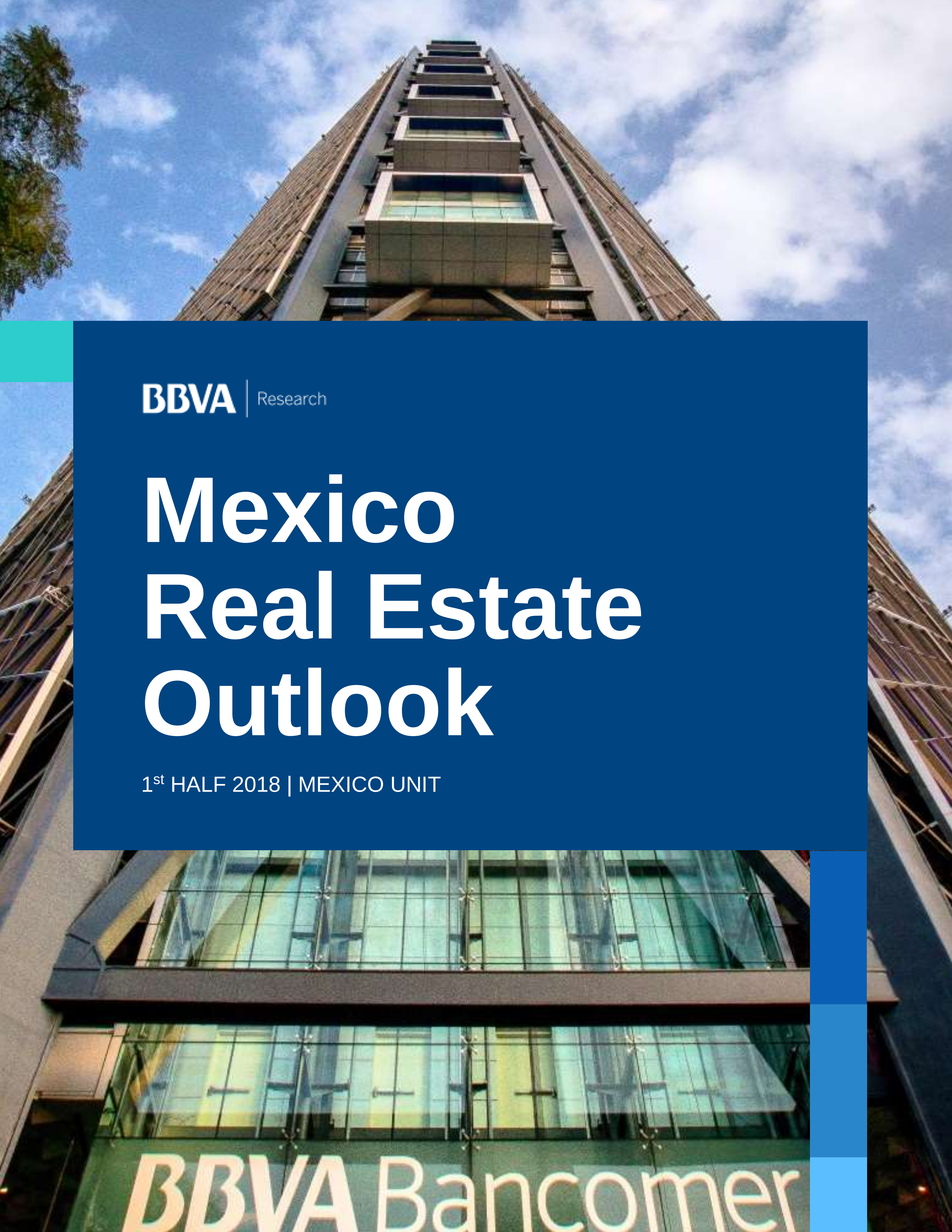


BBVA | Research

Mexico Real Estate Outlook

1st HALF 2018 | MEXICO UNIT

Contents

Closing date: **20 December 2017**

1. Summary

The trend in construction continues to show lower growth than that of the economy in general. In the third quarter, the fall of the accumulated GDP of the sector is -1.2% as an annual rate, largely due to civil works, which have fallen by 11%. Building will close with a growth of 0.5%. Civil works will not rebound due to the adjustments in public expenditure. Meanwhile, the deceleration of building is what has consolidated the fall in the sector. The expected trend for the sector in 2018 is a slight fall.

In the mortgage market, the amount of financing by banks from January to October 2017 decreased by -7.3% in real terms with respect to the same period of the previous year. In addition, Infonavit has gained ground in the commercial banking market with an increase of 9.6%. The main variable that explains the demand for housing loans, those insured with the IMSS, has grown at a rate of 4% per year. However, it has not been enough to maintain the origination of mortgage loans, since there has been a fall in real wages. On the other hand, consumer confidence has slowed down its decline. Throughout the year the financing by banks for the acquisition of new housing continues to represent 65% of the loans originated.

Due to the increases in the reference rate by the monetary authority that are transferred to the interest rates for construction, the cost of financing for building has increased; although in a smaller proportion than the increases by the central bank. Along with this, the increase in the costs of construction materials and the rental of machinery and equipment have adversely affected the supply of new housing. However, the lower demand for new housing is the main factor of lower activity.

As well as analysing the effect of consumer confidence on the demand for housing, in this issue of ***Mexico Real Estate Outlook*** we have prepared an analysis of the confidence of entrepreneurs in the construction sector. This confidence indicator published by INEGI effectively has predictive power over the value of building, mainly in productive building.

The effect of this indicator of business confidence is not limited to construction, but has effects on real estate services, since this production increases the real estate pool where these services are offered. The GDP of real estate services grew by 2.9% in the third quarter of 2017 and has maintained a good performance. This influences the decision to invest by builders, who could react to a greater need for real estate such as industrial warehouses or tourist and commercial infrastructure.

Finally, we have looked to ascertain the perspective of consumers regarding the cost of mortgage credit. We do this through the National Household Income and Expenditure Survey, conducted every two years by INEGI. Households respond that they spend on average only 13% of their current monetary income to pay for housing. This shows a low level of indebtedness consistent with the low delinquency of the bank mortgage portfolio. The level of mortgage debt is lower for those who have an income equivalent to more than 5 times the minimum wage. This is the same segment that is more likely to grow next year to return the mortgage market to the path of growth.

2. Situation

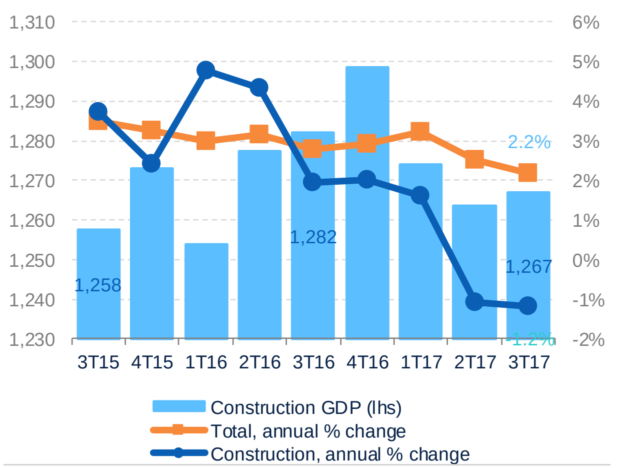
2a. Construction to start from the foundations

Accumulated GDP of Construction fell by 1.2% in 3Q17

With the updating of the System of National Accounts of Mexico, the trend of the construction sector has not changed with respect to previous editions of this publication. Construction continues to be in decline and in the third quarter of 2017, the fall in accumulated GDP reached -1.2% as an annual rate. This is increasingly lower than the performance of the economy. Thus, for 5 consecutive quarters this sector has had a poorer result than the economy as a whole.

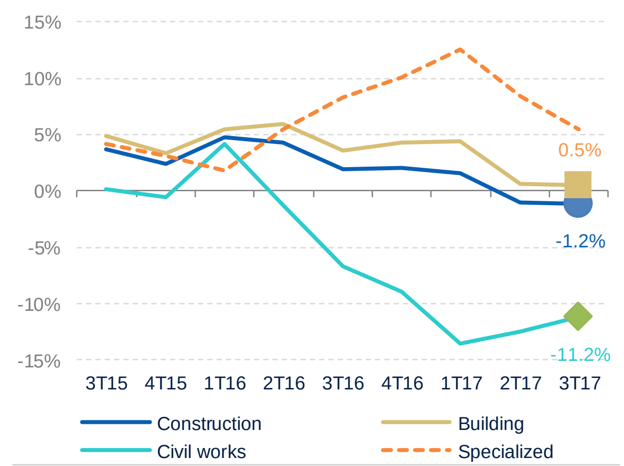
As has occurred during recent years, Civil Works is the subsector that is pushing Construction down. This is largely due to the failure to fulfil the National Infrastructure Programme. Meanwhile, Building kept the sector afloat but will also end the year with a slowdown.

Figure 2a.1 GDP Accumulated Construction
Billions of pesos in real terms and YoY % change



Source: BBVA Research based on data from SCNM (National Accounts System) and INEGI (National Statistics and Geographical Institute)

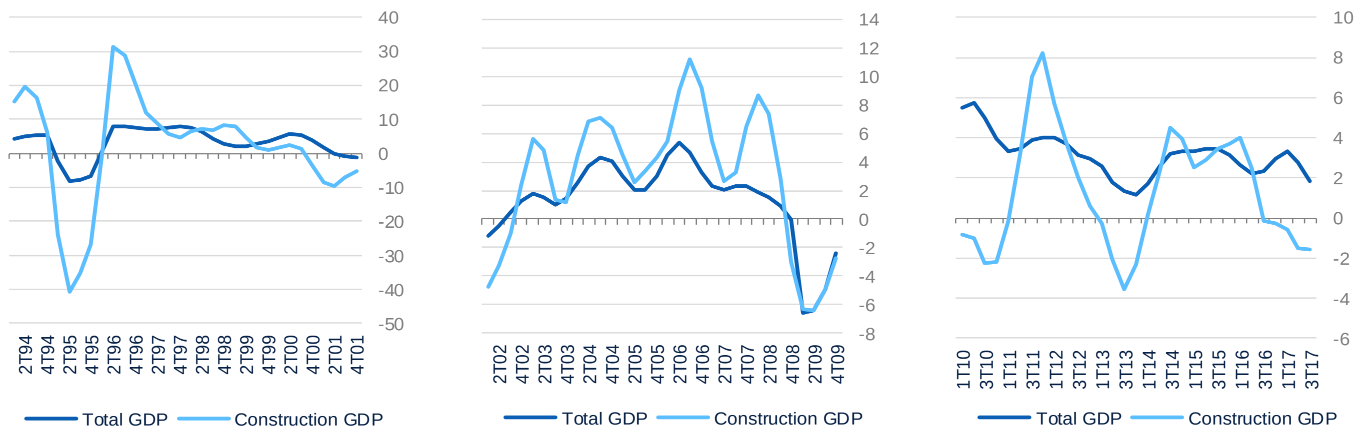
Figure 2a.2 GDP Accumulated Construction by components, YoY % change



Source: BBVA Research based on data from SCNM (National Accounts System) and INEGI (National Statistics and Geographical Institute)

In a long-term perspective, it can be seen that until the end of the previous decade, the Construction sector only performed below the economy during the years of economic crises. This was the case in 1995, 2001 and 2009. However, during 2013 and 2017, the situation again arose in which Construction had results below those of the economy as a whole. This trend could continue during this year 2018 in the absence of greater investment in infrastructure and the slowdown in building.

Figure 2a.3, 2a.4 and 2a.5 Total Gross Domestic Product and Construction (cyclic trend)
YoY % change

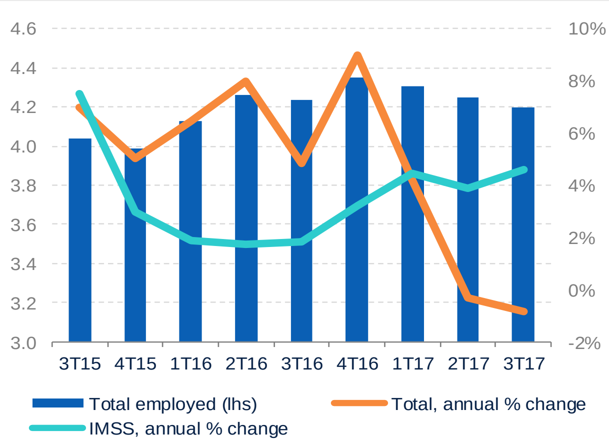


Source: BBVA Research based on data from SCNM (National Accounts System) and INEGI (National Statistics and Geographical Institute)

One of the effects of the lower activity in the sector is that workers are less necessary for this work. Throughout 2017, the number of employed persons decreased, falling almost 1% at the close of the third quarter. The encouraging news in this case is that the formality of employment has grown, because if we only consider the workers in the IMSS, this figure grew by more than 4% during the same period.

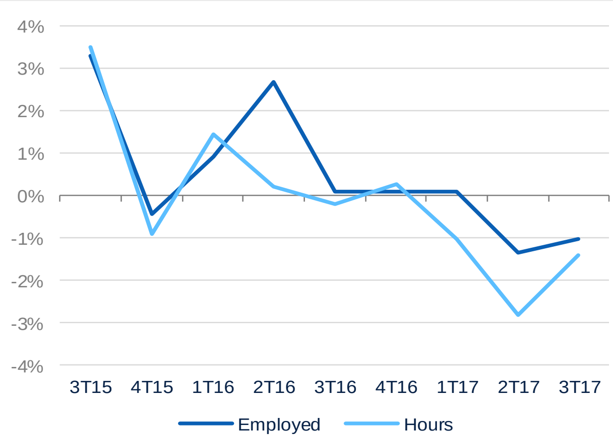
Along these lines, labour productivity also remains in negative territory. After a period of improvement during 2016, in this year only decreases in productivity have been observed based on the information published by INEGI, whether measured in terms of employed persons or hours.

Figure 2a.6 People employed in the construction sector
Millions of workers and YoY % change



Source: BBVA Research based on data from ENOE, INEGI

Figure 2a.7 Productivity index in construction
YoY % change



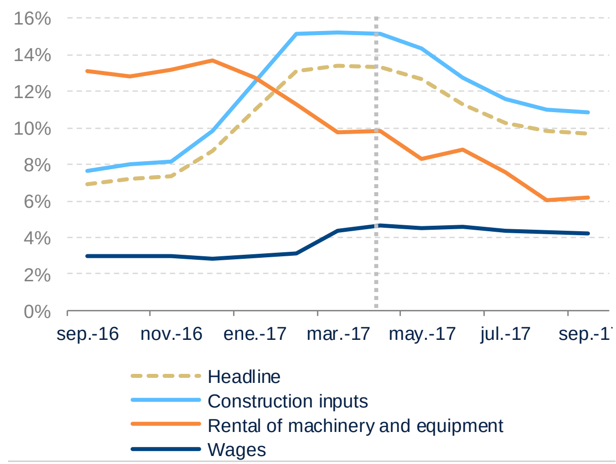
Source: BBVA Research based on data from the INEGI

Prices of inputs rose at the rate of 9.7% in 3Q17

Recently, Construction has also had to bear the increase in the prices of its inputs. In general, as of September 2017, the National Producer Price Index for construction increased 9.7%. This variation is quite significant, but looks lower when compared to the 13% increase in costs in January of last year.

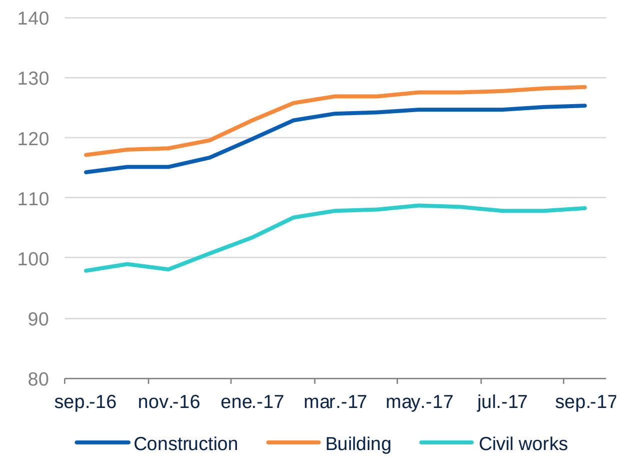
The greatest impact of prices comes in construction materials, where cement and concrete stand out from the rest. Secondly, the rental prices of machinery and equipment have the highest increases, in this case influenced by the effect of the increase in the exchange rate.

Figure 2a.8 INPP Construction inputs
YoY % change



Source: BBVA Research based on data from the INEGI

Figure 2a.9 National Producer Price Index
Base 2008 = 100



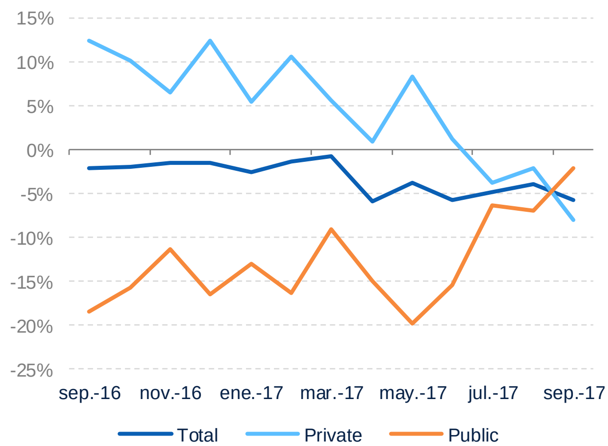
Source: BBVA Research based on data from the INEGI

Until mid-2017, the value of private construction had presented advances, sometimes above 10% at an annual rate. However, starting in August, it also fell to negative rates and converged with the negative performance of the value of public construction.

As we have commented during these years, the main reason for the deterioration in construction arises from the lower budget and spending that is dedicated to infrastructure works. This trend has been maintained during the current year, since as we can see both the budget was lower as well as the expenditure dedicated to physical capital mainly by the applications at federal level.[1]

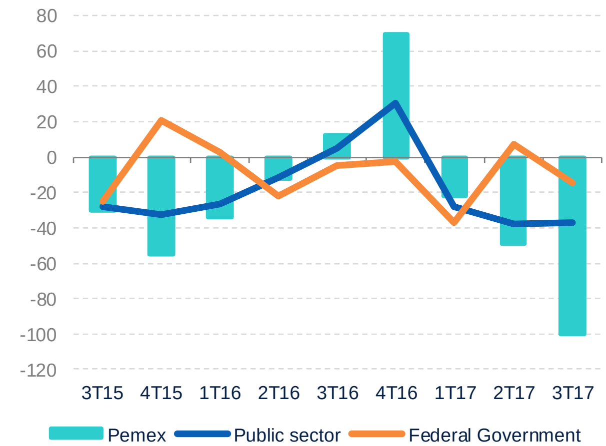
1: Although not all expenditure on physical capital goes to public works or infrastructure projects, the greater part does, and this tends to explain changes in the civil engineering sub-sector.

Figure 2a.10 Value of construction by sector
YoY % change



Source: BBVA Research based on data from the INEGI

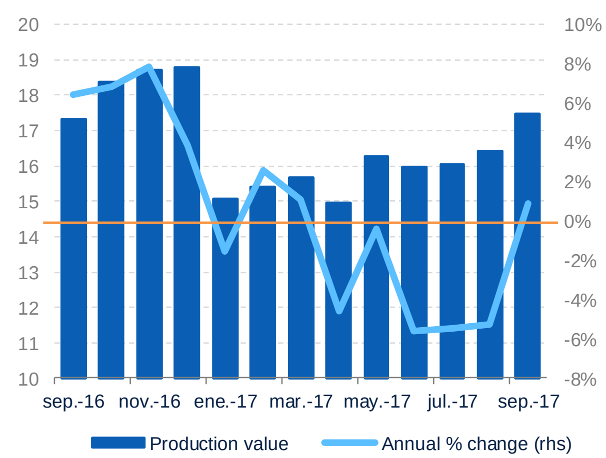
Figure 2a.11 Public physical capital expenditure
YoY % change



Source: BBVA Research based on data from the INEGI

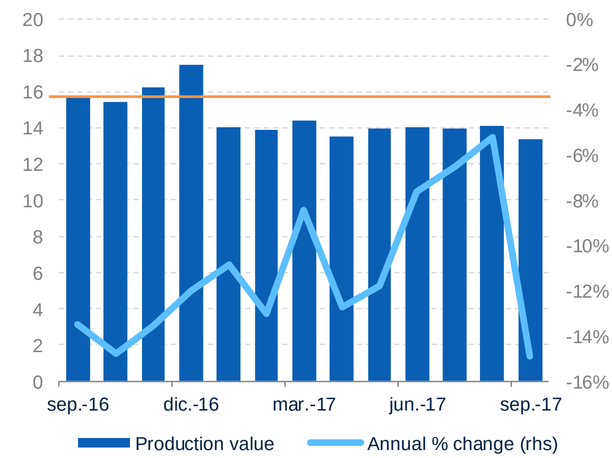
The information provided by the construction companies on the value of their production shows the deceleration of building, although by September 2017 a slight upswing appears. However, there are few signs of an upward trend. On the other hand, the value of infrastructure works remains depressed. During the last nine months this value did not exceed 14 billion pesos when in previous years this was the floor.

Figure 2a.12 Value of building construction
Billions of pesos in real terms and YoY % change



Source: BBVA Research based on data from the INEGI

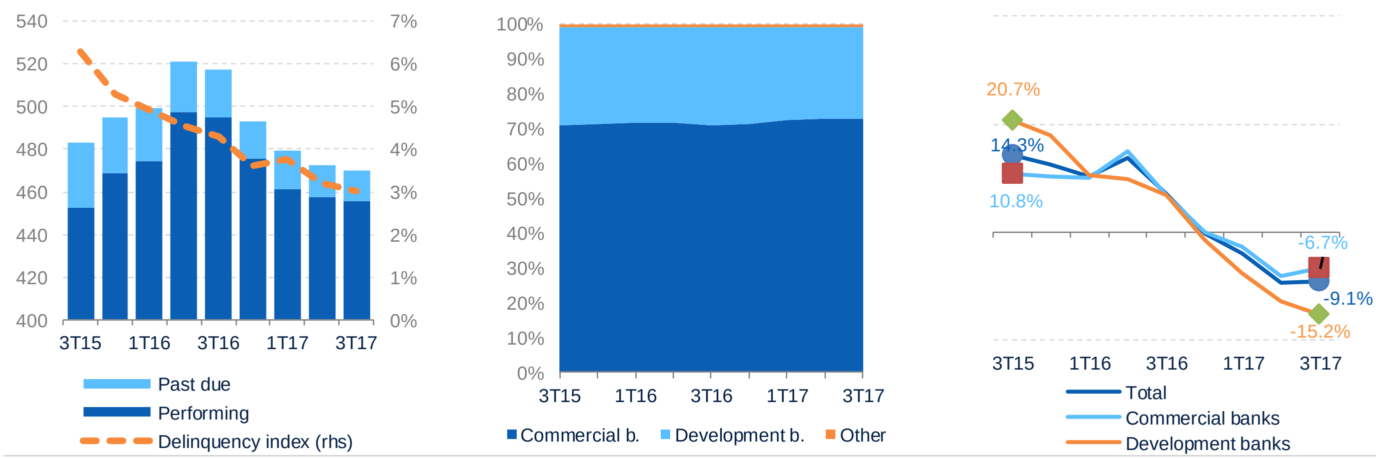
Figure 2a.13 Value of infrastructure construction
Billions of pesos in real terms and YoY % change



Source: BBVA Research based on data from the INEGI

The lower activity of the sector has meant that financing is less necessary, so the portfolios of commercial and development banks have already diminished. To this it is necessary to add the increase in the cost of financing that has caused the tightening of monetary policy. The continuous increases in the benchmark rate by the Bank of Mexico have led to the Equilibrium Interbank Interest Rate (TIIE) also increasing and therefore the cost of credit for construction companies. In this case, the good news is that the bank has absorbed part of the increases and has not transferred the entire variation to the interest rates offered to companies.

Figures 2a.14, 2a.15 and 2a.16 Total balance of lending to construction in real terms, % share and YoY % change
Billions of constant pesos and percentage

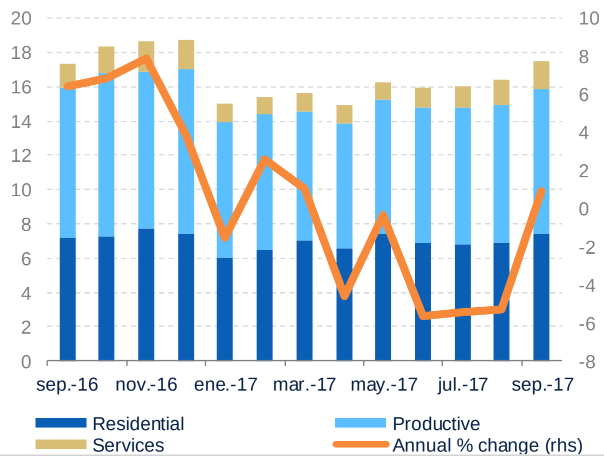


Source: BBVA Research based on Bank of Mexico data

Slowdown of building confirms the fall in the sector

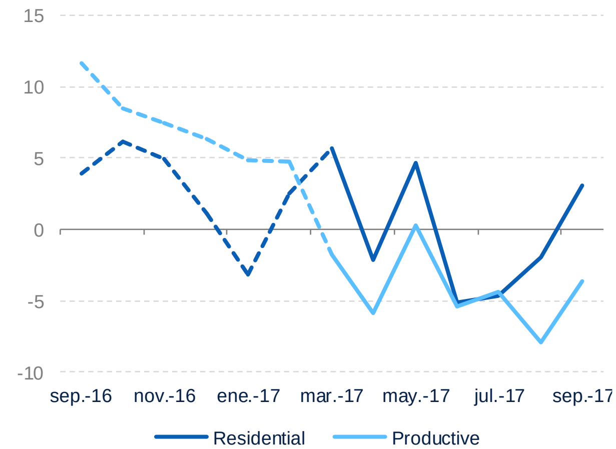
The value of building practically went through the floor; while in 2016 it was around 18 billion pesos, in 2017 it was below 16 billion pesos. In particular it is productive building that saw the greatest contraction. Although we already warned of its slowdown at the beginning of the year, as of the second quarter it had fallen 5% on average to date. In the opposite direction, residential building shows signs of recovery in the value of construction output, partly as a result of a focus by construction companies on medium and residential housing, leaving the social interest segment on the sideline.

Figure 2a.17 Gross value of building construction
Billions of constant pesos



Source: BBVA Research based on data from ENEC (National Survey of Construction Companies), INEGI

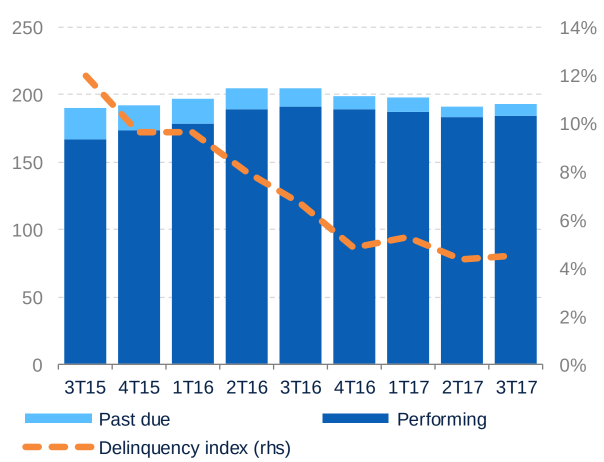
Figure 2a.18 Gross value of building construction
YoY % change (annualised series)



Source: BBVA Research based on data from ENEC (National Survey of Construction Companies), INEGI

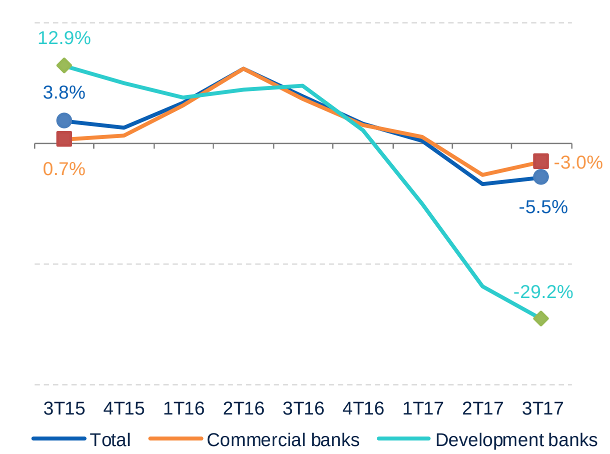
The building construction loan portfolio also contracted during 2017. After having exceeded 200 billion pesos at the close of 2016, in 3Q17 the balance was 194 billion pesos. With fewer works projects, the demand for credit has also decreased; but in this case the cost of financing has also been an inhibiting factor. This result is not specific to commercial banking, since development banking has slowed with even greater intensity. The positive note is that despite a lower origination of credit, the delinquency of the portfolio has not grown, staying slightly above 4%. The latter was a result of a lower past due portfolio in absolute values.

Figure 2a.19 Real total balance of building construction credit. Billions of constant pesos and %



Source: BBVA Research based on Bank of Mexico data

Figure 2a.20 Real total balance of building construction credit. YoY % change



Source: BBVA Research based on Bank of Mexico data

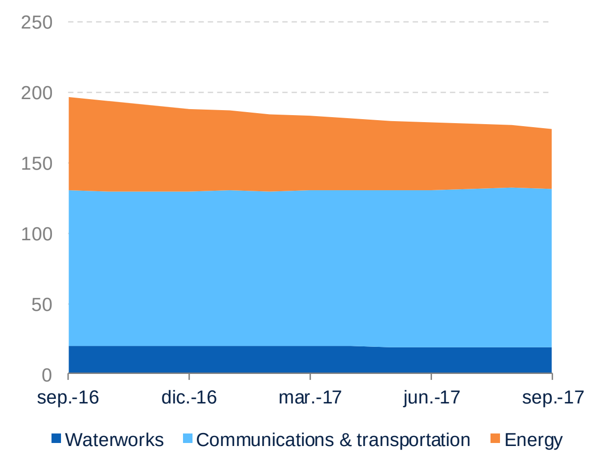
Civil Works have remained in decline

The GDP of Civil Works fell by 11% in 3Q17

In spite of the bombastic National Infrastructure Programme (PNI) that was announced in 2014, Civil Works have remained in the basement during the last two years and there is little sign of improvement this year. Non-compliance with the PNI has strongly influenced this result, since infrastructure works are the main component of this sub-sector.

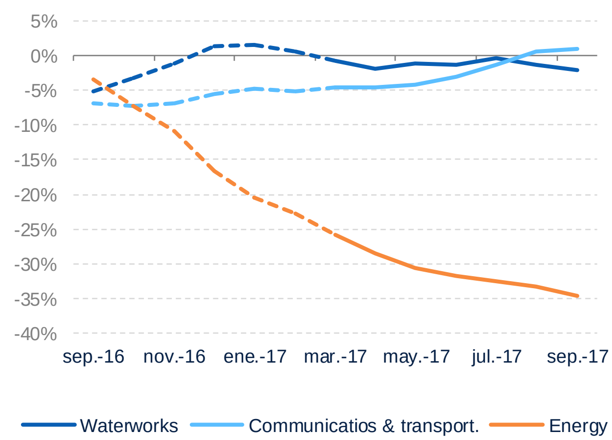
In the last twelve months, the value of infrastructure works has fallen constantly, mainly those related to the energy sector. However, this could be compensated with the investments generated from the Energy Reform; but this will not be in the short term. Other works such as hydraulics or communications and transport have kept up a discreet pace in line with what was reported by the construction companies.

Figure 2a.21 Real total balance of infrastructure credit
Billions of constant pesos and %



Source: BBVA Research based on data from ENEC (National Survey of Construction Companies), INEGI

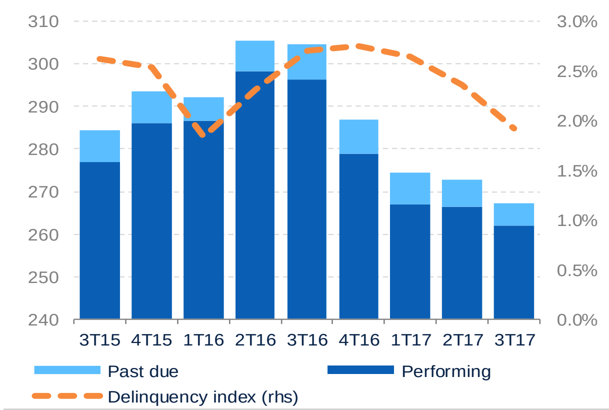
Figure 2a.22 Real total balance of infrastructure credit
YoY % change



Source: BBVA Research based on data from ENEC (National Survey of Construction Companies), INEGI

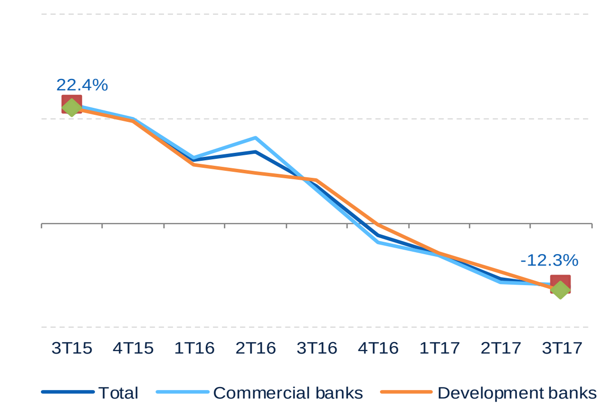
Along with the lower investment in infrastructure, financing for this item has fallen sharply. The pace of decline reached a rate of 12% in the third quarter of 2017. Throughout the year, no progress has been made, although as in the rest of the construction, the increase in interest rates has also increased this result. The quality of the portfolio remains positive, since delinquency is at 2%, a very low level if the scarce flow of new credit is taken into account.

Figure 2a.23 Gross value of infrastructure
Billions of pesos in real terms (annualised)



Source: BBVA Research based on Bank of Mexico data

Figure 2a.24 Gross value of infrastructure
YoY % change (annualised series)

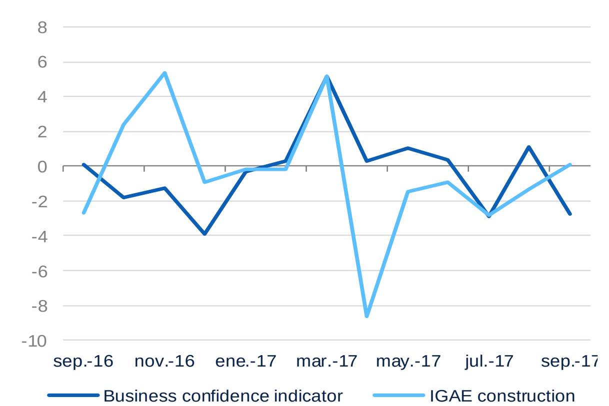


Source: BBVA Research based on Bank of Mexico data

The best result in 2018 would be to bottom out and to start growing from 2019

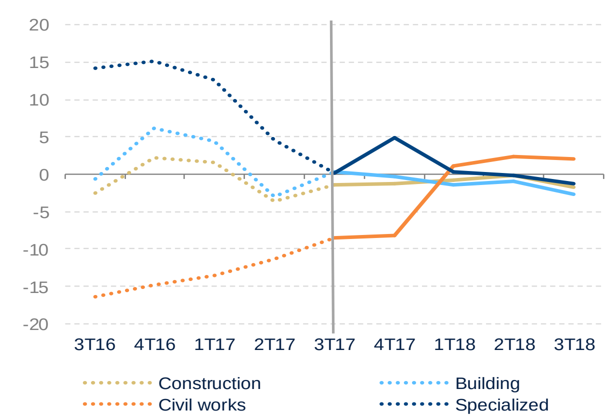
The leading indicators of the construction sector are not pointing to a recovery. On the contrary, they confirm that the negative trend will continue in the following months. In addition, with the few infrastructure projects that will be financed during 2018, there is not much likelihood of a recovery in civil works. On other occasions, building has come in shore up the sector; but this time it does not have firm enough foundations. Residential construction remains stagnant and the demand for housing has no signs of recovery in the short term with falling real wages. While productive building slows down, and with the exception of some cities, the overall picture is one of only slight growth, although insufficient to compensate the results of the other subsectors. We estimate that the Construction GDP will close 2018 at slightly below zero growth.

Figure 2a.25 Advance indicators for construction
YoY % change



Source: BBVA Research based on data from the INEGI

Figure 2a.26 GDP of Construction by components
YoY % change



Source: BBVA Research based on data from the INEGI

2b. The mortgage market in the downside of the cycle

In our previous issue we anticipated that the mortgage market could remain stagnant in 2017. The main determinants of demand such as: lower growth in employment in the higher income segments, as well as an increase (although marginal) in the mortgage interest rates, had negative effects on consumer confidence during the second half of 2017, which was reflected in lower origination of mortgages.

On the supply side, construction remained stagnant throughout the year to avoid an accumulation of new units and waiting for the existing inventory to continue to decline. In this regard, housing prices continue to rise, but at a slower pace, in line with lower demand and a rise in consumer prices, which rises considerably in 2017 in its cost of use component.

Banking contracts, but Infonavit grows in 2017

Between January and October 2017, mortgage financing decreased 2.7% in real terms in accumulated figures compared to the same period of 2016; while the average amount granted was reduced by 0.6% in real terms for the entire system in the same period.

Table 2b.1 Mortgage activity: credits and amount of financing granted by agency
Thousands of loans and millions of pesos in 2017

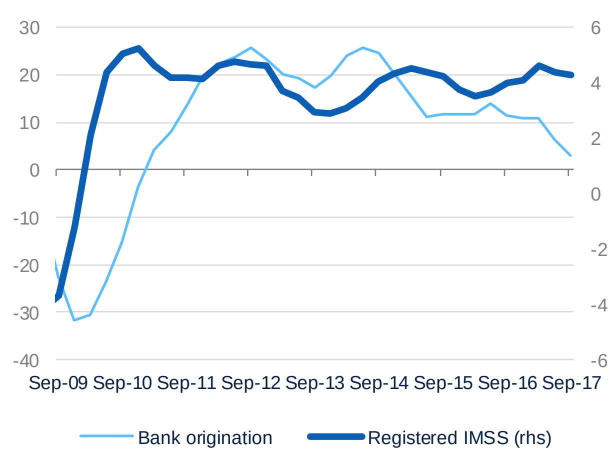
Mortgage Origination	Number of loans (thousand)			Loan amount (MXN billion)			Average sum (MXN thousand)		
	Oct-16	Oct-17	Annual % change	Oct-16	Oct-17	Real annual % change	Oct-16	Oct-17	Real annual % change
Public agencies	**356.3**	**353.3**	**-0.8**	**138.5**	**140.8**	**1.7**	**389**	**398**	**2.5**
Infonavit	302.8	311.4	2.8	101.8	111.6	9.6	336	358	6.6
Fovissste	53.5	41.9	-21.6	36.7	29.2	-20.3	686	697	1.6
Private intermediaries[1]	**116.3**	**99.9**	**-14.1**	**131.3**	**121.7**	**-7.3**	**1,128**	**1,218**	**7.9**
Banks[2]	116.3	99.9	-14.1	131.3	121.7	-7.3	1,128	1,218	7.9
Other									
Subtotal	**472.7**	**453.2**	**-4.1**	**269.8**	**262.4**	**-2.7**			
Co-financings[3] (-)	41.2	30.9	-25.0						
Total	**431.5**	**422.4**	**-2.1**	**269.8**	**262.4**	**-2.7**	**625**	**621**	**-0.6**

1: Although there are other private credit institutions (such as non-regulated agents), since there is no reliable public information on them they have not been included.
2: Includes: loans for self-construction, restructuring, acquisition, loans to former employees of financial institutions and loans for payment of liabilities and liquidity.
3: Loans granted with Infonavit and Fovissste.
Source: BBVA Research based on data from Infonavit, Fovissste and the CNBV

The slowdown of activity was aligned with the temporary deterioration of consumer confidence, as well as a lower generation of employment of workers with higher incomes and a marginal upswing in the mortgage interest rate. However, the surprise was given by Infonavit, which in this part of the cycle recorded a growth of 9.6% in the amount originated in real terms and an average amount almost 7% higher than that registered in the same period in 2016.

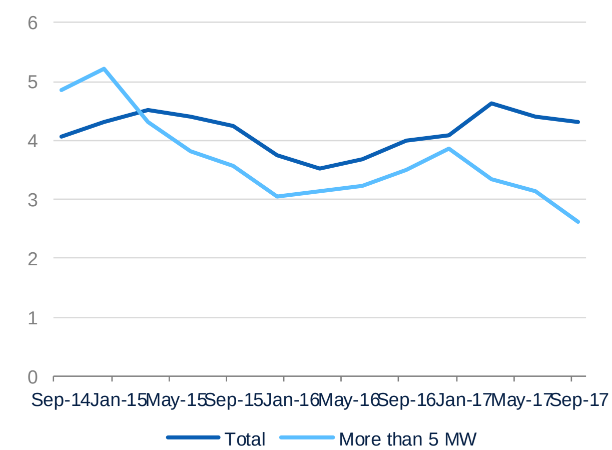
Although, the tendency of the last years in the mortgage market has been characterised by greater demand in the middle-income and residential segments, this was justified by a prolonged growth in the formal employment of people who earn at least five times the minimum wage. However, it changed during 2017 and affected the structural behaviour that existed between the number of IMSS-registered workers and the demand for mortgage loans. In Figure 1 we can see that the synchrony between the growth of the insured employees and the amount of financing granted by commercial banks in mortgage transactions was very clear until the end of 2014. From this point, there is a dissociation, explained by the slowdown in the growth of the number of workers with higher incomes which had been growing at similar rates to those registered by workers as a whole. According to IMSS data, the registrations have continued to increase at rates above 4% per year; while those with higher incomes decelerated during 2017 and recorded rates of less than 3% per year towards the third quarter.

Figure 2b.1 Mortgages and formal employment of the IMSS, annual growth rate, %



Annualised data as at the month of October.
Source: BBVA Research based on data from Infonavit and the CNBV

Figure 2b.2 Workers insured in the IMSS by income stratum, annual growth rate, %

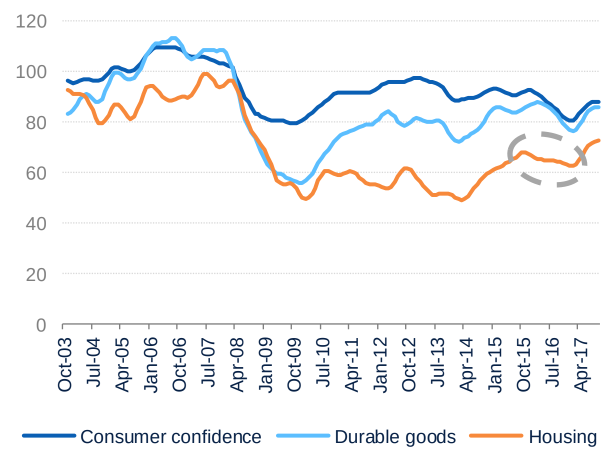


Annualised data as at the month of October.
Source: BBVA Research based on data from Infonavit and the CNBV

This behaviour was to be expected, since a significant number of workers in the IMSS records with five times the minimum wage or more corresponded to the formalisation of jobs that already existed and not because of the generation of new jobs. That is why the average amounts per mortgage grew with great force in the loans granted by the private sector, mainly in 2015.

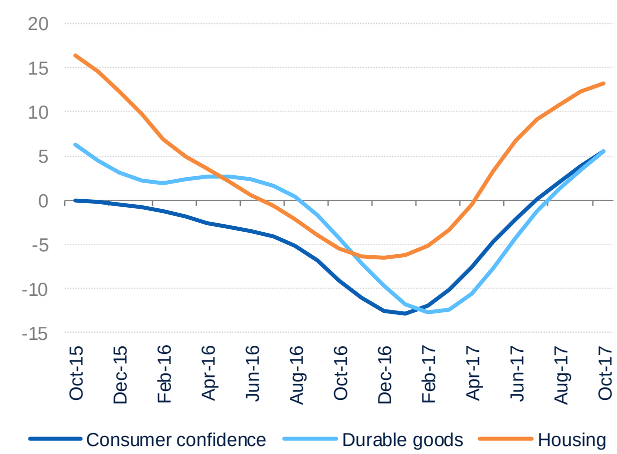
Another indicator, which as we have already shown is significant in the prediction of demand cycles by mortgage credit, is consumer confidence. This monthly survey conducted by INEGI portrays the expectations of the populace in the acquisition of various types of goods. In particular, the sub-indices for durable goods and housing that had shown a remarkable recovery in the last two years began to slow down since the second half of 2017. Given that it is a survey of expectations and there is a lag effect in moving towards real activity, this deterioration became tangible towards 2017, several months after being manifested.

Figure 2b.3 Consumer Confidence Index
Base 2003 = 100



Source: Source: BBVA Research based on data from the CNBV

Figure 2b.4 Consumer Confidence Index,
YoY % change



Source: Source: BBVA Research based on data from the CNBV

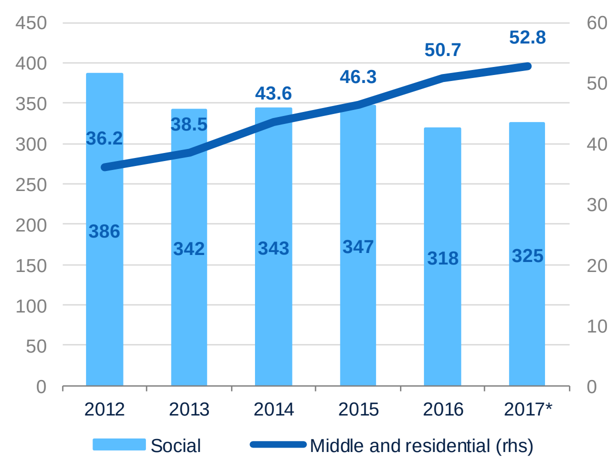
According to Figures 3 and 4, the confidence index for housing slowed its decline at the end of the first quarter of 2017. Since then, there has been a recovery in expectations, whose annual rate is in positive territory since May of last year; even faster than the general index and the durable goods sub-index, which suffered more severely and took a further quarter to enter into growth again.

One sign that may be encouraging is that during the second semester of 2017 confidence in housing accelerated and in the month of October it grew slightly more than 13% compared to the same month of the previous year. This will directly benefit the housing sector in the coming months, as long as employment continues to be generated, mainly in the segments with wages 5 or more times the minimum wage, and long-term rates remain stable.

Infonavit makes stronger incursions in the market of commercial banks

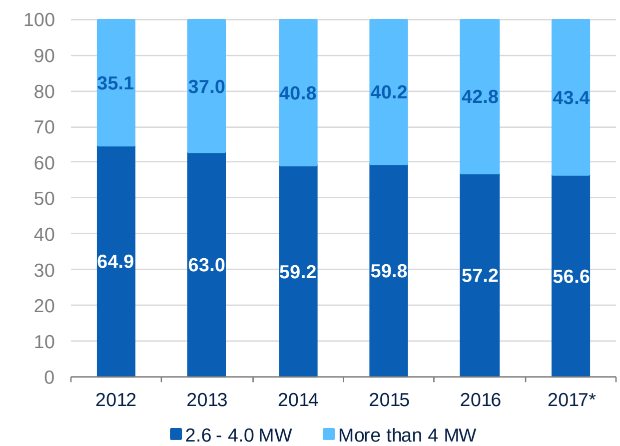
The above circumstances benefited the institution by the same means. On the one hand, the succession of increases in the maximum credit limit, which had not had any tangible effects in the first two years and which now exceeds 1.6 million pesos, offered a surprise in the second half of 2017, when consumer expectations deteriorated, which redirected workers in the short term to the coffers of the institute to demand financing with the option of taking out terms of up to 30 years. This maintains the trend of greater placement in the middle-income and residential segments, which although they represented only 14% of the total number in October; in terms of the amount financed, practically half of what was originated was allocated to workers earning more than 4 times the minimum wage. On the contrary, financing for workers from 2 to 4 times the minimum wage continued to fall and in the month of October it decreased 5.7% in real terms with respect to 2016.

Figure 2b.5 Infonavit: mortgage loans by segment, thousands of loans



Annualised data as at the month of October.
Source: BBVA Research based on data from Infonavit and the CNBV

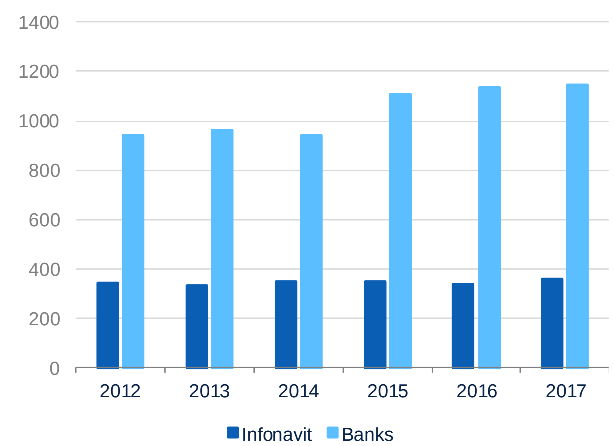
Figure 2b.6 Infonavit: amount financed by salary levels, billions of real pesos



Annualised data as at the month of October.
Source: BBVA Research based on data from Infonavit and the CNBV

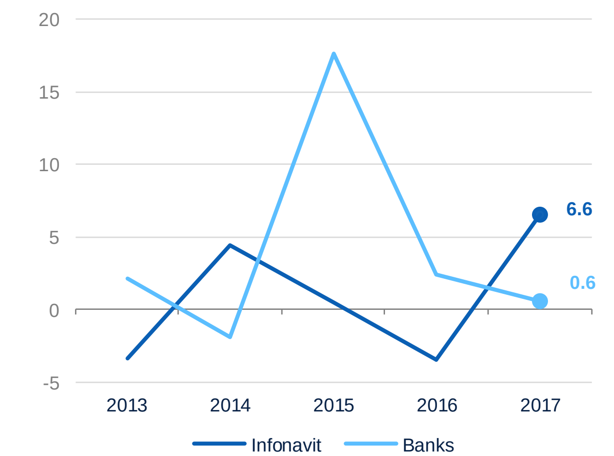
The foregoing has also been reflected in an upswing in the average amount per mortgage granted by the institution in 2017. While in 2015 the average of the mortgage financing by Infonavit grew only 0.5% in real terms; in 2016 it decreased 3.4%. For its part, commercial banking grew in those same years by 17.6% and 2.4% in real terms. In 2017 the history was opposite, since the average by loan hardly increased by 0.6% for commercial banks; and in the case of Infonavit it grew 6.6%, reaching 350,000 pesos.

Figure 2b.7 Average amount per mortgage, thousands of constant pesos



Annualised data as at the month of October.
Source: BBVA Research based on data from Infonavit and the CNBV

Figure 2b.8 Average amount per mortgage, YoY % change

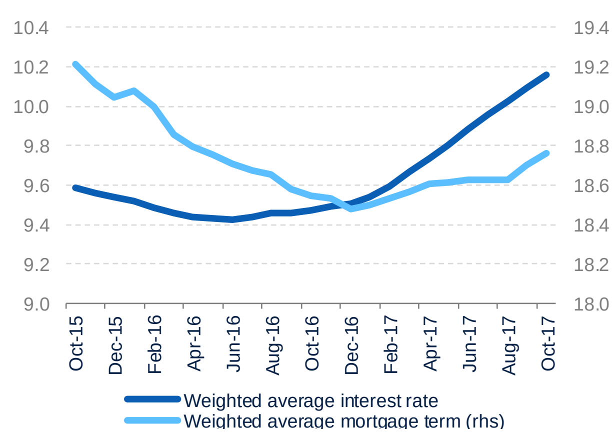


Annualised data as at the month of October.
Source: BBVA Research based on data from Infonavit and the CNBV

Bank credit conditions are still the best

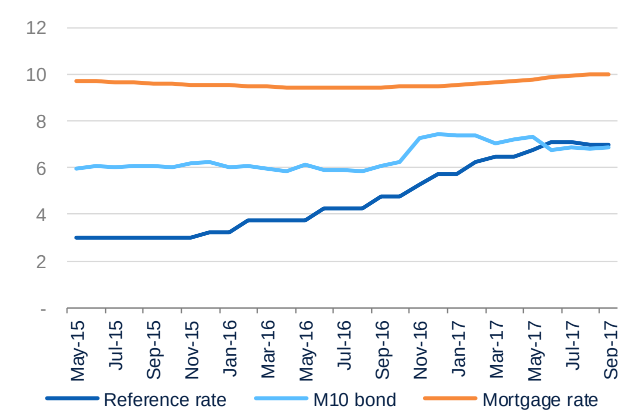
Despite the problems the mortgage cycle is going through, we cannot say that credit conditions have deteriorated, since the brake on the fall in rates is a natural process that is part of the economic cycle in which competition between banks has favoured development of a wide variety of fixed rate products; at the same time that the contracting periods continue to be maintained in horizons close to 20 years in the private sector.

Figure 2b.9 Weighted average interest rate and mortgage term, nominal rate and years



Source: BBVA Research based on data from Infonavit and the CNBV

Figure 2b.10 Mortgage and long-term interest rates, percentage

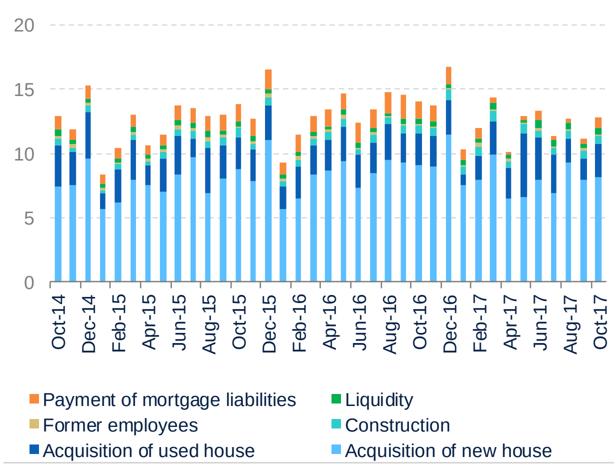


Source: BBVA Research based on data from Infonavit and the CNBV

On the other hand, the increase in mortgage interest rates, although limited with respect to that recorded by the benchmark interest rate, incorporated the performance of the yields in the 10-year Treasury notes of the United States and, in particular, the Mexican 10 year government bond, which increased from 6% to 7.6% and thus maintained is level during the first half of 2017. Although in the third quarter it stabilised at 6.5% and no additional increases are expected, the mortgage interest rate barely increased 50 basis points during 2017 and in September it closed at 10.2% on average.

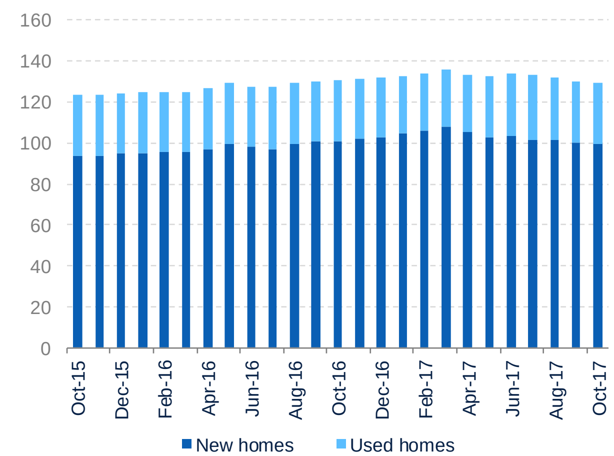
Financing for new housing from commercial banks accounted for 65% of the total originated. Loans for payment of liabilities and liquidity, which came to represent more than 13% of the mortgage transactions between January and October 2016, ceased in 2017 due to the slowing in the fall in interest rates and represented 8%. However, other options such as loans for construction and for the purchase of used homes increased their share and went from 22% to 26% respectively.

Figure 2b.11 Origination of bank credit for housing



Source: Source: BBVA Research based on data from the CNBV

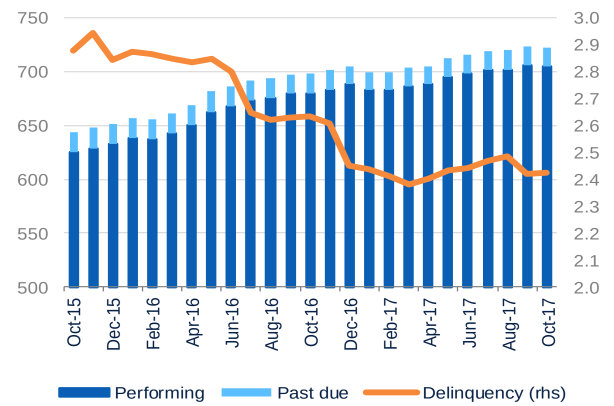
Figure 2b.12 Bank loans for housing acquisition



Source: Source: BBVA Research based on data from the CNBV

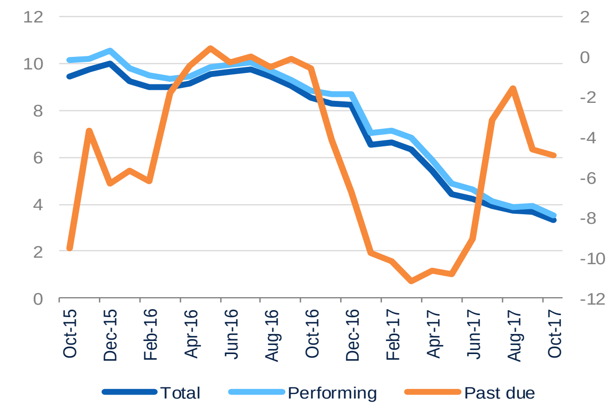
The partial offsetting through greater demand for loans for alternative products has maintained the growth of the portfolio, albeit at lower rates. In the month of October it increased 3.5% annually in real terms, while the overdue portfolio, which up to mid-2017 had registered negative rates of over 10% up to the middle of last year, decreased by 5% in October compared to the previous year. On the other hand, mortgage delinquency remained stable during the second half of 2017 and averaged 2.4%. This maintains the health of the portfolio despite the decrease in origination.

Figure 2b.13 Balance of bank credit to housing, billions of constant pesos and delinquency, %



Source: BBVA Research based on data from Bank of Mexico

Figure 2b.14 Balance of bank credit to housing, YoY % change

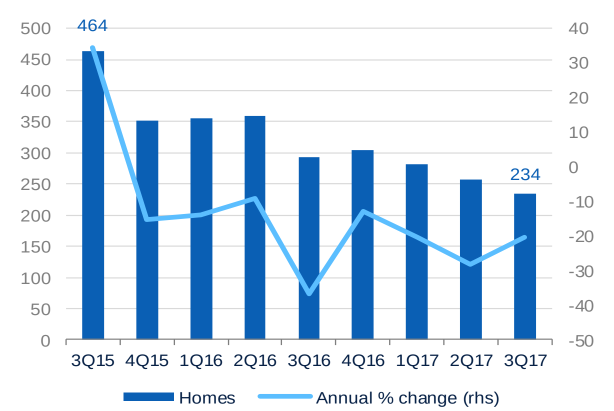


Source: Source: BBVA Research based on data from the CNBV

The supply side is still waiting expectantly

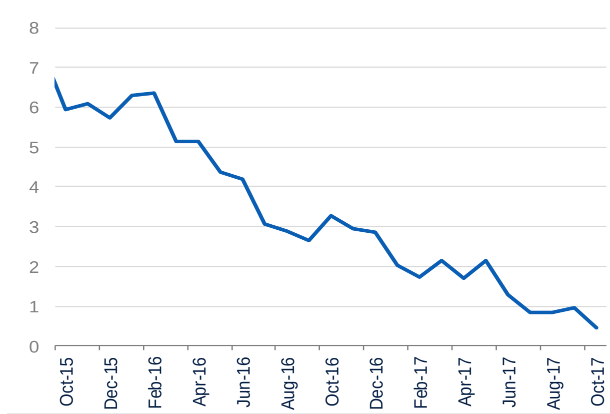
Projects for housing construction continued to decline during 2017 and have remained in negative territory since the third quarter of 2015. This is explained by the combination of lower spending on subsidies and the upswing in short-term interest rates that meant builders remained cautious throughout 2017. As of October, the total number of registrations incorporated into the National Housing Register (RUV) decreased by 21.2% in annualised figures, while the value of the production of construction companies in housing, although it maintained moderate growth, at the end of 2017 practically did not grow in real terms.

Figure 2b.15 Records for housing construction in the RUV, thousands in annualised figures and YoY % change



Source: BBVA Research based on data from the RUV

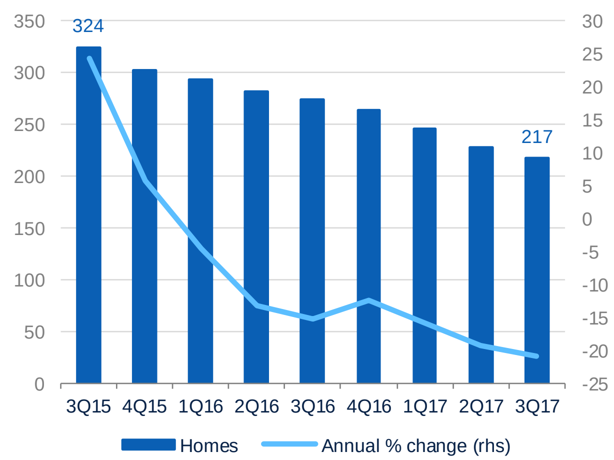
Figure 2b.16 Value of the production of construction companies in housing, real YoY % change



Source: BBVA Research based on data from ENEC (National Survey of Construction Companies), INEGI

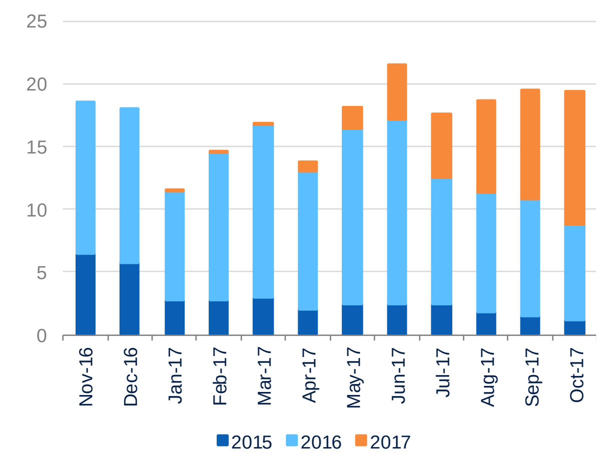
With regard to the inventory of new housing, that is, the number of houses that have 100% of their construction and basic services (drinking water, sewage and electricity) continued to decrease during 2017 and 217,000 homes were located in annualised figures, which represents a decrease of 20.6% with respect to 2016. Although this figure includes recently completed and old homes, it is important to emphasise that around 97% of this total began to be built within the last three years and only two-thirds began construction in 2016.

Figure 2b.17 Residential homes in the RUV, thousands in annualised figures and YoY % change



Source: BBVA Research based on data from the RUV

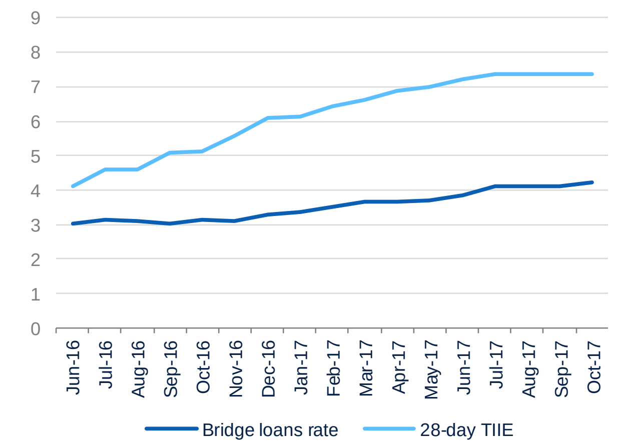
Figure 2b.18 Habitability by start verification periods, thousands of homes



Source: BBVA Research based on data from the RUV

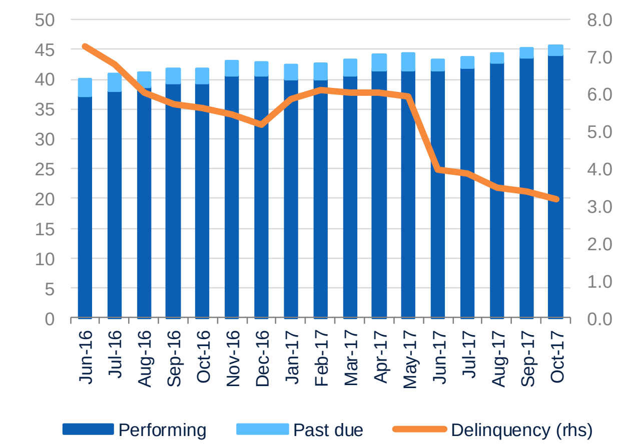
Unlike mortgage credit, where short-term interest rates have had limited effect, interest rates on construction increase practically at the same time as the 28-day interest rate, so the decision by builders to wait for a reactivation in demand is assertive, because as we have seen, it avoids the accumulation of old inventory and allows the placement of the new one. Another way to confirm that there is no imbalance in the supply is through the balance of bridge loans, which even in the third quarter of 2017 increased 11.2% in its current balance in real terms; while the expired component decreased 37%.

Figure 2b.19 Interest rates for bridge loans and short-term loans, annual percentage



Source: BBVA Research based on data from the CNBV and Banxico

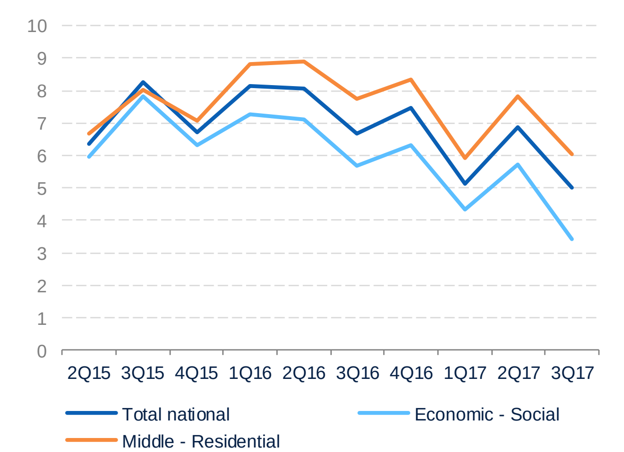
Figure 2b.20 Balance of bridge loans, billions of pesos and real YoY % change



Source: Source: BBVA Research based on data from the CNBV

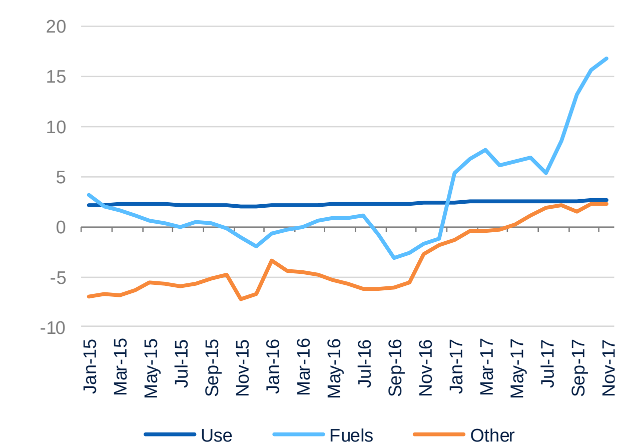
Like other credit portfolios, the origination of mortgages is not only linked to the growth of the highest-paid employment, but also to the purchasing power of individuals and, therefore, to the cost that households face to maintain the home. And, to a large extent, the decision on the part of consumers to buy a house is based on the capital gain that such investment obtains over time and which should be greater than the cost of living. In this regard it is important to mention two factors. In the first place, for the first time since 2014 house prices rose at a slower pace than consumer prices (INPC). At the end of September the SHF general index showed a yearly rate of 5.0% with respect to the same month of 2016, while the INPC came in at 6.35%.

Figure 2b.21 SHF House Price Index, % change YoY



Source: BBVA Research based on data from the SHF

Figure 2b.22 Consumer price index of the cost of use of housing, % change YoY



Source: BBVA Research based on data from INEGI

The mid-range and residential segments grew by 6% during the period, while the social housing segments grew by just 3.4%, their lowest rate since the second quarter of 2014. This combination of a lower rate of appreciation of real estate, which is explained by lower demand, could be reinforced by the increase in the cost of living.

Secondly, the deterioration of the real wage could have a long-term effect, since the component of the cost of usage of housing, a component of consumer prices, grew by more than 5% during 2017, after only having grown less than 1% on average during the last three years. Only the transmission of the cost of using energy in homes increased more than 16% in 2017.

Conclusions

The demand for mortgage credit is at its lowest level of the last five years. The generation of well-paid employment has slowed down and a fall in expectations during the first half of 2017 was consolidated with lower demand for financing from commercial banks. The surprise came from Infonavit, which after a succession of increases in the maximum credit limits finally managed to penetrate the middle-income and residential market strongly. This was reflected in greater amounts of financing and terms that can reach up to thirty years.

The current credit of the commercial banks will show greater momentum once inflation is reduced significantly, which will allow real salaries to grow again and the economic activity will allow the recovery of employment for better-paid workers. However, in the short term we expect that the housing market will maintain little momentum in 2018 and could even remain in negative territory.

3. Special Topics

3a. The significance of business expectations in construction

In the edition for the ***First Half of 2015***, we presented the significance of consumer expectations in the demand for financing for the purchase of a home. However, there has been little exploration of the role that builders' confidence plays in the making of investment decisions, mainly in the short term. Unlike the individual market, in which the decisions of the families involve loans for up to 20 years, we have pointed out that supply cycles respond more quickly to the demands of the market in search of adaptation. That is why, in this issue of ***Mexico Real Estate Outlook***, we study in greater detail the economic relationship between business confidence in the construction sector and both residential and productive production.

Business confidence indexes in Mexico

The Monthly Survey of Business Opinion (EMOE) was set up in 2004. Since then, the National Institute of Statistics and Geography (INEGI) carries out monthly surveys that aim to ascertain the opinion of the directors of companies regarding the situation of the economy and investment decisions. Although, the EMOE was initially applied only to the manufacturing sector, as of 2008, this survey was extended to sub-sector level in accordance with the North American Industrial Classification System (SCIAN, 2007) and is applied to 2,069 companies distributed in the manufacturing, construction and trade sectors, as shown in the following table.

Table 3a.1. Monthly Survey of Business Opinion (EMOE)

Sector	Study framework		Sample size
	Size	Companies	
Total		**11,096**	**2,069**
Manufacturing	101+ employees	4,970	1,405
Construction	101+ employees	1,093	235
Trade	50+ employees	5,033	429

Source: INEGI

In the case of the business confidence sub-index for construction, being studied in this article, the sample considers 235 companies in the sector with more than 100 employees. The thematic coverage encompasses the works executed by main contractors and subcontractors, income, inventories of materials, delivery of materials, investment, employed personnel and the economic situation of the country and the companies. The survey is carried out within the first 15 business days of each month through two channels. A traditional one by means of a questionnaire and an interview, and the other via internet through an electronic questionnaire. The questions that make up the survey are the following:

1. Comparing the current situation of the country and of your company with that of a year ago... Do you think this is a good time for investments to be made?

2. How do you see the economic situation of the country today compared to 12 months ago?

3. What do you think the economic situation of the country will be like in 12 months, compared to the current one?

4. What do you think of the economic situation of your company today compared to 12 months ago?

5. What do you think the economic situation of your company will be like in 12 months, compared to the current one?

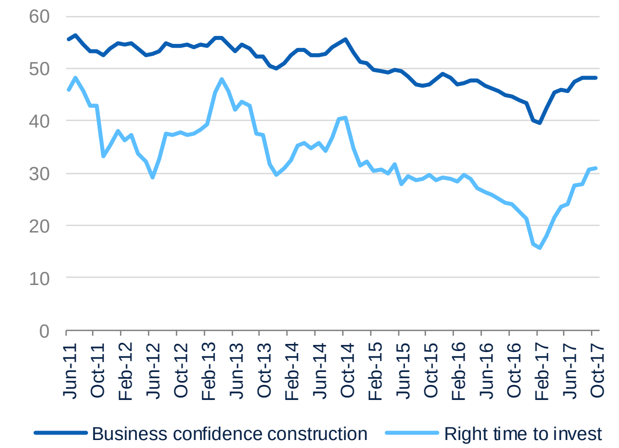
The first question has three answer options, which are: yes, no and not sure. The rest of the questions have five options to answer, and include the weightings from the following table.

Answer	Weighting
Much better	1.00
Better	0.75
The same	0.50
Worse	0.25
Much worse	0.00

As with other indicators such as consumer confidence, which fluctuate between 0 and 100, the value of 50 could be considered the threshold between pessimism and optimism. However, this would be inaccurate if the percentage of responses between optimism and pessimism are balanced. For this reason, and given that the business confidence indicator for construction is available as of June 2011, in this analysis we use the annual growth rate to compare it with other indicators of the construction industry. In this way it is more visible to associate behaviours between economic cycles and the perception of entrepreneurs.

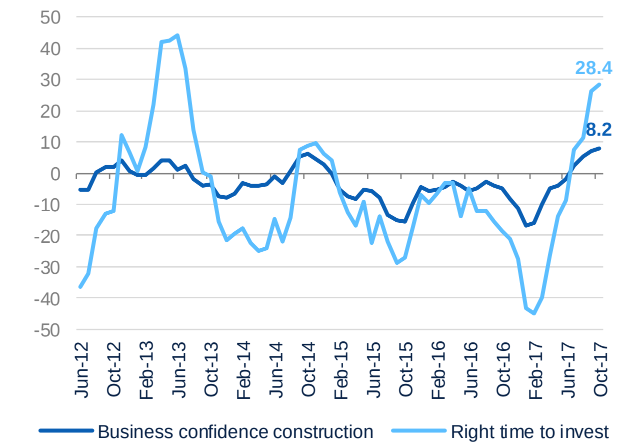
In Figure 1 we can see in levels that the general indicator of business confidence in construction has followed a downward trend since 2012. On the other hand, the sub-index corresponding to the question about the feasibility of making investments has had episodes of marked growth, mainly in 2013, 2014 and most recently in 2017.

Figure 3a.1 Business confidence construction, points



Source: Source: BBVA Research based on data from the BCI. INEGI

Figure 3a.2 Business confidence construction, annual growth rate, %



Source: Source: BBVA Research based on data from the BCI. INEGI

When looking at the growth rates for these same indices in Figure 2, we can see that between 2015 and 2016 both the general indicator and the one that reflects the confidence in making investments were in negative territory and it was not until the second half of 2017 that they began to grow. In the month of October they registered rates of 8.2% and 28.4% respectively. The period of the greatest boom in terms of improvement of investment decisions by construction companies was 2013, which coincides with the beginning of the decrease in short-term interest rates and, as we will see in the next section, was reinforced by an increase in demand towards the sector.

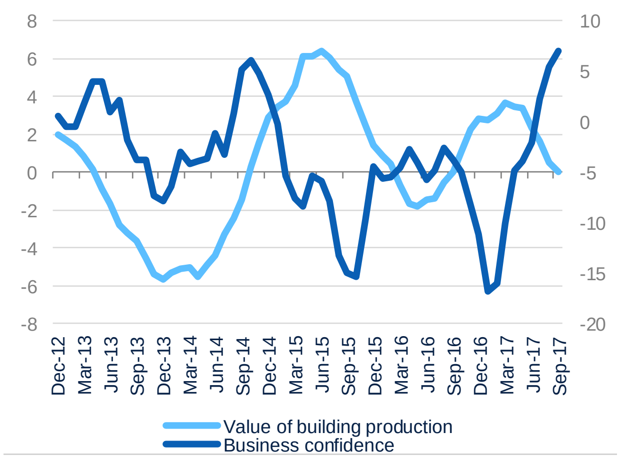
Business confidence and the construction cycle of construction companies

The production by construction companies consists of various types of buildings. However, approximately 90% of the value produced by building is aimed at housing and at industrial, commercial and service buildings. The remaining 10% is dedicated to the construction of schools, hospitals and clinics. Given that the implementation of the latter is highly correlated with public investment, that is why we focus on the value generated by construction companies whose main focus is on the residential and commercial sector.

Entrepreneurs make investment decisions based on the expectations they may have regarding two main factors. On the one hand, when they think that they will have greater sales of the goods they produce and, on the other, a decrease in the costs incurred in the preparation of said goods. Figure 3 shows a clear correlation between business confidence and the value of building production by construction companies, although the prospects of the owners of the firms take approximately 8 to 10 months to move to the productive cycle.

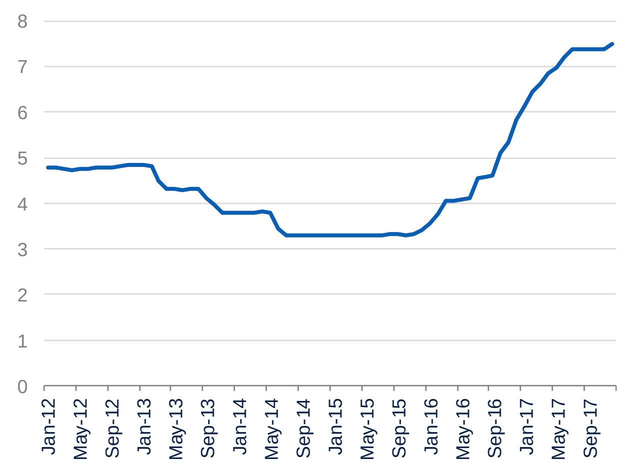
The cycle of greatest growth in confidence in construction during 2014 was largely motivated by the reduction in short-term interest rates, which is presented in Figure 4.

Figure 3a.3 Value of building production and construction confidence, YoY % change



Source: BBVA Research based on data from EMOE, ENEC. INEGI

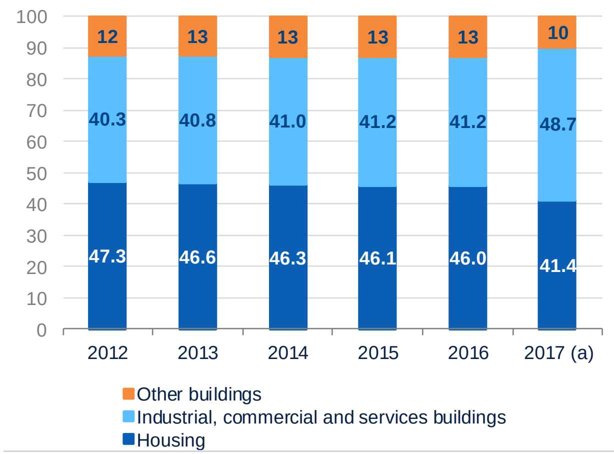
Figure 3a.4 TIIE at 28 days, % annual



Source: BBVA Research based on Bank of Mexico data

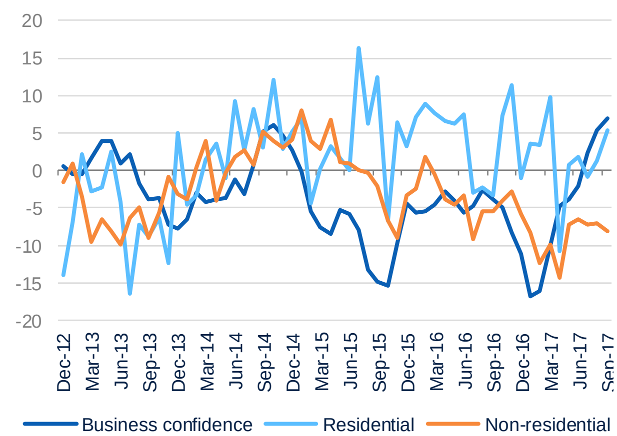
However, as we have already mentioned, the value of building by construction companies has two main components. The production of houses came to account for almost 50% of the total of building, but has been giving way to buildings for industrial, commercial and service activities, as we can see in Figure 5. In 2012, productive building, as it is also known, represented 40.3%, but in 2017 it already accounted for 48.7%; while housing went from 47.3% to 41.4% in the same period.

Graph 3a.5 Value of production in building, % share by components



Source: Source: BBVA Research based on data from the ENEC. INEGI

Graph 3a.6 Confidence and investment in construction YoY % change



Source: BBVA Research based on data from INEGI

The foregoing would also cause a change in the trends of investment in construction from 2015, which would be more evident by 2017. According to Figure 6, business confidence in construction followed very similar trajectories with residential and non-residential investment. However, from 2015, residential investment separated from the historical trend and continued to grow. This is explained, as we have already mentioned in previous issues, by the impact of subsidies for the acquisition of new housing in those years, which practically doubled their historical average.

On the other hand, the non-residential investment remained aligned with a contraction in the confidence of the builders, since those companies that were dedicated to sectors other than housing were more strongly affected by the upswing in the short-term interest rate, which we know is highly correlated with commercial banking rates for construction financing. It is not until the second half of 2017 when we appreciate that business confidence picks up, so it could be reflecting greater dynamism in other activities in the real estate sector which could be reflected in an increase in production in the coming months.

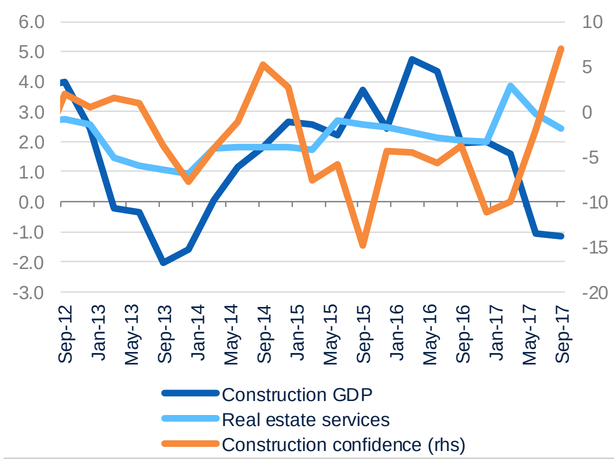
Real estate services boost confidence in the sector

In a scenario in which the production of construction companies practically did not grow in 2017, it is difficult to imagine that the outlook of entrepreneurs could be optimistic. While it is true that short-term interest rates have regained some stability, it does not seem to be enough to incentivise builders in an environment where demand is depressed. However, there are other activities in the real estate sector that could drive the sector towards recovery.

It is well known that the GDP of construction represents 7% of the national economy, although this is surpassed by the GDP of real estate services, which participated with 11.2% of total GDP in the third quarter of 2017. Figure 7 shows that, while the construction GDP contracted -1.2% in September, the GDP of real estate services increased 2.9% annually in the same period, and even grew at a rate above that of the economy throughout the year.

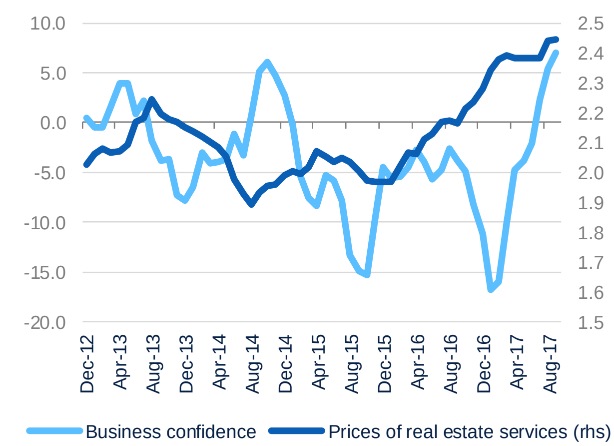
On the other hand, given the absence of a hedonic price index or repeated sales for productive real estate, we turn to look at what happens in the component of consumer prices through the sub-index of real estate and rental services. This component of the INPC registered an important upswing during 2017, and in the third quarter it increased 2.5% with respect to the same month of the previous year, as shown in Figure 8.

Figure 3a.7 Construction GDP, real estate services and construction confidence, YoY % change



Source: BBVA Research based on data from INEGI

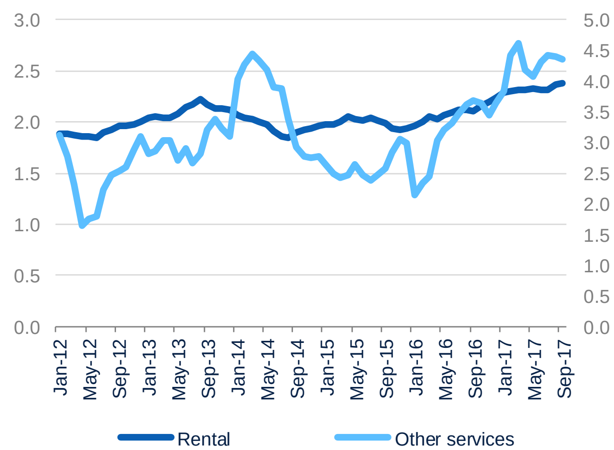
Figure 3a.8 Consumer prices of real estate services and construction confidence, YoY % change



Source: BBVA Research based on data from INEGI

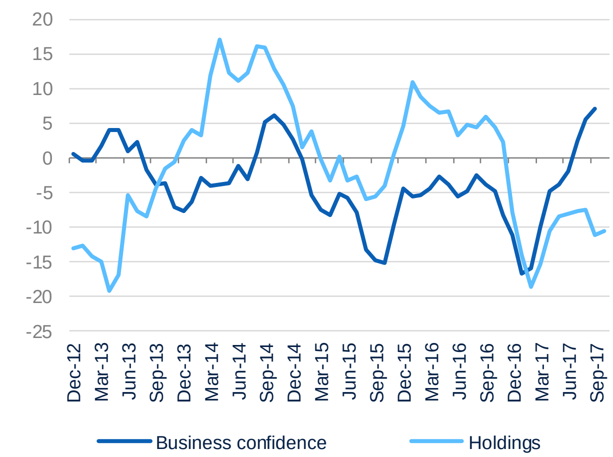
As a result, companies dedicated mainly to rental without real estate intermediation, such as land and industrial buildings (warehouses, depots, plants and industrial buildings) inside and outside industrial parks are increasing their activity in construction itself.

Figure 3a.9 Consumer prices for real estate rental and other services, YoY % change



Source: BBVA Research based on data from INEGI

Figure 3a.10 Business confidence in construction and holding bonds resident in the country, YoY % change



Source: Source: BBVA Research based on data from EMOE, INEGI and Bank of Mexico

Within these same services, the sub-index corresponding to “other services” that includes: administration of real estate, as well as valuation, promotion and real estate consulting, increased 4.4% as shown in Figure 9. These services also consider administration through activities such as rent collection, payment of taxes, supervision and contracting of maintenance, security and even waste collection. All this could have increased its demand in tourist and industrial areas.

Another factor which is important to consider is the availability of liquidity in the market. In Figure 10 we can see that in the periods when construction business confidence is depressed, bond holds increase notably. Practically between 2014 and 2016, confidence remained in negative territory, mainly due to lower volume of productive buildings as we have already seen. That is why the fall in the ownership of bonds could be reflecting new investment plans in the real sector by builders, who are already beginning to perceive improvements in the conditions of the sector, driven in large part by the momentum of real estate services.

To check the statistical relevance of the business confidence of the sector in the value of the production of building, we have estimated an autoregressive vector and obtained the breakdown of the variance for ten months. The results of the sensitivity analysis are presented in the following table.

Table 3a.2. Contribution % of the change in the value of production

Month	Business confidence	Production value	Real interest rate	Holdings of bonds
1	0.4	99.6	0.0	0.0
2	5.8	78.2	16.0	0.1
3	11.4	75.0	13.4	0.2
4	11.3	71.1	16.6	1.0
5	15.5	66.5	14.2	3.9
6	24.4	58.8	12.5	4.3
7	31.1	51.5	12.8	4.7
8	36.2	41.1	10.3	12.4
9	34.4	39.4	10.8	15.4
10	30.5	34.0	11.8	23.7

Source: BBVA Research

Conclusions

According to the results of the model, it is confirmed that all the variables are statistically significant and also that, with a lag of 10 months, the business confidence indicator has a predictive power of 30% in the production of building. Meanwhile the real interest rate and bond holdings contribute 11.8% and 23% respectively. That is why, in a ten-month horizon a recovery in the value of the production of building could be recorded, mainly in its commercial component and services, since employers perceive that the demand for real estate services increased during 2017 and buildings could be required, mainly in regions with greater industrial and tourist activity.

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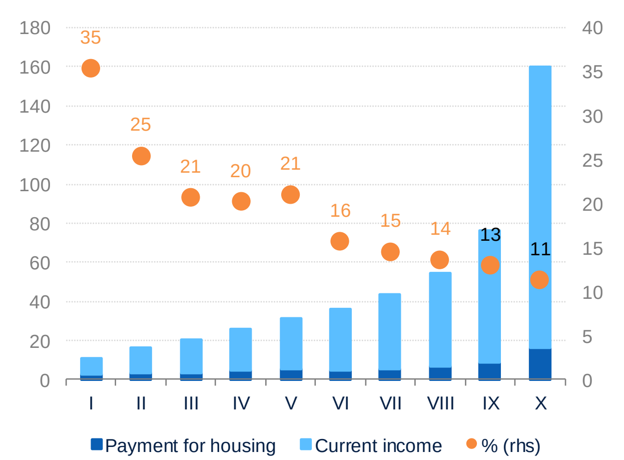
3b. Low mortgage debt of households

The economic analysis that we present most frequently here in Mexico Real Estate Outlook focuses on the supply side perspective. Even though we have emphasised the significance of studying demand more, the lower availability of information makes it difficult to focus on the consumer.

Now, with the housing market contracting, the analysis of demand becomes paramount in order to know what has been done well, what can be improved and where there could be an opportunity to expand the market. One of these aspects to know in detail is the level of indebtedness of those households that have opted for a mortgage loan. We usually rely on the figures published by banks or authorities based on information from them; but consumers may have a different perspective.

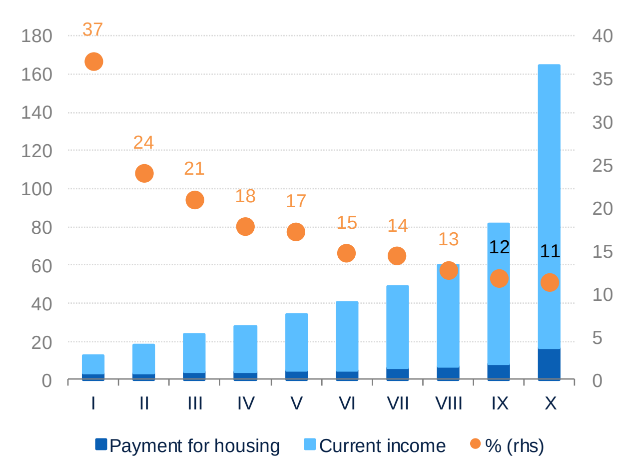
Based on the National Household Income and Expenditure Survey (ENIGH) for the years 2014 and 2016, the years with the most recent information, we have measured the level of indebtedness of households that have an active mortgage loan. From 2014 to 2016 the average of the quarterly payment for the financed homes does not have significant changes, only decreasing from 13.1% to 12.6% of the current monetary income. The reason for such a small change is due to the increase in current income, which would suggest that households with more financing did not increase their debt of this type.

Figure 3b.1 Payment for housing and current income 2014. Billions of pesos average and percentage



Source: BBVA Research based on data from ENIGH, INEGI

Figure 3b.2 Payment for housing and current income 2016. Billions of pesos average and percentage



Source: BBVA Research based on data from ENIGH, INEGI

However, there are marked differences when distinguishing households by income level. The first decile, the lowest income, saw the proportion of its quarterly payment for own housing increase from 35% to 37%. This level is considered healthy, although it is at its limit, since it is considered that the monthly payment (or quarterly in this case) should not be greater than one third of income. The rest of the income deciles maintained or decreased their level of indebtedness. This, in general, indicates that the level of indebtedness remains at a low and stable level. An expected trend is that the higher the income, the lower the proportion of payment for housing, even when the value of the housing being paid for could be higher.

Low indebtedness even with access to higher value housing

Although the proportion of the payment for housing with respect to income is practically unchanged, in the amount there is an increase in real terms in all the deciles. Since the great majority of mortgage loans are at a fixed rate, the increases are explained mainly by new loans with a higher payment due to the financing of a higher value house or with less capacity. This is consistent with the accessibility analysis that we presented at ***Mexico Real Estate Outlook*** in the first half of 2016.

Table 3b.1 Quarterly payment on housing and credit card 2014. Average pesos per household

Decile	Housing payment	Credit card payment	Current income
I	2,689	1,110	7,610
II	3,076	1,186	12,077
III	3,337	1,821	16,126
IV	4,132	1,576	20,462
V	5,148	1,507	24,470
VI	4,640	3,387	29,596
VII	5,268	3,499	36,207
VIII	6,192	3,458	45,378
IX	8,286	5,613	63,786
X	15,399	12,500	135,983
Total	**7,835**	**7,014**	**60,019**

Source: BBVA Research based on data from ENIGH, INEGI

Table 3b.2 Quarterly payment on housing and credit card 2016. Average pesos per household

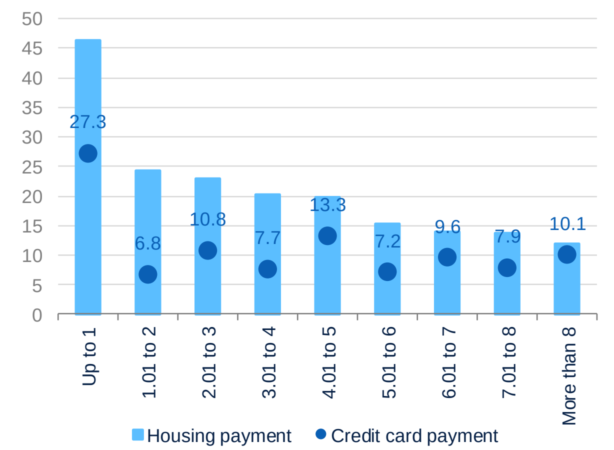
Decile	Housing payment	Credit card payment	Current income
I	3,423	1,488	9,234
II	3,436	1,618	14,362
III	4,047	2,159	19,316
IV	4,199	1,633	23,644
V	4,997	3,145	29,108
VI	5,141	2,411	35,067
VII	6,102	3,085	42,619
VIII	6,782	4,651	53,306
IX	8,588	6,243	72,591
X	16,742	15,876	147,517
Total	**8,382**	**8,360**	**66,618**

Source: BBVA Research based on data from ENIGH, INEGI

Despite the higher payment in real terms, the levels of indebtedness are maintained or decreased. Even when adding the payment that needs to be made to credit, bank or departmental cards, these expenditures do not exceed a third of current income on average.

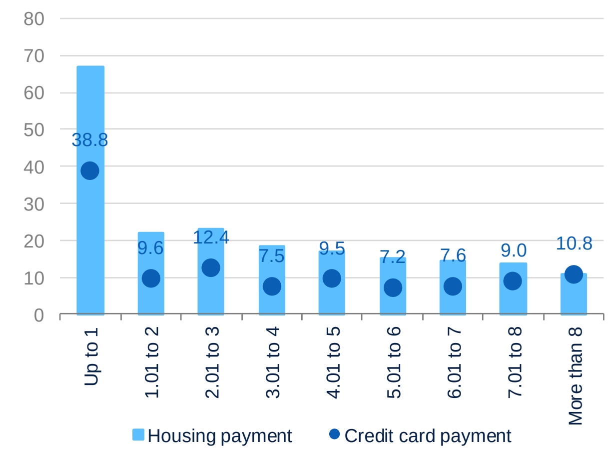
This same result is maintained if we calculate the level of indebtedness of the households when distinguishing them by the number of times the minimum wage they have as quarterly current income. Just during 2016, households that report less than 1 minimum wage as income have over 30% as their level of indebtedness. The rest do not reach 15% of their quarterly income on average. From 5 times the minimum wage as income upwards, this proportion decreases even more, with a maximum of 10% in households with more than 8 minimum wages as income. This distinction in the level of indebtedness of households with more than 5 times the minimum wage as income points to their greater capacity to purchase and obtain financing, as we have shown on previous occasions. For this reason, we estimate that going forward demand for mortgage loans will continue to be focused on the middle-income and residential segments. Evidence of this phenomenon is the greater focus on these segments by commercial banks, but also that of the public institutions such as Infonavit.

Figure 3b.3 Quarterly payment on housing and credit card 2014. Percentage of current income



Source: BBVA Research based on data from ENOE, INEGI

Figure 3b.4 Quarterly payment on housing and credit card 2016. Percentage of current income



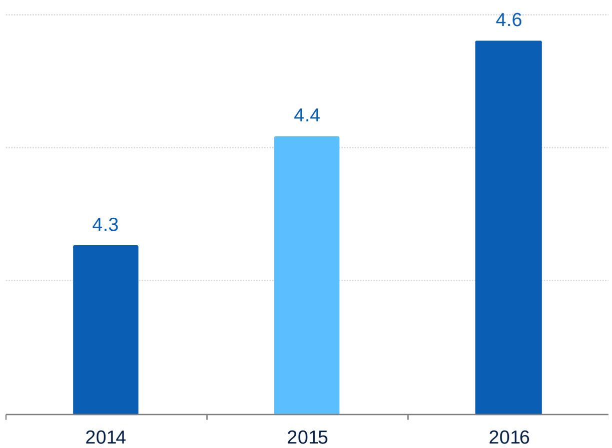
Source: BBVA Research based on data from INEGI

Employment with average income slows, but still grows

The information on the payment for own housing that we have reviewed corresponds to the years 2014 and 2016, so we now compare employment in that same period of time. By focusing on middle and high income workers, it can be observed that this type of employment has slowed, but continues to grow. Based on the figures from the IMSS, from 2014 to 2016 there were about 200,000 jobs with income of more than 5 times the minimum wage. Of these, just under half were registered with an income of more than 10 times the minimum wage.

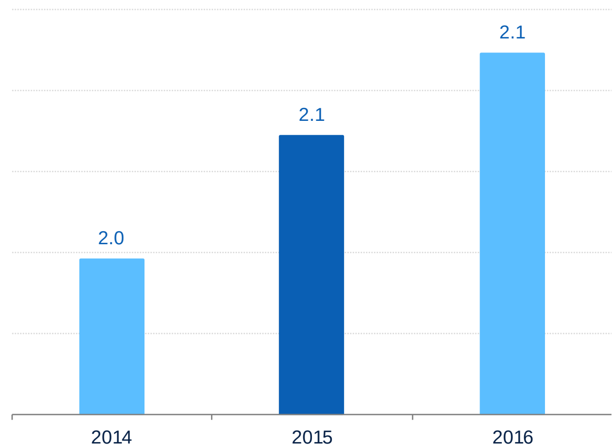
While it is true that most of these jobs are not new and only a rearrangement from the informal to the formal sector, it still offers an opportunity to the mortgage market. This is due to the fact that a worker with the same income and level of indebtedness can have better credit conditions when in the formal market, even more so if it is considered that being registered in the IMSS they will be affiliated with Infonavit. Taken together, these indicators do not lead us to estimate that the growth of the housing and mortgage market will recover due to the demand in the middle-income and residential segments that are fed by households with medium and high incomes. An additional aspect that underpins the focus on this potential demand is that it does not depend on housing subsidies and their budget each year.

Figure 3b.5 Employed persons with more than 5 times the minimum wage IMSS. Millions of workers



Source: BBVA Research based on data from INEGI

Figure 3b.6 Employed persons with more than 10 times the minimum wage ENOE. Millions of workers



Source: BBVA Research based on data from INEGI

Dynamics of demand will remain in medium and high segments

Seeing the information from ENIGH allows us to know about the version of the other side of the market. For example, there has been a lot of mention of low mortgage interest rates, but has this translated into lower financial expenditure on the part of households? Regarding the total of their current income, in most cases in fact it represents a decrease. These figures are consistent with the low level of delinquency in the banking mortgage portfolio, which has not exceeded the barrier of 5% for several years.

However, housing in Mexico is now a mature market where it is unlikely to see growth such as in the 2007 boom or a huge increase in medium and high income employment. For now the growth will be marked by economic cycles where medium and high income employment will set the pace. Innovation to penetrate underserved segments of the population will be paramount in order to achieve higher growth rates. In some cases they will be products such as the Reverse Mortgage or the development of the secondary market so that families with pre-owned homes can renovate their housing solution and other groups within the populace can have access to that pool. The formalisation of many of these homes will be necessary. Based on figures from the 2016 National Household Survey conducted by INEGI, there are more than 2 million households that do not have a document certifying the possession of their home, a necessary requirement for receiving a mortgage loan.

4. Statistical appendix

Table 4.1 Annual macroeconomic indicators

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Real GDP									
Annual % change	5.1	3.7	3.4	1.6	2.8	3.3	2.7	2.2	2.0
Real private consumption									
Annual % change	3.6	3.4	2.1	2.0	2.1	3.3	3.4	3.4	3.2
Real government consumption									
Annual % change	2.3	3.0	3.4	0.5	2.9	1.9	2.4	0.1	1.2
Real construction investment (annual % chge.)	-0.3	3.5	2.1	-5.3	2.2	1.5	-0.3	-4.9	
Residential	-0.7	4.2	1.4	-5.0	3.2	3.7	4.2	0.7	
Non-residential	0.0	2.9	2.7	-5.5	1.5	-0.1	-3.8	-9.7	
Total formal private employment (IMSS)									
Thousands of persons (average, sa)	14,524	15,154	15,856	16,409	16,991	17,724	18,401	19,206	
Annual % change	3.8	4.3	4.6	3.5	3.5	4.3	3.8	4.4	
Average salary (IMSS)									
Nominal pesos per day, average	248.7	260.1	270.8	281.5	294.1	306.4	317.9	333.1	
Real annual % change	-0.5	1.1	0.0	0.1	0.4	1.4	0.9	-0.5	
Real total wages (IMSS)									
Annual % change	2.3	6.1	5.1	3.6	4.0	5.8	4.8	3.1	
Minimum general salary (daily)	55.8	58.1	60.5	63.1	65.6	69.2	73.0	80.0	
Nominal pesos									
Real annual % change	0.6	1.0	-0.1	0.4	-0.1	0.2	0.8	1.6	
Consumer prices (end of period)	4.4	3.8	3.6	4.0	4.1	2.1	3.4	6.7	
Annual % change									
TIIE 28 average (%)	4.9	4.8	4.8	4.3	3.5	3.3	4.5	7.1	
10-year interest rate, 10 year Govt bond (M1(	6.9	6.8	5.7	5.7	6.0	5.9	6.2	7.2	

Source: BBVA Bancomer with Banco de Mexico, Conasami, Inegi & IMSS data

Table 4.2 Annual construction and housing indicators

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Real GDP (annual % change)	0.0	4.0	2.4	-1.6	2.7	2.4	2.0	-1.3	-1.0
Building	-0.9	4.2	2.7	-3.0	3.2	3.3	4.2	-0.3	-1.0
Civil engineering and major works	1.8	2.8	0.7	3.0	-1.9	-0.5	-8.9	-8.2	-1.8
Specialized construction work	1.9	5.6	4.2	-2.3	9.2	3.1	10.1	4.8	0.2
Construction employment (IMSS)									
Thousands people, average	1,145.5	1,199.5	1,275.2	1,289.8	1,383.5	1,504.0	1,506.4		
Annual % change	3.8	4.7	6.3	1.1	7.3	8.7	0.2		
Hydraulic cement sales (tons)									
Annual % change	-2.9	1.5	2.1	-5.9	5.1	7.4	1.5		
National cement consumption (tons)									
Annual % change	-5.3	1.4	2.5	-6.0	4.9	7.4	1.5		
Construction companies[1]									
Real production value (annual % change)									
Total	3.3	3.2	3.4	-3.7	-0.1	0.1	-1.4		
Building	-5.3	6.3	2.0	-5.6	2.7	1.6	3.0		
Public works	9.8	0.3	0.5	-4.4	-3.1	0.2	-8.4		
Water, irrigation and sanitation	3.7	10.5	1.9	-6.0	-7.4	-7.0	1.2		
Electricity and communications	27.0	21.4	-6.8	-2.2	-10.5	9.1	23.3		
Transportation	8.0	-2.8	-2.7	-7.8	2.6	-4.0	-6.2		
Oil and petrochemicals	9.5	-7.7	14.7	3.6	-9.9	9.5	-35.3		
Other	21.5	6.2	36.4	10.6	2.2	-6.7	14.0		
Construction prices (annual % change)									
Headline	4.8	9.3	0.4	-0.7	6.5	2.3	8.7		
Construction materials	5.2	10.6	-0.2	-1.4	4.5	4.5	9.8		
Labor	3.3	3.8	3.2	2.9	3.5	4.2	2.9		
Equipment rental	3.2	5.3	-0.2	1.4	4.1	7.8	7.9		

1: Considers companies affiliated and not affiliated to the Mexican Chamber of the Construction Industry.
Source: BBVA Bancomer with Banco de Mexico, Conasami, Inegi, IMSS, Infonavit and Fovissste data

Table 4.3 Annual housing credit indicators

	2010	2011	2012	2013	2014	2015	2016	2017*
Number of loans granted (thousands)								
Total	637.7	599.3	607.0	583.7	609.2	599.2	142.4	453.2
Infonavit	475.0	445.5	421.9	380.6	387.0	393.0	0.0	311.38
Fovissste	87.8	75.2	64.3	65.9	63.1	64.4	0.0	41.939
Commercial banks and Sofole	74.9	78.6	120.7	137.1	159.0	141.8	142.4	99.921
Reduction**	18.6	23.4	45.4	58.7	82.2	56.7	50.9	30.888
Individual credits	619.0	575.9	561.6	525.0	527.0	542.5	91.5	422.4
Financing flow[1]								
Total	306.8	309.8	302.3	301.8	331.6	340.1	330.0	262.4
Infonavit	162.1	165.7	145.3	126.7	134.5	137.2	124.4	111.6
Fovissste	61.7	47.7	43.3	43.3	46.8	45.6	43.8	29.2
Commercial banks and Sofole	83.0	96.4	113.7	131.8	150.3	157.3	161.8	121.7
Commercial banks current loan portfolio								
Balance end of period[1]	500.2	520.5	548.7	568.7	592.4	651.7	705.5	722.0
Delinquency index (%)	3.4	3.2	3.1	3.5	3.3	2.8	2.4	2.4

Notes : As of 2011 data do not considers Sofoles/Sofomers
As of 2008, the SHF index of housing prices is used as a price deflator.
* As of October
** Miles de millones de pesos de diciembre de 2016
1: It refers to financing (loans and grants) that are considered in two or more institutions. Do not considers “Infonavit Total” nor Second loan granted by the Infonavit.
Source: BBVA Bancomer with Banco de Mexico, ABM & CNBV data

Table 4.4 SHF Quarterly Housing Price Index by state (annual % change)

	15'I	II	III	IV	16'I	II	III	IV	17'I	II	III
National	4.9	6.4	8.3	6.7	8.1	8.1	6.7	7.4	5.2	6.9	4.9
Aguascalientes	5.8	7.1	9.0	6.9	8.3	7.5	6.1	7.2	5.0	7.1	4.9
Baja California	4.0	5.1	7.0	5.8	7.2	7.4	6.2	6.9	4.7	6.5	4.2
Baja California Sur	2.8	4.3	6.8	5.9	8.8	10.3	9.8	11.0	7.3	8.4	5.4
Campeche	5.3	6.7	8.6	6.8	8.9	9.7	8.6	9.7	6.3	7.5	5.2
Coahuila	4.5	6.4	8.4	6.8	8.2	7.9	6.6	7.5	5.2	6.9	4.4
Colima	4.3	6.3	8.3	6.3	7.3	7.4	6.5	7.7	5.9	7.6	5.3
Chiapas	5.5	6.7	8.4	6.8	8.0	8.0	6.5	7.2	4.8	6.4	4.1
Chihuahua	4.5	6.0	7.8	6.1	7.5	7.4	6.5	7.5	5.3	7.0	4.3
Distrito Federal (Mexico City)	9.0	9.3	10.2	7.9	9.0	9.4	8.3	8.9	6.7	8.5	6.9
Durango	7.8	9.1	10.4	7.9	8.6	7.7	5.7	6.3	3.9	5.9	4.0
Guanajuato	4.8	6.5	8.3	6.3	7.4	7.5	6.4	7.6	5.6	7.4	5.3
Guerrero	4.2	5.0	6.9	6.2	8.3	8.8	7.2	7.7	4.9	6.1	4.5
Hidalgo	4.6	7.5	10.2	8.0	8.2	6.9	5.0	5.8	3.8	5.6	3.0
Jalisco	3.1	4.8	6.8	6.0	7.4	7.3	5.9	6.2	4.6	7.1	6.0
México	4.7	5.8	7.7	6.6	7.8	7.7	5.7	6.1	3.9	5.3	3.9
Michoacán	4.7	6.9	9.1	7.2	9.0	8.6	7.2	8.2	5.6	7.6	5.8
Morelos	3.4	4.8	7.3	6.7	8.7	9.1	7.6	8.0	5.1	6.3	4.3
Nayarit	2.1	4.5	7.2	6.0	7.6	8.2	7.6	8.9	6.6	7.8	4.9
Nuevo León	4.7	6.7	8.6	6.7	7.8	7.7	6.7	7.7	5.9	7.8	5.8
Oaxaca	5.6	7.0	9.1	7.4	8.5	8.2	6.4	6.9	4.5	6.4	4.3
Puebla	4.9	6.3	8.5	7.6	8.7	8.4	6.7	6.8	4.7	6.8	4.8
Querétaro	4.5	5.5	7.2	6.6	8.5	8.8	7.3	7.6	4.9	6.3	4.8
Quintana Roo	-0.8	1.9	6.0	5.4	8.6	8.9	7.8	9.4	6.2	7.0	4.0
San Luis Potosí	4.1	6.2	8.1	6.5	8.3	8.4	7.5	8.8	6.3	8.1	5.9
Sinaloa	3.3	5.3	7.3	5.8	7.5	8.0	7.4	8.8	6.5	8.2	5.7
Sonora	4.9	6.5	8.3	6.5	7.7	7.6	6.4	7.4	4.9	6.3	3.5
Tabasco	6.8	7.7	9.1	7.6	8.8	8.5	6.7	7.1	4.7	6.7	4.9
Tamaulipas	8.2	9.6	10.7	8.2	8.8	8.3	6.8	7.5	5.1	6.6	4.0
Tlaxcala	7.2	8.6	10.4	7.9	8.5	7.4	5.4	6.0	4.1	6.2	3.8
Veracruz	4.7	7.0	9.2	7.6	8.9	8.2	6.3	6.6	4.0	5.5	3.5
Yucatán	5.0	6.1	7.6	5.7	6.9	7.2	6.8	7.8	5.9	7.8	5.4
Zacatecas	6.5	7.8	9.4	7.0	8.2	7.8	6.5	7.3	5.0	7.2	5.4

Source: BBVA Bancomer with SHF data

Table 4.5 Quarterly macroeconomic indicators

	15'I	II	III	IV	16'I	II	III	IV	17'I	II	III
Real GDP (annual % change)	3.4	3.1	3.9	2.7	3.2	2.1	2.1	3.3	2.8	3.1	1.6
Real private consum., (annual % change)	3.2	2.2	3.8	4.2	4.0	3.0	3.5	3.1	3.1	4.3	3.1
Real gov. consumption, (ann. % change)	3.8	3.0	0.2	0.8	0.5	2.4	3.6	3.0	1.4	0.4	-0.9
Real const. investment, (annual % change)	3.2	2.3	4.4	-3.4	3.1	0.8	-5.0	0.1	-3.3	-6.2	-3.2
Residential	0.7	1.7	11.6	0.8	7.9	6.7	-2.8	5.8	5.6	-2.8	1.9
Non-residential	5.0	2.9	-0.8	-6.3	-0.4	-3.9	-6.7	-4.3	-10.2	-9.3	-7.5

Source: BBVA Bancomer with Inegi data

Table 4.6 Quarterly construction and housing indicators

	15'I	II	III	IV	16'I	II	III	IV	17'I	II	III
Real construction GDP	2.6	2.2	3.7	2.4	4.8	4.3	1.9	2.0	1.6	-1.1	-1.2
Volume index 2003=100 (annual % change)											
Building	2.3	2.7	4.8	3.3	5.5	5.9	3.6	4.2	4.4	0.6	0.5
Construc. engineering and major works	1.1	-0.9	0.2	-0.5	4.2	-1.2	-6.7	-8.9	-13.6	-12.5	-11.2
Specialized construction work	6.7	5.6	4.2	3.1	1.8	5.5	8.4	10.1	12.6	8.4	5.5
Construction companies											
Real production value (annual % change)											
Total	3.4	0.7	-0.5	-2.4	0.1	-1.2	-2.4	-1.7	-1.7	-5.1	-5.1
Building	7.9	2.7	-0.5	-2.6	-2.1	2.1	5.4	6.1	0.6	-3.8	-3.4
Public works	1.1	-0.3	1.3	-1.0	2.4	-6.2	-14.7	-13.4	-10.8	-10.6	-9.5
Water, irrigation and sanitation	-9.2	-0.5	-7.8	-9.6	1.6	-2.6	-3.2	8.2	-6.3	-4.4	-3.9
Electricity & communications	0.3	8.4	11.9	14.6	16.0	33.2	31.2	13.2	10.7	-18.2	-27.8
Transportation	2.1	-2.3	-4.7	-9.6	-1.4	-5.8	-13.0	-4.1	2.2	4.2	4.9
Oil and petrochemicals	4.9	-0.4	15.2	17.0	4.8	-31.3	-47.2	-55.7	-58.4	-52.0	-40.5
Other	-5.7	-3.5	-9.2	-8.1	-0.2	7.0	25.0	23.2	33.3	12.3	4.2

Source: BBVA Bancomer with Inegi, Banco de México data

Table 4.7 Quarterly housing market indicators

	15'I	II	III	IV	16'I	II	III	IV	17'I	II	III
Home sales by organization (thousands of credits)											
Infonavit	86.4	102.5	90.7	113.4	78.0	103.6	89.6	97.9	76.0	100.2	101.8
Fovissste	15.4	20.4	17.1	11.5	13.9	19.3	15.8	14.5	10.4	15.0	12.0
Banks	18.9	20.4	22.4	23.5	19.2	22.2	26.0	24.2	21.0	20.6	19.7
Total	119.3	143.2	130.2	148.4	111.0	145.0	131.4	136.6	107.4	135.8	133.5
Financing (billions of December 2016 pesos)											
Infonavit	31.3	35.9	32.1	37.8	26.3	34.8	30.0	33.2	25.6	35.6	37.7
Fovissste	11.0	14.6	12.1	7.9	9.2	13.1	11.1	10.4	6.9	11.2	8.2
Banks	34.2	37.8	40.7	44.6	34.5	40.6	42.2	44.5	37.5	36.4	35.0
Total	76.5	88.4	84.9	90.3	70.1	88.5	83.2	88.1	70.0	83.2	80.9
Infonavit: number of credits to buy a house (thousands)											
Economic + Popular	63.0	72.9	59.1	83.0	54	71	58.4	60.7	50.2	67.9	64.1
Traditional	13.8	17.4	18.7	18.7	14	19	18.4	22.3	15.2	19.7	23.5
Middle income	7.6	9.5	10.2	9.7	8	11	10.0	11.6	8.3	9.9	10.9
Residential	1.7	2.2	2.3	1.7	1.6	2.3	2.3	2.9	2.0	2.4	2.8
Residential Plus	0.3	0.4	0.4	0.3	0.3	0.4	0.4	0.5	0.3	0.4	0.5
Total	86.4	102.5	90.7	113.4	78.0	103.6	89.6	97.9	76.0	100.2	101.8

Source: BBVA Bancomer with Banco de Mexico, CNBV, Infonavit, Fovissste & ABM data

Table 4.8 Quarterly housing credit indicators

	15'I	II	III	IV	16'I	II	III	IV	17'I	II	III
Commercial banks current loan portfolio											
Delinquency index (%)	3.2	3.1	2.9	2.8	2.8	2.8	2.6	2.4	2.4	2.4	2.4

Source: BBVA Bancomer with Inegi, Infonavit, Fovissste & Banco de Mexico data

Table 4.9 Monthly macroeconomic indicators

	O.16	N	D	E.17	F	M	A	M	J	J	A	S	O
IGAE (annual % change)	1.5	4.7	3.3	3.4	0.3	5.4	-0.9	3.2	2.4	1.0	2.3	0.5	1.5
Real constr. vol. (ann. % change)	2.4	5.4	-1.0	-0.2	-0.2	5.2	-8.7	-1.4	-0.9	-2.8	-1.3	0.1	-1.7
Building	7.2	11.4	0.1	2.2	3.4	7.7	-10.4	0.9	0.7	-1.7	-0.8	3.6	-0.6
Civil engineering and major works	-15.9	-14.8	-13.9	-13.8	-16.2	-10.7	-13.5	-12.4	-8.1	-6.1	-3.6	-15.4	-7.9
Specialized construction work	11.3	12.2	22.9	10.6	8.4	18.8	9.8	3.1	1.3	-3.9	-0.8	5.4	0.9
Total formal private employment (IMSS)													
Thousand people	18,798	18,936	18,617	18,700	18,854	18,994	19,021	19,048	19,134	19,172	19,293	19,429	19,624
Annual % change	4.1	4.1	4.1	4.2	4.2	4.6	4.3	4.3	4.4	4.5	4.5	4.3	4.4
Average salary quote (IMSS)													
Nominal daily pesos	315.3	317.4	318.7	331.1	331.4	329.7	330.1	335.6	334.2	337.4	336.2	332.4	331.3
Real annual % change	0.5	0.4	0.5	-0.6	-0.5	-0.8	-0.9	-1.1	-1.4	-1.5	-1.8	-1.3	-1.2
Real total wages (IMSS)													
Annual % change	4.7	4.6	4.6	3.5	3.7	3.8	3.4	3.2	3.0	2.9	2.6	3.0	3.1
Minimum general wage (daily)	73.0	73.0	73.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
Nominal pesos													
CPI (end of period)	3.1	3.3	3.4	4.7	4.9	5.4	5.8	6.2	6.3	6.4	6.7	6.3	6.4
Annual % change													
TIIE 28 (average, %)	5.1	5.3	5.8	6.1	6.4	6.6	6.9	7.0	7.2	7.4	7.4	7.4	7.4
10-year Gov. bond int. rate (M10)	6.3	7.3	7.4	7.4	7.4	7.0	7.2	7.3	6.8	6.9	6.8	6.9	7.3

Source: BBVA Bancomer with Banco de Mexico, Inegi & IMSS data

Table 4.10 Monthly construction and housing indicators

	O.16	N	D	E.17	F	M	A	M	J	J	A	S	O
Construction employment (IMSS)													
Total (thousand people)	1,604	1,602	1,491	1,521	1,541	1,556	1,552	1,577	1,602	1,620	1,654	1,655	1,655
Annual % change	2.6	-0.6	8.9	8.6	-1.0	9.6	-1.3	-0.9	-3.6	-6.9	-1.3	-6.1	-1.1
Hydraulic cement sales (tons)													
Annual % change													
Cement consumption per inhabitant1													
Annual % change	2.6	-0.6	8.9	8.6	-1.0	9.6	-1.3	-0.9	-3.6	-6.9	-1.3	-6.1	-1.1
Residential contruction prices (ann. % chge.)													
Headline	7.2	7.3	8.7	11.0	13.1	13.4	13.3	12.6	11.3	10.3	9.8	9.7	9.2
Materials	8.0	8.1	9.8	12.5	15.1	15.2	15.1	14.3	12.7	11.6	11.0	10.9	10.2
Labor	3.0	3.0	2.9	3.0	3.1	4.3	4.7	4.5	4.6	4.4	4.3	4.2	4.4
Machinery rental	6.5	7.5	7.9	9.2	8.2	8.0	7.6	6.7	4.8	4.1	3.5	2.8	4.3

1: The volume of cement production is used as a proxy for consumption.
Source: BBVA Bancomer with Banco de Mexico, Inegi & IMSS data

Table 4.11 Monthly housing credit indicators

	O.16	N	D	E.17	F	M	A	M	J	J	A	S	O
Commercial banks loan portfolio													
Balance in billion pesos*	698.8	701.6	705.5	700.1	699.9	703.5	705.5	712.5	715.7	719.2	720.0	723.4	722.0
Annual % change	8.6	8.3	8.3	6.5	6.6	6.3	5.4	4.4	4.2	3.9	3.7	3.7	3.3
Total annual cost (CAT, average)	12.7	12.7	12.9	13.1	13.1	13.4	13.4	13.3	13.3	13.2	13.2	13.1	13.1

* October 2017 pesos
Source: BBVA Bancomer with Banco de Mexico, Conasami, INEGI, IMSS & CNBV data

5. Special topics included in previous issues

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