

Real Estate Outlook

Mexico

July 2012
Economic Analysis

- Construction recovers pre-crisis levels, but its momentum wears out. More gradual growth is expected ahead
- Mortgage loans continue to grow, although with significant changes in demand, which must be considered in supply
- Housing policy has made important progress over 12 years, covering accumulated backlog and basic housing needs
- Promoting orderly growth of supply and demand and improving institutional coordination are the challenges for the future

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Closing date: July 18, 2012

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** We thank Isidoro Sánchez for his comments on this document

Summary

Mexico Real Estate Outlook has now reached the ten-year mark. From its first edition, in April 2002, to the present, much has changed in the housing and mortgage markets, although since that time the need was stressed for timely and reliable information regarding the trends of a growing sector and the fact that the role of the banking system needed to grow.

We were not wrong. Throughout the last decade, the housing and mortgage market became one of the most important and fastest growing at a national level. BBVA Bancomer became a leader in the mortgage market and Mexico Real Estate Outlook has served as a reference for leaders in Mexico's housing industry.

With regard to the contents of this issue, which we consider to be special, not only because of its anniversary, but because of the current situation as well, we review the main trends in housing construction and financing, as well as their short-term perspectives. In terms of housing construction, there are signs of moderation in its growth rate; while the mortgage market growth has been significant in 2012, particularly in the banking system, and this could continue, although the economic environment will be a determining factor.

It is important to note that the mortgage market has gradually shown some changes which must be considered in order to avoid imbalances in the housing and financing market. Due to a lower rate of housing credit from the public institutions, the incorporation of loans for remodeling and an increase in the marketing of used housing, new housing construction needs have been reduced, and this will continue, at least in the short term.

Moreover, the mortgage products offered by the banks have become more diversified and competitive, which, as we comment in one of our analysis articles, allows for a more appropriate segmentation of the market and increases people's capacity to gain access to financing.

Finally, in the current situation, with the closing of a cycle of housing policy and the beginning of a new one, we summarize the main advances in housing policy over the last twelve years and the challenges going forward. Some achievements have been important, and will set the basis for growth in future years, such as the institutional and the support programs that have been implemented, together with the modernization of public institutions. This has allowed meeting the housing needs of an important part of the population. However, the challenges will not be lower, and have to do with adequate institutional coordination and long-term planning.

We value and appreciate your interest in ***Mexico Real Estate Outlook***, which we expect will remain permanently at the forefront in discussing the issues that define current conditions, but above all, the future of the housing and mortgage market in Mexico.

Sincerely,

Adolfo Albo

Mexico Chief Economist

BBVA Research

July, 2012

2.a. Construction has already recovered its 2008 level, but higher floor levels will be slower

Introduction

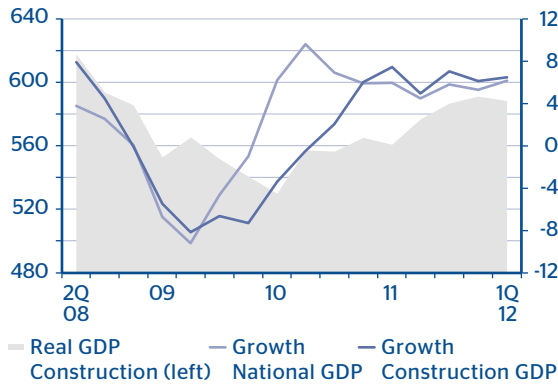
Construction is one of the most important components of the national economy. In the last five years, construction's share in Mexico's GDP has been 6.5% on average, while employment in this sector oscillates at around 8% of the national total during this same period. Its performance is significant at the sectorial level as well as in the whole economy, More so if we consider that infrastructure is a detonator for other economic activities.

As we anticipated in the previous issue of *Mexico Real Estate Outlook*, in the first quarter of this year, construction recovered its level prior to the crisis within a four-year period, until then the highest part of the economic cycle. Hence we could already have observed the highest growth rates in the sector and, as of the second half of 2012, progress will be more gradual, perhaps even below that of the economy as a whole. Construction is still growing due to non-residential building activity. However, in the medium term, it will be difficult to keep up this accelerated pace. Furthermore, the delayed take off of residential construction and the imminent transition of the new government administration could delay the advance of public works-. Nevertheless, there are signs of opportunities, such as the application of the Law on Public and Private Associations (LAPP for Ley de Asociaciones P'ublico Privadas) and public policy focused on infrastructure, such as the case of telecommunications and energy, in the next administration.

Construction reaches its 2008 value and its progress is now more moderate

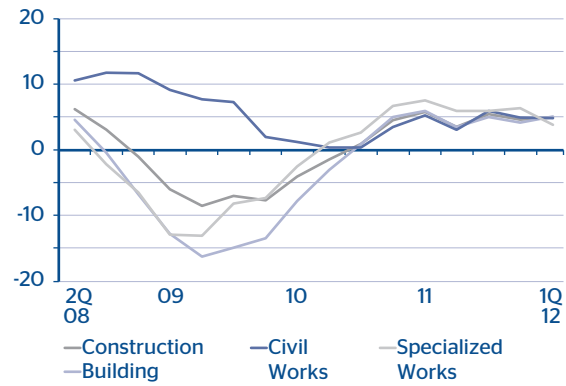
GDP data at the first quarter of 2012, published by the National Statistics and Geographic Institute (*INEGI for Instituto Nacional de Estadística y Geografía*) indicate that construction already reached the same level as the first quarter of 2008. Construction GDP was 588.3 billion pesos in real terms during the first quarter of 2012, while in the same period of 2008 it was 587.9 billion pesos. Construction GDP continued upward until the start of 2008, after which it dropped sharply due to the effect of the international economic crisis. Government intervention, with an anti-cyclical policy fostering public works was not enough in 2008 or in 2009, but bore fruit in 2010. However, since the second half of 2011, growth in construction output is based on a convergent performance of its three components. Building and civil works, which account for 90% of the sector's GDP, practically present equal annual rates each since the previous year, while the specialized works component has been growing at a similar pace. Because of this, we can say it is a solid performance, in view of the two main components' positive results.

Graph 1
National GDP and Construction GDP
(Billions of pesos and annual % change)



Source: BBVA Research with INEGI data

Graph 2
Construction GDP by components
(Annual % change)

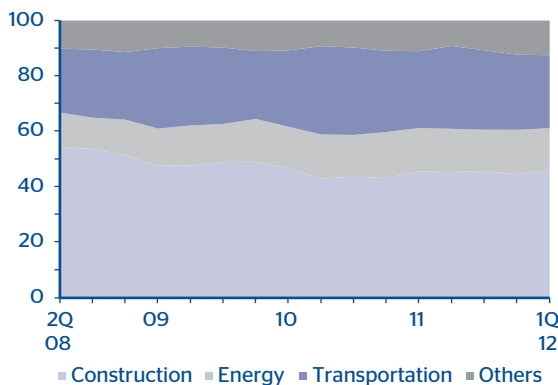


Source: BBVA Research with INEGI data

Construction, in particular non-residential, is the cornerstone of this sector

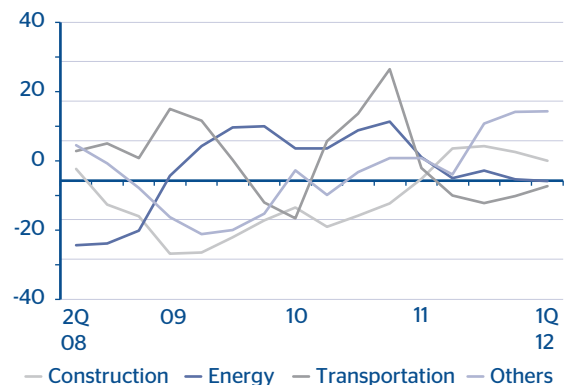
Growth in the value of construction production partly explains the performance of the sector. According to the National Survey of Construction Companies (*ENEC for Encuesta Nacional de Empresas Constructoras*), production value has grown 3.5% on an annual average during the last four quarters until the first quarter of 2012. Of the types of works reported by the ENEC, building is the most important, with a median participation of 45% from May 2011 to April 2012. This performance is based mainly on non-residential building. The sub-types of works related with production, such as commercial construction of offices and industrial works, has grown at annual rates surpassing 10% during the last twelve months. Residential building has not shown the same performance and full recovery is not expected in the short term. Housing construction shows negative rates, with figures indicating a drop from 450,000 units, annualized through the first quarter of this year.¹ This is consistent with the increase in financing for non-housing construction and infrastructure, contrasting with the decline in credit for housing development.

Graph 3
Value of construction production: Share by type of work (%)



Source: BBVA Research with ENEC, INEGI data

Graph 4
Value of construction production Types of works (annual % change)



Note: Energy includes various types of works; Electricity, Oil and Petrochemicals. Others consider Water, Sewage and Others.
Fuente: BBVA Research with ENEC, INEGI data

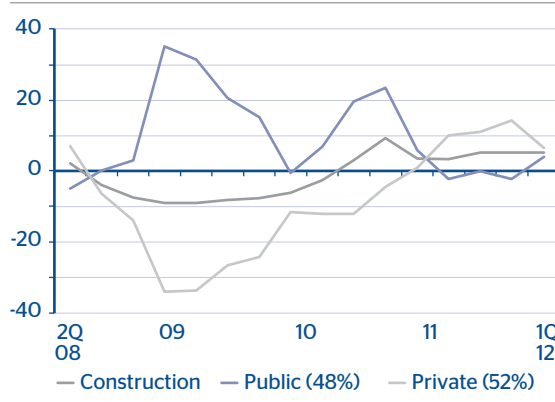
¹ See article: *Housing Activity and Financing* in this same issue of **Mexico Real Estate Outlook**.

The types of works linked to the energy sector have averaged an annual percentage change close to 1% in the most recent four quarters, despite a decline that began at the start of 2011. In contrast, transportation works have declined at an average of 3.7% during the same period. This is due to high investment in this sector during 2010, a measure of the anti-cyclical policy mentioned above, which has recently diminished. Based on a perspective of construction between the public and private sectors, there is an alternation in the growth rates between the two sectors. The production value of the private sector contributed 7.8% and the public sector a negative -0.2%, although in the last quarter, the latter posted a positive rate. This result is because the basis for comparison of public construction was extraordinarily high in previous years, as part of the measures to offset the crisis of 2008.

In a manner similar to that of its production value, industrial activity of construction contributes to the measurement of construction GDP. We can observe a close relationship between the annual changes of these three series. In particular, industrial construction activity has averaged an annual growth of 4.9% during the months from April 2011 to May 2012. Similar to construction GDP, the three components (construction, civil works and specialized works) of industrial activity have grown at very similar rates since the end of 2010. This is significant because it allows us to infer a solid performance, contrasting with 2009, when civil works grew while the rest remained negative.

Graph 5

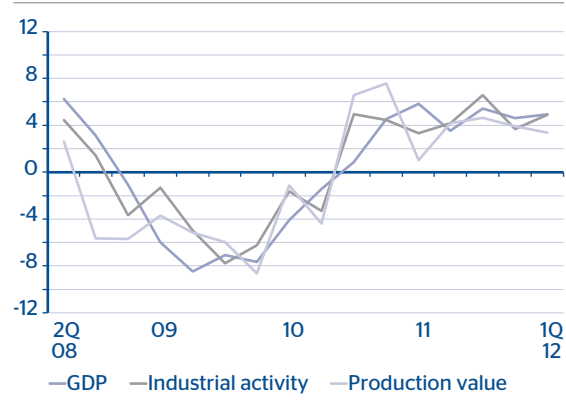
Value of construction production: public and private sector (annual % change)



Source: BBVA Research with ENEC, INEGI data

Graph 6

Construction: GDP, industrial activity and production value (Annual % change)



Note: Production value of the year 2011 and annual % change compared to 2010.

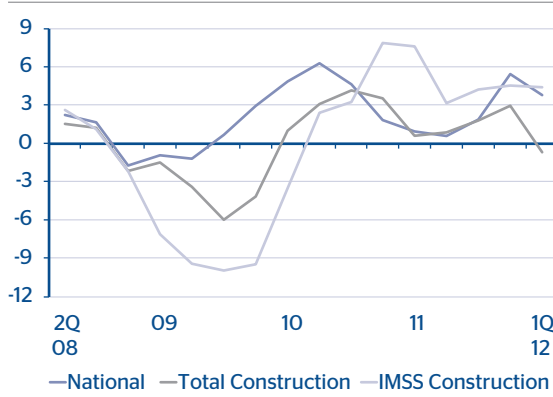
Source: BBVA Research with ENEC, INEGI data

Construction employment and inputs mark the path of the sector

The increase of production in the construction sector has required greater resources. Jobs and some inputs have risen in line with the sector's development. In the first case, employment in construction has also grown above that of total employment during 2010 and maintained positive rates until the end of 2011. With more workers in construction, it is to be expected that output will increase, as it has until now. Nevertheless, total employment in this sector is beginning to show moderation and we expect this to be reflected in construction output in the short term, although its formal private component shows rates of over 4% in its annual change. Based on information from the National Survey of Jobs and Employment (*ENOE for Encuesta Nacional de Ocupación y Empleo*), from the first quarter of 2011, employment in construction had posted eight quarters with annual average rates of 2.3% and only in the first quarter of 2012 showed a drop of 0.7% compared to the first quarter of 2011.

Graph 7

**Total employment and construction
(Annual % change)**



Source: BBVA Research with INEGI data

Graph 8

**Industrial activity and construction inputs
(Annual % change)**



Note: "Cement" includes grey and white cement, as well as concrete; while "Others" considers fiber cement, steel and metal structures.
Source: BBVA Research with INEGI data

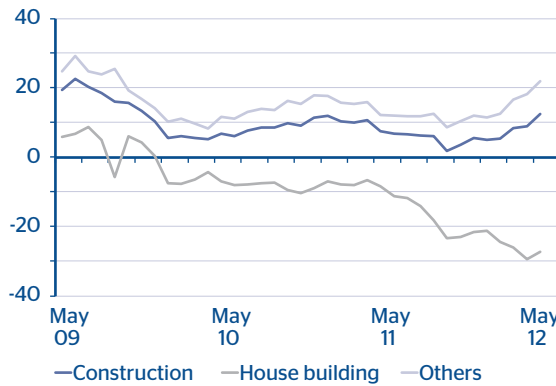
In contrast, the main construction inputs, cement and concrete, have shown a decline in their sales volumes. Although a cyclical factor is also observed in sales of these inputs and increases in that of others, such as steel and metal structures. The decline could also be due to the fact that in 2010, the volumes placed were greater than current ones due to a greater demand related with more construction starts that year compared to 2011.² This could be due to the fact that non-residential building provides the greatest push. For example, office construction is less intensive in the use of cement and concrete than residential construction. This is consistent with the sales volume of other inputs such as steel and metal structures, which post rates of over 10% since the third quarter of 2011.

Financing verifies the steps of the real part of construction

The real economy of construction and its financial counterpart are consistent one with the other. The current loan portfolio balance in the construction sector continues upward. From June 2011 to May 2012, this portfolio has grown an annual average of 6.3% throughout the 12 months. By separating the loan portfolio in terms of housing and other types of construction, contrasting results are observed. While the former drops, the rest continue to rise. During the same period, the current portfolio of housing developers has fallen to rates of over 10%, while the rest show annual percentage changes greater than 10%. In part, this could be due to housing developers' growing past-due accounts, which rose from about 6% at the beginning of 2011 to more than 15% in May 2012. The construction loan portfolio in arrears has remained stable, at around 4%, despite the high delinquency rate of housing developers' loan portfolio, because its share is only 10% of the total housing loan portfolio. This is consistent with that observed in construction economic activity; that is, non-residential construction continues to rise, while housing building has diminished.

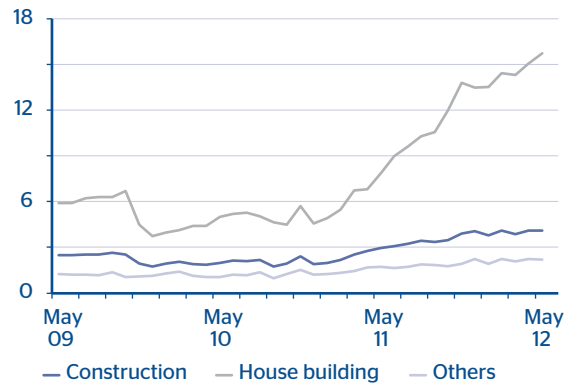
² See article *Housing Activity and Financing* in this issue of *Mexico Real Estate Outlook*.

Graph 9
Credit for construction; current loan portfolio (Real annual % change)



Source: BBVA Research with Banco de México (the central bank) data.

Graph 10
Credit for construction: delinquency rate (%)

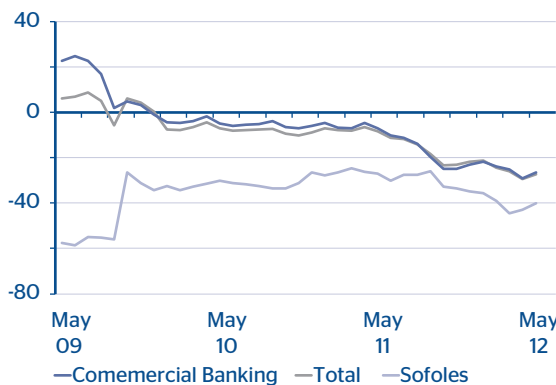


Source: BBVA Research with Banco de México (the central bank) data.

The loan portfolio indicates moderate financing for housing development

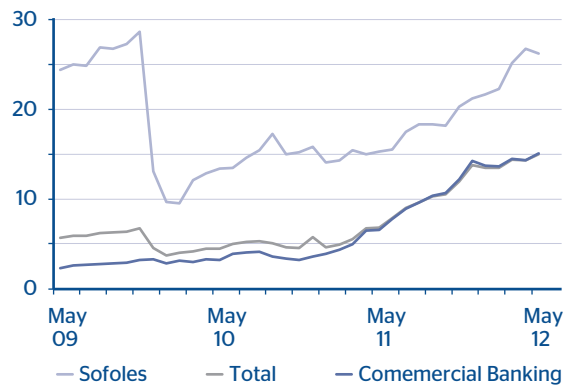
In greater detail, the change in the current loan portfolio for housing developers by the Sofoles has been negative for more than two years. Since June 2011, the current loan portfolio of the Sofoles to this sector has averaged annual rates of 32% during 24 months. This drop is sharper than in the case of the commercial banks, where the annual average change is 13.6% during the same period. Similarly, the deterioration of the Sofoles housing developers loan portfolio is growing faster than that of the commercial banks, reaching levels of 25%. Given that the Sofoles are granting fewer credits to developers, their share is reduced to levels of 5%, so their level of deterioration is not reflected in the total loan portfolio. This increase in the proportion of past-due loans is due in part to the fact that developers are taking longer to sell their inventory, which has also caused a decline in bridge loans.

Graph 11
Credit for housing construction: current loan portfolio (Real annual % change)



Source: BBVA Research with Banco de México (the central bank) data.

Graph 12
Credit for housing construction: delinquency or past-due rate (%)



Source: BBVA Research with Banco de México (the central bank) data.

Conclusions: construction will continue growing at a slower rate

The indicators of the real economy in the construction sector are, in general, favorable to the outlook of positive, although moderate, growth. With the exception of some inputs, the factors of production for construction continue to rise, and employment in the sector shows sustained growth. On the other

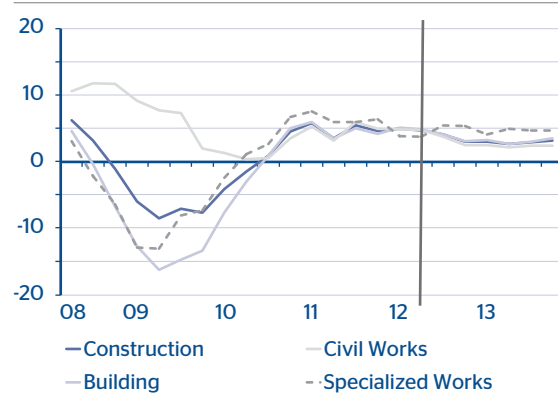
hand, financing to the sector is consistent with the real activity by type of construction, where non-residential building will play a dominant role in the short term. The recovery of residential building will be necessary for the continued rise of construction in the medium term, with the strengthening of demand being of prime importance through quality employment.

Chart 1
Construction GDP and components
(Real annual % change)

Period	Total GDP	Construction	Construction	Civil Works	Specialized works
2009	-6.0	-7.3	-14.3	6.5	-10.3
2010	5.6	0.0	-1.2	1.4	2.0
2011	3.9	4.8	4.7	4.8	6.4
1T12	4.6	4.9	5.1	4.9	3.8
2T12	4.0	4.7	4.9	4.7	3.7
3T12	3.2	4.1	4.1	3.7	5.4
4T12	3.1	3.0	3.0	2.5	5.4
2012	3.7	4.2	4.3	3.9	4.6
2013	3.0	2.9	3.1	2.3	4.6

Fuente: BBVA Research con datos del INEGI

Graph 13
Construction GDP and components
(Real annual % change)



Fuente: BBVA Research con datos del INEGI

In view of the above, our scenario for the coming quarters is of growth, although at slightly lower rates. Greater growth in construction will be seen in the first half of 2012, with a gradual slowdown in the second half of the year. The startup of 2013 will also be low and could remain this way through the rest of the year. Lower progress in non-residential building, neutral progress in its housing counterpart and a delay in government policies that reduce the positive pace of civil works, will lead to a scenario of moderate growth for construction until the following year. A rally in residential construction activity could spur the sector, provided there is greater demand due to employment growth. Also, the application of the new Law on Public and Private Associations (*LAPP for Ley de Asociaciones Público Privadas*) will be an excellent opportunity for medium-term growth in the sector.³ Also, the new government policies to be generated by the next administration, which could be focused on communications, transportation and energy, especially if the next administration considers that infrastructure is basic for a country's development as a driving force for the economy, from the generation of employment to the creation of productive chains. We still have to await the publication of the new infrastructure plan, but some projects of great impact, such as seaports, airports and the expansion of energy infrastructure would constitute support for incorporating new floors and increasing the height of this building.

³ See *Mexico Economic Watch* on the Law on Public and Private Associations (*Ley de Asociaciones Público Privadas*).

2.b. Activity and housing financing: the musical score changed, but do the musicians know it?

The first half of 2012 posted solid progress in granting mortgage loans. Available figures indicate that the public institutions advanced firmly in their credit placement goals, while for private intermediaries, mainly the banks this has been a year of credit growth at double-digit rates in the financing amount granted. In this article of *Mexico Real Estate Outlook* we review the indicators that measure the pulse of mortgage activity and report on some transformations that the market is undergoing. These are important and should be considered carefully by participants in the industry, both builders and financial intermediaries. Compliance with the economic cycle benefits housing demand.

Strong growth of activity in the first half of 2012

Mortgage activity has posted a solid performance in the first half of 2012, due to various factors which include the favorable economic condition as well as changes in some programs and statistical effects.

Among the public institutions, the Fovissste (the housing fund for government workers) registered high rates, with the number of loans rising 27.2% and the financing amount 38.4% in real terms. Nevertheless, these figures seem to reflect improvements in operation and not so much an aggressive goal in loans. They are compared against a slow start in 2011 and the target for all of 2012 is even lower than that of the previous year (70 thousand, vs. 75 thousand loans).

In the Infonavit (the National Workers' Housing Fund), the total number of mortgage loans was reduced 1.4%, from 209,000 to 206,000 although this decline is due to the strategy of incorporating loans for remodeling, which rose from 7,000 to 60,000 in the period. Thus, by adding the total number of solutions placed by the Infonavit, the total financing amount increased 3% in real terms and 2% in the number of loans.

Perhaps the most outstanding results were seen in the banks, where growth in the number of loans was 30% and 20% in real terms in the financing amount through the month of June.

Chart 2

Number of loans and financing amount granted by institution (billions of pesos at 2012 prices)

	Number of loans (Thousands)			Credit amount (billions of pesos)		
	Jun-11	Jun-12	Annual. % change	Jun-11	Jun-12	Real annual % change
Public institutions	242.7	254.6	4.9	676	771	9.3
Infonavit	215.2	219.6	2.0	55.6	59.7	3.0
Fovissste	27.5	35.0	27.2	12.0	17.4	38.4
Private institutions	36.5	46.9	28.6	30.2	37.7	19.4
Banks	35.8	46.4	29.5	29.9	37.5	20.0
Sofoles	0.7	0.5	-23.0	0.3	0.2	-35.8
Subtotal	279.2	301.5	8.0	97.9	114.8	12.4
Cofin (-)	9.2	14.5	57.1	---	---	---
Total	270.0	287.1	6.3	97.9	114.8	12.4

Source: BBVA Research with Infonavit, Fovissste and ABM data

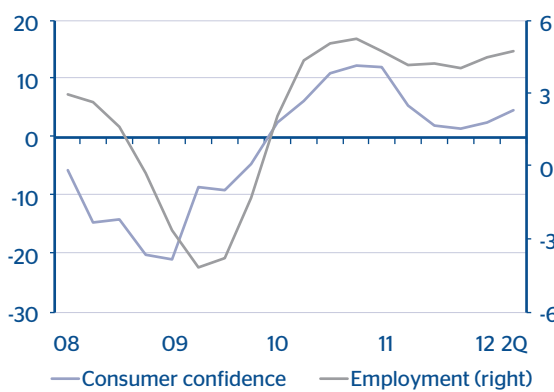
The economic environment favors the growth in mortgage activity

Undoubtedly, an essential element that explains the growth in mortgage activity is the economic environment. On one hand, the economy posted growth rates of over 4%¹ since the middle of 2010 and together with this, employment had been recovering at similar rates (4.2% on average since the second half of 2010 to the first half of 2012).

Moreover, the performance of consumer confidence, which in the month of May was close to the 2008 levels prior to the crisis, both in terms of the general index as well as in that of durable goods, is particularly important in housing demand.

Graph 14

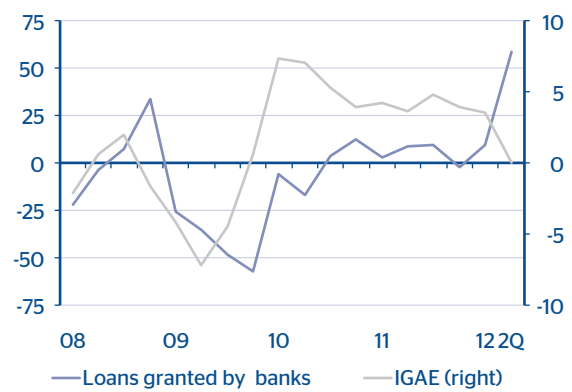
Employment and consumer confidence (Annual % change)



Source: BBVA Research with INEGI and IMSS data

Graph 15

Loans granted by the commercial banks and IGAE (Annual % change)



Source: BBVA Research with INEGI and ABM data

Equally important has been financial stability, particularly as refers to interest rates. The funding rate has remained stable at 4.5% (its lowest historic level) since mid 2008 and the 10-year bond has oscillated between 6% and 7% from 2011 to 2012. The perception of stability translates into a risk premium on sovereign debt at 2008² levels. At the same time, an appropriate management of monetary policy, has led to the convergence of the inflation rate with the central bank target (3% more or less one percentage point) at levels below a 4% inflation rate since January 2011. No doubt these are notable accomplishments, especially in an international environment of financial volatility.

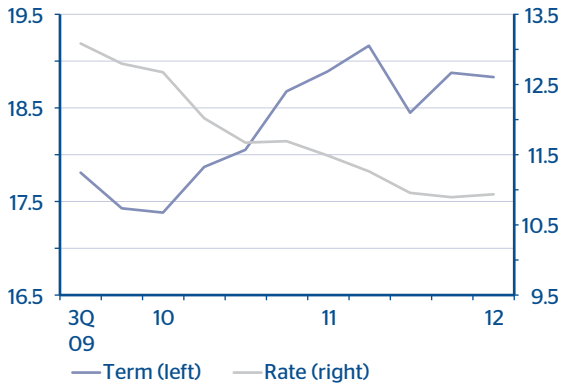
These conditions promote activity on two fronts. First, they motivate a greater development of financing products. This can be perceived in terms of a greater diversity of mortgage loan products and growing competition among intermediaries. The second channel that promotes lending activity is a consequence of the first, since more attractive interest rates and longer payment terms for borrowers improve the access to the mortgage market. The changes in financing conditions are the key elements for some to apply for a credit. This reduces the payment effort and encourages borrowers to purchase greater value housing.³

¹ This is important if we consider that levels prior to the crisis were recovered at the beginning of 2011 and that according to various estimates, the potential for long-term growth is in the range between 3% and 3.5% annually. It means therefore, that at least during the last year and a half, the growth rates have been high and do not respond to statistical factors.

² Measured by CDS or Credit Default Swaps, which in July of 2012 were at around 125 basis points, against 113 points on average during August 2008.

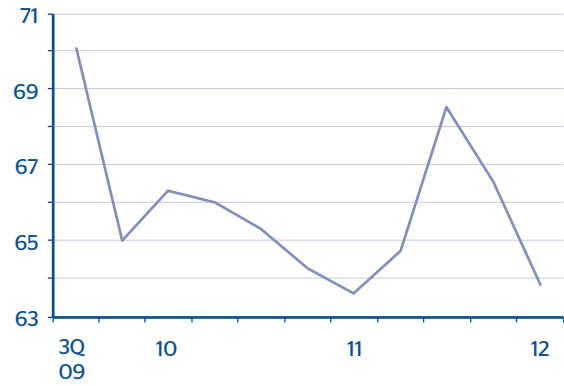
³ See article 3a *La accesibilidad a la vivienda mejora en la última década* (Housing accessibility improves in the last decade).

Graph 16
Commercial banks' mortgage loan portfolio interest rate and payment term (% and years)



Source: BBVA Research with CNBV (National Banking and Securities Commission) data

Graph 17
Commercial banks' ratio of mortgage loans: loans to value (%)



Source: BBVA Research with CNBV (National Banking and Securities Commission) data

It should be mentioned that accelerated growth is not seen in the volume of new loans. On the whole, rather, these have remained relatively stable. However, inside the market there are signs of some evident changes which are important to identify and interpret these appropriately.

Graph 18
Number of loans granted by agency or institution (Thousands, annualized figures)

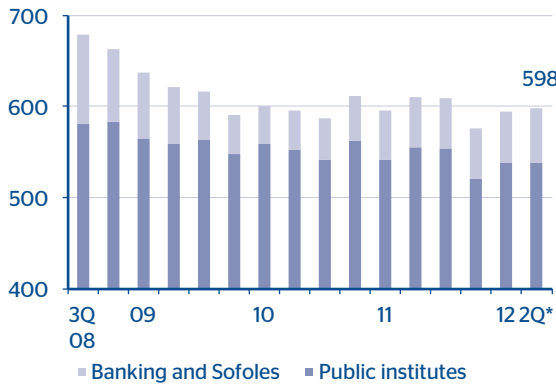


Chart 3

Infonavit: progress in its credit program 2012
Thousands of loans

Wage range (SM* for minimum wage)	Annual goal	Progress (June 24)	Progress vs. goal (%)
< 2 SM	100	73	73
2 a 4 SM	140	101	72
4 a 11 SM	134	72	54
> 11 SM	66	30	45
"Programa Renueva tu Hogar" (Remodeling program)**	50	61	121
Total	490	338	69

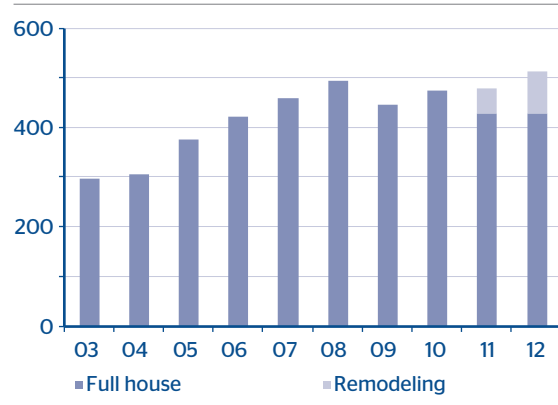
* Minimum wages

** Loans for remodeling

Source: BBVA Research with Infonavit data

Graph 20

Infonavit mortgage loans
(Number of loans, thousands)



Source: BBVA Research with Infonavit data

What has occurred and could be the explanation for this decision is that the number of housing units in the process of being repossessed has grown significantly. Currently, there are close to 190,000; of which 45,000 will be repossessed this year, although the figures suggest that the issue will continue to be important for some time. How can this phenomenon be interpreted? On the one hand, there are undoubtedly collection problems when borrowers lose their job or retire. Prior to this, the mortgage payment is automatically discounted from the payroll, and collection is assured.⁵

A second reason could be that there is a strong mobility from the formal to the informal sector, but not necessarily a return to the formal market. This is identified partly by the Infonavit in its 2012-2016 Financial Plan, which shows that workers that end their labor relationship face difficulties in returning to the formal market.

Finally, the figures also indicate the weaknesses of the labor market, which does not generate sufficient incentives among employers or independent workers to register in the Infonavit. That is, the incentives to enter the formal labor market are scarce.

Will the Infonavit again grant loans for complete housing, as it had done through 2010, along the order of 475,000 to 500,000 loans annually? It should, if demand requires it. Although with regard to this, some facts should be mentioned. In speaking of demand, we should not only consider the number of persons with access to Infonavit credit that apply for loans, but also that those that are interested in such loans, are able to pay for them. That is, it is important to differentiate between potential and actual or real demand. To this regard, the decision of the Infonavit to consult the credit bureau as part of the process for authorization of the loans is justified.

Therefore, real demand should be what guides the number of loans to be granted in each location. And the same should be applied for the private intermediaries as for the public institutions, Infonavit and Fovissste. In the case of the latter, it should be based on a prior aspect and recognize that housing should be a right of all affiliates and not depend only on the results of a random drawing.

For now, the conditions of 2012 are already in place and we shall see if, starting in 2013, predefined goals are eliminated (a proposal that BBVA Research has suggested for some time) and that the interaction between supply and demand determines the number of loans to be financed at a national level and by state. If not, loans for complete housing can be expected to continue downward, particularly in view of the institution's expectations of a lower housing need among its affiliates as of 2017.

⁵ Once a worker is retired, automatic mortgage payments through the payroll are canceled.

Second, alternate solutions are here to stay

Among its financing options, the Infonavit introduced loans for remodeling, with this product called “Renueva tu hogar” (“Renew your home” for its translation into English). This is a credit line that the worker can make use of through a pre-paid card in establishments that sell construction products. The balance of the housing sub-account is used as guarantee and subsequent contributions amortize the loan.

It began almost as a pilot program in 2011, with the expectation of placing 30,000 loans under this mode. Success was impressive, with 50,000 loans granted. By 2012 the goal was set for 50,000 loans of this type, although by June, 60,000 loans had been granted and expectations for the year are 100,000. With this, one out of every five loans granted by the Infonavit is for remodeling.

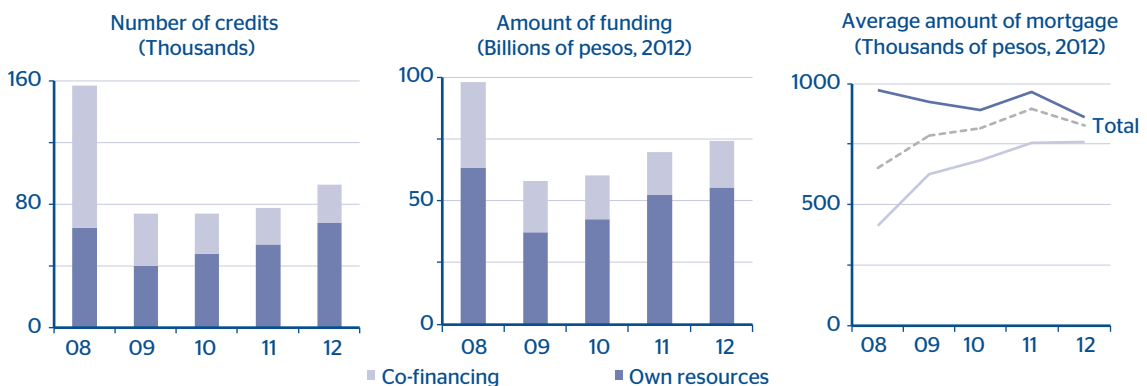
Certainly, we have yet to see if housing needs are actually being met or if this is simply consumer credit.⁶ The fact is that these loans are very attractive and seem to be here to stay. The need for this product had already been anticipated, both in estimates of housing needs made by BBVA Research as well as in those of other institutions,⁷ and in Infonavit surveys on potential borrowers, where the preference or need of remodeling was more evident than replacing total housing.

Third, the commercial banks are redirecting their market

The crisis of 2009 caused housing credit to lose strength in the commercial banks, which continued a downward trend until mid 2010. By then, the number of mortgage loans that the banks had traditionally offered⁸ had been reduced to half, compared to the maximum levels reached in mid 2008. In terms of the financing amount, the drop was 35% compared to the maximum levels at the end of 2007. What has happened since then suggests the need of searching for a new client profile, or a change in product design or both.

Graph 21

**Mortgage loans by the commercial banks
(Annualized figures)**



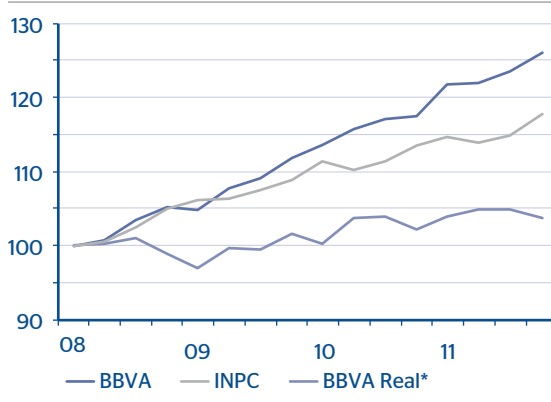
Note: the figures exclude the total Infonavit product
Source: BBVA Research with ABM data

⁶ The amount is relatively low, since it varies between 4,000 and 45,000 pesos and there is no guarantee that it is used for remodeling or home repairs, given that the establishments where the credit is used sell different products, including household articles (such as television sets, washing machines, lawn mowers, etc.). The borrower may even make cash withdrawals for up to 20% of the authorized credit line at automated teller machines.
⁷ For more detailed information on the various estimates of housing needs, consult the July 2011 issue of *Mexico Real Estate Outlook*.
⁸ Loans funded exclusively by the banks and co-financed loans, without including in these the total Infonavit product, which began in 2009. It should be specified that although the latter is included in what Infonavit considers its co-financing products, these actually have particular characteristics that differentiate them from the rest, these are negotiated totally through the Infonavit; only one bank participates in this product and the amount that each institution contributes is not clear, and the average amount, of around 380,000 pesos is less than half of other co-financed transactions, at around 780,000 pesos.

The co-financing plans, which began in 2004, gave a strong boost to bank mortgage loans, to the extent that, in 2008 these were more important than those granted exclusively by one institution. Nevertheless, this was the type of loan that was contracted the most after the 2009 crisis, due to which the banks began to adjust their strategies on two aspects. On one hand, in annualized figures, more loans were granted with banks' capital, and by June 2012 these were at a level very close to that of 2008. On the other hand, the average mortgage amount in co-financed loans has been increasing and in 2012 is practically double that offered in 2008.

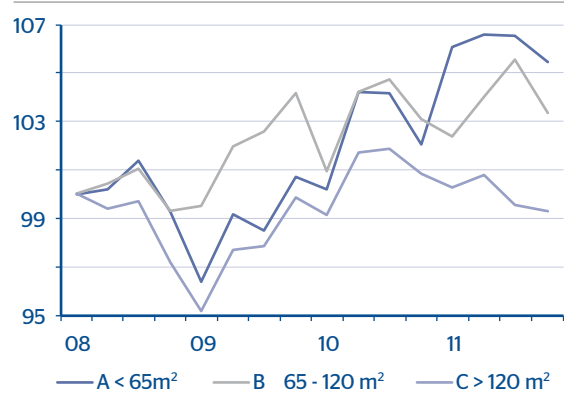
Is it possible that the average mortgage amounts simply reflect the generalized price growth of medium-priced and residential housing? Although this is a possibility, it is, in reality, remote because price indexes do not indicate this. Neither the SHF price index, nor those developed by BBVA Bancomer which cover different types of housing according to size, suggest a disproportionate increase in housing prices. With the exception of some locations and specific segments, these have risen in line with inflation.

Graph 22
The BBVA housing price index and consumer prices



*Index 1T08=100, discounting inflation
Note: Deflated against the implicit private consumer price index.
Source: BBVA Research and INEGI

Graph 23
The BBVA housing price index by surface segment*



*Index 1T08=100, discounting inflation
Source: BBVA Research and INEGI

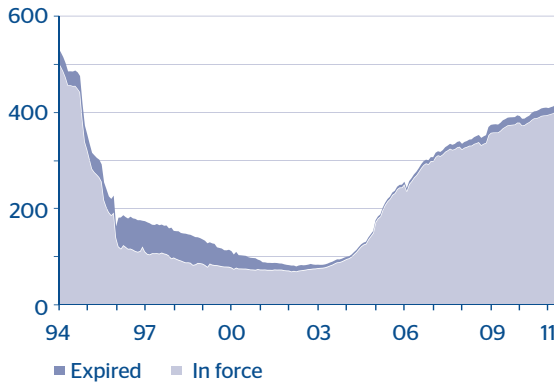
Rather, the figures are consistent with the idea that the banks are redirecting their strategies, expanding their assortment of products, facilitating entry to more people, and in general seeking a more comprehensive service to meet the demand that constitutes its natural segment, that of medium-priced and residential housing. This was important, and is part of the natural process in the housing mortgage market. The population segment that can acquire medium-priced housing (between 650,000 and 1.5 million pesos) or residential housing (more than 1.5 million pesos) had received little attention.

According to the National Survey of Household Income and Expenditures (the *ENIGH*), in 2010 there were 5.6 million households in the two highest income deciles. The monthly income of both averaged close to 30,000 pesos, enough to at least cover the payment required for one housing unit of around 1.3 million pesos.⁹ In turn, the number of mortgage loans for the medium-priced and residential segment did not reach 70,000.

Co-financing transactions allowed attending a part of this market, although not all of it. Infonavit records on loans placed compared to the goal set confirm that in co-financing terms, the annual goals are surpassed each year by 25% to 30%. For these, the financing options have been limited.

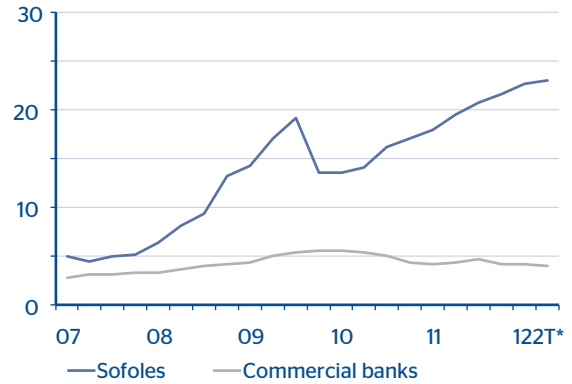
⁹ Considering that for a down payment of 20%, the loan amount would be about one million pesos, on which the monthly payment would be around 10,000 pesos.

Graph 24
Commercial banks' mortgage loan portfolio (Billions of pesos at 2012 prices)^a



^a Data through December of each year
Source: BBVA Research with Banxico (the central bank) data

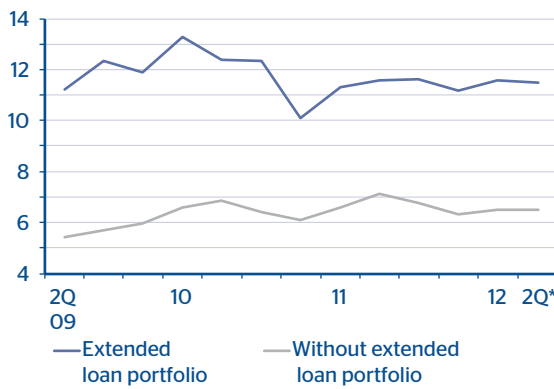
Graph 25
Past-due mortgage payments in the commercial banks vs. Sofoles (%)



* Data through the month of May
Source: BBVA Research with Banxico (the central bank) data

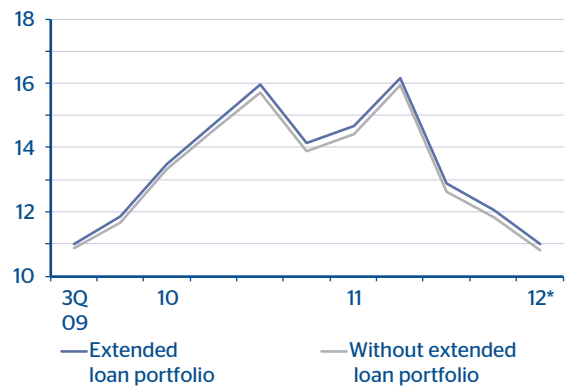
In terms of the mortgage loan portfolio balance, in May 2012, the levels prior to the 1995 crisis had not been recovered. It must be mentioned that the banks have ample margin to attend medium-priced and residential housing needs, as long as there is solvency and past-due mortgage loans are controlled.

Graph 26
Infonavit: past-due and extended loan portfolio balance (billions of pesos at 2012 prices)



* Data through the month of May
Source: BBVA Research with Infonavit data

Graph 27
Fovissste: past-due and extended loan portfolio balance (billions of pesos at 2012 prices)



* Data through the month of February
Source: BBVA Research with Fovissste data

Fourth, used housing becomes increasingly more important

There is an additional change, to which builders should pay special attention, and that is the percentage of used housing in mortgage loans. For the Infonavit, the figures have risen from 17% to 35% between 2007 and 2012. For Fovissste, they are at around 22%.¹⁰ This partly reflects a natural process of the evolution of the market. Setting aside the subject of the attributes of new vs. used housing, a simple explanation is that there is more used housing available and therefore buyers have more options. So far so good. However, what happens in some segments is surprising. It is understood that the percentage of used housing is higher in the higher-value housing segments, but not so much in low-income housing, with levels close to 50%.

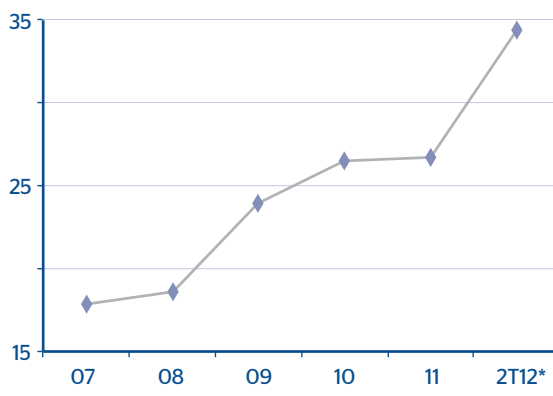
The interpretation of this result is by no means obvious. Some Infonavit surveys suggest that a secondary housing market is being developed for low-income segments. People are no doubt more attentive to

¹⁰ For Fovissste, the distinction of used housing exists since 2010. Since then and through the first quarter of 2012 (the latest period available) the percentage has remained at 22%.

general housing conditions (including attributes, environment and costs related to living in it) and are willing to make a change. On the other hand, the process has been fast (in 2007, the share of used housing in this segment was barely 20%) , considering that a secondary market could take some time to consolidate.¹¹

Graph 28

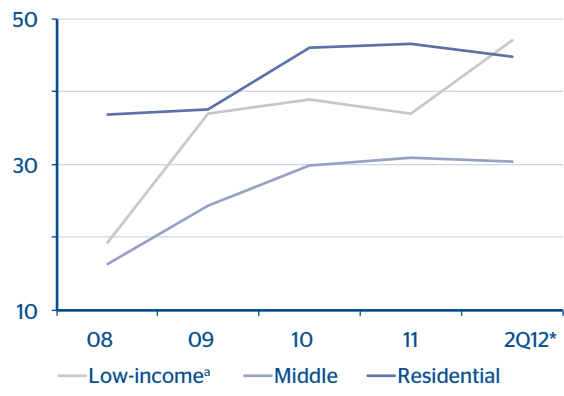
**Infonavit: used housing
(% share in loan placement)**



* Data through the month of May
Source: BBVA Research with Infonavit data

Graph 29

**Infonavit: used housing by segment
(% share in loan placement)**



^a Low-income includes low-cost, popular and traditional.
* Data through the month of May.
Source: BBVA Research with Infonavit data.

What is derived from these changes?

Different interpretations can be made from the changes that have been occurring in the mortgage market. Some will become stronger, while others could be subject to public policy decisions. However, at least two interpretations are possible.

First, the changes reflect trends that had already been anticipated and are now beginning to materialize. Housing needs over the coming years must be solved with financing products which in some cases are barely beginning to be developed and in others must be adjusted. One clear example of this are home improvement products, but there are also others that have not yet been properly designed to allow them to grow, such as financing for non-affiliated workers and that of rental housing.

As regards the non-affiliated workers market, the federal government program through the SHF did not have the success expected in its first year of operation, but it is still an important opportunity to the extent that it is adjusted to the needs of participants (housing buyers and financial intermediaries). With regard to rental housing, financing products are still scarce, although due to the structure of household formation and its dynamic, this market will gain strength in the medium term.

Second, new housing needs have moderated. In part, this could be interpreted as a natural adjustment to excesses of previous years. In 2007 and 2008 almost the same number of housing units were built as the number of mortgage loans, 650,000 per year.¹²

In estimating new housing needs, reducing the financing goals of the Infonavit should be considered, as well as used housing and repossessed units that will gradually be reincorporated in the market. Also, it must be taken into account that the total number of mortgage loans (for complete housing) is within the range of 600,000 per year. Based on this, it can be said that annual housing needs are in the range

¹¹ Thus, we must not rule out the possibility that the figures also reflect the implementation of solutions to past-due loans, with plans such as change of debtor, which could be faster and easier to carry out than legal repossession processes.

¹² Very illustrative anecdotal references to this regard note that in some locations, builders construct as many housing units as the potential market indicates, without considering that these might cover only a fraction of the market. With all contractors following a similar strategy, the result was that if the potential absorption of the housing was 100, and there were five builders, there was a supply of 500 new housing units. To a greater or lower extent, this occurred in different locations throughout the country. In the end, it simply reflects that builders did not consider the need for solid studies regarding demand that would allow them to measure the size of the market correctly.

of 400,000 to 420,000. Figures from the Sole Housing Registry (RUV for Registro Único de Vivienda) are not far away from those levels.

For those seeking explanations for the drop in bridge loans, some of the answers are here. Complete housing needs have been declining¹³ and the financing market reflects this. Payment delinquency is much higher in credit for construction than in mortgage loans, which is also proof of the difficult environment facing builders.

Graph 30

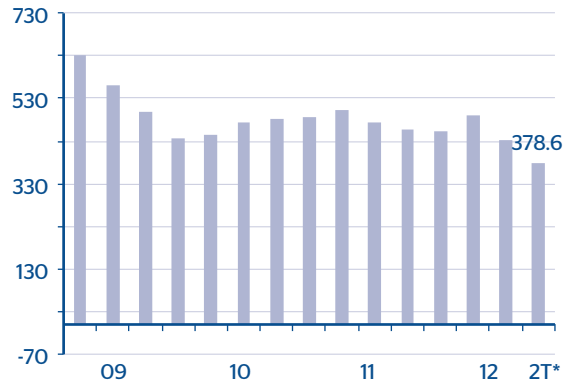
Bridge loan balance of the current portfolio (Billions of pesos at 2012 prices and annual % change)



* Data through the month of June
Source: BBVA Research with Banxico (the central bank) data

Graph 31

Construction starts: RUV (Sole Housing Registry), thousands. Annualized figures



* Data through the month of May
Source: BBVA Research with RUV data

Conclusions: toward growth with better fundamentals

The first half of 2012 has shown important growth in mortgage activity and the conditions are in place for this to continue through the rest of the year and in 2013, although for the latter, economic and financing conditions will be key factors. Our estimates in the base scenario are for 580,000 mortgage loans this year, which implies a 0.4% increase, with a financing amount of almost 240 billion pesos. For the commercial banks, we estimate 25% growth in the number of loans, (from 54.2 thousand to 67.8 thousand) and 15.1% in real terms in the amount financed (from 83 billion pesos to 100 billion pesos at 2012 prices).

All things considered, and with favorable perspectives, the mortgage market is changing, and it is up to those participating in the industry to interpret how it affects them. The market will continue to grow, but not as it had been doing. Simply considering the new Infonavit policies (the reduction of its loan granting goal for complete housing and the review of applicants' credit history) gradual growth can be expected going forward, but with better fundamentals.

These conditions could be compared to an orchestra director who has decided to introduce changes in the musical score, and although these changes have been gradual, some musicians have been slow to adapt. Now, they must act quickly and identify the new notes and use the proper instrument or risk going off key. The orchestra director is not the federal government or the public institutions, but demand. The musicians, who are all those that participate in the industry (government agencies, public institutions, builders and financial intermediaries) must read the signs that demand sends out in a timely and precise manner, even anticipating changes, because otherwise they will offer products that the market does not require or want and this will lead to surplus inventories, failed support programs, past-due loan portfolios and/or abandoned housing.

¹³ Due to cyclical conditions, to a great extent, given that in the future, housing needs will continue to be important (see article 3.d Looking Forward: the challenges for housing policy).

Inset 1: Mortgage loans in the states: a 3D view

The information available on the mortgage market has been growing in terms of scope and coverage and timeliness. In the case of the commercial banks, the work that the National Banking and Securities Commission (CNBV) has been undertaking in this field should be acknowledged. It is up to the various participants in the industry to join this effort in circulating such information and achieving transparency. For some, the task is to provide accurate and timely information; for others it is to duplicate such efforts, and for the rest, the majority, it is to take advantage of the data for analysis and/or decision making.

In this section of *Mexico Real Estate Outlook* we will focus on the latter point and with this in mind, we will review the main characteristics of commercial bank mortgage loans on the regional level, differentiating between the categories of credit conditions, housing, and borrowers. As is commonly found in other areas of economic activity, regional differences are important, and in the case of mortgage loans, they indicate the contrasts in credit penetration and the profile of borrowers in Mexico.

It is important to note that the figures presented here are for the January to April 2012 period and cover all banking institutions. However, the Infonavit Total product is excluded, which has a different nature than the rest of the mortgage loans granted by banks, although due to its volume it has a significant impact on the accumulated figures.¹

1. Mortgage loan conditions

Among the characteristics of mortgage loans, an initial approach consists in identifying the conditions under which the mortgage was granted in terms of average amount, percentage that it represents in the value of the property, and interest rate.

On average, mortgage loans from commercial banks are for around 800,000 pesos. The loans that are funded exclusively by the banks are of a slightly higher average amount than those granted under co-financing programs (851,000 vs. 766 000 pesos). As, expected, the larger loans correspond to the major urban centers (Distrito Federal, Estado de Mexico, Jalisco, and Nuevo Leon).

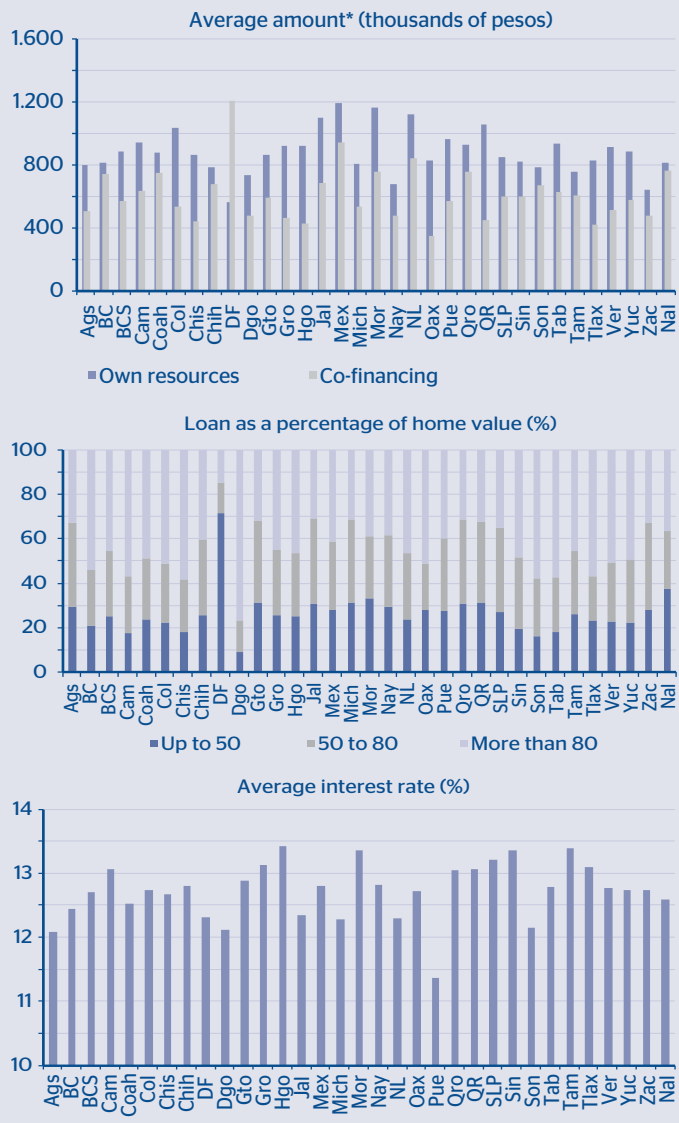
In terms of the percentage that the loan represents in the value of the home, or the loan to value ratio, on a national level, close to 40% of the credits are for an amount equivalent to 80% or more of the home value. In some states however, most notably but not exclusively Mexico

City, the percentage that borrowers pay as a down payment is much higher.

Interest rates vary between 12% and 13%. In the larger financial institutions, where there may be a greater diversity of clients and competition due to the market, the rates tend to be slightly lower.

Graph 32

**Mortgage conditions
(Loan placements, January-April 2012)**



*Figures through June
Source: BBVA Research with data from the CNBV and ABM

¹ The loan is placed by Infonavit among low-income workers and later it becomes part of the Banamex portfolio. The average amount of the loan is 377,000 pesos, compared to 766,000 pesos for the rest of the co-financing programs. In June 2012, the number of loans granted under this plan amounted to about 14,500, equivalent to 31% of the total granted by the banks, 46,400 loans.

2. Housing categories

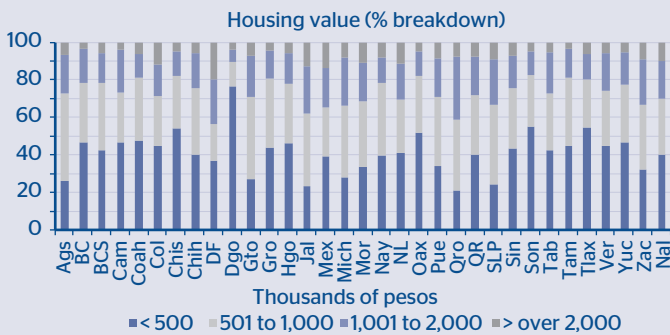
The second category of mortgage loans has to do with housing characteristics, particularly the price and status of use, namely whether it is new or used.²

On a national level, nearly 40% of the houses that are purchased with a mortgage loan have a value of up to 500,000 pesos, while 23% are for homes valued at between 500,000 and one million pesos, 17% are in the range of one to two million pesos, and, the remaining 20% of the mortgage loans correspond to housing units worth more than two million pesos.³ Housing prices are higher in Distrito Federal, Estado de Mexico, Jalisco, and Nuevo Leon. However, Morelos also

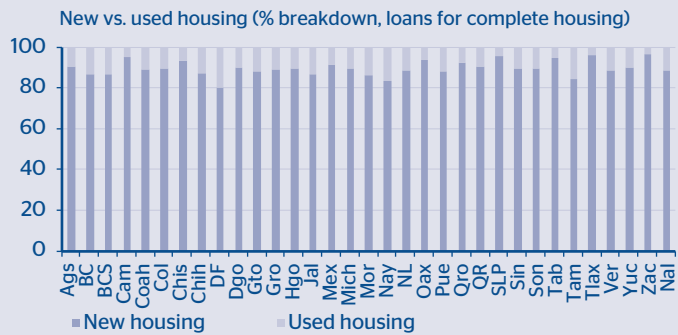
appears as an attractive market for the residential segment, given its proximity to Mexico City and its natural attractiveness for weekend homes.

The percentage of commercial bank loans earmarked for the purchase of used housing, 13%, is comparatively low compared to the corresponding figure for public housing agencies (22% for Fovissste and 34% for Infonavit). But beyond the level itself, which could involve some quality issues in relation to the information (on which banks will have to expend greater efforts), the numbers help identify areas where, for various reasons,⁴ used housing has a greater weight. Mexico City, Morelos, and Tamaulipas have the highest percentage shares in this regard.

Graph 33
Housing categories (loan placements, January-April 2012)



Source: BBVA Research with CNBV data

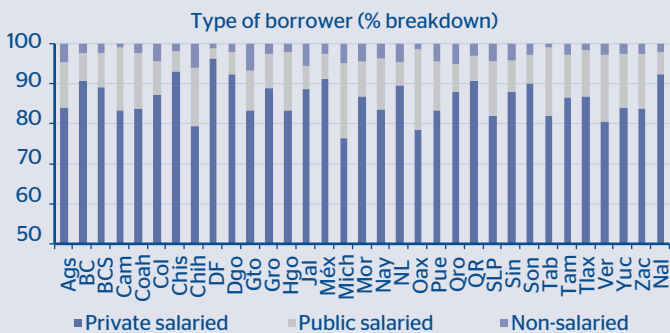


3. Borrower categories

The third series corresponds to the borrower category, which can be divided among salaried public or private sector wage earners, and non-salaried workers or employees. Most of the loans, just over 90%, correspond

to private sector wage earners. Public sector employees represent around 15% to 25% of the loans in about half the country (fourteen states), while in Mexico City and the State of Mexico, the most important states, their relative weight is much more modest (less than 10%). The percentage share represented by non-wage earners, although modest on the national level, is relatively high in some states like Guanajuato (18% of total loans), and in others it is increasing. With the right product, this could be an attractive niche to exploit in the coming years.

Graph 34
Borrower category (loan placements, January-April 2012)



Source: BBVA Research with CNBV data

Conclusions: an increasingly competitive market

The figures for the placement of mortgage loans on a state level indicate that while there are regional differences, the mortgage market is rapidly moving toward products that require a specific target segment and where there is more information from potential borrowers. The conditions point to a market that is rapidly evolving and increasingly competitive. At the same time, having reliable and timely information in order to analyze the characteristics of the market in all its dimensions is a major step forward.

² Although this category could be larger here, since the loan can be earmarked not only for the acquisition of housing, but also for the purchase of land, construction on already acquired land, liquidity credits, among others.

³ Within this category, homes worth up to three million pesos represent about 10%, and the remainder correspond to higher-priced homes.

⁴ Market maturity, greater housing stock, availability of new housing, location, and housing characteristics, etc.

3.a Accessibility to housing has improved in the last decade

Introduction

Accessibility to housing is one of the most important factors for measuring families' well-being. Although this can be studied from various aspects, the objective is to find the best way to measure it, in order to serve as a tool for designing policies that will allow for more homes, be it in the purchase and sale or in the loan market.

In this article of *Mexico Real Estate Outlook*, we analyze some of the factors that have a bearing on accessibility. First, we review the more relevant methodologies for Mexico's case. Then, we measure access to the mortgage market based on the relationship between housing prices and annual average income

Later, we analyze the conditions in the loan market that have made it feasible for larger segments of the population to have access to minimum (low-income) housing. Stable housing prices in real terms, lower interest rates, and longer payment terms are key factors that have contributed toward improving the conditions for families to have access to housing and maintain their payment efforts at affordable levels. In this sense, we present an analysis of sensibility in order to identify the tools that have strengthened the accessibility levels registered. Finally, we present some perspectives with the main driving forces in the market that have led to the current greater accessibility levels and our general conclusions.

What is the most adequate definition of accessibility?

The concept of accessibility to housing depends on the interaction of various factors such as the subtotal of the population target, real estate price levels, families' annual income and the financing conditions to which they agree in order to settle the loan (interest rate and term). Due to this, we should clearly differentiate among three distinct groups of households: 1) those who can purchase a home without the need of a loan; 2) those who cannot purchase but who have access to a loan; and 3) those who cannot purchase a home and also do not have access to a loan.

Based on this, we distinguish three relevant measures of accessibility for Mexico. First, the housing price to income ratio, which tells us the number of years that a household needs acquire housing of medium value. Second, the effort made to cover payment, which measures the financial capacity of a family to cover the mortgage payment under the conditions set in the loan (interest rate, payment term, and loan to value ratio). Third, the dwelling obtainable, which reflects the price that a housing unit should have in order to be bought by a family with a medium-range salary, not surpassing one third of its income.

1. The ratio between price and income indicates greater access for low-income segments

In aggregate terms, the price of housing should be adjusted to balance supply and demand. Higher prices on average would imply greater wealth of the families who already own real estate. However, in the subtotal of the low-income population, the effect will probably be more highly valued, since these are very close to making the decision of purchasing housing or not.

In our first definition, the ratio between medium-priced housing and a household's annual income considers the number of years of work necessary to purchase housing without the need of incurring in the financial market. This leads us to make a direct comparison of the situation of housing prices in relation to the living standard of this group of households. The lower the value of this indicator, the easier it is to have access to housing.

According to ENIGH data (the National Survey of Household Income and Expenditures), the total monthly average income of households in Mexico has dropped 3.9% between 2000 and 2010 in real

terms. However, at a decile level, there has been a redistribution. On the one hand, the three lowest deciles grew at least 10% in the same period, from the fourth to the sixth decile an average increase of 6.5% was registered, and the seventh and eighth deciles rose 2.4%. But the great surprise was seen in the highest deciles where there were declines for the period (2.2% and 15.4%, respectively), in all the cases measured in terms of the current total income average per decile.

Chart 4

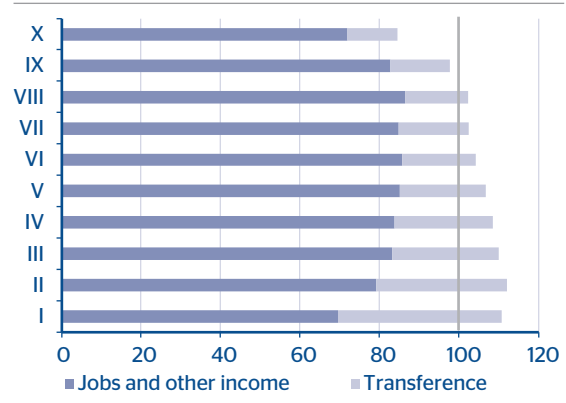
Total current income of households by decile (Pesos at constant 2010 prices)

Deciles	2000	2010	Real % change
I	5,560	6,163	10.8
II	9,669	10,846	12.2
III	13,191	14,506	10.0
IV	16,826	18,259	8.5
V	20,860	22,279	6.8
VI	25,895	27,010	4.3
VII	32,300	33,098	2.5
VIII	40,966	41,920	2.3
IX	58,131	56,847	-2.2
X	140,068	118,428	-15.4
Total	36,351	34,936	-3.9

Fuente: BBVA Research con datos de la ENIGH, 2002, 2010. INEGI

Graph 35

Total current income by decile of households, 2010 (Index 2000 = 100 by decile)

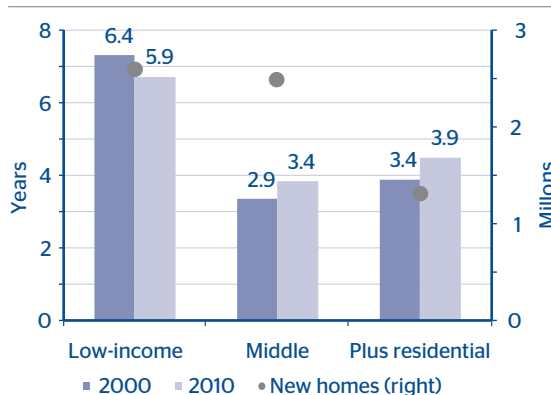


Fuente: BBVA Research con datos de la ENIGH, 2000-2010. INEGI

In the lower-income segments, corresponding to the low-income housing market, the rise in income per family and the real stability of housing prices¹ have led to an increase in accessibility under this concept. Equally important have been transfers, which practically doubled their importance in all deciles. Just in the two lowest deciles, they rose from a share of 17% in 2000 to 33% In 2010.² All of these factors contributed so that between 2000 and 2005, the ratio between housing prices and household income showed a declining trend, due to the fact that the rises in average income were higher than that of housing prices, which even fell 5.4% in real terms in the same period.³ However, possibly due to excess demand during the 2006-2007 period, the housing appreciation rate accelerated. Despite the fact that in 2010, the total accessibility index decreased, the good news is that in the lowest deciles it improved 8 basis points, together with an increase of 5.1% in real terms in low-income housing prices, which is why the favorable effect is double, both in accessibility and in housing value.

Graph 36

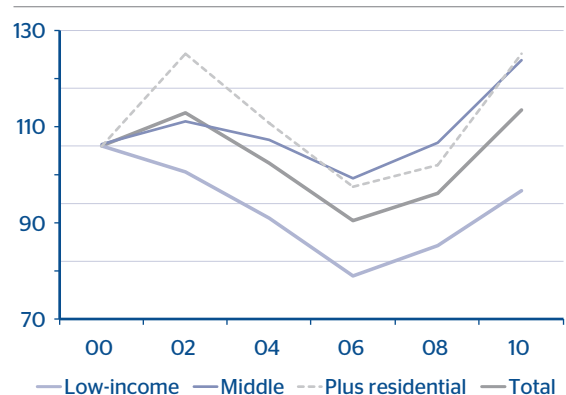
Accessibility to housing, time required to gain access



Source: BBVA Research with ENIGH, INEGI data

Graph 37

Accessibility to housing, time required to gain access (Index 2000=100)



Note: The lower the level of the basis point, the higher the accessibility. Source: BBVA Research with ENIGH data.

¹ See article: *Actividad y financiamiento a la vivienda (Activity and financing for housing)*

² Total current income is divided into three categories; for work, for transfers, and others. Transfers include retirement and pension payments, benefits, scholarships, donations, remittances and donations from federal government programs (opportunities, "Procampo", payments to senior citizens, etc.).

³ Consider the low income housing market price.

On the other hand, in 2000, a family in the first four income deciles required on average of 6.4 years to acquire housing and, in 2010, the time necessary declined to 5.9 years. If we consider that to acquire low-income housing and obtain a subsidy, required income at least equivalent to two minimum wages (which places it in the second decile), around 2.3 million households did not have access in the year 2000. Nevertheless, in 2010, those households that were formed in the period (around 500,000) had access.

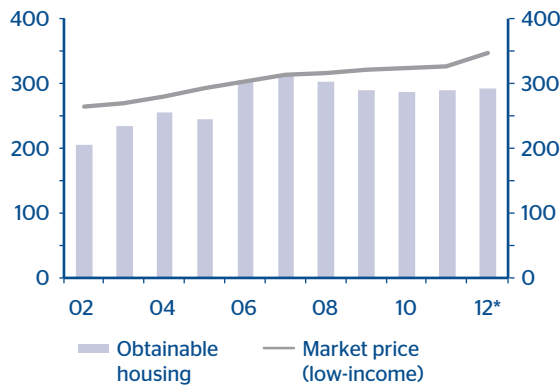
In the medium and higher deciles, a generalized deterioration was registered: In all these cases accessibility decreased more than the national aggregate. For example, in 2010, the highest decile was 18 points less accessible than at the beginning of the decade. For this type of households, which today would possibly acquire a cheaper housing, new products would have to be designed with different rates and/or payment terms that could place them at the accessibility level they had in 2000. Thus, the effect of income to loss would be compensated.

2. Through obtainable dwelling, families gain access to higher value real estate

This indicator gathers the financing capacity of a family with average income to acquire housing the price of which would not imply a payment higher than one third of its gross annual income. This indicator makes it possible to know the impact that changes in interest rates have on families' capacity to pay a mortgage. The higher the value of the obtainable dwelling, the higher the financing capacity is for the purchase of housing. Between 2006 and 2007, this Indicator reached its maximum of 312,000 pesos in real terms, when interest rates dropped from 13% to 12%. However, from 2005 to 2006, the greatest increase is observed where the value of obtainable rose 25%.

Graph 38

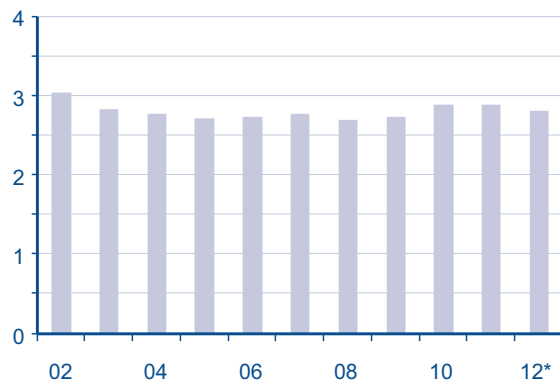
Low-income obtainable housing (Thousands of pesos at 2012 prices)



*Through the first quarter
Source: BBVA Research with Banxico (the central bank), IMSS and Infonavit data.

Graph 39

Obtainable housing, low-income housing price to salary ratio, (Times)



*Through the first quarter
Source: BBVA Research with Banxico (the central bank), IMSS and Infonavit data.

However, we can say that since 2004, financing conditions were favorable, both due to the price/salary ratio that stood at low levels (2.7 times), and the constant drop in interest rates, combined with longer payment terms. All of these factors were combined with stable housing prices, which between the first quarter of 2008 and the first quarter of 2009 registered a nominal appreciation similar to the national consumer price index.^{4,5}

3. The payment effort to acquire low-income housing is lower

As has been mentioned previously, the interaction of the financial variables determines the mortgage effort⁶ that households must make to acquire housing. This is estimated with the price of the loan

⁴ Idem

⁵ It considers the BBVA Bancomer housing price index in nominal terms.

⁶ In addition to the mortgage payment to household income ratio, the housing price to income ratio is also considers an effort indicator.

requested (loan to value ratio), the interest rate and the number of years of the life of the loan. The combination of these variables in a “payment” function defines the percentage of the salary that a family must cover to meet the monthly mortgage payment.⁷

The mortgage effort has also shown a favorable evolution in recent years, to a large extent due to the combination of lower interest rates and longer payment terms. This has allowed households to lower the burden that the monthly mortgage payment on low-income housing represents. While at the beginning of the decade a family had to assign slightly more than 40% of its monthly income to pay the mortgage, in this segment; between 2002 and 2008, the payment effort on the salary decreased from over 41.6% to only 31.8% prior to the crisis. However, toward 2010, the effort reverted its trend, mainly due to the deterioration of income. From 2009 to date, the percentage of the salary has remained between 33% and 34%, which places it at permissible levels according to international reference.⁸

Graph 40
Mortgage loan interest rates (%)



Source: BBVA Research with CNBV (National Banking and Securities Commission) data.

Graph 41
Mortgage payment to salary ratio for low-income housing (%)



*Through the first quarter.
Source: BBVA Research and IMSS

To know with greater detail the effects of each of these variables on the mortgage payment effort, we conducted a simulation exercise. This allows us to know the sensibility of the components defining a family’s monthly mortgage payment.

Chart 5
Payment effort. sensibility

Change in economic determining factors	Effects on the payment effort Magnitudes	
	Short term (a)	Long-term (b)
A 10 percentage-point increase in income	Decreases 1.7%	Decreases 1.1%
A 6 year increase in the payment term	Decreases 2.5%	Decreases 21%
A 5 percentage-point increase in the interest rate	Increases 1.5%	Increases 1.1%
A 5 percentage-point increase in the housing price	Increases 1.6%	Increases 1.1%

(a) It considers the effect within the first twelve months, (b) It assumes a 7 year horizon.
Source: BBVA Research

According to the results, the factors that can be most beneficial for the contracting party of a mortgage loan are the payment term and the interest rate. For example, for every 5 years that the term is increased, the mortgage effort decreases by 2.5% in the short term. On the contrary, for every 5 percentage points of increase in the interest rate, the mortgage effort increases by 1.5%, although the effect partially decreases after some years.⁹

⁷ In this case, a loan to value ratio of 80% is assumed, an interbank interest rate at 28 days and payment terms of 15 years.

⁸ BBVA Research. *Spain Real Estate Outlook*, March (2002).

⁹ It considers a 7-year horizon. Although in a horizon longer than 15 years, the effect practically vanish.

With regard to income, the effects are practically maintained during the entire period of the exercise. This confirms its relevance in terms of avoiding an increased payment effort, since it allows families to maintain their payment capacity. Finally, the rise in housing prices has very similar effects as the interest rate, since they both constitute the reference values for establishing the collateral for the loan grantor.

Accessibility recovers from the crisis due to price stability

With the start of the crisis, consumer purchasing power deteriorated due to the drop in income, which slightly expanded the gap between obtainable dwelling and the price of minimum housing. However, at the beginning of 2012, conditions are more favorable due to the fact that no disproportionate appreciation of real estate was registered, and as can be observed in the following graph, the effort indicators have remained at acceptable levels.

Graph 42

Accessibility indicators; low-income housing (2002-2012)



* Through the first quarter

Source: BBVA Research with Banxico (the central bank). IMSS and Infonavit data.

Compared with the year 2000, all these indicators confirm that the current situation continues to be attractive for the evolution of the market. The 2008 crisis implied a certain slowdown, mainly due to the drop in income, which slightly deteriorated the price/income ratio.

In terms of supply, financing conditions such as interest rates and payment terms have remained at historically low levels, but probably there is no longer margin for them to continue to drop. What has happened is the change in the performance of housing demand, which has been redirected toward segments with better characteristics, for example, used dwelling and/or medium or residential housing, which have posted lower appreciation levels than the low-income segments.

A generalized deterioration would imply greater pressures and changes in the behavior of housing demand, directing itself toward segments with better characteristics. For example, the rise in demand for middle-income and residential housing has given a greater boost to bank loans. On the other hand, low-income housing, which in recent years served to cover the housing backlog, did not always have attractive attributes for the consumer: (location, services, quality of materials, among others).

Conclusions: accessibility with good short-term perspectives

During the 2008 crisis, some determining factors of housing accessibility worsened slightly compared to 2006. The drop in families' current income and housing appreciation pressured the mortgage payment effort.

Should past-due payments in the sector rise, upward pressure could be generated on interest rates. This is why for accessibility to improve, it will be necessary for adjustments to be made either through housing prices, higher income levels, (employment) and stable consumer prices, all of which is quite feasible given the positive start that the economy has registered in terms of these indicators.

In view of the current scenario of uncertainty, this process is leading families to demand housing with better characteristics in higher segments, where prices seem to have been more stable. The current behavior is to demand housing from areas with better urban equipment or neighborhoods with lower prices, so that the ratio of effort, longer amortization periods, and more comfortable mortgage payments is maintained.

Contrary to what occurred in other countries, where increases in housing prices made the asset valuation process unsustainable, in Mexico, the most relevant factors for increasing accessibility depend on employment and income. Due to this, it will be important to maintain favorable financing conditions with better designed products in terms of interest rates and payment terms, but always maintaining reliable conditions in the portfolio.

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3.b The potential of housing mortgage supply in accordance with the quality of demand

Introduction

Housing is one of the main elements in the well-being of households. In most of them, a house is the highest value asset of their net worth. Now, in terms of supply, the housing market is also relevant, being that the building of homes is one of the main components of construction, which in turn, is a sector that contributes around 6% of GDP in the national economy!¹ Similarly, mortgage loans, which facilitates access to the housing market, are one of the components with the greatest share in the banks' portfolios.² Due to all of the above, it is important, both in terms of demand as well as of supply, that the housing market has kept growing efficiently, which is why in this article of *Mexico Real Estate Outlook* we analyze the incentive to increase the mortgage loan supply in accordance with the segments defined by workers' employment condition.

In its first section, this article presents a description of the current situation of bank loans granted and their characteristics during the years 2011 and 2012. After this, we analyze the profitability of the mortgage loans granted to the different demand segments according to the borrowers' employment condition and the currency in which the loan is denominated. Finally, we review the trend of these sectors so as to know where there is a greater opportunity for growth of this market.

During 2011 and 2012 mortgage loans offer better conditions

A mortgage loan is a financial instrument that helps people to access to the housing market, since normally the income of several months and even years is needed for acquisition of a housing unit. Thus, with a higher supply of mortgage loans, the demand for housing would increase, and the higher the demand, the more the market grows, even more so if it is accompanied by an increase in supply.

Since the year 2000, the public policies that have a direct bearing on the rise of mortgage loans have increased, such as those of the changes in the National Workers' Housing Fund Institute (Infonavit for its Spanish initials), the formation of the National Housing Commission (Conavi for its Spanish initials), or the program of the Federal Mortgage Association (SHF for its Spanish initials) for the non-affiliate.³ Nevertheless, in the private sector, which contributes around 30% of the mortgage loan amount,⁴ the incentives go hand in hand with the profitability of the loan granted and its quality. If a loan is not profitable once adjusted for risk, financial intermediaries do not have incentives to grant it. The above becomes strictly necessary when we consider that the intermediaries have the responsibility to produce profitable accounts for the general public. that is, its depositors and shareholders.

It is understood that the supply of mortgage loans is maintained as long as there is profitability with sound bases and, once this is diluted, supply is annulled so as not to generate losses. For example, if the funding cost of a loan is 10%, that is, the cost of the money that is loaned is at a 10% rate, then a loan can only be granted at a higher rate. For this reason, the macroeconomic stability of recent years, emphasizing inflation control, has allowed for a considerable decline in interest rates, with loans remaining profitable at lower rates. On the other hand, the financial stability of the loan grantors is also beneficial for depositors, which is why credit cannot be granted without adjusting that profitability to the associated risk of non-compliance or expected loss.

¹ Through the first quarter of 2012, construction GDP represented 4% of national GDP according to the INEGI.

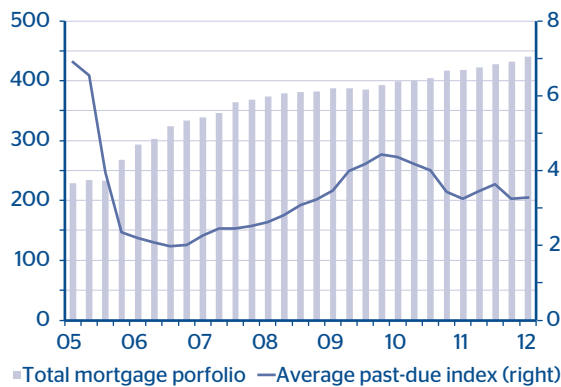
² Based on the Multiple Banks Statistics Bulletin of the National Banking and Securities Commission, through March 2012, the housing portfolio represented 17% of the total portfolio of the system.

³ See *Mexico Real Estate Outlook* of January 2012.

⁴ See article *Activity and Financing for Housing* in this issue.

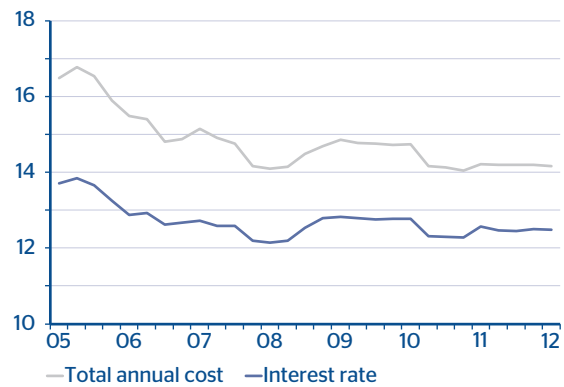
The mortgage portfolio has grown without any important damage in terms of its quality, while the interest rates on this type of loans have decreased. From the first quarter of 2005 to the first quarter of 2012, the total mortgage portfolio of the commercial banks went from 212 billion pesos to 440 billion in real terms; even with a drop in the default index which fell from 6.9% to 3.3%. In the same period, the total annual cost (CAT for its Spanish Initials) declined from 16.5% to 14.2%. Following the same tendency, interest rates dropped from levels of 13.7% to 12.5%. Also, the average term for mortgage loans has risen from 17.5 to 18.5 years, just in the last 12 months. These conditions favor that a greater number of persons have the possibility of obtaining a mortgage loan and thereby acquire housing.

Graph 43
Total portfolio and average past-due index
(Billions of pesos March 2012 and %)



Source: BBVA Research with Banco de Mexico data.

Graph 44
Average CAT and annual interest rate
(%)



Source: BBVA Research with Banco de Mexico data.

As a result of lower interest rates, there was a decline in the financial margins of mortgage loans. This is also due to a considerable rise in the competition in this market, favoring those obtaining loans. However, it is necessary that these margins be adjusted due to the risk associated with the loans generated in order to establish whether the loans generate sufficient incentive for granting them. If the margins adjusted for risk drop below the instruments without risk, such as government paper, then it is better to replace these with products that generate greater profitability, thereby reducing the mortgage loan supply. On the other hand, if the adjusted margin for risk is negative, there is a contraction in the credit supply.

Segmentation allows for a better identification of the market

In the loan markets, it is considered that credit demand is not homogenous, which is why segmentation provides a more accurate perspective of its characteristics. For this reason, and based on the information available, we segmented the market by category of borrowers (salaried public or private workers or non-salaried workers), also by type of currency (pesos and times the number of minimum wages).⁵ The analysis also focuses on the six banks that concentrate most of the mortgage loan portfolio.⁶

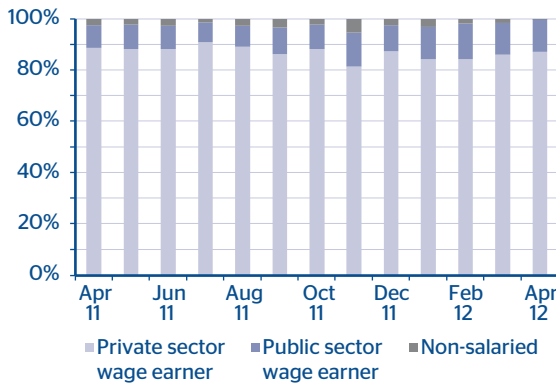
By category of borrower, despite small variations, from March 2011 to April 2012 almost 90% of the loans are directed to private salaried persons. By type of currency during the same months, the proportion is almost equitable between pesos and times minimum wages (VSM), mainly from the loans granted by the banks jointly with the public Institutions; the rest of the currencies practically do not participate. Due to the fact that the loans are mainly concentrated in pesos and times minimum wages, the analysis is focused on these two types of currency.

⁵ We do not consider the loans in UDIS and in foreign currency, due to their small share in the banks' portfolios, even though the loans based on times minimum wages lose relevance more and more in proportion to loans in pesos.

⁶ Based on information from the Multiple Banks Statistical Bulletin of December 2011 of the CNBV (National Banking and Securities Commission). BBVA Bancomer, Banamex, Santander, Banorte and HSBC have a joint share of 96% of the total loan portfolio in housing mortgages.

Graph 45

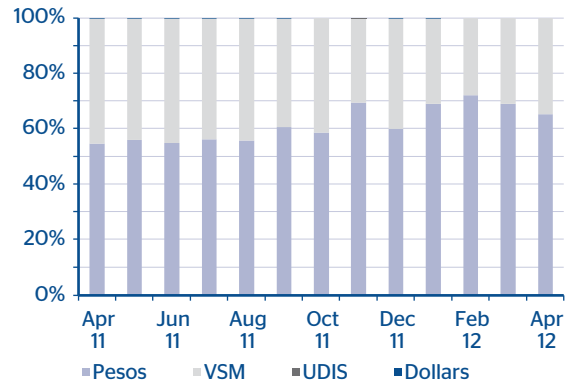
**Originated loans:
% share by category of borrower**



Source: BBVA Research with CNBV data

Graph 46

**Originated loans:
% share by type of currency**



Source: BBVA Research with CNBV data.

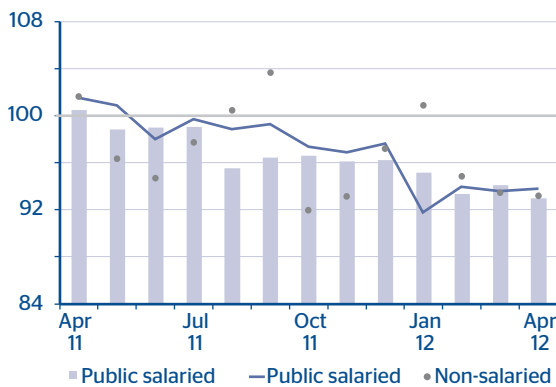
The loan supply is in line with interest rate and risk characteristics

We should distinguish between the financial margin and the profitability of a loan. The margin is the difference between the interest rate at which the loan is granted and the cost of the funding rate of the financed amount. Profitability is the adjusted margin due to some measure of risk and taxes. Even though the loans include other costs, such as commissions and insurance, these are not considered in the measure of proposed profitability, due to the fact that there is no specific public information for the segments analyzed. We calculated the financial margin by deducting the EIRR91 (equilibrium interbank interest rate or TIIE91) rate from the mortgage rate published by the National Banking and Securities Commission (CNBV for its Spanish initials).⁷ The profitability was obtained by reducing the financial margin by the associated risk for each segment based on information from the CNBV minus taxes. We present both margin and the profitability as an index where the total average represents the base equal to 100.

At a financial margin level, even though in the second half of 2011 the segment of salaried persons in the private sector was lagging compared to the rest, thus far in 2012, the data indicate that there is no great difference between borrower categories. The margin index has dropped 6 points below the average, but has remained stable in recent months. By type of currency, in 2011, loans, based on the number of minimum wages, surpassed the index by up to 10 points over loans in pesos. For 2012, the roles were reversed, with a minimum difference.

Graph 47

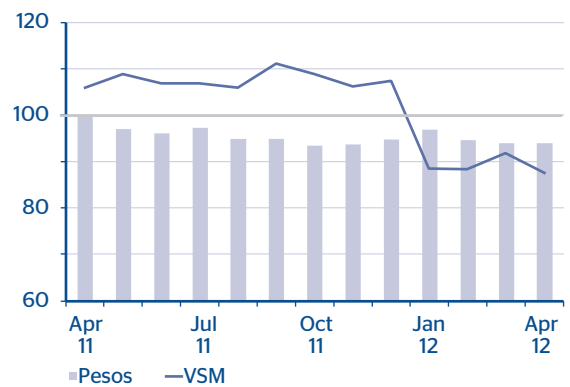
Originated loans: margin by category of borrower (Index: average margin = 100)



Source: BBVA Research with CNBV data.

Graph 48

Originated loans: margin by type of currency (Index: average margin = 100)



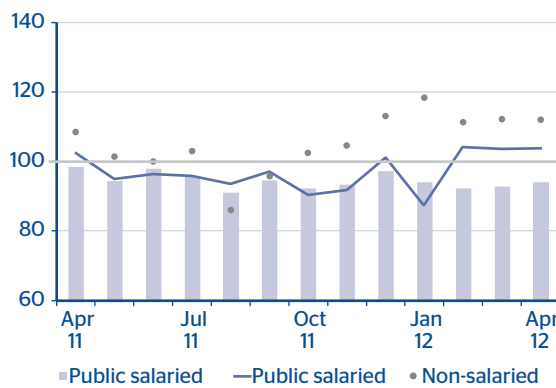
Source: BBVA Research with CNBV data.

⁷ Even though the funding cost varies for each bank, we use the EIRR 91 rate as a common reference for the market, also because it is highly correlated with the mortgage rate.

In contrast to the financial market, when adjusted for risk, profitability varies, both due to the category of borrowers and the type of currency. Loans to salaried persons in the private sector showed below average profitability during the period of analysis. The result was similar for the loans of salaried workers in the public sector, although they rose in the months of February and March of 2012. On the other hand, in 10 of the 13 months analyzed, the profitability index for non-salaried persons surpassed the median by more than 10 points of the index. This could be due to the percentage of loans assigned to each segment, while that of salaried workers in the private sector receive around 90% of originated loans, non-salaried workers receive slightly less than 2%. This indicates that the group of non-salaried borrowers is not as numerous as that of salaried workers in the private sector, which is why the financial system should select the best prospects for loans among non-salaried persons, so as to avoid increasing risks. This strategy should not be surprising since non-salaried workers are less susceptible to the economic cycles and there is a greater dispersion of their income. An additional reason is that the competition among the segment of salaried workers in the private sector has been rising faster than the other two groups, since more banks participate with a higher loan amounts.

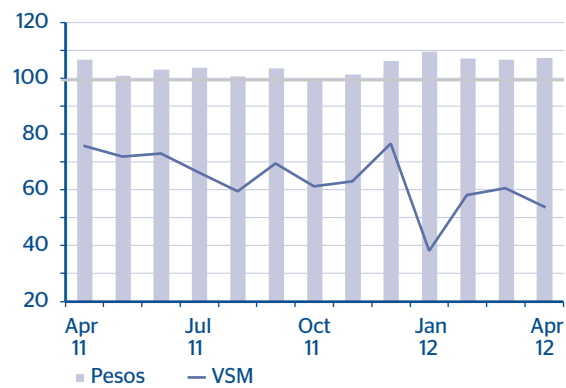
By type of currency, the profitability index of originated loans in pesos is higher than that observed in loans based on the number of minimum wages. The difference among the currency types is more relevant than in the case of the category of borrowers. The profitability index of the loans in Mexican currency is more stable and the average oscillates within a band lower than 10 basis points during the period of reference. The loans based on the number of minimum wages are up to 30 basis points below the index of loans in pesos and are more variable. As of 2012, the profitability index of loans based on the number of minimum wages dropped to levels of up to 60 basis points compared to the year before, when it was 75 basis points. As opposed to the segmentation by category of borrower, in the case of the type of currency, there does not seem to be a relationship with the breakdown of loans granted. Even the distance between the profitability of these segments is higher than in the former case, which is why, when considering the attractiveness of loans in this currency, it diminishes compared to loans in pesos. This suggests that the banking system has and will maintain a preference for offering mortgage loans in pesos.

Graph 49
Originated loans by category of borrower:
(Index: Average profitability = 100)



Source: BBVA Research with CNBV data.

Graph 50
Originated loans by type of currency
(Index: Average profitability = 100)



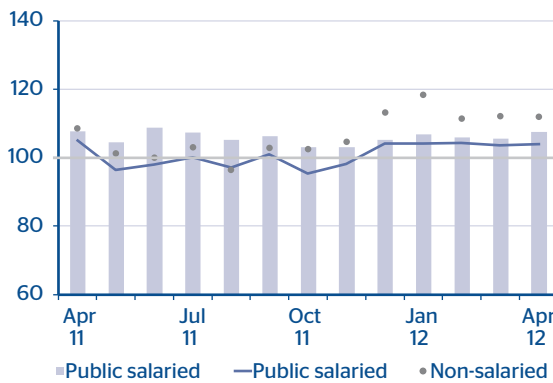
Source: BBVA Research with CNBV data.

When differentiating between the financial margin and the profitability of the loans, we obtain a first result of interest. When we review the segments by category of borrower based on the financial margin, we observe that there is not a significant difference among the three types of borrowers. However, when we analyze the categories of borrowers based on the profitability index, the distances between these segments is greater. The case of the segments by type of currency is not different, since, when changing the financial margin index with the profitability index, the loans denominated in pesos surpass those based on the number of minimum wages. This is explained because the loans in terms of the number of minimum wages present a greater risk than loans in pesos.

Upon increasing the segmentation combining borrower category and type of currency, we can determine profitability with greater accuracy. For example, it is observed that in loans originated in pesos, the difference among the categories of borrowers is lower, but in favor of non-salaried workers. The profitability of peso loans in the segment of salaried workers in the private sector, is the most constant, around 5 points above the average of April 2011 to April 2012. In this same time span the segments of salaried workers in the public sector and non-salaried workers, with loans in pesos present greater variability, the former with profitability of 3 to 4 basis points above the average, while the latter group goes from a level of 2 up to 11 points than the total average. The category of borrower gains more relevance in the loans granted based on the number of minimum wages, where the non-salaried private workers are the most profitable segment, although, in this case, it is due more to the fact that in the rest of the segments, not as many loans have been requested.⁸

Graph 51

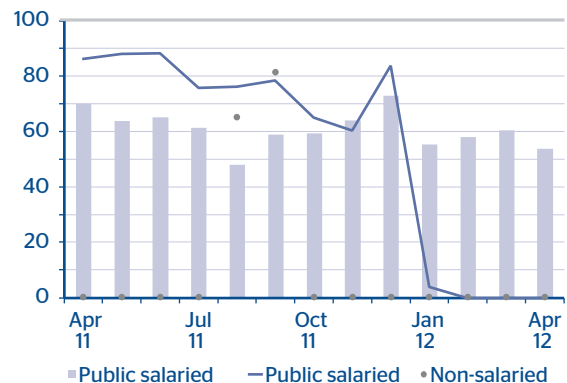
Profitability by category of borrower: pesos (Index: average profitability = 100)



Source: BBVA Research with CNBV data.

Graph 52

Profitability by category of borrower: times minimum wage (Index: average profitability = 100)



Source: BBVA Research with CNBV data.

Moreover, this segmentation allows us to know that it is more profitable to grant the workers loans in Mexican currency. Thus, it could be inferred that the supply of mortgage loans in pesos by the banks will remain firm for the three categories of borrowers: salaried workers in the private and public sectors and non-salaried workers, while loans based on the number of minimum wages are based on co-financing plans between the Infonavit and the private sector. Although, on the other hand, with the changes in the Infonavit Law where it will be possible to opt between a loan based on the number of minimum wages or in pesos, it is probable that the loan in Mexican currency will rise considerably for these groups due to the reasons indicated in this section.⁹

The non-salaried workers grow more but imply greater risk

An element of greater relevance for granting loans is employment. To the extent that the employed population increases, the possibility of growth for the mortgage market increases too. During the last two years, employment in the country has been increasing at rates higher than 4%. The labor market shows different results when we segment it according to its labor condition. The employment of salaried workers has increased slightly in recent months while in the case of non-salaried or independent workers the rise has been even higher. On average, during 2012, salaried workers in the private sector grew 2.1% and 3.1% in 2012. The salaried workers in the public sector grew in 2011 1.4% and in 2012 4.5% on average, although this last datum could have a seasonal effect. The labor group with the highest rise in 2011 and 2012 is that of the non-salaried who registered average growth rates of 5.0% and 5.1%, respectively.

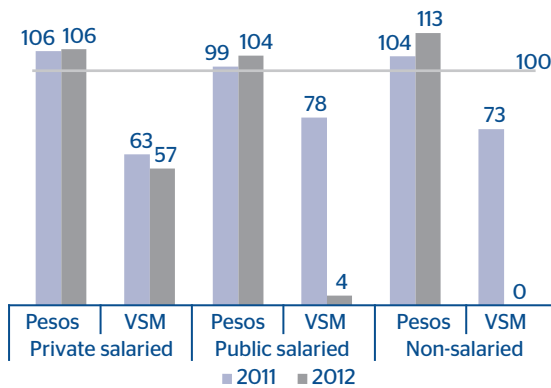
These growth rates of the workers, according to their labor condition, salaried, non-salaried or independent, together with the profitability observed, would lead one to think that the market with the greatest potential is that of the non-salaried. However, the scarce participation of workers in this category in the number of loans indicates that this is not a massive market. Among the paid independent workers,

⁸ The data equal to zero in Graph 52 are due to the fact that no loans were originated in this segment in this month in particular.

⁹ In particular, in the case of the loan supply of BBVA Bancomer, the loans in pesos with increasing payments show a better performance, although there is no information for the rest of the system. Also observed is that the loans based on the number of minimum wages tend to be exorbitant.

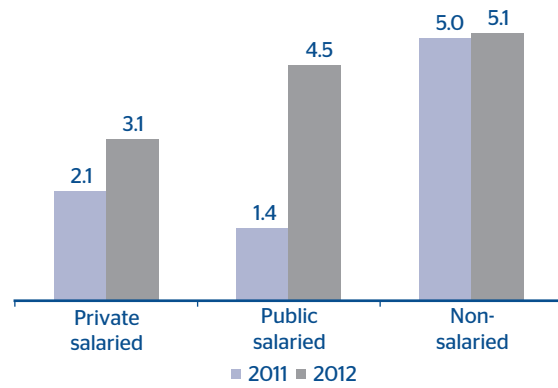
are employers or bosses and workers on their own account, which leads to the fact that diversity within this group is quite extensive. Also, this group of workers tends to be more susceptible to the effects of economic cycles, making their income more volatile. The current measurements of risk are dynamic and adjust both in terms of the behavior observed among borrowers and the expected risk, making the loan risk a dynamic variable correlated with economic conditions. This is why the high profitability observed in this segment is due to the fact that those benefited have a relatively low risk among the total number of workers belonging to this category. Thus, the potential for growth will be limited due to the quality of the jobs and the associated risk due to the different types of workers, where formality and income stability are fundamental.

Graph 53
Average annual profitability by segment
(Index: average profitability, total = 100)



Source: BBVA Research with CNBV data.

Graph 54
Growth in employment according to their condition (Annual % change, average)



Source: BBVA Research with CNBV data.

Conclusions

The macroeconomic stability that Mexico's economy has had in recent years has led to improved mortgage loan conditions for housing, with a favorable impact for the supply of credit through financial intermediaries. However, the impact of that stability has a limit, since inflation and interest rates cannot drop permanently, which leads to market growth dependent mainly on employment growth.

One of the actions of the authorities, other than macroeconomic stability with a favorable impact on the mortgages market, is the possibility that the mortgage loans of the Infonavit be granted in pesos. As we can observe, profitability in pesos is greater than in loans based on the number of minimum wages for salaried workers, which encourages an increase in the supply of mortgage loans for these segments. Precisely because the continued lowering of the cost of loans due to macroeconomic stability will be difficult, some actions by the authorities could make loans more accessible by decreasing transaction costs. In this sense, the modernization of the public property registries and reducing the legal times in the recovery of guarantees will lower the risks associated with the mortgage loan portfolio due to which the supply of mortgage loans is fostered.

Also, in addition to the fact that employment will be the main driving force for greater demand and the granting of loans, we should consider the type of employment that is generated. Even though non-salaried workers are those that are growing the most and the profitability of the loans granted to this segment is higher, the loans to this niche will be limited to the loan subjects with the highest income, lower risk and who operate in the formal market, in order to avoid increasing loan risks and costs and, therefore, lower the profitability. This is due to the fact that the jobs associated with the informal sector, where an important proportion of non-salaried workers operate, implies a greater risk inhibiting the loan supply to this segment, which is why public policies should be focused on formal well-remunerated job generation and on generating the proper incentives for avoiding informality and, thereby, strengthen the rise in the supply of mortgage loans.

3.c Looking back: the good and the not so good of housing policy

Housing development in Mexico has shown exceptional growth since the start of the past decade. Through various programs and institutions, an effort has been made to attend to the housing needs in the country. Progress has been significant and can be measured, among other forms, by the number of mortgage loans granted, access to financing by the public institutions and financial intermediaries or by the number of households that have benefited from the subsidy programs.

Nevertheless, it is clear that the policy of these last 12 years has also had *chiaroscuro*, and it is possible to identify some aspects that should be attended in the coming years to guarantee more orderly growth in housing, and urban development, which should go hand in hand.

This article of *Mexico Real Estate Outlook* analyzes the current housing market and mortgage loans in Mexico and their link to the housing policy that has been followed throughout recent years.

Housing construction managed to double its economic importance

Housing has shown unprecedented growth in the Mexican economy throughout the last decade. Some ways to measure it are the participation of home building in the total value of construction, the number of loans placed by the public institutions, as well as the number of households that have managed to solve their housing needs.

In the first quarter of 2012, the production value in housing construction was 558 billion pesos, which compared with the 442 billion pesos that it totaled in 2000 (measured at current prices) represents an increase of 33%. In real terms the rise in its economic importance can also be verified through its share in GDP, which in 2000 was 17%, while in the 2006-2011 period it averaged 28%. In 2007, the figure even rose to 32%; that is, in only seven years, housing practically doubled its economic importance to the point that one third of what was produced in the entire construction sector was specifically earmarked for housing.

This spectacular growth was not coincidental because it responded to the convergence of structural conditions of the environment and policies that detonated an activity that had been held back for decades.

From a structural standpoint, it was clear that there were important housing needs to be met. The estimates made with regard to the lag in dwellings¹ indicate that, in the year 2000, close to 43% of households did not have an adequate housing solution.

In terms of the environment, macroeconomic stability and inflation control became determining factors in the development of adequate financing products such as loans at a fixed rate in pesos and long-term payment terms. However, the public institutions were the great detonators of financing for housing. The key to this was the 1997 reform of the pension system, which allowed having individualized accounts and transparency in the management of workers' resources. Between 1991 and 2000, the Infonavit and the Fovissste jointly granted 1.5 million mortgage loans; in the following decade, the number of loans totaled 4.4 million.²

Measured in terms of housing needs, while in the first period, the ratio between the formation of households and loans by the public institutions was four (6.1 million households vs. 1.5 million mortgages), in the second period the ratio was 1.35 (5.9 million households vs. 4.4 million mortgages). Undoubtedly, this boost helped to lower the housing lag (for 2010 it has already dropped to 36%), but it also liberated the demand for housing for secondary uses such as housing for rent and housing for

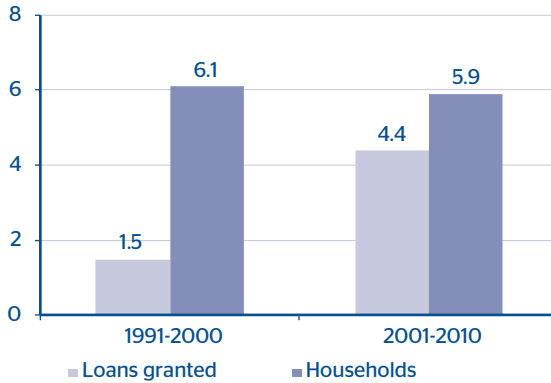
¹ Based on families without housing, householdss in crowded condition and homes built with precarious materials.

² Beyond the importance that the modernization and professionalization of these institutions might have had, their capacity to reach an operational volume of more than 500,000 homes per year is derived, on the one side, from the individualized workers' accounts, and, on the other, from the expansion of the financing plans. The resources managed by the housing funds of the Infonavit (the National Workers' Housing Fund) and the Fovissste (the fund for government workers) grew from 268 billion pesos in 2000 to 690 billion at the start of 2012 (2.5 times growth), all measured at last year's prices. In 2004, the co-financing of loans was introduced in the Infonavit and by 2010 these represented 20% of the loans granted by the agency.

leisure. Between 2001 and 2010, the rise in the housing stock of 9.7 million, surpassed by 3.8 million the formation of households.

Graph 55

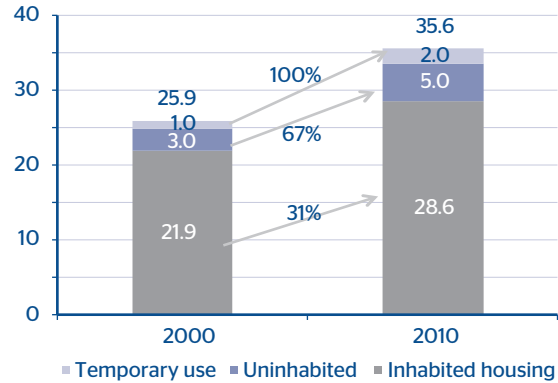
Public institutions mortgage loans vs. household formation (Millions)



Source: BBVA Research with Infonavit, Fovissste & Inegi data

Graph 56

Housing stock (Millions)



Source: BBVA Research with Inegi data

One no less important factor was the capacity of industry to offer housing in volume and price in accordance with what the workers' purchasing capacity and the credit financial conditions of the public institutions allowed.

Moderation in the housing lag moderated and improved housing conditions

In the reduction of the housing lag that took place during the decade, it is important to mention that the greatest progress was made in the needs to replace housing, which went from 26% to 16%. That is, throughout this time, the greater part of those who needed new housing and could purchase it, did so.

In terms of inhabited housing there are mixed results. In terms of progress in this, it can be said that between 2000 and 2010, the percentage of homes with a floor other than a soil floor, rose from 91% to 95% and those that have a separate room as a kitchen (that is, they assign a room to this activity) also rose, from 90% to 93%.

However, not everything was a success. The proportion of households that use wood as fuel remained at around 14% and those that receive water daily even declined, from 71% to 68%.

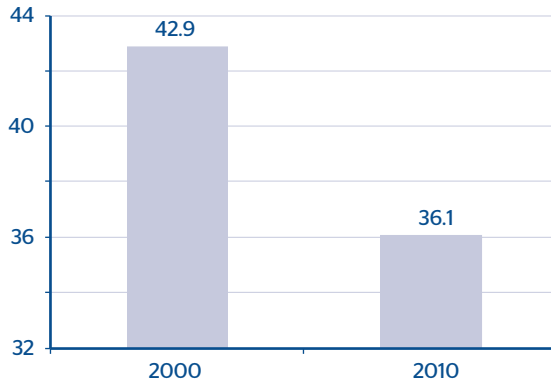
These last indicators are important since they show that, despite the marked growth in the placement of mortgage loans for new housing, a good part of the population continued to be on the fringe with regard to basic housing services, such as gas installation, and, particularly, the adequate provision of services such as water. In part, this is due to a horizontal and dispersed urban growth, for which it is difficult to provide basic services.

The change between 2000 and 2010 in the percentage of families who own their homes shows an interesting result, since contrary to what could be presumed at the beginning, this was reduced from 76% to 71%. This, despite the accelerated growth in housing construction and that, in accordance with the 2010 National Survey of Household Income and Expenditures (ENIGH for its Spanish initials), one of every twelve households declared having received a mortgage loan from the public institutions, Infonavit or Fovissste).

The explanation could be in the acquisition of housing for secondary uses (leisure, rent) and the direction of the support programs toward the population in the formal sector. Between 2000 and 2010, the number of housing units for temporary use increased by one million, or around 10% of the rise in the housing stock during the decade.

Graph 57

**Housing backlog
(% of total housing units)**



Fuente: BBVA Research con datos de Infonavit, Fovissste e Inegi

Chart 6

**Housing backlog
(Percentage breakdown)**

	2000	2010
Total	100.0	100.0
New	25.5	15.5
Remodeling and expansion	74.5	84.5
Remodeling	60.7	78.0
Expansions	13.8	6.5

Fuente: BBVA Research con datos de Inegi

The focus of housing policy, even as regards subsidies, has as its main axis: loan placements by the public institutions. Implementation of the most important housing subsidy program of the federal government “This is your home” has totaled more than 60% through the loans granted by these institutions. What is relevant is that these only cover the population in the formal sector, despite the considerable size of the informal sector.³

Chart 7

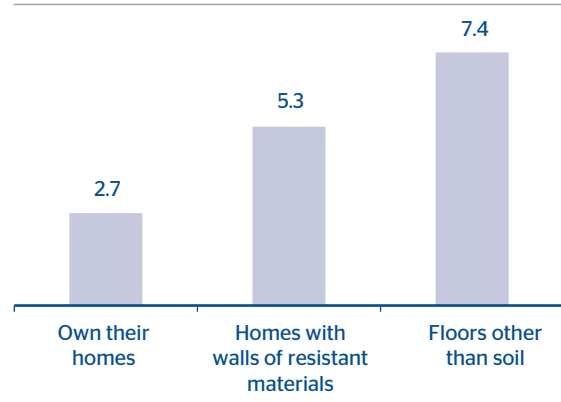
**Housing indicators: 2000 to 2010
(%)**

Households with:	2000	2010
Own home	76.2	71.1
Separate kitchen	89.6	92.7
Walls of resistant material	91.9	93.2
Floor other than soil floor	91.0	95.6
Daily water supply from the p. network	70.7	67.8
Wood as main fuel	14.4	13.9
Loan from public institutes	0.3	8.1

Source: BBVA Research with Inegi data. ENIGH 2000 and 2010

Graph 58

**Progress in housing: 2010 vs. 2000
(Millions of households)**



Source: BBVA Research

The housing market has been guided by supply

An important characteristic of housing policy and the mortgage market is that it has been fundamentally guided by supply. The public institutions that place over 90% of the mortgage loans at a national level (considering co-financing) decide in advance the number of loans to be granted both at a national and a state level. Even though, in the end, the goal can be surpassed in terms of demand; the truth is that it is the signal for builders to decide whether to build and how much.

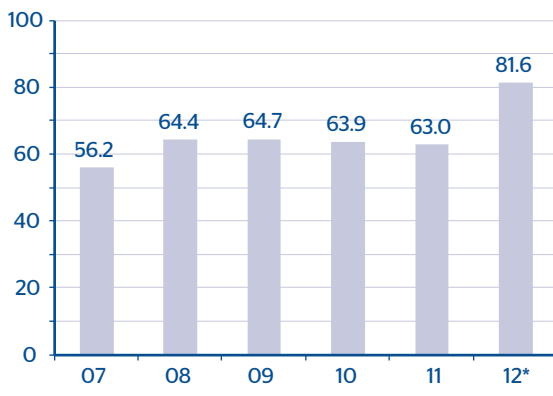
³ According to the National Survey on Jobs and Employment (ENOE for its Spanish initials), through the first quarter of 2012, the population working in the informal sector was growing to nearly 14 million, against 18 million in the formal sector. Also, between 2000 and 2010, the annual average growth rate of the population working in the informal sector came to 2.3%, while that of the population working in the formal sector (public and private) came to 1.8%.

Based on the premise that there is a significant housing deficit, so that what is built is easily placed on the market, perhaps the centralized decisions are justified. Nevertheless, to the extent that the deficit is reduced, the factors related with the economic cycle are becoming greater in importance.

The demand factors, that is, the conditions with regard to the economic or social environment, as well as the studies that guarantee the market's capacity to absorb the housing units to be built and, very importantly, that these units actually meet the needs of their occupants, have passed to second place. As for the goals established by the Infonavit the most important criteria⁴ have to do with the number of rightful claimants that do not exercise their right to credit and the homes in a backlog condition. However, disposable income is as important or even more so than the structural elements in determining housing demand.

Graph 59

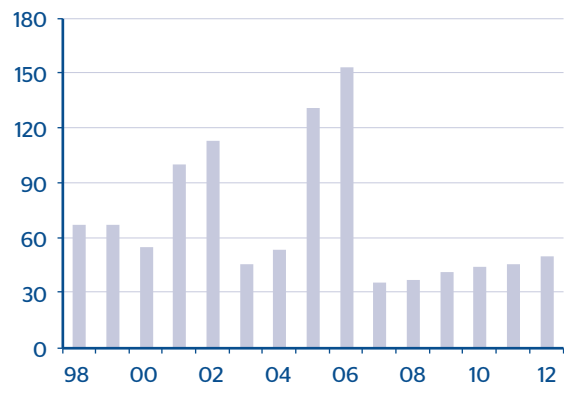
"This is your house" program, budget placed via Infonavit and Fovisste (%)



*Figures through April
Source: BBVA Research with Conavi data.

Graph 60

Federal government subsidies for housing (Average amount, thousands of pesos 2012 prices)



Source: BBVA Research with Conavi data.

Conclusions: a positive balance, with basic progress

A first valuation of the housing policy as of the year 2000 is that attending the need accumulated from time back was emphasized. Developed were the instruments that allowed lowering the dwelling lag as to new housing. Everything as of the promotion of mortgage loans as never before. The first challenge was met. Those that are coming, however, are equally important and go from the need to offer solutions to the population not affiliated to the public housing institutions, until conditions have been established that will allow orderly urban development and with the adequate equipping.

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___ National Survey on Jobs and Employment.

Infonavit (2011). 2012-2016 Financial Plan. December.

⁴ See 2012-2016 Financial Plan.

3.d Looking forward: the challenges in housing policies

Under current conditions, in which a series of housing policies are about to conclude and work is underway on designing new policy, analytical elements should be available that will allow evaluating the progress made and identifying future challenges. To that end, this article in *Mexico Real Estate Outlook* analyzes the current conditions in the country's housing and mortgage loan markets and their relationship with housing policies in place over the past few years.

With a view toward the future, those responsible for housing policy will be dealing with structural conditions and a group of institutions and agencies whose programs are already well established, and the inertia of these two factors ensures significant growth in housing development. The important point is to carry out such policies in an orderly fashion. Properly managed, the growth in housing construction can contribute to raising the value of real estate for its owners, to providing better guarantees for those financing housing construction, to facilitating housing sales by homebuilders, and to promoting user-friendly cities in terms of the budgets and infrastructure available to the authorities.

Managing growth requires an integral and comprehensive policy that properly articulates and coordinates the programs of the various public sector agencies in the three branches of government, and does so with a long-term outlook. To do so, generally speaking, the policy will have to address two major challenges, namely, promoting growth that is more balanced in terms of supply and demand for housing, and strengthening the legal and institutional framework in the field.

I. Orderly growth of housing supply and demand

Housing needs will continue to be important in the coming decades, although it is necessary to identify their origin and distinguish between structural and cyclical components, as well as between potential and real demand. By the same token, it is necessary to identify the factors that currently limit the development of housing demand.

On the supply side, conditions must be generated that will ensure a timely response to trends in demand. Furthermore, the legal dispositions that could help boost construction standards must be strengthened, with housing units classified according to their location and characteristics, which would be a reference point for financial intermediaries and the public housing agencies when it comes time to approve bridge loans or mortgages.

Structurally, demand will continue to be important

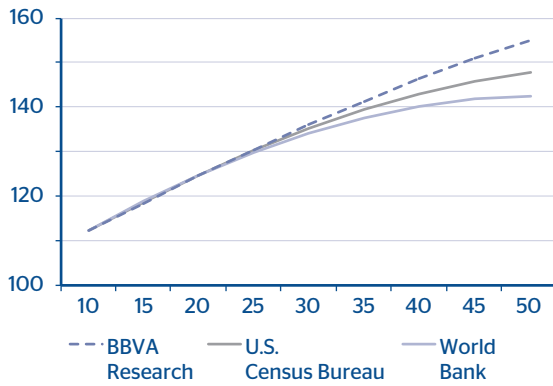
Between demand pressures that have been contained for years, increased family income, the diversity of financing alternatives, and a predominantly young and growing population, the outlook for housing demand over the coming decades is highly favorable.

In terms of the structure and growth of the population, the figures have turned out to be higher than expected. Between 2005 and 2010 an average annual growth rate of 0.7% was anticipated, but in fact, it was double this figure, 1.4%. The reasons for this include a higher than expected fertility rate, less emigration to the United States, and significant immigration from Central and South America and from the United States.¹

The National Population Council (CONAPO) is responsible for the new population growth projections following the results of the last census, but for now, some forecasts, including those made by BBVA Research, suggest that by 2050 the country's population will be in the range between 145 million and 155 million people, far from the Conapo projections, still in effect, that, after incorporating the unanticipated increase in 2010, places the figure at 126 million.

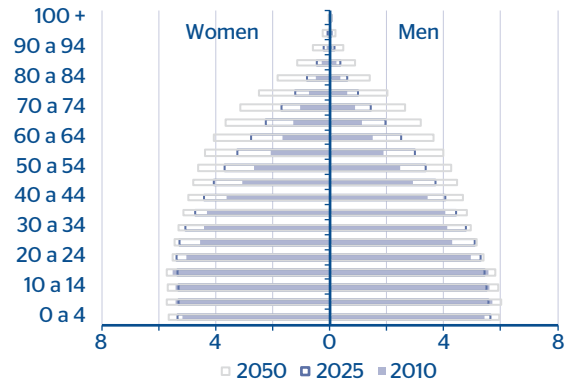
¹ For details on the results of the 2010 Census see *Mexico Real Estate Outlook* July 2011.

Graph 61
Mexico: population projections (Millions)



Source: World Bank, Census Bureau and BBVA Research estimates

Graph 62
Population by age brackets and gender (Millions)



Source: INEGI and BBVA Research estimates

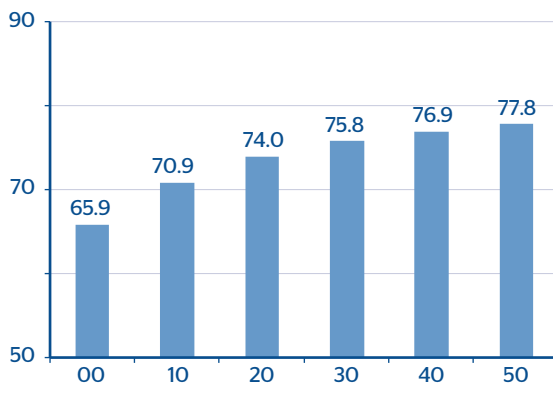
Based on these new estimates, it can be anticipated that the structure of the population will continue to be predominantly young over the next few decades. This is good news in terms of the economy's capacity to create jobs and raise income levels. It is also positive for housing needs, which according to estimates by BBVA Research, could grow in a range of 700,000 per year until 2030.

Part of this momentum will be associated with the formation of households, which grow at a rate significantly higher than that of the total population. Behind this growth are factors such as immigration and the formation of single-person households.

Also influencing this panorama will be the growth in purchasing power. According to the National Survey on Household Income and Expenditures (ENIGH), between 2000 and 2010, the number of families able to afford an average-priced home (with income levels of seven times the minimum wage or higher) increased by 1.1 million.

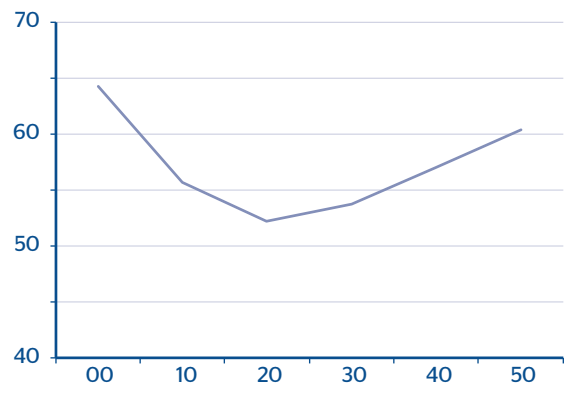
But perhaps the most important indicator to project greater consumption capacity is the so-called dependency ratio, which is to the number of children (0 to 14 years of age) and the elderly (65 years and older) that each person of working age has to support. This ratio could reach its lowest point between 2020 and 2030, which means families will be able to free resources now earmarked for supporting their dependents, in favor of greater consumption.

Graph 63
Economically active population (EAP) (% of total population)



Source: INEGI and BBVA Research estimates

Graph 64
Dependency ratio* (%)



* Population from 0 to 14 years of age and 65 and older divided by the population from 15 to 64 years of age
Source: INEGI and BBVA Research estimates

Additional factors that will drive the growth in demand for housing include the life cycle of families and the need to renew the housing stock. Rest homes, retirement housing, rental housing, and changes in space requirements in housing are factors that will play an important role in future housing needs, albeit still to be defined.

... Although in the short term, employment and income are key variables

Even though structural elements underpin growth expectations in potential demand for housing in the medium term, it is clear that in terms of the short term outlook, the important variables are related to the economic cycle, access to financing, and job creation. In the end, real housing demand depends on these factors.

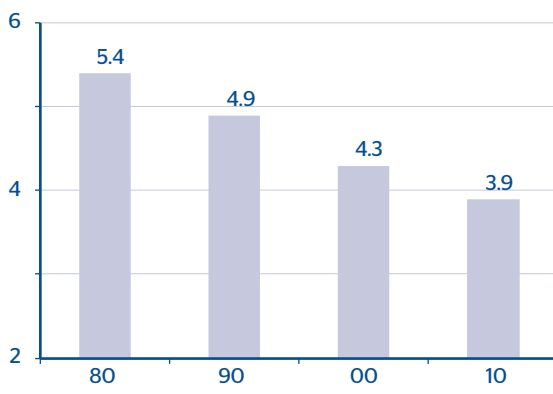
The increased availability of mortgages has been very significant in recent years. With a diversified line of products and aggressive competition among banks, factors such as credit conditions, rates, terms, and the loan-to-value ratio have been gradually adjusted to favor greater access to credit.

Also to be considered is employment growth, which has been greater in the informal sector or in sectors that lack contractual benefits, as opposed to the sectors with such social benefits. According to the National Survey on Jobs and Employment (ENOE), the percentage of the economically active population (EAP) that is self-employed increased from 26% in 2000 to 27.8% in 2012 (figures for the first quarter).

Housing needs are diverse, as are the ways in which to address them

Housing needs have been changing throughout the past few years, starting with the size of households, which has been gradually declining. The average number of household members has decreased from 5.4 in 1980 to 4.3 in 2000 to 3.9 in 2010. In addition, the household structure has also changed, with nuclear families or compound families comprised only of parents and children declining in importance, from 68% of the total in 1980 to 65% in 2010, while single person households have increased from 6% to 9% in the same period.

Graph 65
**Average size of households
(Number of members)**



Source: BBVA Research with INEGI data

Chart 8
**Household structure
(% breakdown)**

	1992	1997	2006	2010
Total	100.0	100.0	100.0	100.0
Nuclear ¹	68.3	67.4	64.3	64.9
Extended ²	24.5	24.4	25.9	24.3
Compound ³	1.2	1.3	1.8	1.4
Multi-family ⁴	0.5	0.4	0.4	0.5
Single person	5.5	6.5	7.6	8.9

¹ Parents and children

² Parents, children, and some other family members

³ Two or more families, with family ties

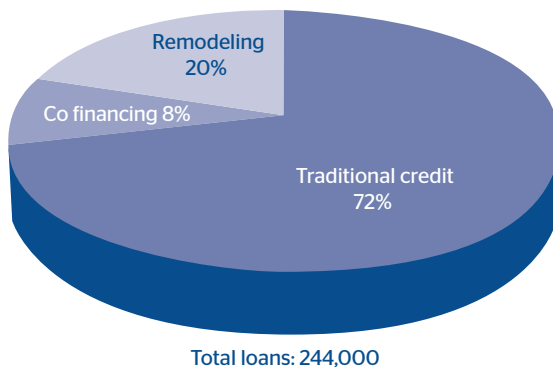
⁴ Two or more members without family ties

Source: BBVA Research with CONAPO and INEGI data

Moreover, not all housing needs correspond to complete housing units. First, in the estimates of the housing backlog that have been made by BBVA Research and other institutions, there is agreement that the majority of the cases (7.5 to 9 million) can be resolved by expansion or renovation. Secondly, it should be noted that of the households that remain in the backlog status, most lack the conditions required to receive financing from commercial banks, and therefore their needs must be addressed with specific programs to combat poverty through the federal or state governments.²

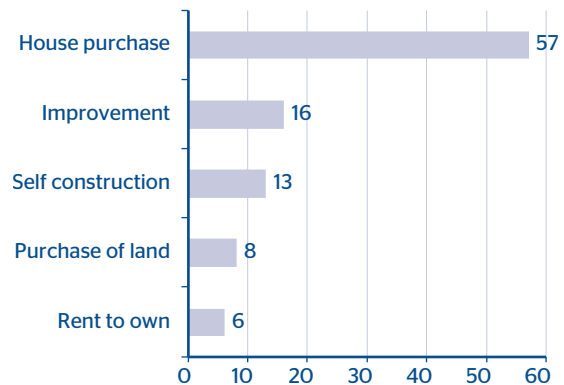
Thirdly, partial solutions, such as remodeling, promise to be a very important market in the future. In 2012 they already account for one of every five loans granted by the Infonavit housing agency.³

Graph 66
Infonavit 2012 housing loans
(Jan.-May, %, number of loans)



Source: BBVA Research with Infonavit data

Graph 67
Infonavit: preference for housing solutions
(%)



Source: BBVA Research with Infonavit data (2011-2015 Financial Plan)

Even among those who would opt for a complete housing unit, it is important to distinguish between those who would be able to buy or rent it. Here, the figures again show a wide diversity of needs, beyond what the products available in the market offer. For example, in a survey undertaken by Infonavit among the housing agency's affiliates who have not made use of their mortgage loans, only 57% showed a preference for purchasing a home, while the remainder would be inclined to choose other solutions.

In Mexico, the norm has been that families inhabit the same house for a long period of time. This made sense when the family dynamic tended toward stability, but social and demographic trends, labor mobility, and migration processes are rapidly changing housing needs within households. There is significant growth potential in the housing market, once some bottlenecks are eliminated that inhibit real estate transactions. Specifically, it is necessary to reduce transaction costs in the buying and selling of real estate to help trigger this market. A study by Sociedad Hipotecaria Federal (SHF), (the Federal Mortgage Association) reveals that transaction costs associated with the sale of a used home add up to 10% of the property value (SHF, 2009).

Some factors that explain the high transaction costs are related to taxes and administrative paperwork procedures. At the same time, the lack of reliable information on appraisals and notary public expenses result in higher costs. Regulating the way in which appraisals are conducted would be a step forward, and would, in turn, promote greater competition and lower the rates among notary publics. A study by the Federal Competition Commission (Flores Bernés, 2009) reveals that in Mexico in 2009, there were 3.4 notaries per 100,000 inhabitants, while the international average is about nine. Moreover, the national figure is only a reference point, because within the country there are major disparities, from Tlaxcala, with the lowest presence of notaries, to Campeche, which posts the highest number (0.9 and 10.1 respectively per 100,000 inhabitants).

² For a detailed analysis of estimates of the housing backlog by type of solution required and household characteristics, see Mexico Real Estate Outlook, July 2010.

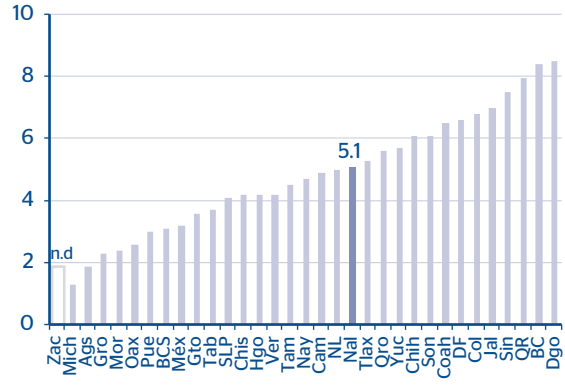
³ See article 2.b. Housing activity and financing: the musical score has change: do the musicians know?.

Chart 9
**Used housing transaction costs
(% of housing price, 2008 figures)**

Total	9.8
Property Acquisition tax	2.0
Public Registry Office fee	0.7
Certified land value	0.0
Appraisal per 1,000 pesos	0.3
Land value or cadastral appraisal	0.1
Various certifications*	0.3
Socio-economic study	0.3
Notary fees	1.3
Real estate agent fees	4.8

*Includes cancellation of mortgage loan, certificate of no encumbrances, certificate indicating no government charges or taxes are outstanding, certificate indicating no service payments are outstanding
Source: BBVA Research with SHF data

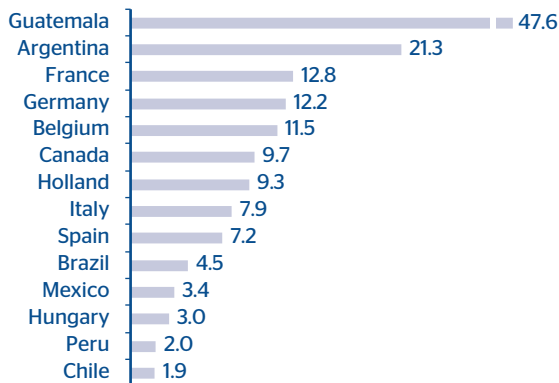
Graph 68
Notary public fees (thousands of pesos) for the purchase or sale of real estate (600,000 peso housing, 2009)



n.a.: not available
Source: BBVA Research with CFC data

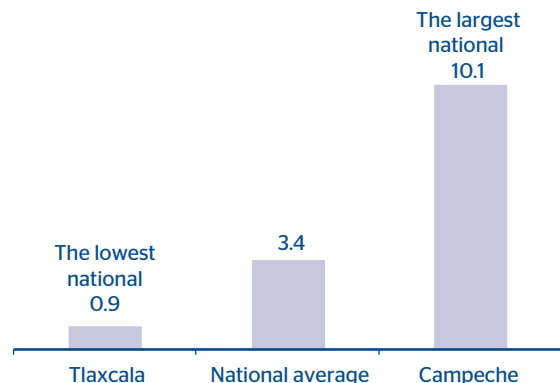
The same study shows that to bring the number of notaries to the level of the three states in which they have the greatest presence (Campeche, Coahuila, and Guanajuato), which on average have 9 notaries per 100,000 inhabitants, the number of notaries in the country accredited in 2009 should be increased from 3,427 to 8,848, that is, a 130% rise.

Graph 69
**Presence of notary publics, selected countries
(Notary publics for every 100,000 inhabitants, 2007)**



Source: BBVA Research with CFC data

Graph 70
**Notary publics in Mexico: regional disparity
(Notary publics for every 100,000 inhabitants, 2009)**



Source: BBVA Research with CFC data

Supply must be adjusted in a timely manner to trends in demand

With the increased availability of mortgages in the last decade came significant growth in housing stock, which far exceeded household formation. It should be noted that part of the increase helped resolve unmet demand from previous years. At the same time, part of the new construction was earmarked for housing for secondary uses.⁴

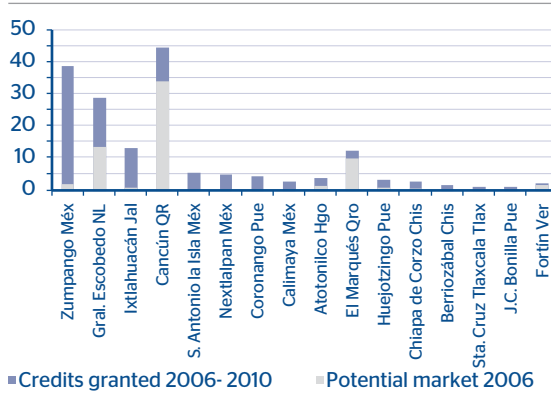
⁴ See Article 3.c Looking back: the good and not so good in housing policy.

Regardless, part of the growth in construction could have exceeded the capacity to absorb demand. Between 2005 and 2010, uninhabited housing rose from 4.3 million to 5 million units, and at least part of the increase could be associated with the construction of housing in locations where there were no urban services or obvious need for housing.

In some municipalities the placement of loans was much higher than the market could absorb. Infonavit figures in this regard speak for themselves. Using as a reference point the number of Infonavit affiliates who have not taken a mortgage loan despite meeting the requirements to do so—which can be understood as a gross measurement of potential demand—to measure the capacity of absorption, it turns out that in a significant number of municipalities, the number of loans granted vastly exceeded what this measurement of potential demand would have suggested. As can be anticipated, there is a direct relationship between a surplus of loans and the level of uninhabited housing.

Graph 71

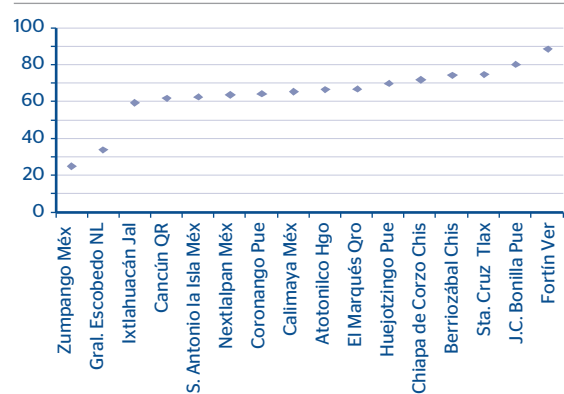
Mortgage loans granted vs. potential number **: selected municipalities (thousands of loans)



* 2006-2010 period
 ** Defined by Infonavit as the housing agency's affiliates with sufficient number of points to obtain a loan but who have not solicited such credit. Figures at 2006
 Source: BBVA Research with Infonavit data

Graph 72

Uninhabited housing (Accumulated figures, thousands of housing units, 2010)



Source: BBVA Research with Infonavit and INEGI data

It is true that the phenomenon of uninhabited housing can be attributed to several factors, but it is undeniable that the location of housing and its characteristics have considerable bearing. According to the 2011-2015 Infonavit Financial Plan, the percentage of uninhabited housing obtained with credit extended by the agency between 2006 and 2009 reached 26%. According to surveys conducted by the housing agency itself, over 90% of such cases can be attributed to a low level of satisfaction by home buyers, due to questions of location, housing characteristics, and the urban surroundings of the housing development.

In 2011 the problem began to be corrected, with changes in the operating rules of the National Housing Commission (Conavi) subsidy program “This is your home”, which went from granting the subsidy to the person to extending it to the housing unit as such, in accordance with a point scoring plan. In 2012, about 25% of homes financed with Infonavit credit will incorporate quality criteria for construction and urban surroundings. This is an important step, and the goal should be to ensure that all housing financed by public sector institutions and financial intermediaries comply with these standards.

II. Strengthening the legal and institutional framework

Institutional coordination is essential

Bringing the efforts of the institutions and agencies responsible for the design and implementation of housing programs in line with each other has not been easy. The reality is that the volume of housing construction has been unprecedented and therefore the challenge that this could imply had not been

fully contemplated. In addition, the growth was so rapid that there was no time to bring together a common view among the policy makers on the most important issues to address and how to do so.

Among federal government divisions and agencies, housing policy and urban development are carried out respectively, by Conavi and the Social Development Ministry (Sedesol). But they are not the only ones involved, since SHF also promotes some programs, such as the Integrated and Sustainable Urban Developments (DUIS) program. Then there is Infonavit, which while on paper is not involved in policy design, given that it is the largest underwriter of mortgage loans nationwide, nonetheless it has acquired great significance in terms of volume and the characteristics of the housing that is built in the country. So many minds, involving important people, must supplement their efforts and act in a coordinated manner to achieve more effective government efforts in this regard.

The decentralization of urban development has been costly

Decisions regarding urban development correspond to the municipal authorities. As a principle, this could appear to be attractive; indeed, who is better equipped than the local authorities to understand the needs of housing and urban services at the municipal level? In practice, however, this measure has been restrictive and, in turn, has resulted in some limitations on urban development.

In principle, all these efforts are based on the concept of planning. Hence, state and municipal government development plans. The reality however, is that for the municipal governments to undertake a good diagnosis and planning study is complicated. Municipal governments' term in office is three years, and in most cases they have poorly trained staff and a limited budget. In other words, their capacity to implement such programs is limited by the availability of resources. Thus, they do not, in all cases, have the basic tool that should guide their decisions, that is, the municipal development plan, and where it exists, it is not necessarily up to date. Moreover, there are no legal mechanisms to guarantee its use.

Nor is there adequate coordination among the different levels of government, and as a result, the federal branch is limited in guaranteeing that its programs are carried out at the municipal level. Access to federal government support programs for housing should be conditioned on the signing of cooperation agreements with state and municipal authorities in relation to urban development.

The growth of cities increasingly occurs on a metropolitan level, but the decisions and decision-making bodies are municipal in nature. Mechanisms of coordination and metropolitan decision-making bodies should be created, given that thus far they exist only to address some budgetary issues. In terms of the decisions taken in relation to housing and urban development, there is much that remains to be done, and efforts should be based on the assumption that responsibility must be shared between authorities.

The modernizing of public and land value and cadaster registries has yet to occur

The operation of public and land value and cadaster registries is very uneven among the different states. In 2005, efforts began to be undertaken to modernize such registries, although the results to date have been modest, and above all, uneven. The result is an increase in costs, in time and money, of real estate transactions.

Finally, the processes for modifying the legal status of semi-communal rural land, known as ejidos, to land for urban development are also complicated and lead to speculative trading, irregular housing settlements, as well as strategies that distort the markets. The accumulation of large tracts of land by some homebuilders are reflections of these practices, which ultimately translates into housing construction on the periphery of the major cities, tracks of land that are difficult to appraise, and speculative bubbles in the land market.

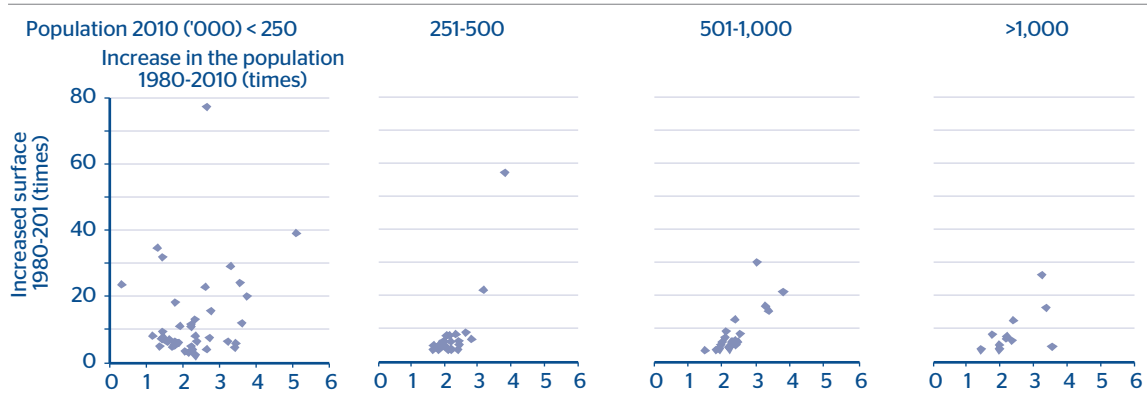
Housing and urban services follow separate paths

In part, these limitations in the institutional framework are reflected in the unequal growth between housing construction and the provision of urban services. Municipalities that in 2005 had populations in the range of 50,000 to 100,000 inhabitants, within five years saw their size multiply several times,

without having sufficient infrastructure to cope with the growth or the budget to provide the required services (Sedesol 2012). In fact, the quantification of investment requirements in infrastructure is made once the housing projects have already been built, when what would be reasonable would be to do so beforehand.

Graph 73

**Growth of the cities: urban area vs. population
1980-2010**



Source: BBVA Research with Sedesol data

The Infonavit figures are compelling. The housing agency's 2012-2016 Financial Plan reveals that, in general, municipalities undertake only 19% of investment in infrastructure and services that are required to accommodate the housing projects that are being built, and their budgets are not being increased in the same proportion as their population growth.

The initiatives that have emerged from the federal government to address this problem of sprawling growth in the cities have been partial and limited in scope. Sedesol sought to include a number of provisions in the Housing Law that would have ensured minimum construction standards for housing projects and ultimately failed to make compliance with such dispositions mandatory. Other initiatives that have been submitted for more orderly urban growth have faced strong obstacles on the part of special interest groups and in the end did not have enough support to be approved in Congress.

Meanwhile, the solution proposed by the SHF to promote the DUIS programs, certainly is attractive because it provides conditions for coordinated participation and a shared vision on housing needs on the part of public housing agencies, government support institutions, and business leaders.

Although the advantages of the DUIS programs are important, they should be seen in perspective. They involve only eight certified projects and an additional 11 that are in the process of being approved. In practice, they will lead to new cities, certainly better planned, but will not resolve the problems that are currently being posed in the municipalities where they are located. For the projects already approved, the number of housing units for which construction is planned represent a 19% increase compared to 2010 levels, and in terms of population, the growth would be 24%. In some cases, such as Temixco, projects involve doubling the 2010 housing stock. In any case, close follow-up will be required in order to introduce the adjustments that might be required.

In summary, at the institutional level there are major tasks yet to be solved, ranging from the role that public entities must assume to the design of instruments to bring local actions into line with the guidelines established by the federal government. Federalization is a good principle, but in terms of urban development, the federal government must bring together the participation of all the forces involved, achieve the necessary consensus, and then establish the mechanisms to ensure that the common goals are met.

Chart 10

Integral and sustainable urban housing developments (DUIS): projects approved in 2012

DUIS Project	State	Municipality	Housing units (thousands)			Population (thousands)		
			2010	DUIS	Increase (%)	2010	DUIS	Increase (%)
Valle de San Pedro	BC	Tijuana	5496	160.0	29.1	1,559.7	640.0	41.0
Puerta de Anza	Son.	Nogales	71.3	22.3	31.3	220.3	89.3	40.5
El Rehilete	Gto.	Villagrán	14.8	10.0	67.4	55.8	40.0	71.7
El Cielo	Tab.	Centro	206.0	30.0	14.6	640.4	120.0	18.7
Terralta	Jal.	Tlaquepaque	169.7	5.6	3.3	608.1	21.8	3.6
Centro Urbano Morelos (Morelos Urban Center)	Mor.	Temixco	37.7	38.0	100.7	108.1	152.0	140.6
Lander Obregón	Son.	Cajeme	141.2	5.1	3.6	409.3	20.5	5.0
Regeneración Urbana Puebla (Puebla Urban Regeneration)	Pue.	Puebla	492.0	41.7	8.5	1,539.8	166.7	10.8
Total			1,682.4	312.7	18.6	5,141.5	1,250.3	24.3

Source: BBVA Research with data from INEGI and Grupo de Promoción y Evaluación DUIS

Conclusions

The housing market has gone through various stages from 2000 to date. Between contained demand pressures and the diversification of instruments and channels for accessing loans, growth in the early years was hardly surprising. However, once this initial momentum had run its course, cyclical elements have been gaining in importance in recent years. The truth is that until now, the market has been driven primarily by the supply side, when it is really demand that determines the real rate of progress. Therefore, for those responsible for housing policy, the first challenge will be to establish the conditions so that the growth of the market is driven by demand. The second challenge will be to strengthen the mechanisms for proper institutional coordination, the key factor in ensuring that growth in the coming years, which will remain at high rates, will be undertaken in an orderly manner.

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4. Statistical appendix

Chart 11

Annual macroeconomic indicators

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012p	2013
Real GDP¹ (annual % change)	1.4	4.0	3.2	5.1	3.2	1.2	-6.0	5.6	3.9	3.7	3.0
Private consumption, real (annual % change)	2.2	5.6	4.8	5.7	4.0	1.7	-7.3	5.0	4.5	3.4	2.8
Government consumption, real (annual % change)	0.8	-2.8	2.5	1.9	3.1	1.1	3.2	2.4	0.6	1.5	2.0
Investment in construction, real (annual % change)	3.2	5.1	4.1	7.9	4.9	4.2	-6.3	-0.1	3.8	3.9	3.3
Residential		3.7	2.5	8.9	3.5	0.5	-16.5	0.0	4.7	3.7	3.5
Non-residential		6.1	5.2	7.2	5.9	6.8	0.4	-0.1	3.4	4.0	3.1
Formal private empl. (IMSS) ² , total	12,370	12,505	12,892	13,483	14,044	14,324	13,886	14,405	15,029	15,658	16,235
Annual % change	0.3	1.1	3.1	4.6	4.2	2.0	-3.1	3.7	4.3	4.2	3.7
Avg. salary of cont. (IMSS, nominal pesos per day, avge.)	168.4	179.2	189.9	200.0	211.0	222.3	231.6	239.2	249.3		
Annual % change	1.9	1.7	1.9	1.6	-28.8	10.7	9.7	7.5	7.8		
Real total wages (IMSS, annual % change)	2.2	2.8	5.1	6.3	-25.8	12.9	6.4	11.4	13.0		
Minimum general salary (daily, nominal pesos)	41.53	43.30	45.24	47.05	48.88	50.84	53.19	55.77	58.06		
% real annual change	0.0	-0.4	0.5	0.4	-0.1	-1.3	-0.4	0.6	2.4		
Consumer prices (end of period, annual % change)	4.5	4.7	4.0	3.6	4.0	5.1	5.3	4.2	3.4	3.9	3.4
TIIE 28 average (%)	6.7	7.3	9.6	7.0	7.2	7.8	5.4	4.6	4.5	4.5	4.9
10-year interest rate, 10 year Govt bond (M10)	9.0	9.7	9.4	8.4	7.8	8.3	8.0	7.0	6.8	6.2	7.0

p. Forecast from the date indicated.

¹ Seasonally-adjusted series.

² Thousands average persons. Seasonally-adjusted series.

Source: BBVA Research with Banco de México, Conasami, INEGI and IMSS data.

Chart 12

Annual construction and housing indicators

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012p	2013
Real GDP¹ (annual % change)	3.3	5.3	3.9	7.8	4.4	3.1	-7.3	-0.1	4.8	4.2	2.9
Building	3.3	3.6	0.7	9.6	3.6	0.0	-14.3	-1.3	4.6	4.3	3.1
Civil engineering and major works	3.3	7.8	12.3	5.5	6.2	10.3	6.5	1.4	4.8	3.9	2.3
Specialist construction work	3.3	10.5	-0.6	2.7	4.1	-0.5	-10.5	1.9	6.4	4.6	4.6
Construc. employmt (IMSS, thousands people, avge.)	9456	9693	10,199	11,328	12,038	12,095	11,036	11,455	11,995		
Annual % change	0.8	2.5	5.2	11.1	6.3	0.5	-8.8	3.8	4.7		
Hydraulic cement production (tons, ann. % change)	0.8	4.0	11.1	7.7	0.9	-2.8	-3.1	-2.9	-1.7		
Nat'l. cement consumption (tons, ann. % change)	-0.3	2.9	10.1	6.7	0.0	-3.7	1.4	-12.3	-2.0		
Construc. comp.² (real prod. value, ann. % change)		1.7	4.2	8.78	2.2	-2.2	-8.6	3.2	3.2		
Building		16.2	9.0	98.1	7.2	-3.1	-18.5	-4.7	6.1		
Public works		-6.0	0.2	92.9	-2.1	-1.5	8.0	9.7	0.1		
Water, irrigation and sanitation		31.2	-1.3	53.2	-2.18	4.1	6.3	0.1	10.7		
Electricity and communications		-15.3	-28.4	85.4	-12.6	15.4	8.2	26.8	21.5		
Transportation		-16.8	6.9	120.5	6.9	7.5	10.5	8.2	-2.9		
Oil and petrochemicals		-0.2	5.7	79.3	-4.2	-2.71	1.7	11.6	-9.6		
Other		-16.4	-0.8	17.3	-10.3	0.7	-35.2	19.9	9.8		
Resid. construc. prices, general (ann. % change)	6.9	14.5	0.6	11.8	2.9	13.1	-1.0	4.8	9.3		
Construction materials (annual % change)	7.2	17.7	-0.2	14.1	2.6	15.5	-1.8	5.2	10.6		
Labor (annual % change)	5.4	4.5	3.8	3.8	4.4	3.5	3.1	3.3	3.8		
Rental equipment (annual % change)		4.1	2.8	2.8	2.9	6.9	1.8	3.2	5.3		
Mortgages granted (thousands)³	382	473	529	597	647	663	591	611	578	580	

p. Forecast from the date indicated.

¹ Seasonally-adjusted series.

² Considered affiliates and nonaffiliates to the Mexican Chamber of Construction Industry.

³ Includes new and used home: INFONAVIT, FOVISSSTE, Banking and Sofoles (considers reduction for co-financing).

Source: BBVA Research with Banco de México, Conasami, Inegi, IMSS and AHM data.

Chart 13

Annual housing finance indicators

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012*
Number of loans granted (thousands)											
Total	295.8	381.8	476.0	567.5	670.8	725.7	747.4	678.2	643.9	599.8	241.6
Infonavit	275.0	297.7	306.0	376.4	421.7	458.7	494.1	447.5	475.0	445.5	172.4
Fovissste	11.1	66.4	59.4	48.7	76.6	68.4	86.9	100.3	90.0	75.2	33.6
Commercial banks and Sofoles	9.7	17.6	110.6	142.4	172.5	198.6	166.4	130.5	78.9	79.1	35.6
Reduction ¹				38.1	73.7	79.2	103.5	91.5	33.9	23.4	10.8
Equivalent purchases	295.8	381.8	472.8	529.4	597.1	646.5	643.9	586.8	610.0	576.4	230.8
Financing flow (billions of pesos, April prices)											
Total	81.9	108.6	153.9	192.6	242.6	259.3	246.9	209.1	211.5	238.3	108.5
Infonavit	68.9	71.9	73.0	93.1	105.7	98.6	113.3	99.9	111.4	131.0	60.3
Fovissste	4.9	22.5	21.0	18.1	28.5	24.7	32.7	48.3	42.4	38.0	13.7
Banca comercial y Sofoles	8.1	14.3	60.0	81.3	108.5	135.9	100.9	60.9	57.7	69.2	34.5
Commercial banks current loan portfolio											
End of period balance (billion pesos)	318.0	318.2	320.7	324.8	327.2	331.1	335.8	344.6	348.0	391.5	409.4
Past-due loans index (%)	11.2	8.4	6.1	3.2	2.7	3.1	3.6	4.6	4.6	4.1	3.8

¹ Refers to finance (loans and subsidies) counted in two or more institutions.

*Mayo figures.

Source: BBVA Research with Banco de México, CNBV, Conavi, Asociación Hipotecaria Mexicana (AHM) and ABM data.

Chart 14

SHF Quarterly House Price Index by state (annual % change)

	09'I	II	III	IV	10'I	II	III	IV	11'I	II	III	IV	12'I
NaTional	4.9	2.4	2.0	3.6	3.1	6.1	7.4	4.6	6.0	4.7	4.5	4.9	3.2
Aguascalientes	5.1	4.4	3.3	4.8	1.8	3.2	4.3	1.3	5.2	4.0	4.0	4.7	2.5
Baja California	5.5	-1.4	-1.6	0.2	-1.7	4.9	6.6	4.1	5.8	5.1	4.7	4.3	3.6
Baja California Sur	3.7	1.2	1.6	1.4	2.4	7.9	9.2	8.3	8.2	5.2	4.1	4.1	5.2
Campeche	0.1	2.9	2.7	2.7	10.4	9.6	10.7	8.4	7.6	6.8	6.3	7.0	6.1
Chiapas	4.4	6.2	8.0	8.8	15.4	13.6	12.2	9.4	5.8	6.8	7.5	6.6	3.7
Chihuahua	5.4	1.0	1.8	0.9	2.4	8.6	10.3	9.2	8.2	6.3	4.4	5.1	5.0
Coahuila	4.5	4.8	4.3	3.5	2.2	3.9	5.8	5.1	8.4	7.0	6.0	6.1	2.7
Colima	6.5	4.5	5.5	6.4	4.9	9.1	9.1	6.2	3.6	3.4	3.0	3.9	4.2
Distrito Federal	6.0	4.5	4.4	7.7	5.5	5.9	6.4	3.0	2.8	3.0	3.8	4.0	3.8
Durango	7.7	7.3	6.7	5.8	1.9	5.1	6.6	5.4	5.5	4.5	4.1	4.9	3.8
Guanajuato	6.9	4.6	3.2	4.4	0.9	3.9	6.0	3.6	6.0	4.3	4.3	5.1	3.5
Guerrero	8.7	3.3	2.2	7.9	5.5	6.6	6.3	-0.5	1.5	1.3	2.4	3.9	-1.2
Hidalgo	3.5	2.6	3.3	2.7	8.1	10.1	10.9	10.0	7.4	7.4	6.8	7.3	6.4
Jalisco	4.2	0.6	-0.4	2.3	0.7	1.8	2.5	-1.0	3.6	3.9	4.7	5.6	1.7
México	4.0	-1.9	-2.9	2.1	3.1	8.6	9.7	4.6	5.8	2.7	3.2	3.6	1.0
Michoacán	7.2	4.2	3.0	4.3	-0.1	3.3	5.6	3.4	7.6	6.4	5.9	6.4	3.5
Morelos	3.7	-0.2	-0.6	3.8	2.7	6.6	7.6	3.1	8.5	4.4	3.9	4.6	1.4
Nayarit	5.7	5.4	5.9	5.5	4.2	6.7	7.4	6.1	5.3	4.3	3.6	3.9	2.7
Nuevo León	4.6	4.7	4.3	3.2	1.1	2.5	3.9	3.7	6.5	5.4	4.5	4.7	2.3
Oaxaca	5.7	7.2	8.1	7.8	11.4	9.6	9.8	9.1	6.2	6.8	7.1	6.3	4.0
Puebla	5.6	1.9	0.5	4.5	5.6	7.2	9.2	4.8	7.5	6.1	6.7	7.6	3.0
Querétaro	3.5	-0.8	-1.1	2.0	3.7	8.6	9.9	6.2	6.0	4.0	3.5	3.6	3.3
Quintana Roo	5.7	-1.9	-2.4	3.3	4.0	12.2	13.0	6.6	3.7	2.5	3.4	2.8	2.7
Sinaloa	2.9	2.9	2.6	2.3	7.2	8.0	9.8	8.2	7.7	7.7	7.0	7.8	5.9
San Luis Potosí	5.5	5.4	5.2	5.5	4.4	6.7	7.7	5.0	3.3	2.8	2.5	3.3	3.7
Sonora	4.1	3.2	3.1	3.0	1.7	5.5	7.1	5.6	8.2	5.7	4.6	4.9	4.3
Tabasco	0.4	4.4	4.3	4.2	11.2	8.6	10.1	8.0	8.8	8.2	7.5	7.8	4.0
Tamaulipas	5.6	3.7	4.1	3.5	1.1	5.5	7.8	7.0	10.2	6.1	4.5	4.9	3.8
Tlaxcala	7.8	4.1	3.5	4.9	-0.5	4.2	5.5	3.4	7.4	4.7	4.9	5.7	3.7
Veracruz	2.1	4.6	3.8	4.5	9.0	7.7	9.4	6.3	6.5	6.5	6.3	7.2	4.8
Yucatán	5.1	6.3	7.4	6.5	7.9	8.9	9.5	7.9	4.3	4.8	3.7	4.5	4.5
Zacatecas	7.1	7.0	6.7	6.7	1.2	4.6	5.8	3.7	5.7	3.9	3.3	4.2	3.3

Source: BBVA Research with Sociedad Hipotecaria Federal (SHF) (Federal Mortgage Society) data.

Chart 15

Quarterly macroeconomic indicators

	09'I	II	III	IV	10'I	II	III	IV	11'I	II	III	IV	12'I
Real GDP (annual % change)¹	-8.3	-7.9	-5.5	-2.1	5.6	7.2	5.2	4.3	3.9	3.8	4.2	3.9	4.7
Real private consumption, (annual % change)	-9.3	-11.1	-5.7	-3.0	4.3	7.3	4.4	4.3	5.0	4.4	4.4	4.3	4.3
Real government consumption, (ann. % change)	5.3	1.8	3.4	2.4	1.0	4.4	2.4	1.9	1.3	-1.4	0.7	1.8	2.8
Real const. investment, (annual % change)	-4.2	-7.0	-6.3	-7.6	-3.1	-0.6	0.7	2.8	4.0	2.4	4.2	4.7	5.8
Residential	-14.6	-18.8	-17.4	-15.2	-7.9	-1.9	2.8	6.9	6.7	3.6	4.7	3.6	5.1
Non-residential	2.9	1.0	0.8	-2.9	-0.4	0.0	-0.4	0.5	2.6	1.7	3.9	5.3	6.1

Source: BBVA Research with INEGI, and Banco de México data

Chart 16

Quarterly construction and housing indicators

	09'I	II	III	IV	10'I	II	III	IV	11'I	II	III	IV	12'I
Construction GDP, real. (annual % change)¹	-6.0	-8.5	-7.1	-7.7	-4.1	-1.5	0.9	4.5	5.8	3.5	5.4	4.6	4.9
Building	-12.7	-16.2	-14.8	-13.4	-7.7	-3.0	0.9	5.0	6.0	3.5	5.0	4.1	5.1
Construction engineering and major works	9.2	7.7	7.3	2.0	1.2	0.4	0.5	3.5	5.2	3.1	5.9	5.0	4.9
Specialist const. work	-12.9	-13.0	-8.1	-7.3	-2.5	1.1	2.6	6.7	7.6	5.9	5.9	6.3	3.8
Construction companies ² (annual % change)	-6.7	-6.8	-6.2	-5.8	-4.7	-2.0	2.2	6.9	2.5	2.5	1.7	3.8	3.8
Building	-18.4	-18.2	-14.3	-10.1	-6.9	-11.7	-9.0	-5.9	0.3	8.1	6.8	7.1	5.0
Public works	10.5	12.6	7.3	2.5	-2.5	7.5	13.5	19.8	4.3	-1.6	-2.6	-0.5	-0.2
Water, irrigation and sanitation	-0.8	10.8	4.0	14.2	9.0	-5.7	-2.1	-3.1	5.7	4.6	12.6	16.8	5.7
Electricity & communications	20.6	6.9	24.4	19.8	29.6	38.4	-2.3	4.9	15.0	13.2	38.2	24.3	-2.2
Transportation	18.1	15.1	5.2	-5.5	-9.5	9.9	16.8	28.2	3.1	-3.8	-6.8	-4.0	-1.5
Oil and petrochemicals	-7.4	9.5	7.7	10.3	-4.1	-7.3	21.5	20.8	-1.0	-9.1	-16.8	-12.0	1.5
Other	-17.9	-36.0	-26.4	-24.0	-5.4	-0.3	7.1	14.5	5.4	-3.2	2.6	17.7	34.3

Source: BBVA Research with INEGI, and Banco de México data

Chart 17

Quarterly housing market indicators

	09'I	II	III	IV	10'I	II	III	IV	11'I	II	III	IV	12'I
Home sales by segment (quarterly flows, thousands of units)³													
Segment A	63.1	81.6	73.9	91.7	73.5	77.1	73.9	105.5	66.5	93.6	83.9	100.9	81.8
Segment B	36.8	44.7	47.3	57.9	36.4	46.8	42.5	66.4	32.2	43.9	35.2	48.1	32.3
Segment C	14.4	16.6	17.2	23.6	14.0	16.9	15.5	26.1	12.2	20.8	18.6	22.4	16.2
Segment D	3.0	3.8	4.2	4.3	3.2	3.6	3.6	5.0	3.5	4.6	4.2	5.1	4.1
Segment E	0.6	0.7	0.8	1.0	0.6	0.8	0.8	1.1	0.8	1.1	1.0	1.2	1.0
Total	117.9	147.4	143.4	178.5	127.7	145.2	136.3	204.1	115.2	164.0	142.9	177.7	135.4
Home sales by agency (quarterly flows, billions pesos, April prices)													
Infonavit	89.2	115.1	110.4	132.8	103.3	113.9	108.1	149.7	93.9	121.3	106.8	123.5	102.1
Fovissste	17.1	21.3	22.6	34.8	14.9	19.5	15.2	39.9	4.1	23.4	15.8	31.9	13.9
Banca	9.2	9.4	9.0	10.0	7.5	10.3	12.0	13.4	16.9	19.0	19.9	21.9	19.1
Sofoles	2.4	1.6	1.4	0.9	2.0	1.5	1.0	1.1	0.4	0.3	0.5	0.5	0.3
Total	117.9	147.4	143.4	178.5	127.7	145.2	136.3	204.1	115.2	164.0	142.9	177.7	135.4
SHF index of housing prices in Mexico													
Annual % change	4.9	2.4	2.0	3.6	3.1	6.1	7.4	4.6	6.0	4.7	4.5	4.9	3.2

Source: BBVA Research with Banco de México, Conavi, Asociación Hipotecaria Mexicana (AHM) and Asociación Mexicana de Bancos (ABM) data.

Chart 26

Quarterly housing finance indicators

	09'I	II	III	IV	10'I	II	III	IV	11'I	II	III	IV	12'I
Commercial banks current loan portfolio													
Past-due loans index (%)	3.8	4.3	4.6	4.6	4.6	4.3	4.2	3.6	3.5	4.3	4.1	3.7	3.7

¹ Seasonally-adjusted series.

² Consider the value of production of companies which are affiliated and not affiliated to the Mexican Chamber of Construction Industry.

Note: Price ranges expressed in multiples of minimum monthly wage (mmwt); 'A' (118-200); 'B' (201-350); 'C' (351-750); 'D' (751-1500) and 'E' (1500 and over) SMM=1,819 pesos in 2011 in zona 'A'.

³ Includes new and used home: INFONAVIT, FOVISSSTE, Banking and Sofoles (considers reduction for co-financing).

Source: BBVA Research with INEGI, and Banco de México data.

Chart 18

Monthly macroeconomic indicators

	M. 11	A	M	J	J	A	S	O	N	D	E. 12	F	M	A	M	J
IGAE (annual % change)	4.2	1.9	4.3	3.6	3.6	4.8	4.8	4.0	4.1	3.9	4.4	6.2	3.4	4.6		
Construction vol. real (annual % change)¹	4.2	1.9	4.3	3.6	3.6	4.8	4.8	4.0	4.1	3.9	4.4	6.2	3.4	4.6		
Building	2.2	5.9	5.0	6.9	6.6	9.2	3.6	1.0	3.7	3.3	5.2	4.1	4.4	7.2	4.7	
Civil engineering and major works	-0.3	1.8	1.1	1.9	2.4	8.2	5.0	1.2	3.9	3.9	4.2	5.6	4.0	6.8	4.4	
Specialist construction work	7.3	7.6	9.7	8.4	8.2	8.4	9.1	6.5	4.5	6.9	5.6	6.0	2.8	6.9	2.6	
Formal private employment (IMSS, mills)²	14,496	14,537	14,593	14,657	14,721	14,764	14,817	14,873	14,905	14,958	14,998	15,042	15,089	15,146	15,193	15,236
Annual % change	4.6	4.3	4.3	4.2	4.2	4.2	4.2	4.2	3.9	4.1	4.3	4.5	4.6	4.6	4.5	4.7
Average salary quote³	248.3	248.0	250.5	249.9	252.3	251.5	248.7	247.6	248.5	248.2	260.5	260.0	258.4	258.4	261.2	
Real annual % change	7.8	8.2	7.5	7.7	8.0	7.9	7.5	7.6	7.9	8.3	8.7	8.5	8.0	7.7	8.3	
Real wage income (IMSS, annual % change)	12.8	12.9	12.1	12.2	12.5	12.4	12.0	12.0	12.2	12.8	13.4	13.3	12.9	12.6	13.2	
Minimum general salary (daily, nom. pesos)	581	581	581	581	581	581	581	581	581	581	605	605	605	605	605	605
CPI (end of period, annual % change)	3.0	3.4	3.3	3.3	3.5	3.4	3.1	3.2	3.5	3.8	4.0	3.9	3.7	3.4	3.8	4.3
TIIE 28 average (%)	4.8	4.8	4.9	4.9	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
10-year Gov. bond interest rate (MIO)	7.6	7.2	6.9	7.0	6.6	6.1	6.6	6.2	6.2	6.5	6.0	6.3	6.3	6.2	6.1	6.0

¹Industrial production index

²Millions of people

³Nominal Pesos per day for the number of members of the Instituto Mexicano del Seguro Social

Source: BBVA Research with Banco de México, INEGI and IMSS data

Chart 19

Monthly construction and housing indicators

	M. 11	A	M	J	J	A	S	O	N	D	E. 12	F	M	A	M	J
Construction emp. (IMSS, thousands)	1,169	1,163	1,183	1,202	1,206	1,228	1,244	1,262	1,258	1,184	1,193	1,211	1,230	1,239	1,258	1,282
Annual % change	6.1	3.2	3.7	3.8	4.2	4.3	4.6	4.5	3.8	4.9	4.4	5.2	5.2	6.5	6.3	6.7
Cement sales (tons, annual % change)	4.4	-1.1	-1.0	3.6	-3.0	1.1	5.8	-0.8	2.6	-2.1	-0.7	8.2	7.3	4.3		
Cement consum. per inhab. (annual % change)³	3.6	-1.9	-1.8	4.0	-2.6	1.5	6.3	-0.3	3.0	-1.7	-0.3	8.6	7.7	4.7		
Construction prices (annual % change)	4.9	4.9	4.8	5.1	5.6	6.2	7.7	8.6	9.0	9.3	8.2	7.1	6.4	6.1	6.0	5.9
Materials (annual % change)	5.4	5.3	5.2	5.5	6.2	6.9	8.7	9.7	10.2	10.6	9.3	7.9	7.0	6.6	6.4	6.4
Labor (annual % change)	3.4	3.4	3.4	3.4	3.5	3.5	3.6	3.6	3.7	3.8	3.2	3.5	3.7	3.7	3.6	3.4
Machinery Rent of (annual % change)	2.6	2.9	2.3	2.5	1.6	2.3	3.2	4.5	4.9	5.3	5.4	4.2	4.1	4.6	5.2	5.2

³The volume of cement production is used as a proxy for consumption

Source: BBVA Research with Banco de México, INEGI, and IMSS data

Chart 20

Monthly housing finance indicators

	M. 11	A	M	J	J	A	S	O	N	D	E. 12	F	M	A	M	J
Comm. banks current loan portfolio (balances, billions of pesos*)	354.1	356.6	355.5	358.4	362.1	365.1	369.5	375.3	383.9	391.5	398.6	401.8	407.2	406.9	409.4	
Annual % change	11.8	12.1	11.7	11.7	11.5	11.6	11.6	11.8	11.4	12.5	15.2	15.0	15.0	14.1	15.2	
Mortgage Sofoles loan portfolio (balances, billions of pesos*)	18.1	18.0	17.6	17.4	17.4	17.3	17.3	17.3	17.5	17.7	17.7	17.7	17.5	17.3	17.1	
Annual % change	-1.4	-1.8	-2.2	-3.0	-2.0	-2.2	-2.8	-3.0	-2.6	-2.1	-2.0	-2.5	-3.3	-3.9	-3.0	
Total annual cost (CAT)	14.2	14.3	14.4	14.2	14.4	14.3	14.2	14.3	14.2	14.2	14.2	14.2	14.2	14.0	14.0	

* June 2012 pesos

Source: BBVA Research with Banco de México, INEGI, and CNBV data.

5. Special topics included in previous issues

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The “land banks”: a little-used financial model
Infonavit: the 2012-2016 Financial Plan and the new Law

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Results of the 2010 Population and Housing Census
Uninhabited housing in Mexico according to the 2010 Census
The BBVA housing price index

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