RESEARCH

Real Estate Outlook

Mexico

First Half 2014

Economic Analysis

- In construction, the reforms will help civil works to recover before building works
- In the mortgage loan market, banks are the only institutions continuing to grow
- Mortgage rates have bottomed out, employment must now be the driver of demand
- The Infonavit Financial Plan focuses more on the quality of the solutions not just quantity

BBVA Bancomer

Index

Closing date: December 20, 2013

Summary

In 2013 we saw the construction sector come to a sharp halt. This was due to its two main components performing negatively over the year. Residential construction has been falling for a long time, with house building being well below levels seen during the previous economic cycle. Civil works have also been on a downward path. Infrastructure spending suffered from the lag in public expenditure, although this normalized by the end of the year; however, this is not comparable with 2012, which was unusual because of elections. Nevertheless, structural reforms should promote investment and provide a larger budget to achieve the ambitious infrastructure plan, leading to a recovery in civlworks. However, the outlook is less promising for building works, which will still have to wait.

Mortgage lending in 2013 may have been down in both quantity and volume terms. Public institutions are continuing to adjust their mortgage loans downwards. On the other hand, banks recorded modest -but positive- progress. This is the result of normalization of lending following the building boom, and also a wider range of housing options for consumers. Loans for refurbishment and self-construction continue gaining ground on home purchase loans. More competition has led to improve bank lending conditions enabling consumers to purchase higher value properties, as well as co-financing with public institutions. These effects are reflected in the value of residential assets, where the least popular types of housing have appreciated by less than the national average.

Estimates of housing market and mortgage lending potential based on the housing deficit overdo expectations. Therefore, the challenge now is to acquire better knowledge of effective demand from other sources. BBVA Research is collaborating in this work to understand the characteristics of demand for bank mortgage lending. In this issue, we analyze how this will be influenced by loan costs and by income for workers. Fierce competition between the banks has driven interest rates to historic lows, and accessibility has increased, but finance conditions and risk suggest that it will be difficult to maintain this trend. Any boost to the market will have to come from the income side, i.e. from more, and better paid jobs.

The performance of the real-estate sector is marked by new housing construction, particularly for social housing, which has the largest market share. Recently, the number of new residential building projects has been well short of the peak seen in earlier years. A return to the good times does not seem to be on the cards; new housing is tending more towards normalization and will have to improve to be a viable option compared to others that are currently strong, such as existing housing and refurbishment of the existing housing stock. Sustainable growth in the sector will be based on promoting demand as, without this, support for builders will be ineffective if there is no one to buy their products.

Finally, we assess Infonavit's 2014-2018 Financial Plan. We highlight the change in its mortgage lending model, with lending moving from having a quantitative to a qualitative goal. This strategy is consistent with the National Housing Policy, where orderly and sustainable growth for the sector takes priority over growth for its own sake. In this regard, quality of life and offering financial solutions consistent with the life cycle of customers will set the standards. On this occasion, the Institute's challenge is the quality of credit for its beneficiaries, not quantity. This could set a trend for the market in general.

2.a. Construction slows faster than expected

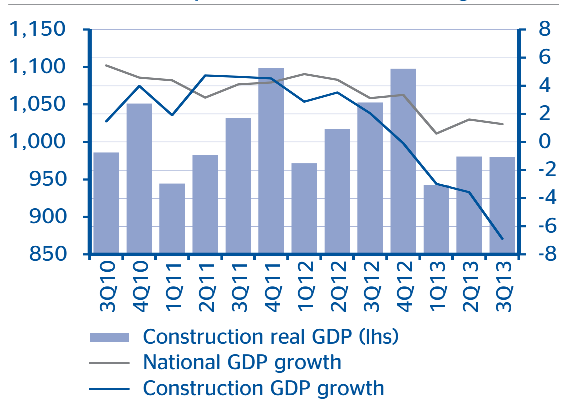
Introduction

In the previous edition of ***Mexico Real Estate Outlook***, we announced the end of the sector's business cycle. However, the fall in house building and reduced infrastructure activity have accelerated the slowdown since the last peak. In the previous year, the construction sector had grown more slowly than the economy, but in 2013 its negative growth was even further behind the economy's growth, despite it slowed down. This confirms that its behavior is highly pro-cyclical. The importance of building and public works means that both need to improve for construction to return to growth; however, the prospect is more favorable for the latter than the former.

The surprise is not the lower output, but the speed with which it has fallen

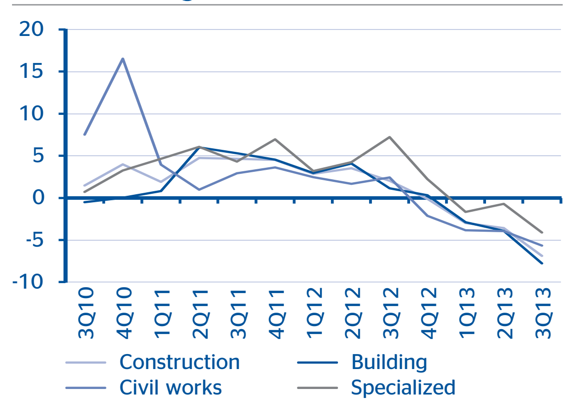
During 2013 we saw one of the sharpest falls in the construction sector. The business cycle for this sector already indicated that it would slow, but this was not expected to be so quick. With only one quarter remaining in the year, construction had fallen by 4.5% on average, whilst the economy as a whole remained on positive ground. All three sub-sectors of construction fell during the year. Building and public works account for almost 90% of the construction sector, so if they stall the sector as a whole is stuck.

Chart 1
Domestic and construction GDP
Constant billion pesos & % annual change



Source: BBVA Research with INEGI data

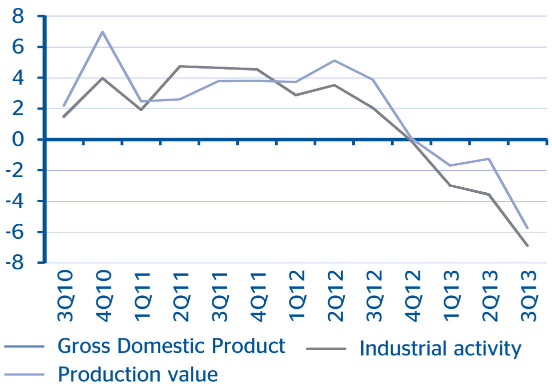
Chart 2
Construction GDP by components
% annual change



Source: BBVA Research with INEGI data

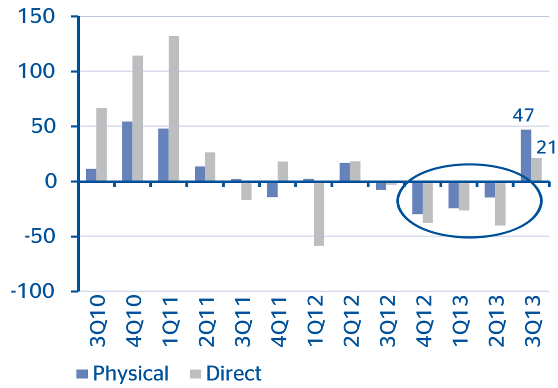
The negative trend in construction is reflected in its three main indicators. Industrial activity in construction and the value of construction company production behaved in the same way, and similar to the performance of GDP. One of the most frequently cited causes of this is the change in the federal government, leading to less expenditure being channeled into construction. Net public capital expenditure, particularly on physical capital, fell during the first three quarters under the new government, but it had begun to recover by the fourth (Q3 2013). Likewise, public construction output also fell during this period. However, the decrease in building has had a greater impact, despite this not having been cited as frequently as lower infrastructure spending.

Chart 3
Construction activity indicators
% annual change



Source: BBVA Research with INEGI data

Chart 4
Net public capital expenditure
% annual change

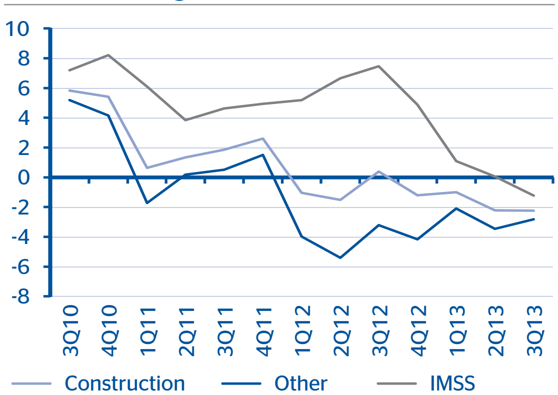


Source: BBVA Research with INEGI data

With lower construction activity, demand for labor has been falling since the second half of 2012. Whilst there was an increase in construction workers affiliating to the IMSS in 2012, this reflected formalization of employment in the face of stricter requirements from the authorities, and not greater demand for labor, as the total continued falling. This trend may continue over the short term, with employment in the sector still falling, but at an ever reducing pace, and probably starting to recover around mid-2014.

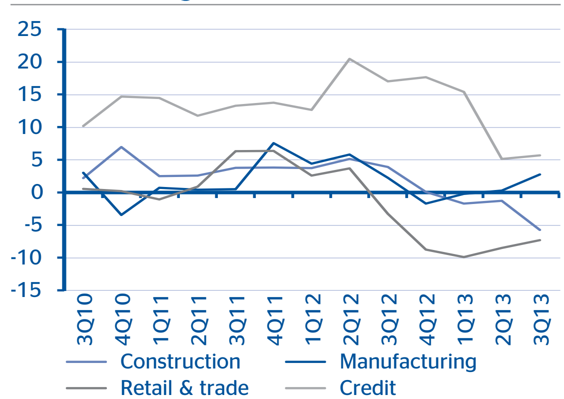
Construction -which accounts for around 9% of total GDP- is one of the sectors most closely related to the rest of the economy. The sector impacts on over 60 sub-sectors. Of these, the most important are in manufacturing industry, commerce, credit and construction itself, as its product is a raw material for other construction work. As with employment, production of the supplies most used in construction start to decrease in advance. As the sector's output decreases, less manpower and fewer supplies are needed, so these economic branches reflect output. Manufactured products used in construction based on wood, cement and concrete and clay derivatives fell in late 2012 and early 2013. However, we are now seeing signs of recovery. Nevertheless, other supplies, such as construction production and commercialization have not yet improved and fell throughout the period. On the other hand, lending to the sector continues to grow.

Chart 5
Construction sector employment
% annual change



Source: BBVA Research with INEGI data

Chart 6
Main construction supplies
% annual change

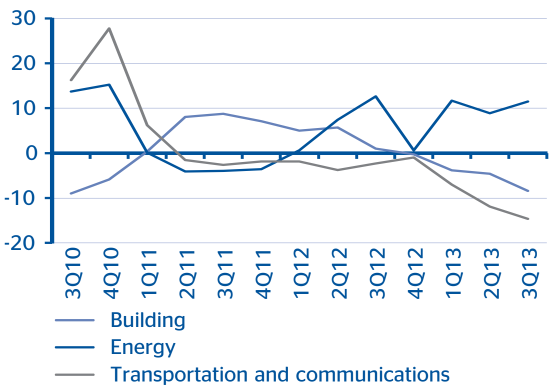


Source: BBVA Research with INEGI data

The fall is explained by building and public works jointly

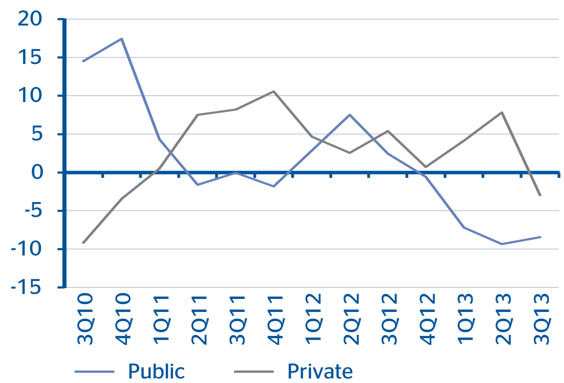
As already mentioned, the poor performance of building and public works led to a sharp fall in construction as a whole, as they are the two main components of the sector. However, within building, residential construction has fallen constantly, whilst public works suffered from falls in transport and communications infrastructure. Industrial and commercial building has slowed down, but continues to grow. In terms of public works, energy sector construction continues to grow, mainly production and commerce of hydrocarbons. This is mostly due to lower public expenditure compared to 2012. This is confirmed by the constant fall in public output compared to better private sector construction performance.

Chart 7
Value of construction by type
% annual change



Source: BBVA Research with ENEC and INEGI data

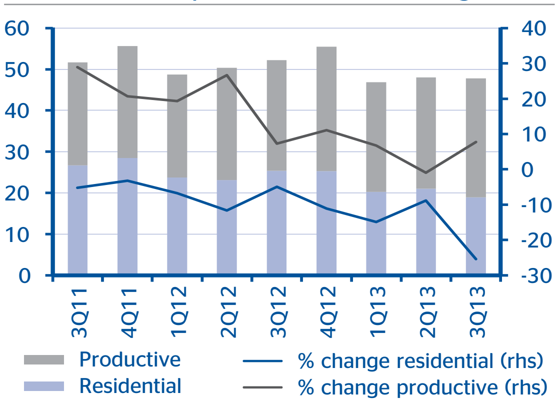
Chart 8
Value of construction by sector
% annual change



Source: BBVA Research with ENEC and INEGI data

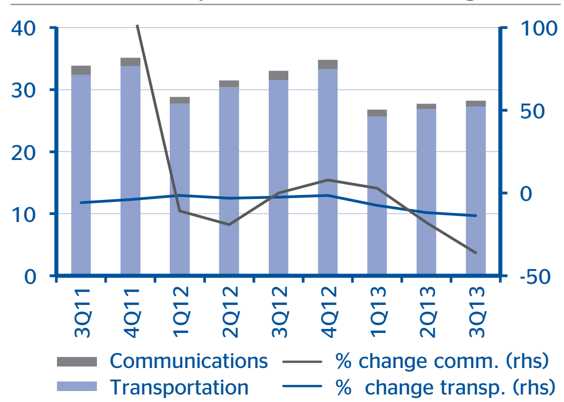
Building includes housing, offices, shopping malls, schools and hospitals, but it is house construction that has been falling most strongly for a number of years. We mainly attribute this to the end of the previous decade's housing boom, which saw record levels of residential construction and mortgage lending. In this case, reduced house building is due to lower demand for new homes from consumers, who now have more options, such as existing homes and loans for refurbishment or self-construction.[1] Initially, this was offset by growth in commercial and industrial building construction in excess of 10%, but once this also slowed down, and the decline in housing accelerated, building went into negative territory.

Chart 9
Building construction
Constant billion pesos & % annual change



Source: BBVA Research with ENEC and INEGI data

Chart 10
Communication and transport construction
Constant billion pesos & % annual change



Source: BBVA Research with ENEC and INEGI data

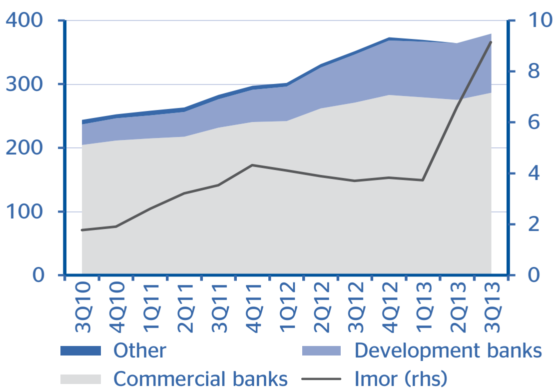
[1] See article 2.b. The housing market extends its scope to other segments.

The picture for public works is rather different: energy sector construction has continued to grow, whilst communications and transport construction fell back sharply in 2013 - this fall was explained by land and air transport infrastructure projects. However, the outlook in this sector is very different, as this will be one of the largest areas of public investment in the next year. We therefore expect a rapid recovery in this sub-sector of public works for 2014, as the federal government's plans are implemented. With a recovery in transport infrastructure and energy construction holding its own, civil works could once again be a countercyclical driver for the construction sector.

The credit market responds to economic activity

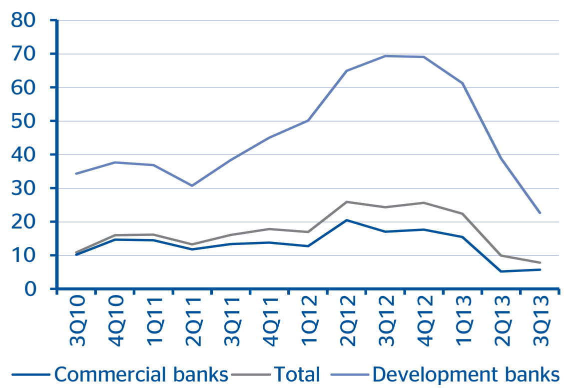
Both, public and private lending institutions keep supporting construction. Despite a slower pace, credit is still flowing. Commercial banks remain the largest suppliers of credit and their offer is growing faster than the economy. Development banks are constantly increasing their supply of credit to the sector.

Chart 11
Construction lending
Constant billion pesos & %



Source: BBVA Research with Bank of Mexico data.

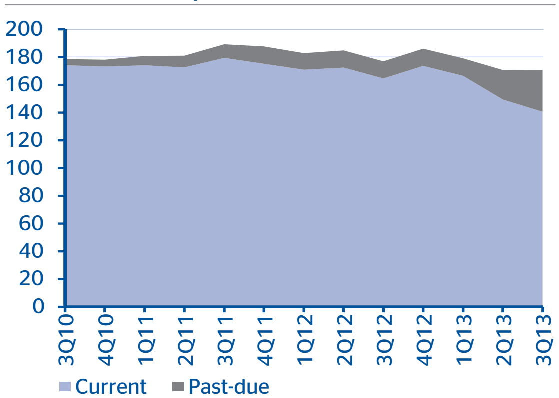
Chart 12
Construction lending
% annual change



Source: BBVA Research with Bank of Mexico data.

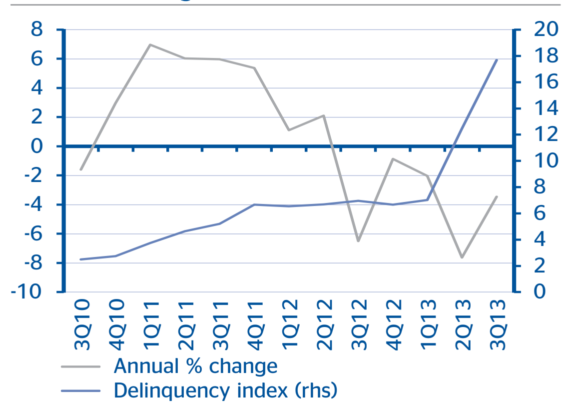
As a result of lower building activity, particularly in housing construction, lending to this sub-sector has decreased as the number of projects and the pace at which they are completed have fallen. In particular, lending for building usually occurs as the project progresses, meaning that a slower pace of construction also slows credit granting.

Chart 13
Bank lending for building
Constant billion pesos



Source: BBVA Research with Bank of Mexico data.

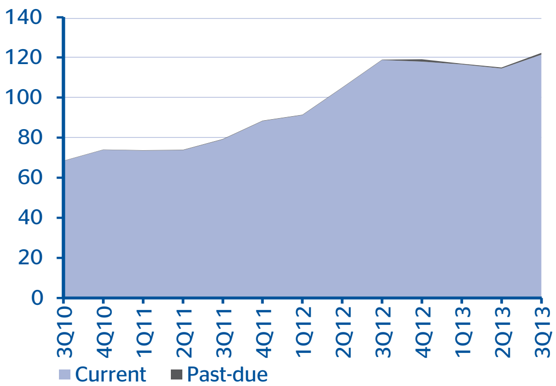
Chart 14
Bank lending for building
% annual change and default rates



Source: BBVA Research with Bank of Mexico data.

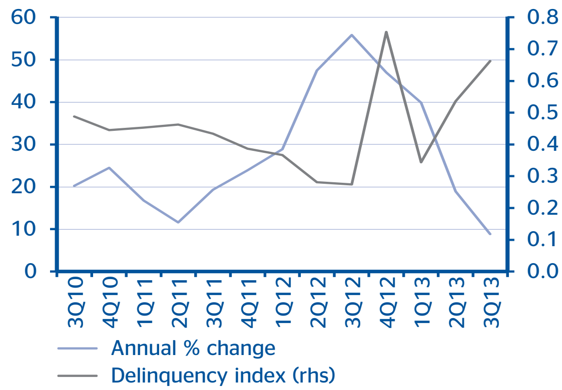
Meanwhile, infrastructure lending continues to grow in parallel with economic activity. In addition, the quality of the loan portfolio remains at exceptional levels, with the delinquent portfolio being less than one percent. Other sources of infrastructure finance are becoming more important. This is the case, for example, with capital development certificates (CDCs), which amounted to 70 billion pesos to June 2013, up almost 30% on the second quarter of 2012.[2]

Chart 15
Bank lending for infrastructure
Billion real pesos



Source: BBVA Research with Bank of Mexico data.

Chart 16
Bank lending for infrastructure
% annual change



Source: BBVA Research with Bank of Mexico data.

As the credit markets responds to the needs of economic activity, our growth forecast for lending to the sector sees greater increase in lending for infrastructure and civil engineering works. Lending for passenger and cargo transport, and electricity and hydrocarbon infrastructure construction companies will have greater growth opportunities over the coming year. Lenders will have to maintain the quality of their portfolios and avoid deteriorating risk levels in the event of a short-term boom in such works.

Conclusions: civil works may recover; building will take a little longer

The outlook for a short-term recovery in building is not favorable. The last decade's real estate boom was somewhat exceptional, and the market is converging to more stable levels. Therefore, we will continue to see an adjustment over the coming quarters in housing-sector construction. Residential construction also has implications for commercial and industrial building, as many such developments are based on the generation of urban centers and housing. Therefore, a recovery in residential building is needed for the whole sub-sector to improve, which is the most important in the whole construction industry.

A recovery in civil works appears imminent based on the reforms undertaken. Tax reform will not only release more funds for infrastructure, but may also boost the housing market and urban development. These funds, together with the current government's ambitious infrastructure plan, should provide a new stimulus for road building and the whole transport sector. Likewise, the energy sector should also benefit from increased investment, with its strong performance possibly further improving. Therefore, in 2014 we expect civil works to grow and, depending on the pace at which projects is implemented, to start to displace building.

Even so, growth in public works will not be sufficient for a recovery in the construction sector as a whole. This will require building works to get out of the doldrums where it is currently lurking and start going up a gear or two to get the sector back onto the path of growth. But it could be at least a year before this begins to happen.

[2] Bank of Mexico. "*Reporte sobre el sistema financiero 2013*" (Report on the Mexican Financial System 2013). September 2013. Mexico.

2b. The housing market extends its scope to other segments

Introduction

In 2013 it became evident that an adjustment was underway in the market, involving a redistribution of housing options; this had been brewing for a couple of years. This also implies a decrease in the size of the market for new housing, but also increased the participation of other players who had not previously found an appropriate niche. In this process, the medium and residential segments, which are mainly served by the banks, are becoming ever more important, whilst social housing continues to decline in importance.

In the previous edition of ***Mexico Real Estate Outlook*** we highlighted the importance of potential structural changes in both housing needs and diversification of financing to adapt to changing consumer profiles. This is due to a fall in demand for new social housing, which has been reflected in more focused loan programs, with new political rules to promote regional restructuring and alternative solutions for the low income sector. However, the challenge in the short term is to consolidate these products and promote their availability in the markets where they are needed.

In 2013, this reconfiguration extended to markets other than social housing

At the end of October, the number of mortgage loans granted had decreased by 11.4% compared to the same period the previous year. The number of Infonavit loans fell by 15.1%, with a 17.3% reduction in lending in real terms. The number of Fovissste loans decreased by 9.9%, with lending falling 12.9%. Whilst lending by public institutions was boosted during the first quarter of 2013 by formalization of some loans delayed from the previous year, there was a general downward adjustment throughout the rest of the year, mainly in terms of the number of loans. However, the banks have been experiencing continued growth for two years in both the number of loans and the amount lent in real terms, which grew by 5.4% and 10.7%, respectively.

Table 1

Number of loans and amount lent by body
Thousands of loans and billion 2013 pesos

Body	Number of loans (thousands)			Amount lent (bn pesos)			Average amount (mp)		
	Jan-Oct 2012	Jan-Oct 2013	Annual % change	Jan-Oct 2012	Jan-Oct 2013	Real annual % change	2012	2013	Annual % change
Public institutions	419.7	359.4	-14.4	127.7	106.9	-16.2	304.2	297.6	-2.2
Infonavit	360.4	305.9	-15.1	96.3	79.6	-17.3	267.1	260.2	-2.6
Fovissste	59.3	53.4	-9.9	31.4	27.3	-12.9	529.5	511.8	-3.3
Private intermediaries	70.7	76.1	7.7	70.8	79.1	11.8	1,001.3	1,038.9	3.8
Banks	69.7	73.5	5.4	70.4	77.9	10.7	1,009.8	1,060.3	5.0
Other	1.0	2.7	175.2	0.4	1.2	214.0	395.0	450.8	14.1
Subtotal	**490.4**	**435.5**	**-11.2**	**198.4**	**186.0**	**-6.2**	**404.6**	**427.2**	**5.6**
Co-financing* (-)	22.1	20.8	-5.9						
Total	**468.3**	**414.7**	**-11.4**	**198.4**	**186.0**	**-6.2**	**404.6**	**427.2**	**5.6**
Informative figures									
Total co-financing	45.4	45.3	-0.3	27.4	26.3	-4.0	602.7	580.1	-3.8
Infonavit total	23.3	24.5	5.2	9.4	9.5	0.2	405.7	386.8	-4.7
Other	22.1	20.8	-5.9	17.9	16.8	-6.2	810.1	807.6	-0.3

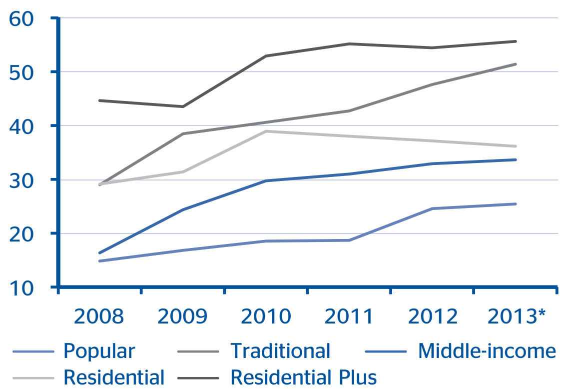
* Does not include the annual Infonavit Total
Source: BBVA Research with Infonavit, Fovissste, ABM and CNBV figures

In social housing segments -with double digit declines- we can note three factors that gradually drove the brake on demand. Firstly, the possibility for workers to access higher value homes through co-financing, which in part explains the evident contraction of the lowest-income housing segments. Secondly, limited supply-side flexibility to adapt products to new consumer requirements (better locations for housing, access to services, workplaces, etc.). And the third reason, a weak relationship between economic growth and the location where such segments were promoted.

As a result, housing affordability to higher price homes continued to drive workers earning more than 11 MSMs (minimum wage multiples) to take on larger loans. This led the share of total lending by banks to rise to close to 30%;[1] a level it maintained even with last year's slowdown.

Reduced demand for new social housing is also reflected in the reconfiguration of Infonavit's objectives, which, while continuing to increase in overall terms, increasingly reveal a preference for existing and refurbished housing. Therefore, we cannot conclude lack of lending behind this trend, but rather a reorientation towards different products that are becoming increasingly demanded by segments of the population with specific needs.

Chart 17
Infonavit: Existing housing by segment
Share %



*To October
Source: BBVA Research with Infonavit data

Table 2
Infonavit: loans by product*
Loans

Salaried segment	Formalized 2012	Formalized 2013*	Targets 2012	Targets 2013
< 2 MWMs	138,930	164,513	110,000	129,000
2 to 4 MWMs	228,589	249,745	160,000	180,020
4 to 11 MWMs	148,085	134,423	154,000	169,490
> 11 MWMs	62,792	56,590	66,000	66,490
Subtotal	**578,396**	**605,271**	**490,000**	**545,000**
Refurbish-ment	156,467	270,022	50,000	90,000
Total	**421,929**	**335,249**	**440,000**	**455,000**

* Includes formalized loans
MWM: Minimum Wage Multiples
Note: 2013 to November
Source: BBVA Research with Infonavit data

According to Infonavit figures, at the end of October 2013 the percentage of existing housing in the traditional segment was over 50%, while in the medium segment it was 34%. "Popular" housing has remained steady over the last two years at slightly over 20%, where the mortgage loans were mostly involved with large house-building companies. Refurbished products accounted for a quarter of all lending in 2012, and in October 2013 represented over 40% of the loans granted by the Institute. Rather than Infonavit's intentions, this reflects the preferences of people with housing entitlements who, whilst having other options, have opted for solutions such as refurbishment or self-construction.

The strong performance of banks in 2013 can be explained by two factors. Firstly, public institutions and banks granted a larger number of co-financing loans at the start of the year, something which is not usually the case. This was due to delaying some mortgage loans previously approved in the last quarter of 2012 that were grant until the first quarter of 2013. Secondly, increased diversification in the mortgage bank portfolio, as only a third is destined for the social housing segment. This has enabled them to

[1] Includes co-financing from public institutions.

be more efficient in responding to the middle and upper segments, in line with employment growth and the response to lower interest rates. It is therefore not surprising that the middle and residential segments increased by 7.4% and 10.6%, respectively, to October.

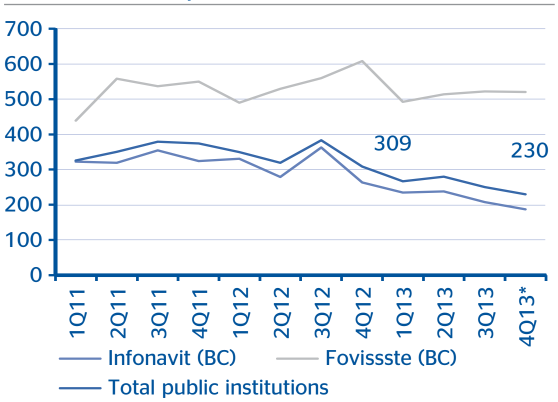
Table 3
Loans for purchase of completed homes, loans (new and existing) Accumulated loans to October

Aggregate	Infonavit					Banks				
	2012		2013		Var.	2012		2013		Chge.
Segment	Homes	Share %	Homes	Share %	%	Homes	Share %	Homes	Share %	%
Social *	300,204	92.0	248,321	90.4	-17.3	27,087	33.5	27,103	31.6	0.1
Middle	20,293	6.2	20,715	7.5	2.1	29,209	36.1	31,377	36.6	7.4
Residential and plus	5,662	1.7	5,588	2.0	-1.3	24,596	30.4	27,192	31.7	10.6
Total	**326,159**	**100**	**274,624**	**100**	**-15.8**	**80,892**	**100.0**	**85,672**	**100.0**	**5.9**

* Includes: inexpensive, popular and traditional
Note: does not consider reduction for co-financing in the case of banks
Source: BBVA Research with Infonavit and CNBV data

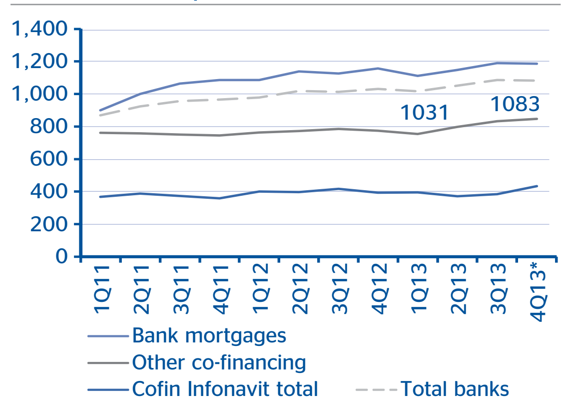
Not including co-financing, the commercial banks' share lending increased from 35.5% in 2012 to 44.4% in 2013. The number of loans from housing institutions has declined, which explains why the average loan value increased by almost 20% in real terms for co-financed products from 2009 to 2013.[2] The value of mortgage loans financed exclusively by banks increased by 16% over the same period. This was up 6.2% to October 2013 compared to 2012, in line with the slowdown in the economy.

Chart 18
Public institutions: average mortgage loan values Thousand 2013 pesos



*To October
(BC) Considers own funds without co-financing
Source: BBVA Research with ABM, Infonavit and Fovissste data

Chart 19
Commercial banks: average mortgage loan value Thousand 2013 pesos



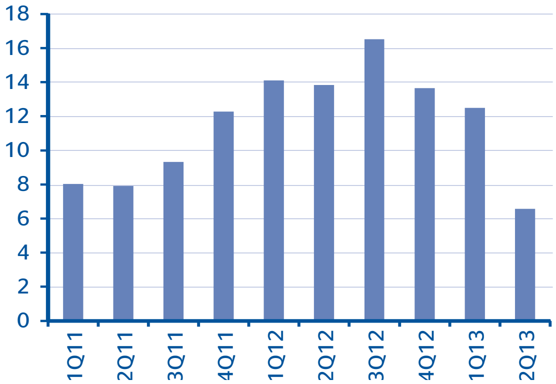
*To October
Source: BBVA Research with ABM, Infonavit and Fovissste data

The strong performance of the banks at a declining market moment can be maintained, providing they generate suitable products for the segments seeking loans, and whilst formal jobs continue to be created. The economy slowed down in 2013, and this is reflected in the co-financing in which the banks are involved: this was practically the same in terms of numbers to October, but negative in terms of the value financed, due to reduced activity on the part of public institutions. Nevertheless, the loans granted exclusively with the banks' own funds increased by 10.6% in terms of the number of loans, and by 16.4% in terms of volume of finance in real terms between 2012 and 2013.[3]

[2] Not including the "Infonavit Total" product
[3] Accumulated figures to October each year.

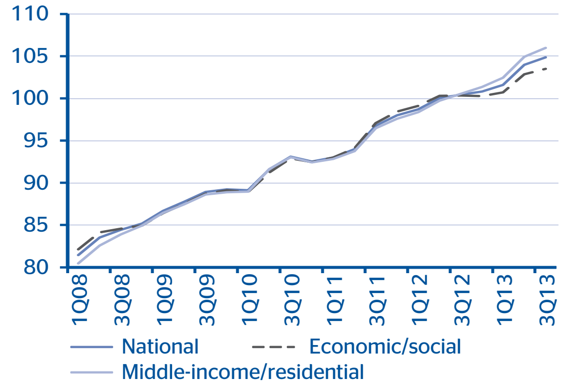
In this regard, the banks have widened their range of customers since 2012 -the peak year for new homes completed- as accumulated inventories from previous years prevailed as major developers maintained their construction rates. In this process, house prices have remained stable, with homes in the middle and residential segments having appreciated most quickly, compared to social housing, where there may have been excess supply, which has now corrected since last year.

Chart 20
RUV: stock of completed homes
Thousand



Source: BBVA Research with RUV data

Chart 21
SHF: Housing Price Index
2Q 2012=100



Source: BBVA Research with SHF data

In 2014 banking loans will continue to increase, but at a slower rate than in 2013. This is due to effective demand will be more stable, mainly because the factors that extended its expansionary cycle are tending to disappear. In terms of mortgage loan conditions, loans are now at historic levels, whilst on the income side, formal private employment is continuing to increase, although the most highly paid employment remains growing but at lower rates.[4]

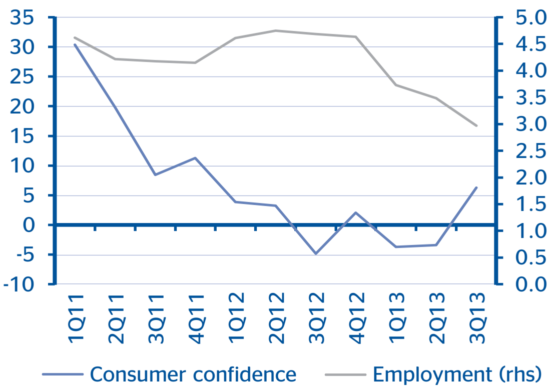
Economic conditions driving the bank mortgage lending

Over the last two years, the population segments that use commercial banks have responded favorably on two fronts. Firstly, through co-financing, which remain granting with acceptable margins, although these continue to narrow. Secondly, and more importantly, due to the recovery in formal private employment, growing more rapidly than the economy, combined with better credit conditions. Increased competition between banks has improved loan conditions and increased the amount lent for mortgages exclusively using their own funds.

As shown by charts 22 and 23, both generation of employment and the recovery of consumer confidence at the end of the year drove growth in mortgage demand at a time of lower GDP growth. In our most recent update of our base case scenario, we increased our GDP growth forecasts from 3.1% to 1,2%, and our formal employment growth forecasts from 4.1% to 3.5%. We therefore expect the growth in the number of mortgages granted by the banks to be maintained in 2014, although at a slower pace.

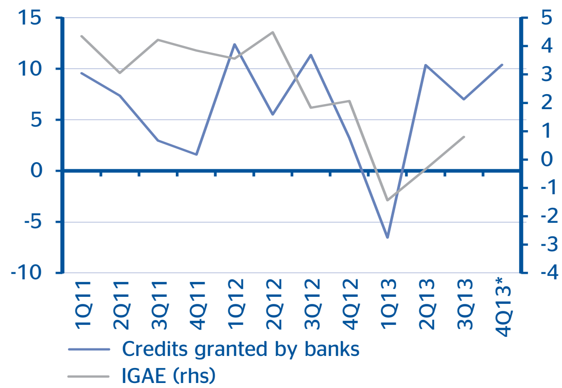
[4] See article 3.a Demand for mortgage credit: employment is the key.

Chart 22
**Employment and consumer confidence*
% annual change**



* Acquisition of durable goods
Source: BBVA Research with Inegi and IMSS data

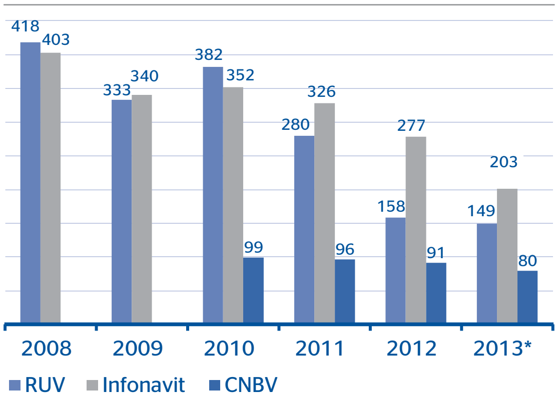
Chart 23
**Mortgage loans and economic activity
% annual change**



* Figures to October
Source: BBVA Research based on ABM and INEGI figures

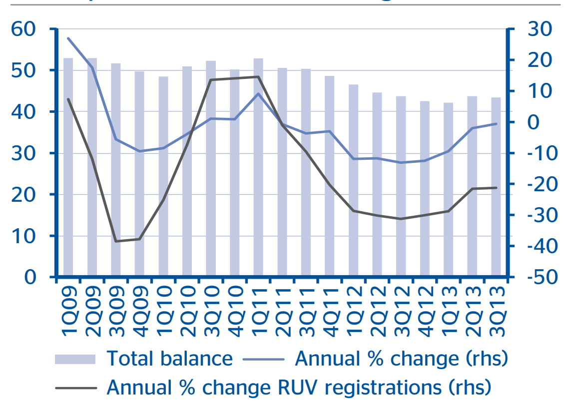
In terms of construction finance, bridging loans began to correct in 2009, when it was sensibly recognized that the market adjustment might accentuate. Chart 24 shows how mortgage loans for new homes have decreased year by year, which is an indicator of lower sales of such homes. Lower sales have resulted in increased inventories, fewer new projects and a slower pace of construction, so as to complete sales of developments already underway. Therefore, reduced home building activity requires lower finance compared to the peak years. Therefore, the level of bridging credit is only reflecting the lower level of construction activity for new homes, which in turn results from lower placement of this product with consumers. Nevertheless, these prudential risk measures were applied to very specific customers. This has resulted in lending for house building to smaller projects with shorter working capital cycles, for which demand among the middle and residential segments has been maintained.

Chart 24
**Loans originated for new homes
Thousands of homes**



Source: BBVA Research with Infonavit, CNBV and RUV data

Chart 25
**Bridging finance and new housing registrations
Billion pesos and % annual changes**

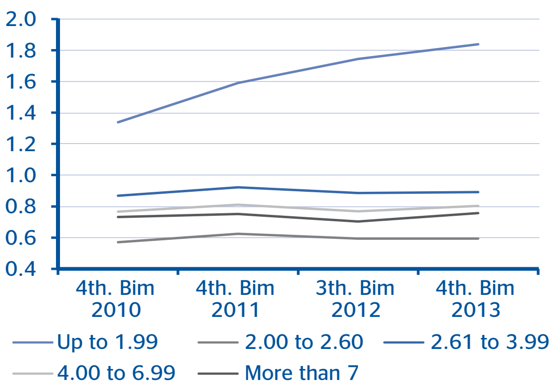


Sources: BBVA Research with Banxico and RUV data

Short-term outlook

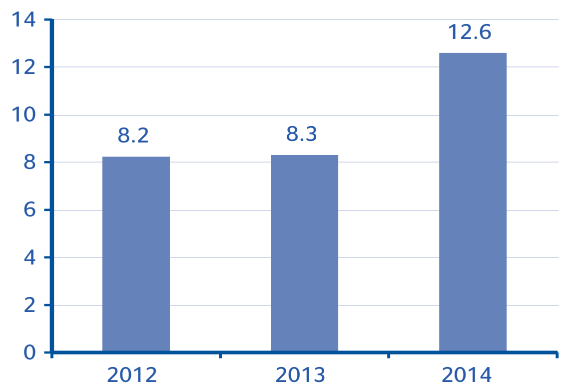
These conditions reflect a clear redistribution of the housing market among players. In the case of banks, the generation of products adequate for current economic conditions has prolonged their growth. Nevertheless, for the housing institutions this reconfiguration has reflected reduced demand for their home purchase products in favor of other options, although this should not be taken to mean there has been a reduction in housing needs. In fact, Infonavit will continue increasing alternative solutions so as to satisfy the lowest income segments of the population.

Chart 26
Infonavit: potential demand by MWM*
Million people



*Minimum wage multiples
Source: BBVA Research with Infonavit data

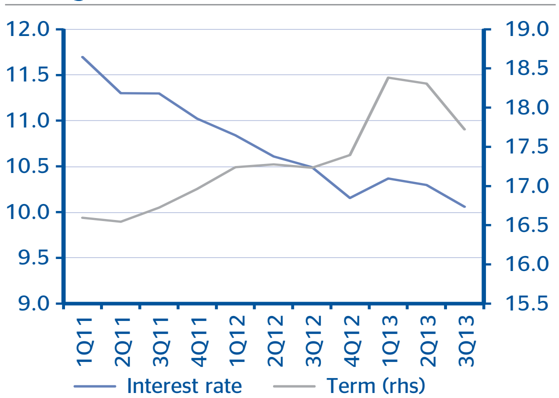
Chart 27
Conavi: annual subsidy program
Billion pesos



Source: BBVA Research with Conavi data

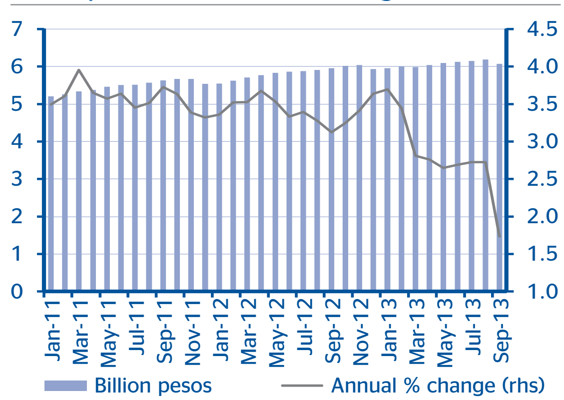
In 2014 the federal government will give subsidies of 12 bn pesos through Conavi's "Ésta es tu casa" (This is your house) program to help ease the backlog, currently around 9 million homes.[5] Nevertheless, one of the main approaches in the housing policy is to promote compact cities with higher population density and greater economic activity, in order to prevent inappropriate spread of urban sprawl by promoting extensions and improvements to existing homes. This has been part of the goals of Infonavit for several years and more recently Fovissste, through the "respalda2 M" home improvement and credit for existing housing enlargements.

Chart 28
Interest rate and mortgage duration
Average



*With figures to October
Source: BBVA Research with Bank of Mexico data

Chart 29
Real wage bill
Billion pesos and % annual change



Source: BBVA Research with Banxico, INEGI and STPS data

[5] Sociedad Hipotecaria Federal (SHF) Mexico: Housing deficit, Housing demand 2012 and Demographic dividend. April.

In the short term, formal private employment, the main driver of housing demand, is expected to continue growing by more than the economy in 2014. Furthermore, low interest rates, longer terms and an eventual recovery in consumer confidence for durable goods will maintain positive growth for the banks. However, this will probably be slower than in 2013, based on lower growth in formal employment and an eventual recovery in the wage bill in real terms, which fell in 2013.[6]

Conclusions: the main challenges to maintaining growth towards effective demand

The main challenge in this process of change is to boost social housing solutions to return to their vocation for the segments of the population with the most pressing need. Whilst it is true that it will be difficult for construction volumes in the low-income segments to reach the levels of a few years ago, it is essential to ensure that new homes meet the most demanding quality standards, both in terms of their construction and urban services. To this end, housing policy over the coming years will focus on achieving a balance between growth and development of the public services required. Moreover, objectivity in measuring effective demand is essential for maintaining the quality of the portfolio and to continue promoting lending in the face of changes in the profile of demand.

With regard to the financial system, the lesson of the 2008 crisis is that adequate banking regulation is required to ensure responsible risk coverage. Thanks to this lesson, banks now have adequate capitalization and non-performing loans are being held below 4%, in contrast to the public counterparty. Housing institutions are tending to compress their share of lending for purchase of completed homes. Infonavit had a non-performing loans ratio of 7% in the third quarter of 2013, due to lower mortgage credits granted, mainly in middle and high segments, where the banks have increased their activity.[7] In this second market adjustment, larger segments of the population have turned to the banks to seek lending products and conditions that meet their needs. The result was higher than expected growth in 2013.

Nevertheless, as lower generation of better paid employment is expected in 2014, the most important task now is to generate the condition to maintain this growth together with higher real salaries, as interest rates are at historically low levels. These are the main drivers of mortgage market, but have a lag of several months in impacting demand so there is still time to generate economic conditions to offset the effects of the 2013 slowdown, which has now concluded. It is certainly feasible to create products for segments of the population that are not currently being covered.

Therefore, the range of mortgage products needs to be dynamic to meet both structural and short-term needs, as it has been doing, so as to cover larger segments of the population. Smaller and more varied products seem to be the most appropriate combination, together with aiming subsidies at people who really need them and encouraging systematic assessment of policies and their effectiveness, and all the elements that justify the sale and/or assignment of housing solutions in the country. Efforts must focus on promoting effective demand, and on public policies, builders and mortgage lending institutions, so that they meet consumer expectations.

[6] There is a lag of between eight and twelve months in the impact of formal employment on housing demand.
[7] Including Infonavit's extended loans portfolio increases the default rate to 12%

Box 1: Supply of homes in the states: an approximation of inventories

Introduction

The information available on current housing inventories in the country has been enriched over recent years, in terms of both coverage and detail. The Registro Único de Vivienda (RUV - Single Housing Register) has made major efforts in this regard, working with housing institutions and developers, who are providing more timely information on the number of homes they are building, their progress and when they are put on sale.

In this section of ***Mexico Real Estate Outlook*** we analyze the regional distribution of current housing inventories as recorded in RUV records. Completed homes are divided into three categories: 1) those over 5 months old; 2) those under 5 months old; and 3) those 100% completed, but not yet considered habitable.[1] This information enables us to identify entities that may be producing too many homes, which may also impact prices by remaining in the final part of the development process for a long time. It should be noted that it is impossible to determine the construction periods for every house -and therefore the working capital cycle- more precisely. Nevertheless, as we discussed in the section on the general outlook, inventories have fallen, as we compare levels in 2012 -the peak year for this indicator- with current levels of 2013.

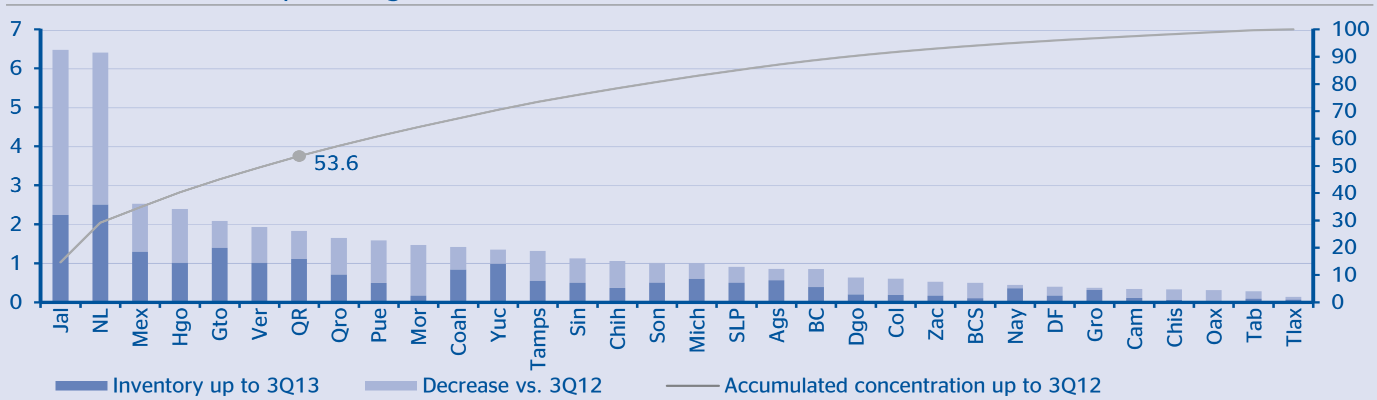
Housing stock adjustments reveal imbalances between demand and supply

There was a significant fall in the number of new homes available between the third quarter of 2012 and the same period in 2013, from 44 thousand to 19.7 thousand units, a fall of over 55%. However, there was no change in the concentration of these inventories, as seven states account for over half (53%) of national inventories. Whilst falling inventories are a good sign that demand is soaking up the excess, this is mostly a market adjustment to correct initial excess supply. This adjustment involved a reduction in the number of new projects to reflect the decrease in sales, which was manifesting itself in accumulating inventories. These imbalances were most apparent in Jalisco and Nuevo León, which had accumulated the largest inventories of completed homes, and which have also seen the largest adjustments in absolute terms; however, they still have the largest supply of homes awaiting consumers.

Many of the developers' projects were in states with large metropolitan areas, such as Mexico City, Guadalajara, Monterrey and the Bajío region. Veracruz and Quintana Roo accounted for 10.8% of the stock in 2013, but their inventories had fallen by 47% and 39%, respectively, compared to the same period in 2012. These states are characterized by their high levels of commercial and tourist activity, making employment mobility a constant factor.

Chart 30

Homes in inventories: habitable units in 2013 and decrease compared to 2012
Thousands of units and percentage



Note: Includes homes for which construction is 100% complete
Source: BBVA Research with RUV data

[1] Homes are not considered habitable when construction is 100% complete, but at least one of the basic public services -water, electricity and drains- is missing.

Next we could mention Querétaro, Puebla and Morelos -states bordering the Metropolitan Area of Mexico City- where inventories fell by 57%, 69% and 88%, respectively, compared to 2012. Some states in the north of the country -including Coahuila, Tamaulipas, Sinaloa, Chihuahua and Sonora- also reduced the accumulated number of homes considerably in 2012.

Other states accounted for approximately 20% of the homes in the third quarter of 2013. These states had inventories of around 500 homes in their inventories in 2012, but these had fallen to around 250 completed units by the third quarter of 2013. However, in comparison with states with higher concentrations, these latter states have been much more stable in terms of such fundamentals as prices and employment levels. We discuss some significant divergences in the following section.

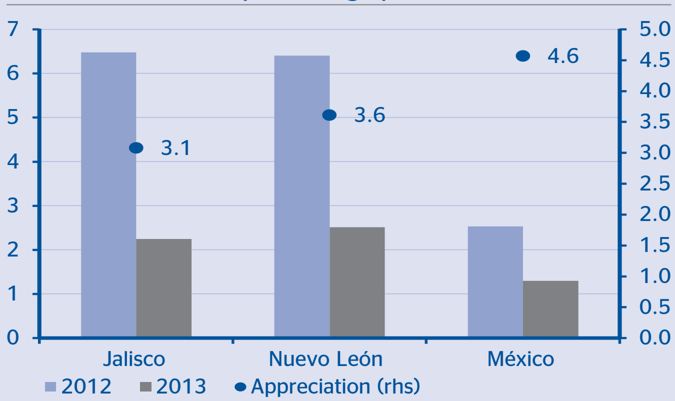
The accumulation of inventories has impacted on house prices

Jalisco and Nuevo León stand out in the first group of states including the major metropolitan areas, as the excess of completed homes was such that price appreciation in these regions was below the national average, despite having the highest employment levels. As a result, in these two states the number of new housing construction projects fell by 8,000 and 7,000 homes, respectively, from 2012 to 2013. The State of Mexico was an exception, with homes appreciating slightly more rapidly than the national average. Despite having similar employment levels, excess inventories in Jalisco and Nuevo León acted as more of a brake on the rate of house price rises in these states. This resulted in construction practically grinding to a halt last year in these regions. One significant difference between these three states is that, whilst Jalisco and Nuevo León can not absorb much demand from any contiguous states, a significant share of demand in the State of Mexico is due to economic activity in the Federal District. (Includes Mexico City districts).

In the second group of states (Querétaro, Puebla and Morelos) prices increased by more than the national average (4.4%), despite inventories and new projects also falling in 2013 compared to 2012. The number of new projects in Puebla and Morelos fell by 2,000 from 2012 to 2013. However, there was practically no change in Querétaro. In the latter case, we can say that inventories fell in line with the generation of employment and resulting demand; i.e. supply is more in line with effective demand. This can be explained by shorter working capital cycles, meaning that homes do not remain in the pre-sale stage for very long. Tlaxcala provides another example of stability between employment, price appreciation and inventories.

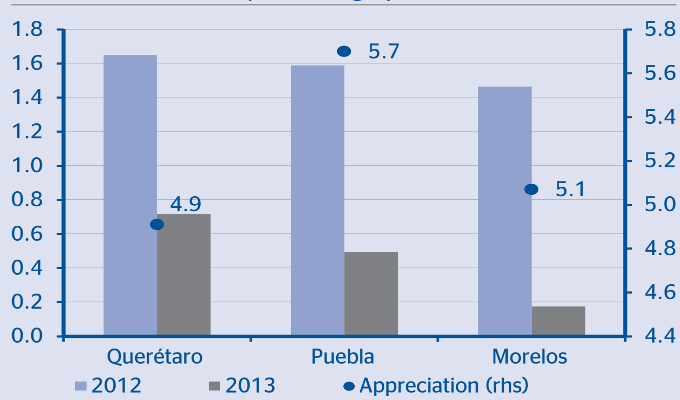
Employment levels have remained stable over the last two years in the northern states: Coahuila, Tamaulipas, Sinaloa, Chihuahua and Sonora. Even so, projects in Tamaulipas, Chihuahua and Sonora fell by 4.1, 1.8 and 1.5 thousand from 2012 to 2013. The major decrease in Tamaulipas is explained by it having one of the lowest levels of formal employment, thus slowing demand for housing and, therefore, appreciation of the SHF index, which stood at just 2.7% for this period, well below the national average of 4.4%.

Chart 31
Housing inventories and annual appreciation, Thousand units and percentage points



Source: BBVA Research with RUV and SHF data

Chart 32
Housing inventories and annual appreciation, Thousand units and percentage points



Source: BBVA Research with RUV and SHF data

In the other states, although we can identify a negative relationship between new housing projects and employment generation, this is explained by overpassed housing supply in Jalisco and Nuevo León, as if we omit these observations from the sample the trend becomes positive, as is to be expected given the economic relationship between these indicators. Therefore, it should be stated that, although a downward correction has been observed nationwide in both inventories and new projects, these decreases are not associated with an imbalance in every case. Querétaro and Tlaxcala are examples of this.

Conclusions: excess supply is reflected with lower housing appreciation

The stock accumulation process indicates that supply of new housing exceeds demand. This analysis shows that in some states, increases in the number of housing projects exceed probable effective demand as measured through the generation of formal private employment. As a result, we are seeing slow appreciation for real estate assets in some states. The fact that states with the highest levels of economic activity have shown this behavior is a sign that supply-side expectations were too high, leading to a sharp adjustment in some cases. Therefore, we can confirm that excess new homes coincide with slower real estate appreciation than the national average in such states. A rapid price adjustment where there are such excesses could help to eliminate the inventories. However, in some states where there is little economic activity will be necessary to promote incentives to kick start sales of such units, which in some cases started construction process back several years. This is the only way to fully absorb the excess in those locations with the largest surpluses, and so reactivate construction of new projects. The good news is that this adjustment process is already underway and inventories are starting to fall, and the market may return to normal in the short term. However, this will be with a smaller market for new housing than we saw during the real estate boom.

3.a Demand for mortgage credit: employment is the key

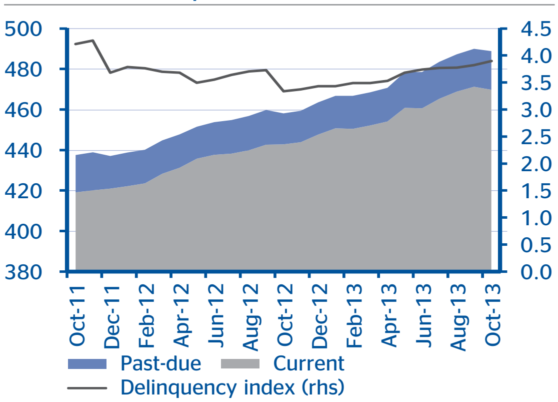
Introduction

Housing demand has been incorrectly associated with housing needs, irrespectively of whether the consumers identified with such needs want to or are in a position to buy a home. In this issue of ***Mexico Real Estate Outlook*** we analyze mortgage demand from a different perspective. We move on from motivation to acquire a home to focus on the factors influencing demand. The approach we propose is based simply on reviewing price and income conditions, the main drivers of demand for mortgage lending. We start by understanding current bank mortgage conditions, focusing on the price or interest rates. We then analyze the labor market to identify the segments with the highest probability of accessing this market, assessing the potential of the mortgage market from the income side, associated with job creation.

Bank mortgage lending conditions improve without compromising quality

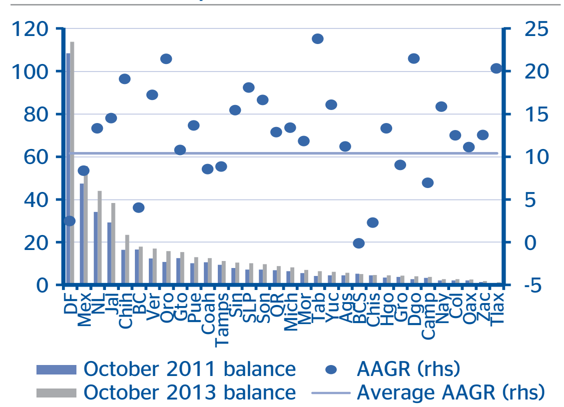
The segment of the mortgage market served by banks has been growing sustainably, without risking the quality of the portfolio. According to public information from the Comisión Nacional Bancaria y de Valores (Mexican National Banking and Securities Commission), mortgage lending exceeded 480 Billion pesos (bnp) to October 2013. This did not involve any deterioration in the portfolio, with default rates remaining at a healthy rate of below 4%. This progress is reflected geographically, with 32 estates having an average annual growth rate (AAGR) in excess of 10% from October 2011 to October 2013. With the exception of Baja California Sur, where credits fell 0.1%, mortgage lending increased in all other states.

Chart 33
Balance of mortgage portfolio
Constant billion pesos & %



Source: BBVA Research with CNBV data

Chart 34
Balance of mortgage portfolio by state
Constant billion pesos & AAGR

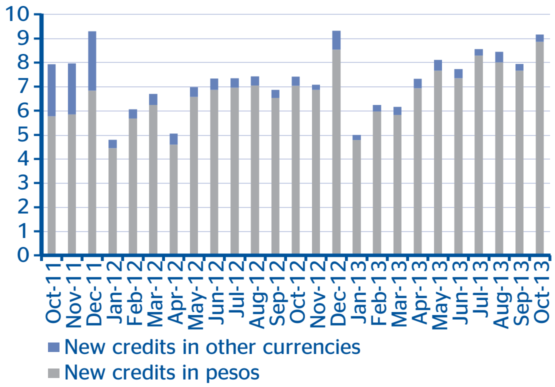


Source: BBVA Research with CNBV data

The sustained increase in the total mortgage lending portfolio is explained by granting new loans. By currency type, peso lending has a greater share in banks' portfolio, unlike the public sector where loans are mainly originated in minimum salary multiples. The advantages of giving loans in the domestic currency include lower exposure for the borrower to the vagaries of increases in the minimum salary, and ensuring that the debt decreases as payments are made; i.e. that negative amortization does not occur. Recently, nearly all new bank mortgage loans have been generated in the domestic currency.

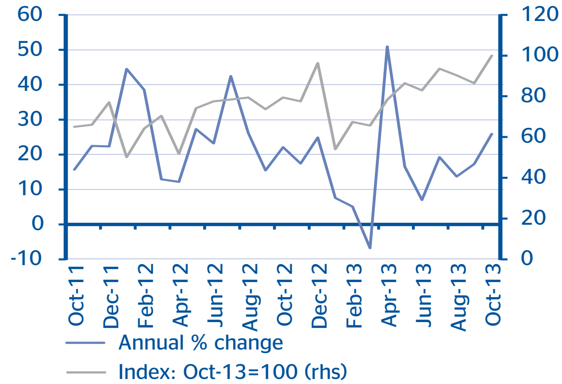
New peso lending grew throughout almost all of the study period. In two years it grew by over 30% in real terms. Therefore, we have focused our analysis on the nature of credit in this currency.

Chart 35
Mortgage granting by currency
Billion 2013 pesos



Source: BBVA Research with CNBV data

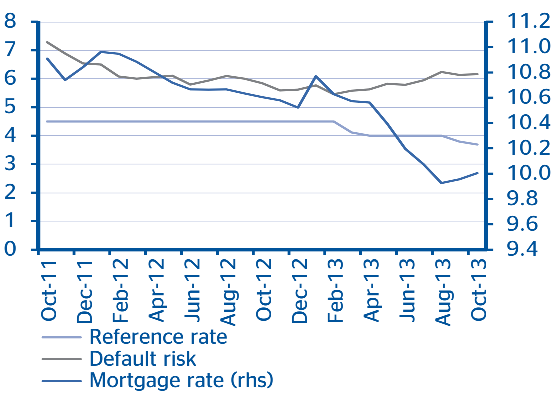
Chart 36
Growth in peso lending granting
% annual change, index Oct-13 = 100



Source: BBVA Research with CNBV data

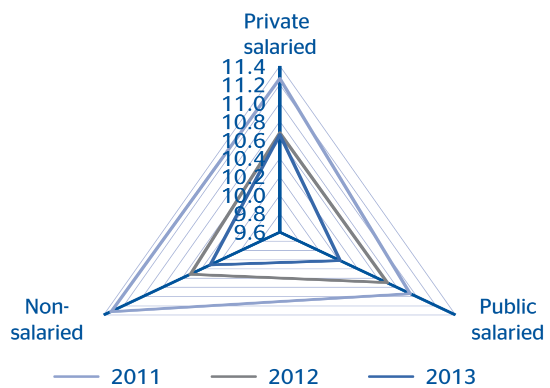
The increase in mortgage lending is due to higher demand driven by public housing institutions dating back to the previous decade, and also to improved bank lending conditions. These favorable lending conditions are due to both macroeconomic stability and greater competition between the banks to attract customers. The mortgage interest rates offered by banks have fallen from over 11% to almost 10% overall, although some specific products have rates lower than 9%. Whilst there are some variations, the term of peso mortgages is also increasing, with some being offered for up to 20 years. The size of bank mortgages compared to the loan-to-value (LTV) has remained largely constant, falling moderately recently; whilst average LTV is around 70%, some products are available at up to 90% of the property value. Something similar has happened with average mortgage values, which exceeded one million pesos in real terms as of October 2013.

Chart 37
Mortgage rates & default risk
%



Source: BBVA Research with CNBV and Banxico data

Chart 38
Mortgage rates by borrower type
%



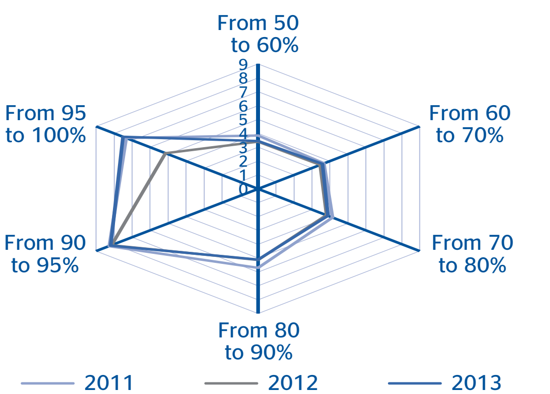
Source: BBVA Research with CNBV data

The real estate boom of the last decade now appears to have ended, but economic agents continue making efforts to maintain the performance of the mortgage market. Macroeconomic conditions favor lending. For example, the Bank of Mexico's reference rate was recently reduced, partially decreasing borrowing costs. Another important component in defining the mortgage price is risk, which appears to have bottomed out and recently started to increase. This, together with greater competition between the banks, has resulted in this improvement in credit conditions, for which the leading indicator -the price or interest rate- has fallen every year, for all market segments.

Ever lower mortgage interest rates are partially the result of lower risks of default. From October 2011 to October 2012, the average probability of default fell at different LTV levels. This in turn resulted in a greater decrease in interest rates in this period. The explanation could be the performance of the economy and job creation at more than 5 minimum salary multiples (MSM), which were positive until 2011. These types of jobs decreased in 2012, and the economy started to slow in 2013; this is consistent with a small increase in risk conditions. From October 2012 to October 2013, there was an increase in the average probability of default, and this was larger for loans with higher LTVs, returning to the levels of two years before. Nevertheless, this did not impact negatively on interest rates, as the price of credit continued to fall to October 2013. As the costs of granting credit did not fall in this period, we attribute this result to strong price competition among the banks.

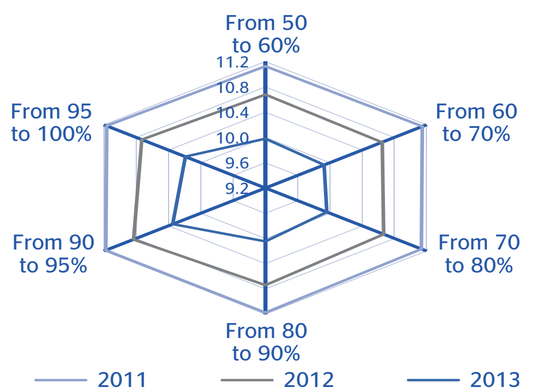
A higher risk of default is usually associated with loans with low deposits or high LTVs, and the interest rate charged on these is therefore usually higher. This is because a borrower who has paid a lower deposit stands to lose less in the event of default than the lender, and because it generates less of a bond with the property. Nevertheless, whilst reducing risk, a lower LTV also inhibits demand, as there is a group of people for whom a higher LTV might be the difference between being able to own their own home or not. There is therefore something of a conflict between granting more credit compared to the value of the home and the probability of higher risk; this is similar to the conflict between reducing interest rates to attract more customers, which prejudices margins. This trade-off might inhibit the supply of credit by generating a problem of adverse selection. One measure that will help to offset this effect is the rapid enforcement of real estate collateral.

Chart 39
Default risk by LTV
Percentage



Source: BBVA Research with CNBV data

Chart 40
Interest rate by LTV
Percentage



Source: BBVA Research with CNBV data

There is little scope for demand to receive a further boost from prices. Mortgage rates appear to have bottomed out at historically low levels. The Bank of Mexico's reference rate is currently at its lower limit, with expectations that it will increase by 2015. Likewise, long-term government bond rates have settled down at around 200 basis points above the lows we have seen. Moreover, borrower risk is no longer falling, and in some cases has started to rise. Mortgage bonanza from the banks will continue during 2014 and probably part of 2015, as rates, terms and LTV will keep favoring borrowing. But any boost to demand will have to come from earnings.

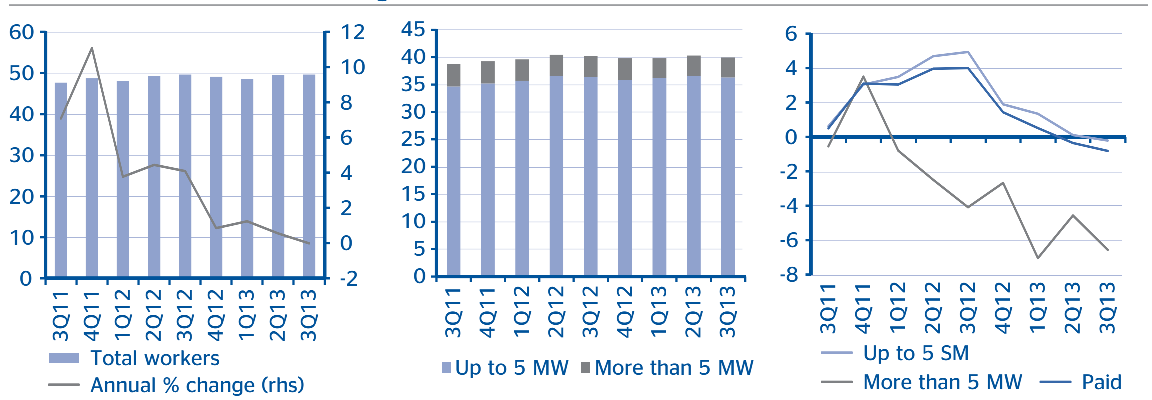
Well-paid employment offers the best prospect for effective demand

We consider housing to be a necessary good, to the extent that the right to a dignified home is enshrined in Mexico's Constitution. Nevertheless, the ratio of house prices to personal and household income makes house buying difficult, and the market therefore usually relies on finance for house purchases, together with other options. One important difference between housing needs and demand is that the one does not necessarily imply the other. The reasons for buying a home might be very different from need. And on the other hand, a family might need a home, but not have the financial resources to buy one. In such cases, housing subsidy policies and credit markets help to meet this need. Therefore, we can approximate potential demand by identifying people with enough recurrent income to access mortgage credit.

The largest group of people with recurrent income is workers receiving an income for their work. The number of people in employment has been increasing since 2010. From 2010 to the third quarter of 2013 the number of people in work increased by 5 million, from 44.5 million to 49.6 million. However, only 39.9 million report receiving income for their work. Of these, 91% receive an income of less than 5 MSMs, and this has been stable since 2010. The annual change was positive for both groups of workers in 2011, but the creation of jobs with income below 5 MSMs exceeded the rest. In 2012, growth in paid employment slowed, although not evenly: whilst jobs paying less than 5 MSMs continued to grow, better paid jobs started to decrease. From the first quarter of 2012, jobs paying more than 5 MSMs have been falling: in the third quarter of 2011, 4.1 million workers had earnings exceeding 5 MSMs, but this had fallen to 3.6 million one year later. This distinction makes sense as the population with income of less than 5 MSMs is usually more likely to be served by public institutions, and is more likely to receive housing subsidies.

Charts 41, 42 y 43

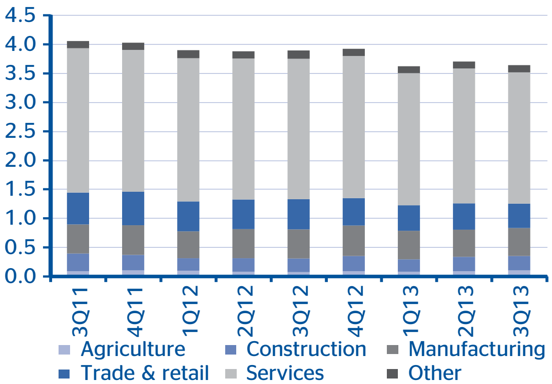
Total workers, and workers by income
Million workers & % annual change



Source: BBVA Research with ENOE and INEGI data

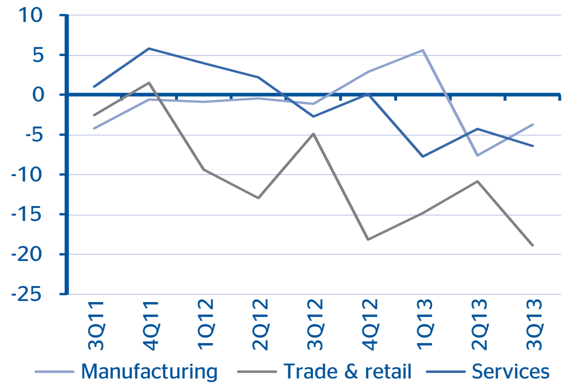
Most workers earning in excess of 5 MSMs are in the service sector, followed at a substantial difference by manufacturing and retail. Nevertheless, creation of higher paid service sector jobs began to slow in 2012 and started to fall in 2013. There was a recovery in the manufacturing sector at the end of 2012 and in early 2013, but it fell back again subsequently. However, we expect this sector to be one of the first to recover. The creation of higher paid jobs will therefore depend on the performance of these sectors. Although we are currently experiencing an economic slowdown, we expect a recovery in 2014, which should be accompanied by higher employment and, therefore, higher payment capacity.

Chart 44
Employment by economic sector
Million workers



Source: BBVA Research with ENOE and INEGI data

Chart 45
Employment by economic sector
% annual change



Source: BBVA Research with ENOE and INEGI data

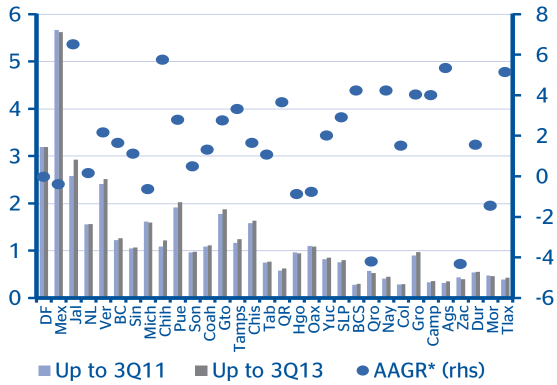
From a geographic perspective, the states with the largest economies in the country, or the largest populations, also have the largest numbers of workers: 7 of the 32 states account for 50% of the workforce. The most highly paid jobs are almost exclusively created in the states with the most developed economies, although some states have made significant gains on their previous levels. For example, the most highly paid employment increased most rapidly in state such as Chihuahua, Tlaxcala and Aguascalientes during the analysis period.

Together with income, the benefits a worker receives provide a measure of the formal status of the job. Although there are exceptions, in general, a worker earning more than 5 MSMs and also receiving social security entitlements would be in a better position to request a mortgage loan. Therefore, a more reliable indicator of potential demand than housing needs would be the number of well-paid workers with social security entitlements. And in line with the above, this type of employment is concentrated in the states with the largest economies. In the third quarter of 2013, the Federal District and the State of Mexico, Jalisco and Nuevo León accounted for 39% of such jobs, with 6.9 million workers. The most significant progress in such jobs has been seen in Oaxaca, Morelos, Durango and Michoacán states.

The potential market for bank mortgage lending could therefore be limited to people earning over 5 MSMs, who are concentrated in the largest states and in the services, commerce and manufacturing sectors. This segment of the population -which we consider to have the highest probability of accessing bank mortgage finance- was static over most of the period analyzed. And in recent months it has been declining. The economic slowdown is already being reflected in job creation, and therefore demand for mortgage loans. With the cost of credit at its lowest historic level, demand for mortgage lending will have to be boosted by the creation of well-paid employment. Expectations of economic recovery would bring with them more jobs; this could provide a new boost to the housing market if it comes to fruition.

Chart 46

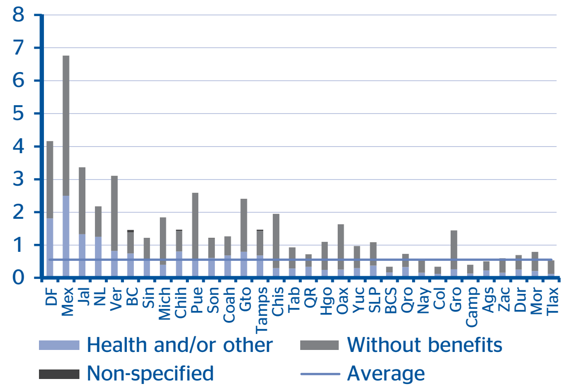
Employment by state, 3Q13
Million & AAGR*



*Average Annual Growth Rate from 3Q11 to 3Q13
Source: BBVA Research with ENOE and INEGI data

Chart 47

Employment by state, 3Q13
Million & AAGR*



*Average Annual Growth Rate from 3Q11 to 3Q13
Source: BBVA Research with ENOE and INEGI data

Conclusions: mortgage lending is in the hands of well-paid employment

Housing is a normal and necessary good, which justifies its importance for people. As bank mortgage lending is a service stemming from housing demand, we can associate the characteristics of the two. Therefore, even when demand for mortgage lending rises with income levels, the increase in demand is less than proportional. In other words, increasing income for workers as a whole increases demand for mortgage credit, but salary increases for the consumer themselves do not increase their demand significantly. New workers are needed with a level of income sufficient to stimulate effective demand for housing and, in turn, mortgage lending. The market will grow more as a result of a larger number of people with sufficient income to access the market than because of credit conditions.

On the other hand, the high sensitivity of mortgage demand to interest rates shows that a significant part of the performance of this market is due to lower interest rates. Nevertheless, the effect of the decrease in interest rates seems to have reached its limit, although there could be some scope from lower funding costs or a decrease in credit risk: however, in both cases, we consider these to have bottomed out. Ease of enforcement of collateral and better information on credit performance would decrease adverse selection, promoting increased supply. However, measures to reduce risk will also be relevant.

Finally, although this exercise did not aim to calculate demand precisely, one prudent measurement of estimated potential demand would be to associate this with those consumers who effectively have sufficient recurrent income to access a home. Over recent quarters, job creation has slowed, and better paid employment has fallen. The best growth opportunities in the mortgage market will be in the sectors and states that generate the most stable, well-paid jobs. Whilst the most important factor in the real value of a house is location, the most important factor for housing demand is employment, employment, employment.

3.b New housing after the real estate boom

Introduction

In the previous issue of ***Mexico Real Estate Outlook*** we highlighted some of the background factors that would make it difficult for some construction companies to adapt to the new model. Falling demand for new housing, mainly social segments, has led the main players -public institutions the banks- to create products to meet ever more diverse needs. Combined with this, the previous model was made unsustainable by limitations on participants' ability to access information, the rigidity of their technology and overpassing investment in land.

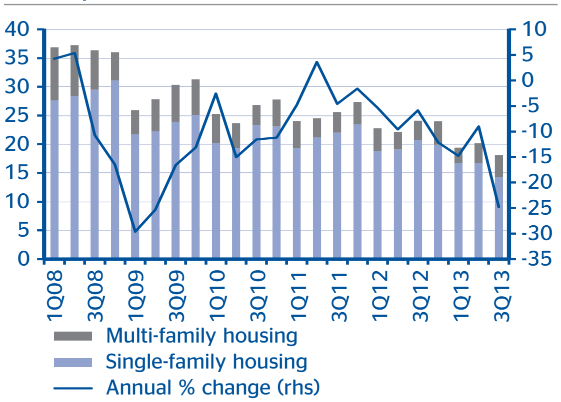
In this article, we explore various elements that could provide a reference point for explaining short-term trends and answering questions about the scenario going forward. Firstly, the contraction in residential construction is overwhelmingly due to lower demand, largely due in turn to consumers having more options available to them. Secondly, certain information problems among players on the supply side make it difficult to clearly appreciate changes in the profile of the products offered due to the inflexibility of the construction model and even how this is financed. Thirdly, the adjustment process is currently under way, as shown by the correction in lending and the resizing of new residential developments. Finally, we set out a scenario in which the reactivation of this market will come from a stimulus to effective demand, not from the supply side.

New housing contracts in the face of diversifying housing solutions

The market for new housing has set the trend for the residential market for several years, and the current transition period is no different. We saw a contraction in new house building due to the 2008 crisis, but the expected rebound in this type of accommodation has not yet happened. The value of housing construction reported by construction companies has fallen from over 35 billion pesos (bnp) in 2008 to less than 20 bnp in 2013 prices. Likewise, the number of mortgage loans for this segment has been shrinking since 2010 for both Infonavit and the banks.

Chart 48

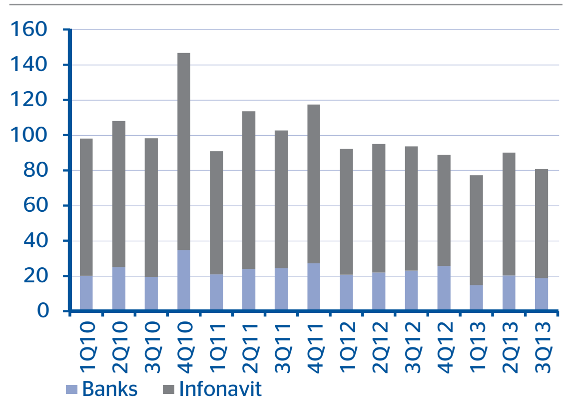
Value of residential construction
Billion pesos, real and %



Source: BBVA Research with ENEC and INEGI data

Chart 49

Mortgage loans for new homes
Thousand loans



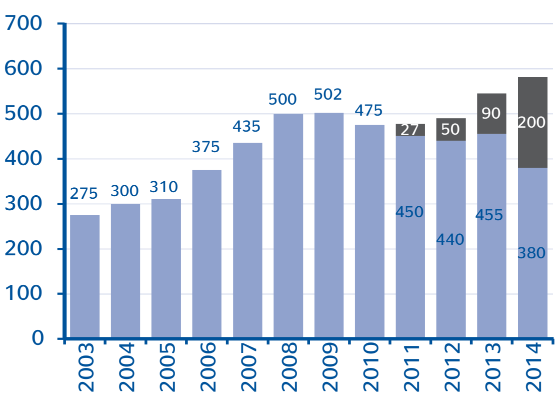
Source: BBVA Research with CNBV and Infonavit data

New housing demand experienced a huge boost in the previous decade. This was in part caused by the supply of mortgage credit, which focused on new housing -both public and private sector- as the main accommodation solution. With increasing targets for public institutions and greater access to bank mortgage finance, it was only natural for expectations of high sales to come. This was a major bet on demand being maintained, particularly when the housing deficit -rather than effective demand- was regarded as the potential market. However, the perception that targets of public housing institutions would always increase is now consigned to the past. The range of accommodation solutions has now diversified beyond focusing exclusively on purchases, particularly just of new units. This situation also took the public institutions by surprise: since 2011 -when other solutions to meet the needs of its beneficiaries started to become more widespread- Infonavit has been granting more loans than expected each year for products such as refurbishment.[1] As a result, once the supply of credit had diversified, new housing found itself in competition with existing accommodation, refurbishment and self-construction.

In addition to reduced preference for new housing with consumers becoming more demanding about location, co-financing has inclined the balance in favor of middle and residential housing, being existing housing in the most urbanized areas more demanded. We expect demand for such housing will continue responding more closely to job creation in the formal private sector. The drivers of this segment will be therefore more clearly employment and income, always in combination with quality, location, urban infrastructure and services: these factors are increasingly being satisfied by existing housing.

Chart 50

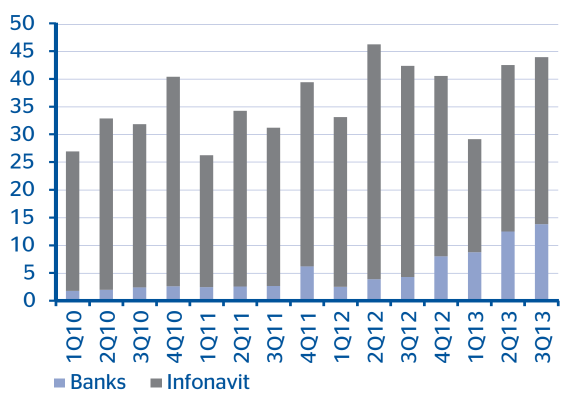
Infonavit: annual loan program
Thousand loans



Note: 2014 estimated in accordance with Infonavit targets,
Source: BBVA Research with data from the financial plans of Infonavit and Conavi

Chart 51

Mortgage loans for existing homes
Thousand loans

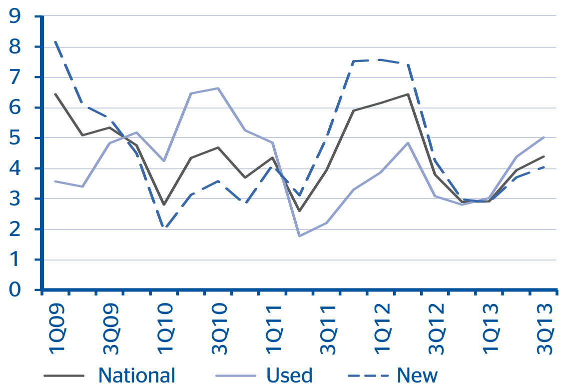


Source: BBVA Research with CNBV and Infonavit data

Finance conditions for individual bank loans will keep up a good pace, but rather slower than in 2013. With repayment terms of up to 20 years, and historically low interest rates with little possibility of further reductions, commercial banks still have scope to grow. The market left by non-banking institutions drove the expansionary cycle towards middle and residential segments more forcefully, and will continue to be relevant. For this reason, prices for existing homes, and homes other than those of social interest, will start to rise more quickly. Inventories of social interest housing need to continue falling before there will be a recovery in their value.[2]

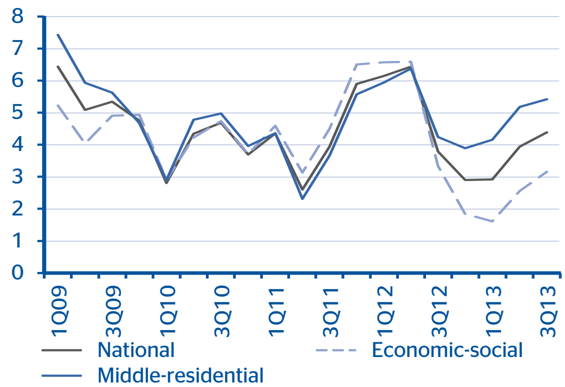
[1] See article 2.b The housing market extends its scope to other segments
[2] Idem

Chart 52
Price index by use condition
% annual change



Source: BBVA Research with SHF data

Chart 53
Price index by segment
% annual change



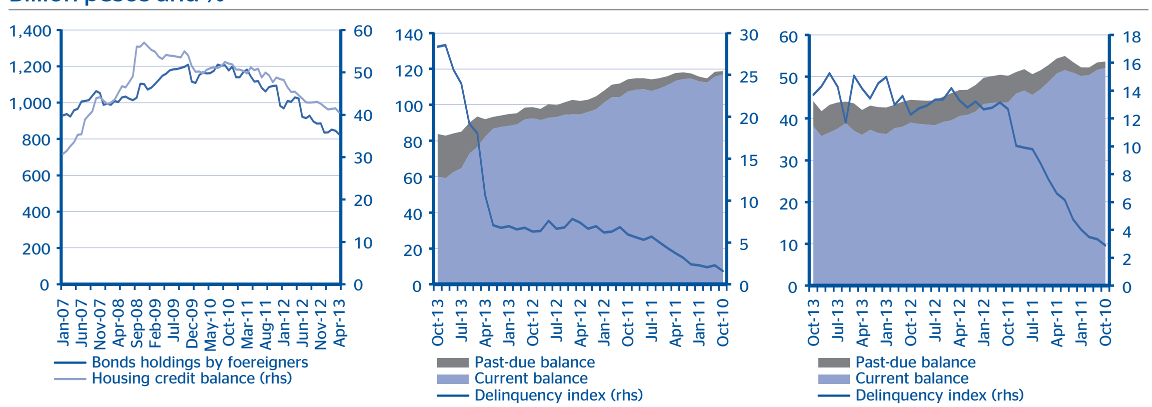
Source: BBVA Research with SHF data

In this context, we expect the prices of new and social housing would continue increasing, but more slowly than other segments. As excess supply in these categories corrects, their prices will converge on the general trend. This process also positively impacted the value of bank collateral, thus leading to sustained growth in average mortgage values over recent years, rising by over 22% in real terms between 2010 and 2013, benefiting the growth cycle.[3]

Construction loans matched to housing build, but also had to adjust

With increasing demand for new housing and high expectations of being maintained over longer term, house builders continued investing heavily to exploit this opportunity. Excess liquidity played a key role in this, by obtaining the financial resources it needed. Abundant credit meant that house builders could capitalize their investments in land reserves and the large-scale technology they would need in order to maintain their high construction rates. As the number of new projects grew, lending to the sector also increased; and this only started to contract as the number of projects contracted decreased. Falling demand for new housing led some developers to become unviable, resulting in deterioration in the quality of the lending portfolio. With lower borrowing needs and failed projects, the lending portfolio also adjusted downwards.

Charts 54, 55 y 56
Bond holdings by foreigners, credit for residential building and bridging finance
Billion pesos and %



Source: BBVA Research with Bank of Mexico and CNBV data

3 January-October average for each year, at 2013 prices.

Current and future conditions are no longer conducive to major developments. Moreover, any location destined for construction must comply with housing-policy stipulations in order to qualify for subsidies: these include urban development, eco-technology and economic development criteria. As a result, we expect housing starts on the Registro Único de Vivienda (RUV - Single Housing Register) to be between 200 and 300 thousand units in year-on-year terms.[4] For these reasons, residential investment needs to be redirected towards more diverse projects, particularly in middle and residential segments. As the market corrects for this effect, default rates on the residential construction and bridging finance portfolios will also gradually correct. In the case of the former, the gap widened considerably as a result of the weight of some developers in non-bank financing and bridging credit. Nevertheless, default rates on bridging credit, which have remained between 12% and 14%, will decrease as the market's accumulated inventories run down. However, this does not represent a risk at all for the banks, as it represents less than 1.5% of their total portfolio, and was also where the correction began.

Lending for residential construction corrected in time, but could improve

As with other products, lending for residential construction continued growing because of the benefits of the large-scale construction model. However, when effective demand began to fall, inventories began to accumulate and the gap between the current and past-due portfolios started to become ever more blatant, reaching 14% in 2013, when some construction companies started experiencing difficulties in meeting their financial obligations.

The largest area for development in the new housing market had been the social housing. The low price of such housing characterizes smaller profit margins to developers, meaning they need to achieve large sales volumes in order to maintain their profitability. Furthermore, substantial investments in land and technology are costs that require sustained larger sales volumes to maintain efficiency. Choosing this form of production is highly profitable during the good years, on the crest of the economic cycle, where high demand permits efficiencies of scale. However, in lean times -the weaker parts of the economic cycle- this technology tend to be risky, as there is no guarantee that sales will be succesfully achieved to maintain efficiency. This can result in loans not being repaid, leading to contraction in the lending market for residential construction. Therefore, the technology chosen by developers must be flexible to respond to changes in demand. If it is not, this leads to a moral hazard problem that could lead to credit rationing in order to maintain the health of lending portfolios.

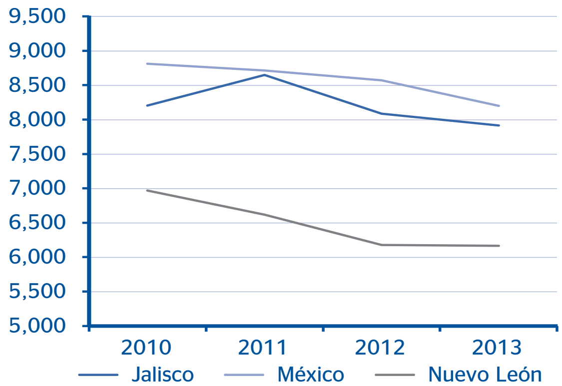
Moreover, as the value of social housing rose more slowly than expected, compared to the national average, the value of bridging loan collateral became also lower. This led to a problem of moral hazard, where builders having fewer incentives to repay their loans; drove to delay completion of their developments; or do not complete the work, particularly if they consider that they might not be able to sell the homes. Likewise, if house prices grow ever more slowly, total lending may be limited by the lower value of collateral. This is because mortgage loan contracts are not just determined by the interest rate (which was falling), but also by elements unrelated to price, such as the collateral required.

The loss of value of land banks resulting from lower demand for homes in poor locations and restrictions on subsidies undermined the value of this type of collateral for bridging loans. Furthermore, uncertainty about the location of these land reserves compared to risky areas also increased the risk of these assets and, therefore, their finance costs.

Against such a background, if the pace of growth in lending for residential construction had continued after 2010, this would have magnified the risk for the banks. However, this risk was contained appropriately. Some developers showed several examples of being affected by both lower sales (accumulating inventories) and by lower appreciation of the collateral held by the banks.

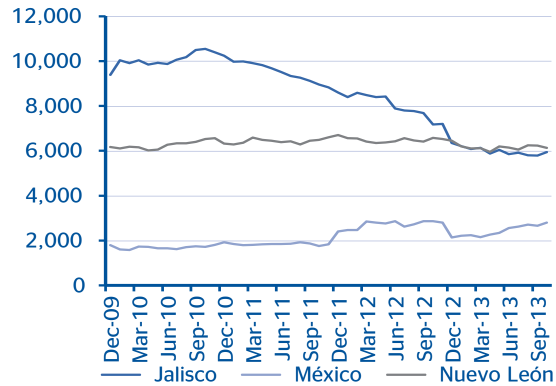
[4] Considers total registrations of new housing in the RUV housing register.

Chart 57
Average price per square meter
2013 pesos



Source: BBVA Research with RUV data

Chart 58
Loans for residential building
Million 2013 pesos



Source: BBVA Research with CNBV data

Furthermore, as supervision of the projects (in this case the collateral) or, in the absence thereof, the processes for enforcement against homes, was not considered in negotiating the loan, this represented a high transaction cost that was not reflected in the interest rate charged. A market solution for resolving part of the problem described would be to promote agencies or organizations with a mission to share information on the credit history of house builders. These agencies could work as credit bureau for the developers collecting information on the financial position of participants and developments in the residential market. This model could be highly efficient, particularly when customers are highly mobile and there is strong competition between banks, such as lending for residential construction.

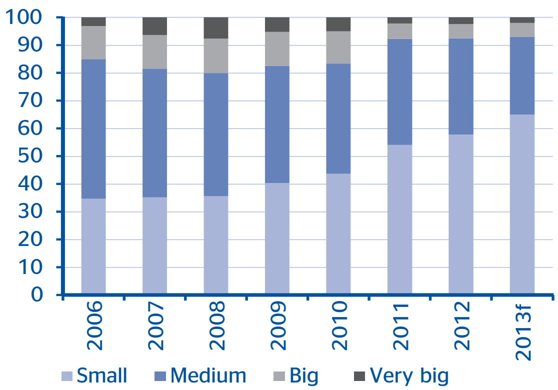
The RUV housing register has played a key role in collecting such information on new house building projects and participants in the mortgage market in Mexico. However, enriching the RUV with additional information on both the developers and lenders would be a useful tool for preventing a contraction in lending. This is particularly the case when justified by demand for new housing, not just for social housing but also for all other segments, which, even though on a smaller scale, consists of players who have demonstrated their efficiency and who offer certainty in meeting their payment obligations. Experience shows that mechanisms for sharing credit information help to minimize credit rationing due to asymmetric information, making markets deeper and more efficient, whilst also increasing access to credit.

Reorganization of credit to boost demand and reach more markets

The poor performance of new house building is obliging developers to adjust their activities; this has been reflected in much more modest building levels compared to the boom years, when 700 thousand homes were registered every year. This had fallen to 500 thousand in 2010, 340 thousand units in 2012 on an annualized basis and 300 thousand in 2013. Moreover, a refocusing on other products extended completion times for units[5] and was also reflected in the size of developments. In 2007, 65% of projects built consisted of more than 100 homes; however, by 2013 only 35% of developments exceeded 100 homes. Over the same period, the share of developments consisting of between 100 and 1,000 units fell from 60% to 35%.

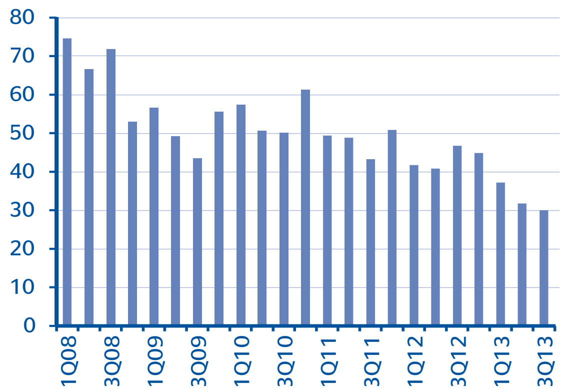
[5] Whilst the time needed to build a home in 2007 was between three and twelve months, by 2012 it was more than 24 months: under normal conditions, the average is 12 months.

Chart 59
Size of developments*
% annual share



* Small, up to 100 homes; medium, 101 to 500; large, from 501 to 1000; very large, over 1000
Source: BBVA Research with RUV data

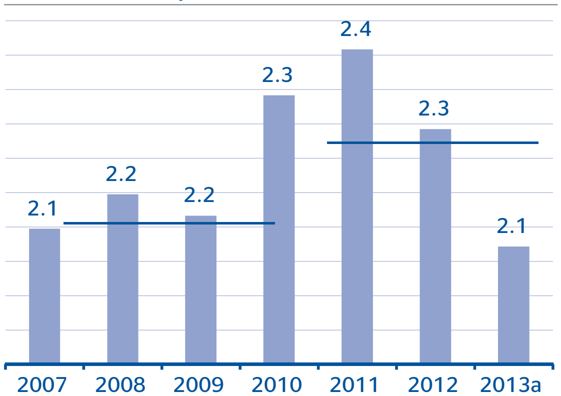
Chart 60
Average development size
Units, quarterly figures



Source: BBVA Research with RUV data

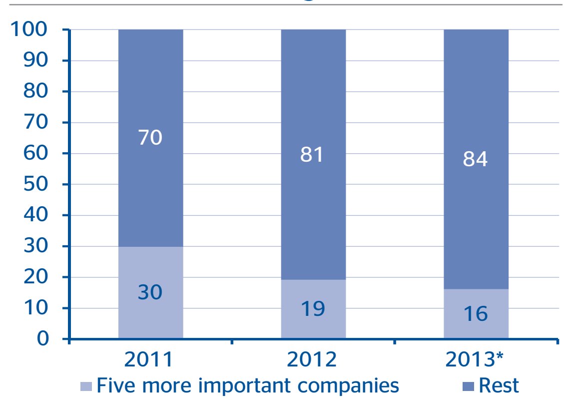
We can therefore say that some players leaving the market may be beneficial for conserving clients with higher credit quality. This may also lead to the entry of new companies, with shorter working capital cycles and better planned projects. This is what is motivating consumers to opt for homes with different characteristics, whilst also demanding higher quality -in terms of materials, equipment, urban environment-despite these type of houses be more expensive.

Chart 61
RUV: companies registered*
Thousand companies



* Not considering economic groups.
a To the third quarter
—— Average for the period
Source: BBVA Research with RUV data

Chart 62
RUV: companies with largest number of registrations
% share of total homes registered



* To the third quarter
Source: BBVA Research with RUV data

Conclusions

There were a number of factors behind the transition to a new building model in the market for new housing. This was not solely caused by the 2008 crisis, or by developers choosing a model that seemed to be working in the boom years, but which now obviously needs to change. The incentives that drove rationalization of the previous model were a mortgage lending policy focusing on volume, new housing and a horizontal model; excess liquidity in financial markets; and unrealistic sales expectations based on the housing deficit rather than effective demand. From now on, the changes needed will have to go further than the construction model itself; in particular, and most importantly, the focus should be on effective demand for housing. With this focus in mind, investments in land and technology will have to be flexible to the requirements of consumers who are becoming more knowledgeable and demanding.

In addition to effective demand -which is difficult to measure accurately even now due to changing needs there is a need to consider the greater knowledge of consumers and asymmetric information among participants. For this reason, it has been necessary to refocus growth on smaller scale developments and better defined projects that meet the needs of consumers, and which are also justified in terms of size, urban environment and access to services, whilst also ensuring the long-term health of the portfolio.

The new housing policy aims to achieve better urban integration through the recovery and development of land in areas where it is needed. To this end, subsidies will be assigned so as to consolidate cities and will stretch ever more to products that do not necessarily involve new house purchases. Based on these rules, developers will have to clearly identify the market and segment they are aiming at, without risking their payment capabilities and, particularly, with a scale of production suitable for short-term needs, adopting greater flexibility and more versatility to respond to changes in the market. The housing policy may also be complemented by certain prudential risk measures for residential construction lending. For example, provisions for home construction lending may be lower in cases where the collateral is duly registered with the Single Housing Register (RUV). This would incentivize increased credit origination and provide certainty about the risks of registered real estate.

Lending for construction has been sufficient for activity and will return to growth at the pace that sales reactivate. Therefore, initiatives on the supply side and from the financial sector and the authorities should focus on promoting effective demand; the stimuli to reactivate this type of housing solution must prioritize the purchasing power of households.

Box 2: Financing retirement with real estate assets

The reverse mortgage is a financial product designed for elderly adults who own a property, allowing them to convert the equity value of their property into money, without losing ownership of the property. It consists of a non-reimbursable loan, using a property as collateral, and allowing the homeowner to continue living in the dwelling until his/her death, at which point the heirs can choose either to pay off the loan and recover the property, or not to do so - in which case the creditor will execute the guarantee (award or sell the property) to pay off the debt, and if anything remains, to hand it over to the heirs.

The capital lent may be provided in three different forms: a lump sum; a credit facility; or regular payments, either for a limited period of time or for the rest of the borrower's life (term or life annuity). The amount lent depends on the borrower's age, interest rates and housing prices. There are no income or credit rating requirements for Reverse Mortgages, as the payment is guaranteed using the value of the property alone, which the pensioner already owns. According to Caplin (2002), reverse mortgages benefit the property owners, as many of them do not meet traditional requirements -demonstrable income, maximum age- for being granted a conventional mortgage loan and do not have the funds available to contract an annuity.

There are several reasons why reverse mortgages might be an interesting alternative for people who are entering retirement. Firstly, difficulties faced by the pension systems (public or private) in providing sufficient income on retirement. Secondly, the increase in life expectancy is gathering pace, and this is leading to adjustments (downwards) in the pension benefits of future generations. Thirdly, a large percentage of people of working age in Mexico simply do not save in any pension scheme[1]. As a result they depend financially on third-party assistance, above all, their children or other family members. However, in all these cases retired people may have property assets that could help diversify their sources of liquid income, and at the same time reduce the negative effects on the ability of their family members to accumulate wealth.

Although the Reverse Mortgage is a new development in Mexico, it has existed for a long time in other countries around the world, especially in the UK, where it was introduced in 1965, and the United States of America, where it has been available since 1989. Other countries where Reverse Mortgages have been introduced include Australia, Canada, Denmark, Spain, France, Netherlands, Japan, Norway and Sweden.

Potential of Reverse Mortgages in Mexico

Global demographic trends point to an aging of the population due to longer life expectancy and falling birth rates, thus putting pressure on financing retirement income. Most pension schemes are facing a variety of problems that make them inefficient in providing sufficient income for what is an increasingly prolonged period of retirement.

According to estimates by the Latin American Demographics Center (Centro Latinoamericano de Demografía, CELADE), life expectancy at birth in Mexico will increase from 75.8 in 2011 to 85.8 in 2050, while the dependency rate (population over 65 / population aged 15 to 64) will increase from 10.1% in 2011 to 34.9% in 2050. Therefore, the population of elderly people will continue to increase, and most members of this group will not have sufficient income.

On the other hand, the social housing policy implemented in Mexico in recent years, has brought about a considerable increase in the supply of housing for the middle classes and salaried employees. Consequently, the number of homeowners is increasingly significant, as indicated in the 2012 National Survey of Income and Expenditure for Mexican Households (ENIGH)[2], as 82.4% of people over the age of 60 nationally own their home. According to information provided by the Federal Mortgage Society (SHF), the average property value nationwide is MXP$636,163.[3]

Since May 2013, reforms of the Civil Code and the Financial Code of the State of Mexico have allowed the Reverse Mortgage in that territory. However, no financial institutions yet offer such products in the country, as amendments are needed to banking and/or insurance regulations.

This regulation establishes that reverse mortgages can be granted by individuals and private, social and public institutions with suitable remits. The pension provider (institution that grants the loan) undertakes to pay a life annuity to the pensioner or their beneficiary (spouse or partner), using the home owned by the pensioner as collateral. Both the pensioner and their spouse must be at least 60 years of age. The debt only becomes repayable and the collateral enforceable on the death of both the pensioner and their beneficiary, until which time they can live in the

[1] 60% of the Economically Active Population works in the informal economy, not contributing to any pension system.
[2] Over 20 million homes are privately owned, and this is the potential market for reverse mortgages
[3] US $51,000

mortgaged property and even rent it out, with express permission from the pension provider.

Reverse mortgage simulation

By way of an exercise, we have calculated the impact of a reverse mortgage on the replacement rate[4] for an old-age pensioner, using SHF information on average property values nationwide.

Firstly, we calculated the replacement rate for a 65 year old with an IMSS pension, as the weighted average of the pensions received by workers of that age with various socio-demographic characteristics, considering their salary, individual account balance and contribution density, by age, gender and educational level for workers who contributed to an individual account between 2008 and 2011.[5]

Subsequently, we calculated the replacement rate considering only an IMSS pension and compared this to the figure that would be obtained if a reverse mortgage were also contracted, receiving the loan in the form of a life annuity. This exercise was performed for two points in time: for people who would retire in 2013, and people who would retire in 2050, in order to measure the impact it could have at different points in time, for workers with different pension rights[6]. These workers will also be impacted by the risk of longevity through increased life expectancy.[7]

Table 4

Replacement rates with and without reverse mortgage, 2013 and 2050

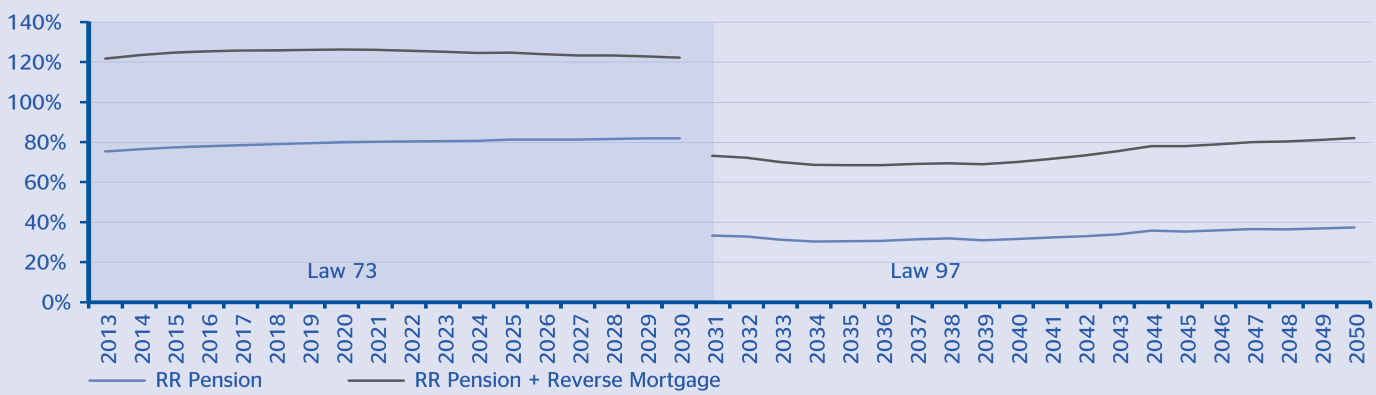
	2013	2050
Salary	5,534	7,947
Property value	636,163	919,304
Pension replacement rate	75%	37%
Pension replacement rate + reverse mortgage	122%	82%

Source: BBVA Research with data from Bloomberg

This projection showed that the replacement rate of the defined benefit pension (Law 73 of the IMSS) would on average be 75%, whilst the replacement rate for defined contribution pensions (Law 97) would be around 37%. These low replacement rates are due to the low contribution rate to Mexico's pension system -around 6.5% of salary- and high levels of informal employment, around 60%, which in turn result in low contribution density.

Chart 63

Projected replacement rates with and without reverse mortgage



Source: MAPP2, BBVA Research

[4] Percentage represented by pension compared to last salary.
[5] Information provided by the Comisión Nacional del Sistema de Ahorro para el Retiro (CONSAR - the National Commission for the Retirement Savings System).
[6] Workers belonging to the IMSS transition generation (who contributed prior to July 1997) can choose between a defined benefit pension under Law 73 of the IMSS and the defined contribution pension which they would obtain with the balance of their Afore account. Workers who began to contribute from July 1997 onwards (the Afore generation) obtain a pension that depends on the accumulated balance in their individual account.
[7] The mortality tables used to calculate the Life Annuity (EMSSA 2009) are dynamic mortality tables that take into account future improvements in life expectancy.

Adding an annuity income from real estate assets would increase the replacement rate from 75% to 122% in 2013, and from 37% to 82% in 2050.

These results show that reverse mortgages could be a way of partly offsetting the longevity risk that might arise in Mexico over the coming decades. Current macroeconomic and demographic conditions in Mexico highlight a need to diversify sources of retirement income through voluntary savings mechanisms and conversion of other forms of wealth -such as real estate- into liquid flows. Thus, reverse mortgages can help to improve liquidity during ever longer retirement, by generating liquid flows from illiquid assets.

Although the potential inherent in a reverse mortgage scheme is of interest for tackling the problem of future risks in old age, a number of elements represent restrictions on the growth of this approach. Firstly, there has to be a change of mentality among the population so that people consider their home as savings they have available for use when necessary; this will be difficult in Mexico given the deep-rooted tradition of inheritance. Moreover, reverse mortgages are still not well known as a financial product among the population in general and there is little competition. It is also clear that mortgage companies and financial and insurance institutions are not prepared for the management of massive housing portfolios. The sector will therefore need to be reorganized and new specialist companies created. Moreover, marketing such products requires experience of both mortgages and life annuities: most of the institutions that grant mortgages in Mexico have no knowledge of the annuities market, and vice versa. Another important issue is how the financial institution will make the property liquid. The property repossession process is costly due both to the legal processes involved and also the fact that selling property is not part of the bank's business and this will impact strongly on the price of the asset. Last, but not least, there are the implications of financial crises and the normal volatility of the real-estate markets. These create risks for both lenders and borrowers. Strategies have therefore to be put in place to mitigate these risks and regulate them adequately.

Reverse mortgages have the potential to substantially increase pension replacement rates, whilst stimulating the secondary housing market. In general, these results lead us to a broader reflection on the financial risks of retirement and the possibility of a wider range of sources of income to support this period of inactivity. Governments should not only focus on the design of pension systems per se, but on generating financial structures that make it easier to convert illiquid assets into a flow of liquid income that will be increasingly necessary in a scenario where life expectancy continues to increase.

3.c The Infonavit Financial Plan 2014-2018. A focus on quality

One of the most interesting changes in this Financial Plan is that Infonavit now defines its activities as part of the National Housing Policy, whereas in previous years these had been defined independently and even dictated public policy for the sector. Nevertheless, Infonavit remains the leader in the sector, not just because it has the largest market share, but because of its intention to complement the change the housing industry is experiencing by giving greater emphasis to the quality, rather than just the quantity, of mortgage lending. The changes in its action plan may therefore be a signal for all other mortgage lenders.

Infonavit improves its mortgage lending model

The Institute has recognized that its previous model -involving granting credit en masse, which, whilst making substantial progress in decreasing the housing deficit, sometimes had little impact on quality of life- was exhausted. This is the focus of the new strategy: A greater focus on quality and flexibility in the supply of credit, and less focus on lending volumes. This is in line with the Federal Government's National Housing Policy (NHP), which is seeking to reorganize the sector, rather than just to boost growth. As a result of this change, Infonavit's strategy is now based on three approaches: 1) promoting accommodation solutions that improve quality of life and sustainable development; 2) providing appropriate finance solutions for the life cycle of beneficiaries; and 3) providing efficient returns to the Housing Sub-account, which complements retirement savings.

Moving ahead, the housing deficit will continue to be overcome, but the priority will be on high-asset value housing solutions by stimulating quality and development of communities and the environment. Estimates for 2014 housing needs are for 380 thousand loans, rising to 400 thousand in 2020. These housing solutions will focus on the specific characteristics of beneficiaries so as to meet quality, sustainability and flexibility objectives over the whole lifecycle of beneficiaries. These characteristics are identified by region, income and changes in income, overcrowding and the housing deficit in terms of materials and services. The increase in asset value will be based on better location and higher quality homes.

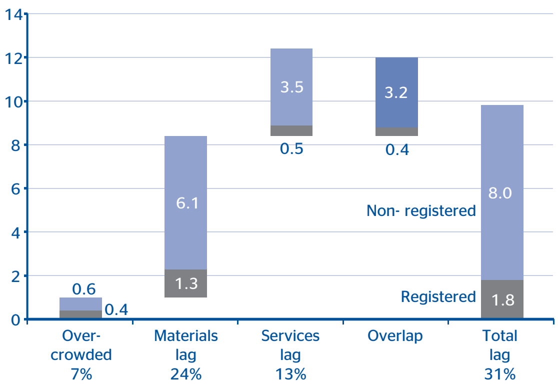
In this regard, Infonavit loans have allowed increased opportunities for solutions other than new homes, such as existing homes, refurbishment and even rental schemes. This is based on better understanding of the needs of beneficiaries, but also because the previous model, which prioritized new housing, did not achieve the savings sought, or the orderly development and sustainability of cities. We will focus on the first two of these strategies, as these have a direct impact on the real estate sector.

Strategy 1: Promoting housing solutions that improve quality of life

Based on the Mexican Household Survey, Infonavit has recognized changes in housing demand; for example, by giving greater importance to refurbishment and existing housing, and by recognizing the relevance of developing rental schemes. It is proposing to expand its product range, based on sources of demand such as the housing deficit, household formation and secondary uses.

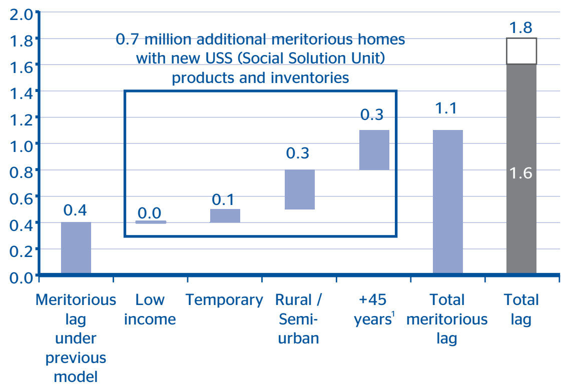
The Institute estimates that there are 9.8 million households in the housing deficit, of which 1.8 million have a beneficiary member. However, it believes only 1.1 million can currently be helped. And even within this group, not all the households are seeking to correct their housing deficit; for example, some households in high salary bands are in a position to change their situations, but choose not to do so. Nevertheless, Infonavit needs to be ready in case these households decide to opt for one of the available solutions. In order to combat the housing deficit, Infonavit carries out a detailed characterization of the population to identify the housing solution most suitable for their needs. These solutions include considering reassigning some abandoned homes. In order to improve the situation as a whole through the credit it grants, Infonavit identifies the specific needs of population segments in order to design an offering that meets these requirements. For example, demand for housing by recently formed households does not necessarily revolve around buying a property, with some opting for home improvements or extensions.

Chart 64
The housing deficit
Million homes



Source: Infonavit Financial Plan 2014-2018

Chart 65
Eligible housing deficit by population segment
Million homes



1 The over-45 segment may be served by loans for home purchases or self-construction, if they qualify for credit.
Source: Infonavit Financial Plan 2014-2018

In order to continue giving greater importance to quality of life and not just lending volumes, one of the premises behind the Institute's strategy is creating more compact and habitable cities. To achieve this, it needs to adopt strategies such as aligning its actions with the National Housing Policy and Sedatu policies. It is also seeking to give more funds to homes in locations with better access to city services and equipment, promoting closer and larger homes. One consideration within these strategies that is becoming ever more important -not just for Infonavit but for all mortgage lenders- is information from the Federal Government's risk atlas. The RUV housing register can play a very important role in this particular case, as it already has this information, and could make it available as shared information for the whole industry.

Infonavit estimates that there could be demand for around 570 thousand financial solutions in the period 2014 to 2023. Of these, 260 thousand would be for purchases of new homes; 130 thousand would be for existing homes; 160 thousand would be for improvements and extensions; and 20 thousand would be for rental. This shows the substantial increase in products for improving and expanding the existing housing stock. The ratio of new to existing homes in these estimates reflects the segmentation seen over recent years. However, it is worth recalling that greater importance was given to new housing under the previous model, and this calculation may therefore be biased in favor of such homes. In our projections, the share of existing housing could be higher, particularly in the highest density cities. However, we should not discount renewal of the housing stock, by exchanging existing homes for vertical housing, something that is already being seen in some cities.

Strategy 2: Financial solutions suitable for the beneficiary's life cycle

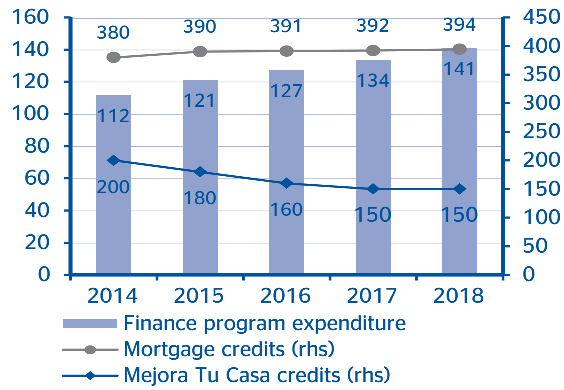
Considering mortgage credit to be somewhat static and unresponsive to changes in income and savings, household composition and size, and employment mobility; Infonavit is seeking to offer dynamic financial solutions in harmony with the lifecycle of its beneficiaries. The static nature of this lending poses some problems for the financial sustainability of both the Institute and borrowers. In population segments that increase their income, employers' contributions increase leading to a prepayment, which decreases the cross-subsidy capacity for lower income segments.

Table 5
Forecast annual housing demand
Thousand housing solutions

Demand	Credits
New households	210
Secondary uses	170
Deficit	130
Improvement and extension	60
Total	**570**
Products	**Credits**
Mortgages	390
Improvement and extension	160
Rental solutions	20
Total	**570**

Source: Infonavit Financial Plan 2014-2018

Chart 66
Finance program expenditure
Billion pesos & thousand loans



Source: Infonavit Financial Plan 2014-2018

This second strategic approach offers a menu of credit solutions including rental schemes, refinancing good payers, increased flexibility for second mortgages, inter-generational transfer of the housing sub-account and family credit. Rental is aimed at beneficiaries as a temporary solution until they are in a stronger position to purchase their own home or they have sufficient balance in their housing sub-account; it is also considered to be a solution to employment mobility. In particular, we expect this product to become more important as the labor market evolves towards greater mobility, both geographically and between employers. In the case of refinancing for good payers, this could involve changes to interest rates, terms or the payment factor to maintain the financial stability of both the borrower and the most profitable loans in the Infonavit portfolio. The transfer of housing sub-account from parents to children could help the next generation to achieve higher savings and be able to access a higher value home in a better and higher quality location. However, this proposal may require legal changes. With family loans, the objective is for loans for married couples to take into account 100% of the capacity of both borrowers, so as to increase their purchasing power. We can see that these solutions do not exclude each other and that they could be implemented in response to the re-composition and age of households and beneficiaries.

This new mortgage model implies increased lending dependent on geographic location for the Institute. For example, in small and medium cities, the main attribute should be the size of the home, as mentioned as the most important characteristic in the Infonavit National Household Survey. This would have lower costs than in large cities and metropolises, where increased home size would have to be accompanied by closeness and vertical development. This is despite vertical housing development potentially offering construction and urban development savings, as land prices tend to be proportionally higher in more densely-populated urban areas. Nevertheless, these measures could inhibit abandonment and meet the durations contracted. The Household Survey found that distance from workplaces and services was one of the main causes of abandonment.

Conclusions: a new lending model based on quality of life

A lot of attention has been paid to changes in the house building model, but little or no attention has been paid to changes in the mortgage lending model. Recognizing that its previous model -prioritizing the volume of loans granted and having little impact on the quality of life of beneficiaries- was exhausted, Infonavit is undertaking a rethink to start to have greater impact on overall welfare. This follows the approach taken by the National Housing Policy, but without abandoning the target of ending the housing deficit and granting credit in response to demand from beneficiaries. The plan is ambitious in terms of its quality targets, rather than the volume of loans. These tasks look difficult to implement and achieve, but they are desirable. And at the same time, this is establishing a new approach for the real estate sector as a whole and mortgage lenders in particular.

4. Statistical Appendix

Table 6

Annual macroeconomic indicators

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013f
Real GDP[1] (annual % change)	1.3	4.1	3.2	5.0	3.1	1.2	-4.5	5.1	4.0	3.6	1.2
Private consumption, real (annual % change)	2.2	5.3	4.7	5.5	3.0	1.7	-6.3	5.7	4.8	4.3	2.4
Government consumption, real (annual % change)	0.8	2.5	2.9	3.3	2.4	3.3	2.3	1.8	2.5	2.2	1.0
Investment in construction, real (annual % change)	3.2	6.0	2.2	6.3	4.1	8.1	-5.2	-1.2	1.6	2.2	
Residential		8.8	2.4	8.2	4.3	4.6	-13.3	-0.4	3.3	2.0	
Non-residential		3.7	2.0	4.7	3.9	11.2	1.8	-1.8	0.3	2.4	
Formal private empl. (IMSS)[2], total	12,300	12,578	12,971	13,595	14,139	14,394	13,977	14,565	15,190	15,899	
Annual % changel	-0.2	2.3	3.1	4.8	4.0	1.8	-2.9	4.2	4.3	4.7	
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	260.1	
Annual % changel	10.8	12.0	9.5	9.6	83.4	0.2	-1.0	-0.9	0.8	0.2	
Real total wages (IMSS, annual % change)	10.5	14.5	12.9	14.9	90.7	2.0	-4.0	2.2	5.7	5.2	
Minimum general salary (daily, nominal pesos)	41.5	43.3	45.2	47.1	48.9	50.8	53.2	55.8	58.1	60.5	
% real annual change	8.7	9.7	8.0	8.2	7.8	-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	3.8
TIIE 28 average (%)	6.7	7.3	9.6	7.4	7.7	8.3	5.8	4.9	4.8	4.8	4.2
10-year interest rate, 10 year Govt bond (M10)	8.9	9.7	9.4	8.3	7.8	8.3	8.0	6.9	6.8	5.7	5.6

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

Table 7

Annual construction and housing indicators

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP (annual % change)	3.3	7.0	2.6	7.5	4.5	5.4	-6.3	-0.5	3.3	2.7
Building	3.3	8.1	0.5	8.2	4.0	4.0	-12.7	-0.2	3.1	2.8
Civil engineering and major works	3.3	2.2	12.6	6.1	6.7	21.9	12.7	-2.7	2.9	1.9
Specialist construction work	3.3	7.1	2.9	4.6	4.6	-12.6	2.1	2.3	5.1	4.0
Construc. empl. (IMSS, thousands people, avg.)	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	1,275.2
Annual % change	0.8	2.5	5.2	11.1	6.3	0.5	-8.8	3.8	4.7	6.3
Hydraulic cement prod. (tons, ann. % change)	0.8	4.0	11.1	7.7	0.9	-2.8	-3.1	-2.9	1.5	2.1
Nat'l. cement consumption (tons, ann. % chge.)	-0.3	2.9	10.1	6.7	0.0	-3.7	-6.1	-5.3	1.4	2.5
Construc. comp.[1] (real prod. value, ann. % chge.)		1.7	4.2	220.3	2.2	-2.2	-8.6	3.3	3.2	3.1
Building		16.2	9.0	238.0	7.2	-3.1	-18.5	-4.6	6.0	2.6
Public works		-6.0	0.2	229.0	-2.1	-1.5	8.0	9.7	0.1	-0.1
Water, irrigation and sanitation		31.2	-1.3	161.3	-21.8	4.1	6.3	0.0	10.7	-1.7
Electricity and communications		-15.3	-28.4	216.3	-12.6	15.4	8.2	27.0	21.4	-6.5
Transportation		-16.8	6.9	276.2	6.9	7.5	10.5	8.1	-2.8	-2.2
Oil and petrochemicals		-0.2	5.7	205.9	-4.2	-27.1	1.7	11.6	-9.6	13.0
Other		-16.4	-0.8	100.1	-10.3	0.7	-35.2	19.9	10.2	38.6
Resid. construc. prices, general (ann. % change)	7.3	14.5	0.6	11.8	2.9	13.1	-1.0	4.8	9.3	0.4
Construction materials (annual % change)		17.7	-0.2	14.1	2.6	15.5	-1.8	5.2	10.6	-0.2
Labor (annual % change)		4.5	3.8	3.8	4.4	3.5	3.1	3.3	3.8	3.2
Rental equipment (annual % change)		4.1	2.8	2.8	2.9	6.9	1.8	3.2	5.3	-0.2

[1] Considers companies affiliated and not affiliated to the Mexican Chamber of the Construction Industry.
Source: BBVA Bancomer with Banco de Mexico, INEGI, IMSS and AHM.

Table 8
Annual housing finance indicators

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*
Number of loans granted (thousands)											
Total	381.8	476.0	567.5	670.8	725.7	746.5	632.8	639.7	600.8	572.4	435.5
Infonavit	297.7	306.0	376.4	421.7	458.7	494.1	447.5	475.0	445.5	421.9	305.9
Fovissste	66.4	59.4	48.7	76.6	68.4	90.1	100.1	87.8	75.2	64.3	53.4
Commercial banks and Sofoles	17.6	110.6	142.4	172.5	198.6	162.3	85.2	76.9	80.2	86.0	76.1
Reduction[1]			38.1	73.7	79.2	80.8	39.4	30.7	24.4	26.7	20.8
Equivalent purchases	381.8	472.8	529.4	597.1	646.5	665.6	593.4	609.0	576.4	545.7	414.7
Financing flow (billions of pesos, June 2013 prices)											
Total	56.1	68.6	96.9	148.0	178.5	211.1	185.3	191.0	207.9	217.6	186.0
Infonavit	37.2	41.4	56.3	68.9	79.8	95.7	89.5	100.2	110.7	105.8	79.6
Fovissste	11.6	12.0	11.1	19.0	17.4	24.8	40.9	38.1	32.1	31.4	27.3
Commercial Banks and Sofoles	7.2	15.3	29.5	60.1	81.3	90.6	54.9	52.7	65.1	80.3	79.1
Commercial banks current loan portfolio											
Balance end of period (billion pesos, October, 2012 prices)	135.4	164.4	203.2	252.2	287.3	307.7	307.8	356.8	397.2	454.9	456.8
Past-due loans index (%)	12.3	7.5	2.4	2.0	2.6	3.3	4.6	3.5	3.4	3.2	3.6

[1] It refers to financing (loans and grants) that are considered in two or more institutions.
* Figures for October 2013
Source: BBVA Bancomer with Banco de Mexico, CNBV, Conavi, Mexican Mortgage Association (AHM) and ABM.

Table 9
SHF Quarterly Housing Price Index by state (annual % change)

	10'IV	11'I	II	III	IV	12'I	II	III	IV	13'I	II	III
National	**3.7**	**4.4**	**2.6**	**3.9**	**5.9**	**6.2**	**6.4**	**3.8**	**2.9**	**2.9**	**3.9**	**4.4**
Aguascalientes	4.8	5.5	3.2	2.9	4.4	5.0	5.2	2.7	1.9	2.2	3.3	4.9
Baja California	1.0	2.4	2.2	4.7	6.4	6.4	6.1	2.5	2.0	2.1	3.2	4.0
Baja California Sur	1.4	3.6	3.3	5.6	7.5	7.3	7.8	5.1	4.5	4.8	5.1	4.6
Campeche	3.8	5.1	4.0	5.5	7.3	7.1	8.0	5.5	4.8	5.7	6.2	6.0
Chiapas	6.8	8.3	5.8	6.0	7.2	6.7	7.0	4.5	3.7	3.6	4.4	4.4
Chihuahua	5.2	4.7	1.1	1.9	3.3	3.9	5.1	3.0	2.3	3.1	4.5	5.1
Coahuila	4.0	5.2	4.3	5.6	7.3	7.0	7.2	4.1	3.3	3.7	4.5	4.9
Colima	5.4	7.0	4.8	5.5	6.9	6.5	6.6	3.8	2.9	2.7	3.7	4.1
Distrito Federal	5.0	5.0	2.8	4.4	7.3	8.7	9.7	7.0	5.8	5.3	6.6	7.2
Durango	8.8	9.2	6.2	5.9	7.3	6.9	6.7	3.4	1.9	2.0	3.6	4.7
Guanajuato	2.1	2.5	1.4	3.7	6.6	7.2	7.3	4.4	2.8	3.0	3.9	3.9
Guerrero	3.0	3.4	1.6	2.8	4.2	4.6	5.0	3.2	2.9	2.9	4.0	4.7
Hidalgo	5.9	7.5	5.7	6.8	9.8	9.1	8.3	4.1	1.7	1.4	2.8	3.3
Jalisco	0.5	0.7	0.1	1.3	3.0	3.2	3.5	1.9	2.0	2.3	3.0	3.1
Mexico	6.7	6.2	3.0	3.5	4.6	5.0	5.5	3.3	2.8	2.7	3.8	4.6
Michoacán	1.5	2.2	1.1	3.4	6.5	7.0	6.8	3.7	2.0	2.5	4.0	4.5
Morelos	2.8	3.3	1.3	3.2	6.0	6.4	6.3	3.3	2.2	2.1	3.8	5.1
Nayarit	0.7	1.5	0.3	3.1	6.2	6.7	7.1	4.2	2.8	2.6	3.1	2.6
Nuevo León	1.5	1.6	0.0	2.5	5.0	5.8	6.3	3.6	2.5	2.8	3.7	3.6
Oaxaca	4.5	5.7	4.6	6.0	8.3	7.8	7.1	3.2	1.5	2.3	4.4	5.8
Puebla	2.5	4.2	4.2	5.9	8.0	7.4	6.4	2.8	1.9	2.3	4.3	5.7
Querétaro	1.6	2.1	0.8	2.2	3.9	4.5	4.8	2.7	2.4	2.4	3.9	4.9
Quintana Roo	1.4	3.3	1.8	3.0	4.1	3.7	3.5	0.8	0.1	0.4	1.2	2.3
San Luis Potosí	3.3	3.9	2.6	4.7	7.4	8.0	8.0	5.0	3.4	3.3	4.1	3.9
Sinaloa	2.3	3.1	2.1	4.3	6.9	7.6	7.8	5.2	4.0	3.6	4.0	3.6
Sonora	3.6	5.5	3.9	5.1	7.2	7.0	7.4	4.5	3.4	3.1	3.8	4.1
Tabasco	4.6	5.9	5.1	6.3	8.0	7.6	7.1	3.6	2.4	2.9	4.1	4.9
Tamaulipas	7.6	8.8	6.1	6.1	7.0	5.9	5.8	2.8	1.2	1.3	2.4	2.7
Tlaxcala	7.7	9.4	6.6	6.4	8.6	7.6	6.7	2.8	0.6	0.9	3.3	5.0
Veracruz	6.0	7.6	5.1	5.5	7.0	6.5	7.2	4.9	4.0	4.0	4.6	4.3
Yucatán	5.0	6.0	3.6	4.4	6.4	7.1	8.0	5.3	4.2	4.3	4.9	5.3
Zacatecas	5.1	5.3	2.2	2.5	4.4	5.5	7.1	4.6	3.7	3.8	4.2	4.8

Source: BBVA with SHF data

Table 10

Quarterly macroeconomic indicators

	10'III	IV	11'I	II	III	IV	12'I	II	III	IV	13'I	II	III
Real GDP (annual % change)[1]	5.4	4.4	4.0	3.8	4.1	4.1	3.8	4.2	3.1	3.2	2.6	0.3	1.1
Real private consumption, (annual % change)	5.3	5.0	4.2	4.8	6.1	4.1	5.1	4.5	2.7	5.0	4.6	2.4	2.1
Real government consumption, (ann. % change)	2.4	1.3	3.0	0.9	2.3	3.9	3.7	3.3	1.2	0.7	0.6	0.4	1.3
Real const. investment, (annual % change)	-0.9	-0.2	0.4	0.8	1.8	3.0	2.2	2.7	2.4	1.6	-3.6	-3.9	-5.0
Residential	-0.7	-0.6	1.3	3.6	4.1	4.1	2.1	2.7	1.9	1.4	-3.1	-3.6	-5.0
Non-residential	-1.0	0.1	-0.3	-1.2	0.2	2.3	2.4	2.7	2.8	1.8	-4.0	-4.1	-5.0

Source: BBVA Research with INEGI and Banco de México data

Table 11

Quarterly construction and housing indicators

	10'III	IV	11'I	II	III	IV	12'I	II	III	IV	13'I	II	III
Construction GDP, real. (annual % change)	-0.4	0.8	1.9	3.3	3.8	4.0	2.9	3.2	2.8	2.0	-3.0	-3.3	-4.5
Building	-0.6	-0.4	0.8	3.4	4.0	4.2	3.0	3.5	2.7	2.1	-2.9	-3.4	-4.9
Construction engineering and major works	-0.6	3.6	3.9	2.4	2.6	2.9	2.5	2.1	2.2	1.0	-3.9	-3.9	-4.5
Specialized construction work	1.5	1.9	4.6	5.4	5.0	5.5	3.2	3.7	4.9	4.2	-1.7	-1.2	-2.2
Construction companies[2] (annual % change)	2.2	7.0	2.5	2.6	1.7	3.8	3.7	5.1	6.0	0.1	-1.7	-1.3	
Building	-8.9	-5.8	0.3	8.1	6.7	7.0	5.0	5.3	2.8	-0.3	-3.8	-4.6	
Public works	13.4	19.8	4.3	-1.5	-2.6	-0.5	-0.2	0.3	3.4	-2.2	-3.8	-4.0	
Water, irrigation and sanitation	-2.1	-3.0	5.7	4.7	12.5	16.8	5.7	5.6	1.8	-15.2	-23.3	2.8	
Electricity & communications	-2.2	4.9	14.6	13.1	38.3	24.4	-2.2	-4.4	-1.9	-17.3	-10.0	-12.9	
Transportation	16.8	28.2	3.2	-3.7	-6.7	-4.0	-1.5	-3.3	-1.3	-1.4	-7.4	-11.7	
Oil and petrochemicals	21.5	20.8	-1.0	-8.8	-16.8	-12.0	1.5	14.0	25.0	14.4	29.0	23.0	
Other	7.2	14.5	5.8	-2.4	2.9	17.7	33.4	73.3	63.2	18.9	31.9	47.9	

Source: BBVA Research with INEGI and Banco de México data

Table 12

Quarterly housing market indicators

	10'III	IV	11'I	II	III	IV	12'I	II	III	IV	13'I	II	III
Home sales by segment (quarterly flows, thousands of units)[2]													
Segment A	73.8	105.4	64.7	90.4	80.1	92.3	78.1	88.7	78.6	63.4	64.8	73.2	66.4
Segment B	42.4	66.4	31.1	42.6	33.5	49.0	31.3	38.2	35.2	39.4	25.5	35.2	33.3
Segment C	15.4	26.0	11.8	19.9	17.6	23.3	15.7	18.4	17.7	19.1	14.7	19.1	19.4
Segment D	3.6	4.9	3.4	4.4	4.0	4.7	3.9	4.3	4.6	4.9	3.8	4.7	5.1
Segment E	0.8	1.1	0.8	1.0	1.0	1.1	1.0	1.1	1.2	1.2	0.9	1.3	1.3
Total	136.0	203.8	111.8	158.4	136.2	170.4	130.0	150.7	137.2	127.9	109.7	133.5	125.6
Home sales by agency (quarterly flows, thousands of units)													
Infonavit	108.1	149.7	93.9	121.3	106.6	123.7	102.1	115.4	108.7	95.8	83.5	99.0	92.1
Fovissste	15.2	39.9	4.1	23.4	15.8	31.9	14.5	21.1	13.0	16.3	12.7	18.1	16.3
Banks	12.7	14.2	13.7	13.6	13.7	14.8	13.4	14.1	15.5	15.9	13.5	16.4	17.2
Total	136.0	203.8	111.7	158.3	136.0	170.4	130.0	150.7	137.2	127.9	109.7	133.5	125.6
SHF Housing Price Index (annual % change)	4.7	3.7	4.4	2.6	3.9	5.9	6.2	6.4	3.8	2.9	2.9	3.9	4.4

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

Table 13

Quarterly housing finance indicators

Commercial banks current loan portfolio													
Past-due loans index (%)	4.2	3.5	3.3	3.6	3.8	3.4	3.4	3.2	3.43	3.2	3.3	3.6	3.7

[1] Consider the value of production of firms affiliated and not affiliated to the Mexican Chamber of the Construction Industry. Data for May.
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 = 1.943 pesos in 2013 in the "A".
[2] 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.

Table 14

Monthly macroeconomic indicators

	J.12	A	S	O	N	D	J.13	F	M	A	M	J	J	A	S	O
IGAE (annual % change)	4.6	4.4	4.1	4.1	4.1	3.9	2.9	1.6	0.6	1.5	1.4	1.1	1.2	1.2	1.2	
Construction vol. real (ann. % change)[1]	3.3	3.1	2.8	2.5	2.4	2.0	-3.4	-2.9	-3.0	-2.4	-2.9	-3.3	-3.7	-4.0	-4.4	-4.8
Building	3.5	3.2	2.7	2.3	2.4	2.1	-4.8	-3.5	-2.9	-2.5	-3.1	-3.4	-4.1	-4.4	-4.7	-5.1
Civil engineering and major works	2.1	2.2	2.2	1.9	1.5	1.0	-0.6	-1.7	-3.9	-3.0	-3.1	-3.9	-3.6	-4.0	-4.6	-4.9
Specialized construction work	4.3	4.6	4.9	5.2	4.8	4.2	-0.3	-0.8	-1.7	-0.6	-1.1	-1.2	-1.6	-1.8	-2.2	-2.4
Formal private empl. (IMSS, mills)[2]	15,849	15,920	16,033	16,182	16,295	16,062	16,106	16,227	16,281	16,348	16,355	16,357	16,363	16,415	16,509	16,652
Annual % change	4.7	4.7	4.7	4.8	4.8	4.6	4.4	4.3	3.7	4.1	4.0	3.5	3.2	3.1	3.0	2.9
Average salary quote[3]	263.7	262.8	259.6	258.3	258.9	258.6	271.8	271.1	269.2	269.1	271.6	270.9	272.9	272.2	269.1	267.8
Real annual % change	0.1	-0.1	-0.4	-0.3	0.0	0.6	1.1	0.7	-0.1	-0.5	-0.6	-0.1	0.0	0.1	0.3	0.3
Real wage income (IMSS, ann. % chge.)	4.8	4.7	4.3	4.5	4.8	5.3	5.5	5.0	3.7	3.6	3.3	3.4	3.3	3.2	3.2	3.2
Minimum general salary (daily, pesos)	60.5	60.5	60.5	60.5	60.5	60.8	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1
CPI (end of period, annual % change)	4.4	4.6	4.8	4.6	4.2	3.6	3.3	3.6	4.3	4.6	4.6	4.1	3.5	3.5	3.4	3.4
TIIE 28 average (%)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.5	4.3	4.3	4.3	4.3	4.3	4.1	4.0
10-year Gov. bond interest rate (M10)	5.2	5.4	5.3	5.5	5.4	5.4	5.1	5.1	5.0	4.6	5.4	5.8	6.1	6.4	6.1	6.0

[1] industrial production index
[2] Millions of people
[3] Nominal pesos per day for the number of members of the IMSS
Source: BBVA Research with Banco de México, INEGI and IMSS data

Table 15

Monthly construction and housing indicators

	J.12	A	S	O	N	D	J.13	F	M	A	M	J	J	A	S	O
Construction emp. (IMSS, thousands)	1,304	1,324	1,337	1,353	1,330	1,241	1,251	1,259	1,243	1,271	1,272	1,283	1,297	1,312	1,321	1,350
Annual % change	8.1	7.8	7.5	7.3	5.8	4.9	4.8	4.0	1.1	2.6	1.1	0.1	-0.5	-0.9	-1.2	-0.2
Cement sales (tons, annual % change)	11.4	6.5	4.3	5.1	-0.5	-8.8	-3.9	-5.7	-1.1	1.3	-1.3	-11.7	-8.7	-10.3	-15.4	-9.1
Cement consum. per inhab. (ann. % chg.)[3]	11.7	6.8	4.6	5.4	-0.2	-8.6	-3.7	-5.5	-0.8	1.6	-1.1	-11.9	-9.0	-10.6	-15.7	-9.4
Contruction prices (annual % change)	5.3	4.4	2.7	1.4	1.0	0.4	-0.2	-0.3	-0.3	-0.3	-0.5	-1.0	-1.3	-1.2	-0.5	-0.5
Materials (annual % change)	5.7	4.7	2.6	1.0	0.5	-0.2	-0.9	-1.0	-1.0	-1.0	-1.1	-1.8	-2.1	-2.0	-1.2	-1.2
Labor (annual % change)	3.4	3.4	3.4	3.4	3.3	3.2	3.0	3.0	3.1	3.1	3.1	3.1	3.0	3.0	3.0	2.9
Machinery Rental (annual % change)	4.4	2.8	1.3	0.6	0.6	-0.2	-0.1	0.8	0.3	-0.5	-1.0	-0.5	0.2	0.9	1.5	1.4

[3] The volume of cement production is used as a proxy for consumption
Source: BBVA Research with Banco de México, INEGI, and IMSS data

Table 16

Monthly housing financing indicators

	J.12	A	S	O	N	D	J.13	F	M	A	M	J	J	A	S	O
Comm. banks loan portf. (bal., bn pesos*)	405.0	408.8	414.7	418.6	423.4	428.6	435.0	434.1	441.9	444.2	447.5	444.4	448.2	453.6	458.6	461.7
Annual % change	15.1	15.2	15.5	14.8	13.9	13.3	12.9	11.8	12.3	13.0	13.2	11.1	10.7	11.0	10.6	10.3
Total annual cost (CAT)	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.8	13.8	13.7	13.6	14.0	13.7	13.7	13.7	13.5

* October 2013 pesos
Source: BBVA Research with Banco de México, INEGI, and CNBV data.

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