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HOUSING IN EUROPE: ARE THERE ANY OVERHEATED MARKETS?

— Although the 2008 crisis seriously affected some European markets, housing prices have climbed in most Western European countries since the early 2000s, and even higher in most capital cities.

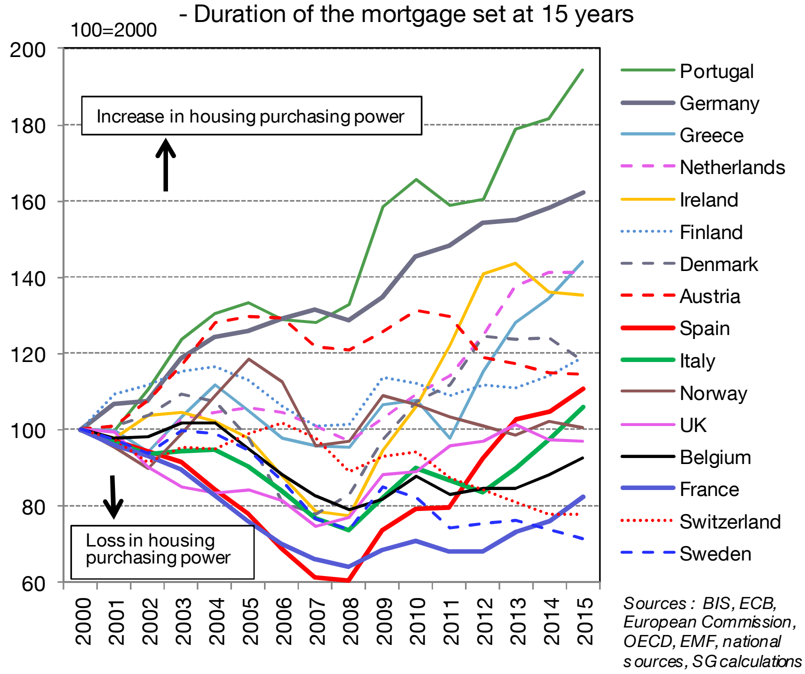
— If we compare these prices to household income or rent, the ratios have moved away from their long-term averages in Sweden, Norway, Belgium and the United Kingdom.

— The overall trend of higher prices has been driven by a long-term decline in borrowing interest rates. This drop-off, paired with a slight increase in incomes, has kept real estate reachable to consumers. Still, with prices soaring, affordability has worsened since 2000 in Sweden and, to a lesser extent, in Switzerland, France and Belgium.

— Household debt has increased in most countries. That increase, combined with the risk of a possible future increase in interest rates, has pushed some governments to implement macroprudential policies (specific restrictive measures imposed on lenders) aimed at reducing risk on the housing market. However, it is still too soon to assess their impact.

HOUSING AFFORDABILITY INDEX

- Duration of the mortgage set at 15 years



Sources : BIS, ECB, European Commission, OECD, EMF, national sources, SG calculations

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This study covers the housing markets of 16 Western European countries.

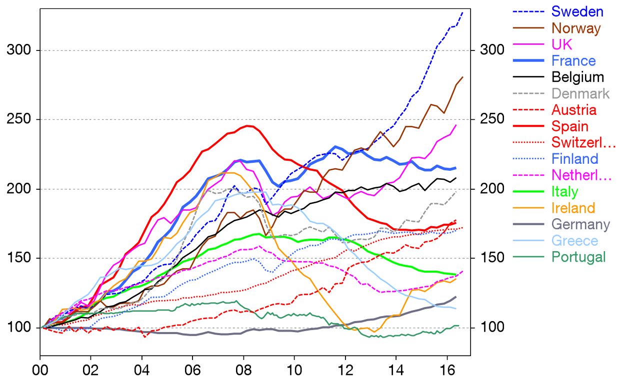
ESCALATING PRICES UNTIL 2007, AND VERY MIXED TRENDS EVER SINCE

FIFTEEN YEARS OF RISING NOMINAL PRICES...

From 2000 to 2007, we observed an increase in housing prices nearly everywhere in Western Europe. However, the trends have been highly disparate since 2008.

HOUSE PRICES IN EUROPE

100= Q1 2000



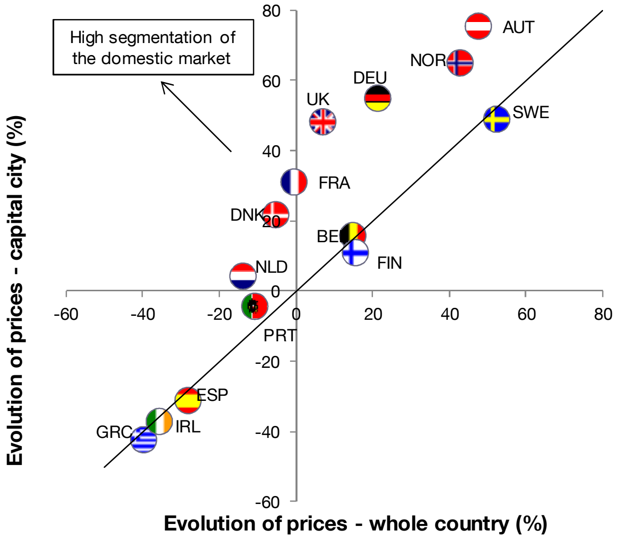
Source: Thomson Reuters Datastream (BIS)

Some markets have seen dramatic increases, such as Sweden, Norway and the UK, where the 2008 crisis only temporarily reversed the trend. Other markets, like Ireland and Spain, have corrected sharply since 2008 due to overproduction of new housing in the 2000s. Finally, other markets have stayed on fairly steady trends in the last fifteen years. These include Portugal (after price jumps in the 1980s and 1990s) and Germany (where the steady increase since 2010 after a long stagnation may be considered as a normalisation of the market).

... PARTICULARLY IN SOME CITIES

These national indices may hide substantial regional disparities within each country. Outside peripheral European countries (where prices have fallen just about as much in the capital as elsewhere), **in the majority of cases, prices in the capital cities increased considerably more than prices in the country as a whole between 2007 and 2015.** While the capital with the greatest price hikes in eight years is Vienna (+75.5%), it was London that pulled furthest ahead of the rest of its country: a 48% increase compared with 7% for the UK as a whole. The only exceptions were Belgium (prices in Brussels had already jumped in 2004-2005), Sweden and Finland, where prices in the capitals kept pace with prices in the rest of the country.

EVOLUTION OF PRICES IN THE CAPITAL CITY* AND IN THE COUNTRY BETWEEN 2007 AND 2015



*Source: BIS, national sources, EMF. * for Germany, index 7 large cities*

This all seems to be related to population density in the major cities.

PRICES AT ODDS WITH FUNDAMENTALS IN FOUR COUNTRIES

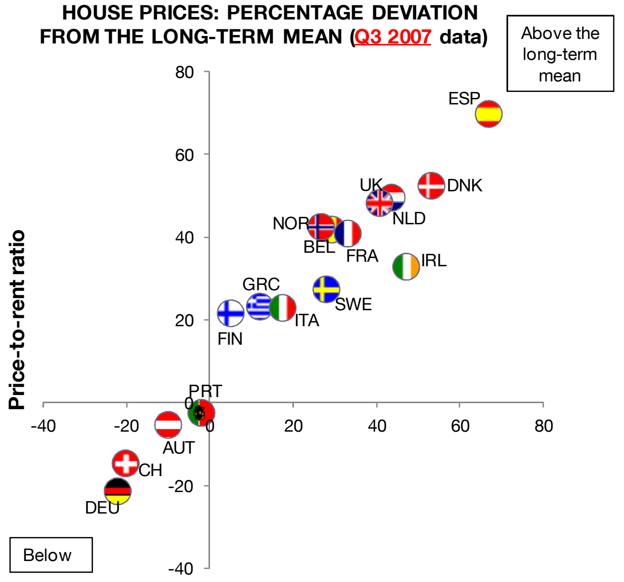
There are many indicators for comparing housing prices with economic fundamentals. Among them, the ratios between housing prices and household income or rental rates are frequently used. Thus, the OECD calculates price-to-income (nominal housing prices compared to per capita nominal disposable income) and price-to-rent (prices compared to rental rates) ratios. The values are compared to their long-term average[1].

The graphs below show each country's situation, using these two indicators, in the third quarter of 2007 (when prices were topped out in a number of countries), and in the second quarter of 2016 (Graph 2).

Case in point: in Spain, in the third quarter of 2007, the price-to-income ratio was 67% higher than its average since 1980, and the price-to-rent ratio was 74% higher.

[1] *I.e. since 1980, for all countries except Denmark (1981), the United Kingdom (1987), Portugal (1995), Greece (1997), and Austria (2000) for the price-to-income ratio; and Portugal (1988), Greece (1997), and Austria (2000) for the price-to rent ratio.*

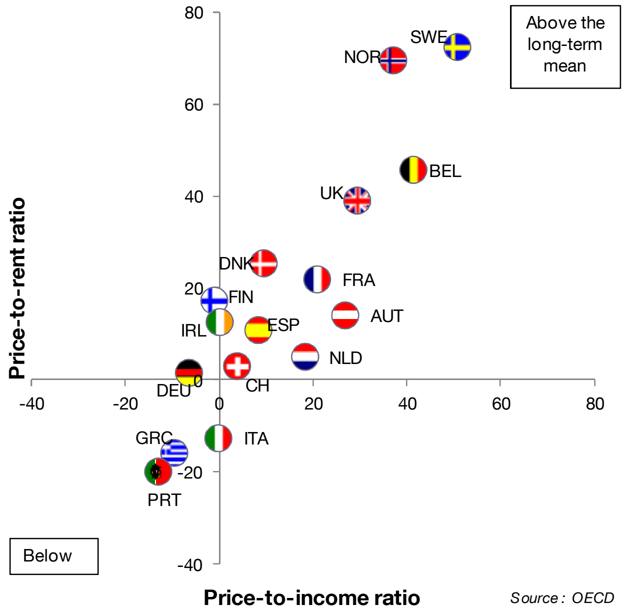
HOUSE PRICES: PERCENTAGE DEVIATION FROM THE LONG-TERM MEAN (Q3 2007 data)



Source : OECD

In the second quarter of 2016, price-to-income and price-to-rent ratios were, respectively, 51% and 73% higher in Sweden than their long-term average (over the 1980-2016 period):

HOUSE PRICES: PECRCENTAGE DEVIATION FROM THE LONG-TERM MEAN (Q2 2016 data)



Source : OECD

First, we can see that in all countries where the price-to-income ratio had exceeded its long-term average by more than 40% in the third quarter of 2007 (Spain, Denmark, Ireland, and the Netherlands), there was a substantial correction in prices thereafter.

Three groups of countries stand out: those where prices are now high compared to their historical ratios (Sweden, Norway, UK and Belgium); those where prices plummeted after 2007 (Spain, Italy, Ireland, the Netherlands, Denmark, Portugal and Greece); and the others (France, Germany, Austria, Finland and Switzerland), where prices have not seemed excessively high on average for the last fifteen years, relative to income and rental rates. In this last group, however, some recent price hikes in the capitals or major cities are sometimes significant (Vienna, Paris and large German cities).

Overall, for **the vast majority of the countries in the study, both indicators sit above their long-term averages in 2016**. This may be explained by the widespread decline in interest rates.

INTEREST RATES DOWN, HOUSEHOLD DEBT UP

THE X FACTOR: INTEREST RATES

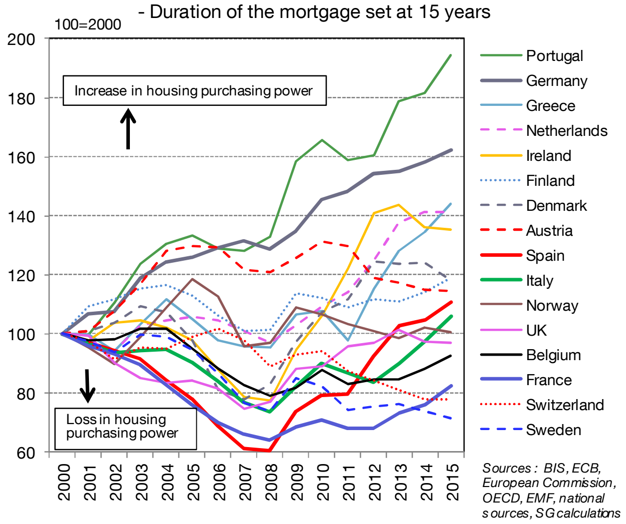
One explanation for the price increase is the decline in borrowing interest rates. From 2000 to 2016, interest rates on housing loans have fallen across the board, with lending rates correlated to government bonds, which are down themselves.

The recent further drop in interest rates may explain why real estate prices have been on the rise since 2014 in 13 of the panel's 16 countries: all except Greece, Italy and, to a lesser extent, France.

Yet this drop in interest rates is nothing new: it's been an underlying trend for 35 years. The plunge in interest rates in the second half of the 1990s was probably a catalyst for the jump in prices in the 2000s. The almost uninterrupted erosion of interest rates since 1980 has left some households capable of purchasing property in spite of a strong overall rise in prices.

Thinking in terms of **housing affordability** or *consumers' housing purchasing power*, the analysis may differ from the one reading the price curve. The affordability index used here estimates the change in the number of square metres that an average individual can buy according to his or her **income**, **interest rates** on housing loans, and average real estate **prices** per square metre in each country. The simulation is done using a loan with no down payment and a 15-year term loan for all countries. The following graph shows the trend in real estate affordability for European households since 2000. To illustrate, a Spanish who could buy 100 m^2 in 2000 had to settle for 61 m^2 in 2008 but could get 111 m^2 in 2015.

HOUSING AFFORDABILITY INDEX
- Duration of the mortgage set at 15 years



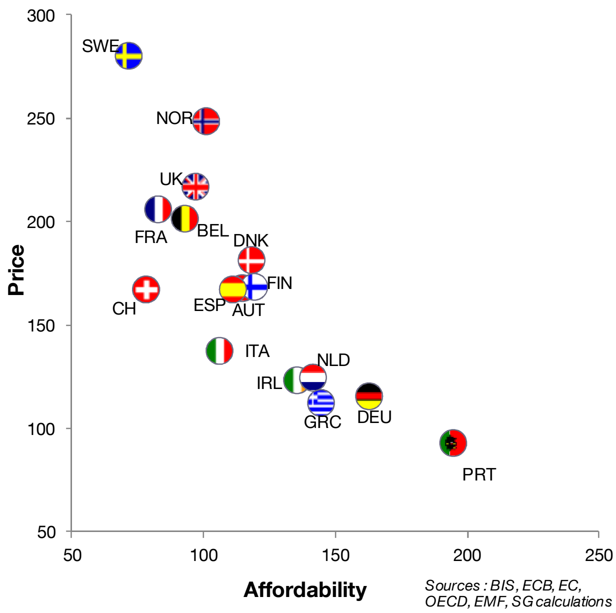
Since 2000, household affordability has improved most in Portugal (where prices had jumped in the 1990s) and Germany. It has worsened most in Sweden. Norway is at the same affordability level as in 2000 because household incomes have increased more than in the other countries over the period. Conversely, the rise in income has been weaker in Switzerland. To complete the analysis, we must keep in mind that the panel's countries were not all at the same phase in their real estate cycle in 2000 (the base year used for the above index).

All in all, household affordability is better in 2015 than in 2000 in most of the countries, except those where the price increase has been strongest.

Therefore, it does not seem abnormal that housing prices are above their all-time high overall (even corrected for income) because interest rates for housing loans are historically low.

The following graph summarises the previous analysis by crossing price and affordability variables. It breaks the affordability trend down into the role of price and the role of income.

HOUSE PRICES AND AFFORDABILITY IN 2015
(index, base 100 in 2000)

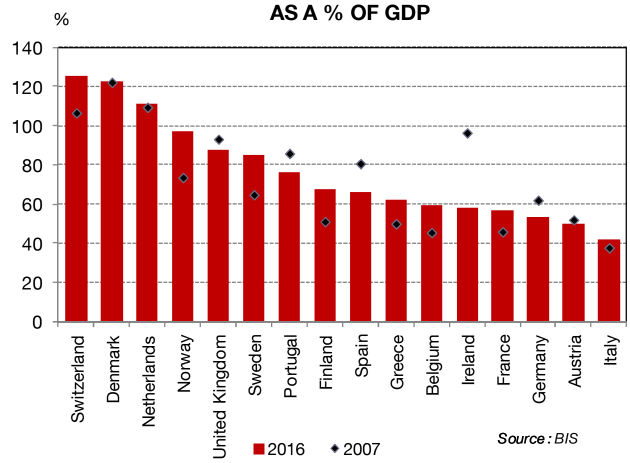


There is a significantly inverse relationship between the evolution of housing prices and that of affordability. This means that there are factors other than income and interest rates in the pricing trend. Among these, longer borrowing terms are a factor that may have helped to improve affordability as well as increase debt-to-equity ratios.

RISING DEBT LEVELS SINCE 2000

Falling interest rates may also have pushed households to take on more debt. Household debt in Europe has significantly increased between 2000 and 2007 (except in Germany). **This increase in debt accompanied the price increase, with each movement fuelling the other** (prices and credit volumes are historically strongly correlated).

OUTSTANDING LOANS - HOUSEHOLD - AS A % OF GDP



Since 2007, the situations have been divergent. Debt has continued to fall in Germany, and has fallen in most of the peripheral European countries affected by the crisis (particularly Ireland). Elsewhere it has stagnated or increased, with the largest jumps in Sweden, Norway, and Switzerland.

Generally, Scandinavian households (Denmark, Norway and Sweden) are among the deepest in debt. The reasons for this include lending terms (which are longer than elsewhere) and the practice of non-depreciable loans. However, such substantial debt does not necessarily carry a risk: households also have significant financial assets in the form of pension funds and, furthermore, the tax scheme is conducive to taking on debt (interest on loans is deductible, and employer matching contributions to pension funds are exempt).

A potential increase in interest rates could heighten the risks on these outstanding loans in Europe, through an increase in monthly payments for variable-rate loans or a possible cut in prices resulting from the higher interest rates.

MACROPRUDENTIAL POLICIES FOR REGULATING HOUSING MARKETS

Since the 2008 crisis, new macroprudential policies have been designed to better regulate the housing markets and the systemic risk they potentially pose to players in the financial sector.

Two types of macroprudential measures that have been implemented could have an impact on the housing sector: the countercyclical capital buffer (an instrument aimed at the lender) **and exposure limits based on the borrower's profile** (an instrument aimed at the borrower).

The countercyclical capital buffer (CCB) is aimed at increasing the banks' capital requirements during a credit surplus and reducing it during a credit shortfall, in order to smooth out loan production and reduce its cyclicality. Every quarter, the national authorities[2] set the additional equity required (0%-2.5% of risk-weighted assets or *RWA*) according to their appraisal of domestic systemic risk. The country's banks have then one year to comply. Among European countries, only five have decided to activate this CCB to stem the supply of credit: Sweden, Norway, Czech Republic, Slovakia and the United Kingdom. For the UK, the Bank of England had decided to raise the CCB by 0.5% before reversing its decision in July 2016 after the Brexit vote.

Implementation date and CCB rate:

Country	2015				2016				2017			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sweden	-	-	1,0%	1,0%	1,0%	1,5%	1,5%	1,5%	2,0%			
Norway	-	-	1,0%	1,0%	1,0%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	
Czech Republic	-	-	-	-	0%	0%	0%	0%	0,5%	0,5%	0,5%	
Slovakia					0%	0%	0%	0%	0%	0%	0,5%	
United Kingdom	-	-	-	-	0%	0%	0%	0%	0%	0%		

Source: ESRB

Other macroprudential tools – regarding the borrower – **can be activated** to limit growth in certain real estate markets. The regulation may **limit the initial term of loans**, **the** *loan-to-value* (***LTV***) ratio, **and** *the loan-to-income* (***LTI***) ratio.

These macroprudential tools have been in use for just a few years, and from here, it is hard to see where they will take us. The IMF says that capping LTV or LTI may be effective in regulating real estate prices.

The box on the following page shows an example of four European countries that have used these tools.

Right now, the impact on pricing trends in the relevant countries seems limited, but it is still too soon to assess the efficiency of these macroprudential measures.

[2] *In France: the High Council on Financial Stability*

PRICING TRENDS IN THE MAJOR COUNTRIES THAT HAVE ACTIVATED MACROPRUDENTIAL MEASURES

Among those countries that have activated these macroprudential solutions:

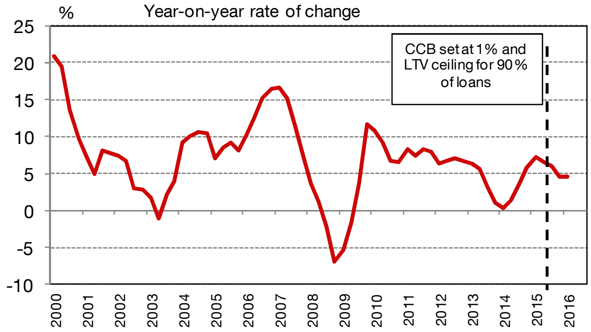
- **Norway** activated the CCB and capped LTVs in July 2015. LTVs are capped at 85% of the loan amount, and LTVs above 70% must be subject to amortisable (non-bullet) loans. Ten percent of each bank's loans are exempt from these regulatory requirements;

- **Ireland** capped LTVs and LTIs in February 2015. The maximum LTV is 90% for first-time buyers and 80% for other buyers. LTI must not exceed 3.5 for more than 20% of new loans. Of all the macroprudential measures used in European countries, this series of measures seems to be the one that has had the greatest impact on pricing trends, although it is still too soon to form a final opinion (see chart to the right);

- **Belgium** has required an additional five percentage points of risk weighting on real estate loans since December 2013. After a one-off effect, prices have resumed their upward trend;

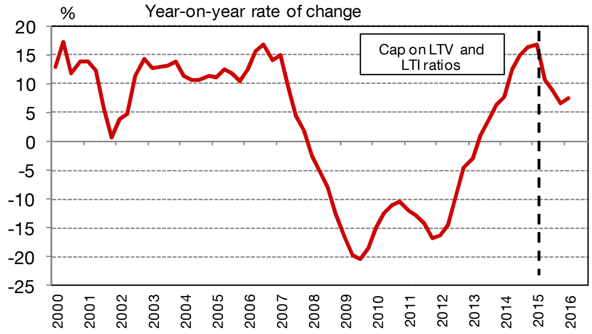
- **Sweden** capped the LTV ratio at 85% in October 2010 (which amounts to requiring a minimum 15% down payment), activated the CCB in September 2015, and tightened loan amortisation rules in June 2016. Other measures could follow if these do not turn out to be effective enough to slow down the momentum of real estate lending.

HOUSE PRICES IN NORWAY



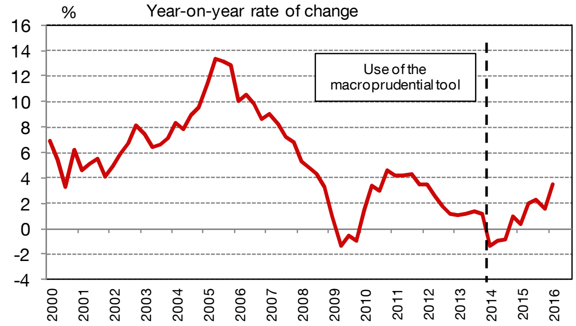
Source : BIS

HOUSE PRICES IN IRELAND



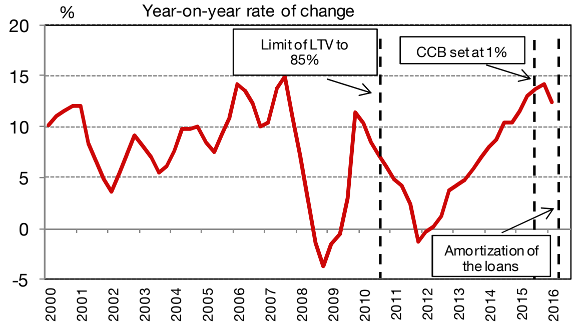
Source : BIS

HOUSE PRICES IN BELGIUM



Source : BIS

HOUSE PRICES IN SWEDEN



Source : BIS

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