data (child/dependence ratio). It uses the average values of both variables for the Latin America countries from 1960-2004. For the graph on Mexico the values of both variables for 1988-2002 are used (1988 is considered the beginning of the period of the trade opening – the signing of the GATT -, with figures reported through 2002 due to the availability and compatibility of data and bases)

3b. Expansion Potential of Bank Services Infrastructure through Correspondents and Mobile Banking

The population older than 15 in cities with a population higher than 35,000 inhabitants receiving service through a bank network rose from 69% in 1996 to 85% in 2009; only between 2004 and 2009, bank branches grew from 7,990 to 11,066 (43%)[7]. Despite this important expansion, various international statistics suggest that Mexico is a country where there are still low coverage levels of banking infrastructure compared to other countries[8]. In this section, we present some elements of analysis to infer how much access to banking services could increase through the model of correspondent banks. In the first part, we describe some of the main characteristics of the population with regard to geographic location and aging. The next three sections review the expansion process of correspondent banks and of mobile banking. Finally, some conclusions are offered.

The population in Mexico is young and is dispersed throughout the country in small towns, willing to show mobility

The importance of banks accessing their customers without branches is related in good measure to geographic and socio-demographic factors.

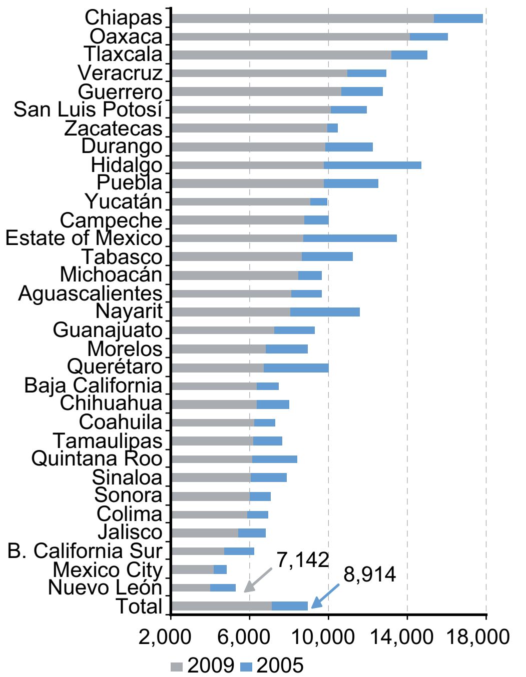
With regard to geographic factors, a significant fact is that Mexico is a country where an important proportion of its inhabitants live in small and remote towns where establishing a traditional branch would not be economically viable in view of expectations of a low operation volume[9]. In an environment of competition, technological advances or in business practices will allow maintaining viable bank branches with a lower number of potential customers. For example, between 2005 and 2009, the average number of customers per branch fell from 8,914 a 7,142, and in the state of Nuevo Leon from 5,269 to 4,028 (Graph 28). However, over 30% of the population 15 years of age and over, potential users of bank services, live in 2,204 municipalities in locations with fewer than 10,000 inhabitants (Graph 29).

Among the socio-demographic factors favoring banking usage through bank models without branches, of note is the youth and mobility of the population. In Mexico, not only is the current average age of the population lower than 30 –it is lower than the whole of the developed countries, which is 37 –, although it will increase to 42 in 2050. Also, projections of population growth by the National Population Council (Conapo its Spanish initials for Consejo Nacional de Población) suggest that the 15-to-64 age group, where the largest proportion of users of banking services is concentrated, will rise from the current 71 million persons to 81 million by 2030, and decline to 75 million persons in 2050 (Graph 30), the year in which this group will represent 62% of the Mexican population[10].

7: The number of automated tellers, point-of-sale terminals and bank cards (credit and debit) also showed high growth rates in the period in reference. For more details see ABM (2010a).
8: Some international comparisons of branch network coverage, ATMs and point-of-sale terminals in our February 2010 issue of Bank Watch Mexico.
9: It is important to recall that banking activity is characterized by strong economies of scale and networks that are more easily achieved in larger markets.
10: According to figures of the World Population Report through 2300 (United Nations Organization, 2004), this proportion is the same as that projected by the United Nations Organization (UN) for this year for the region of North America (United States and Canada) and slightly lower for Africa and Asia, 65% Latin America and the Caribbean 64%, Oceania 63% (in Europe, this proportion is projected notably lower, 57%).

Graph 28

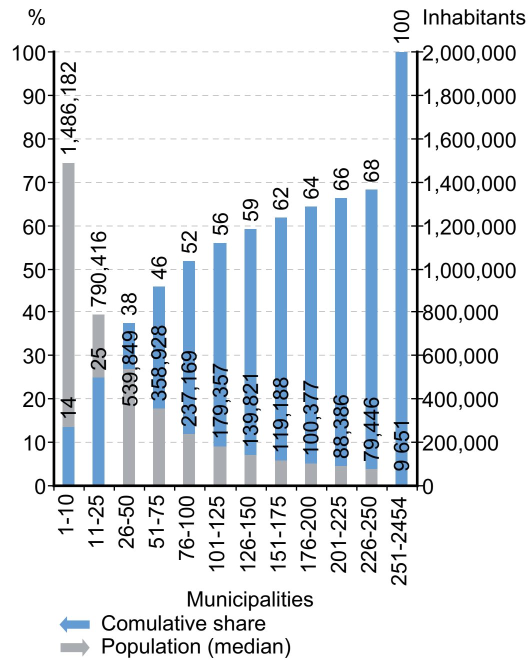
Population 15 years of age and over per branch in 2005 and 2009



Source: BBVA Research with INEGI and CNBV data

Graph 29

Distribution of the population 15 years of age and over at the municipal level, cumulative share and size of the population, 2009

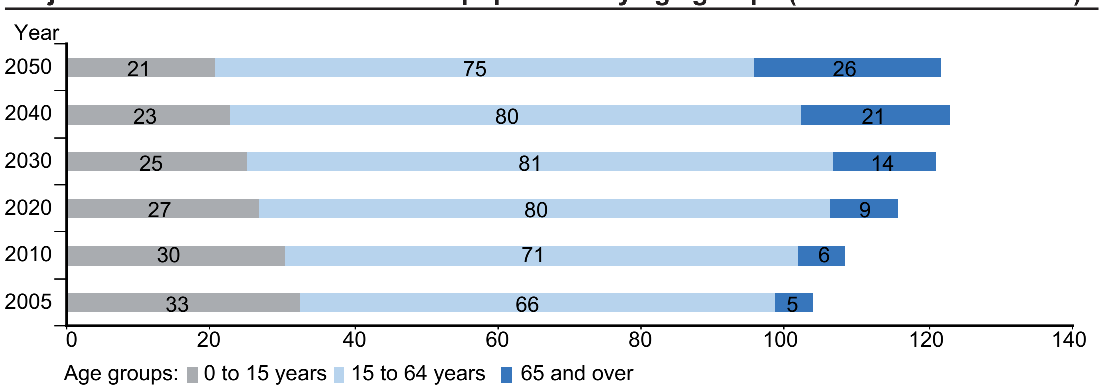


Source: BBVA Research with INEGI data

As regards population mobility, for several years Mexico has stood out for its intense migratory activity, not only within the country but also to other countries. Between 1997 and 2007 the number of emigrants to the United States rose from 7.3 to 11.8 million persons, almost 62%. Even though the global economic crisis affected the migratory flows adversely in the whole world, the effect was of a transitory nature. According to INEGI (Mexico's National Institute of Geography and Statistics) data, in 2009 there were 556,805 emigrants and 420,150 immigrants, with a net migratory balance of 138,655 persons[11].

Graph 30

Projections of the distribution of the population by age groups (millions of inhabitants)



Source: BBVA Research with Conapo data

11: In the May 2010 issue of Migration Outlook Mexico, a more detailed analysis is presented.

These conditions, added to the recent reforms to promote correspondent plans and mobile banks, suggest that Mexico is a country where access to bank services could be increased significantly in the short term through more novel platforms.

The expansion process of Correspondent Banks

Based on data regarding the strategic plans for operating correspondent bank offices and the authorizations granted by the National Banking and Securities Commission (CNBV for its Spanish initials) at the end of 2009[12], that institution worked out its first projections with regard to the attention points for bank services that could be achieved. The effects of the opening of 29,817 new contact points in commercial and services establishments ("traditional correspondents"), in addition to the bank branches, the number of municipalities without coverage of bank services could be reduced from 67% to 20% in a few years. The type of establishments considered in the period includes large self-service store (or supermarket) chains, convenience stores, the Telecomm office networks of the development banks, popular savings and loan entities (EACP for its Spanish initials), the network of concessionaires that sell gasoline and the DICONSA store networks (Graph 7).

Table 6

Authorized contact points that are in the process of authorization for correspondent banks

Establishment	Contact Points	Municipalities without coverage (%)
Commercial bank branches	11,066	67.1
Large self-service areas	2,725	66.3
Convenience stores	9,324	62.5
Development bank branches	568	57.7
Popular savings and loans institutions	1,652	53.8
Telecomm	1,169	33.1
Diconsa	5,801	25.1
Gasoline stations	8,578	20.0
Total	40,883	--

Notes:
Estimates of the CNBV through December 2009.
Commercial Banks include service offices of "Compartamos".
EACP: includes Cooperative Organizations, Solidary Tellers, and Credit and Sofipos Unions.
Large Self-Service Areas: Walmart, Soriana, Chedraui, Comercial Mexicana, Sears, Sanborns, Coppel Convenience Stores, Oxxo, 7 Eleven, Farmacias Benavides, Farmacias del Ahorro, Farmacias Guadalajara, Waldos, Office Max, Mix Up, Muebles América, Pitico, Promujer.
Diconsa: only 25% of the stores was considered (5,801 of 23,500) according to technological capacity. If 100% is considered, Diconsa is present in 90% of the municipalities (in 2,199 of 2,456).
Source: CNBV (2010a)

Within this context, recently the CNBV (National Banking and SecuritiesCommission) announced that, between November 2009 and May 2010, the eleven main banks of the country obtained authorization to conduct diverse, simple and frequent operations through traditional correspondents. Therefore, in less than a year from having started the correspondent model, it was possible to observe results that show its potential importance. According to a communication of the CNBV, through May 2010, correspondents had been established with 655 commercial businesses which constitute a network of 5,107 establishments. As a result, the size of the correspondents' network reached almost half of the current branch network of the commercial banks.

12: See CNBV (2010).

In this first phase, most of the commercial businesses operating as correspondents belong to the large supermarket store chains, convenience stores and Telecomm offices categories, making use of the fact that some of the banks already had some strategic association[13]. Also, in most cases, the contracts take advantage of the figure of the "Commissionaire Administrator". This is because under this category, the bank only has to make sure that the administrator of the commissionaire establishments meet the regulatory criteria for evaluating eligibility and not that all and each one of the establishments meet them individually, which importantly reduces the transaction costs for the banks[14]. In reality, the only exception are the 453 commercial businesses affiliated to the "Banamex Aquí" ("Banamex Here") program, since that bank already had a previous association with them.

Table 7
Banking institutions having authorization to start operations as correspondents

Bank	Authorized correspondent	Number of establishments	Authorized operations
Banamex	Soriana stores[1]	453	Deposits, payment of loans or credits, circulation of TPB
	Telecomm	1577	Deposits, payment of loans or credits, withdrawals
	Small commercial businesses – "Banamex Aquí" (Banamex Here)	644	Payment of services, deposits, payment of loans or credits, fund situations, payment of checks
Banorte	Telecomm	1577	Payment of services, deposits, withdrawals, payment of loans or credits, circulation of TPB, consultations of balances
HSBC	Telecomm	1577	Payment of services, deposits, withdrawals, payment of loans or credits, consultation of balances
Inbursa	Telecomm	1577	Deposits, withdrawals
	Sanborns	148	Deposits
Santander	Telecomm	1577	Deposits, withdrawals, payment of loans or credits, consultation of balances
Scotiabank	Telecomm	1577	Deposits, withdrawals
Wal-mart	Nueva Wal-mart de México[2]	908	Deposits, withdrawals, payment of loans or credits, consultation of balances
	Suburbia	87	Deposits, withdrawals, payment of loans or credits, consultation of balances
	Operadora Vips[3]	361	Deposits, withdrawals, payment of loans or credits, consultation of balances
Bancomer	Nueva Wal-mart de México[2]	908	Payment of loans or credits
	Suburbia	87	Payment of loans or credits
	Telecomm	1577	Payment of loans or credits
American Express	Sanborns	148	Payment of loans or credits
	Sears	45	Payment of loans or credits
	Nueva Wal-mart de México[2]	908	Payment of loans or credits
	Chedraui[4]	137	Payment of loans or credits
	Comercial Mexicana[5]	181	Payment of loans or credits
	Farmacias Guadalajara	559	Payment of loans or credits
	Tiendas Soriana[1]	453	Payment of loans or credits
Compartamos	Chedraui4	137	Payment of loans or credits
Invex	Nueva Wal-mart de México[2]	908	Payment of loans or credits
	Chedraui[4]	137	Payment of loans or credits
	Comercial Mexicana[5]	181	Payment of loans or credits
	Tiendas Soriana[1]	453	Payment of loans or credits
	Assis tu vestir	7	Payment of loans or credits

1: It includes: Soriana Stores and Soriana Market.It does not include City Club or Super City; 2: Includes: Bodega Aurrerá, Bodega Aurrerá Express, Mi Bodega, Wal-Mart Supercenter, Sam's Club and Superama; 3: It includes: Vips, El Portón, La Finca and Ragazzi; 4: It includes: Chedraui and Super Che; 5: It includes: Comercial Mexicana, Bodega Comercial Mexicana, Mega Comercial Mexicana, Al Precio, City Market and Sumesa. It does not include Costco.
Source:CNBV, Press Release, June 22, 2010

13: For example, since 2005, Banamex, BBVA Bancomer, Banorte, HSBC, Inbursa and Scotiabank were already offering services to their customers through this public institution.
14:"Appendix 57: Criteria for evaluating the Eligibility of Commissionaires that will Operate with Protection from the Second Section of Chapter XI of the fifth Title of the Provisions" of the Sole Circular of the Banks of the CNBV has the details on this topic.

On the other hand, it should be observed that, given the figure announced by the CNBV, it does not take into account other commercial businesses with multiple establishments considered in the strategic plans that some banks presented to that authority in December 2009 and on which the authority is still pending. Therefore, prior to the end of this year, the attention service points network could undergo an important increase (an example of this are the OXXO, Farmacias Benavides, Chedraui and PITICO establishments, in the case of Bancomer).

It is to be expected that, under this logic of reducing transaction costs, in the short term most of the banks will first seek to approach companies with a national or local presence instead of companies with only one establishment. Nevertheless, diverse studies suggest that there is a positive effect in the sales of the establishments that offer banking services and we cannot rule out that some companies of this type that meet the regulatory criteria of eligibility will take the initiative of approaching the banks to become their correspondents. Seira, Parker, Silva, Marcué and Cárdenas (2009), one of the few public studies in which sales performance is compared among establishments with or without bank correspondent offices in Mexico, reports that for the case of the DICONSA stores (a public institution that currently has a correspondent's office agreement with the Banco del Ahorro Nacional and Servicios Financieros, Bansefi) an evaluation of the pilot test of that project in the State of Puebla reveals that in those establishments where the banking correspondent offices operate, sales have increased significantly compared to those that do not have correspondent offices. In this study, it is observed that (Graph 8) the average difference in sales of the DICONSA stores located in five different places where the pilot test took place was 46%.

Table 8

Sales at stores where the pilot test took place of bank correspondent offices of BANSEFI with DICONSA

	Sales (thousands of pesos)		Difference	
Location	**Stores w/o correspondent office**	**Stores with correspondent office**	**Thousands of pesos**	**Percentage**
Vega	1.5	3.5	2	133%
Montecelli	7.2	8.9	1.7	24%
Palmartepec	12.1	13.2	1.1	9%
Coyopol	14.5	18.7	4.2	29%
La Palma	18.4	25	6.6	36%
Total	53.7	69.3	15.6	--
Promedio	10.7	13.9	3.1	46%

Source: Seira et al 2009

One aspect of the CNBV projections that attracts attention is that in addition to the substantial increase in the number of contact points attributable to the business categories mentioned above, which produce an important improvement in the density of the network when the number of inhabitants by point of contact is reduced, a decrease in the number of municipalities without coverage is barely 13%. This is due, on the one side, to the fact that several commercial businesses are correspondents of several banks at the same time (Graph 9) and, on the other, that the geographic location of the commercial establishments coincides to a great extent with that of the bank branches, particularly of the supermarket and convenience store chains.

Table 9

Distribution of Correspondents per Bank

	Soriana	Telecomm	Sanborns	Walmart	Suburbia	Vips	Sears	Chedraui	Comercial Mexicana	Farmacias Guadalajara	Assis tu vestir	Small business	Total
Banamex	X	X										X	3
Banorte		X											1
HSBC		X											1
Inbursa		X	X										2
Santander		X											1
Scotiabank		X											1
Walmart				X	X	X							3
Bancomer		X		X	X								3
Am. Express	X		X	X			X	X	X	X			7
Compartamos								X					1
Invex	X			X				X			X		4
Total	3	7	2	4	2	1	1	3	1	1	1	1	

Source: CNBV, Press Conference June 22, 2010

In fact, the projections consider that in the expansion process of banking services, the people's savings and loan companies and the development banks can offer an additional boost, higher than the commercial establishments previously described. This has turned out to be right considering that, on the one hand, some development banks have a mandate to provide service to vulnerable population groups, and, on the other, some micro-financing companies have developed efficient business models to provide service to individuals and companies with very low savings and investment levels by means of very frequent fixed payment modalities and deposits or peer monitoring to motivate the opportunity in the payment of credit obligations[15]. Among the development bank institutions, Bansefi has stood out as the one which has the most attention points, with 503 branches mostly located in underprivileged locations. This institution plays a more important role in the dispersion of recurrent support from the Federal Government and, to this end, it has boosted the delivery of such resources through pre-paid bank cards through pilot programs like Opportunities in Urban Areas, Opportunities in Rural Areas and the Food Support Program[16].

This strategy has required that Bansefi establish agreements of correspondent businesses with institutions with ample geographic average, such as the National Lottery (November 2008), the above-mentioned case of DICONSA (February 2009), and, shortly, the Pronósticos para la Asistencia Pública (Forecasts for Public Assistance), sports forecasting network and the gasoline station network[17]. DICONSA has 22,000 stores distributed in 90% of the country's municipalities, and the gasoline station network has 8,578 franchises.

15: Armendáriz de Aghion and Murdock (2005) offer a very complete review of the topic of micro-financing.
16: The expansion of the Social Security Network has been identified as another factor favoring the growth of banks without branches, due to the need to cut operating costs of the programs of aid and opportunities for fraud and corruption (Pickens, Porteous, and Rotman, 2009).
17: Fore further details, see Seira et al (2009).

However, in order to provide banking services in the short term, the establishments should be equipped with point of sale terminals or be in the process of having them, so it is not easy to determine the exact contribution of these networks.[18] Nevertheless, the logic of cutting transaction costs by establishing the correspondent businesses, added to the good preliminary results of the correspondent businesses of Bansefi, point to the fact that the networks of the states or municipalities providing various public services could constitute a second stage for the expansion of the model, provided that their respective laws or regulations are modified to allow this when it is required.

An additional alternative: the expansion of bank services through mobile telephony; similar operations, although of a lower amount

One element that has not been taken into account in the previous projections is the potential for expansion of the number of attention through correspondent services via cellular telephony. As opposed to the program of “Traditional Correspondents” operating through local minority establishments equipped with a point of sales terminal administrated by the bank and cards for customers with security mechanisms, the plan, “Correspondents via Cellular Telephony”, operated through customers’ cellular telephones registered with the bank and with security mechanisms, to conduct through their bank accounts (such as checking or payroll accounts, debit or credit cards) the following transactions: consultation of balances and movements, withdrawals or deposits in cash, transfers between accounts (same bank and interbank), payment of services and charges to mobile accounts.

The first step in promoting access of the population to banking services through the mobile phone was taken in June 2009, when the Banco de Mexico (the central bank) issued the corresponding regulation on mobile accounts or of “simplified file”, which have fewer requirements for information and file information on the customer than traditional accounts (namely: complete name, date of birth and address)[19]. But, it was not until last March 24 that the CNBV published the rules for determining the requirements of the contracts for commissionaires administrated by an “Administrator of Mobile Phone Commissionaires”. According to this ordinance, each bank will be able to define the criteria, elements of analysis and further information so as to establish “Low Risk Accounts” or low transactional possibility which, like the Mobile Accounts, are subject to lower requirements for identifying the customer and forming the files. Also, the regulation preserves the symmetry among the programs so that Traditional Correspondents may be able to conduct the same transactions as the Mobile Telephone Correspondents.

The companies operating mobile phones (some of which could obtain the authorization to operate as correspondents shortly) have networks of over 54,000 distributors, service centers and points of sale[20]. Although the addition of these establishments would more than double the projection of points of contact through the correspondents, the rules for the telephone bank correspondents issued by the CNBV would allow interconnecting the bank network with over 85 million cellular phones[21] that can be used to conduct bank movements, both through Mobile Accounts and traditional accounts and, later, through the inter-bank highway, withdraw or use their money in automated teller machines or commercial businesses terminals.[22]

18: The CNBV estimate is that 25% of the Diconsa stores and 100% of the gasoline stations with such equipment or that are in the process of getting it, But, according to the progress reported on the Modernization Program of the Pemex Franchise through April 22, 2009, only 6,747 gas stations (79.6% of the total) had adhered to the Pemex franchise of Cualli service stations, which requires declaring that in the station payments of gasoline and Diesel purchases can be received in at least two ways of electronic payment, one of which is the banking mode.
19: For further details, see Banco de México, Circulars 16/2009 and 1/2006 Bis 26.
20: Estimate based on the Table 7 data of the Federal Competition Commission resolution, Pleno, EXP. DC-08-2007, of January 21, 2010.
21: Figure of March 2010, Management of Market Statistical Information, COFETEL.
22: ABM (2010).

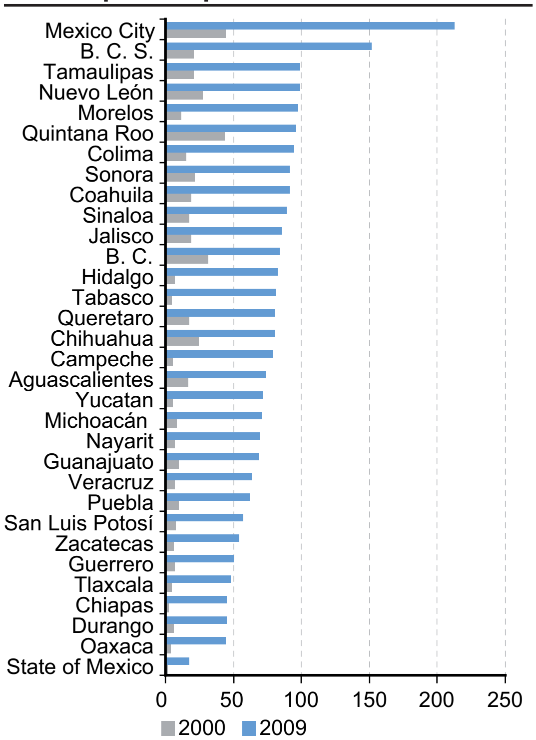
For this reason, the expansion of operations through the establishments of the correspondents, via mobile phones, could be substantial. As it is mentioned in more detail in Graph Number 4: “Mobile Money” in Kenya, the experience of the mobile banking plan operating in that country indicates that the monthly average value of the operations carried out in the stores affiliated to the plan is more than twice that of the monthly average of person-to-person transfers carried out through cellular phones.

Mobile Banking: a broader coverage of users

Among the Information and Communication Technologies (ICTs), cellular telephony is outstanding as one that has been disseminated more rapidly among developing countries. In our country important growth has also been observed in the number of users of mobile telephony. While in the year 2000 the number of cellular telephone users per 100 inhabitants was 14.2, currently it is 77.4 (Graph 31). This represents a rise in penetration of 445% in 10 years. It should be noted that this important growth in the penetration of the cellular phone network compares quite favorably with that existing in other countries of Africa and Asia, where mobile banking plans operate (Graph 32). Also according to a study on access and use of telecommunications in Mexico, already in 2006, the penetration of mobile telephony in Mexican homes on average was higher than in other ICTs (fixed telephony, paid TV and Internet) in 23 states, even in towns with fewer than 2,500 inhabitants, which suggests that at this time this technology offers a larger group of users than the others to provide banking services (Graph 33).

Graph 31

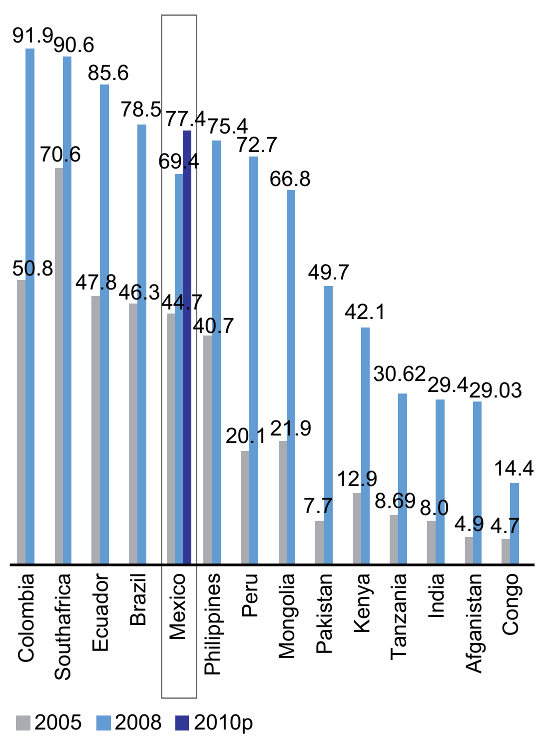
Number of subscriptions of mobile cellular phones per 100 inhabitants



Source: COFETEL

Graph 32

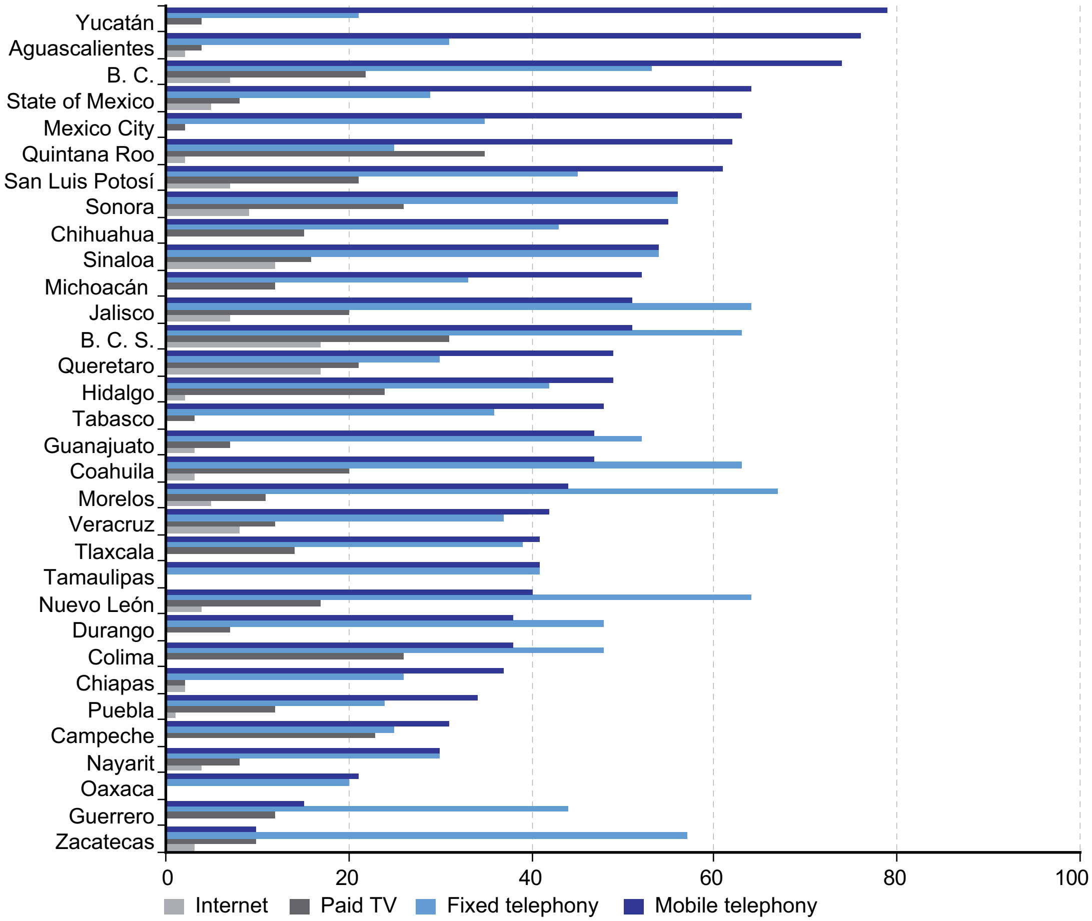
Number of subscriptions of mobile cellular phones per 100 inhabitants in selected countries



p: Figure for March 2010.
Source: For Mexico, COFETEL. For the other countries, International Telecommunications Union, World Telecommunications/ICT Indicators Database 2009

Graph 33

Penetration of Telecommunications in Households in towns with fewer than 2,500 inhabitants (Average of the State, 2006)



Source: "Study of the access and utilization of telecommunications in Mexico", Pyramid Research, 2008. It uses the data of the National Survey on Household Income and Expenses

The experience of other developing countries suggests that a high penetration of cellular telephony in turn favors a rapid adoption of mobile banking. It is because of this that the authorities in Mexico have defined the conditions for this plan to operate. Many banks have hastened to launch new financial products that would operate under these provisions. So as to seek experiences in other countries, the case of the mobile banking service M-PESA, launched by the Safaricom firm (the largest supplier of mobile telephony in Kenya) in March 2007, illustrates that this service can spread very rapidly.

The M-PESA service has increased its scale quite substantially, according to diverse measurements. Barely three years after its launching, M-PESA has over 9 million registered customers, most of whom are active. Person-to-person (O2O) transfers are made monthly, with a total of 320 million dollars, which on an annualized basis are equivalent to approximately 10% of the GDP in Kenya. Although the number of transactions per customer has increased, these are still low: two P2P transactions per month. Also, deposits and withdrawals in cash are made monthly at M-PESA stores for an amount close to 650 million dollars. The average transaction is for an amount of around 33 dollars, although more than half of the transactions are for a value lower than 10 dollars[23].

At the same time, although the provision of bank services through mobile Internet in developing countries is still nascent, the existence in Mexico of this numerous group of cellular phone users, geographically dispersed and relatively young, added to a decreasing trend in the price of cellular phones with basic functions of access to Internet, which is expected for the coming decade, suggest that the use of this technology could grow in an accelerated manner in the coming years. This increases the incentives to improve the experience of users of banking services and Internet through the design of special applications for mobile devices. The improvement of banking services through this means can also contribute to expand its use among the less educated population segments; for example, by incorporating menus based on icons or simple security solutions. All of this, in turn, would increase the pressure for the authorities to adapt the regulatory framework in support of the expansion of financial services through the new technological platforms.

Conclusions: conditions exist for a fast expansion of basic financial services through correspondents and mobile banking

Thanks to the recent adjustments to the regulatory framework, the correspondent and mobile banking models offer technological alternatives so that access to bank services in Mexico will increase rapidly. This is because in our country there are geographic and socio-demographic conditions favoring a rapid dissemination of these models, according to the experience of some emerging and low-income economies. The bank correspondent model can offer ample coverage at a municipal level and also through mobile telephony a higher number of users can access banking services. In this sense, they are not independent or excluding models but they can be complementary. For this to occur in a few years will depend, in good measure, on the speed with which the banking institutions and the commercial businesses adopt these models, which, in turn, bears an important challenge for the authorities to make the adaptations that are being required to increase the trust both of the suppliers and the users in these new services.

In this sense, it is noteworthy that up to now only the larger banks of the system have presented strategic plans for establishing correspondent businesses and that in the majority of the traditional correspondents businesses, authorized by the CNBV, the type of operation most commonly authorized is credit payments; in the case of four banks, it is the only type of operation allowed at this time (Graph 7). The experience of other countries like Brazil, where even at the end of several years of operation of commercial business establishments as correspondents, credit payments and services constitutes the greater part of the operations conducted, suggests that there is an important challenge to promote other transactions related to savings and loans that will favor a greater use of bank services[24]. Both the authorities and the financial institutions will also have to consider other characteristics of the population in addition to their geographic location, such as belonging to the formal labor market, or the informal, which implies different risk parameters, like, for example, in the variability of their income and payment capacity, conditions equally important to achieve a full increase of banking services coverage and of banking penetration.

Also outstanding are two important elements for increasing access to bank services in underprivileged communities through the commercial business establishments. The first of these is a very agile conditioning of certain networks for the provision of public services, as has already been done successfully in the case of Telecomm and is being done with DICONSA.

The second is to analyze mechanisms to reduce certain regulatory burdens at a federal, state and municipal level, so that commercial businesses can meet the regulatory criteria of eligibility. In particular, it should be pointed out that, in Mexico, the requirement for certifying: that a

23: Figures reported by Mas and Radcliffe (2010). See reference in Graph 4.
24 For example, currently, the rules for conducting operations in dollars through correspondent businesses are under discussion, which seeks to strengthen the prevention of money laundering without making money exchange services more expensive for tourists visiting the country.

person has his own business, brings with it notary costs for businesses. Finally, it is important to determine which criteria the banks could use for opening accounts to new customers through the new platforms. To this end, it is necessary to determine a fair balance, on one hand, the security of the accounts and the operations, and on the other, the operating and logistics costs for the banks and the commercial establishments.

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Bibliographical References

Armendáriz de Aghion, B. y J. Murdoch (2005), The Economics of Microfinance, The MIT Press, Cambridge, Massachusetts, London England, 2005.

Asociación de Bancos de México (2010), Words of Ignacio Deschamps González as Chairman of the Asociación de Bancos de México (ABM), within the framework of the 73rd Banking Convention, Opening Speech, April 22, 2010.

Asociación de Bancos de México (2010a), Words of Ignacio Deschamps González as Chairman of the Asociación de Bancos de México (ABM), at the IPAB Seminar: "La Función de la Banca para la Estabilidad y el Crecimiento Económico", ("The Role of Banking in Stability and Economic Growth") June 10, 2010.

BBVA Bancomer, Migration Outlook Mexico, May 2010.

BBVA Bancomer, Banking Watch Mexico, February 2010.

Banco de México, Circular 16/2009.

Banco de México, Circular 1/2006 Bis 26.

Banco de México, "Cuentas de Expediente Simplificado (Cuentas Móviles)", ("Simplified Account Files (Mobile Accounts)") Press Communication, July 13, 2009.

CNBV, Circular Única de Bancos (Sole Circular for Banks).

CNBV, Press Release, June 22, 2010.

CNBV (2010), "Hacia una Banca Comercial que Fomente el Desarrollo Económico", "Toward a Commercial Banking System that Fosters Economic Development"), Speech and Presentation by Dr. Guillermo Babatz Torres in the frramework of the 73ª Banking Convention, April 23, 2010.

CNBV (2010a), "Panorama y Oportunidades del Sistema Bancario Mexicano", Presentación del Dr. Guillermo Babatz Torres, 10 de junio de 2010.

Federal Competition Commission, Pleno, Expediente DC-08-2007, January 21, 2010.

PEMEX, Programa de Modernización de la Franquicia Pemex, disponible en http://www.pemex.com/index.cfm?action=content&sectionID=148 (fecha de la consulta en internet: 23 de junio de 2010).

Pickens, M., Porteous, D. y S. Rotman (2009), "Scenarios for Branchless Banking in 2020", CGAP, Focus Note, No. 57, October 2009.

Seira, E., Parker, S., Silva, P., Marcué E. and C. Cárdenas (2009), "Banco del Ahorro Nacional y Servicios Financieros, Sociedad Nacional de Crédito, Institución de Banca de Desarrollo (BANSEFI)", Estudio para el H. Congreso de la Unión en Cumplimiento del Artículo 55 Bis 2 de la Ley de Instituciones de Crédito, Centro de Investigación y Docencia Económica, 2009. (Study for Congress in compliance with Article 55 Bis 2 of the Law of Credit Institutions, Economic Research and Teaching)

United Nations Organization, World Population to 2300, 2004.

Inset 4: "Mobile Money" in Kenya

One of the modalities of providing bank services through cellular telephones that has received considerable attention from analysts is the M-PESA program that operates in Kenya ("M" for mobile and "PESA" is the word for money in the Swahili language). Kenya is a country that has a population of close to 40 million inhabitants --78% of whom live in rural areas--with an annual per capita income of US$1,600 dollars. In 2009, only 19% of adults had access to a traditional bank account[25]. In this context, the analysis of the expansion of M-PESA, which currently boasts more than nine million registered clients, is timely because it allows for a better understanding of some of the factors that influence the dissemination of bank services through new technological platforms.

Mobile telephony as a mechanism for money transfers

The Safaricom telecommunications company (a Vodafone subsidiary) launched the M-PESA service in March 2007. M-PESA is a system for electronic payments and value storage accessible through cellular telephones. To access this service, clients must register at an M-PESA authorized store in order to obtain an individual electronic money account that is linked to their cellular telephones and is accessible through an application contained in the phone's SIM card[26]. Clients can deposit and withdraw cash in and from their accounts, exchanging value in the M-PESA network for cash, through the authorized stores. Once the client has money in their M-PESA accounts, they can use their telephone to transfer funds to other M-PESA users or even to non-users, pay bills, and purchase air time, for an amount equivalent of up to 500 Kenyan shillings (Ksc, approximately 975 dollars)[27]. All the transactions are authorized and registered in real time through SMS messages[28].

Contrary to the case of Mexico, in which it is anticipated that such transactions will be conducted through bank accounts, the individual accounts of the M-PESA clients are maintained in a server that is owned by Vodafone, which also administers it. But Safaricom deposits the total amount of its clients' balances in an account system held in two regulated banks. This means that the deposits in Safaricom are not covered by bank protection programs. At the same time, Safaricom issues and administers the M-PESA accounts, but their value is completely backed by liquid deposits made by the company in commercial banks. It should be pointed out that the clients do not receive interest on their balances in the M-PESA accounts, but the interest not paid by Safaricom to its clients is deposited in a non-profit trust that the company also controls.

Safaricom pays the M-PESA stores a fee for each of these transactions carried out in the clients' benefit. For the clients, their registration as users of the system and the deposits they make are free of charge, while the person-to-person monetary transfers (P2P) and the payment of services carries a fixed rate per transaction of US$0.40, while withdrawals are charged US$0.33 (in the case of amounts under 33 dollars) and account consultations cost US$0.013[29]. According to a recent comparative analysis undertaken by McKay and Pickens (2010) on the prices of the different services contemplated through the branchless banking modalities, the price of the transaction basket for services typically conducted by an M-PESA client is cheaper than if undertaken through the banking system network (Graph 34) and in addition, compares favorably with the cost that the package would have in other countries (Graph 35).

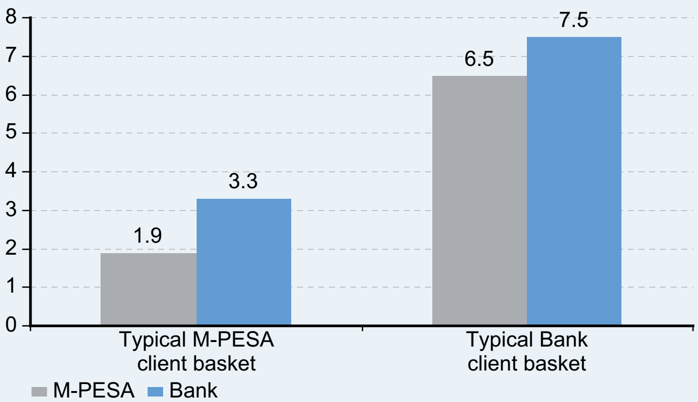
25: Data from the report Financial Access 2009 Measuring Access to Financial Services Around the World, CGAP, 2009.
26: The SIM (Subscriber Identification Module) card is an intelligent card that is found within cellular telephones that are based on the GSM (Global System for Mobile Communications) protocol family, which is currently the most popular standard for providing mobile telephony services. This card contains encryption codes, ensures the users' PIN (Personal Identification Number) number, and manages the phone's operating menu.
27: An exchange rate of 1.75 Kenyan shillings (Ksc) for each U.S. dollar is assumed.
28: This is the short message system ("Short Messaging Service") available in telephones that are based on the GSM protocol family to provide mobile telephony services.
29: See Mas and Radcliffe (2010) for more details.

Analysts have identified other geographical, socio-demographic, and institutional factors that have facilitated the propagation of M-PESA. First of all, the degree of coverage of the traditional bank infrastructure was limited and service was deficient. Mas and Radcliffe report that even at the present time in that country, there are only 840 bank branches, in comparison with 16,900 M-PESA stores and 100,000 points of sale for air time. Nor is there an extensive use of bank cards in terminal points of sale, since in 2008 the number of credit, debit, and prepaid cards was only 1.6 million and the average value of the monthly transactions was estimated at less than 70 million dollars[30].

As was mentioned, Kenya is a country in which most of the population still lives in rural areas. There are also important migratory flows between the rural areas and the big cities on the part of population groups with different characteristics. M-PESA was adopted first by workers (young men) in the cities as an easier, safer and less expensive way to send money to their families (women and/or adults no longer employed) who live in the countryside. They were convinced to adopt this service, since P2P transfers are less expensive when both clients are registered with M-PESA[31]. Another interesting aspect in relation to the average M-PESA user is that, compared with the non-user, the former has a higher income level, is more educated and more literate, and more likely than not has a bank account and is technologically more sophisticated ("tech savvy"), so that he or she more clearly perceives the advantages of using M-PESA to transfer money compared to other alternatives such as personal or friends' visits, communication services, and public transportation, or even mobile banking services, which were mainly focused on the corporate user segment.[32]

Graph 34

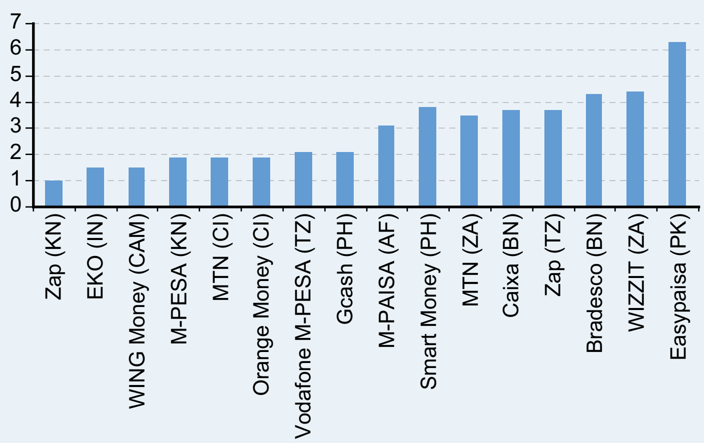
Price of bank services in Kenya, M-PESA vs. Banking system (2005 U.S. dollars adjusted for purchase power parity)



Note:
Based on standardized prices corresponding to a month of services. The typical M-PESA client's basket includes 1.2 deposits, 0.6 money transfers, 0.8 withdrawals, 0.6 purchases of air time, and 1 bank balance consultation. The typical basket of a banking system client in Kenya includes 1.2 deposits, 1 money transfer, 3.1 with-drawals, 0.4 payments of services (checks) and 1 bank balance consultation.
Source: McKay and Pickens (2010)

Graph 35

Price of the selected banking services included in the basket of the typical M-PESA client in Kenya through branchless banking programs (2005 U.S. dollars adjusted for purchasing power parity)



Note:
Based on prices for a month of services. The typical M-PESA client's basket includes 1.2 deposits, 0.6 P2P transfers, 0.8 withdrawals, 0.6 purchases of air time, and 1 bank balance consultation. Country codes: AF=Afghanistan, BN=Brazil, CAM=Cambodia, CI=Ivory Coast, IN=India, KN=Kenya, TZ=Tanzania, and ZA=South Africa.
Source: McKay and Pickens (2010)

30: Data from the Central Bank of Kenya cited in Juma (2010).
31: The characteristics of M-PESA users are detailed in "Poor People Using Mobile Financial Services: Observations on Customer Usage and Impact from M-PESA", CGAP Brief, August 2009.
32: The Standard for Fairness and Justice (2010).

Evolution toward a greater provision of bank services

Although up until now most of the transactions that are carried out through M-PESA correspond to P2P transfers and some businesses have begun to use this service to receive payments, it is expected that in the next few months the M-PESA system will experience a major step forward in terms of providing more bank services, given that in January 2010 the Central Bank of Kenya approved changes to the country's banking laws to allow banks to provide services through affiliated retail stores[33]. This reform is very important because it opens up the possibility of forming alliances between the banks and the commercial chains to provide bank services, such as has been done in Mexico based on the modifications aimed at strengthening the figure of correspondent banking.

In May, Safaricom and Equity Bank jointly launched a new banking product known as M-Kesho ("Kesho" means future in Swahili). Through this product, account holders can obtain loans based on their record of service payments and deposits, and they can also obtain interest on their account balances. As in the case of the M-PESA, there are no start-up commissions, monthly charges, or fees for not maintaining a minimum balance in the M-Kesho accounts. But, in contrast to the M-PESA accounts, the new accounts do not limit the balances that can be held in the account and they are linked to emergency credit lines and insurance. The M-Kesho accounts are also attractive for Equity Bank account holders who could only conduct transactions in its 140 branch offices, while M-Kesho account holders can conduct operations in more than 17,000 retail establishments that accept M-PESA. It should be noted that the M-Kesho system is integrated into the M-PESA user interface of the cellular telephones and is accessible through Equity Bank's mobile banking service. Clients can deposit or withdraw funds from their M-Kesho account through value transfers from or to their M-PESA accounts, which can be converted into cash in the M-PESA affiliated stores. Deposits in M-Kesho accounts do not incur commissions, but withdrawals are charged a commission of US$0.40 cents for Equity Bank in addition to the traditional commission for Safaricom.

Several analysts anticipate that the new regulations will favor competition and that very soon other mobile telephone service provider companies such as Zain, Orange/Telkom, and Econet will offer similar products through wireless electronic banking technology, now that the banks have begun to enter a market that they had ignored up until now[34]. Some of them even suggest that micro-credit companies could lose market share as their clients begin to use products such as M-Kesho. This is due not only to easy access through mobile cellular phones, but also to the possibility of requesting small loans (of up to approximately US$7,750 dollars) through these devices, to receive notification in a matter of minutes (once the client's payment history in M-PESA and M-Kesho has been verified), and, in the event of obtaining the loan, the funds are received via the cellular phone and the cash can be withdrawn from the M-PESA stores. This program also represents a major change with regard to the practice of micro-credit institutions that operate in that country, which only provide micro-loans to organized groups of at least four borrowers to minimize the risk of default[35].

Furthermore, the legal and regulatory reforms to allow the type of alliance that the Central Bank of Kenya has implemented also improved the security of users' deposits, since the M-Kesho-style accounts, in contrast with those of M-PESA, now will have their data stored in servers owned and administered by the banks, which are supervised by the central bank.

Conclusion

In conclusion, the rapid adoption of mobile banking in Kenya can be attributed to a series of favorable circumstances, given the existence of a population that is geographically dispersed throughout the country, with a very low penetration of traditional bank services amid the presence of sophisticated mobile telephony companies with a business outlook. Although the authorities allowed M-PESA to be developed as an alternative means of payment, recently adjustments to the regulatory framework have been introduced so that this system will become a more regulated bank product, which would allow it to maintain its appropriate development, with the resulting benefits for the population.

33: This measure is part of a program for extending the presence and services of the financial system in marginalized areas of Kenya headed by this institution and supported by the World Bank, the United Kingdom Department for International Development, and the Swedish International Development Cooperation Agency
34: For further details, see Rojas-Suárez (2010). In fact, it appears that Safaricom has already launched, together with other banks such as Kenya Commercial, and Family and Standard Chartered Bank, other varieties of its application for mobile banking services (Juma, 2010).
35: Mbogo (2010).

Bibliographical References

CGAP, Financial Access 20009 Measuring Access to Financial Services Around the World, 2009

CGAP, "Poor People Using Mobile Financial Services: Observations on Customer

Usage and Impact from M-PESA", Brief, August 2009

Juma, V. (2010), "M-Kesho heralds a new dawn for e-commerce", Business Daily Africa, Published on May 20, 1010 (disponible en http://www.businessdailyafrica.com/M%20Kesho%20heralds%20a%20new%20dawn%20for%20e%20commerce/-/539444/921638/-/f6iohaz/-/)

Mas, I. y D. Radcliffe (2010), "Mobile payments go viral: M-PESA in Kenya", Bill & Melinda Gates Foundation's Financial Services for the Poor, March 2010

Mas, I. (2010), "M-Kesho in Kenia", Published on May 27, 2010 (disponible en http://mmublog.org/africa-east/m-kesho-in-kenya/)

McKay, C. y M. Pickens (2010), "Branchless banking pricing analysis", Presentation, CGAP, May 2010

Mbogo, S. (2010), "Micro financiers feel the heat from M-Kesho", Micrifinance Africa, Published on June 1, 2010 (available at http://microfinanceafrica.net/tag/m-kesho/)

Rojas-Suárez, L. (2010), "Inclusión Financiera en América Latina: Obstáculos y Recomendaciones", Presentación, Center for Global Development, June 2010

The Standard for Fairness and Justice (2010), "M-Kesho Equity deal a wake-up call", published on May 19, 2010 (disponible en: http://www.standardmedia.co.ke/InsidePage.php?id=2000009751&cid=16&story=M-Kesho,%20Equity%20deal%20a%20wake-up%20call)

4. Statistical Appendix

Table 10

Financial Savings, balances in billions of May 2010 pesos

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	I-2010
M4a	3,905	4,359	4,552	4,975	5,300	5,890	6,400	6,859	7,519	7,690	7,661
- Bills and coins in the hands of the public	274	287	317	346	376	406	452	481	519	545	512
= Financial Savings*	3,630	4,072	4,234	4,629	4,924	5,484	5,947	6,378	6,999	7,146	7,149
I. I. Deposit Institutions	1,886	1,955	1,872	1,981	2,088	2,237	2,241	2,442	2,736	2,747	2,575
Resident commercial banks (demand + term)	1,540	1,574	1,487	1,599	1,700	1,780	1,837	2,032	2,297	2,287	2,143
Demand	593	720	757	826	857	963	1,049	1,151	1,190	1,245	1,162
Term	947	853	730	773	843	817	788	881	1,108	1,042	980
Commercial bank agencies abroad	85	71	60	43	49	51	60	81	88	75	69
Savings and Loan Companies (S&Ls)	7	7	8	10	12	14	17	18	19	41	43
Development Bank	254	303	317	330	328	393	328	311	331	344	320
II. Securities Issued by the Public Sector	1,282	1,602	1,787	1,977	2,102	2,458	2,834	3,011	3,094	3,238	3,409
III. Securities Issued by Private Companies	128	133	180	230	255	258	288	333	323	301	309
IV. SAR outside of Siefores	333	381	393	439	477	528	580	588	843	853	849
Financial Savings = I + II + III + IV	3,629	4,070	4,233	4,627	4,922	5,481	5,944	6,374	6,996	7,139	7,142
Instruments included in Financial Savings											
SAR TOTAL = Siefores + SAR outside of Siefores	578	737	835	964	1,073	1,234	1,413	1,511	1,822	1,989	2,038
Siefores	246	358	443	527	598	709	835	927	982	1,143	1,195
SAR outside of Siefores	333	381	393	439	477	528	580	588	843	853	849
Financial Savings without total SAR	3,051	3,333	3,398	3,663	3,849	4,247	4,531	4,863	5,174	5,150	5,105
Debt Mutual Funds	232	372	395	406	409	523	681	784	708	810	858
Real annual % change											
M4a	3.5	11.6	4.4	9.3	6.5	11.1	8.6	7.2	9.6	2.3	2.3
- Bills and coins	1.7	4.7	10.4	9.2	8.6	8.0	11.4	6.4	7.9	4.9	4.4
= Financial Savings*	3.7	12.2	4.0	9.3	6.4	11.4	8.4	7.2	9.7	2.1	2.2
I. Deposit Institutions	-13.0	3.7	-4.2	5.9	5.4	7.1	0.2	9.0	12.0	0.4	-2.0
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	-2.7
Demand	8.5	21.6	5.0	9.1	3.8	12.4	8.9	9.7	3.4	4.7	2.8
Term	-23.8	-9.9	-14.4	5.9	9.0	-3.1	-3.5	11.9	25.7	-6.0	-8.4
Commercial bank agencies abroad	-29.7	-16.9	-15.2	-28.4	13.4	4.4	18.3	34.7	9.0	-15.1	-19.7
Savings and Loan Associations (S&Ls)	-21.5	11.6	11.7	23.7	20.3	17.3	16.4	8.8	4.8	119.3	128.8
Development Bank	2.2	19.2	4.5	4.1	-0.7	19.8	-16.4	-5.1	6.4	4.1	-0.6
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	6.3
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	-0.9
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	0.1
Financial Savings = I + II + III + IV	3.7	12.1	4.0	9.3	6.4	11.4	8.4	7.2	9.8	2.0	2.1
Instruments included in Financial Savings											
TOTAL SAR = Siefores + SAR outside of Siefores	24.8	27.6	13.2	15.5	11.3	15.0	14.4	7.0	20.6	9.1	10.0
Siefores	38.3	45.3	23.6	19.1	13.4	18.6	17.9	11.0	6.0	16.3	18.5
SAR outside of Siefores	16.3	14.5	3.3	11.5	8.8	10.6	9.9	1.3	43.4	1.1	0.1
Financial Savings without Total SAR	0.5	9.2	2.0	7.8	5.1	10.3	6.7	7.3	6.4	-0.5	-0.7
Debt Mutual Funds	-12.4	60.2	6.2	2.8	0.9	27.8	30.1	15.2	-9.7		14.6
Percentage of GDP											
Financial Savings	43.8	48.5	49.5	46.7	46.0	49.1	49.3	50.9	54.9	59.6	59.6
Deposit Institutions	22.8	23.3	21.9	20.0	19.5	20.0	18.6	19.5	21.5	22.9	21.5
Resident Commercial Banks	18.6	18.8	17.4	16.1	15.9	15.9	15.2	16.2	18.0	19.1	17.9
Development Bank	3.1	3.6	3.7	3.3	3.1	3.5	2.7	2.5	2.6	2.9	2.7
Rest (Agencies + S&Ls)	1.1	0.9	0.8	0.5	0.6	0.6	0.6	0.8	0.8	1.0	0.9
Securities Issued by the Public Sector	15.5	19.1	20.9	19.9	19.6	22.0	23.5	24.0	24.3	27.0	28.4
Securities Issued by Companies	1.5	1.6	2.1	2.3	2.4	2.3	2.4	2.7	2.5	2.5	2.6
SAR outside Siefores	4.0	4.5	4.6	4.4	4.5	4.7	4.8	4.7	6.6	7.1	7.1
Total SAR	7.0	8.8	9.8	9.7	10.0	11.1	11.7	12.1	14.0	16.6	17.1
Siefores	3.0	4.3	5.2	5.3	5.6	6.3	6.9	7.4	7.7	9.5	9.5

Source: BBVA Bancomer with Banco de México (*Agregados Monetarios Amplios*) and INEGI data

Table 11

Credit and Financing to the Private Sector, balances in billions of May 2010 pesos

	IV 00	IV 01	IV 02	IV 03	IV 04	IV 05	IV 06	IV 07	IV 08	IV 09	I 10
Total: All Categories	3,172	2,961	3,086	3,211	3,430	3,633	3,778	4,391	4,968	4,723	4,721
Bank	1,153	1,003	970	934	968	1,098	1,377	1,689	1,673	1,613	1,577
Non-Bank	2,019	1,958	2,117	2,277	2,462	2,535	2,401	2,702	3,295	3,110	3,145
Total Consumer Credit	119	150	199	235	322	447	566	645	610	535	510
Bank	73	94	120	161	228	332	455	551	377	296	283
Non-Bank	45	56	79	73	95	114	111	94	233	239	227
Total Housing Loans	683	695	736	774	832	880	967	1,154	1,167	1,186	1,213
Bank	304	248	218	183	176	220	283	324	343	361	362
Non-Bank	378	448	518	591	656	660	684	829	825	826	852
Tot. loans to Companies	2,371	2,116	2,152	2,202	2,276	2,307	2,245	2,592	3,191	3,002	2,998
Bank	775	662	631	590	565	546	640	814	953	956	932
Non-Bank	1,596	1,455	1,520	1,612	1,711	1,760	1,606	1,778	2,238	2,046	2,066
Real annual % change											
Total: All Categories	6.1	-6.6	4.2	4.0	6.8	5.9	4.0	16.2	13.1	-4.9	-5.1
Bank	-15.4	-13.0	-3.4	-3.7	3.7	13.4	25.4	22.6	-1.0	-3.6	-5.3
Non-Bank	24.2	-3.0	8.1	7.5	8.1	3.0	-5.3	12.5	22.0	-5.6	-5.0
Total Consumer Credit	15.8	26.2	33.1	17.9	37.2	38.7	26.6	14.1	-5.4	-12.4	-10.3
Bank	16.1	27.6	28.0	34.4	41.0	46.1	36.9	21.1	-31.5	-21.5	-19.5
Non-Bank	15.2	23.7	41.8	-7.2	28.9	21.0	-3.2	-14.7	146.7	2.4	4.5
Total Housing Loans	-4.9	1.9	5.8	5.2	7.4	5.8	9.9	19.3	1.2	1.6	-0.5
Bank	-24.6	-18.7	-11.9	-16.2	-4.0	25.1	28.9	14.6	5.7	5.2	3.3
Non-Bank	20.4	18.4	15.6	14.2	11.0	0.6	3.6	21.3	-0.6	0.1	-2.1
Tot. loans to Companies	9.3	-10.7	1.7	2.3	3.4	1.4	-2.7	15.4	23.1	-5.9	-5.9
Bank	-13.5	-14.6	-4.6	-6.6	-4.2	-3.3	17.0	27.3	17.0	0.3	-3.3
Non-Bank	25.4	-8.9	4.5	6.0	6.1	2.9	-8.8	10.7	25.9	-8.6	-7.1
Percentage of GDP											
Total: All Categories	38.3	35.3	36.1	32.4	32.0	32.5	31.3	35.0	39.0	39.4	39.4
Bank	13.9	12.0	11.3	9.4	9.0	9.8	11.4	13.5	13.1	13.4	13.2
Non-Bank	24.4	23.3	24.7	22.9	23.0	22.7	19.9	21.5	25.9	25.9	26.2
Total Consumer Credit	1.4	1.8	2.3	2.4	3.0	4.0	4.7	5.1	4.8	4.5	4.3
Bank	0.9	1.1	1.4	1.6	2.1	3.0	3.8	4.4	3.0	2.5	2.4
Non-Bank	0.5	0.7	0.9	0.7	0.9	1.0	0.9	0.8	1.8	2.0	1.9
Total Housing Loans	8.2	8.3	8.6	7.8	7.8	7.9	8.0	9.2	9.2	9.9	10.1
Bank	3.7	3.0	2.5	1.8	1.6	2.0	2.3	2.6	2.7	3.0	3.0
Non-Bank	4.6	5.3	6.0	6.0	6.1	5.9	5.7	6.6	6.5	6.9	7.1
Tot. loans to Companies	28.6	25.2	25.1	22.2	21.3	20.6	18.6	20.7	25.0	25.0	25.0
Bank	9.4	7.9	7.4	5.9	5.3	4.9	5.3	6.5	7.5	8.0	7.8
Non-Bank	19.3	17.3	17.8	16.2	16.0	15.7	13.3	14.2	17.6	17.1	17.2
Infrastructure and Number of Bank Cards, units											
ATMs	nd	nd	17,011	17,758	20,416	22,900	25,687	29,333	31,932	33,905	34,452
PSTs	nd	nd	129,971	146,029	160,289	201,852	305,144	418,128	446,025	446,792	453,917
Branches	nd	nd	7,849	7,768	7,788	7,972	8,404	9,230	10,722	10,731	10,895
Number of current cards (end of quarter, millions)											
Credit	nd	nd	7.8	9.4	11.6	14.7	21.2	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	64.3

Source: Banco de México and INEGI

5. Reforms to the Legal Framework Applicable to Multiple Banking Institutions

Table 12

Reforms to the Legal Framework Applicable to Multiple Banking Institutions, 2010

Subject	Scope of the Reform	DOF
Bank Reform 2010	**I. Law for the Transparency and Organization of Financial Services (*Ley para la Transparencia y Ordenamiento de los Servicios Financieros*)** Modifies the definition of clearing house (*cámara de compensación*) in order to be included in the concept of payment instructions and other financial obligations related with any medium of disposition. The definition of medium of disposition was modified to include non-bank pre-paid cards for the acquisition of goods. The concept of Total Annual Earnings (*Ganancia Anual Total* (GAT) was included. It must be expressed in annual percentage terms and include nominal interest that can be capitalized on term liability transactions, withdrawable on pre-established and savings days, minus all costs related with the transaction, including opening costs. BANXICO (the central bank) may request the opinion of the CNBV (the National Banking and Securities Commission), CONDUSEF or the CFC with regard to the regulation of commissions and interest rates, as well as any other concept regarding the collection of transactions entered into with clients by financial institutions. The Law empowers the CFC to impose sanctions or penalties when practices are detected that violate the process of competition and free concurrence on the subject of interest rates. BANXICO must propitiate and monitor that the institutions grant loans or credits under accessible and reasonable conditions, considering the financing conditions in the national market, deposit costs and conditions for the granting and administration of credit, the probabilities of default and foreseeable losses, sufficient capitalization of the institutions, among other aspects. Banco de México (the central bank) may take corrective measures, even establishing limits to interest rates applicable to specific transactions. It may also differentiate their application by type of credit, market segment, or any other criteria that may be pertinent, as well as propitiate that low-income population sectors are not excluded from access to credit. Establish the obligation of the central bank to incorporate standards that limit or prohibit those commissions that distort sound banking practices or lessen transparency and clarity in charging these commissions. Said regulation shall take into account that the institutions (i) may charge commissions linked with a service that is in effect provided to the client or for a transaction that he may carry out; (ii) may not charge more than one commission for the same act, event or fact, except in those cases that BANXICO allows due to the intervention of more than one institution; and (iii) cannot charge commissions that inhibit the mobility or migration of clients from one institution to another. The institutions are prohibited from charging commissions on: (i) the reception of payments by clients or users on credits granted by other financial institutions; (ii) consultations regarding balances at teller windows; and (iii) checks deposited for debit on the depositor's account that are returned or on which payment is rejected by the bank on which it is drawn. Specifies that commissions must be clear and transparent, so that a series of characteristics for these must be established. BANXICO must publish, at least bimonthly, information and indicator data with regard to the performance of interest rates and commissions. This information must be published by the institutions in the account statements sent to clients in a clear and visible manner, either in writing, by electronic transmission or by any other form, referring to interest rates, commissions and comparative information relative to the segment of operations included in said account statement and that the client is engaged in. BANXICO (the central bank) is granted the power to veto commission increase it may observe, as published by the institutions that may have decided to charge these commissions. BANXICO must establish through provisions of a general nature, the formula, components and methodology for calculating the GAT (total annual earnings), as well as the types and amounts of the transactions on which these will be applicable.	25/05/2010

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Table 12 (Cont.)

Reforms to the Legal Framework Applicable to Multiple Banking Institutions, 2010

Subject	Scope of the Reform	DOF
Bank Reform 2010	Empower the CNBV and PROFECO to order the suspension of entering into new operations and similar services in cases of serious and repeated infractions until the account statements are modified. Establish that the advertising and adhesion agreements of liabilities operations on which the GAT is applicable, contain such information. Indicate that the charges that the clearing houses impose for providing their services should not be determined in terms of stock holdings that, if applicable, the above-mentioned clearing houses have established. The CNBV may impose fines of from 4 thousand to 20 thousand days of minimum wage on those institutions that do not comply with the order to suspend entering into new operations. The officers, employees or those having representation powers that are responsible for the infractions, can be suspended, divested of their authority or removed from their positions. BANXICO may sanction with a fine of from 4 thousand to 20 thousand days of minimum wage those institutions that: (i) do not comply with the provisions of a general nature that it issues on commissions: (ii) abstain from observing the formula, components and methodology for the calculation of GAT; (iii) do not comply with that indicated by the clearing houses. **II. *Ley del Banco de México* (the Central Bank Law)** This Law empowers BANXICO (the central bank) to regulate commissions and lending and borrowing interest rates, as well as any other concept for the collection of transactions entered into with clients. With regard to this, it may request the opinion of CNBV, CONDUSEF and CFC. It provides that those that do not comply with the provisions contained in this Law, may be submitted to an impeachment trial. This law establishes the obligation of BANXICO (the central bank) to appear, during the second period of sessions, to render a report of compliance with its sphere of responsibility and present a quarterly report to Congress on inflation, economic evolution and the performance of the economic indicators of the country. **III. *Ley de Instituciones de Crédito* (The Credit Institutions Law)** Obliges the institutions to make available to clients eligible for loans as creditors in the opening of credit in a current account associated with cards, a basic product of credit cards, the object of which will only be to acquire goods or services. The credit limit cannot exceed the equivalent of 200 times the minimum wage and will be exempt from an annual commission. Obliges the institutions to receive the requirements of termination of the adhesion agreements entered into, and, if applicable, the settlement of operations, in whatever branch office or at the office of the respective institution. Also, the termination transaction may be done by the receiving institution, without any commission on such transaction. **IV. *Ley de Transparencia y de Fomento a la Competencia en el Crédito Garantizado* (Law on Transparency and the Promotion of Competition in Guaranteed Credit)** Establishes that in housing loans guaranteed with a mortgage guarantee, the institutions must grant before a certified notary public corresponding to the deed where the extinction of the lien is set forth and the borrower has paid the guaranteed balance or the referred credit has been settled. The institution must make available to the creditor the first transcript of the respective public deed within the 60 working days following the date on which the referred credit has been fully settled. **V. *Ley para Regular las Sociedades de Información Crediticia (SIC)* (Law to Regulate Credit Information Institutions)** Empower the SHCP (the Ministry of Finance) to revoke the authorization granted to these institutions due to: (i) altering, modifyint or repeatedly eliminating any record in the data base (ii) omitting in a repeated manner applying the rates determined by the Commission and; (iii) omitting repeatedly to transmit or update information to other Credit Information Institutions as provided by the law. Empower the CNBV (the National Banking and Securities Commission) so that it can suspend or partially limit, after right to a hearing, the institutions from conducting activities when they do not comply repeatedly with the provisions of the Law and when they conduct operations that are prohibited, not permitted or authorized.	25/05/2010

(Continues on next page)

Table 12 (Cont.)

Reforms to the Legal Framework Applicable to Multiple Banking Institutions 2010

Subject	Scope of the Reform	DOF
Bank Reform 2010	**V. *Ley para Regular las Sociedades de Información Crediticia* (Law to Regulate the Credit Information Institutions) (Continuation)** These institutions must agree, in a term no greater than 30 days, on the standards, conditions, procedures and amounts that must be paid among them for the exchange of information, which must be submitted for authorization by the CNBV (the National Banking and Securities Commission) as well as on their modifications. If they do not reach an agreement within this term, they must be subject to the provisions determined by the Commission. The Law establishes that credit reports and special credit reports must contain, in addition to the information contained in their data bases, that which is in the data bases of the other credit information institutions. Obliges these institutions to share information among themselves, as well as disclose the existence of the credit reports. The rates that these institutions may charge their users for the credit reports must be authorized by the CNBV. In case these institutions do not determine the applicable rates, the Commission may establish such rates after having requested their determination in a period no greater than 15 days. The Law establishes that when a claim is presented for a Special Credit Report for the information provided by another institution, the institution that receives it must send it to the institution that has reported the record claimed in a maximum term of 5 days so that it may process the claim. The CNBV may sanction with a fine of one thousand to 15 thousand times the minimum wage: (i) the association, the financial institution or the officers, employees or service providers that incur in violation of the fiduciary secret or the violation of revealing secrets; (ii) the insitution that does not have manuals; (iii) the institution that omits sharing its information with the other institutions or provides the information late, incomplete or distorted, and (ly) the institution that omits applying the rate determined by the Commission. **VI. Transitory Articles for compliance with the provisions** Banco de México shall have 60 natural days to issue standards; The credit institutions (LIC) shall have 90 natural days, and The Credit Information Institutions shall have a term of 180 natural days.	25/05/2010
New Federal Law on the Protection of Personal Data	***Régimen de Consentimiento* (Consent Regime)** The Credit Information Institutions (SIC)are excluded Users of the SICs. Financial or patrimonial data (pertaining to assets or equity) shall require the express consent of the title holder except when this is not necessary by the power of another law (article 8, paragraph 4 and article 10, section I). Opt-out hybrid. Tacit consent when in view of the notice of privacy, the title holder does not declare opposition. (artcle 8, paragraph 3). **Regularization Term.** One year to remit the notices of privacy that they do not have (Article Third Transitory) Regulatory Authorities. When dealing with regulated individuals, the respective Departments of State—with the simple support of the IFAI—must issue the secondary set of regulations required for the treatment of personal data in its power (article 40). **National and International Data Transfer.** This was made considerably more flexible. (articles 36 and 37). **Sanctions** When there are excessive amounts and these could be unconstitutional. From 5 thousand to 16 million approximately, or a maximum of 32 million approximately, in case of recurrence (article 64). Suppresion was obtained that the amount of the sanctions would be for the benefit of the IFAI. **Offenses.** From six months to five years. Technical deficiency is not a concern, although it could be grounds for extorsion intent (article 68). **IFAI.** Must resolve the actions for the protection of rights and the verification of personal data. It is judge, prosecutor and sanctions.	05/07/2010
Collective Actions	**Reform of the Political Constitution of the United Mexican States:** Would empower Congress to issue the secondary federal law that will regulate the exercise of collective actions. This law shall determine the subjects of application, the judicial procedures and the mechanisms to repair the damage. Assigns exclusive jurisdiction over such actions to the federal judges. Transitory articles. Establish a maximum term of one year from the initiation of the term of the decree, for Congress to make the corresponding pertinent legislative adjustments (the secondary law).	Pending publication

Source: BBVA Bancomer

6. Special topics included in previous issues

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

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Editorial Board

Adolfo Albo **Jorge Sicilia** **Luis Robles**

This report has been produced by

Mexico Chief Economist and Editor
Adolfo Albo
a.albo@bbva.bancomer.com

Head of division
Eduardo Amerena
e.amerena@bbva.bancomer.com

Sara Gabriela Castellanos
sara.castellanos@bbva.bancomer.com

Arnoldo López
arnoldo.lopez@bbva.bancomer.com

Fco. Javier Morales
francisco.morales@bbva.bancomer.com

External consultant
María José Rodríguez García

BBVA Research

Group Chief Economist
José Luis Escrivá

Chief Economists & Chief Strategists:

Regulatory Affairs, Financial and Economic Scenarios:
Mayte Ledo
teresa.ledo@grupobbva.com

Financial Scenarios
Daniel Navia
daniel.navia@grupobbva.com

Financial Systems
Ana Rubio
arubiog@grupobbva.com

Economic Scenarios
Juan Ruiz
juan.ruiz@grupobbva.com

Regulatory Affairs
María Abascal
maria.abascal@grupobbva.com

Market & Client Strategy:
Antonio Pulido
ant.pulido@grupobbva.com

Equity and Credit
Ana Munera
ana.munera@grupobbva.com

Interest Rates, Currencies and Commodities
Luis Enrique Rodríguez
luisen.rodriguez@grupobbva.com

Asset Management
Henrik Lumholdt
henrik.lumholdt@grupobbva.com

Spain and Europe:
Rafael Doménech
r.domenech@grupobbva.com

Spain
Miguel Cardoso
miguel.cardoso@grupobbva.com

Europe
Miguel Jiménez
mjimenezg@grupobbva.com

United States and Mexico:
Jorge Sicilia
j.sicilia@bbva.bancomer.com

United States
Nathaniel Karp
nathaniel.karp@bbvacompass.com

Mexico
Adolfo Albo
a.albo@bbva.bancomer.com

Macro Analysis Mexico
Julián Cubero
juan.cubero@bbva.bancomer.com

Emerging Markets:
Alicia García-Herrero
alicia.garcia-herrero@bbva.com.hk

Cross-Country *Emerging Markets* Analysis
Sonsoles Castillo
s.castillo@grupobbva.com

Pensions
David Tuesta
david.tuesta@grupobbva.com

Asia
Stephen Schwartz
stephen.schwartz@bbva.com.hk

South America
Joaquín Vial
jvial@bbvaprovida.cl

Argentina
Gloria Sorensen
gsorensen@bancofrances.com.ar

Chile
Alejandro Puente
apuente@grupobbva.cl

Colombia
Juana Téllez
juana.tellez@bbva.com.co

Peru
Hugo Perea
hperea@grupobbva.com.pe

Venezuela
Oswaldo López
oswaldo_lopez@provincial.com

Contact details:

BBVA Research Mexico
Avda. Universidad 1200
Colonia Xoco
C.P. 03339 México D.F.
Telephone: + 52 55 56216620
E-mail: researchmexico@bbva.bancomer.com

Other publications: