Real Estate Outlook

Mexico

January 2013
Economic Analysis

- 2013, a year of definitions, both in the construction sector and in the housing market

- Infrastructure projects and financing diversification, will define the rate of progress in the construction sector

- Housing policy enters a new phase, which should benefit planning and a long-term vision

- Housing construction has changed significantly in recent years, but urban development remains a challenge

BBVA Bancomer

Index

Closing date: December 20, 2012

Summary

2012 was a good year for the construction industry which, both in terms of works by the public sector, as well as by the private sector, received strong support, with which its growth rate surpassed that of the economy for the third consecutive year. This year infrastructure projects in transportation and energy, to be set in motion by the new administration could maintain the growth rate in public works. As regards works by the private sector, the diversification of financing instruments also provides a favorable perspective for construction projects such as offices, shopping centers and industrial plants. However, in the end, performance will depend to a great extent on the economic environment where the outlook points to a certain moderation in the rate of activity compared to the previous year.

In the housing market, both the expansion of credit products as well as the decline in activity by the housing institutions has had an impact on the lower placement of mortgage loans. However this has been offset by a strong increase in the banks' activity. With appropriate products, the market continues to offer an important potential for growth.

In terms of housing supply, although there is still a lag, there are some signs both in the acquisition of homes, as well as in their construction, and even in their financing, which suggests a change in trends, although probably gradual, for 2013..

The new government should disclose, throughout the course of the year, the vision and focus of housing policy during the current administration. With this, some of the support programs could be modified. Thus, as in the case of construction, the outlook for this year in terms of housing is one of caution.

In the subjects for analysis, we begin with a review of the non-residential construction industry throughout the last 12 years. Despite its importance as a lever for investment and growth, figures on the matter are scant and disperse. However, once integrated and above all, viewed in perspective, they offer an overview of the growth seen and its potential to continue both at the sectorial as well as the regional level.

With regard to housing, we analyze the impact that policy has had on the industry in recent years, under different perspectives. On one hand, we review the policy regarding subsidies, in order to know how this has influenced housing construction. Secondly, based on housing figures, we characterize some of the most significant changes in this activity, in order to answer questions regarding how, where and by whom. Finally, we present the view of the builders themselves, with some surveys on the changes perceived in recent years, both in terms of the volume of activity they carry out, in demand and in financing.

The results are very interesting. Housing policy has had a significant impact on the industry. Beyond how significant it has been, it is clear that with regard to the subsidy policy, the government has a powerful instrument to correct some of the distorsions that have been generated in urban and housing development. However, to avoid changes halfway down the road, it is fundamental to base our view on an appropriate diagnosis of the sector and to have long-term planning..

Finally, we dedicate a section to the analysis of the 2012-2017 Infonavit Financial Plan, in which the view maintained in recent years is reiterated, of a gradual reduction of housing needs, and some strategies that will be implemented to manage its liquid surpluses and strengthen its activity such as its pension fund. In this same section, we include, starting with this issue, the view of those leaders that contribute or have contributed in defining the course of housing policy in Mexico, on this occasion with an interview of Victor Borras on his view of housing and the challenges for the Infonavit in the medium term..

2.a. Construction closes the year at a higher rate than the economy

Introduction

Construction continues to be one of the most important sectors of the economy, both for its contribution of around 6%, on average, as well as posting a higher yield than that of the economy as a whole. In recent months, its impact has extended to the labor market, where jobs with social security benefits in this sector are created more rapidly than the national average. In a similar manner, it has become an important medium for institutional investors such as the banking system to exploit, and now for individual investors and pension fund management companies through new securities instruments.

On this occasion, the analysis of **Mexico Real Estate Outlook**, portrays a scenario where construction will remain on a growth trend over the following quarters, and with new opportunities for some infrastructure projects to materialize. However, a slowdown already emerges on the horizon.

Although construction growth still exceeds the economy, it is also on a slowdown, along with it

According to the National Institute of Statistics and Geography (INEGI), in the second quarter of 2012, construction GDP surpassed the 600 billion peso mark In the third quarter of 2012, the sector's GDP was 606 billion pesos, with which it is just 12 billion pesos from the maximum historical level in the same quarter of 2008. From a growth perspective, construction output has registered nine quarters of positive rates, of which the last seven quarters have surpassed the national GDP. The construction GDP growth rate in annual terms during the three quarters of the year, average 4.8%, while that of the national GDP averaged 4.2% in the same quarters.

The performance shown by construction in the last eight quarters is based on the development of its three components. Construction, civil works and specialized works have each grown since the last quarter of the year 2010. Moreover, the components of construction maintain a convergent advance, since their growth rates have been similar during the last five quarters, which indicates a solid base for construction GDP. This contrasts with that observed during year end of 2008 and 2009, when only civil works grew due to the intervention of the government through a counter-cyclical policy to reduce the effects of the crisis of 2009. Nevertheless, even when the three components are in a growth phase, construction continues to be the sub-sector with the best performance and the greatest contribution to construction output: In 2012, its contribution to construction GDP was 55% and 37%, in the case of construction and civil works, respectively, with which its joint contribution was 92%.

Public sector construction recovered strength in infrastructure

Although the National Survey on Construction Companies (Encuesta Nacional a Empresas Constructoras (ENEC) provides the value of production and not precisely the added value, it is the best source available in terms of type of works. Moreover, there is a high correlation between this series and construction GDP. For example, when comparing the 10 months of 2012 for which there is information against the 10 months of 2011, it is seen that the production value of construction companies has grown 4.0% in real terms. The previous yield follows the 4.8% GDP growth line average for construction up to the third quarter of 2012.
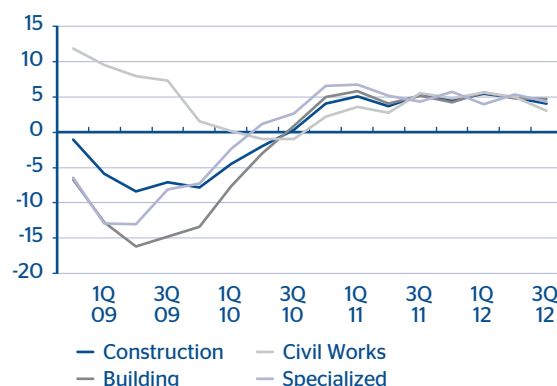
Graph 1

National GDP and that of construction
(Billions of pesos and annual % change)
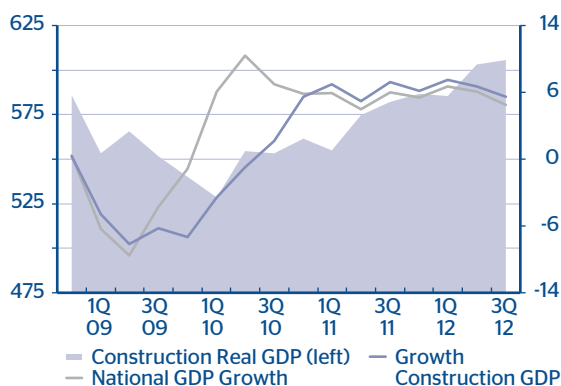
Source: BBVA Research with INEGI data

Graph 2

## Construction GDP by component
(Annual % change)

Source: BBVA Research with INEGI data

According to the results of the National Survey on Construction Companies (ENEC), construction has been losing share in construction production. At the end of 2008 it contributed 54% of the total, while so far in 2012, its share is 45%.[1] This is due mainly to the drop in housing production, but in contrast, non-residential construction continues to grow. On the other hand, both construction production in the transportation and energy sector has increased its importance in the sector; with both types of construction works contributing around 37% at the end of 2008, growing to slightly more than 42% four years later. With regard to the results of the first quarter of 2012, the increase in the production value of both types of construction works was minimum, but nevertheless continued to rise. In its annual comparison, transportation left the negative area and in the second and third quarters of 2012 showed annual yields of over 10%. A type of construction that has posted growth rates above that of the average for the sector and in the six most recent months has continued growing is that associated with hydraulic and auxiliary works. During these two quarters, its annual growth rate surpassed 20% compared with that produced in the same quarters of the previous year.

Graph 3

Value of construction production by type of work (% share)
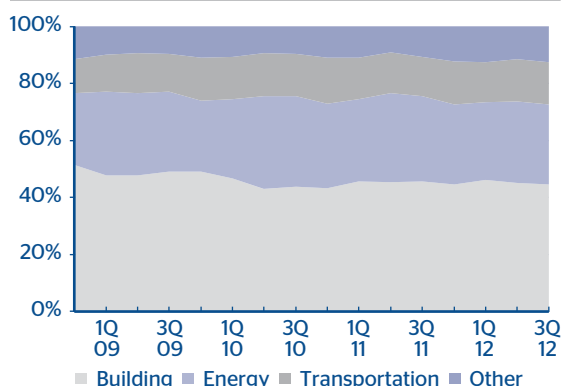
Note: Energy includes the types of works: Electricity and Oil and petro-chemicals; Others considers Water and Sewage, etc.
Source: BBVA Research with ENEC and INEGI datai
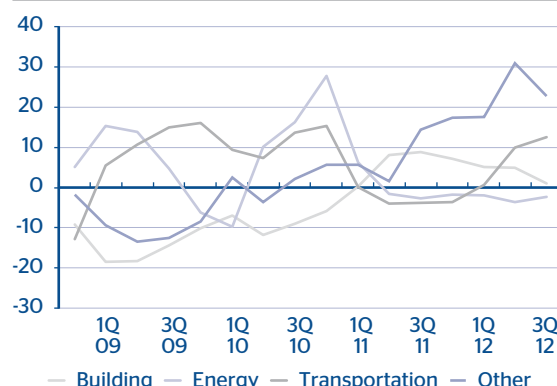
Graph 4

## Value of construction production: types of works (Annual % change)

Note: Energy includes the types of works: Electricity and Oil and petro-chemicals. Others considers Water and Sewage, etc.
Source: BBVA Research with ENEC and INEGI data

[1] This share refers to the value of production and not to GDP of the sector , where construction has a greater than 50% share in the latter..

The public sector continues to generate a greater production value than the private sector, although barely more than half of the total production, at around 52%. In the two most recent quarters, production of both sectors rose. During this period, the public sector averaged annual growth of 5.1%, while the private sector grew an average of 4.1%. Now attention will be directed toward whether the public sector will maintain this pace, since during the greater part of 2011 only the private sector grew and these positive yields seem to be the result of the electoral period, which has now ended. Therefore, a decline could be seen in public works without the intervention of greater spending in infrastructure by the federal and state governments.
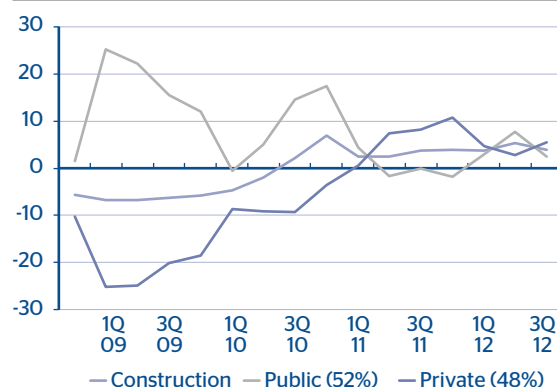
Graph 5
Value of public and private production (Billions of real pesos)
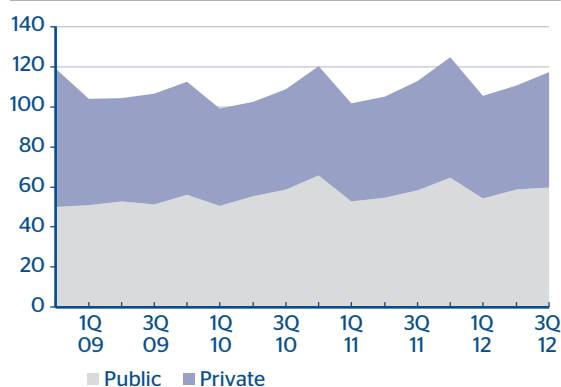
Source: BBVA Research with ENEC and INEGI data

Graph 6
Value of public and private production (Annual % change)

Source: BBVA Research with SCNM, ENEC and INEGI data

We conclude this section with a review of the three main indicators of construction; GDP, industrial activity and production value. Despite the differences among the three indicators, a high correlation is observed among them as well as the definition of the economic cycle of the sector. The first significant coincidence is that the three series show sustained and stable growth with rates of over 4%. From this, we can infer that growth will be sustained but there are also signs of a slowdown in the sector if we observe the results of the second and third quarters of 2012. For example, GDP fell from rates between 4.5% and 5.4%, to 4.0%; industrial activity fell from rates of up to 6.3%, to 2.7%, all in annual terms.

Graph 7
Construction activity indicators (Annual % change)
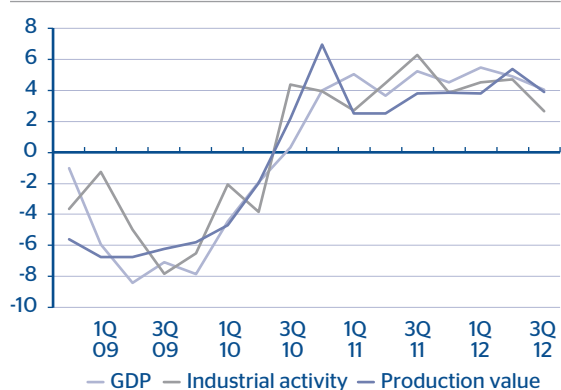
Source: BBVA Research with SCNM, ENEC and INEGI data

Graph 8
Construction activity indicators (Índex 4Q08 = 100)
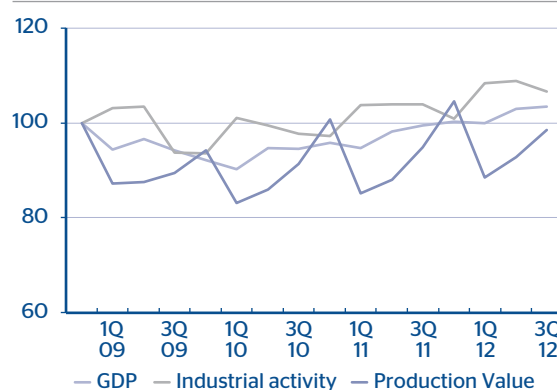
Source: BBVA Research with SCNM, ENEC and INEGI data

Greater demand for inputs will maintain rising production

The economic agents engaged in construction continue to demand greater raw materials and labor for production. Thus, in view of a greater demand for inputs and production factors, the sector is expected to continue rising, at least in the short term. In particular, employment in construction continues to rise,

although at lower rates. In the third quarter of 2012, the construction sector had 3.6 million workers, the second highest figure since the year 2000 (only after 3.7 million in the second quarter of 2011). This represents growth of 2% compared to the close of 2011. This rate is lower than the 3.0% of 2011 compared to 2010 and the 3.6% of 2010, compared to 2009.

The increase in demand for labor is also seen in workers affiliated to the IMSS (the Mexican Social Security Institute). Up to November, 146,000 construction workers had been incorporated in the IMSS. In terms of annual rates, the number of workers in the sector affiliated to the IMSS. In terms of annual rates, the number of construction workers affiliated to social security surpasses the growth of these workers at the national level since December of 2011. From that month to November 2012, the annual growth rate of construction workers affiliated to the IMSS averages 6.3%, while that of the annual average in the same period is 4.6%.

Sales of the main inputs of the construction sector also increased, although the growth rates are low compared to previous periods. Real cement and concrete sales were in descent during the first half of 2012, and it was only until the third quarter that they posted growth, although moderate, at an annual rate of only 1.3%. [2] Other inputs related with steel and metal structures continue growing although at a slower rate. During all of 2012, sales of these metal structures have risen, but in the third quarter of the year the annual growth rate fell from levels close to 10% to 7%. In any case, it is true that demand for the two most important groups of inputs for construction continues to increase. These results strengthen our scenario of growth in construction, although at a lower rate.
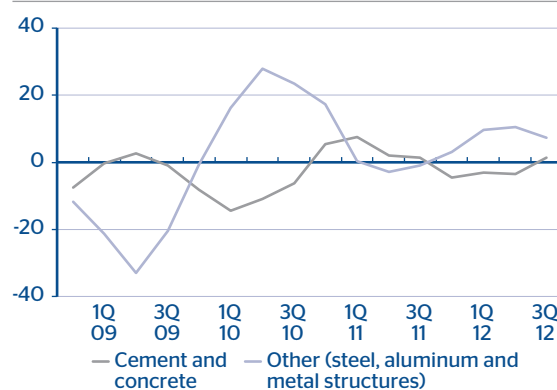
Graph 9
Employment: total and construction
(Annual % change)

— National — Total construction — IMSS construction
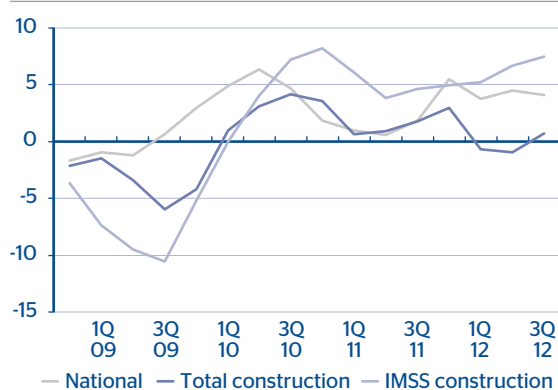
Source: BBVA Research with ENOE (Survey on Employment) and INEGI data.

Graph 10
Construction inputs
(Annual % change)

— Cement and concrete — Other (steel, aluminum and metal structures)

Source: BBVA Research with EMIM and INEGI data

The financial sector responds to the pace of construction

Bank financing to the construction sector continues to rise, and in the last six months at a greater pace. Credit for construction continues in accordance with expectations and the credit quality shown by the sector. The banks and the Sofoles continue to grant credit for construction, but in a responsible manner. It is true that economic activity in construction is growing and the indicators show that this will continue, but while the construction loan portfolio for communication thoroughfares or non-residential buildings maintains a proportion of non-performing loans lower than the past-due loans ratio of housing developers, it is still at high levels.

The balance of the banks' performing loans portfolio for construction surpassed 340 billion pesos in October 2012. This balance increased by 47 billion pesos, which represents 16% growth compared to the 2011 close. The quality of this portfolio shows an improvement, with its past-due loans index descending from 7.3% to 5.9%. also from the end of 2011 to October 2012. In the same period, the performing loan portfolio to housing developers fell from 43 billion pesos to 35 billion, representing a 20% drop from the end of 2011 to October 2012. The deterioration of this portfolio increased when its non-performing loans

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[2] The economic agents that demand cement have received good news regarding the supply sources of this product. It is expected that in 2013 an investment of 300 million dollars will be defined for a new cement plant by Elementia in the state of Hidalgo, with which cement supply capacity will be increased by one million tons.

index rose from 13.5% to 16-2%, where the Sofoles have shown the greatest growth in non-performing loans. Therefore, financing for construction has increased in types of construction other than housing, such as non-residential construction, communication thoroughfares and other engineering works. The balance of the performing loan portfolio of the latter segment has surpassed 300 billion pesos, with which its share in total financing for construction reached 90%. The increase is significant when we consider that, in December 2011, the balance of the peroming loan portfolio was barely over 250 billion pesos.

Graph 11, 12 y 13

Real performing loan balance of credit for construction; annual % change and past-due loan index (Billions of pesos and %)
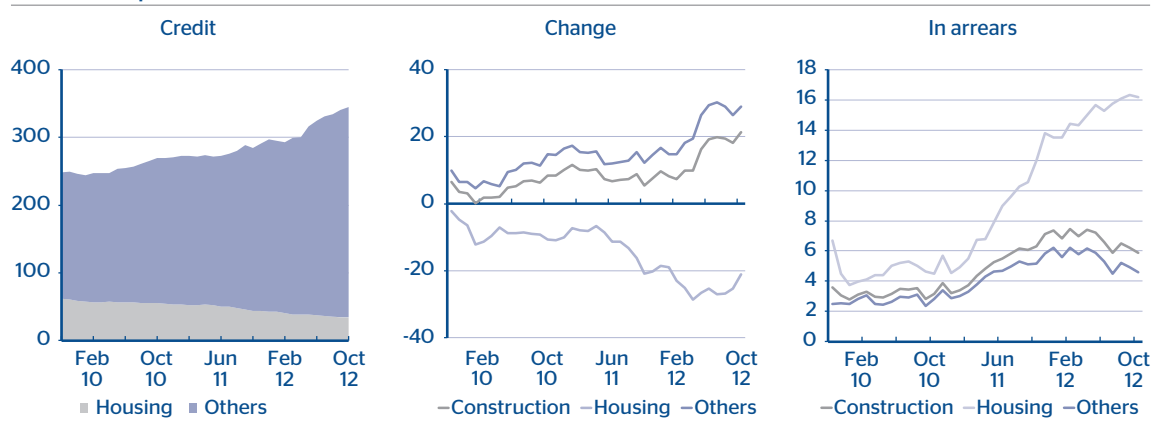
Source: BBVA Research with Banco de México data
Note: Others considers thoroughfares, non-residential construction and other engineering works.

Conclusions: the sector slows down

In the previous edition of *Mexico Real Estate Outlook* we expected economic activity in the construction sector to continue growing, although with greater moderation. Current figures lead us to maintain this outlook, since the slowdown begins to be perceived. The various indicators related to construction present a scenario where the growth rate of the sector will soon converge with that of the overall economy. Building will continue to be the component with the greatest impact for construction, but it is likely that construction of infrastructure will have an influence thanks to new legislation and some specific projects of the new administration. Nevertheless, in construction, it is the non-residential aspect that will surely continue to be significant, while housing construction will still await a generalized recovery.

Chart 1

GDP Construction and components (Real annual % change)

Period	Total-GDP	Construction	Building	Civil Works	Specialized works
2009	-6.0	-7.3	-14.3	6.6	-10.3
2010	5.3	-0.5	-1.2	0.1	2.0
2011	3.9	4.6	4.8	4.1	5.5
1Q12	4.9	5.4	5.6	5.6	4.0
2Q12	4.4	4.9	4.8	4.9	5.3
3Q12	3.3	4.0	4.7	3.0	4.3
4Q12	2.4	3.5	4.1	2.6	3.8
2012	3.8	4.5	4.8	4.0	4.3
2013	3.0	3.0	3.8	2.2	1.9

Source: BBVA Research with INEGI data

Graph 14

GDP Construction and components (Real annual % change)
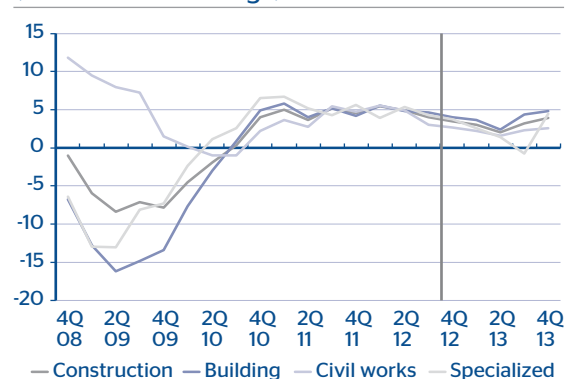
Source: BBVA Research with INEGI data

2b. Housing market: no running on a slippery floor

2012 was a year of important changes in the mortgage market. In aggregate terms, growth was modest, but internally, the banks maintained a double-digit growth rate in the amount of financing, and the housing agencies amply met their annual financing programs, showing also that needs have diversified. As we have noted in previous editions of **Mexico Real Estate Outlook**, demand has been changing and this requires more and better financing products. A review of the recent indicators of this activity allow us to reiterate that there is still ample room for the market to grow. However, this year, the economic context will definitely influence demand and the housing policy proper will have a bearing on supply.

Demand for mortgage loans continues to grow

The results of the mortgage market through October, show 5% growth in the number of mortgage loans. With this, toward the close of the year, the total number of individual loans could be around 590,000, practically the same level it has maintained since 2009. In terms of financing value, growth in real terms was 8.3%, a figure slightly better than the number of loans. However, in this area also, the market is at 2009 levels.

Chart 2
Number of loans and financing amount granted by institution
(Billions of pesos at 2012 prices)

	Number of loans (Thousands)			Credit Value (Billions of pesos)		
	Oct-11	Oct-12	Annual % change	Oct-11	Oct-12	Real annual % change
Public institutions	403.6	416.1	3.1	115.2	126.2	4.8
Infonavit	355.3	360.4	1.5	93.3	98.2	0.6
Fovissste	48.3	55.7	15.2	21.9	28	22.4
Private institutions	65.9	71.7	8.7	56.1	67.9	15.7
Banks	63.5	69.7	9.8	55	67.2	16.8
Sofoles	2.5	1.9	-21	1.1	0.7	-37.2
Subtotal	**469.5**	**487.7**	**3.9**	**171.3**	**194.2**	**8.3**
Total Cofinancings (-)	**48.7**	**45.4**	**-6.8**	---	---	---
Infonavit total (-)	30.4	23.3	-23.5	---	---	---
Other Cofinancings (-)	18.3	22.1	20.9	---	---	---
Total	**420.8**	**442.4**	**5.1**	**171.3**	**194.2**	**8.3**

Source: BBVA Research with Infonavit, Fovissste ABM and CNBV data

Despite its apparent stability, the market has shown notable growth, as seen in the changes in the participation of its various agents. The volume of credit granted by the public institutions has declined in recent years. Taken jointly, Infonavit and Fovissste fell from placing 547,000 loans in 2009 to an estimated 510,000 in 2012. With the Sofoles having practically disappeared, this means that the growth is due to the commercial banks. Between 2010 and 2012, the number of loans granted by the banks grew 16.6% for the January to October period, and financing posted 34% growth in real terms.
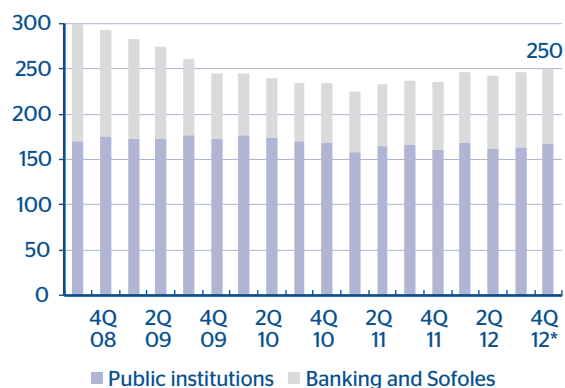
Graph 15
Number of loans granted by institution
(Thousands, annualized figures)
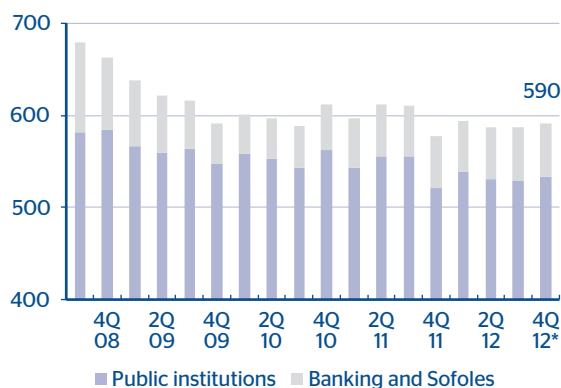
*Figures through October
Source: BBVA Research with Infonavit, Fovissste and ABM data

Graph 16
Financing by institution
(Billions of pesos, 2012 prices, annualized figures)

*Figures through October
Source: BBVA Research with Infonavit, Fovissste and ABM data

Just in 2012, through the month of October, bank financing in the mortgage market had grown 17% in real terms. This increase is seen in both credits funded with the banks' own resources as well as through cofinancing operations.

Graph 17
Credit from the commercial banks
(Annual % change)
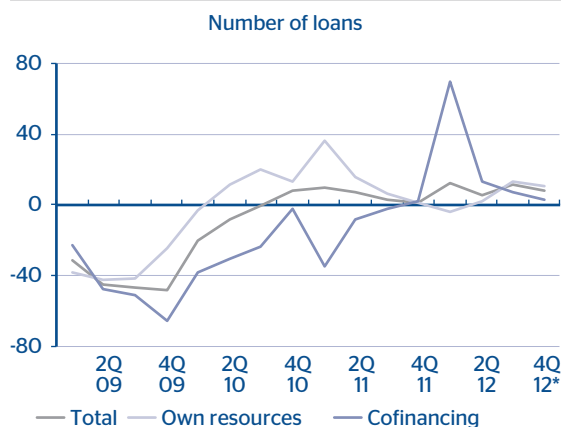
*Figures through October
Source: BBVA Research with ABM data
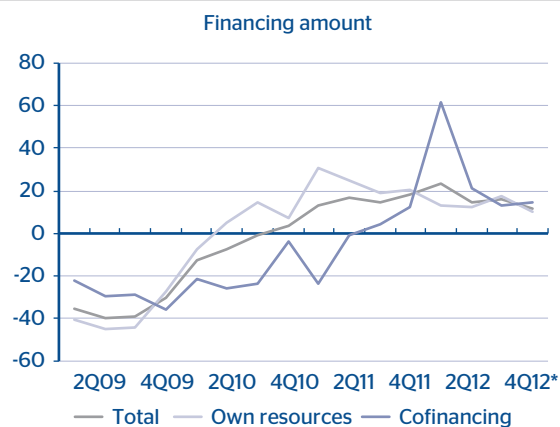
*Figures through October
Source: BBVA Research with ABM data

The reduction in mortgage activity of the public institutions is not a sign of lower demand, but rather the result of the annual financing program of these institutions. In the case of Fovissste, the number of loans is predefined, based on an annual target and the results of a drawing.

In the case of Infonavit, the annual program is not as restrictive. In turn, what has occurred is the expansion of its financial plans to incorporate remodeling. This is not a mortgage loan, but it has been well received among the affiliates to the institution: from an expected 50,000 loans of this type in the year, at the end, there were 150,000, which came to represent 27% of all the loans granted by the institution.

Chart 3
Infonavit: 2012 loan program advance
(Thousands of loans)

Salary Range (SM:= Minimum Wage*)	Annual Goal	Advance (9, Dec)	Advance vs. goal (%)
<2x SM	100	95	95
2-4x SM	140	154	110
4-11x SM	134	106	79
> 11x SM	66	47	71
Renew your home program** (Renueva tu Hogar)	50	144	287
Total	490	546	111

* SM (Minimum wage) ** Credit for remodeling
Note: Includes only formalized loans
Source: BBVA Research with Infonavit data

Graph 18
Infonavit mortgage loans
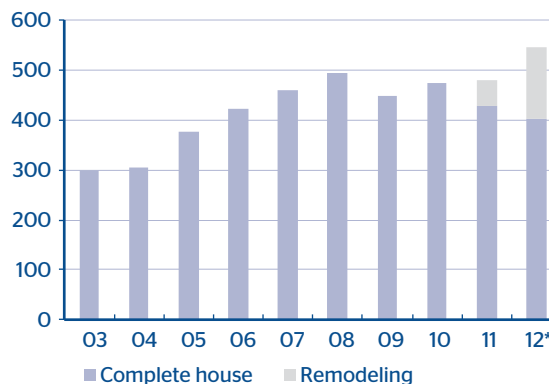## (Thousands of loans)

■ Complete house ■ Remodeling

*Figures through December 9
Source: BBVA Research with Infonavit data

Among what are mortgage loans, those destined for low-income segments, up to four minimum wages, complied amply with the objective planned for the year (250,000 loans through December 9, against an expected 240,000). In turn, the loans for the middle income segment (more than four minimum wages) did not meet its goal (153,000 of the 200,000 programmed). However, it is not clear whether this should be interpreted as a contraction of demand, because it could be the reflection of a lower availability of new housing in some locations, as is commented later.

Growth of bank credit, due to the focus on its natural market

The solid performance of bank credit is the result of various factors which includes a favorable economic environment, strong competition among institutions and a greater focus on the population segment that it can attend better.

In terms of the environment, employment has been growing at similar or higher rates than the economy, whose rate of expansion has been at around 4% in the last three years, above that estimated to be its long-term potential, along the order of 3.5%. In this context, consumer confidence has remained rising through the month of November, its level comparable to that of May 2008. Both employment and confidence are key indicators for the acquisition of durable consumer goods, such as housing.

Graph 19
Employment and consumer confidence
(Annual % change)

—— Consumer confidence —— Employment (right)
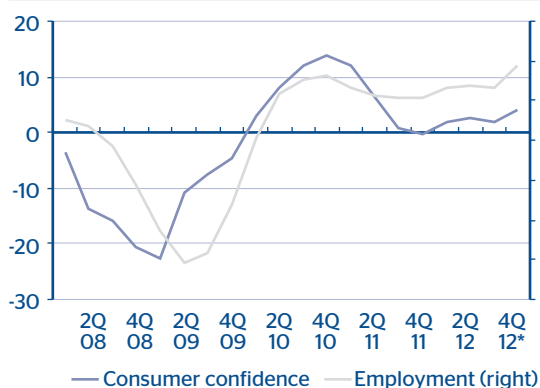
*Figures through November
Source: BBVA Research with INEGI data

Graph 20
Mortgage loans vs. economic activity
(Annual % change)

—— Loans granted by banks —— IGAE (right)
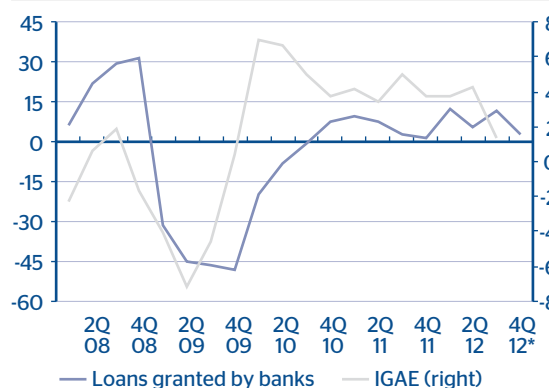
*Figures through October
Source: BBVA Research with ABM and INEGI data

Competition among the banks has also played an important role in the growth of credit. The aggressive strategies adopted by some of these institutions have translated into significant reductions in the interest rates on loans. This has improved the population's access capacity to financing, which is seen in the increased value of affordable housing and a lower payment effort.

Graph 21
Indicators of accessibility
(low-income housing)

Affordable housing (thousands of pesos, 2012 prices)

Payment effort (mortgage expense as percentage of salary)

*Figures through October
Source: BBVA Research with INEGI, STPS and B de M (central bank) data.

*Figures through October
Source: BBVA Research with INEGI, STPS and B de M (central bank) data.
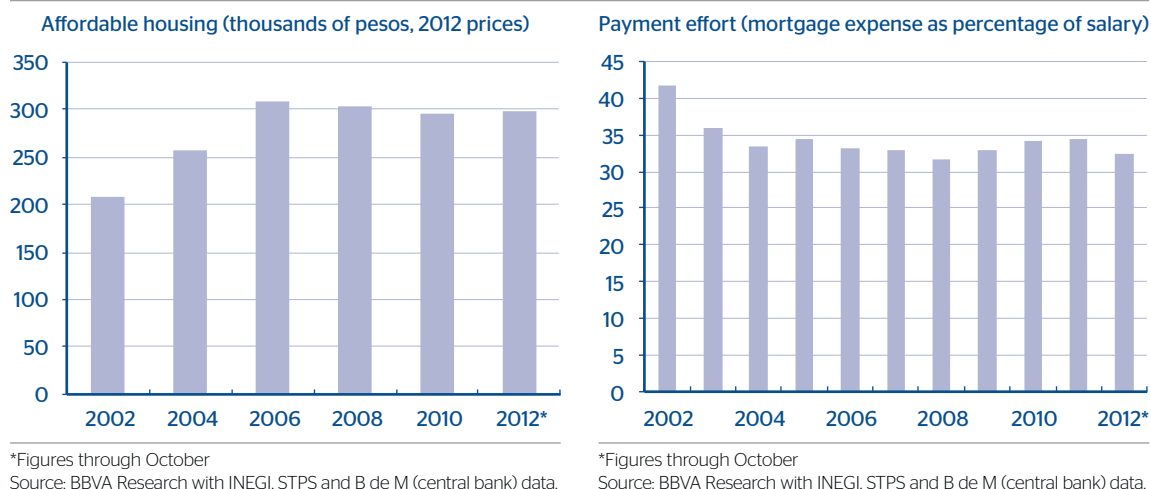
Finally, the banks have been redirecting their strategies, with products that seek to better attend the needs of the population, which is their natural market. Between 2009 and 20012 the average mortgage in the banks rose from 817,000 pesos to 973,000 pesos, measured at last year's prices- The number of loans granted with their own resources rose from 34,000 to 46,000.

The share of the middle and high income population segments in bank mortgage loans has been growing. From representing slightly more than 40% in 2009, it had already surpassed 50% by 2012. Despite it being a smaller market, the banks have more room for growth. First, because there is an important volume of the population to be attended- According to the 2010 Survey on Household Income and Spending (ENIGH 2010) the number of households with an income of more than five minimum wages (that could pay a mortgage) is 10.5 million and there are 3.7 million with an income above 10 minimum wages. If, instead of taking the current monetary income, as is done in this exercise, the total current income is taken, which includes, among others, rental income, capital gains and transfers, the number of households rises to 14.2 million and 5.3 million, respectively.

Graph 22
Mortgage loans by income level (% share)
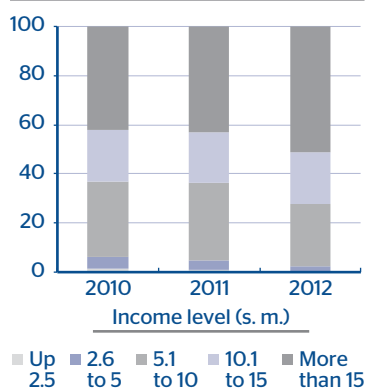
Graph 23
Mortgage interest rates (%)
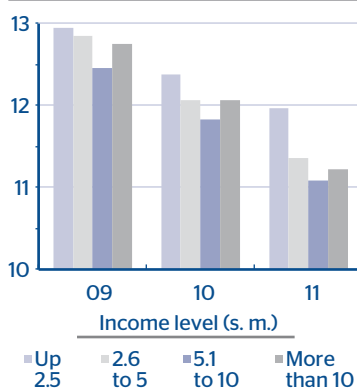
Graph 24
Probability of default (%, 2012)

Income level (s. m.)

Income level (s. m.)

Property Value (thousands of dollars)

Up 2.5	2.6 to 5	5.1 to 10	10.1 to 15	More than 15

Up 2.5	2.6 to 5	5.1 to 10	More than 10
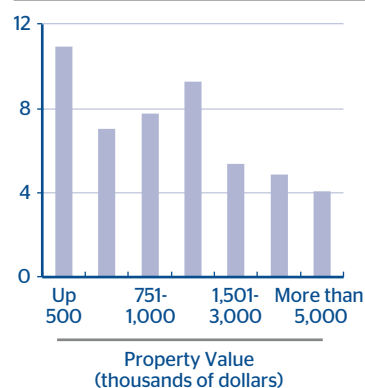
s. m.: salarios mínimos (minimum wages)
Source: BBVA Research with CNBV data

Secondly, because although to the extent that the income level increases, mortgae interest rates decline (a sign of greater competition), the yield on these loans remains high due to the risk profile, which is compraratively lower. The probability of default on the loans diminishes as the housing value increases (which in turn depends on income): For housing with a value of up to 500,000 pesos, the probability of default is close to 11%, but this figure is reduced to 5% or lower when housing value is more than 1.5 million pesos.

In addition to income, there are important regional differences with regard to credit risk, both at the state and municipal levels, where in some cases the probability of default could even exceed 50%.

Graph 25
Probability of default by state (%)

Source: BBVA Research with CNBV data

Thus, even though there is room for growth, there should be caution. Up to now, the general indicators are favorable. Non-performing loans are contained, housing prices grow in a stable manner and in line with inflation, and the banks' exposure to mortgage credit is not particularly high (the percentage with respect to total loans granted is 19%, when the recommendation is to maintain this under 30%).

Graph 26
SHF Index on housing prices
(1Q08=100)
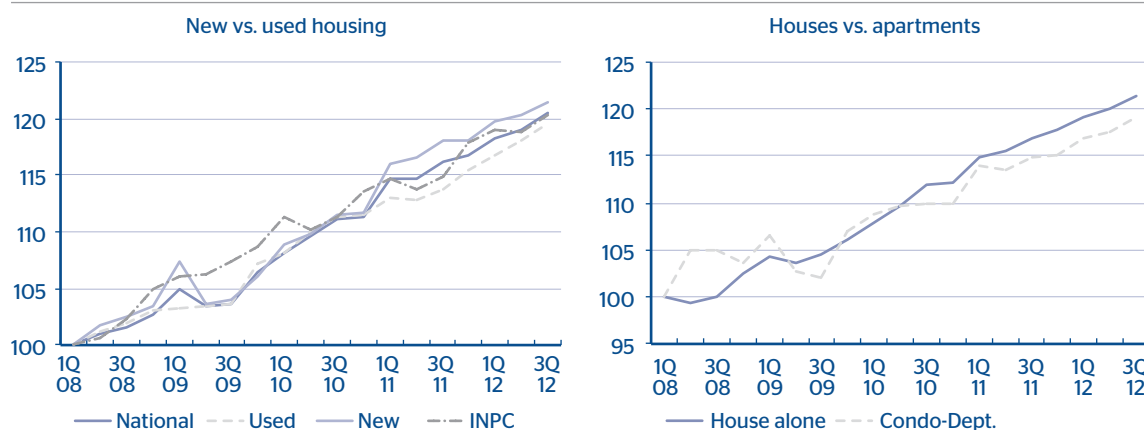
Source: BBVA Research with CNBV data

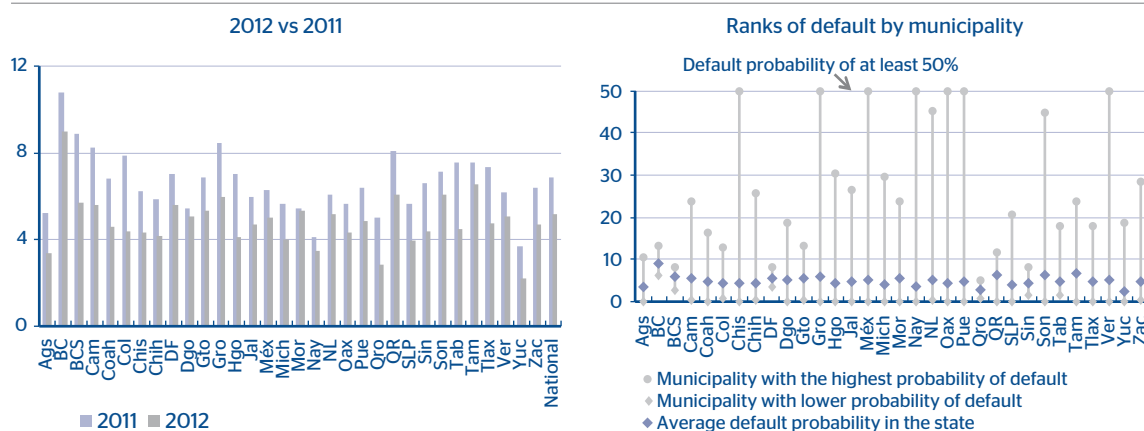Going forward, the safest path toward sound growth of the mortgage loan portfolio is to design products that meet the needs of the population, differentiating between segments and regions. In the first place, local strategies will acquire greater importance. Secondly, among government workers and public institutions, both at the state and municipal level, there is a potentially attractive market that has received little attention. Neither the Infonavit or the Fovissste have given full attention to it, but this market includes workers with a stable source of income that receive (or could receive) wage payments electronically. The banks should strengthen their strategies to service this market.

Housing supply remains contained

The indicators relative to housing supply continue showing slight growth in this activity. Housing starts through the month of November showed an annualized growth rate of about 370,000 housing units. Considering that between Infonavit and Fovissste and private intermediaries there could be an annual placement of somewhere around 380,000 and 400,000 housing units,[1] this means that construction is at the limit of what is consumed, and also suggests that the housing inventory has been reduced. To the extent that it is exhausted and that demand requires, housing construction should again rebound, although gradually.

Graph 27
**Infonavit: used housing by state
(% share in loan placements)**

New   Used
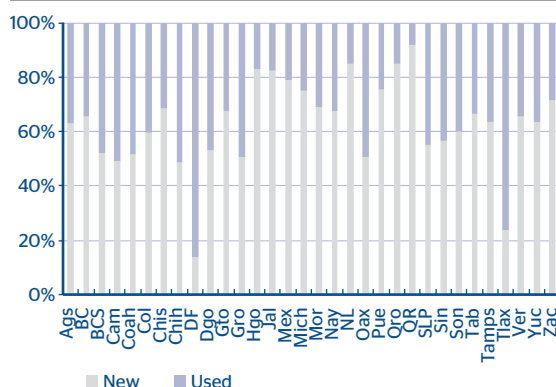
Graph 28
Housing construction vs. placement of used housing (%)

Used housing participation (%, 2012)

Housing starts 2007-2012 (TMAC *,%)
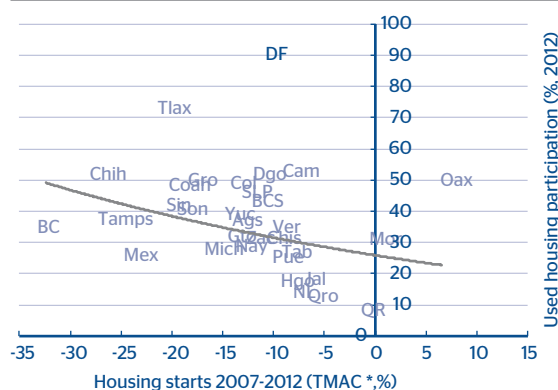
Note: Figures through October 2012 * TMAC: Tasa Media Anual de Crecimiento (Annual average growth rate)
Source: BBVA Research with Infonavit data

The figures for the placement of used housing by the Infonavit at the state level show that there is the possibility of a certain scarcity of new housing in some cities. At a national level, the share of used housing placed by the institution is about 35%; however, there are levels close to and even higher than 50%, in states such as Baja California Sur, Campeche, Coahuila, Durango, Guerrero and Oaxaca.

Graph 29
**Infonavit: used housing
(% share in mortgage loan placements)**

Total

By segment

Popular   Traditional   Medium   Residential
Residential Plus
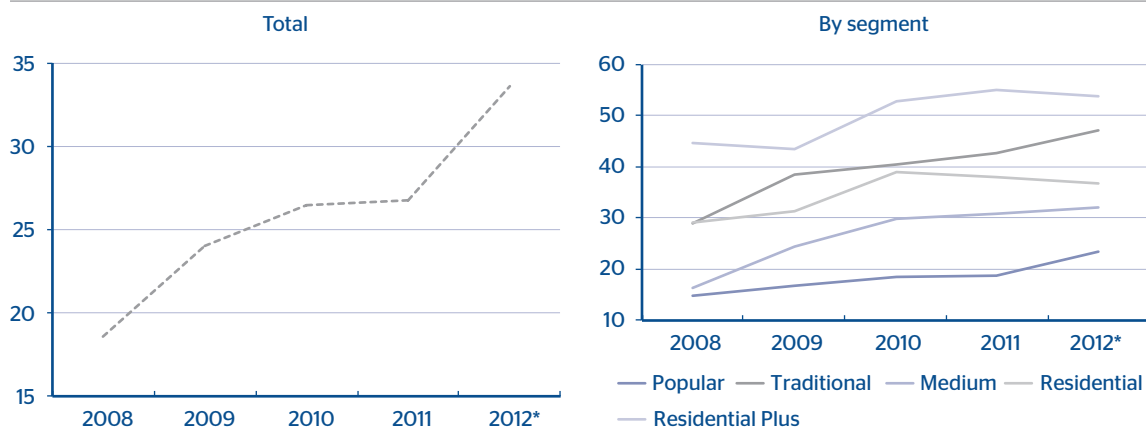
*Figures through October
Source: BBVA Research with Infonavit data

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[1] Around 300,000 by Infonavit, 60,000 by Fovissste and the rest by private intermediaries

Graph 30
Construction loans: balance of performing loan portfolio (Billions of pesos at 2012 prices and annual % change)

In force — % Change (right)
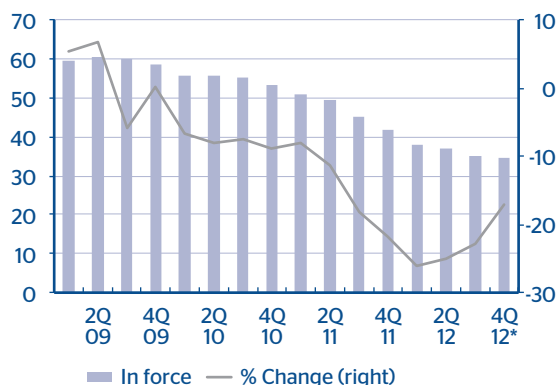
*Figures through October
Source: BBVA Research with Banco de México (central bank) data

Graph 31
Housing starts (Thousands of housing units, annualized figures)

365.9
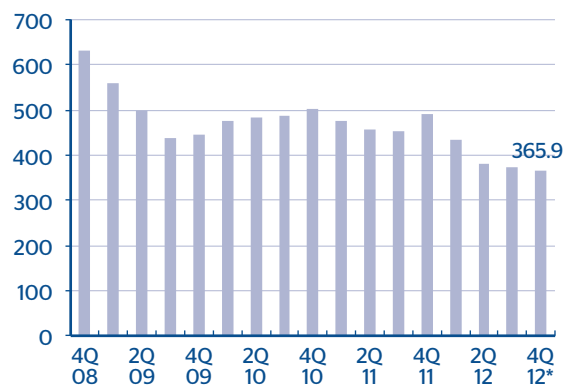
*Figures through October
Source: BBVA Research with Banco de México (central bank) data

The balance of the construction loan portfolio also suggests that financing for construction could already have touched bottom or is very close to doing so. While in 2010 and 2011 this balance was being reduced abruptly, by 2012 and especially in the second half of the year, the trend has been basically of stability.

What to expect for 2013?

The year 2013 will undoubtedly bring some changes in the housing market. With the entry of a new administration, the housing support programs by the federal government and the public institutions for housing could undergo some changes, perhaps at the beginning, and of greater depth later on. This should occur in a natural manner so as not to stop activity abruptly, but after a careful diagnosis of what is working and what is not in the housing policy of recent years. There are many things that could be modified, such as the policy regarding subsidies, the support programs for the population unattended by the public institutions and the role of support institutions, to mention at least some.

Under this perspective, this year should be one of caution. There is still room for growth in the housing market, but at least in those segments where the government has greater influence, the signals must be clear. As regards the market attended by the banks, the perspectives are that it will continue to grow, with new products and greater competition among intermediaries. The risks due to the environment, especially due to the international economic context will continue to be an important factor.

Our outlook for the year is of 3% growth in the number of loans and of 5.8% in the financing amount. For the banks in particular, we expect growth rates of 2.7% and 9.6%, respectively.

Conclusions: the market awaits definitions

Although at first sight it would seem that the mortgage market has remained without growth in recent years, it has actually shown important dynamism. Due to structural conditions, such as population growth, the formation of households and a relative delay in attention to some population segments, housing demand has continued to rise. The favorable economic context of recent years, as well as increased competition among financial intermediaries has provided additional support. There are no signs that indicate excessive growth or exhaustion of its potential.. On the contrary, the need to develop new financing products is evident and some indicators even suggest a tighter reign on the credit supply to meet demand.

All in all, 2013 should be a year of caution. Traditionally, the first year of an administration is one of modest economic growth, and in the international environment the risks of a new slowdown should not be minimized. In any case, we must be attentive to the definition of the new government's focus with regard to housing and its priorities and step up the accelerator so that in the medium term we are ready for the changes that will undoubtedly come in some of the support programs.

Expressed in other words, conditions could suggest access through another route that offers favorable terms, but we should take care not to run in an area of slippery ground.

3.a Non-residential construction is the structure on which the sector builds

Introduction

In this issue of **Mexico Real Estate Outlook**, we offer an analysis of that part of construction that is usually set aside, even although it is the one that makes a major contribution to the sector: non-residential construction. This is due to a great extent to the scarcity of data that might offer greater details on the types of works. However, with the information available, we are able to see that non-residential construction is increasing its importance in the sector, not only due to lower housing construction, but because, in addition, it is growing in a sustained manner. Together with the increase in non-.residential construction, which in part could be explained by greater credit available to the sector, this type of construction is growing in accordance with economic activity, leading also to a lower default rate.. On the other hand, it is also seen that some states with the largest economies have increased the value of non-residential construction in proportion to their gross domestic product, which is why the outlook is that non-residential construction will continue to head the sector.

Economic activity in non-residential construction

Even when the best way to know the performance of non-residential construction would be through the Gross Domestic Product (GDP), currently, in order to know construction at the level of type of work, we have the value of production of the National Survey of Construction Companies (ENEC for its Spanish initials) conducted by the National Institute of Statistics and Geography (INEGI). Based on that survey, we classify the type of projects in residential construction, productive building, telecommunications and transportation, energy and others. In particular, we refer to commercial construction as productive building of offices and public services such as the construction of schools and hospitals, also referred to as non-residential construction given that it excludes housing production.

The importance of non-residential construction is increasingly greater

In the last two years, infrastructure and productive construction have increased their participation in the sector. The increasing importance of non-residential construction is not temporary, because since 2009, when the crisis lowered the housing sector, the rise has been sustained. These types of works have lost ground in view of the housing construction boom of the years 2004 to 2008, although it has recovered since 2009. A review of the figures since the year2000, it is known that construction other than that of housing has gained more relevance for the sector, at least since then, because, in that year, it already accounted for 80% of the total value of production and never dropped below 50%.

Graph 32

Value: real production in construction (annual % share)
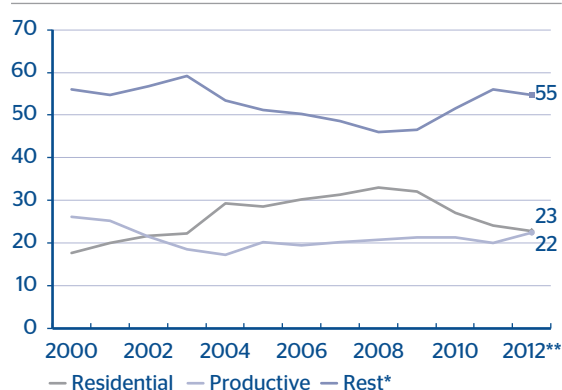
** Figures through October 2012
* Telecommunications, transportation, energy and hydraulic works
Source: BBVA Research with ENEC, INEGI data

Graph 33

Gross fixed investment in construction (annual % share)
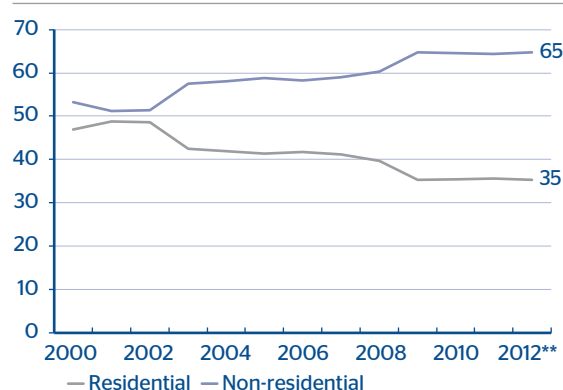
** Figures through October 2012
Source: BBVA Research with ENEC, INEGI data

The composition of the gross fixed investment offers us another perspective with a similar diagnosis regarding the importance of non-residential construction The index of gross fixed investment in construction has already reached the level of 2008, but at the same time, the share of its non-residential component rose up to 65% in 2012. The greater importance of non-residential construction in gross fixed investment is not a situational phenomenon, since in 2003 a significant rise was also seen and, since 2000 it has been over 50%.

The value of production and gross fixed investment are two distinct indicators of the construction sector, which is why although a close relationship between the two series is to be expected; they do not necessarily show the same behavior. The main difference between these series is due to the fact that the concepts of administration and supervision of projects are considered in the value of production, although not in gross fixed investment. Another difference is that the production value is obtained from the construction companies, which is why it does not include self-construction; the most notable example is well perforation by Pemex.

Productive building is at the highest level

Based on the ENEC, we differentiate four types of works in non-residential construction; that is, productive building, telecommunications and transportation, energy, and others. The three most important types of construction in non-residential construction had a positive performance from 2003 to 2012. Productive building has surpassed other types of works, measured through the index of production value prepared by BBVA Research based on information from the ENEC survey by INEGI. Since 2003 productive building has grown considerably, up to the crisis of 2009.. Then, for two years, this type of construction began to lag while construction in telecommunications and transportation, as well as in the energy sector accelerated its pace, particularly in works focused on transportation as part of the counter-cyclical policy Implemented by the federal government. But, as of 2011 and through the third quarter of 2012, the index of production value In productive building surpassed total construction and the other types of construction works.

Graph 34
Production value by type of construction works (Index 2003 = 100)

- Non-residential Construction* — Telecom. and Transport.
- Building productive — Energy
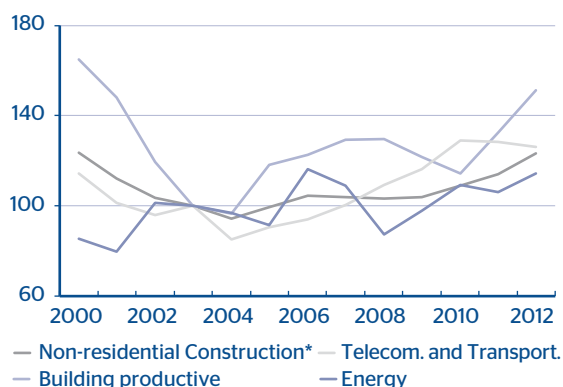
Note: 2012 figures through October *NR: non residential
Source: BBVA Research with ENEC, INEGI data

Graph 35
Production value by type of construction works (% share)

■ Productive ■ Telecom. and Transport. ■ Energy ■ Others
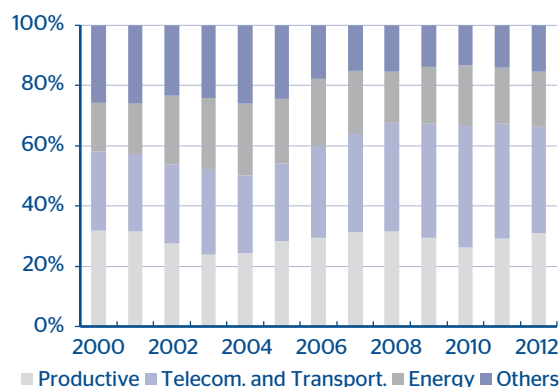
Note: 2012 figures through October
Source: BBVA Research with ENEC, INEGI data.

The telecommunications and transportation types of works, as well as those of energy have also presented outstanding performance. As of 2006, the production of works in telecommunications and transportation has been maintained, with the highest participation in non-residential construction. This same type of works has shown sustained growth from 2004 to 2012, with no ups and downs, mostly explained by the intervention of the federal government. Nevertheless, from 2011 to date a slowdown in the production of this type of works has been observed, without this representing a regression.

On the other hand, the production value of construction in the energy sector is showing a more winding course.. The fluctuations of the index seem to have no relation with the rest of the sector, simulating a more independent performance, even cyclical. As of 2009, the production of this type of works has been rising, with the exception of 2011. The positive balance of construction in energy has been evident since 2000, with its performance in the index in 2012 almost 30 points up. To a great extent, the recent progress is focused on the construction of electric installations such as transmission lines, sub-stations and some dams. In the oil component, the construction of extraction plants has grown since 2005, with the exception of 2010 and 2011.

Progress in non-residential construction is confirmed at the state level

Due to a possible bias in the information that the states with larger economies could cause, we compared each state with itself. The analysis is focused on knowing the progress of the production value in real terms in the first ten months of 2012 against the same period in 2006 through an index based on that year. The first result is that the states of Baja California Sur, Zacatecas, and Colima have doubled the total value of their non-residential construction. Most of the states equaled or surpassed what they built in 2006. According to our index, 23 of the 32 states obtain or surpass 100 points; these four states reached a level of 200 or more, which means that they at least doubled the amount of what was constructed.[1]

The scenario does not seem too different when observing productive building. In fact, the performance of the states in this type of works explains to a great extent the order they obtain in total non-residential construction. In productive building, there are 25 states that equaled or surpassed 2006 production in 2012, although nine of these, at least doubled it. In the case of construction in telecommunications and transportation, there are 26 states that equal or surpass 2006 production and seven of them obtain 200 points or more. The three leading states in non-residential construction increased the construction value in these two types of works by more than 100%. On the other hand, the Federal District, the State of Mexico, Jalisco and Nuevo Leon, the four federal states with the highest GDP, do not place in the top places of our index, even though at least three of them equaled or surpassed 2006 production, both in the total non-residential construction and in these two types of works.[2]

Graph 36
Real production value in construction by type of works in 2012* (2006 Index = 100)
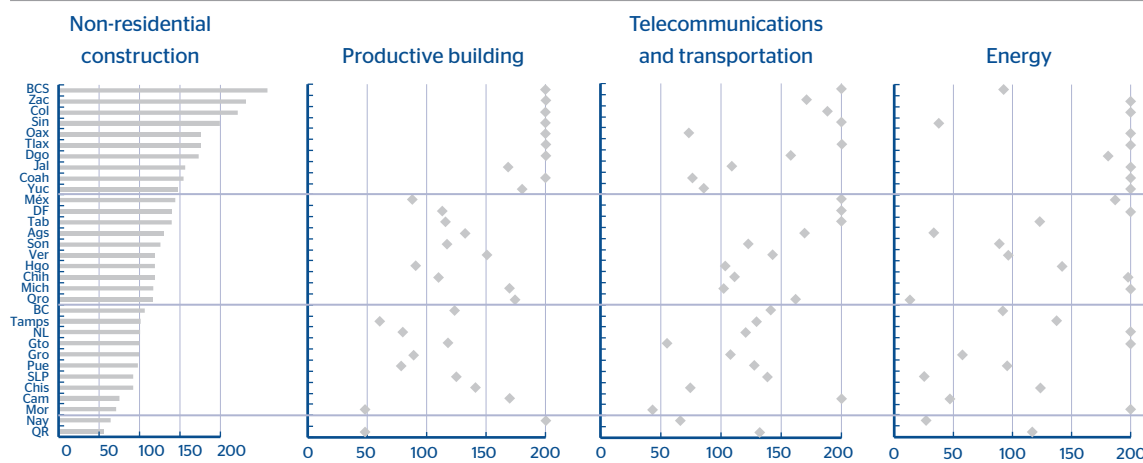
* Works through October 2012
Source: BBVA Research with ENEC, INEGI data.

[1] In this group, Sinaloa could be included since it reached an index of 199.2.
[2] Nuevo León also surpassed the non-residential construction of 2006, but in productive building it showed a regression.

However, construction in the energy sector at a state level presents a different pattern. In this type of works, there were 20 states that surpassed 2006 production, while 12 of the states at least doubled their production. This indicates that construction in energy was a little more concentrated than on the two other types of works analyzed. It is also seen that three of the four states with the highest GDP posted their best performance in this index. This can be explained in part by the marked demand of energy in their economies.[3]

What is clear is that, in relative terms, those states with more modest economies have increased non-residential construction mainly in the types of works of productive building and in telecommunications and transportation. For example, none of the four largest economies of the country is found in the top places of the index for productive building. A different case is observed in the index for telecommunications and transportation where the Federal District and the State of Mexico can be seen.

Where has productive building found the greatest opportunity?

The construction of buildings associated with the production environment is closely related to the existence of economic opportunities. Some of the new projects of industrial facilities are planned in the border states due to their close relationship with the manufacturing sector and the availability of labor. Similarly, tourist-related building and infrastructure are focused on the states with attractions of this type, such as the beach areas. If the production value of productive building is related to the size of the states' economies, during what has passed of 2012, measured by their 2011 GDP, a direct relationship can be observed between the two. With what could simply be concluded is that Jalisco, Nuevo Leon, the State of Mexico and the Federal District (Mexico City) concentrate productive building because they are the states with the highest GDP.

Even when productive building is directed in greater amounts toward the largest state economies, it is not necessarily where, in relative terms, the market has found a greater investment opportunity. If the proportion of the production value in productive building of each state with respect to its GDP is observed, it is seen that the relationship is inverse to the size of the state economy. Stated in another manner, the smallest economies are the ones that invested proportionally more in productive building. For example, Nayarit, Baja California Sur and Yucatan are the states that most built this type of works in proportion to the size of their economies.

Graph 37
State GDP and productive building
(Billions of pesos)
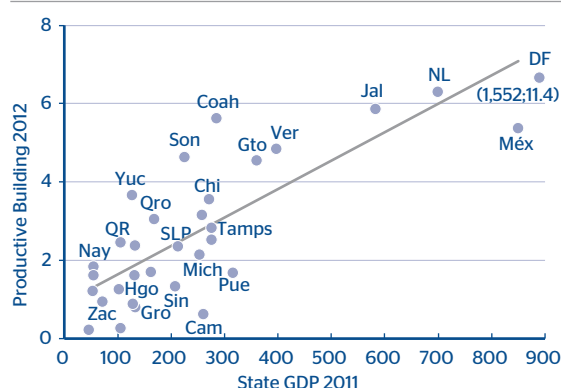
Source: BBVA Research with INEGI data.

Graph 38
State GDP and productive building
(Billions of pesos and %)
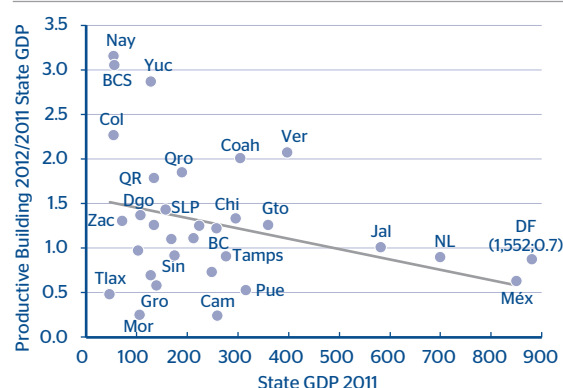
Source: BBVA Research with INEGI data.

[3] Although the State of Mexico obtained its best index level in telecommunications and transportation, construction in energy almost doubled, with 184 index points.

What is boosting productive building?

An important proportion of foreign direct investment (FDI) is reflected in industrial construction of offices and stores. On the other hand, employment generates greater demand for goods and services, which Is why there are greater opportunities for the construction of shopping malls and public services such as schools and hospitals. This is substantiated by the amounts of foreign direct investment, which have a close relationship with productive building which also happens with the employment level.

Graph 39
**Productive building and FDI
(Billions of pesos and millions of US dollars)**
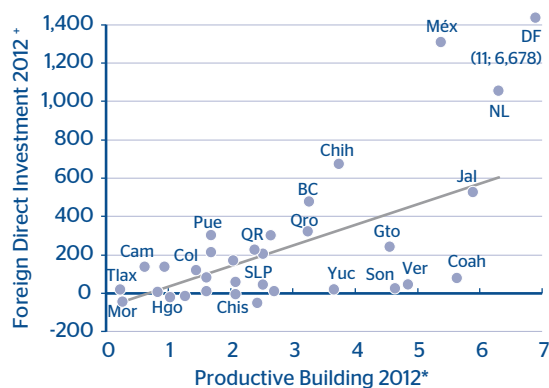
*figures through October, + third quarter
Source: BBVA Research with Economy Ministry and INEGI data.

Graph 40
**Productive building and employment
(Millions of pesos and millions of workers)**
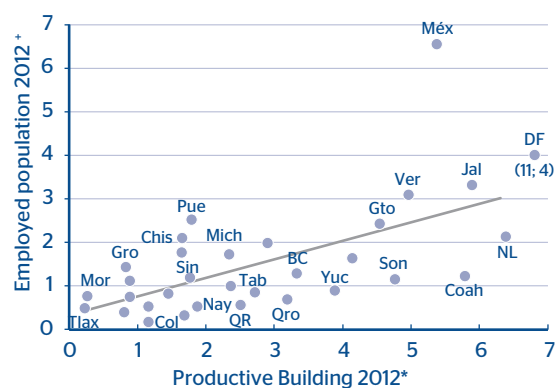
*figures through October, + third quarter
Source: BBVA Research with INEGI data.

Financing of non-residential construction

The credit that the banking system has granted for non-residential construction has left the stairways to take the elevator since 2006. What explains in part the good performance of this type of construction, is that it has had access to the financial resources that back its operation- One of the most important reasons for the flow of bank credit to have been maintained and increased is the portfolio quality. The deterioration of credit, both at an aggregate level and by type of construction is maintained at low levels when it is measured in terms of the default index. The healthy condition of this portfolio is not circumstantial, since It has been maintained since 2005.

Graph 41
**Balance of the bank credit portfolio
(Billions of real pesos)**
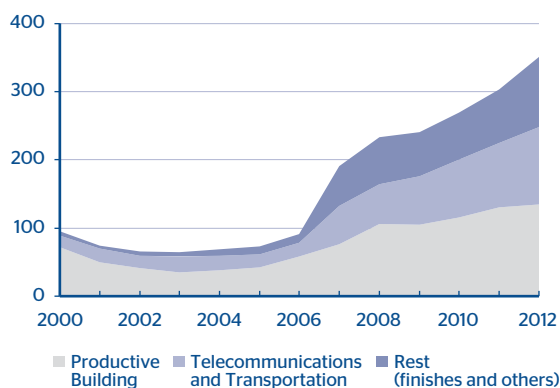
Note: for 2012 figures through October
Source: BBVA Research with Banco de Mexico data.

Graph 42
**Default of the bank credit portfolio
(%)**
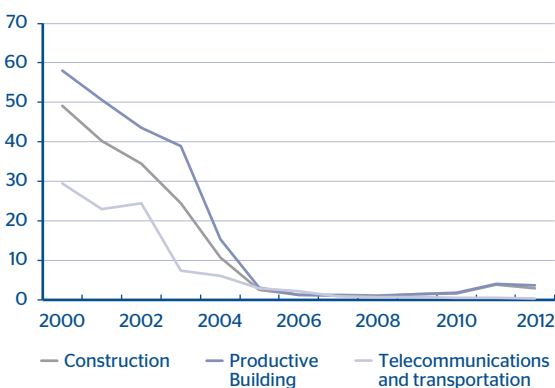
Note: for 2012 figures through October
Source: BBVA Research with Banco de Mexico data.

The non-residential construction sector has also increased its financing options. Currently, the banking system is the main access bridge to credit, but as of 2009, other instruments have been issued, such as certificates for capital development (CCD for their Spanish initials), and, in 2012, real-estate fiduciary stock certificates known as "Fibras", from which resources are obtained from large and small investors. Up to now, the Afores have been the large investors in these financial options. The amount that the Afores have already invested already surpasses 50 billion pesos. Although this type of investment also implies a higher risk level compared, for example, with debt issues, nevertheless, the acceptance of this type of instruments by the investment public generates the opportunity of an additional source of financing, both for the real-estate sector and for infrastructure. And, new issues are still expected in the coming months. The entry in the market of this type of offering would not be without a potential associated demand. In line with the investment limits defined by regulation, the Afores still have an ample margin for investing in these certificates. Through November 2012, the Afores could still invest slightly more than 80 billion pesos in the sector through these instruments.

Graph 4
Issue of CCDs and Fibers by sector
(Billions of real pesos)

Instrument	Sector	Amount (millions of pesos)
CCD	Mixed real-estate (housing and commercial)	3,868
CCD	Productive real-estate (commercial and industrial)	16,856
CCD	Infrastructure	22,377
Fibra	Productive real-estate (commercial and industrial)	8,877
Fibra	Hotels	4,730
Fibra	Industrial facilities	14,716
	Total	71,424

Source: BBVA Research with BMV (Mexican Stock Exchange) data.

Graph 43
Amount of financing by source
(Billions of real pesos)

- Bank credit
- Capital Certificates for Development (CCD)
- Fibers
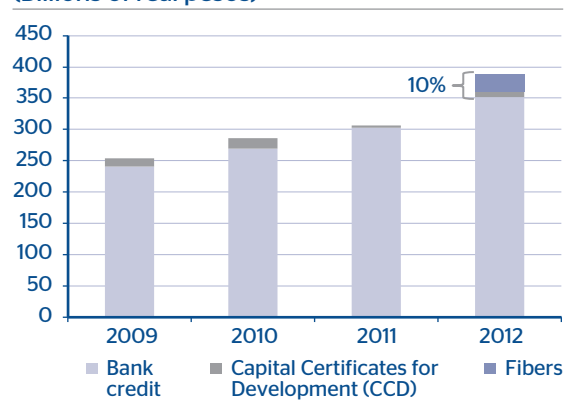
Note: for bank credit in 2012, figures through October.
Source: BBVA Research with BMV (Mexican Stock Exchange) data.

Conclusions: non-residential construction lays out the map route

Non-residential construction historically has contributed to a greater extent to the product of this sector. In the most recent years, it has recovered ground through its own merits and it is consolidated based on productive building and transportation, as well as construction in the energy sector. Construction in transportation and energy is mainly directed by public policies, while productive building has a private investment nature. In particular, this last will find more space in the states that invest to increase their competitiveness and that generate more employment to increase consumption. In the coming quarters, the construction sector will base its performance on the performance of non-residential construction, where productive building and infrastructure will be the spinal column.

3.b Housing subsidies: back to basics

The housing construction industry has undergone important changes in recent years. In brief, recapitulating what has happened between 2008 and 2012, diverse factors can be mentioned that have had an impact on the industry,. Externally, the global economic and financial crisis in 2008 and 2009, which has had a direct repercussion on economic activity, and also on the flow of funds to the emerging markets, the real-estate crisis in developed countries that not only Increased the risk premium for the companies engaged in this activity but that froze real-estate projects that had been experiencing strong growth, such as housing for retirees and the tourist residential segment. In domestic terms, added to the strong contraction of housing demand in 2009 due to the economic crisis were the changes in the operating rules on the support programs by the government.

In this issue of *Mexico Real Estate Outlook*, we analyze the changes in the industry under three perspectives: the support policy to the sector, in particular housing subsidies, the housing construction indicators and the outlook of the developers themselves. From these three diagnoses, similar conclusions are obtained as to the factors that have had greater incidence in the housing industry and offer a reference for the design of the policies for the sector.

In this first section on subsidies, we note some elements that have characterized the policy with regard to these. The analysis starts with a review of the operating rules of the housing subsidy program by the federal government, and based on this characterize the more representative municipalities in the granting of these supports. Finally, we offer an overview of the concentration level of the industry at a municipal level, as well as on the quality of the land reserves of the major builders

Although they are not surprising, the results do reiterate the considerations that have been made on the need for achieving a better integration of housing support policies in general. Much has been achieved as to the implementation of the programs and their transparency. Work must be done, however, to improve institutional coordination which will help to articulate the programs, and promote a long-term vision. The latter is fundamental, since, on one hand, it generates continuity in the programs and, at the same time, provides certainty for investors who participate in the sector.

The importance of subsidies

Subsides have been a very important part in the housing support policy in recent years. A good part of residential construction was done based on the availability of these resources.

The most important housing subsidy program of the federal government in recent years is the one known as "Esta es tu casa" ("This is your home") which began to operate as of 2007 by the National Housing Commission (CONAVI for its Spanish initial.[1] The program considers the use of resources for different purposes, from the purchase of land, home improvement, self-construction and the acquisition of a complete home, new or used. Close to 80% of the resources has been granted for this last pirpose.

The financing channeled to the program (measured at 2012 prices) have been along the order of five billion pesos annually. The figure is modest when compared with the 223 billion pesos that were destined to mortgage financing by the financial system in 2011,[2] but very significant in terms of the number of homes supported by these resources. Between 2008 and 2011, close to 100,000 subsidies were granted annually through this program to support housing acquisition (90% of these for new homes). Considering that at a national level the volume of mortgage loans is of around 600,000 jobs per year, this means that one out of every six homes financed in the country in recent years has received subsidies.[3]

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[1] Prior to this, housing subsidies operated through the Banking Operation and Financing Fund (Fovi for its Spanish initials). In addition to the "Esta es tu casa" program, the federal government manages, through the Social Development Ministry (Sedesol for its Spanish initials), the program "Tu casa", although on a lower scope, since it only focuses on areas considered to be of high poverty levels or in rural areas..
[2] Including Infonavit, Fovissste, banks and Sofoles.
[3] If only new housing is considered, the proportion is even higher; the new housing subsidies have averaged close to 90,000 per year, while the acquisition of new housing could have averaged between 360,000 and 450,000 per year in that period. The weight of the subsidies can come to represent between 20% and 25% of housing financed by a mortgage loan.

Graph 44
"Esta es tu casa" subsidy program

Amount (Billions of pesos, 2012 prices)

Legend:
- Land for sale
- Improvement
- Self-construction
- House purchase
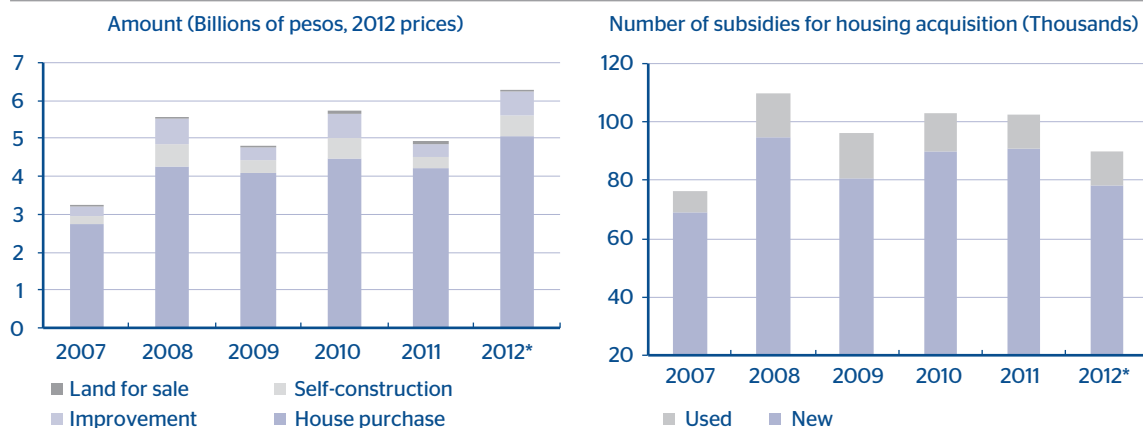
*Annual goal
Source: BBVA Research with Conavi, INEGI and RUV data.

Number of subsidies for housing acquisition (Thousands)

Legend:
- Used
- New

* Through September
Source: BBVA Research with Conavi, INEGI and RUV data.

Changes in the operating rules

In its first stage, the prevailing criterion in the granting of subsidies was centered on the beneficiary: Provided that he or she met the eligibility requirements, the subsidy was granted. In 2008, efforts were begun to offer incentives for the improvement in the quality of the homes subsidized by incorporating elements of environmental sustainability. These were defined based on the use of efficient water and energy consumption devices, the use of renewable energies and thermal insulation accessories in housing, among others.

As of 2011, there was a change in the criteria so as to give more weight to housing and not only to the beneficiary. The first effort consisted, in general, of incentives to raise the housing density in the complexes, through vertical housing.

However, in 2012, more significant changes were made in the operating rules of the subsidy program to provide support to housing that is better located, and with better attributes. Based on a point system, four dimensions were graded: location, services, housing density and competitiveness.

In location, the most important dimension, the objective was to promote construction in the inner urban areas. Based on the identification of the areas of economic activity in terms of employment, according to the economic census for the 358 municipalities with more than 50,000 inhabitants, the intra-urban zones were defined. Based on this, the criteria were established to define a peripheral area or primary environ, as that which had at least 70% of the housing with water and drainage services. For those homes not in the primary environ, a second environ was defined, for which the only criterion was that it had a secondary school nearby.

The process was not easy, because in a good number of cases, or in the case of larger size constructors, the land reserves were (and continue to be) located in distant areas that, according to the original criteria established, did not merit a subsidy or only a part of it. In the end, this led, on one hand, to making the operating rules relative to location, [4] more flexible, and on the other, to using the three remaining dimensions to compensate it.

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[4] This greater flexibility consisted in two steps. The first, to define a radius or "buffer" of between 400 and 800 meters, depending on the size of the municipality (in terms of population) to extend the scope of coverage of the area potentially subject to subsidies. The second in terms of rules of exception and a case by case analysis. For example, when 70% of the housing units of the development fell within the higher-valued area, the remaining 30% of the complex would receive the same treatment; a second case, when 80% of the homes in the development fell within the expanded area of "buffer", the entire complex could benefit with the same treatment

Thus, even for those developments located in the second environ and which, in principle, would have been penalized both with a lower subsidy and a lower housing value, the inclusion of energy efficiency devices, vertical building and the care of the environment (which among other alternatives consider planting trees outside the home) are sufficient to reach the same points as those homes located in an intra-urban area.

"Support" to the armed forces

The steps adopted to "support" the armed forces merit special mention. In 2011, the operating rules were modified to establish that housing acquired by armed forces personnel did not have to register in the RUV nor be subject to the established criteria of verticali housing. In 2012, the rules were also modified to specify that, in this case, the points rules would not apply. That is, any housing, regardless of its condition, attributes or location, would receive treatment (in terms of the amount of the subsidy and the value of the home) equivalent to that of the better located home and with more points. .

There is no doubt regarding the importance of helping the armed forces. However, different alternatives could have been adopted with regard to this end, such as raising the amount of the subsidy or building special housing complexes. However, the measure adopted of easing to the greatest extent   the requirements that have been promoted in order to reach higher housing quality and location standards is not too clear with regard to the benefits this generates. [5]

Graph 45
Operating rules: "Esta es tu casa" subsidy program
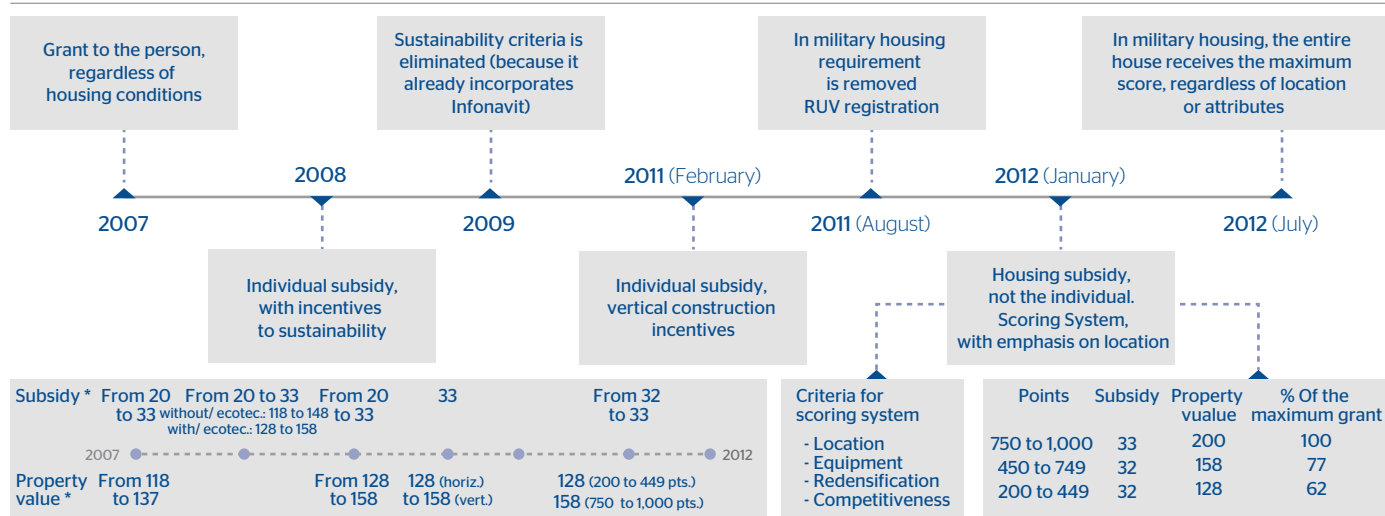
* Measured in minimum wages.
Source: BBVA Research with Conavi data.

Characterizing the municipalities that receive subsidies

When analyzing the figures of subsidy granting at a municipal level, it is seen that the changes in the operating rules have not translated into a change in the location where the housing units are being built. The share in 2011-2012 of the 100 most important municipalities in terms of the granting of subsidies for new housing reached 90% of the total, a figure even higher than that of the 2007-2010 period (85%).

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[5] Even though this might probably be a very well-intentioned measure, it could also be interpreted as a simple way of evading the regulations, to continue building where there are land reserves and/or unload housing that has been built there and there are now problems receiving support for these or selling them.

Chart 5

Alternatives for receiving subsidies independently of location

Alternative 1	Alternative 2 First environ		Alternative 3 Second environ	
		Points		Points
	Location: U2 Elementary school and kindergarten at 700 m.	210 / 150	Location: U3	90
			Characteristics of alternative 2	541
	Vertical w (3 levels)	81	"Basketball, football courts and children's' games at 300 m."	66
They all reach points equivalent to S1, independently of location or characteristics of the home"	Homes/Ha. >= 80	69	"Constant water supply by pressurized system"	33
	42m² of livable area	81	"Electronic monitor installed at electric energy consumption wall"	22
	2 trees outside the home	22		
	Natural gas connection	88		
	Health Center at 1.5 Km.	50		
Total	**750**		**751**	**752**

Source: BBVA Research with Conavi data.

The datum is revealing. The municipalities receiving the most subsidies in the 2007-2010 period also showed the highest index levels of uninhabited housing in the 2010 census. Grouping the first 100 municipalities by deciles in terms of their importance in the number of subsidies received, in the first two deciles in 2010 (or the first twenty municipalities) had uninhabited housing levels along the order of 25% when the national level was 14.2%.

On the other hand, the municipalities where most subsidies are granted are also the most representative as to the housing that is built. However, the proportion, in this case, is somewhat lower, at 70%. There are two explanations for this difference: first, that the subsidies are more concentrated than housing construction; and second, that the subsidies have served to displace housing that has been built before; that is, to unload accumulated Inventories.

Graph 46

"Esta es tu casa" "This is your home" program (% share, 2011-2012)
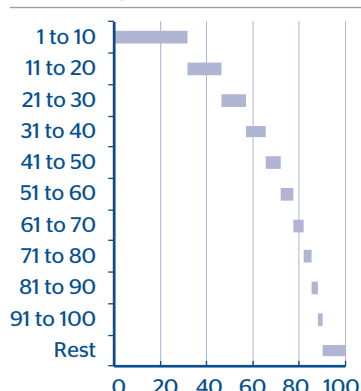
Graph 47

Housing construction (% share, 2011-2012)
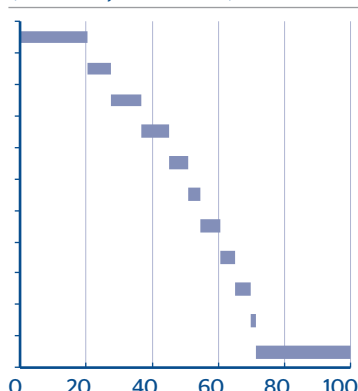
Graph 48

Uninhabited housing (%, 2010)
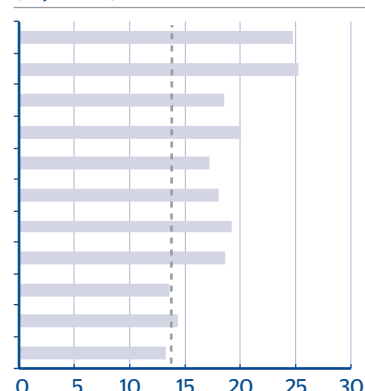
Source: BBVA Research with Conavi, INEGI and RUV data.

The 40 most important municipalities, in detail

A look in detail, at the 40 most important municipalities in terms of subsidies granted, based on the information of the population census of the National Housing Inventory and of the RUV (the National Housing Registry) offers a very clear overview of the zones where housing is built, the level of concentration of the industry, as well as the land reserves of the construction companies that are most focused on this segment.

The cumulative share of these municipalities in total subsidies for full housing is 61% and 45% in constructed housing. Meanwhile, in terms of uninhabited housing, the average is 22%.

Chart 6
The 40 municipalities with the greatest share in subsidies (2011-2012)

Municipality	% share- 2011-2012		Uninhabited housing (2010 %)	Municipality	% share- 2011-2012		Uninhabited housing (2010 %)
	Subsidies	Construction			Subsidies	Construction	
Tlajomulco, Jal.	5.2	4.8	34.1	Aguas., Ags.	1.2	1.3	15.0
Tijuana, BC	4.6	2.2	20.3	Gómez Pal., Dgo.	1.2	0.4	19.7
León, Gto.	3.5	1.9	13.9	Kanasín, Yuc.	1.2	0.3	22.4
Cancún, QR	3.2	2.5	18.7	Culiacán, Sin.	1.0	1.0	15.9
Cd. Juárez, Chih.	2.7	0.7	23.8	Atotonilco, Hgo	1.0	0.6	26.6
Veracruz, Ver.	2.5	1.7	19.3	Chihuahua, Chih.	1.0	0.7	15.7
Zumpango, Méx.	2.4	1.7	40.0	El Marqués, Qro.	1.0	1.5	20.5
Torreón, Coah.	1.9	0.9	20.6	Medellín, Ver.	0.9	0.4	24.1
Reynosa, Tam.	1.8	1.3	24.4	Morelia, Mich.	0.9	1.1	19.7
Hermosillo, Son.	1.7	1.2	16.0	S. Luis Potosí, SLP	0.9	0.9	15.1
Altamira, Tam.	1.7	0.7	26.2	Salinas Vic., NL	0.9	1.0	27.0
García, NL	1.7	2.9	32.7	Matamoros, Tam.	0.9	0.5	20.6
Ixtlahuacán, Jal.	1.6	0.2	43.8	Huejotzingo, Pue.	0.8	0.6	18.3
Cajeme, Son.	1.5	0.4	17.5	Villahermosa, Tab.	0.8	0.6	13.5
Coronango, Pue.	1.3	0.7	15.7	Zapopan, Jal.	0.8	1.8	11.7
Nogales, Son.	1.3	0.7	17.8	Saltillo, Coah.	0.7	0.8	13.4
Mexicali, BC	1.3	0.7	18.9	Huehuetoca, Méx	0.7	0.9	45.0
Pesquería, NL	1.2	1.7	44.4	Gral. Escobedo, NL	0.7	1.6	15.4
Tarímbaro, Mich.	1.2	0.5	35.0	Cadereyta, NL	0.6	0.5	20.3
Mérida, Yuc.	1.2	1.2	14.5	Umán, Yuc.	0.6	0.4	8.6
				Part.: % acumulda	**62.2**	**45.2**	

*Includes mortgage cancellation, lien free, non fiscal debt certificates and of services payment.
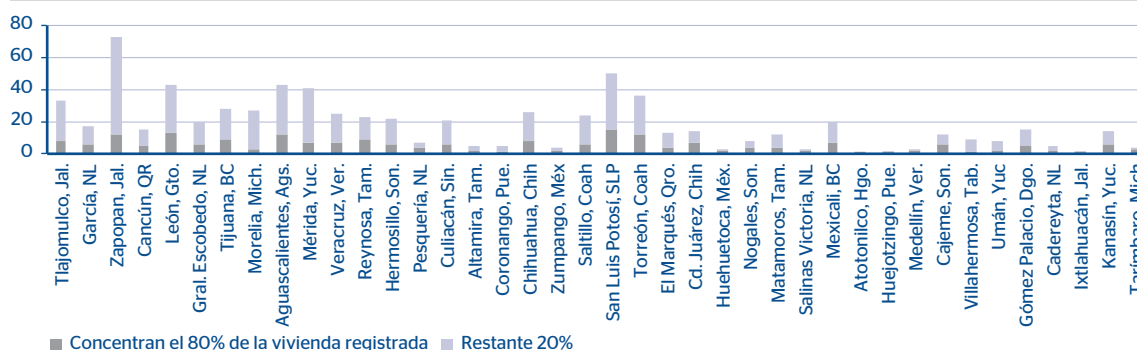Source: BBVA Research with SHF data.

Another important characteristic seen in these 40 municipalities is the high level of concentration of the industry. On average, there are 18 construction companies in each one of these municipalities, but barely 5 participate with an 80% share of registered housing, with the remaining 20% shared among the other 13 companies. This strengthens the idea that the companies that have focused on subsidies have done so under a model that to be successful requires large operating volumes and land reserves sufficient to guarantee their operation for some years.

With regard to the matter of land reserves, it must also be noted that the business model adopted is based in good measure on low-cost of land. As is to be expected, this is found in areas that are distant from urban zones. This is confirmed based on the geolocalization or specific location in the municipality of housing that has been registered in the RUV. For the 40 most representative municipalities of the group, only 3% of the registered housing is found in the intra-urban zone, around 67% is found in the first and second environs, and the remaining 30% is outside these, that is, without any right to a subsidy.

Graph 49

Number of homebuilders in the most important 40 municipalities (2012)

■ Concentran el 80% de la vivienda registrada ■ Restante 20%

Source: BBVA Research with RUV data.

This is the key. Knowing the situation of the land reserves of the companies that participate in the subsidy program. it is easy to understand the changes in the operating rules in order to ease the criteria and set aside the issue of location as the most important. It is important to reflect on the role that the various agents must assume in the design and operation of policies, although it should also be said that these should generate certainty and stability. In the end, the long-term diagnosis and planning tasks are fundamental in avoiding changes halfway down the road and to guarantee investment in the sector.

Graph 50

Housing location in the 40 most important municipalities 8
(Qualified location in the criteria for subsidies *, % share, 2012)

■ Intraurban zone ■ First environment ■ Second environment ■ No right to subsidy
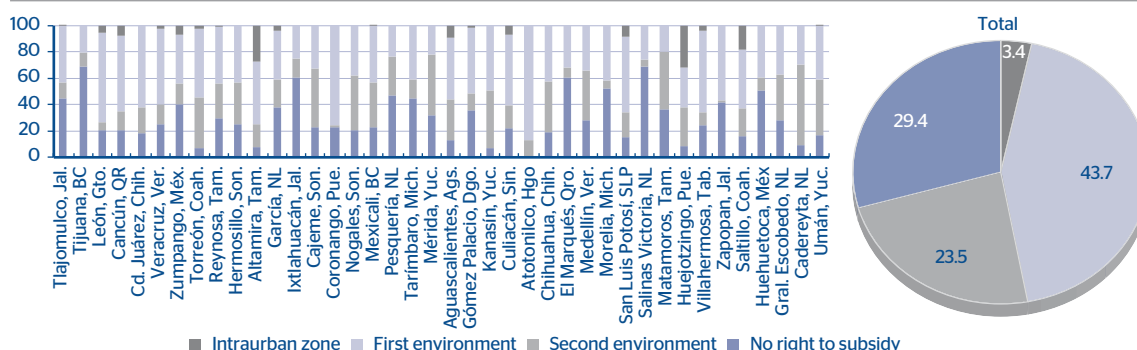
*It does not consider expanded surface due to buffer or exception rules
Source: BBVA Bancomer with RUV data.

Conclusions: has the policy worked?

Since its launching in 2007, the housing subsidy program "Esta es tu casa" has undergone various modifications in its operating rules; some which have implied changes in form and others in depth. Even though In terms of transparency and operation, the program has achieved important progress, it is clear that there are aspects that should be modified- The most recent changes to encourage better housing location, has not had the expected results- For the most part, the subsidies, are distributed in municipalities that register higher indexes of uninhabited housing. The rules are flexible and there are multiple ways to compensate the location.

Perhaps it is time to return to basics. The most general considerations must be dealt with, such as defining the population universe that requires subsidies and what type of needs require a solution as well as the mechanisms to ensure that the resources reach those who really need them. One basic criterion should be to withdraw subsidies in municipalities with uninhabited housing levels that surpass the national average. Undoubtedly, in the design of the program, the different participants involved in the industry should be consulted, as should the different support agencies, homebuilders, financial institutions and academics. Nevertheless, it should be the Federation that sets the guideline throughout the entire process. To this end, institutional coordination and long-term planning are fundamental. since they will guarantees continuity in the programs and confidence among investors.

3.c Has housing construction changed in recent years?

In view of the slowdown in the rate of housing construction seen in recent years, it is opportune to identify some of the patterns that have had a bearing on the evolution of this industry. In this section of *Mexico Real Estate Outlook*, we review the main changes that housing construction has undergone in the country, from the volume constructed, type of housing, number of companies that participate in this activity –or the concentration level– and location of housing. Based on this, the demographic indicators of economic activity and of infrastructure allow us to make an analysis of the opportunities that might exist in the municipalities where housing is most constructed.

It is clear that the housing industry is now in a process of reconfiguration that requires new strategies from the participating companies in order to be successful. To the extent that the changes are consolidated, the industry should be in a better position to adapt opportunely to the market's requirements. On the other hand, it is important to dimension the opportunities that appear based on the construction of housing, for activities related to the provision of services and infrastructure works. Nevertheless, and this must also be said, the lags that have appeared here are one more reason for pondering over the impact of housing on urban development.

Low-income housing has a new facade

Much has been said about what caused the decline in housing construction in recent years and of the difficulty in recovering the levels registered in 2007. But, not only has it decreased, but the characteristics of new construction have also changed. Taking as reference the homes registered in the National Housing Registry (RUV for Registro Unico de Vivienda), it is possible to see, first, a marked rise in vertical housing. In 2007, this represented barely 5% of the building process, but by 2012 (figures through October) its share was of 27%. Homes for the medium- and high-income segment that could be two-level housing uinits or horizontal condominiums have remained practically without change.

Graph 51
**Constructed housing: RUV
(Index 2007=100)**
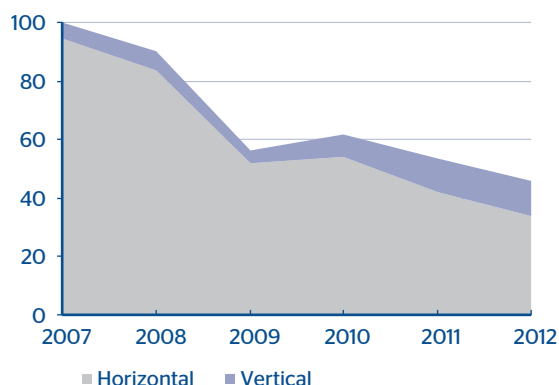
Note: for 2012 figures through September
Source: BBVA Research with RUV data.

Graph 52
**Type of housing: 2007 vs. 2012
(% share)**
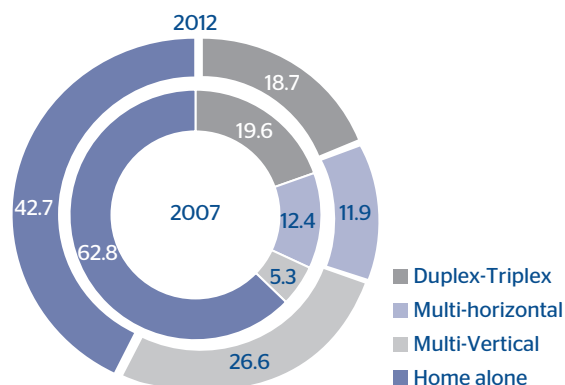
Note: for 2012 figures through September
Source: BBVA Research with RUV data

Another important change has to do with the size of the housing developments. While in 2007 the developments of up to 100 homes represented 35% of the total registered: by 2012 its share was 58%. In contrast, housing complexes of between 500 and 1,000 homes went from a share of 46% to 35%.

Graph 53
Size of the developments (% share)
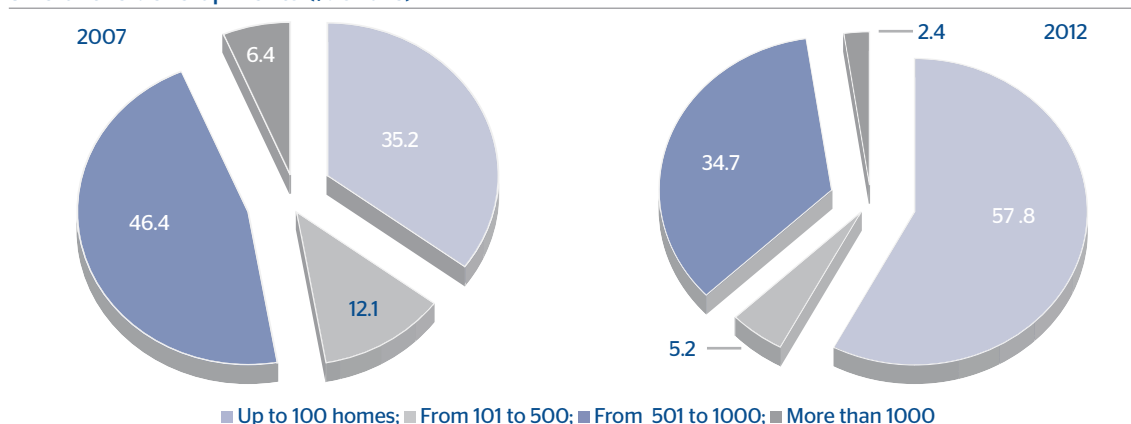
Note: for 2012, figures through September Source: BBVA Research with RUV data.

The third important change is with regard to prices. For new housing, the prices registered in the RUV present a rise, in nominal terms, of 16% from 2007 to 2012. However, measured in real terms, the result is a 7% drop. That is, the housing prices that are registered in the RUV have been adjusting downward. This is consistent with what the survey shows for the main construction companies in the country, which throughout recent years have been focused more on low-income housing construction (see Section 3c): Has housing construction changed in recent years?).

The liveable area has increased, although only marginally,; in low-income housing from 51.7 sq. mt. to 54.2 sq. meters. of liveable area in the years referred to. The explanation is probably due to the fact that both the Infonavit and the Conavi consider the liveable area as an important variable for improving living conditions and is among the criteria considered in the support programs for housing.

To summarize, most of the changes in the characteristics of housing registered in the RUV have to do with the stipulations generated by the support programs and particularly housing subsidies. This is an important lever to achieve more substantial changes in the housing that is being constructed in the country.

Graph 54
Prices per sq. mt.
Thousands of pesos, 2012 prices
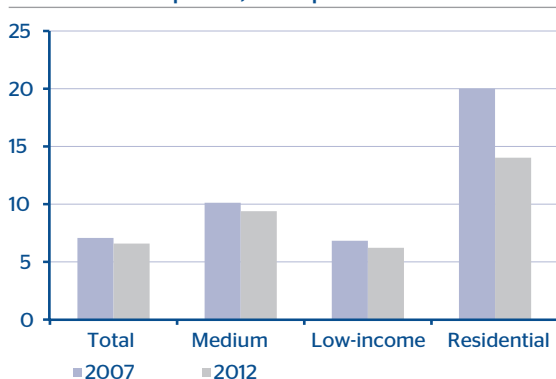
Note: for 2012 figures through September
Source: BBVA Research with RUV data.

Graph 55
Liveable area space
(sq. mt.)

*It includes economic, low-income and traditional
Note: for 2012 figures through September
Source: BBVA Research with RUV data.

Toward a less concentrated industry

The number of companies that register housing in the RUV has been reduced, and the industry is showing a lower concentration level. The share of the five companies with the highest number of housing units registered has dropped from close to 35% in 2007 to 17% in 2012. Also, the companies that register more than 100 homes went from a share of 66% in 2007 to one of 81% in 2012. Finally, the number of companies with more than 5,000 homes registered went from 17 to 6 in both years.

Graph 56
Companies registered in the RUV

(Thousands)

2,144 (2007)

1,970 (2012)

(% share)

2006 2007 2011 2012

- Total 5 biggest
- Other developers

(% share)

2012

2007

- 56 3%
- 37 2%
- 6 0%
- 282 14%
- 115 5%
- 100 5%
- 518 24%
- 22 1%
- 1389 65%
- 1589 81%

- Up to 100
- From 101 to 500
- From 501 to 1000
- From 1000 to 5000
- More than 5000
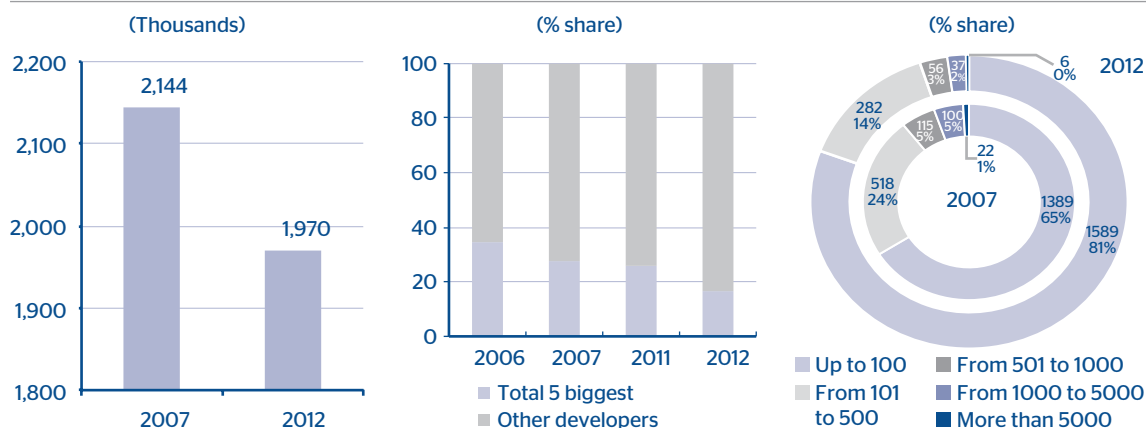
Note: for 2012, figures through September
Source: BBVA Research with RUV data.

Most efficient home builders

The housing construction process has also undergone changes. Based on the gap between housing constructed and new housing sold annually, a measure of inventory formation is obtained. Although imperfect, since both the new housing figures and those of constructed housing must be clarified,[1] this measure is showing a difference increasingly smaller between what is constructed and what is sold in each year. It also suggests that, in the past, there could have been excessive construction building up inventories between 2007 and 2012; there is a housing volume available equivalent to close to two years of new housing sales. One more reason to be conservative as to the expectations of a rally in housing construction.

Construction has become more gradual, particularly based on a better reading of its sales. Considering as allocated housing that which the RUV declares to be work concluded, it has been observed, particularly in recent years, that there is a very close relation with the initiation of construction work. That is, these have been synchronizing with the rate of sales. Undoubtedly, this is an important and very positive change that will prevent the accumulation of inventory.

Graph 57
Synchrony between housing construction and sales

New housing sales vs. housing starts (Thousands)

Year	Total housing built	Unsold housing	New Home Sales
2007	692	315	377
2008	630	228	402
2009	444	104	340
2010	504	118	386
2011	409	56	353

- New Home Sales
- Unsold housing
- *Total housing built*

New housing inventory* (Thousands)

Year	Value
2007	315
2008	228
2009	104
2010	118
2011	56

Total: 821 (56)

Construction starts vs. DTU's (Thousands, monthly average)**

2009 2010 2011 2012

- Starts work
- DTU's Issued

Note: for 2012 figures through September
*Gap between housing starts and new housing sales. It assumes that housing construction started is concluded .
**Termination of construction ruling.
Source: RUV, Infonavit, Fovissste and BBVA Research estimate.

[1] In the case of new housing, there is no information for the commercial banks, although there is for Infonavit and Fovissste, which jointly represent between 85% and 90% of allocated housing. In the case of constructed housing, still pending is defining a process that will guarantee that the housing that is considered allocated opportunely from the database. This has improved much in recent years, but not so in the early years of the RUV operation.

Has the location changed?

A first reading at a state level suggests some changes in housing location. States such as Baja California, Chihuahua, the State of Mexico and Tamaulipas have reduced their share in total housing registered, from 29% in the 2007-2012 period to 17% in the 2011-2012 period.

A more detailed look, with figures at a municipal level, offers a somewhat different panorama. In the 2011-2012 period, 80% of the construction registries were concentrated in only 86 municipalities (3.6% of the national total); in the 2001-2010 period, the same municipalities had a 76% share. That is, housing construction continues to be strongly concentrated.

Graph 58
Housing supply by State: 2007-2010, 2011-2012 (% difference in the share of registries)

Graph 59
Housing supply by municipality (% share %)

Note: for 2012 figures through September
Source: BBVA Research with RUV data.
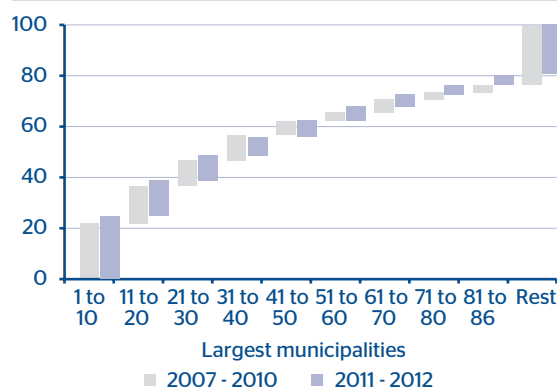
Note: for 2012 figures through September
Source: BBVA Research with RUV data

Opportunities at a local level
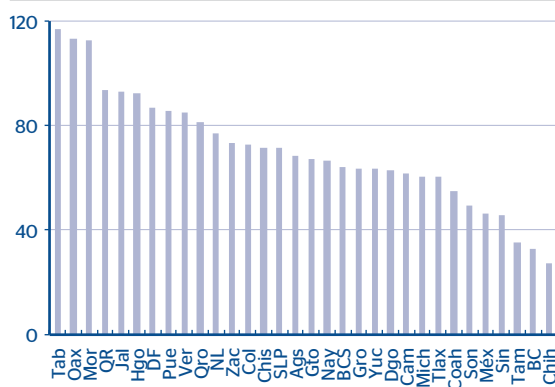
When examining the characteristics of the municipalities where most housing is constructed, a marked concentration is seen, in the first place, in small and medium-size cities; 40 of the 86 municipalities had, in 2010, a population lower than 250,000 inhabitants; 18 others had population between 250,000 and 500,000 inhabitants. Jointly, these two groups concentrate more than half of the housing constructed at a national level.

In most of the cases, especially in the first group, these cities are not even state capitals. What has happened is that they are around the metropolitan areas. 59 of the 86 municipalities form part of the metropolitan areas.

Graph 60
Housing construction, 2012: population
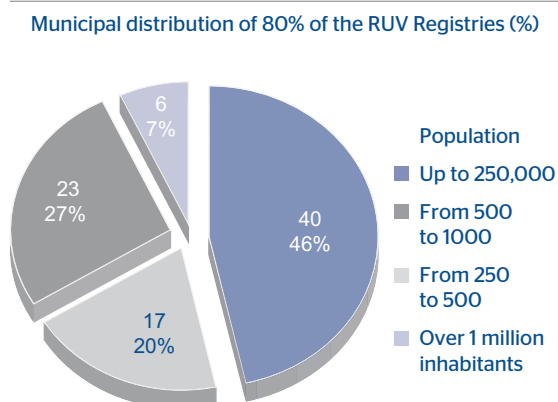
Municipal distribution of 80% of the RUV Registries (%)

Population
- Up to 250,000
- From 500 to 1000
- From 250 to 500
- Over 1 million inhabitants

Cumulative participation as per the RUV registries (%)

Note: for 2012, figures through September
Source: BBVA Research with RUV and INEGI data.
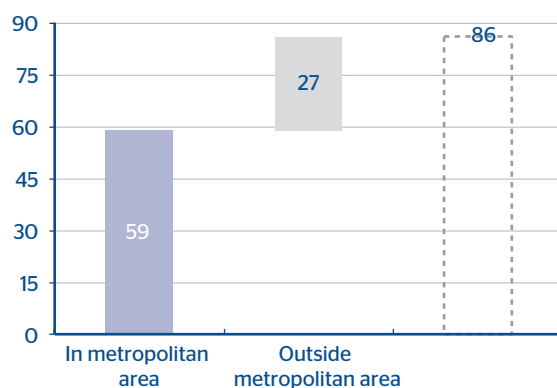
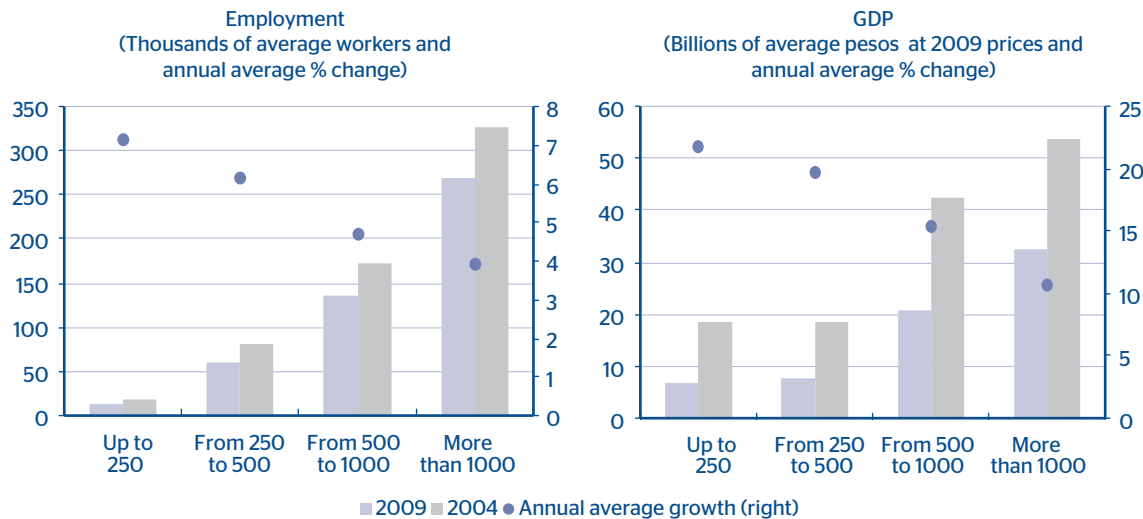Note: for 2012, figures through September
Source: BBVA Research with RUV and INEGI data.

The scarce participation of the most important municipalities for housing construction in economic activity, measured both through the GDP and employment generation, confirms that housing construction has not been linked to what should be its natural driving force,: income. It has been supply and not demand that has determined location.

Graph 61
Housing construction, 2012: Economic activity

Employment
(Thousands of average workers and annual average % change)

GDP
(Billions of average pesos at 2009 prices and annual average % change)

■ 2009 ■ 2004 ● Annual average growth (right)

Note: Corresponds to the 86 municipalities that concentrate 80% of RUV registries.
Source: BBVA Research with RUV and INEGI data.

Note: Corresponds to the 86 municipalities that concentrate 80% of RUV registries.
Source: BBVA Research with RUV and INEGI data.

Finally, there is the matter of infrastructure, where both in that of the social type (schools and hospitals) and of the economic (electricity, telecommunications and transportation), the cities with the greatest share in housing construction present marked lags compared to the rest of the country.

Chart 7
Housing construction, 2012: Infrastructure

	Unit of Measure/one thousand inhabitants	National	Municipalities in ZM (metropoli-tan area) (59)	Municipalities that are not ZM (27)	By size of population			
					Up to 250,000 (40)	From 250,000 to 500,000 (17)	From 500,000 to 1000,000 (23)	More than 1,000,000 (6)
Economic infrastructure								
Highway network longitude	Kilometers	2.8	0.5	2.0	1.6	1.2	1.0	0.2
Installed power outlets of electric energy	Number	301.1	241.7	148.4	214.4	202.0	203.0	259.3
Private homes that have a computer	Number	77.3	56.8	51.0	45.7	58.5	60.4	48.3
Social Infrastructure								
Personal doctor	Persons	5.1	4.6	5.0	3.5	4.1	5.5	4.3
Teaching staff	Persons	14.6	12.2	11.7	11.7	12.7	12.5	11.1
Inhabited private homes that have water from the public network.	Number	231.6	181.8	207.6	196.8	245.6	207.0	168.1
Inhabited private homes that have drainage	Number	237.2	185.4	207.8	204.6	246.9	208.0	172.9

Note: in parenthesis the number of municipalities
Source: BBVA Research with INEGI data.

For example, in cities of up to 250,000 inhabitants, there are 3.5 doctors for every 1,000 inhabitants, whereas at a national level there are 5.1. Also in terms of teachers, for the four sizes of cities under consideration, the coverage is of 12 for every 1,000 Inhabitants, versus 14.6 for the national average. A considerable lag can also be seen in infrastructure of electricity, drinking water and telecommunications; in all the cities, and particularly in those of up to 500,000 inhabitants, compared to the rest of the country.

To provide adequate services and infrastructure to these cities undoubtedly represents a great challenge, but at the same time it is a great opportunity for generating investment. Seen in perspective, the task consists in establishing adequate planning for urban growth in metropolitan areas.

Conclusions: housing opens opportunities for regional development

Housing construction has undergone diverse changes in recent years, some with a greater impact than others, but the majority was motivated by the support policies and programs to these activities. Among the progress that should be measured in relative terms is that of more compact and vertical housing complexes. The industry is less concentrated and more efficient, at least with regard to the aligning of the housing construction and sale processes. Local builders or those with a regional presence, who do not have the burden of an important supply of land reserves, will have greater flexibility to better position themselves in higher growth areas or that receive a greater boost from the support programs.

Growth in construction has been centered to a great extent on small and medium-size cities, located in metropolitan areas. To provide them with infrastructure and adequate services will be an important challenge, but also a good opportunity for investment to consolidate its growth. With appropriate coordination and the articulation of programs, the municipalities with a greater share in housing construction, could become attraction poles for economic activity. The challenge lies once again on the planning, a long-term vision and a focus on urban development more metropolitan than municipal.

Box 1: How have Mexican homebuilders managed to become an international reference point?

Housing construction in Mexico has been the subject of much criticism and questioning, from the housing model that the industry has adopted and its land reserves, to its sales strategy and growth plans. However, one point that has barely been mentioned is the capacity that is being achieved by Mexican homebuilders to construct large volumes of housing in a very short time and at a very low price.

This capacity should not be underestimated. In other emerging economies, including Brazil, China, and India, the Mexican model is a case study among homebuilders, who have been studying its characteristics and the factors that have enabled its success. To learn a bit more about the process, we consulted with some of the companies with the highest volume of housing production, and are offering some of their comments here.

Building with molds

In building large volumes of housing, the model adopted has been based on using molds. Concrete is poured over the molds to provide the structure of the home, which is then simply assembled. The use of this technique allows, on the one hand, for speeding up the time frames involved, from seven to four weeks on average for the shell and core stage, and on the other, for ensuring the standardization of the quality processes. By following factory type assembly processes, a home's quality standards can be certified. The manual labor involved, corresponding to the finishing details, can also be done very efficiently, in a span of four to five days.

The molds offer a certain degree of flexibility for changing the designs or prototypes of the home, and in general, doing so involves replacing only a few parts or fixtures.

The challenge is in synchronization

But building efficiently is just part of the process. The key actually consists in synchronizing construction with the different stages involved, from land acquisition and preparing the land to be suitable for building purposes, to the urbanization infrastructure projects prior to the actual construction and marketing stage.

Based on the model that has been adopted thus far, once large tracts of land have been obtained, planning should be undertaken several years in advance. Depending on the region and the location of the property, some homebuilders point out that preparing the land, transforming it from being rural to developable, the permits, licenses, etc., can take anywhere between nine and 18 months. Urbanization, meanwhile, could take anywhere from four to six months.

Graph 62
Construction with molds, cost structure (% distribution)
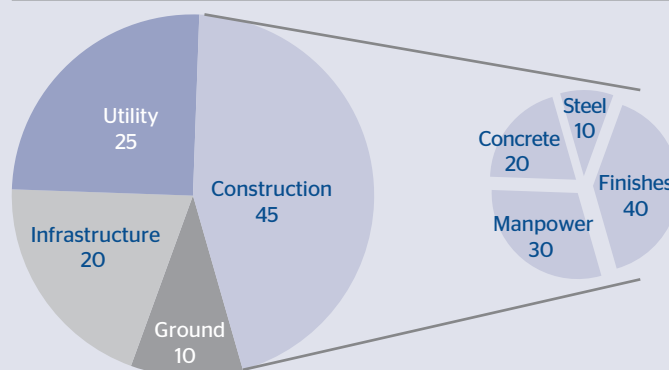
Source: BBVA Research with data of consulted companies.

That is, two years could even transpire before housing construction. This helps to explain why the location of the construction has not changed, as the housing that is being built today is located on land acquired years previously, and some companies probably purchased the land many years beforehand.

It is interesting to note that the emphasis of the companies that build these large volumes of housing is on the processes. This is probably justified given the relatively low housing prices. However, it should be noted that it is the process, not the client, which is the focus of attention. The interpretation for this could be that, according to the homebuilders, demand for this type of housing is still sufficiently important or that the housing deficit for the low income sectors of the population but with access to financing remains quite large.[1] Some indicators suggest a different interpretation. In any event, this is certainly an important topic for reflection and debate.

The impact of the vertical model

The construction model using molds is not affected by the change in housing category from horizontal to vertical. Among the companies surveyed, it was their unanimous opinion that the costs between horizontal and vertical three story housing are more or less equal. The process might change slightly, but ultimately the same molds are used, assembling one floor above another. The time frames also do not involve major changes.

In reality, it should be clarified that the definition of vertical housing, limiting it to three stories, is also not particularly

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[1] And perhaps from this vantage point, before demand from workers in the formal sector is exhausted, we should begin to design a support program for those unaffiliated to the public sector housing agencies.

ambitious. At this point, additional reinforcement of the foundations is not as significant, and in any case, is offset by the reduction in urbanization infrastructure projects (sidewalks, streets, etc.).

Conclusions: more than innovation, efficiency

Housing construction based on molds and assembly is a generalized practice among the largest homebuilders in Mexico, even though their numbers are very small. Of the more than 1,600 companies registered with the National Housing Chamber (Canadevi for Cámara Nacional de Vivienda), less than 10 have an annual construction volume of around 10,000 housing units or more, which are precisely those homebuilders who can obtain the most from this type of technology. Furthermore, construction with the use of molds is not an innovation of the Mexican industry. In China, just a short time ago, in December 2012, authorities announced the construction of the world's tallest building, 220 stories, to be completed in just three months, also based on the use of molds.[2]

Therefore, it is not the technology in and of itself that has drawn the attention of other construction companies, but probably the efficiency, since it is undeniable that to obtain the production volumes that have been achieved, the price, and a steady rhythm of activity, a high level of integration in production is required along with the synchronization of the different stages that are involved, from land acquisition to marketing the housing. In terms of their capacity to become housing "factories", Mexican homebuilders have undoubtedly managed to position themselves as a reference point for international success.

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[2] This building, known as Sky City, will house a school, a hospital, 17 heliports, and apartments for 30,000 people. The company that will be undertaking the construction, as of January 2013, Broad Sustainable Building Corp., in January 2012 completed a 15 story building in one week.

3.d Changes in the industry from the standpoint of the homebuilders

How do the country's homebuilders perceive the changes that the housing industry has been experiencing in recent years? How is it possible that they have been going through a difficult period when the mortgage market continues to show signs of strong growth?

In this section of *Mexico Real Estate Outlook*, we conclude the analysis of the changes in the housing industry with the results of a survey applied to a select but highly representative group of companies engaged in this activity. This survey sought to measure the changes that the country's homebuilders have perceived between 2008 and 2012 in terms of the volume of activity that they undertake, the characteristics of demand, and sources of financing and credit distribution.

The profile of the survey participants

A total of 20 homebuilders participated, ranging from some of the most important such companies in the country and those that moreover trade in the stock market to others that are mid-size, with construction volume of between 1,000 and 10,000 homes a year, and others that build between 500 and 1,000 housing units.

Taken together, the participating companies represent 27% of the housing built on a national level, according to the records of the Single Housing Register (the RUV). Given that this registry encompasses (so far) essentially homes that are marketed with loans from the Infonavit and Fovissste housing agencies, the sample is highly representative of the homebuilders that focus on housing segments for the middle and low income population. This should come as no surprise given that, on the one hand, the housing construction companies in the country that build more than 1,000 homes a year number less than 50 (out of about 1,600 active members of the National Housing Chamber, Canadevi) and, on the other, upper-end or residential housing as a percentage share of total mortgage loans represents less than 10% nationally.

I. Activity: mid-size homebuilders, with ample room for growth

Using the activity undertaken in 2008 as a base, housing construction in 2012 among the construction companies surveyed displayed a high degree of disparity. Some of the companies explained that the comparison may not be entirely valid because it involved two different accounting methods (in 2008, housing sales could be included in the accounting before units were actually allocated to specific individuals). Among the companies that did respond (14 of 20) in half of the cases their production levels are below those registered in 2008. In turn, among the companies posting growth, those that did so most rapidly were the mid-size companies, that is, those building less than 10,000 housing units annually.
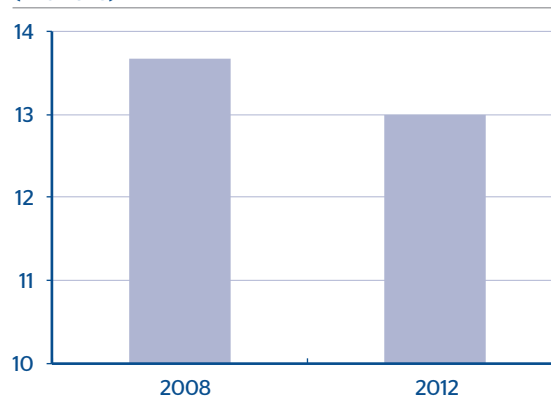
Graph 63
**Housing construction
(2008 Base=100)**

Homes built per year
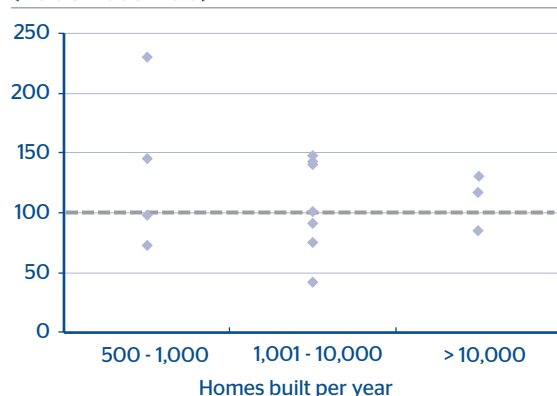
Source: with data from the companies surveyed

Graph 64
**Working capital cycle
(Months)**

Source: with data from the companies surveyed

Meanwhile, in surveying the same companies as in the case of housing construction, but this time for sales (homes sold in 2012 compared to the corresponding figure for 2008), it can be seen that the larger homebuilders have been moving some of the backlog accumulated in previous years (that is, sales are greater than construction), which occurred less frequently in mid-size companies.

Also in relation to the pace of activity, companies were asked about the working capital cycle, with a view to compiling information on the differences in time frames in actual construction between 2008 and 2012. Its relevance is that changes in the type of housing built (for example, smaller housing projects or vertical housing) could have an impact on the time frame for developing the projects. The results point to a marginal decline, from 14 to 13 months.[1]

Graph 65
Type of housing: vertical vs. horizontal (% distribution)

2008
Vertical 5.2
Horizontal 94.8

2012
Vertical 28.0
Horizontal 72.0
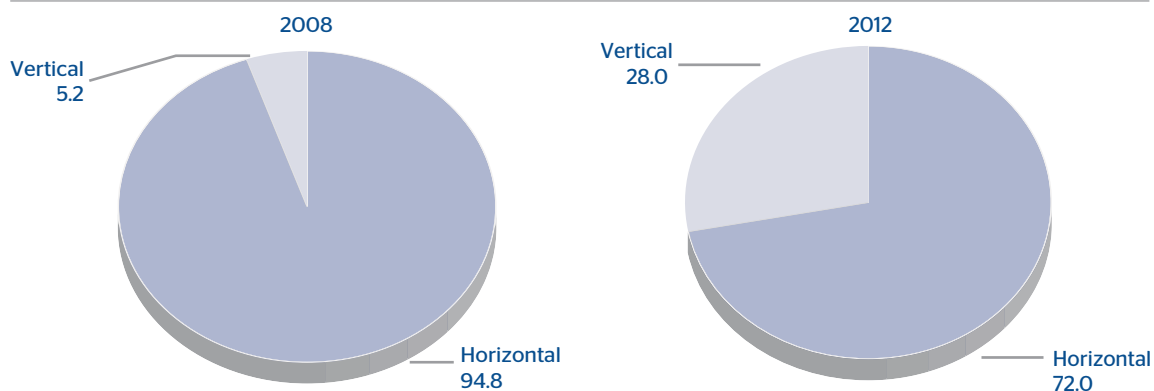
Source: with data from the companies surveyed

Construction companies have been relatively rapidly modifying the type of housing that they build. In 2008, vertical housing represented only 5% of the total, but by 2012 its percentage share was 28%. A first reading would indicate that the homebuilders have rapidly adjusted to the policy guidelines, which in the past few years have been promoting the greater availability of vertical housing. However, to provide a more adequate evaluation, it should be noted that subsidy policies have established a point system that includes location, services, and type of housing, if there are deficiencies in one category, the points required for the subsidy can be obtained based on the others (see section 3.a Non-residential housing construction is the category in which the sector is building). That makes more sense; as indicated by the RUV records on housing construction at the municipal level, homes are still being built in remote locations (where the most important companies have their land reserves), only now vertical housing is being built and perhaps some infrastructure is being added to the housing projects or developments.

Graph 66
**Housing segment
(% distribution)**

■ Residential ■ Medium ■ Low-income
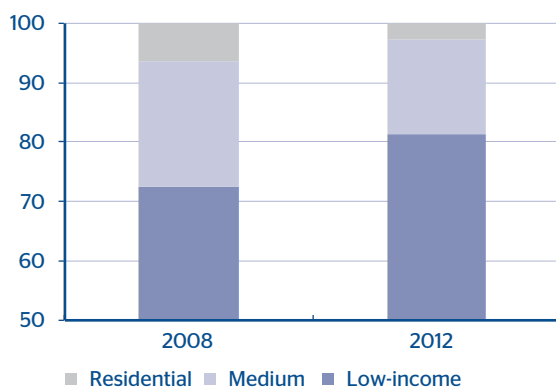
Source: with data from the companies surveyed

Graph 67
**Average price
(Thousands of pesos, 2012 prices)**
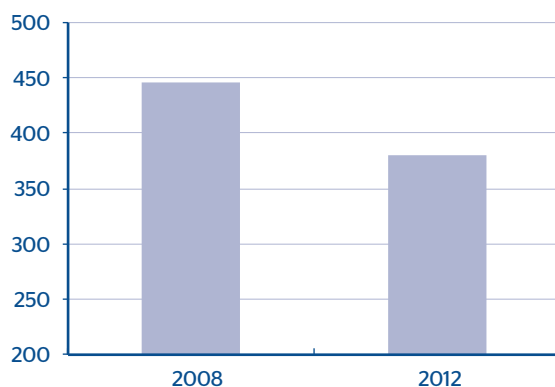
Source: with data from the companies surveyed

[1] It should be noted that for this question, a strong difference was registered in the responses, and therefore it was decided to consider the median value instead of the average price.

Between 2008 and 2012, the homebuilders surveyed directed their production more toward low-income housing or housing subject to receiving subsidies. From representing 72% of the total, the figure rose to 81%. This can also be seen in the average price of housing, which when measured at 2012 prices, posted a decline compared to units sold in 2008, from 450,000 to 380,000 pesos. That is, the changes in the type of housing being built reflect a "defensive" strategy on the part of the homebuilders, toward housing that receives support from the federal government.

II. Financing: toward a diversification of sources

The survey sought to obtain data on the changes made by homebuilders in terms of their sources of financing and the uses made of the resources. In relation to sources of financing, perhaps the most important point is to confirm that there has been a reduction in the percentage share corresponding to construction loans for construction. As a percentage of the total, the amount of financing corresponding to construction loans declined from 37% to 34% between 2008 and 2012. It should be noted, however, that among the larger companies, the decline was much greater, from 26% to 15%, and there was an increase in financing from other sources, such as debt issues, from 15% to 22%.

Given the strong emphasis placed by the homebuilders surveyed on housing for the low income segment of the population, it is understandable that sources of financing such as presales are quite unrepresentative, accounting for barely 2% of the total. Even though it makes an important difference in borrowers' payment commitment, the existence of prior savings, which could be reflected in presales, is not a condition that the authorities have sought to promote in the housing support programs.

The resource allocation structure remained practically unchanged between 2008 and 2012. Land acquisition represents, on average, 10% of the production cost, while construction as such accounts for 55%. That is, the costs strictly associated with construction represent only two thirds of the total. The remaining 35% is distributed among permits and licenses (5%), urbanization infrastructure projects (20%), marketing expenses (5%), and extraordinary expenditures (5%). The latter include, among others, payments to authorities and maintenance on already completed housing units.

There is surely ample room here for improvement. Even though the cost of land rises in more centrally located areas, housing policy could have a greater impact if, using instruments at its disposal, such as the creation of land reserves, defining the geographic areas or polygons in which housing activities will be centered, bringing in value added revenue, and the use of property taxes, housing construction would be promoted within the cities. This is without even mentioning the paperwork procedures and extraordinary costs. Reducing production costs should be a priority in order to increase the profitability of the industry and improve the quality (viewed integrally) of the housing that is being built.

Chart 8
Financing (% distribution)

Origin of the resources	2008	2012	Where resources are earmarked	2008	2012
Total	100.0	100.0	Total	100.0	100.0
Own capital	31.8	30.3	Land acquisition	10.3	10.1
Bank financing	53.5	51.5	Permits and licenses	5.4	5.3
Construction loans	37.0	34.2	Urbanization infrastructure projects	19.8	19.4
Unsecured loans	2.3	3.9	Basic infrastructure	13.9	12.6
Other	14.2	13.5	Urban services	5.8	6.7
Pre-sales	2.1	2.0	Construction	54.6	55.3
Debt issues	7.3	11.1	Marketing	5.3	5.0
Pesos	2.6	2.7	Extraordinary expenditures	4.7	4.9
US dollars	4.7	8.4	Extra payments to authorities	0.7	0.7
Other	5.3	5.3	Maintenance of already completed units	0.8	1.1
			Other	3.3	3.1

Source: with data from the companies surveyed

III. Demand: the product before the buyer

In the section on demand, the survey sought information on the changes perceived by construction companies in areas such as buyer profile, his source of income, the reason for purchasing a home, and the most valued housing attributes.

With regard to sources of financing for housing acquisition, credit granted with resources from Infonavit and Fovissste, the percentage share among the companies surveyed increased, from 63% to 70% in the case of Infonavit and from 9% to 11% for Fovissste. In contrast, in relative terms, the percentage share represented by those who obtained their credit through banks, either exclusively or through co-financing programs, declined from 25% to 16%. Cash sales are not very important, especially in the credit granted by the companies surveyed, since the corresponding percentage share is less than 3%.

This is also reflected in the buyer profile, particularly in relation to source of income. Greater emphasis was placed on attending to salaried workers, of the public or private sector, than to non-salaried workers. The latter's percentage share declined from about 6% in 2008 to slightly more than 3% in 2012.
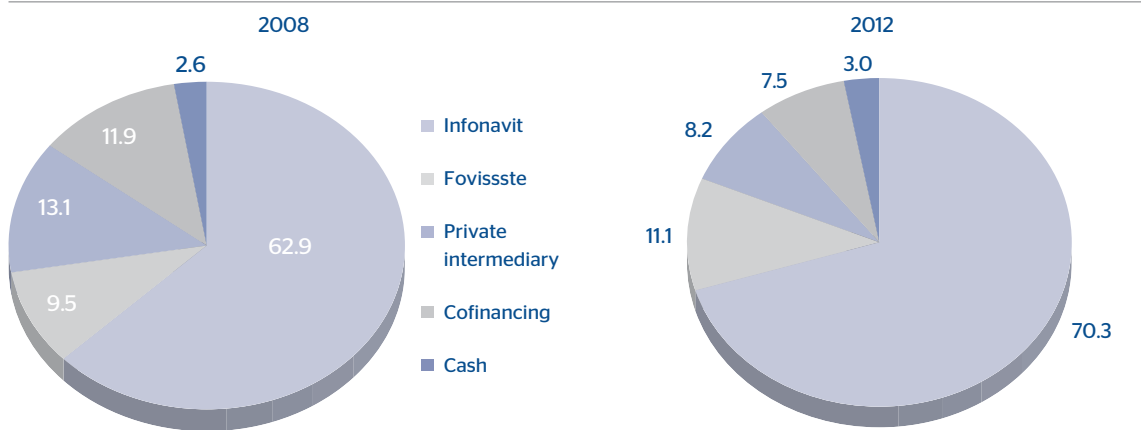
The companies surveyed reported a moderate change in household composition, with those formed by couples with or without children declining from 62% in 2008 to 58% in 2012. In contrast, households headed by a female (with or without children) increased their percentage share, from 19% to 24%. Other types of households, such as those comprised of youth living independently or senior citizens do not appear to have significantly increased their percentage share, or at least not among the companies surveyed. However, it should be mentioned that in terms of knowledge of client profile, the available information was poor, compared to the other sections of the survey.

With regard to the reasons behind buyers' purchasing a home, the companies surveyed also perceived a modest change in the use that households give to housing, in which secondary uses are gaining in importance, albeit gradually. Thus, the percentage of households that purchased a home for themselves to live in declined from 80% in 2008 to 77% in 2012. This is not a dramatic change, but it does coincide with the idea that the needs of households in terms of housing have been diversifying, due to demographic factors, household size and structure, and financial conditions and capacity to access credit.

Finally, with regard to the housing attributes most valued by clients, the homebuilders were surveyed on their perception of changes in customer preferences, in relation to five major categories: price, space, home finishings, amenities, and location. There was a broad consensus that price ranked first in importance in 2008, but in 2012 it was location.

Graph 68

Sources of housing credit
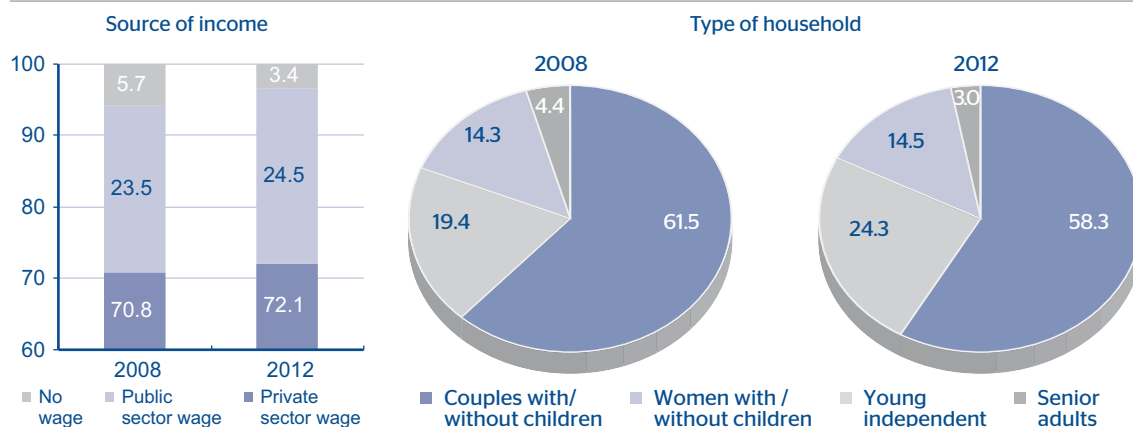### (% distribution)

2008

- 2.6
- 11.9
- 13.1
- 9.5
- 62.9

Legend:
- Infonavit
- Fovissste
- Private intermediary
- Cofinancing
- Cash

2012

- 3.0
- 7.5
- 8.2
- 11.1
- 70.3

Source: with data from the companies surveyed

The amenities of the housing project or development, which in 2008 were, according to the homebuilders, the least valued attributes, currently occupy third place in importance. Space and finishings are, among the categories considered, the least important.
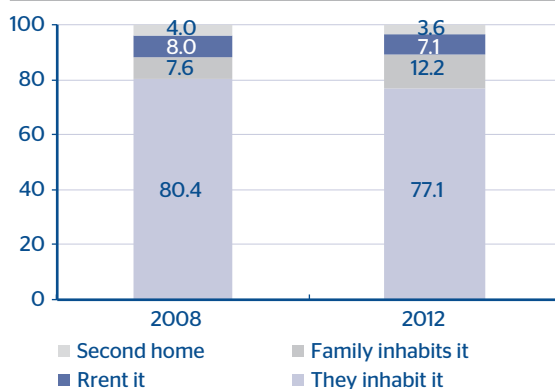
Graph 69
Buyer profile (% distribution)

Source of income

	2008	2012
No wage	5.7	3.4
Public sector wage	23.5	24.5
Private sector wage	70.8	72.1

Type of household

2008
- Couples with/without children: 61.5
- Women with / without children: 14.3
- Young independent: 19.4
- Senior adults: 4.4

2012
- Couples with/without children: 58.3
- Women with / without children: 14.5
- Young independent: 24.3
- Senior adults: 3.0

Source: with data from the companies surveyed

Also of interest in the survey is that, across the board, the response rate in the section on demand was lower than in activity and financing. The reason could simply be that among the homebuilders the perception still persists that there is large market to be attended to among the low income population or that a major housing deficit persists. This being the case, it makes sense to think more on achieving efficiencies in construction and marketing than in a clear product differentiation.

Graph 70
Reasons for buying a home (% distribution)

	2008	2012
Second home	4.0	3.6
Family inhabits it	8.0	7.1
Rrent it	7.6	12.2
They inhabit it	80.4	77.1

Source: with data from the companies surveyed

Graph 9
Most valued attributes (1=most valued, 5=least valued)

	2008	2012
Price	1	2
Location	2	1
Space	3	4
Finishings	4	5
Amenities	5	3

Source: with data from the companies surveyed

The responses undeniably indicate some changes in customer preferences, though it appears that they are not a determining factor in sales. This could be the case. However, high rates of uninhabited housing, the increased percentage share of used housing, as well as the information that the housing agencies provide to the buyer before he or she chooses a home, suggest that more attention should be paid to being knowledgeable about the customer and his or her needs, since in the end analysis, it is demand and not supply that should drive the market's evolution.

Conclusions: moving toward a common outlook in the industry

The survey of the country's main homebuilders confirms some important changes that have been taking place in the housing market in recent years. To begin with, the 2009 crisis led these homebuilders as a whole to adopt more conservative strategies, strengthening their market share in the low-income segment of the population, where they have a secure buyer through the public sector housing agencies, in addition to support from federal government subsidies. Behind this strategy lies the idea that the housing deficit is still at high levels.

Construction loans have seen their percentage share as a source of financing decline, and clearly, the larger home builders have various instruments to diversify their access to financing.

To respond to changes in policy, the homebuilders surveyed have been adapting their production model, not necessarily in terms of better location, but above all by increasing the percentage share represented by vertical housing. Changes in the type of housing built have not been reflected in the cost structure. Apparently, in participating in this market characterized by large volumes and low margins, the gains in efficiency in construction and marketing have become increasingly important.

The survey indicates changes in demand, especially in the importance that the buyers place on housing attributes. Location, which is recognized as the most significant attribute, will be gradually taking on greater importance in the homebuilders' decisions. With this in mind, the outlook of those who design and implement policy, those who build and those who finance housing, must go hand in hand. This continues to be one of the major challenges to address in the next few years.

3.e Infonavit 2013-2017 Financial Plan: Strategies for new challenges

The Infonavit financial plan for the 2013-2017 period presents, as in previous years, the housing agency's view of the challenges that it will face in the next few years and the strategies to address them. When compared with previous financial plans, there are no major differences in terms of the housing agency's long term outlook, although there are some in relation to its strategies, including strengthening Infonavit's activity in the field of pension funds, diversifying the housing solutions it offers to its affiliates and other segments of the population, as well as in promoting a closer institutional coordination aimed at improving urban development and housing quality.

The outlook in relation to the future challenges

Based on a diagnosis on the characteristics and bases of urban growth in the past few decades, Infonavit emphasizes the need to reformulate housing policies in order to achieve better results in terms of urban development. Such policy modifications range from diversifying housing solutions to strengthening the legal framework, improving mechanisms of institutional coordination, and promoting cooperation between local governments for better metropolitan development.

It is interesting to note Infonavit's acknowledgement of some of the failures in housing policy in recent years and the need to adopt corrective measures in this regard. For example, in elaborating on the reasons that explain the placement of housing in the outskirts of the cities, Infonavit warns that this phenomenon could continue, due to both the location of the land reserves as well as the conditions established in the housing support programs.

Changing the outlook on the urban development model requires policies and programs that are better articulated and coordinated between authorities on the different levels of government. Measures that Infonavit has taken to address the challenges that it has detected in urban development include coordination with the Mexican Institute for Competitiveness (IMCO) to develop a municipal competitiveness indicator for housing; generating incentives for intra-urban vertical housing; offering the payment of services and the property tax as part of mortgage products; incorporating data on the availability of services and infrastructure through the Single Housing Register (RUV for *Registro Único de Vivienda*); and providing better information to the buyer on the different alternatives that he or she can avail themselves of to make use of their housing sub-account.

Among the most important measures that the housing agency proposes for future implementation are a reformulation of the subsidy policy, both in terms of amounts, eligible population, and location (only in intra-urban polygons); the establishment of land reserves within cities with private sector participation; as well as the financing of infrastructure projects

Expectation persists of a reduction in housing needs

Other challenges identified by Infonavit include pinpointing and adequately addressing the housing needs of its affiliates; guaranteeing the agency's financial sustainability; leveraging its operational capacity to serve other segments of the population; and ensuring that the credit that it grants not only offers housing solutions but also helps raise the quality of life of the borrowers and their families.

In terms of housing needs, based on the 2010 Household Income and Spending Survey (ENIGH 2010), in that year there were 7.2 million households (12.9 million workers) directly affected by the housing deficit or that wish to obtain a home. Of this figure, about 3.2 million households (44%) could have a real need for housing, and of this universe, Infonavit can attend to only a third under the current model (the rest are workers without sufficient income or in the rural sector), that is, 1.2 million. This figure represents the housing deficit that the agency can resolve. At a rate of 200,000 housing units per year starting from 2011, the deficit could be reduced by 2016. Based on these calculations, as of 2017, annual

housing demand could decline from 580,000 to 380,000 units.[1] This figure could rise to 430,000 after taking into account potential workers who could request a second loan, about 50,000 per year (of the nearly 320,000 who are currently eligible to apply).

An estimate has been made of the potential impact of the recently approved labor reform on the universe of workers that Infonavit could attend. It is calculated that this would include those working in business support activities, which would add a total of close to 210,000 households to the agency's rolls.

Based on an estimate of the annual growth of the population (1.6 million), the average size of households (four members) and the population in the housing deficit category, Infonavit projects that new housing needs in 2013 on a national level will be close to 650,000 units.[2] Of this figure, the housing agency plans to finance a maximum of 300,000 units. Intuitively, this figure is calculated by subtracting the percentage of loans earmarked for acquiring used housing, which currently represents slightly more than a third, from total mortgage loans that Infonavit has been financing in recent years, around 450,000 credits.[3] It is also important to take into account that interest in acquiring new housing among Infonavit affiliates may change significantly among the country's regions, since while in Guadalajara, Mexico City, and Cancun the figure could be around 60%, in cities such as Torreon, Coahuila, it could be 28%.

For homebuilders, and especially for those who place homes through Infonavit, the agency's projections should be used as an initial reference point for the volume of housing that can be built during the year. Beyond the consideration that it is demand that ultimately determines how many loans are granted, this reference point helps to gauge the volume of the loans that can, in reality, be placed. If new housing placed by Fovissste (State Employees Social Security and Services Institute Housing Fund), possibly in the range of 50,000 to 60,000 credits per year, is added , it can be seen through the RUV registry offices that housing construction (about 370,000 units per year) is essentially at the same level as sales volume. (see section 2b. Housing market: No running on a slippery floor).

Graph 71
Infonavit: dormant accounts

Number of accounts (millions) / Average balance (thousands of pesos)
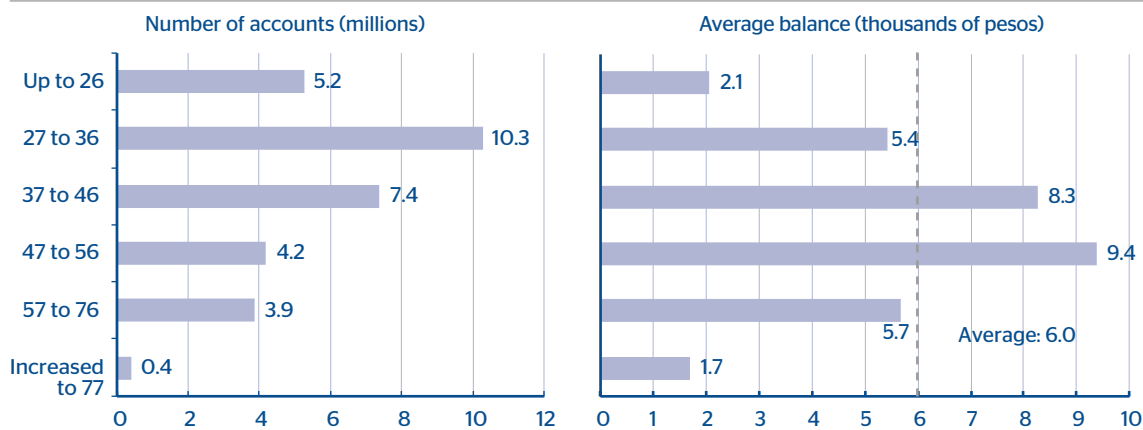
Source: BBVA Research with Infonavit data
Source: BBVA Research with Infonavit data

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[1] Should the housing deficit be considered a balance or a flow? If the latter were the case, it would have a dynamic component. That is, each year new housing could be added to the deficit. At the same time, how can we ensure that the deficit is really on the decline? Perhaps beforehand it is necessary to precisely define aspects such as the location of households in the deficit category (at least on the municipal level), and the program with which such situations can be addressed (which should have different characteristics compared to the traditional credit program). It might be assumed that the basic yardstick for indicating that the deficit is being addressed is through the distribution of the loans granted by the agency. That is, addressing the deficit involves the difference between total loans and credits that are earmarked for the needs of new housing and financing that covers secondary uses. To begin with, the needs of new households being formed require not only making appropriate assumptions on demographic dynamics (population and migration), social trends (which affect the rate of household formation), and employment levels, but also having mechanisms to verify that the needs are really being met. The same could be said for housing of secondary use: How do we know how many of the loans granted are for secondary housing? The projections of surplus liquidity estimated by the agency for the next few years are mainly based on assumptions that are made in this regard.
[2] Once again, of key importance are the assumptions on the growth of household formation and the percentage of new homes entering the formal sector.
[3] It is important to note here that this volume of loans already includes attention to basic needs and secondary uses.

Infonavit has identified the universe of workers who once paid fees into the housing agency and never applied for a loan as a potential market for expanding its coverage into new segments. These former employees number a total of 9.3 million (of which perhaps 3.7 million may have housing needs), and the funds in their housing sub-accounts reach about 190 billion pesos.

Infonavit also notes that high income workers present the agency with an opportunity to change its model of attention. Loans for this segment allow subsidizing the housing of low-income workers, although due to the design of the product they end up amortizing their loans in advance.

Higher income workers not only pay a higher rate but also face less risk of defaulting on their loans, and have higher wage increases. According to the agency's records, the probability of becoming unemployed after 60 two-month periods (10 years) as of when the credit was granted is 15% for workers with incomes higher than four times the monthly minimum wage, but 40% for those receiving income below that level. Furthermore, 24% of borrowers with income above seven times the minimum wage have seen their revenue increase 40% from loan origination to date (loans originated between June 2009 and June 2010). [4]
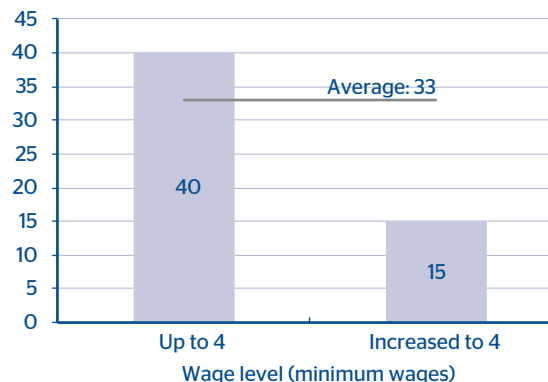
Graph 72
Mortgage loan interest rate: Lending vs. borrowing (%)
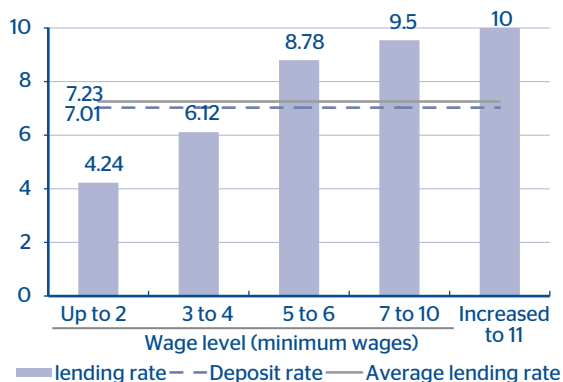
Source: BBVA Research with Infonavit data

Graph 73
Probability of loss of employment 10 years after credit origination (%)

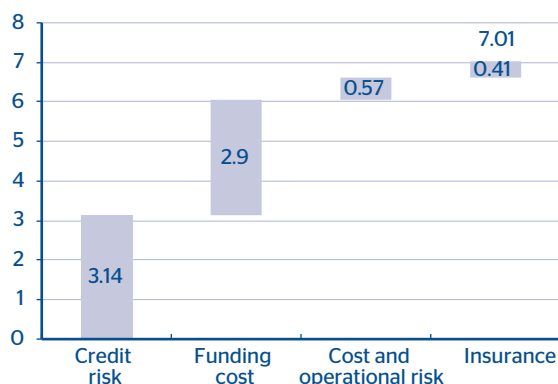Source: BBVA Research with Infonavit data

Financial sustainability, key for the coming years

Financial sustainability is identified as one of the major challenges facing the housing agency in the next few years. While reserves at the present time amply cover the past-due loans portfolio, the future will see challenges emerge that are associated with credit risk, with improving the performance of the portfolio given the need to appropriately respond to the Infonavit's responsibility as a pension fund; with managing the balance sheet, which has assets and liabilities denominated in different currencies; and, with managing liquidity, in anticipation of reduced housing needs in the future.

Credit risk represents close to half of the liable or borrowing rate of the agency's credits (3.14%, of a total of 7.01%, which is the rate). The main source of this risk is non-performing loans, primarily among those who lose their jobs. Non-performing loans currently account for about a third of the portfolio. Infonavit reports that on a state level there are important differences in credit risk, so that some states end up subsidizing others. Therefore, the possibility has been raised of differentiating credit conditions regionally depending on the level of risk that they present.

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[4] Among these strategies, consideration should be given to refinancing. That is, the possibility that Infonavit could offer these workers a higher priced home to the extent that their income improves and housing needs are modified. Other benefits of this measure would be maintaining the aspiration of property ownership among the agency's affiliates as well as renewal of the housing stock.

Graph 74
Structure of the mortgage loan borrowing rate (%, 2013 estimate)

Source: BBVA Research with Infonavit data

Graph 75
Borrowing rate by state (%)
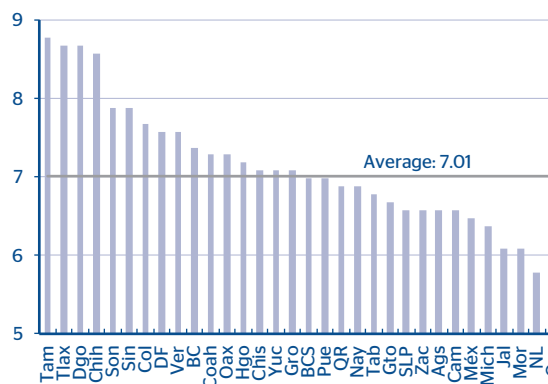
Source: BBVA Research with Infonavit data

In relation to the performance of the loan portfolio, Infonavit raises the need to maintain a minimum level for the lending rate on loans granted by the agency. Currently this rate is 7.23%. However, once it is adjusted for the expected prepayments, it is 6.97%, below the borrowing rate (7.01%). The agency will implement strategies to moderate prepayments through increasing the amount of credit to higher income workers, which is currently limited to the equivalent of 180 times the minimum wage (which can be paid by those with revenue equivalent to six times the minimum wage or higher); imposing commission fees for prepayments; and reducing the percentage of the loan that must be amortized (or the payment factor) as income increases.[5]

Strategic Agenda

To meet the challenges ahead, Infonavit proposes a strategic agenda toward 2020, which includes products and segments of the population that remain to be covered by the housing agency, strengthening the quality of its loan portfolio, generating capacities for managing liquidity, and helping to improve housing quality.

The Infonavit financing plan proposes servicing new segments of the population, including agricultural workers and temporary workers, who receive less than one minimum wage, and who receive income from various sources. To attend to former Infonavit affiliates, the plan proposes that they be serviced by private intermediaries, using the balance of their housing sub-account as collateral. Another segment of the population that could be serviced is that of state and local government employees, who are currently not fully covered by Fovissste.

With regard to improving the quality of the housing agency's loan portfolio, the proposed strategies range from strengthening the process whereby credit is allocated through providing personalized consultancy services with the buyer and verifying credit references;[6] outsourcing loan collection for workers who have lost their jobs (and whose loans represent up to 24% of the balance of the Infonavit' loan portfolio); and strengthening the channels that the agency has developed to place housing that has been awarded or repossessed.

In terms of liquidity management, Infonavit will establish an investment portfolio to manage its surplus revenue, pay yields on the housing subaccount, and compensate imbalances between assets and liabilities due to the currency exchange rate. This goes hand in hand with the need to strengthen the agency's activity as a pension fund. On this point, it must be taken into account that there is an important difference with respect to the retirement fund management companies (Afores), namely, yields, in which the Afores do not guarantee them but Infonavit should. The agency estimates that the return on the housing sub could be around 9% in nominal terms for those who do not acquire a mortgage loan.

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[5] The prepayment panorama can be explained given that when wages and salaries increase, the fees paid into Infonavit by the worker's employer also rise, in addition to the amount discounted from the employee's paycheck which is set as a percentage of his or her wages.
[6] However, no reference is made to consulting with the credit bureau.

Finally, with respect to improving housing quality, incentives will be strengthened to improve the quality of construction, with a more rigorous verification process, along with damage insurance and quality assurance. Efforts will also be undertaken to intervene in housing projects and developments with high levels of deterioration. In addition, higher standards will be promoted in what should be considered "sustainable housing", to include a total of 16 criteria involving location, attributes, urban environment, and services. Finally, coordination will be sought with the federal government to reformulate subsidy policies, in accordance with wage and salary ledgers. Up to 54% of the workers could benefit from housing subsidies, but the ENIGH2010 (2010 National Survey on Household Income and Spending) shows that household income is higher than the wage level suggests. [7]

Projections

In line with what has been the volume of credit activity in the past few years, Infonavit projects granting 545,000 loans, of which 90,000 will be for remodeling. Of the remainder, the agency plans to place 55% among borrowers earning up to four times the minimum wage. It is interesting to note that even though in the diagnosis emphasis is placed on the importance of earmarking more resources to higher income workers (those earning more than 11 times the minimum wage), their percentage share of total loans remains unchanged at 37%.

The securitization of the loan portfolio, through what are known as Cedevis, will remain at 10 billion pesos. Infonavit emphasizes that, in reality, this source of financing is not necessary, since between loan amortization, the improvement in collection efforts, and the decline in the relative share of co-financing operations in the housing agency's loan portfolio, revenue began to grow at higher rates than expenditures. The placement of Cedevis responds more to a commitment to transparency and to facilitating access of private intermediaries to this financing channel. [8]
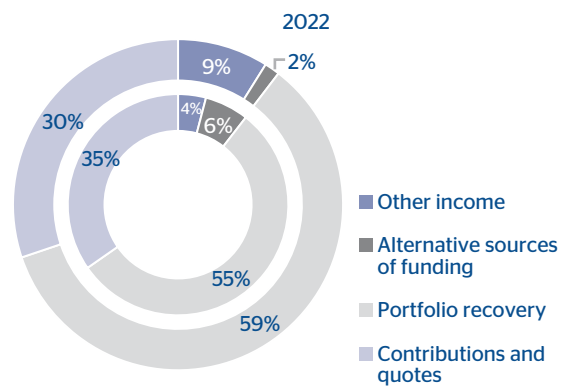
Graph 76
**Infonavit loans
(Thousands)**
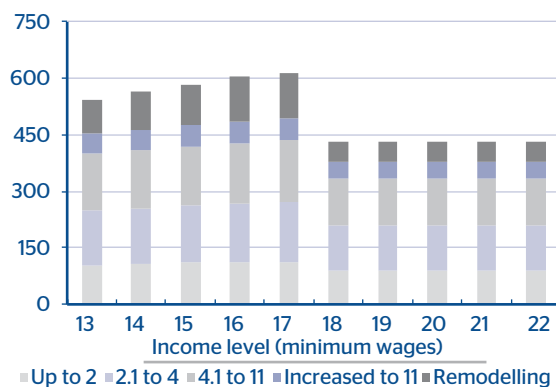
Source: BBVA Research with Infonavit data

Graph 77
**Infonavit: revenue
(% distribution)**

Source: BBVA Research with Infonavit data

Conclusions: a good moment to reformulate the agenda

Infonavit's outlook on housing needs over the next few years, both among its affiliates as well as the rest of the population, should be carefully analyzed. First, it should be pointed out that the agency has emphasized that more than a reduction in demand, what it will face in the future are limitations in properly addressing such demand given the current financing model. It is also important to note that some of the assumptions for the agency's projections have a dynamic nature, and on a demographic level, minor changes in these assumptions can turn into major differences over time.

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[7] Although not explicitly referred to, the issue of underreporting should be considered here. That is, the practice of registering workers with less income than they actually receive.
[8] Through Cedevis Total, the credits granted through the Infonavit Total product are securitized. These loans are originated by Infonavit but become part of a private intermediary's portfolio.

At the same time, it is also clear that the agency has enormous challenges lying ahead to simultaneously address the mandate of the housing fund and the pension fund. The challenges will multiply, on top of an agenda that is already complex.

Finally, the diagnosis made by Infonavit on the challenges facing urban development coincide with the points that have been made, both by BBVA Research as well as in various documents and discussion forums, in the sense of the need to undertake more decisive measures to correct some excesses and distortions that have arisen in previous years. It is positive to have a common understanding of the problems, and furthermore, the current situation provides a good opportunity to make some adjustments to housing policy, in order to achieve better results in the medium term.

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Box 2: In the opinion of housing industry leaders: an interview with Victor Borras

Getting to know the opinion of those who decide or influence housing decisions, either from the public or private sector, is essential in order to understand the functioning of the market, the orientation and scope of housing policies, and what we might expect in the medium term. Therefore, beginning with this edition of *Mexico Real Estate Outlook*, we will include a section that will offer the views of leaders in the field of housing and urban development. We are starting with Victor Borras, whom we met with in November 2012, shortly after he ended his term as General Director of Infonavit, a position he held for 12 years. Borras' vision and leadership were key in achieving a true transformation of the housing agency, which is, by far, the most important player in the country's mortgage market and housing policy.

BBVA Research: What was the background for the Infonavit's transformation?

V. Borras: It was precisely the work of the past 12 years. Sometimes we talk about the Infonavit's results, but rarely is it said that it is an institution that has been radically transformed. The model that we followed for this transformation was to have a public sector agency that would be as profitable and efficient as the best private sector institution, but without neglecting its social orientation. An institution that would be efficient in terms of cost, operation, and profitability, but offering returns on the housing sub-accounts of the affiliated workers, who are the owners of Infonavit; an institution that would at the same time have a social content, that of providing workers with decent housing, a patrimony. In other words, we are talking of striking a balance between social and financial considerations.

There are different nuances that are expressed in this activity. These vary from very acceptable yields on the housing sub-account, a range of ever expanding products to meet all of the workers' housing needs, and very strong efforts on the level of sustainability, in order to improve the quality of life of workers who acquire a home with Infonavit. This also involves engaging in a socially oriented collection effort, that is, a responsible collection policy that does not harm the individuals involved.

BBVA Research: With a view toward the future, what should be Infonavit's role in housing policy?

V. Borras: We have always been very clear on this responsibility. We place about 60% of all mortgage loans in the country and we have had a very strong commitment to the housing sector. For example, this is the case with the financial sector, through programs such as co-financing.

We have a real concern that Infonavit could become too dominant in loan origination, and with this in mind, since 2001 or 2002 we have tried to integrate our credit efforts with the banks. So, as the public sector agency that we are, I believe that Infonavit has a commitment to the various players, such as the banks, and the homebuilders, so that the housing developments that it has been promoting in recent years are sustainable in the medium term. In other words, that we shouldn't have very outstanding results in the first few years, which then result in a disaster, as has occurred in other countries. We have tried to extensively collaborate with the other players so that this sustainable growth can be maintained in the long term.

BBVA Research: Infonavit's mandate includes the functions of a housing fund and a pension fund. How can we ensure that both are carried out successfully?

V. Borras: This is a key question. That's the hardest job of the Infonavit director. Here we have to maintain a balance between pensions and housing. The agency has historically been oriented more to the question of housing; however, in recent years we have worked to ensure that workers who do not acquire a home with Infonavit can obtain yields on their housing sub-account. They should not think that it is necessary to purchase a home, which is often not needed, based on the idea that the money will be lost or because the money is not going to obtain an adequate yield.

We have achieved such a balance in two ways. One, by paying real returns. We have been paying real yields now for 12 or 13 years to the housing sub-accounts, returns that are often better than those obtained elsewhere based on the amount of savings in them. Meanwhile, the changes recently made to the Infonavit Law require us to return the remaining resources into the account once the loan has been paid off or never exercised. And finally, also derived from the recent modifications to the Law, we are proposing to our Board of Directors that a change be made in the investment regime so that the above mentioned surpluses can be invested in activities that result in benefits for housing, but also in good returns for the workers.

BBVA Research: Some legislative bills, which involve questions such as attending to former Infonavit affiliates or state and municipal government employees, have faced difficulties in being approved. What alternatives might there be to promote these and other reforms?

V. Borras: I think that in the future, lawmakers should engage in efforts to ensure that these proposals move forward, because

Infonavit is one of the country's assets. To put it one way, it's a machine for efficiently granting credit. And it is the best that we have in Mexico in terms of managing mortgage operations.

The underlying idea is to use this machinery to attend other segments of the population that currently do not have access to mortgage loans and therefore to housing. Sometimes it appears contradictory, but in some Mexican states we have problems with abandoned homes and yet in the same state there are segments of the population that not being attended. So, just as the formal sector has been attended, I would say, in a good way in recent years in terms of obtaining financing for the purchase of a home, Infonavit can be used to service other segments of the population as well.

BBVA Research: The home remodeling product has been a success. What should its next steps be and what other needs could the agency attend to?

V. Borras: Two ideas in this regard. One, to continue developing our basket of products to address other needs. For example, acquiring a plot of land or rental. We should see the range of products as a universe that satisfies all of the workers' needs in terms of housing.

And secondly, I think we should leave Infonavit granting credit as an open matter. In the changes recently introduced into the Law, a second loan is now permitted, but perhaps this is a lot for those who just need one loan, or too little for those who need four loans throughout the course of their lives. This should be a concept that should be left open and in any event, streamlined or oriented to workers so that they can make good use of this benefit, but which we can resolve, for example, a change of city, changes in housing needs. Sometimes people have a home that is much bigger than is needed. Infonavit should have much more leeway in granting credit to meet workers' needs.

BBVA Research: A good move on the part of Infonavit was the creation of the National Housing Register (the RUV for Registro Único de Vivienda). What should be the next steps for this system?

V. Borras: In 2003 or 2004, when the idea of the RUV was born, there was a significant level of oversupply. Homebuilders built many more units than there were credits for in the market, and that caused serious problems. This gave rise to the project, which has been evolving very positively, to the point that today it is an essential reference point for knowing how housing construction is going in the country, how many homes are being financed, how many work projects are underway per month, etc.

I believe that in the future it should be "the" system, in terms of the management of the industry, and we should be adding new categories that would enable information to be made available on aspects of housing construction. Such data would

be gathered from the moment in which plots of land and land reserves are acquired, with building permits obtained, the beginning of construction, the individual allocation of housing through notarized property deeds, and their registration in the Public Property Registry. That is, the RUV should cover the entire cycle, and in addition, once the housing unit begins to be considered as used housing, it should also be registered as such.

When this is achieved, we will have a key system in terms of the development of the housing industry, and for providing information that is needed to make the right decisions. I would say that currently the RUV should be at around 60% or 70% of the way to meeting all of the points that I mentioned, and certainly in the next few years, once the RUV has been given its independence through the creation of a trust, this will surely be achieved.

BBVA Research: Strategies have been promoted to improve housing quality. Have such strategies been sufficient? Which of them should be strengthened?

V. Borras: I think there has been a very significant improvement in this regard. And here there are other factors that must be balanced. I believe that the quality of housing has to do with market conditions, and what we have tried to do is to have a better prepared consumer with enhanced information, in order to have greater competition in the market, and in this way an improvement in the quality of housing could be achieved. I think that is the way to make housing sustainable. Because you cannot improve the quality of homes by decree. So what we have been developing has been through courses such as "Saber para decidir" ("Know in order to decide") and personalized consultancy services for workers, so that they can make a better purchasing decision. And if good decisions are made, the quality of housing will continue to improve significantly.

If we compare the quality of the housing developments of 2000 with those that we have today, there are substantial differences in terms of size, quality, facilities, and environmental technologies. Today we have, for example, the Green Mortgage program, also within all these concepts, there are, as well as recreational areas, children's centers. In short, there has already been a significant improvement, and this has occurred through competition.

What do we need to address in the future? Well, there is the issue of urban development. Sometimes we have very nice housing developments, but they are very far from cities. They are very disconnected; for example, from transportation routes, and I think that we need a greater involvement on the part of the federal, state, and municipal governments to promote urban development in a major way. We have done what we could, but Infonavit does not have the authority to legislate in terms of urban development. I would say that this is the major pending issue, the great challenge we face in the future.

4. Statistical appendix

Chart 10
Annual macroeconomic indicators

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012p	2013
Real GDP[1] (annual % change)	1.3	4.0	3.2	5.1	3.2	1.2	-6.0	5.3	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	**0.9**	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	**5.3**	4.0
Residential		3.7	2.5	8.9	3.5	0.5	-16.5	-0.2	4.2	**4.9**	3.6
Non-residential		6.1	5.2	7.2	5.9	6.8	0.4	-0.9	3.2	**5.6**	2.6
Formal private empl. (IMSS)[2], total	12,370	12,504	12,891	13,483	14,044	14,323	13,887	14,405	15,029	**15,692**	16,217
Annual % changel	0.3	1.1	3.1	4.6	4.2	2.0	-3.0	3.7	4.3	**4.4**	3.3
Avge. 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	**260.0**	
Annual % changel	1.9	1.7	1.9	1.6	1.5	0.2	-1.0	-0.9	0.8	**0.3**	
Real total wages (IMSS, annual % change)	2.2	2.8	5.1	6.3	5.7	2.2	-4.0	2.7	5.7	**5.3**	
Minimum general salary (daily, nominal pesos)	41.5	43.3	45.2	47.0	48.9	50.8	53.2	55.8	58.0	**60.5**	
% real annual change	0.0	-0.4	0.5	0.4	-0.1	-1.3	-0.4	0.6	1.0	**0.1**	
Consumer prices (end of period, annual % change)	4.6	4.7	4.0	3.6	4.0	5.1	5.3	4.2	3.4	**4.1**	3.4
TIIE 28 average (%)	5.6	8.1	8.1	7.0	7.6	8.3	4.5	4.5	4.5	**4.5**	4.5
10-year interest rate, 10 year Govt bond (M10)	8.9	9.6	9.4	8.4	7.8	8.3	8.0	7.0	6.8	**5.7**	5.8

p. Forecast as of the date indicated.
[1] Seasonally adjusted series.
[2] Thousands of average people. Seasonally adjusted series.
Source: BBVA Bancomer with Banco de Mexico, Conasami, INEGI and IMSS.

Chart 11
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	-0.5	4.6	**4.5**	3.0
Building	3.3	3.6	0.7	9.6	3.6	0.0	-14.3	-1.3	4.8	**4.8**	3.8
Civil engineering and major works	3.3	7.8	12.3	5.5	6.2	10.3	6.5	0.1	4.2	**4.0**	2.2
Specialist construction work	3.3	10.5	-0.6	2.7	4.1	-0.5	-10.5	1.9	5.4	**4.3**	1.9
Construc. employmt (IMSS, thousands people, avge.)	945.6	969.3	1,019.9	1,132.8	1,203.8	1,209.5	1,103.6	1,145.5	1,199.5		
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	220.3	2.2	-2.2	-8.6	3.2	3.2		
Building		16.2	9.0	238.0	7.2	-3.1	-18.5	-4.7	6.1		
Public works		-6.0	0.2	229.0	-2.1	-1.5	8.0	9.7	0.1		
Water, irrigation and sanitation		31.2	-1.3	161.3	-21.8	4.1	6.3	0.1	10.7		
Electricity and communications		-15.3	-28.4	216.3	-12.6	15.4	8.2	26.8	21.5		
Transportation		-16.8	6.9	276.2	6.9	7.5	10.5	8.2	-2.9		
Oil and petrochemicals		-0.2	5.7	205.9	-4.2	-27.1	1.7	11.6	-9.6		
Other		-16.4	-0.8	100.1	-10.3	0.7	-35.2	19.9	9.8		
Resid. construc. prices, general (ann. % change)	7.3	14.5	0.6	11.8	2.9	13.1	-1.0	4.8	9.3		
Construction materials (annual % change)		17.7	-0.2	14.1	2.6	15.5	-1.8	5.2	10.6		
Labor (annual % change)		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		

p. Forecast as of the date indicated..
[1] Seasonally adjusted series..
[2] Consider companies affiliated and not affiliated to the Mexican Chamber of the Construction Industry.
Source: BBVA Bancomer with Banco de Mexico, INEGI, IMSS and AHM.

Chart 12
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	746.5	632.8	643.1	602.4	487.7
Infonavit	275.0	297.7	306.0	376.4	421.7	458.7	494.1	447.5	475.0	445.5	360.4
Fovissste	11.1	66.4	59.4	48.7	76.6	68.4	90.1	100.1	87.8	75.2	55.7
Commercial banks and Sofoles	9.7	17.6	110.6	142.4	172.5	198.6	162.3	85.2	80.3	81.8	71.7
Reduction[1]				38.1	73.7	79.2	80.8	39.4	25.2	23.4	23.2
Equivalent purchases	295.8	381.8	472.8	529.4	597.1	646.5	665.6	593.4	617.9	579.0	464.5
Financing flow (billions of pesos, April prices)											
Total	93.5	123.9	137.8	181.0	256.4	286.6	303.6	243.6	231.8	234.9	196.9
Infonavit	78.9	82.2	83.1	105.2	119.4	128.1	137.2	117.6	121.2	124.6	99.6
Fovissste	5.5	25.7	24.0	20.7	32.8	27.9	35.5	53.8	46.1	36.2	28.4
Commercial Banks and Sofoles	9.2	15.9	30.7	55.1	104.1	130.6	130.9	72.1	64.5	74.1	68.9
Commercial banks current loan portfolio											
Balance end of period (mmp, prices in October, 2012)	287.5	292.0	323.2	373.3	431.1	457.7	437.5	401.5	424.9	439.3	448.1

[1] Refers to financing (loans and grants) that are considered in two or more institutions.
* Figures for October 2012
Source: BBVA Bancomer with Banco de Mexico, CNBV, Conavi, Mexican Mortgage Association (AHM) and ABM.

Chart 13
SHF Quarterly Housing Price Index by state (annual % change)

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

Source: BBVA SHF data.

Chart 14
Quarterly macroeconomic indicators

	09'IV	10'I	II	III	IV	11'I	II	III	IV	12'I	II	III	IV
Real GDP (annual % change)[1]	-2.2	5.4	6.8	5.0	4.1	3.8	3.6	4.4	3.9	4.9	4.4	3.3	2.4
Real private consumption, (annual % change)	-3.0	4.2	7.3	4.4	4.2	4.9	4.4	4.4	4.3	4.2	3.6	3.0	2.7
Real government consumption, (ann. % change)	2.4	1.0	4.5	2.4	1.9	1.3	-1.3	0.7	1.8	2.4	1.8	0.2	-0.6
Real const. investment, (annual % change)	-7.6	-3.1	-0.6	0.7	2.8	4.0	2.4	4.2	4.7	5.8	5.2	4.5	5.6
Residential	-15.1	-7.7	-1.7	2.8	6.4	6.1	3.4	4.1	3.1	5.2	4.8	4.8	4.8
Non-residential	-3.3	-1.3	-1.0	-1.3	-0.2	2.3	1.7	4.2	4.8	6.5	5.8	5.2	4.7

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

Chart 15
Quarterly construction and housing indicators

	09'IV	10'I	II	III	IV	11'I	II	III	IV	12'I	II	III	IV
Construction GDP, real. (annual % change)[1]	-7.7	-4.1	-1.5	0.9	4.5	5.8	3.5	5.4	4.6	5.4	4.9	4.0	3.5
Building	-13.4	-7.7	-3.0	0.9	5.0	6.0	3.5	5.0	4.1	5.6	4.8	4.7	4.1
Construction engineering and major works	2.0	1.2	0.4	0.5	3.5	5.2	3.1	5.9	5.0	5.6	4.9	3.0	2.6
Specialized construction work	-7.3	-2.5	1.1	2.6	6.7	7.6	5.9	5.9	6.3	4.0	5.3	4.3	3.8
Construction companies[2] (annual % change)	-5.8	-4.7	-2.0	2.2	6.9	2.5	2.5	1.7	3.8	3.8	5.4	6.0	0.1
Building	-10.1	-6.9	-11.7	-9.0	-5.9	0.3	8.1	6.8	7.1	5.0	5.7	2.8	-0.6
Public works	2.5	-2.5	7.5	13.5	19.8	4.3	-1.6	-2.6	-0.5	-0.2	0.4	3.4	-2.7
Water, irrigation and sanitation	14.2	9.0	-5.7	-2.1	-3.1	5.7	4.6	12.6	16.8	5.7	5.6	1.7	-14.2
Electricity & communications	19.8	29.6	38.4	-2.3	4.9	15.0	13.2	38.2	24.3	-2.2	-4.4	-1.7	-17.4
Transportation	-5.5	-9.5	9.9	16.8	28.2	3.1	-3.8	-6.8	-4.0	-1.5	-3.1	-1.3	0.6
Oil and petrochemicals	10.3	-4.1	-7.3	21.5	20.8	-1.0	-9.1	-16.8	-12.0	1.5	14.2	25.0	5.5
Other	-24.0	-5.4	-0.3	7.1	14.5	5.4	-3.2	2.6	17.7	34.3	74.5	63.8	26.0

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

Chart 16
Quarterly housing market indicators

	09'IV	10'I	II	III	IV	11'I	II	III	IV	12'I	II	III	IV
Home sales by segment (quarterly flows, thousands of units)[3]													
Segment A	92.3	73.5	77.0	73.9	105.5	64.7	90.4	80.1	92.4	78.0	88.6	78.6	74.9
Segment B	58.8	36.6	45.8	42.6	66.6	31.3	42.7	33.5	49.1	30.8	38.2	35.1	38.0
Segment C	23.5	14.1	16.4	15.5	26.2	11.8	20.0	17.6	23.5	15.4	18.3	17.6	19.1
Segment D	4.3	3.2	3.6	3.6	5.0	3.4	4.5	4.0	4.8	3.9	4.2	4.5	4.6
Segment E	1.0	0.6	0.7	0.8	1.1	0.8	1.1	1.0	1.2	1.0	1.0	1.2	1.2
Total	180.0	128.0	143.5	136.5	204.4	112.1	158.6	136.2	170.9	129.0	150.3	136.9	137.8
Home sales by agency (quarterly flows, billions pesos, April prices)													
Infonavit	132.8	103.3	113.9	108.1	149.7	93.9	121.3	106.6	123.7	102.1	115.4	108.7	104.4
Fovissste	36.4	14.9	17.7	15.2	39.9	4.1	23.4	15.8	31.9	13.9	21.1	13.0	18.0
Banca	10.0	7.8	10.4	12.1	13.8	13.6	13.5	13.2	14.9	12.8	13.6	15.0	15.2
Sofoles	0.9	2.0	1.5	1.0	1.1	0.5	0.4	0.7	0.5	0.3	0.2	0.2	0.2
Total	180.0	128.0	143.5	136.5	204.4	112.1	158.6	136.2	170.9	129.0	150.3	136.9	137.8

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

Chart 17
Quarterly housing finance indicators

	09'IV	10'I	II	III	IV	11'I	II	III	IV	12'I	II	III	IV
Commercial banks current loan portfolio													
Past-due loans index (%)	4.6	4.6	4.4	4.2	3.5	3.3	3.6	3.8	3.4	3.4	3.2	3.4	3.4

[1] Fourth quarter estimated..
[2] Consider the value of production of firms affiliated and not affiliated to the Mexican Chamber of the Construction Industry. Data for October.
Note: Price ranges expressed in times the minimum monthly wage (VSMM) Economic and Popular Segment (118-200), Classic (201-350), Medium (351-750), Residential (751-1500) and Plus (1500 and more) SMM = 1.819 pesos in 2011 in the "A".
[3] Includes new and used homes: INFONAVIT, FOVISSSTE, Banking and Sofoles (considers reduction for co-financig).
Source: BBVA Research with INEGI, and Banco de México data.

Chart 18
Monthly macroeconomic indicators

	11.J	A	S	O	N	D	E.12	F	M	A	M	J	J	A	S	O
IGAE (annual % change)	3.5	4.9	5.0	4.2	4.3	3.7	4.8	6.5	3.7	4.9	4.6	4.2	5.1	3.5	1.3	
Construction vol. real (annual % change)[1]	4.0	5.4	6.3	5.6	4.0	3.8	5.7	6.2	4.5	5.1	4.9	4.7	6.7	2.6	2.7	2.2
Building	3.6	5.6	6.4	5.3	3.7	3.4	5.6	6.7	4.5	5.7	4.0	4.8	7.8	3.0	3.2	2.6
Civil engineering and major works	4.5	5.7	6.3	6.1	4.0	4.1	6.1	5.7	5.0	4.4	5.7	4.6	5.5	1.8	1.8	1.4
Specialized construction work	3.9	3.5	5.5	4.9	6.7	5.4	4.4	5.3	2.3	4.5	7.3	4.1	5.2	4.5	3.2	3.3
Formal private employment (IMSS, mills)[2]	15,131	15,202	15,316	15,446	15,550	15,350	15,428	15,564	15,696	15,706	15,732	15,807	15,849	15,920	16,033	16,182
Annual % change	4.2	4.2	4.2	4.2	3.9	4.1	4.3	4.5	4.6	4.6	4.5	4.7	4.7	4.7	4.7	4.8
Averange salary quote[3]	252.3	251.5	248.7	247.6	248.5	248.2	260.5	260.0	258.4	258.4	261.2	260.4	263.7	262.8	259.6	258.3
Real annual % change	0.7	0.8	1.1	1.0	0.8	0.5	0.4	0.5	0.3	0.7	0.4	-0.1	0.1	-0.1	-0.4	-0.3
Real wage income (IMSS, annual % change)	5.0	5.0	5.3	5.2	4.7	4.7	4.8	5.0	5.0	5.3	5.0	4.6	4.8	4.7	4.3	4.5
Minimum general salary (daily, nom. pesos)	58.1	58.1	58.1	58.1	58.1	58.1	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5
CPI (end of period, annual % change)	3.5	3.4	3.1	3.2	3.5	3.8	4.0	3.9	3.7	3.4	3.8	4.3	4.4	4.6	4.8	4.6
TIIE 28 average (%)	4.8	4.8	4.8	4.8	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 (M10)	6.6	6.1	6.6	6.2	6.2	6.5	6.0	6.3	6.3	6.2	6.1	5.4	5.2	5.4	5.3	5.5

[1] industrial production index
[2] Millions of people
[3] Nominal 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

	11.J	A	S	O	N	D	E.12	F	M	A	M	J	J	A	S	O
Construction emp. (IMSS, thousands)	1,206	1,228	1,244	1,262	1,258	1,184	1,193	1,211	1,230	1,239	1,258	1,282	1,304	1,324	1,337	1,353
Annual % change	4.2	4.3	4.6	4.5	3.8	4.9	4.4	5.2	5.2	6.5	6.3	6.7	8.1	7.8	7.5	7.3
Cement sales (tons, annual % change)	-3.0	1.2	7.3	-1.2	2.6	-4.7	0.7	8.0	-3.1	1.5	-1.9	3.5	11.4	6.5	4.3	3.8
Cement consum. per inhab. (annual % change)[3]	-2.6	1.7	7.8	-0.8	3.0	-4.3	1.2	8.5	-2.7	2.0	-1.5	3.5	11.4	6.5	4.3	3.8
Contruction prices (annual % change)	5.6	6.2	7.7	8.6	9.0	9.3	8.2	7.1	6.4	6.1	6.0	5.9	5.3	4.4	2.7	1.4
Materials (annual % change)	6.2	6.9	8.7	9.7	10.2	10.6	9.3	7.9	7.0	6.6	6.4	6.4	5.7	4.7	2.6	1.0
Labor (annual % change)	3.5	3.5	3.6	3.6	3.7	3.8	3.2	3.5	3.7	3.7	3.6	3.4	3.4	3.4	3.4	3.4
Machinery Rental (annual % change)	1.6	2.3	3.2	4.5	4.9	5.3	5.4	4.2	4.1	4.6	5.2	5.2	4.4	2.8	1.3	0.6

[3] The 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 financing indicators

	11.J	A	S	O	N	D	E.12	F	M	A	M	J	J	A	S	O
Comm. banks current loan portfolio (balances, billions of pesos*)	358.3	361.3	365.6	371.3	379.8	387.3	394.3	397.5	402.8	402.5	404.8	410.3	415.6	419.6	425.9	429.9
Annual % change	12.0	12.1	12.2	12.4	12.1	12.0	15.1	14.9	14.9	14.0	15.1	15.7	16.0	16.2	16.5	15.8
Mortgage Sofoles loan portfolio (balances, billions of pesos*)	19.9	19.8	19.7	19.5	19.6	19.7	19.6	19.4	19.1	18.8	18.7	18.5	18.5	18.4	18.3	18.2
Annual % change	-5.3	-5.5	-5.6	-6.8	-6.5	-6.0	-6.1	-7.1	-8.8	-9.3	-8.0	-7.0	-7.2	-7.2	-7.1	-6.3
Total annual cost (CAT)	14.4	14.3	14.2	14.3	14.2	14.2	14.2	14.2	14.2	14.0	14.0	14.0	13.9	13.9	13.9	13.9

* October 2012 pesos
Source: BBVA Research with Banco de México, INEGI, and CNBV data.

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