Despite the recovery of purchasing power, housing construction should keep falling in 2015

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Since the financial crisis of 2008-2009, household investment in construction has fallen continuously. Between 2008 and 2014 this investment fell by 23.9%, while over the same period the number of households grew by 6.2% and household purchasing power shrank by 2.5%.

This fall is in stark contrast to the boom in housing construction which preceded the crisis: between 2000 and 2007 this sector was highly dynamic, and household investment grew by 27.0%, an average increase of +3.0% per annum. This period of growth was largely driven by the construction of dwellings for own occupancy (i.e. excluding buy-to-let investments). Several factors conducive to increased housing construction coincided in this period:

- the age group most likely to buy homes (30-59) increased by 1.0 point as a proportion of the total population;

- household purchasing power grew by an average of 2.4% per annum;

- the trajectory of housing prices made it more attractive to buy new dwellings than second-hand dwellings.

Since 2008 the fall in household investment on construction has averaged 3.8% per annum, essentially due to the decline in the number of buyers of new dwellings for own occupancy.

This decline should continue in 2015, in spite of the predicted upturn in purchasing power. The other factors which fuelled the dynamism observed between 2000 and 2007 (demographic change, housing prices) are no longer as conducive to investment.

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After increasing strongly between 2000 and 2007, household investment in construction has been on the decline ever since, due to the downturn in house purchases for own occupancy

Household investment knocked 0.3 points off growth in 2014

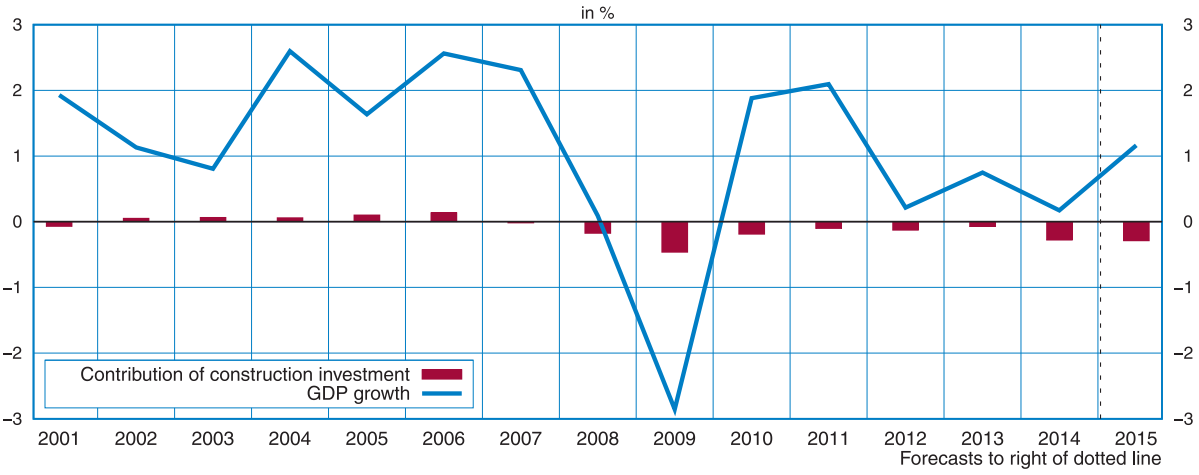
Between 2008 and 2014, household investment in construction (*Box 1*) shrank by an average of -3.8% per annum in volume. This substantial decrease knocked an average of 0.2 points per annum off France's overall economic growth, and 0.3 points in 2014 (*Graph 1*).

Household investment in construction had grown strongly in the period 2000-2007, at an average rate of +3.0% per annum (compared with +0.2% between 1990 and 1999), a total increase of 27.0%. This investment then dropped off sharply during the Great Recession of 2008-2009 (-14.4%), and has been shrinking at a slightly less dramatic rate since then (-11.1% between 2010 and 2014).

Construction of new dwellings is the primary factor affecting household investment

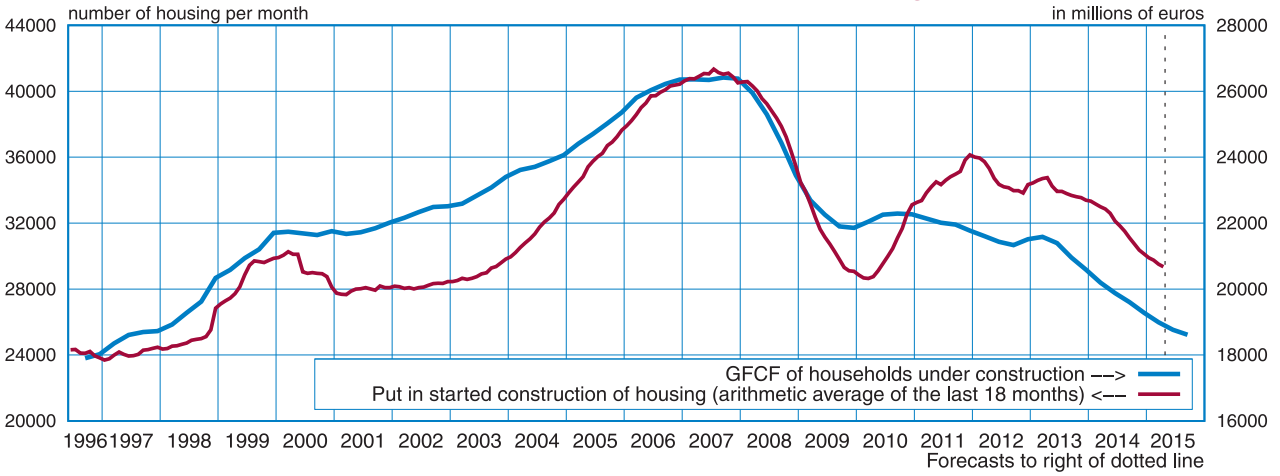
Construction of new homes is the primary force behind the fluctuations in household investment, even if new homes only account for just under half of investment in construction (*Box 1* and *Graph 2*). Investment in maintenance and renovation work has proved to be more stable than investment in new dwellings, and so serves to mitigate the fluctuations.

1 - GDP and contribution of the household investment in construction



Note : changes in chained volumes, base 2010
Source: INSEE

2 - Household investment in construction and housing starts



Sources: INSEE, SOeS

Box 1 - Household investment and housing construction: an overview of the available statistical sources

Household investment in the national accounts

In the national accounts, household investment (excluding sole proprietors) in construction is broken down into construction (82%) and property-related fees (18%). The former covers investment in homes and, accounting for a very small percentage, investment in civil engineering and property development. Households' gross fixed capital formation (GFCF) in construction is split equally between new construction and renovation/major maintenance work.

The purchase of a second-hand dwellings from one household by another is not plotted by the GFCF measurements, since it is a transfer between two economic agents belonging to the same institutional sector: household-to-household transactions involving second-hand dwellings do not affect the fixed capital of the sector as a whole. Only that portion of the transaction paid to other institutional sectors is taken into account. The fees involved in purchasing both second-hand dwellings - "notarial fees", architect's fees, agency fees - are thus considered as investment expenditure.

Households are not the only economic agents to invest in housing: investment may also come from non-financial corporations, particularly social housing agencies.

In the quarterly accounts, new construction is measured on the basis of the number of individual (individual homes) and collective (apartment buildings) housing starts recorded each month. To convert these "housing starts" figures into expenditure statistics, we must take into account the time taken to complete construction work. Weighting coefficients, known as build timetables, are thus applied to all current housing starts. These coefficients are calculated based on the type of property being built, the region, the scope of the building permit and the date on which the project broke ground. The estimates thus calculated by the Service de l'Observation et des Statistiques (Observation and Statistics Department - SOeS department) are used directly as indicators to calibrate the quarterly account figures. As for GFCF in major maintenance and renovation work, it is calculated using the quarterly scale for assessing the value of maintenance work.

New housing construction statistics from the SOeS

Statistics on building permits and new housing starts are compiled and published by the SOeS department at the French Ministry for the Environment, Sustainable Development and Energy (MEDDE). The methodology used by the SOeS was thoroughly overhauled in February 2015, leading to a major revision of the construction statistics published since 2007. Previously, the SOeS published two different series on building permits (authorisations) and housing starts ("started"):

- A first series known as the "registration date" series, in which only the date on which the housing development was registered is taken into account;
- A second series known as the "real date"series, which counted new homes from the date on which their building permit was officially approved (and work started).

From February 2015 onwards, the SOeS will publish only the real date series. For the recent past this series incorporates an estimate of data not yet reported, for both building permits and housing starts. Furthermore, this methodological update serves to compensate for failures in data collection which have affected the information available on housing developments started since the reform of land usage rights in 2007. Before this methodological update, there was a margin of error between the number of permits issued and the number of developments actually breaking ground. Data was missing on a certain number of those requests for building permits registered: the proportion of housing developments receiving authorisation which were then neither started nor officially abandoned had increased sharply, to such an extent that it was impossible to get a precise idea of the number of housing starts in 'real date' terms.

The SOeS methodology recognises four types of home. Pure individual homes are detached houses built apart from other homes. Grouped individual homes are detached houses constructed in clusters. Collective homes are buildings with several self-contained homes intended to be occupied and administered individually. Finally, residences are collective homes which are collectively managed (retirement homes, student halls of residence etc.).

Gross fixed capital formation

		Institutional sectors	
		Households	**Non-financial enterprises**
Activity/prodcts	**Construction**	**Homes** New homes Major maintenance work - renovation **Property development, civil engineering**	**Homes (particularly social housing)** New homes Major maintenance work - renovation **New non-residential buildings** New homes Major maintenance work - Renovation **Property development, civil engineering**
	Property-related costs ("'services to businesses")	Real estate agents, architects' fees Stamp duty (legal fees)	Real estate agents, architects' fees Stamp duty (legal fees)
	Other investments		Expenditure on manufactured goods and other business services

N.B.: the shaded area corresponds to the modelling field determined in Box 2.

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Statistics on housing stock based on the INSEE census analysis

Based on the population census, INSEE constructs statistics for all housing stock, distinguishing between main and second residences and vacant dwellings, and between homeowners and tenants. The annual variation in housing stock published by INSEE may prove to be smaller than the number of homes built according to the SOeS estimates, as a result of the demolition or abandonment of some second-hand dwellings.

By definition, the variations in the number of households and the number of main residences are aligned. Nonetheless, the excessive dynamism of housing construction cannot be attributed to the construction of second homes following the same cycle as main residences. The weight of second homes as a proportion of total housing stock varied very little between 1982 and 2011, falling by an average of 0.2 points over this period.

Various sources are used to distinguish between new homes constructed for social housing (and thus representing investment by companies) and those constructed on a buy-to-let basis, with the remaining number representing new homes purchased by households for own occupancy.

Estimating the number of homes built for buy-to-let investment

The FPI (French Federation of Property Developers) provides yearly figures on the number of new homes reserved with property developers in Metropolitan France, as well as the proportion of these purchases earmarked for buy-to-let investment. The total number of reservations is equal to the total number of reservations for the sale of new homes as published by the SOeS. These figures include only reservations of collective homes or lots of more than 5 individual homes. Collective homes account for between 85% and 90% of the total. This total therefore does not take into account all sales of new homes corresponding to total housing starts. Nonetheless, the number of sales to buy-to-let investors is accurate: buy-to-let investment in new homes is conducted almost exclusively via property developers.

The available statistics cover reservations to buy, and not all housing starts. But the former may lead to the latter. In this study, the number of housing starts for buy-to-let investment is measured as the moving average over two years of these reservations, in order to take into account the time lag between purchase and construction. These are raw data, which do not take account of potential cancellations. The data series constructed on this basis (*Graph 3*) provides an approximate estimate of the number of homes built for buy-to-let investments rather than for own occupancy.

The distinction between pure individual homes, grouped individual homes, collective homes and residences serves to identify those types of home most associated with buy-to-let investment and social housing. Pure individual homes are rarely built for the purpose of letting. It is, however, possible that some collective homes and grouped individual homes are neither buy-to-let investments nor social housing, and that they are not sold by developers (and thus not recorded as such). Finally, the case of collective residences is more ambiguous: they may benefit from advantageous tax arrangements and thus be counted as buy-to-let investments.

To round out the data series on the number of new homes built as social housing, the SOeS series is extrapolated from data provided by the USH (Social Housing Union) for 2013 and 2014.

This allows us to finally estimate the proportion of buy-to-let investment in terms of investment expenditure rather than in terms of the number of houses built (*Graph 4*). In the housing accounts, the data series covering spending on the purchase of new homes distinguishes between first-time buyers intending to occupy the homes, non-first-time buyers intending to occupy the homes, social housing agencies and natural persons buying homes to let. This latter group corresponds to the total value of buy-to-let investment. The housing accounts do not include data series covering spending on the construction of collective accommodation in the form of residences. The data series on construction and that on spending on new homes are therefore not entirely comparable. ■

Investment in new homes has declined primarily as a result of the decline in investment for own occupancy

In the early 2000s, the dynamism of the housing market was driven largely by residential construction for own occupancy

Construction of new homes has increased significantly: in 2007, work began on 151,000 more new homes than the equivalent figure for 2000 (125,000 more than in 2003), an average increase of 5.4% each year.
This dynamism can be ascribed primarily to investment by households for own occupancy (i.e. excluding rental), which rose by 74,000 over this period (*Graph 3*).

It is also this component of demand which has been the principal contributor to the collapse in investment in new homes since 2008: between 2007 and 2014 the number of new-build homes decreased by 133,000, as did the number of homes built for own occupancy. The decrease was most pronounced between 2008 and 2009, but was also substantial in 2014.

On the other hand, the construction of social housing (classed as investment by non-financial corporations) increased between 2008 and 2011 (+21,000 homes), which helped to attenuate the crisis in the construction industry. Nonetheless, this positive trend has since been halted.

Despite the recovery of purchasing power, housing construction should continue to fall in 2015

The fluctuations in buy-to-let investment only have a limited impact on the total number of new housing starts

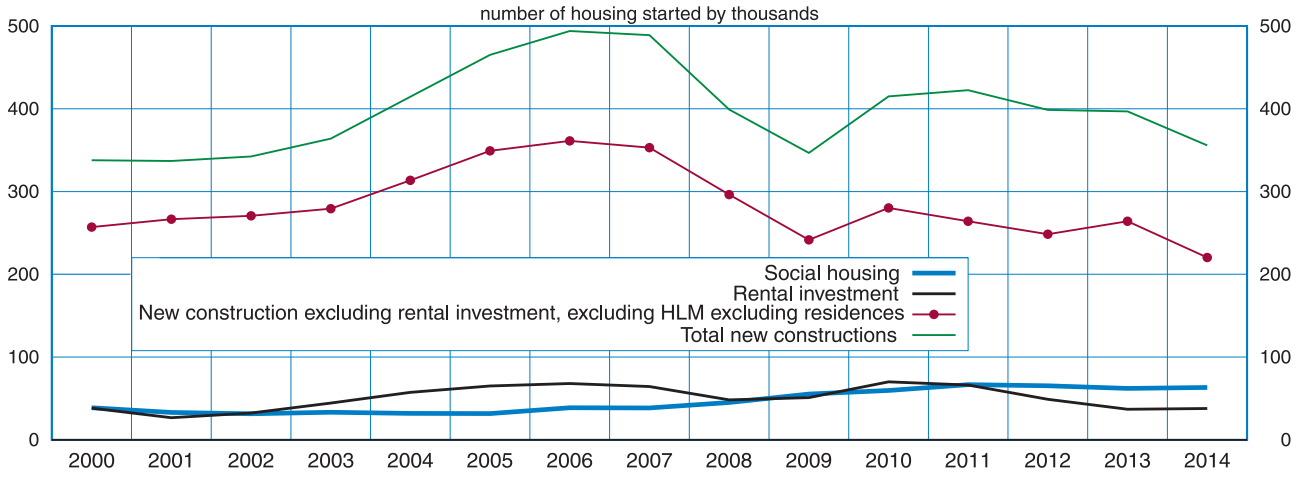
The contribution of the buy-to-let market to the overall trend in the housing construction sector is limited: in 2014, the number of homes in this category was down by 27,000 on the corresponding figure for 2007, particularly as a result of the end of the Scellier[1] programme in 2012. But this decrease accounted for a relatively small proportion of the fall in the total number of new homes built (-133,000 between 2007 and 2014).

In terms of spending on standard new homes, buy-to-let investment has never accounted for more than 20% of the total (*Graph 4*), although this proportion has tended to grow over time.

On the other hand, the contribution of homeowners buying homes to live in, and particularly first-time buyers, has significantly decreased as a proportion of total spending on new homes since 2008. Between 2000 and 2007, these buyers accounted for over 70% of total spending on new homes. In 2012 this proportion had fallen to 57%, with a greater share coming from buy-to-let investors and social housing schemes. The proportion of homeowners buying new homes to live in them has now fallen to its lowest level since 1984 (when the series began), lower even than the levels seen during the property crisis in the early 1990s.

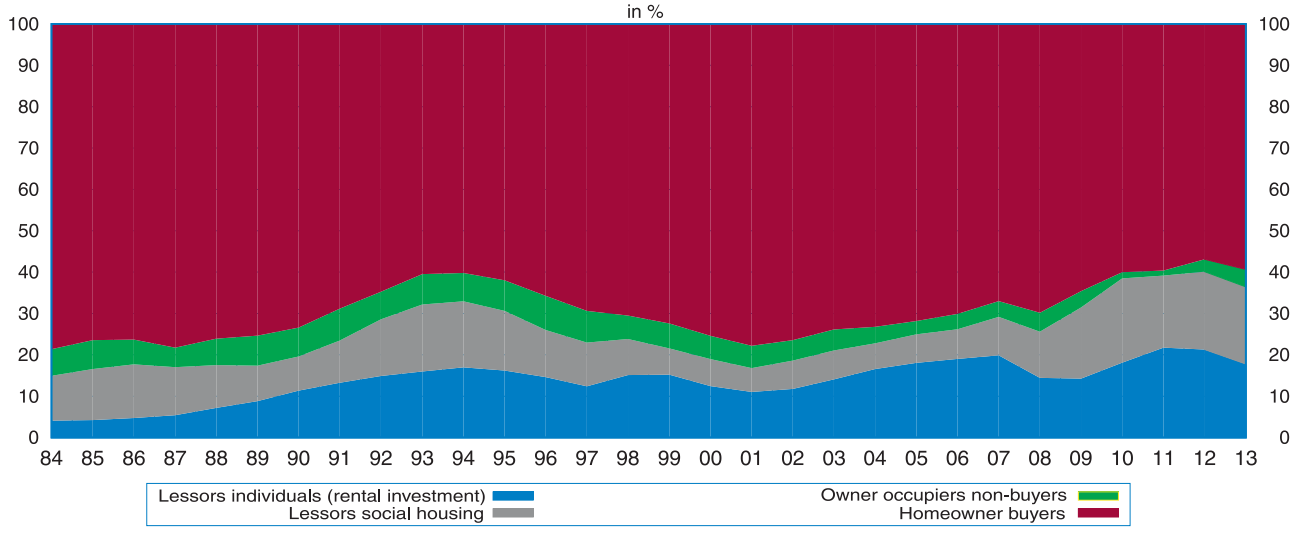
(1) The aim of the Scellier scheme, introduced in 2008, is to support private buy-to-let investment with tax breaks of up to 25% of the property purchase price.

3 - Breakdown of new homes



Source: SOeS, FPI, VSH

4 - Share of expenditure on the purchase of new housing by type of sponsor



Source: SOeS (housing accounts)

Despite the recovery of purchasing power, housing construction should continue to fall in 2015

Between 2000 and 2007, housing construction was sustained by demographic and economic factors

Between 2000 and 2007, construction of new homes was stimulated by various positive economic and demographic factors: these included demographic growth, growth in household income and the prevailing conditions on the property market. Since 2008, and even now, these factors have been less conducive to increased demand for new homes (*Box 2*).

Demographic developments and the structure of the French population contributed to the dynamic demand for new homes seen between 2000 and 2007, and to the ensuing slowdown from 2008 onwards

In the early 2000s, demographic dynamism fostered an increase in construction

First and foremost, France's demographic dynamism was conducive to a rebound in the construction sector in the first half of the 2000s. Population growth accelerated between 2000 and 2007, with an annual average growth of 0.7% (+410,000 people per annum), up from the +0.4% average recorded in the preceding decade. The number of households also grew more rapidly (*Graph 5*): between 2000 and 2007, there were an average of 335,000 new households each year (a yearly average of +1.4%), compared with 270,000 per annum in the 1990s (+1.2%). The number of households tends to grow more rapidly than the population, as a result of population ageing (an increasing number of people fall into those age groups where households tend to be smaller) and new living arrangements (single parents, fewer couples cohabiting, higher divorce rate etc.: Fijalkow, 2011).

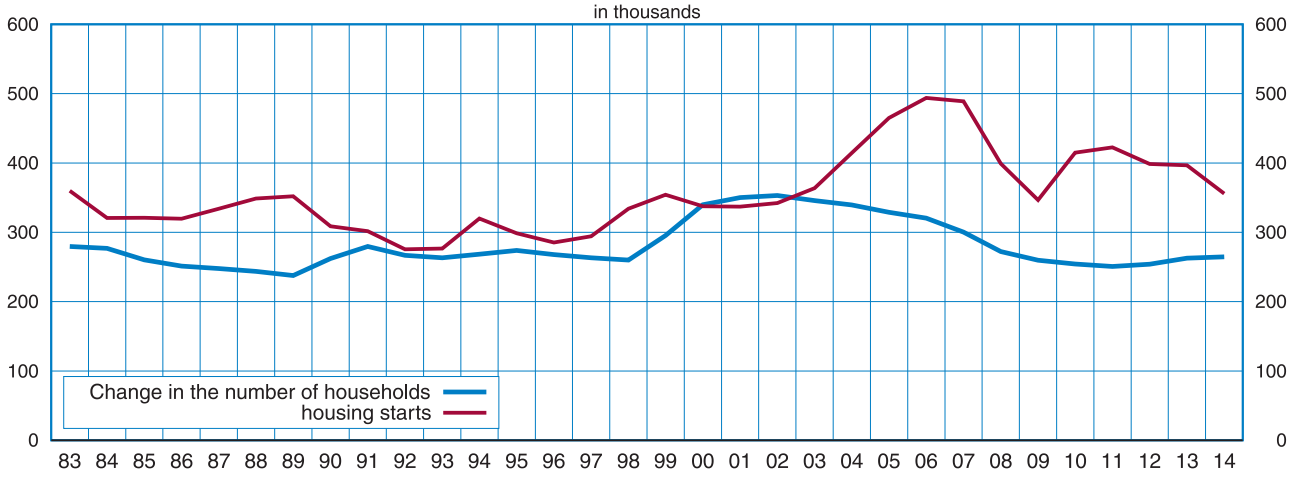
Meanwhile, an average of 405,000 new homes were built every year between 2000 and 2007, whereas in the preceding decade the slower rate of growth in the number of households was accompanied by a slower rate of construction (an average of 290,000 new homes built each year).[2]

Since 2008, demographic trends have slowed demand for new homes

Demographic factors are now less supportive of demand for new homes. The population is growing more slowly than it was in 2008, with an average annual growth rate of +0.5% between 2008 and 2014 (+305,000 people per annum). The increase in the number of households has also slowed: an average of 260,000 new households per year were recorded between 2008 and 2014, a return to the pace seen in the 1990s.

(2) The relationship between the number of households and investment in housing is not purely mechanical: for a given rate of population growth, impediments to finding sufficient housing can also delay the formation of new households.

5 - Population growth and new housing construction
(housing starts, results in real time)



Sources: INSEE, SOeS

Box 2 - Estimation of an equation for calculating household investment in construction

Household investment in construction in volume is estimated using an error correction model which aims to distinguish between the principal determinants. These fall into several categories: demographic (number of households, proportion of the population aged 30-59), economic (household purchasing power, total employment) and financial (effective interest rates on mortgages). The equation also incorporates several price variables:

- The housing investment deflator (relative to consumption): this coefficient represents the trade-off between renting and buying. The deflator does not encompass the direct effects of fluctuations in land prices, since land is not counted as an investment in the national accounts. On the other hand, this housing investment deflator integrates developments in the prices of maintenance and improvement work, which may be affected in the short-term by variations in the reduced rates of VAT;
- The price of second-hang dwellings (relative to consumption): the corresponding coefficient is necessarily ambiguous in that two contrasting effects are at play here: a substitution effect favourable to construction volumes (choosing between a new or old home), and a "cost" effect (the price of land is not taken into account by the housing investment deflator, and yet it directly contributes to fluctuations in the prices of second-hang dwellings: a rise in these prices indicates an increase in land prices, which may also discourage households from investing in new homes).

The coefficient corresponding to the existing house price variable is positive, suggesting that the substitution effect takes precedence over the"cost of land" effect.

The estimate covers a period stretching from the early 1990s up to 2014, using quarterly data.

The usual tests confirm that the variables taken into account in the long-term ratio are all integrated of order 1 and cointegrated. The final equation, estimated in a single step, is as follows:

$$\Delta \ln(I) = \underset{(-2,75)}{-0,11} + \underset{(3,48)}{0,31} * \Delta \ln(I(-1)) + \underset{(4,47)}{2,02} * \Delta \ln(emps) - \underset{(-4,80)}{0,01} * ga\_tx\_immo$$

$$\underset{(-2,21)}{-0,05} \left[\ln(I(-1)) - \ln(pda\_men(-1)) - \ln(men(-1)) - 0,87 * \ln(px\_anc\_r(-1)) + 3,31 * \ln(défl\_inv\_r(-1)) - 0,01 * Part\_30\_59(-1) \right]$$

The Student statistics for these coefficients are presented in brackets beneath the coefficients.
Where:

- I: household investment in construction, chained volumes in the 2010 base.
- Emps: total payroll employment,
- Ga_tx_immo: year-on-year variation in the effective nominal rate of interest on mortgages granted to private homebuyers,
- pda_men: household purchasing power, 2010 base.
- men: number of households,
- px_anc_r: real prices of second-hang dwellings. Prices of second-hang dwellings estimated using the Notarial/INSEE indices of existing housing prices for France as a whole (since 1996), previously backwards projected using the housing prices derived from the household wealth series, converted into quarterly figures.
- défl_inv_r: the deflator for investment in construction against consumption, 2010 base.
- Part_30_59: 30-59 year-olds as a proportion of the total population.

The equation seems to yield a good level of simulation, with encouraging properties: low RMSE (0.7%) and high R^2 (0.77).

Robustness of this equation

Among the different parameters which determine the capacity to finance home-buying, we tested the possibility of adding mortgage duration to this equation: the results were unconvincing.

In the short-term, payroll employment figures take precedence over household purchasing power and serve to significantly improve the equation.

The major short-term fluctuations in investment are well accounted for.

The simulation obtained using this model successfully reflects the major ups and downs in household investment in construction: the low point of 1993 and the peak of 2007 (*Graph 1*). The 2008 downturn can be attributed to demographic factors, effects linked to housing prices and the prevalent lending conditions, which have combined to hamper investment ever since (*Graph 2*).

Variables not used in the long-term equation can help to explain short-term fluctuations in investment. For example, the introduction of new thermal regulations in late 2012 may have induced a surge in investment by households anticipating a future price rise. This measure could partly account for the positive residual for 2012, and even 2013 for homes authorised in 2012 but not started until 2013. The subsequent rebound effect could partly explain the negative residual observed since then.■

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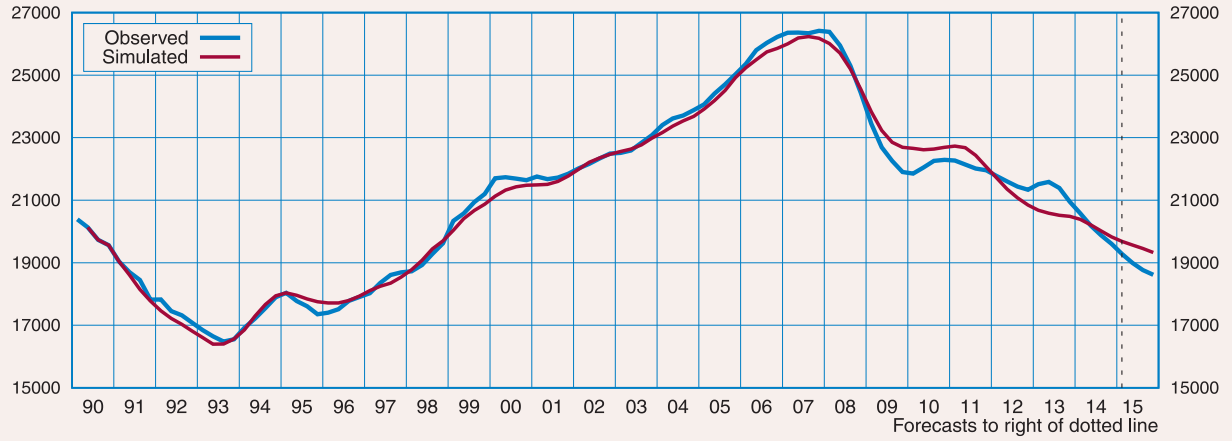
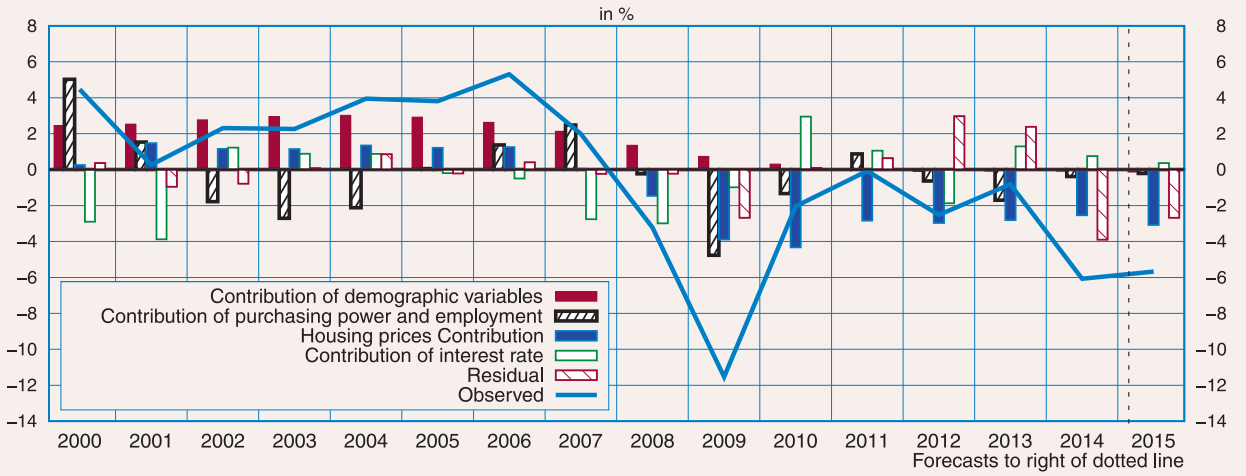
1 - Household investment in construction



2 - Contribution of exogenous variables to the variation in household investment in construction



Demand for homes was sustained by the growth of the 30-59 age group, who are overrepresented among recent buyers

The shifting age structure of the French population also served to boost demand for housing in the early 2000s. In 2004, in 79% of households who had recently purchased their main residence the reference person was aged between 30 and 59, according to the Household Wealth Survey (*Table 1*). In 2010 this proportion was slightly smaller (73%).

But the swelling of this age group was the biggest contributing factor to the demographic growth seen between 2000 and 2007 (*Graph 6*). On average, the section of the population aged between 30 and 59 accounted for more than half (+0.4 points per annum) of the +0.7% per annum growth in the total population during this period. Between 2000 and 2007, the number of people aged 30-59 as a proportion of the total population grew by 1.0 point, before dropping off by 0.3 points per annum between 2008 and 2014.

According to the embedded macroeconomic modelling (*Box 2*), the cumulative contribution of demographic factors - number of households and proportion of 30-59 year olds - to the growth in investment was +2.7 points per annum between 2000 and 2007, compared with just +0.3 points per annum between 2008 and 2014.

Employment and household purchasing power boosted household investment in construction between 2000 and 2007, but have hindered investment since

The strong rate of job creation seen in the early 2000s contributed to the increase in demand for housing between 2000 and 2007

In addition to these demographic factors, economic factors also played a role. The strong increase in job creations in the late 1990s and early 2000s (+2.1 million between the end of 1997 and the end of 2001) and the gradual phasing out of military service over the same period provided a short-term boost to the demand for housing. Between 2000 and 2007, total payroll employment grew by 2.0 million, equivalent to 244,000 new employees per annum.

Since 2008, on the other hand, the fall in employment has dampened household investment: between 2008 and 2014, total payroll employment fell by 127,000, a decrease of 16,000 jobs per annum.

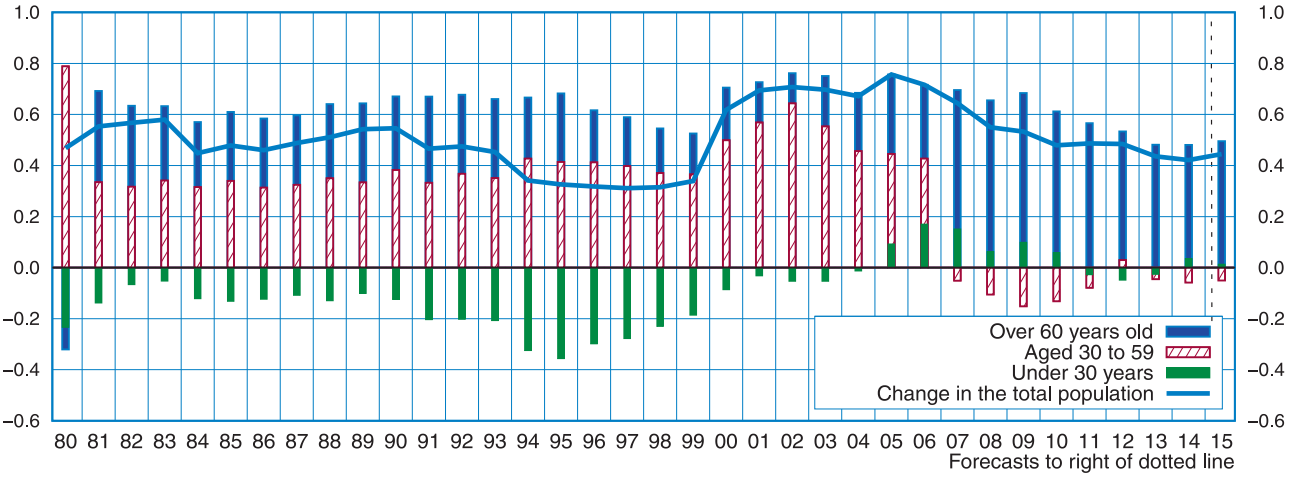
The dynamism of household purchasing power has provided a boost to home-buying since the early 2000s

In the macroeconomic modelling embedded, in the long-run relationship, investment is dependent upon household purchasing power (and in the short term upon employment, one of the components of this purchasing power). In the early 2000s household purchasing power grew strongly: an average of +1.1% per annum between 2000 and 2007, sustaining households' ability to buy their own homes.

However, since 2008 the sluggishness of household income has impeded the ability of households to finance property transactions. Between 2008 and 2014, household purchasing power fell by an average of 0.4% per annum.

Overall, according to our calculations, household purchasing power and employment jointly contributed an average of +0.5 points per annum to the increase in investment in construction between 2000 and 2007. This average annual contribution was -1.2 points over the period 2008-2014.

6 - Contribution of age classes to population growth



Champ: Metropolitan France. Age is defined as age attained on January 1 of that year.
Source: INSEE

Occupancy status of residence depending on the age of the household reference person

	2004				2010			
Age of the person reference	**Tenants**	**Recent buyers**	**Other owners**	**Total**	**Locataires**	**Acquéreurs récents**	**Autres propriétaires**	**Total**
Less than 30 years	18.8	10.5	0.8	9.4	20.2	13.4	0.9	9.9
Between 30 and 39years	24.7	41.1	10.0	19.7	23.2	40.5	10.4	18.3
Between 40 and 49 years	19.8	23.5	22.3	21.4	19.0	19.1	19.1	19.0
Between 50 and 59 years	14.4	14.6	23.5	18.7	14.2	13.2	23.1	18.6
Between 60 and 69 years	9.1	6.7	18.0	13.0	11.2	10.1	21.9	16.4
More than 69 years	13.2	3.6	25.4	17.8	12.2	3.6	24.7	17.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: INSEE, Household Wealth Surveys 2004 and 2010 - Calculations by Le Bayon and al. (2013)

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Financing conditions were broadly favourable to demand for housing between 2000 and 2007

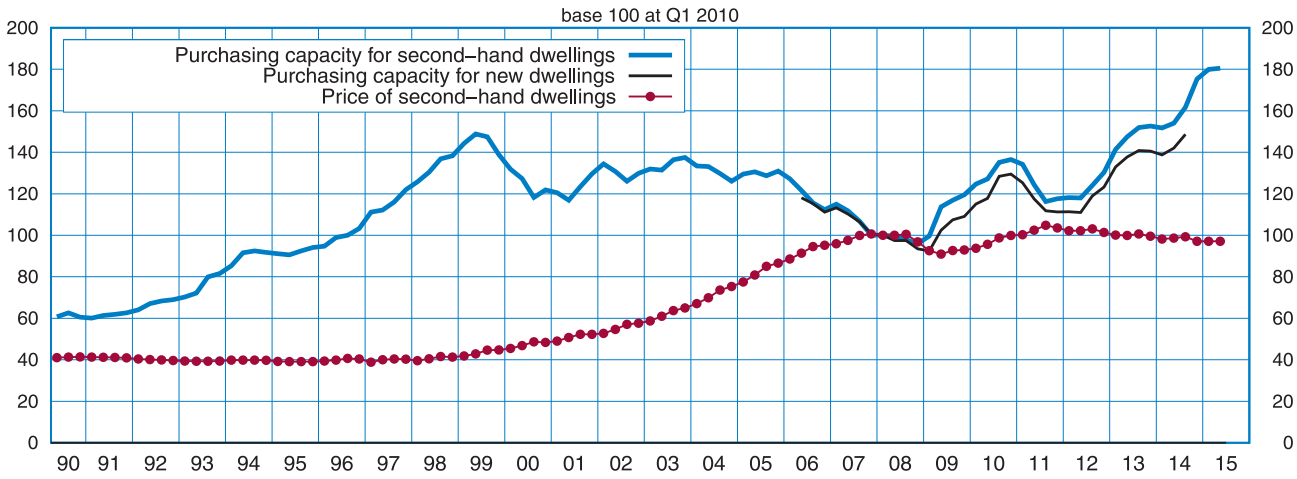
Housing financing conditions are another determinant of investment decisions. They can be evaluated using a household purchasing capacity indicator. This indicator measures the number of square metres that a household without a down payment is capable of buying, with a mortgage whose repayments amount to a third of that household's income, taking into account prevailing lending conditions and the average duration of mortgages (Clévenot, 2011). In the early 2000s, the fall in nominal interest rates and the extension of mortgage periods had a positive impact on the property purchasing capacity of French households. Interest rates fell by 180 basis points between 2000 and 2007, while the initial duration of mortgages increased: according to the *Observatoire du crédit au logement* (Observatory for housing loans), this average duration rose from 14 to 18 years between 2001 and 2007: according to statistics published by the ACPR, this average saw a further increase from 18 to 20 years between 2005 and 2007. In spite of these favourable developments, household purchasing capacity for second-hand dwellings fell between 2000 and 2007, a result of the dynamic rise in the prices of second-hand dwellings (*Graph 7*).

After seriously weighing down on investment during the economic crisis, lending conditions are now sustaining household investment

Between 2008 and 2014 the fall in interest rates and the fall in prices of second-hand dwellings combined to boost the purchasing capacity of households. However, overall household purchasing power declined (see above). Furthermore, the average initial duration of mortgages fell slightly from 20.3 years in 2008 to 19.1 years at the end of 2013 (ACPR, 2014). Overall, in this period the purchasing capacity of households with regard to second-hand dwellings improved more rapidly than it did with regard to new homes, a result of the fall in the prices of second-hand dwellings.

In the equation used, the property purchasing capacity variables cannot be directly tested due to a lack of sufficient data concerning the price of new dwellings before 2006. Nonetheless, aside from the effects of purchasing power, financing conditions can be evaluated via the impact of interest rates on mortgages. Interest rates dampened household investment in construction by -0.9 points per annum between 2000 and 2007, and then exerted a neutral effect between 2008 and 2014. Over the first period, the increase in interest rates was not continuous: the effect of interest rates on investment was in fact positive between 2002 and 2005 (an average contribution of +0.7 points per annum over this period) and negative during the other periods. In the second period, the sharp rise in rates between 2007 and 2009 impeded household investment in construction by -2.2 points per annum. The subsequent fall in interest rates bolstered household investment in construction by +0.8 points per annum between 2010 and 2014.

7 - Prices of second-hand dwellings and buying capacity of households



Sources: Banque de France, Indexes INSEE of prices of second-hand dwellings, Observatoire du crédit du logement

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Land pressure and housing prices are stifling the recovery in demand for homes

Demand for new homes is dependent on price conditions in the market, for both new and second-hand dwellings.

Prices of investment in construction were more attractive than prices of second-hand dwellings between 2000 and 2007

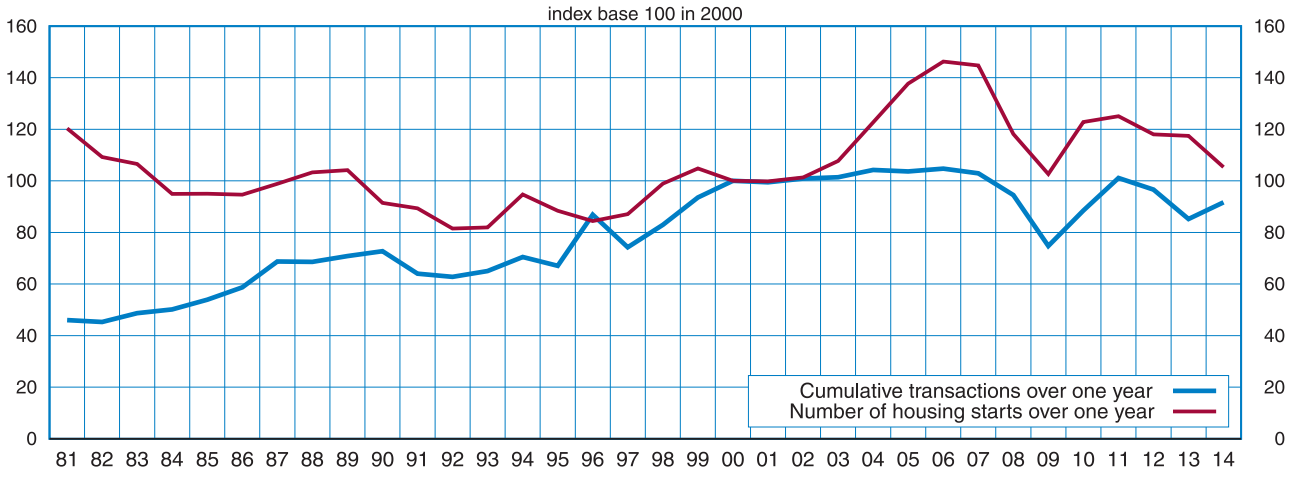
The market for new dwellings is closely linked to the market for second-hand dwellings. This is firstly because potential buyers compare the relative prices of both types of home. Secondly because vendors of second-hand dwellings are generally homeowners looking to sell their home in order to buy another one, potentially a new-build. The supply of homes on the market is thus also influenced by the difference between the prices of new and second-hand dwellings. Supply and demand of homes also depend on a comparison between the cost of buying a home and the cost of renting: it is more attractive to rent when the cost of renting is low compared to the cost of buying. Last but not least, capital gains tax also has an effect on supply.

Between 2000 and 2007 prices of second-hand dwellings grew very rapidly (an average of 10.7% per annum). This increase may reflect a strong increase in land prices, which would thus have a negative impact on new home buying as well as purchases of second-hand dwellings, all other factors being equal. It may also reflect the fact that it became comparatively more attractive for private buyers to purchase new homes than existing ones. In our models, investment in new homes is positively correlated with the price of second-hand dwellings, suggesting that the latter hypothesis is correct. Demand for and construction of new homes may also have been boosted by the relative costliness of second-hand dwellings. The number of transactions involving second-hand dwellings slowed down during this period. After growing continuously between 1982 and 2000, the number of transactions involving second-hand dwellings remained virtually stable until 2007 (*Graph 8*), while the number of housing starts increased. Since 2008, the number of transactions and the number of new homes being built have followed similar trajectories.

Since 2008 housing prices have inhibited household investment in construction

Since 2008 the prices of second-hand dwellings have broadly stabilised: they have fallen by an average of 1.5% per year since peaking in 2011. Meanwhile, prices of investing in construction have merely slowed, growing by an average of 2.0% per annum since 2008, down from the annual average of +3.7% recorded between 2000 and 2007. Households have thus become increasingly likely to choose to buy an existing home since 2008.

8 - Transactions and housing starts



Sources: SOeS, CGEDD

Despite the recovery of purchasing power, housing construction should continue to fall in 2015

Several factors might explain the relative increase in the cost of investing in construction. Two consecutive increases in the VAT levied on property maintenance work, raised by 1.5 points in 2012 and 3 points in 2014, represent one such factor. The introduction of rigorous new standards has also served to increase the cost of building new homes (Trannoy & Wasmer, 2013). The implementation of thermal regulations in 2012 is estimated to have boosted the cost of construction index by between 2 and 5% (Landmann, 2013).

Overall, in our equation, the cumulative impact of the different price variables (cost of second-hand dwellings and cost of investing in construction) on household investment in construction averaged +1.0 point per annum between 2000 and 2007 and -3.0 points per annum between 2008 and 2014.

The high price of land in urban areas has stimulated construction in rural and suburban areas

The increase in construction between 2000 and 2007 was not spread uniformly across the country: first-time home-buying grew most strongly in rural and suburban areas. Indeed the rising price of land in agglomerations and the saturation of land resources in urban areas have also stimulated construction outside these areas. Every year during this period, an average of 600,000 households purchased their main residence: a third of these purchases involved new homes (up from a quarter between 1997 and 2001). In suburban areas, new homes accounted for an even higher proportion of purchases: 48% of recent first-time buyers of new homes bought their property in suburban areas in 2002-2006, compared with 29% in the early 1990s (Briant, 2010).

Government policies in favour of first-time buyers temporarily boosted construction of new homes

The strong increase in suburban development - primarily detached dwellings - is also a response to public incentives for greater access to home ownership for the middle classes (Lambert, 2015). The aid measures put in place have been particularly favourable to the construction of new homes. Zero interest rate eco-loan, launched in 1995, were only extended to second-hand dwellings between 2005 and 2012. According to the housing satellite account, these zero interest eco-loans at first accompanied increasing number of transactions on the market for new homes - purchase or construction of individual dwellings - with 4,000 extra loans awarded between 2005 and 2007, an increase of 5.6% over this period. Thereafter, between 2008 and 2013, the number of granted zero interest eco-loans fell by 16,000, a decrease of 25% over the period. This decrease was most pronounced between 2012 and 2013 (-28%).

Land pressure is not conducive to a recovery in demand for housing

The saturation of existing land resources is driving an increase in house prices, affecting both old and new homes but at different scales: the increase has been felt more strongly in the prices of second-hand dwellings.

Fluctuations in the price of new and second-hand dwellings can often differ, as the price of land approved for construction is subject to less pressure than the price of previously-developed land, generally located closer to urban centres. For second-hand dwellings, the cost of the land accounts for more of the total price than it does for new homes: these prices change more rapidly and are more volatile than new home prices, all other things being equal, and particularly for a given location (Balcone & Laferrère, 2015).

Nonetheless, land pressures do affect the volume of new homes sold. Land suitable for building is not in short supply in France, with the exception of certain specific areas (Levasseur, 2013). However, it is often difficult to make use of these resources due to the uncertainties arising from land usage rights (land approved for construction, town planning strategies), the influence of local stakeholders (Bouvelot, 2007) and instances of land hoarding. Indeed the cost of holding onto land, i.e. retaining ownership of land for no immediate purpose, is very small owing to advantageous tax conditions for undeveloped land, advantageous tax conditions for capital gains on property, low maintenance costs and, particularly low real interest rates. These low costs encourage land hoarding, and may serve to limit the supply of land available for building (Cour des Comptes, 2015), thus limiting the volume of new homes available. The saturation of land resources drives prices upwards and is therefore not conducive to a recovery in demand for housing.

Despite the recovery of purchasing power, housing construction should continue to fall in 2015

Despite the acceleration of households' purchasing power, household investment in construction is not expected to pick up in 2015

Household investment should continue to fall in 2015

In 2014 and beyond, demographic change is not expected to provide the same boost to housing demand as it did in the early 2000s. Demographic projections (Blanpain & Chardon, 2010) in fact hint at a lasting slowdown in population growth (an annual average of +0.4% between 2014 and 2020) and a population which will continue to age, while average household size should shrink less rapidly. As a result, the increase in the number of households should continue to slow over the period 2015-2020 (Jacquot, 2012). The 30-59 age group should continue to shrink at an annual pace of -0.1%. Moreover, recent developments in the prices of new homes are hindering any chance of a recovery. In spite of the upturn in household purchasing power, demand for and construction of new homes may well continue to decline in 2015. ■

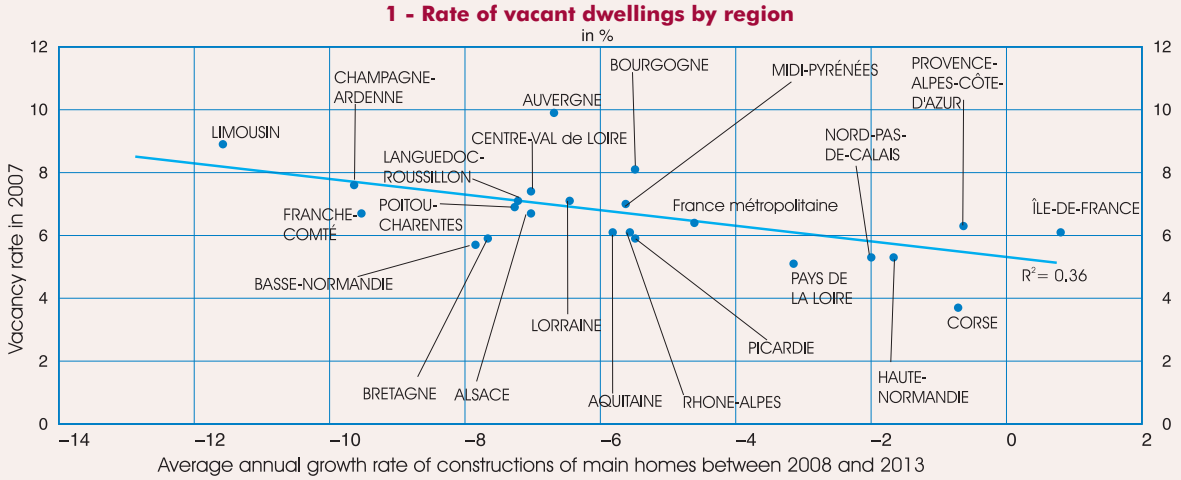
Box 3 - The rate of vacant dwellings is not an indicator of tension on the housing market

The slowdown in construction since 2007 has coincided with a sharp rise in the number of vacant dwellings. Between 2008 and 2014, the number of vacant dwellings increased by 31.1%, growing much more rapidly than total housing stock (+7.8%). As a result, the proportion of vacant dwellings in total housing stock grew by 1.4 points between 2008 and 2014: in 2014, vacant dwellings represented 7.8% of total housing stock, the highest rate recorded since 1982 (the first year for which statistics are available).

As defined for the purposes of the population census, vacant dwellings are unoccupied properties, whether they are offered or registered for sale or rental, or simply retained by their owners (for example, properties which are in too poor a state to sell or rent).

This increase in the proportion of vacant dwellings may suggest that supply and demand are mismatched. It may also suggest that potential buyers are delaying their purchases, in a context of rising house prices. Whatever the reason, the existence of a stock of vacant dwellings need not impede the dynamism of the construction sector, particularly when renovating old homes is more costly than building new ones. On the other hand, if the rise in the proportion of unoccupied properties reflects excess supply compared with solvent demand, this may represent an obstacle to the recovery of the construction sector. This latter hypothesis seems to be borne out at regional level: the proportion of vacant dwellings per region in 2007 shows a negative correlation with the growth in housing starts since then. In those regions where the proportion of vacant dwellings was below the national average in 2007, construction of new homes saw less of a decline between 2008 and 2014. Nevertheless, the correlation between these variables remains weak (*Graph 1*).

1 - Rate of vacant dwellings by region



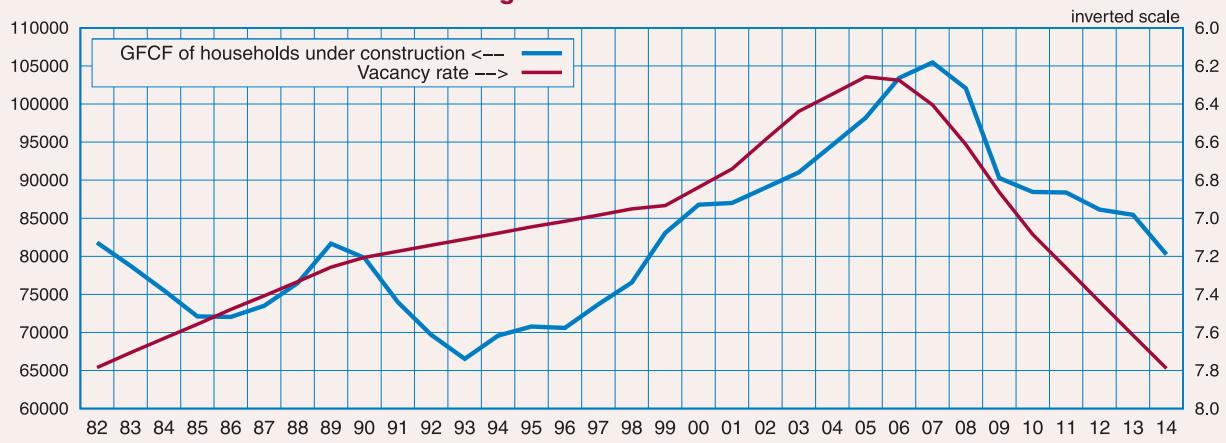
Sources: INSEE, SOeS

Despite the recovery of purchasing power, housing construction should continue to fall in 2015

Furthermore, the rate of unoccupied properties does not mirror the cycles of the property market in the long term. The continuous fall in the number of vacant dwellings in the 1980s and 1990s was not accompanied by an increase in household investment in construction (*Graph 2*). Moreover, fluctuations in investment during the period are not reflected in the proportion of vacant dwellings. This proportion reached its lowest point in 2005, whereas household investment in construction remained dynamic until 2007.

The number of vacant dwellings as a proportion of total housing stock can therefore not be interpreted as an indicator of tensions on the property market. ■

2 - Rate of vacant dwellings and household investment in construction



Sources: Insee, SOeS

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