

# Low interest rates and their impact on Belgian households

V. Baugnet  
Ph. Du Caju  
M.-D. Zachary

## Introduction

In response to the financial crisis and subsequent recession that hit the global economy from 2008, the ECB, like most other central banks in advanced economies, has been pursuing extremely accommodating monetary policies, reflected in unparalleled reductions in interest rates and liquidity injections on a massive scale. When the limits of conventional monetary policy instruments became apparent, the ECB bolstered its policy from early 2015 by embarking on large-scale asset purchase programmes. This environment of excessive liquidity also pushed up property and financial asset prices.

This article analyses the consequences of the low interest rate environment for households in Belgium, with a focus on the recent period. Have Belgian households seen their incomes eroded due to the dwindling returns on their savings? Or have they benefited from the fall in their borrowing costs, combined with the increased value of their assets? Have they changed their savings and consumption behaviour? Has the general fall in financial returns forced them to seek riskier investments? This article attempts to provide answers to these questions.

The aim here is not to explore the reasons for the low interest rate environment, which is not solely the result of accommodative monetary policies: weak overall demand, overcapacity and stubbornly high levels of debt in both the private and public sectors are equally cyclical elements which have characterised the European economy over the last decade and which have held down interest rates. Structural developments, such as population ageing and

the slowdown in potential growth, generate imbalances between savings and investment – a situation that has been ongoing for some time and which also weighs on interest rates.

The impact of low interest rates on household accounts is difficult to quantify because it affects both the financial markets and the real economy, operating through various channels and mechanisms which interact with, reinforce or counterbalance each other and which cannot be completely isolated. It is not possible to determine what the macroeconomic conditions – growth, inflation, household income, etc. – would have been if interest rates had remained at higher levels, and particularly if no monetary policy measures had been taken. With this in mind, the influence of these different factors on household incomes, assets and behaviour will be referred to in general terms and no attempt will be made to quantify their relative importance with any precision.

Section 1 describes the recent macroeconomic environment in terms of nominal and real interest rates and financial asset and property prices. Section 2 presents a theoretical discussion of the impact of falling interest rates on household behaviour, with a particular focus on income, substitution and wealth effects. Section 3 traces developments in household income, wealth and behaviour since 2008 and describes the trade-offs between consumption and saving as well as the allocation of savings. Section 4 examines the redistributive effects of low interest rates, using microeconomic survey data that reflects on the differences in the debts and assets of different types of household.

# 1. Macroeconomic environment

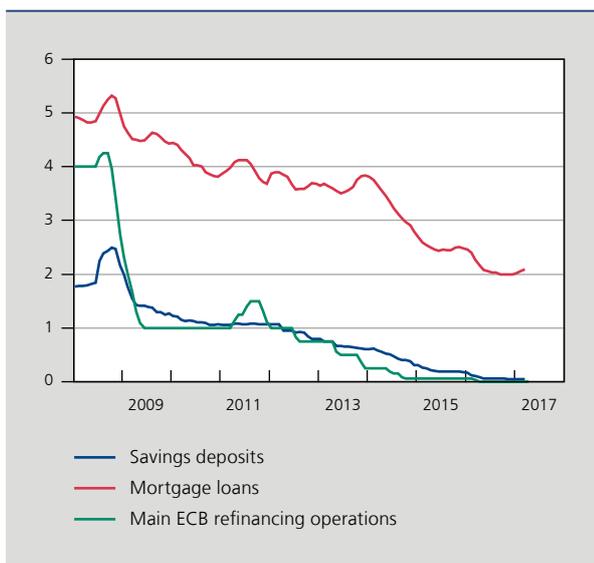
## 1.1 Low interest rates

The fall in interest rates linked to the main ECB refinancing operations was largely priced into retail rates offered to clients by financial institutions, and particularly in two areas typically relevant for households, i.e. (regulated) savings accounts and mortgage loans with a fixed interest period of more than ten years<sup>(1)</sup>. While the ECB lowered its key rate from 4.25 % to 0 % between October 2008 and April 2016, the basic interest rate paid on savings in Belgium went down from 2.49 % to 0.08 % over the same period, and mortgage interest rates fell from 5.33 % to 2.16 %. Rates have remained broadly unchanged since then: the basic interest rate paid on savings in March 2017 was 0.04 %, while mortgage interest rates stood at 2.09 % – rates that are close to historic lows for these two product categories.

Until early 2014, interest rates on savings deposits and loans moved largely in parallel, but since the spring of 2014 lending rates have fallen more steeply than savings rates, narrowing the spread to around 200 basis points compared with its more usual level of around 300 basis points.

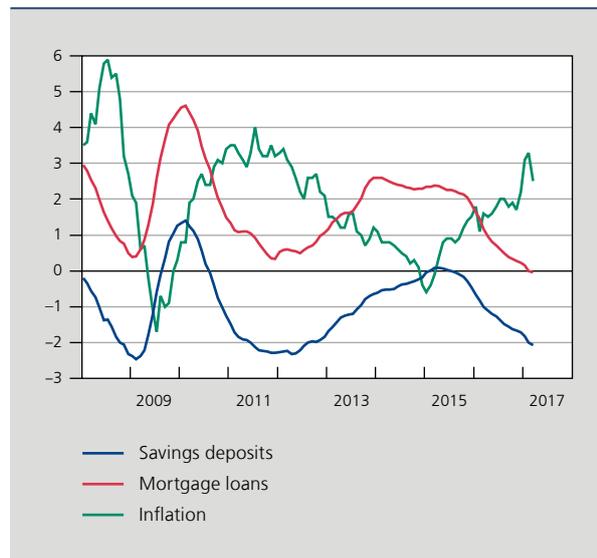
Savings deposit rates are based on short-term interest rates, whereas the mortgage loan rates discussed here depend on long-term interest rates, and this narrowing

**CHART 1** ECB KEY INTEREST RATE AND RETAIL RATES FOR BELGIAN HOUSEHOLDS (in %)



Sources: ECB, NBB.

**CHART 2** REAL INTEREST RATES<sup>(1)</sup> FOR HOUSEHOLDS AND INFLATION IN BELGIUM (in %)



Sources: DGS, NBB.

(1) Interest rates here are deflated using the average HICP inflation rate over the past 12 months. Theoretically, nominal interest rates should be deflated using the expected rate of inflation rather than past inflation rates. However, apart from the fact that inflation expectations are by definition uncertain and impossible to measure, households are generally considered to be myopic when it comes to future price expectations; in other words, they regard past inflation rates as the best predictor of future inflation.

spread can therefore be largely attributed to a flattening yield curve. The unconventional monetary policy measures announced in early 2015 and subsequently implemented have depressed long-term rates further, while short-term rates have been constrained by the zero lower bound. Belgian law also imposes a minimum limit for interest rates on savings, which may not fall below 0.11 % (including fidelity premium).

Theoretically, people's behaviour is determined more by real interest rates than by nominal rates, and households base their decisions on whether to consume now rather than in the future on an assessment of the future purchasing power of their savings, given their expectations regarding price developments.

Chart 2 shows the real interest rates available to households (adjusted for inflation). The historically low average level of real interest rates is more striking than their development over time. In the 2008-16 period, the real

(1) The MIR survey from which these rates are taken has been collecting this information from credit institutions on a monthly basis since 2003. To facilitate comparison between countries and enable aggregation at euro area level, harmonised categories of savings deposits and loans were created for the typical products offered by banks in the various countries. The savings deposits referred to here have a notice period of up to three months; mortgage loans represent a home loan with an initial fixed interest period of more than ten years.

interest rate payable on short-term deposits was generally negative (averaging -1 %); in other words, the interest paid on savings accounts was not enough to compensate for inflation and households which left their savings “dormant” lost purchasing power. The real costs of repaying a mortgage loan averaged 1.8% over the same period – again, a historically very low level; by way of comparison, in the 1995-2007 period, the real mortgage interest rate averaged 3.8% and the interest paid on savings 0.7%.

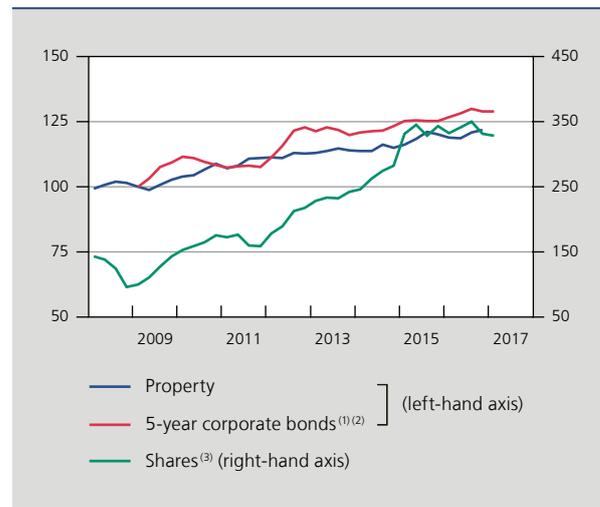
## 1.2 Increase in financial asset and property prices

The historically low interest rates and the unconventional measures adopted by the ECB have impacted on the prices of both financial assets and property. The impact on asset prices can be largely ascribed to portfolio restructuring effects resulting from a search for yield, in which low-yielding assets are replaced by assets offering higher returns. This in turn makes those assets more expensive (valuation effect). The low interest rate environment has had a positive impact on bond and share prices as well as on property prices. But where the bond market is delivering relatively low returns, the property and equity markets have continued to deliver ever better returns thanks to their higher risk premiums (divergent risk profiles).

The ECB's introduction of unconventional monetary policy measures to address the risks of an excessively long period of low inflation, and in particular the outright monetary transactions (OMT) programme launched in 2012 and the asset purchase programme (APP) which began in 2015 and involves monthly purchases of both government paper (public sector purchase programme – PSPP) and corporate bonds (corporate sector purchase programme – CSPP), have helped boost government and corporate bond prices on the financial markets. This upward impetus clearly began in 2012, since when the purchase of securities by the ECB and the resultant strengthening of demand for those assets has driven up prices. The additional overall demand for assets created by the resultant portfolio restructuring has also pushed up prices, even for financial instruments not directly involved in the ECB purchase programmes. Against an index of 100 in 2009, the price of five-year corporate bonds in Belgium had risen to 129 by the end of February 2017, while share prices (listed shares of non-financial companies) rose to 329 over the same period.

Like financial asset prices, and partly driven by similar mechanisms, property prices have been boosted by the accommodative monetary policy. Residential property

**CHART 3** FINANCIAL ASSETS AND PROPERTY PRICES IN BELGIUM  
(indices: 2009 Q1 = 100)



Sources: DGS, Thomson Reuters Datastream.

(1) Bond prices were approximated based on their yield, assuming that they were zero-coupon bonds:  $1/(1 + \text{yield})^{\text{term}}$ . Estimated prices were then standardised taking the first quarter of 2009 as a basis.

(2) Weighted average of 4/5-year and 5/6-year bonds.

(3) Relates to a basket of shares of non-financial companies.

prices on the secondary market rose by an average of 2.5% in Belgium over the 2008-16 period, climbing to 122 by the end of 2016 on an index standing at 100 at the start of 2009. Although the average price increases mask periods of price falls, these have been minor and short-lived. Such dips occurred at the height of the recession in late 2008/early 2009, when prices fell by 3.5% in cumulative terms and, more recently, from late 2015 to mid-2016, when prices slipped 2%.

Compared with the situation prior to the financial crisis (an average rise of 6.8% in the 1995-2007 period), recent property price inflation is very modest, suggesting that the impact of monetary policy on property prices is ultimately limited. Later in this article, it will become clear that the general macroeconomic climate, and more particularly the trend in disposable household income – which along with interest rates and demographic factors is a main determinant of property price growth – has been significantly less favourable in the recent period than before the crisis. While changes in the tax environment (deductibility of interest, gifting, regularisation of assets by the EBA, etc.) had propped up demand for – and therefore prices of – property in the pre-crisis period, this has no longer been the case in the past decade. On the contrary, the recent period has been characterised by macroprudential measures aimed at curtailing growth in property transactions.

## 2. The choice between saving and consumption: theory and survey results

### 2.1 Theoretical aspects

Changes in interest rates can influence the behaviour of households, and in particular their decisions on whether to consume or save, through a variety of mechanisms. Three such mechanisms are generally distinguished: the income effect, the substitution effect and the wealth effect.

#### *Income effect, substitution effect and wealth effect*

The income effect is the impact of falls in interest rates on the ability of existing or future savings income to achieve a future income level. When interest rates fall, households typically respond by consuming less in order to save more. This of course only applies for households with a positive capacity to save, i.e. whom incomes exceed their current consumption; for borrowers, by contrast, a fall in interest rates makes their loan repayments cheaper, allowing them to consume more.

The substitution effect is measured as the opportunity costs of deferring consumption. When interest rates fall, saving becomes less appealing and credit is cheaper, prompting households to consume more. This is only possible if households can readily obtain credit to finance their spending, which is by no means always the case. In other words, the substitution effect is generally tempered by liquidity constraints.

The third mechanism is the wealth effect, whereby a fall (rise) in interest rates automatically leads to a positive (negative) change in the value of both financial and property assets. Households which hold assets may be prompted purely by the fact that they “feel” richer (poorer) to consume more (less), even if they do not actually sell any assets.

The impact of a change in interest rates on savings (and consumption) is thus ambiguous<sup>(1)</sup>. It depends on the relative importance of the three mechanisms (income effect, substitution effect and wealth effect) and whether the focus is on savers or borrowers.

#### *Other motives for saving: precautionary saving, pension, wealth transfer*

Of course, people’s savings behaviour is not dictated solely by movements in interest rates, but is also determined

by other factors. Households saving to create a buffer against unexpected fluctuations in income or expenditure – for example loss of income due to unemployment, unforeseen expenses, etc. – are more concerned about future risks in relation to income and consumption than the returns they achieve on their savings. The uncertainty about future income streams also relates to pensions, and households tend to save more as general government debt increases, in anticipation of possible tax rises to stabilise or reduce that debt or of the government no longer being able to meet its commitments, particularly as regards pensions or other replacement incomes. Other personal motives, such as the desire to leave assets to future generations, also reduce the sensitivity of savers to fluctuations in the return on savings. Factors such as the age profile of the population, their attitude to risk, degree of financial literacy and tax treatment also influence the savings decisions of households, as well as the way in which they save.

### 2.2 Household saving motives: survey results

To illustrate the relative importance of the different theoretical motives for household saving, we can draw on the results of household surveys, and specifically the Household Finance and Consumption Survey (HFCS). This representative survey was initiated by the Eurosystem, and is conducted in Belgium by the NBB. Some 2 300 households were interviewed in 2010 and 2014 about their financial behaviour, their incomes, their assets and their debts.

When asked about their motives for saving, the main reason given by households was to build a buffer for unexpected events (precautionary saving); the share of households citing this motive grew between 2010 and 2014, from 54.1 % to 58.8 %, possibly suggesting an increase in uncertainty.

Saving for old age (consumption smoothing within the life cycle) was another important saving motive, cited by 35 % of households – a figure that remained stable between 2010 and 2014.

The survey also showed that households save for major purchases (to buy their own home or for other big-ticket items), to pay for travel or holidays or to support children or grandchildren (e.g. to help them through their studies or to buy a home). These saving motives grew in importance between 2010 and 2014, perhaps illustrating the income effect described above.

Taken as a whole, the survey findings point to a firming up of the different saving motives between 2010 and 2014.

(1) The causal relationship between saving and interest rates also operates in the reverse direction: increasing life expectancy against a backdrop of a stable retirement age prompts people to save more for their old age, thus depressing interest rates.

**TABLE 1** HOUSEHOLD SAVING MOTIVES<sup>(1)</sup>  
(in % of households)

	HFCS I (2010)	HFCS II (2014)
Buffer against unexpected events . . .	54.1	58.8
Provision for old age . . . . .	35.6	35.5
Travel and holidays . . . . .	23.6	28.3
Educational or other support for children/grandchildren . . . . .	22.9	27.3
Other major purchases . . . . .	15.9	26.9
To build up a legacy . . . . .	14.2	13.8
To purchase own home . . . . .	12.0	11.2
To pay off debts . . . . .	5.0	5.9
Spending on items that are eligible for grants . . . . .	10.5	5.7
Investment in own business . . . . .	1.2	2.0
Investment in financial assets . . . . .	2.1	2.0
Other . . . . .	4.5	6.4

Source: NBB (HFCS 2010 and 2014).

(1) Reasons households save or would save (if they did not have sufficient funds at the time of the interview); more than one option per household possible.

This reflects the growing uncertainty about future income streams, leading to a concomitant rise in precautionary saving, though it could also be an illustration of an income effect caused by the low return on savings, prompting households to save more to cover their future expenses.

### 3. Impact on household income, wealth and behaviour

#### 3.1 Decline in interest income and asset valuation effects

The sharp downturn in nominal interest rates has led to a substantial fall in net household interest income<sup>(1)</sup>. Since 2012, interest payments on loans have actually been higher than income from interest-bearing assets – an unprecedented situation for Belgian households, which have historically formed a net creditor sector as regards

(1) The figures presented here are taken from the Belgian financial accounts, and reflect the amounts actually spent or received by Belgian households. These figures differ from those in the national accounts, in which the effective interest flows are broken down into a theoretical flow, which is estimated by applying a reference rate to the corresponding outstanding loan amount, and a margin which represents the costs of providing the financial service, based on FISIM ('financial intermediation services indirectly measured') calculations. Only the theoretical flow is included in interest income/payments in the national accounts, whereas the margin is recorded as the consumption of financial services by households.

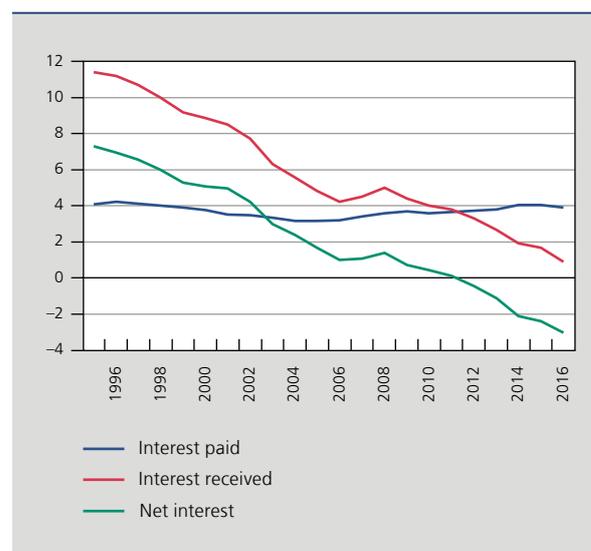
interest-bearing assets and which have therefore traditionally enjoyed net interest income. In 1995, net household interest income amounted to around € 10 billion, or 7.3 % of their disposable income; in 2008 this had fallen to € 3 billion, or 1.4 % of disposable income, and in 2016 it had turned negative to the tune of around € 7 billion, some 3 % of household disposable income.

This situation is related to the steady fall in interest income over a period in which interest payments as a proportion of disposable income have effectively remained stable or even increased slightly – surprising at first sight, given the virtually parallel trend in bank debit and credit rates outlined above.

One explanation for this is that the amounts in household accounts to which the reduction in bank rates applies are much larger on the asset side (deposits) than the liabilities side (loans). At the onset of the crisis in late 2008, the value of interest-bearing assets held by households (€ 356 billion) was twice as high as their liabilities (€ 177 billion), automatically contributing to a reduction in the net interest volume.

A second factor is related to the characteristics of the financial deposits and liabilities of Belgian households, and in particular the fixed or variable interest rate that applies to them. Interest rates on savings and current accounts are adjusted regularly and almost automatically to market conditions, so that a fall in interest rates is applied directly

**CHART 4** INTEREST PAID AND RECEIVED BY HOUSEHOLDS  
(in % of disposable income)



Source: NBB.

and virtually in full to both new and existing deposits. Although the rates payable on time deposits, which are generally fixed for a period of 1-2 years, are adjusted less quickly, this type of saving is less popular among Belgian households than traditional savings deposits, and moreover fell in popularity between 2008 and 2016, from 8 % to 4 % of total household financial deposits. By contrast, savings in the form of regulatory deposits rose from 17 % to 19 %.

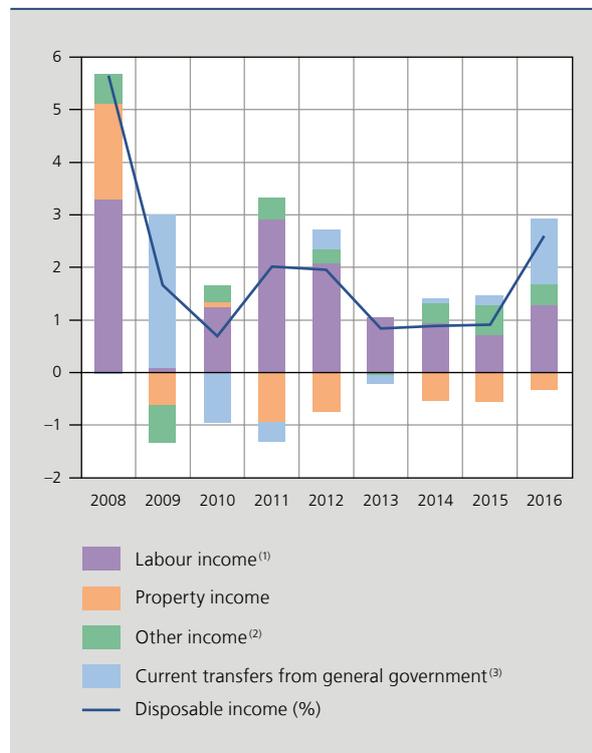
A fall in rates is reflected much less directly in the interest charges paid on mortgage loans. New borrowers benefit immediately from more favourable credit terms, but new mortgage contracts account for only a limited fraction of the total loans outstanding. Existing borrowers wishing to benefit from falling interest rates must either have loans with variable interest rates or refinance those with a fixed or semi-fixed interest rate. Mortgage loans with a fixed interest rate are the norm in Belgium: in 2008, at the onset of the crisis, loans with fixed or semi-fixed interest rates (initial fixed-rate period of at least five years) accounted for 96 % of all new home mortgages, while variable-rate loans (rate adjusted annually) made up only 3 %; mortgage loans with an initial fixed-rate period of between one and five years represent only 1 % of the total. Since remortgaging entails costs, it is not an automatic choice for households: around 11 % of mortgages were refinanced each year between 2008 and 2016, with wide fluctuations from year to year. The predominance of fixed-rate mortgages among Belgian households and the costs of refinancing those loans could therefore have curtailed the transmission of lower interest rates to the interest actually paid.

Finally, a third factor relates to the trend in household debt. The main reason why interest charges have not fallen in parallel with interest income is that household debt continued to rise steadily between 2008 and 2016, partially offsetting the fall in interest rates (see section 3.3).

The rise in other financial income – principally dividends, rental income and income from assets allocated to policy-holders – was not enough to offset the downturn in interest income; overall, households' financial income showed an almost uninterrupted decline between 2009 and 2016. And although financial income represents only a limited proportion of household resources<sup>(1)</sup> – roughly 15 % at the onset of the crisis – the decline was large enough to seriously erode households' disposable income. On average, financial income made a negative contribution of -0.5 % to the increase in

(1) In reality, financial income is not equally distributed across the different strata of the population (see section 4).

**CHART 5** BREAKDOWN OF HOUSEHOLD DISPOSABLE INCOME  
(contribution to the growth in nominal disposable income, unless otherwise stated)



Source: NAI.  
 (1) Excluding employers' social contributions.  
 (2) Other income comprises the gross mixed income of self-employed workers and households' gross operating surplus.  
 (3) Including employers' social contributions.

nominal disposable income between 2009 and 2016: put differently, if financial income had not declined, nominal disposable household income would have increased by 2 % year-on-year, rather than the 1.5 % actually recorded. On the other hand, the growth in disposable household income is driven mainly by income from employment, which accounts for around 60 % of the total, but which was also hit by the crisis: wages grew very slowly in 2009 and 2010 due to the enormous surge in unemployment and, from 2013 onwards, to various wage moderation measures.

The increase in financial asset and property prices which automatically followed the downturn in interest rates also contributed to the growth in household wealth through valuation effects.

The impact of valuation effects on the financial portion of household assets has on balance been positive in recent years, despite two major reductions in the value of these assets, following the bursting of the dot.com

bubble and during the financial crisis in 2008. Since then, the value of household assets has risen year-on-year against the backdrop of a steady increase in financial asset prices. This has enabled households to make up for the value losses resulting from the crisis – from 2009 to 2012 – and subsequently to lock in new gains (from 2013 onwards).

The valuation effects can be broken down according to the financial instruments concerned – shares, debt instruments, investment fund units or insurance products. Analysis of the financial accounts shows that gains for households in the 2013-16 period were achieved mainly thanks to the valuation of their shareholdings and investment fund units.

Households have also benefited from positive valuation effects on their property assets thanks to the almost uninterrupted rise in house prices since 2008, though these effects have not been as marked as in the pre-crisis period (especially 2005-2007), when property values increased by between 8 % and 12 % every year. While still positive, these gains shrank in the wake of the 2008 crisis and have grown steadily smaller in the years since. Figures for 2014 (the last year for which figures are available) suggest that the valuation effect was less than 1 % of the value of property assets.

All in all, then, households have seen their assets increase substantially thanks to the continuing growth in asset prices. More than half of the 34 % increase in the value of household financial assets between 2008 and 2016 was caused by valuation effects, with the remainder being due to new inflows. Valuation effects represent almost two-thirds of the 21 % increase in the value of property assets.

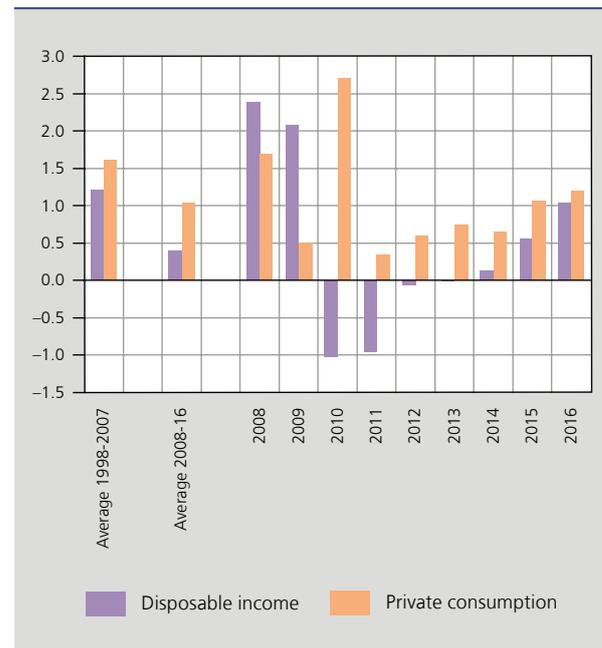
### 3.2 The choice between saving and consumption

To assess correctly the impact of the fall in financial income on households' consumption and saving behaviour, allowance needs to be made for the trend in financial income and, more broadly, disposable income, in real terms – in other words, taking into account the trend in prices – which is the best measure of household purchasing power.

The purchasing power of Belgian households remained in the doldrums for an unusually long period following the crisis, growing by an average of 0.4 % between 2008 and 2016, three times slower than in the pre-crisis decade. However, this average masks a diversity of trends throughout the period. Immediately after the

**CHART 6** HOUSEHOLD DISPOSABLE INCOME AND CONSUMPTION

(annual percentage change, in real terms)



Source: NAI.

crisis (in 2008 and 2009), household purchasing power jumped by more than 2 %, thanks to the sharp fall in inflation and the automatic stabiliser mechanisms that supported workers' incomes. Purchasing power subsequently fell by 1 % per annum in 2010 and 2011, and remained completely flat over the next three years (2012-14), an unprecedented phenomenon. It was not until 2015 that purchasing power began to rise again, tentatively at first (0.6 %), then more robustly in 2016 (1.2 %).

In response to the erosion of their purchasing power, households cut their spending, but not enough to keep pace with the fall in their disposable income; household spending on consumption continued to rise by 1 % in the 2008-16 period.

Consumption outstripping growth in disposable income year after year led to a gradual reduction in the savings ratio. This divergence between consumption and income is by no means exceptional, and in the first place reflects the traditional consumption smoothing over time. When households consider fluctuations in their income to be temporary, they are less likely to trim their spending. On balance, the fluctuations in household current income led to changes in savings. That can also be explained by the fact that certain components of household spending, such as housing costs and food, are irreducible and cannot be readily cut down when household income shrinks

**CHART 7** HOUSEHOLD PROPERTY INCOME AND SAVINGS RATIO  
(in % of disposable income)



Source : NAI.

(temporarily), prompting households to address their savings to restore the balance.

In this case, however, the steady year-on-year decline in the savings ratio appears to point more to an underlying trend than to a temporary differential between income and consumption. Additionally, the slide in the savings ratio corresponds almost exactly to the reductions in financial income: as a proportion of disposable income, household financial income fell from 15.8 % in 2008 to less than 10.8 % in 2016, a reduction of five percentage points; over the same period, the savings ratio declined to 11.4 % from 16.4 %<sup>(1)</sup>. At an aggregate level, therefore, the contraction of financial income does not appear to have resulted in lower consumption, but rather in less saving. This confirms the results of recent analyses<sup>(2)</sup> showing that households' saving capacity is closely linked to their financial income, while their labour income generally tends to be spent on consumption.

As lower interest rates eroded financial income, they also served as a redistribution mechanism at the expense of households with incomes largely derived from wealth and in favour of households with little or no financial income

(1) The savings ratio was exceptionally high in 2009 (17.7 %). This was the year in which uncertainty about the financial crisis was at its highest, sparking an increase in precautionary saving. In addition, at the onset of the crisis, Belgian households were still deriving full benefit from the automatic stabiliser mechanism (government transfers, pay indexation based on past inflation), while the current rate of inflation was falling very rapidly. This gave a very strong boost to household incomes in real terms, making it easy to save a proportion.

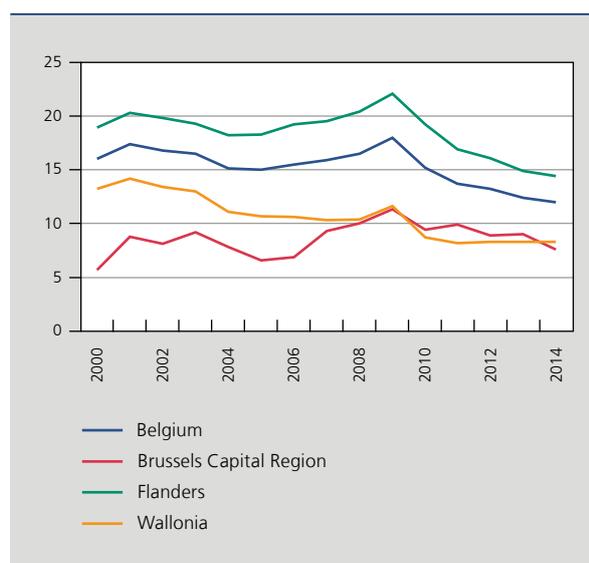
(2) See Basselier & Langenus (2014).

who mostly derive their financial resources from employment. This illustrates that the impact of lower interest rates is not the same for every household type; these redistribution effects are discussed in greater detail in section 4.

Studying the regional trend in the savings ratio sheds some light on the trend by income category, reflecting the wide variation in savings patterns closely linked to average or median income in the three Belgian Regions. The savings ratio is systematically higher in Flanders than in Wallonia and the Brussels Capital Region: 20.4 % versus 10.4 % and 10 %, respectively, in 2008. The income differential between the three Regions in that year (relative to the average for Belgium as a whole) was +6 % per inhabitant of Flanders, -5 % per inhabitant of Brussels and -10 % for inhabitants of Wallonia. The sharpest fall in the savings ratio in the wake of the crisis occurred in Flanders, where in 2014 it was almost 5 percentage points below the pre-crisis average. The savings ratio of Walloon households fell by less than 4 percentage points, though from a lower starting point. Finally, the savings ratio of Brussels households was unchanged in 2014 compared with the pre-crisis average. At regional level, therefore, the biggest fall in the savings ratio occurred in households in the most affluent Region.

The Bank's monthly consumer confidence survey also sheds light on the factors that determine households'

**CHART 8** SAVINGS RATIO BY REGION  
(in % of disposable income)



Source : NAI.

Note: The regional accounts are published later than the national accounts; the most recent available measurement of regional savings ratios dates from 2014.

decisions. Respondents are asked to give opinions on their likely savings capacity, the general economic situation, the prospects for unemployment, their own personal situation, their planned major expenses and the trend in prices. A specific question also asks them to assess whether or not “now is a good time to save”, providing an indirect indicator of the perceived return on savings.

The survey results have for some time indicated that the envisaged savings capacity depends much more on the individual financial situation – present, past and future – of households than on the general economic situation. Another factor found to reduce the propensity to save is the general trend in prices<sup>(1)</sup>: if households think inflation is set to rise, they expect to save less, confirming their concerns about the purchasing power of their savings in the future. Households to some extent also base their decisions on whether to save on the return on their savings, though this appears to play a lesser role than personal factors.

Households have expressed negative views on their savings capacity since 2008, signifying a lower propensity to save than the historical average and linked to a negative perception of their own personal financial situation which, apart from a brief interruption in the second half of 2014, has been consistently worse than average. This has been exacerbated since mid-2012 by a feeling that “now is not a good time to save”, reflecting the perceived low returns on savings.

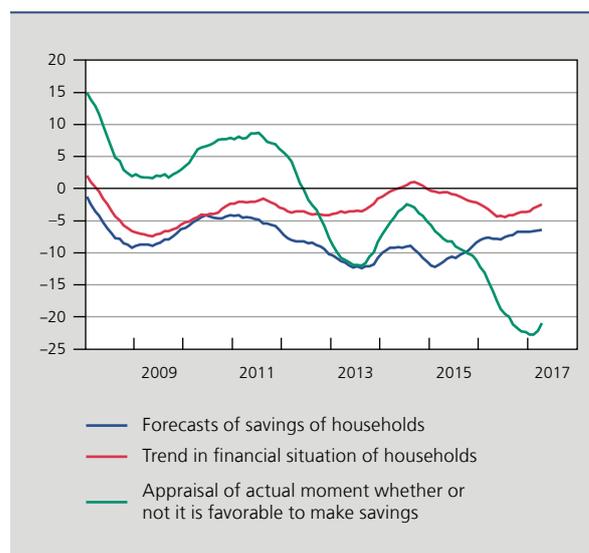
Since early 2015, however, there has been some evidence of a disconnect between the capacity to save and the perceived desirability of saving at that moment. Although households still think the return on savings is poor, this no longer appears to be affecting their decisions to save less – or consume more.

The findings of this survey suggest that while the “inter-temporal substitution” of low interest rates may have played a role in the decline in the savings ratio in Belgium overall, it has been a relatively inefficient mechanism over the past two years. This confirms the analyses of the determinants of consumption, both in Belgium<sup>(2)</sup> and the euro area<sup>(3)</sup>: the level of interest rates has only a partial influence on the savings and consumption decisions of households, which are determined much more by factors relating to their personal situation, and in the first place by their income streams.

(1) It is interesting to note that the decision to save is influenced more by the present rate of inflation than by the inflation outlook, confirming that households do not have a clear idea of the forecast trend in prices.  
 (2) See Burggraeve & Jeanfils (2005).  
 (3) See ECB (2016).

**CHART 9** DETERMINANTS OF SAVING ACCORDING TO HOUSEHOLD SURVEYS

(data standardised relative to the long-term average<sup>(1)</sup>, moving average over the last 12 months)



Source: NBB.

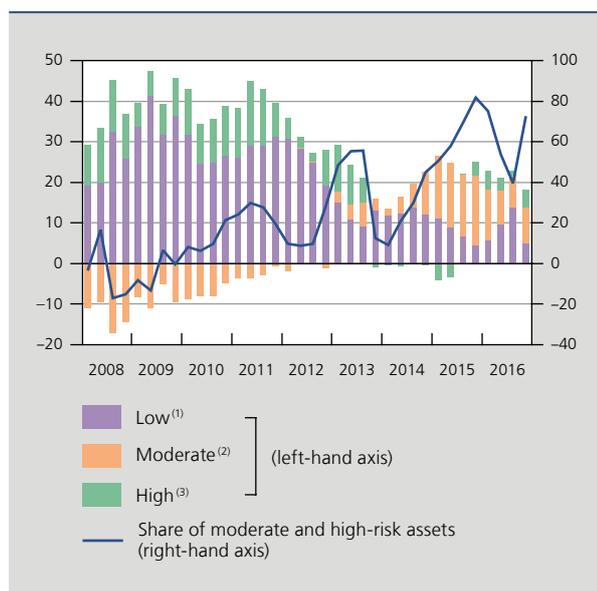
(1) A positive (negative) value means that households displayed a more positive (negative) response than the historic average.

### 3.3 Portfolio changes and increase in household debt

If they are in a position to save, households can choose between a range of financial instruments (apart from their investment in property). Their preferences will depend on a series of factors, including the degree of uncertainty (when uncertainty increases so does the propensity to invest in precautionary saving, and households develop a preference for liquidity), the available return (search for yield when interest rates are generally low), their own situation (long-term saving for their pension), and so on.

In the period immediately after the 2008 financial crisis, individuals sought refuge in low-risk products (bank accounts and deposits, non-unit-linked insurance products), allowing them to engage in precautionary saving or await better investment opportunities. Consequently, households increased the low-risk component of their financial portfolios. If that was the situation that applied until 2012, from 2013 the continuing poor returns on low-risk products prompted households to begin gradually looking for higher returns by turning to riskier investment instruments (primarily investment fund units, but also shares and other equity). The share taken by moderately or very risky assets in new household investments consequently increased to reach a maximum of 82 % over the four quarters of 2015.

**CHART 10** NEW FINANCIAL INVESTMENT BY HOUSEHOLDS: BREAKDOWN BY RISK CATEGORY  
(€ billion, four-quarter moving sums)



Source : NBB.

(1) Low: bank accounts and deposits, debt instruments, non-unit-linked insurance products.

(2) Moderate: investment fund units.

(3) High: shares and unit-linked insurance products.

By the end of 2016, the share still stood at almost 73%. Households were still paying considerable amounts into bank accounts and savings deposits, however, suggesting that they remained very uncertain, had a fundamental

preference for liquidity or were awaiting better opportunities. Most of this money was placed in current accounts in 2015 and 2016, with less going into regulated savings accounts, no doubt influenced by the minor difference in interest paid on the two products and the greater liquidity of current accounts.

The macroeconomic sources used above tell us little or nothing about the distribution of household savings or about household debt. This requires data at household level, and the HFCS survey results can fill in some of these gaps in the macro data.

The microanalysis of household assets (and debts) examines a number of components, i.e. which households hold those assets and how much those assets are worth. The analysis looks in more detail at the following aspects:

- the participation rate: the share of households (as a percentage of the total) holding a particular asset, thus providing information on the distribution of assets across households;
- the conditional median value: this includes only those households which hold a certain asset and gives a median value of that asset in euros. The median is the value of a variable at which half of households hold fewer and half hold more than that value; it thus represents the value for a “typical” household, situated in the middle of the distribution;
- the error margin: this is equated to twice the standard error of the estimated parameter (median value), producing a reliability interval of approximately 95%.

**TABLE 2** PROPERTY OWNERSHIP AND MORTGAGE DEBT  
(in € thousand, unless otherwise stated)

	Property ownership		Mortgage debt	
	Own home	Other property	Own home	Other property
<b>HFCS I (2010)</b>				
Participation in property market and mortgage loans (in % of households) . . . . .	69.6	16.4	28.5	3.2
Conditional median value . . . . .	248.3	173.3	66.7	56.9
Error margin (twice the standard error) . . . . .	(9.5)	(29.4)	(10.3)	(24.6)
<b>HFCS II (2014)</b>				
Participation in property market and mortgage loans (in % of households) . . . . .	70.3	18.5	31.9	4.7
Conditional median value . . . . .	249.7	176.8	79.1	59.2
Error margin (twice the standard error) . . . . .	(1.4)	(29.1)	(11.2)	(12.7)

Source : NBB (HFCS 2010 and 2014).

Property ownership by households consists in the first place of their main residence (for owner-occupiers) and secondly of other property – a second home, holiday home or let property, for example. According to the HFCS, 70.3 % of Belgian households owned their own home in 2014. The average value of owner-occupied homes in Belgium is € 249 700 (conditional median value), virtually unchanged since 2010 (€ 248 300). In 2014, 18.5 % of Belgian households owned a property in addition to their own home, up from 16.4 % in 2010. The error margins around the median value of this second property (€ 176 800) are relatively wide because of the great variation in the value and type of additional property (from a modest chalet to several income-generating properties) and the relatively small number of observations in the sample.

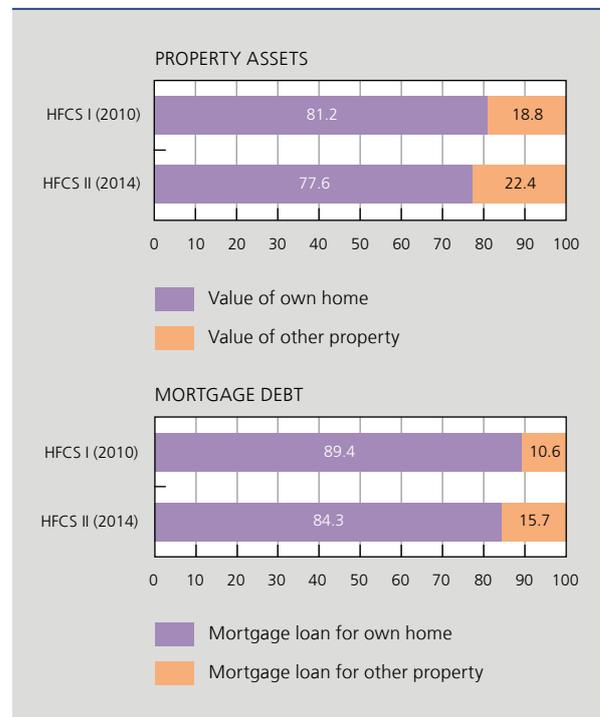
The survey of household debt also distinguishes between mortgage loans for a household's own home and loans for other property. The share of Belgian households taking out a mortgage to finance the purchase of their own home rose from 28.5 % in 2010 to 31.9 % in 2014, and the median outstanding mortgage loan rose from € 66 700 to € 79 100. The growth in ownership of additional property was also reflected in an increase in loans to finance its purchase, from 3.2 % of households in 2010 to 4.7 % in 2014, while the median outstanding loan amount rose from € 56 900 to € 59 200. The increase in the number of loans and the amounts outstanding explain why the overall interest paid by households has remained high (see section 3.1) despite the fall in interest rates.

All in all, the HFCS findings suggest that home ownership remained stable between the two survey waves, but that there was an increase in the ownership of secondary property as well as in mortgage borrowing and the loan amounts outstanding. As well as the low level of interest rates, factors such as certainty and returns (search for yield) also play a role here. In the first wave of the survey, households reported that they had retained their faith in property as an investment, in contrast to other investments (see Du Caju, 2012).

The marked increase in households' propensity to invest in property other than their own home is also reflected in the composition of their real assets, with the share of secondary property increasing between 2010 and 2014 and rising from 18.8 % to 22.4 % of their total property assets.

Reflecting the trend in investment in other property and its increased share in the asset mix of households, the composition of household debt also changed somewhat

**CHART 11** COMPOSITION OF HOUSEHOLD PROPERTY ASSETS AND MORTGAGE DEBT  
(percentage share in total value of the assets and mortgage debt)



Source: NBB (HFCS 2010 and 2014).

between 2010 and 2014, with mortgage borrowing for property other than their own home taking a greater share in 2014 (15.7 %) than in 2010 (10.6 %).

The increase in the share taken by secondary property in household assets is paralleled by a rise in the share of mortgage borrowing to finance that property in households' total outstanding mortgage debt. The quest for certainty and search for yield underlying this trend could have been reinforced by the favourable tax regime, with funds freed up by tax changes and repatriation of funds from abroad flowing into these investments. The tax treatment of these investments is relatively favourable, being based on the imputed rental income of a second home or let property. Only if the property is let for business purposes is the actual rental income taxed. Moreover, the mortgage interest can be deducted from taxable income.

As the findings of the HFCS survey show, households have taken on more debt to finance their investments in the secondary property market. The trend in household debt as a proportion of GDP shows an almost uninterrupted rise since 2005, reaching almost 60 % of GDP in the third quarter of 2016. The increase in total household debt in Belgium is due mainly to property loans: other

forms of debt remained virtually flat as a share of GDP between 2005 and 2016 and did not contribute to the increase in total indebtedness. At an aggregated level, this trend has not yet given rise to concerns about the sustainability of household debt in Belgium. At the macroeconomic level, Belgian households are still solvent (though susceptible to price changes) because the increase in the debt ratio (debts in relation to assets) has been accompanied by an – albeit a more modest – increase in their property and financial assets. In addition, the net financial assets (financial assets less debt) of Belgian households remain high (251 % of GDP at the end of 2016).

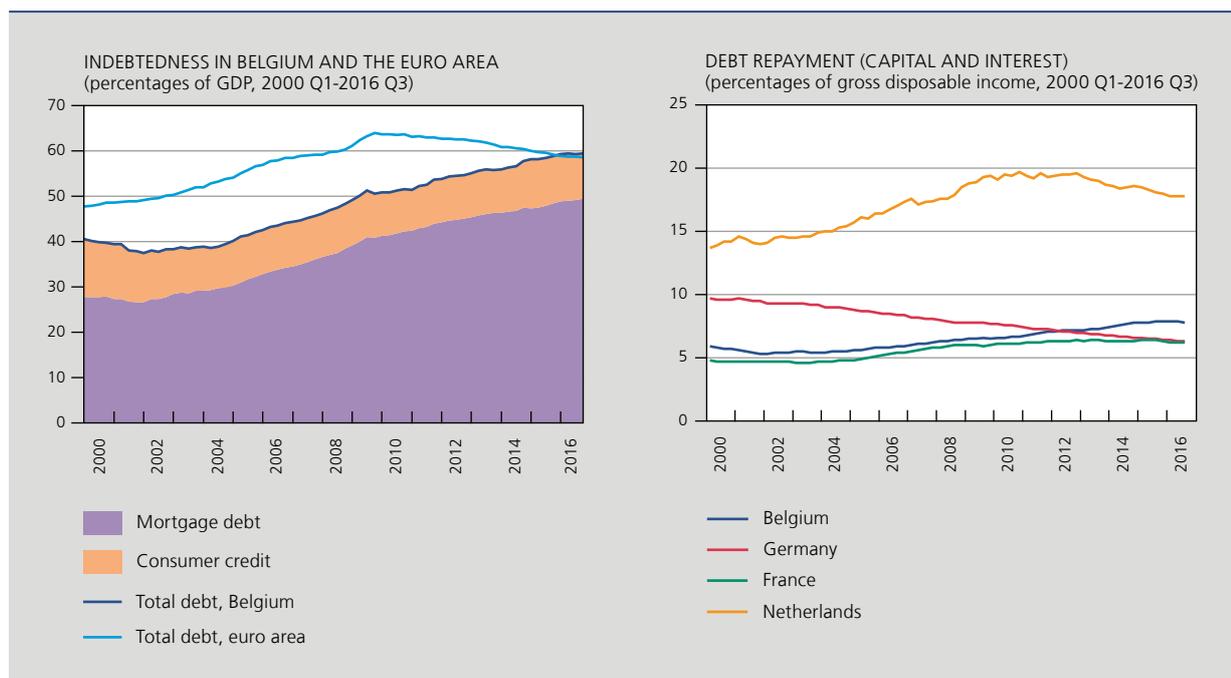
The decline in interest rates since 2008 has absorbed some of the increase in the repayment burden of Belgian households, which has risen continuously in recent years due to their increasing indebtedness. Since 2005, that can be ascribed to the increase in household debt (new loans), while low interest rates led to a reduction in interest payments from 2008 onwards. This contrasts starkly with the situation in Belgium’s neighbouring countries, where for several years the household repayment burden as a share of GDP has been falling (Germany, the Netherlands) or stabilising (France). The average repayment burden in Belgium stood at 7.9 % of GDP in 2016, an historic high, compared with 6.3 % in Germany, 6.2 % in France and 17.8 % in the Netherlands (this high figure is explained by the fact that much of the mortgage borrowing in the

Netherlands has a fixed term and takes the form of “bullet loans”, where the capital portion of the loan is only repaid on the maturity date, rather than being included in the monthly payments).

Given the growing level of household debt, it is extremely important to monitor the trend in loan defaults in retail lending. This is measured mainly as the ratio between the number of loans in payment arrears and the total number of loans. The mortgage default rate has been stable at a relatively low level (around 1.1 %) for several months, and all in all does not present a specific risk at this point in time, though this does not rule out the possibility that certain categories of households may be under more pressure. The low rate of default reflects the fact that Belgian households in financial difficulties prioritise their mortgage repayments (which are often paid automatically) and if necessary defer repayments on other debts. It probably also reflects the cautious lending policies of banks, which take into account the repayment capacity of clients and seek to limit risk. Credit institutions adhere to NBB recommendations on mortgage lending policy, given the continuing vulnerabilities on the property market (the relatively high percentage of loans with a high risk profile).

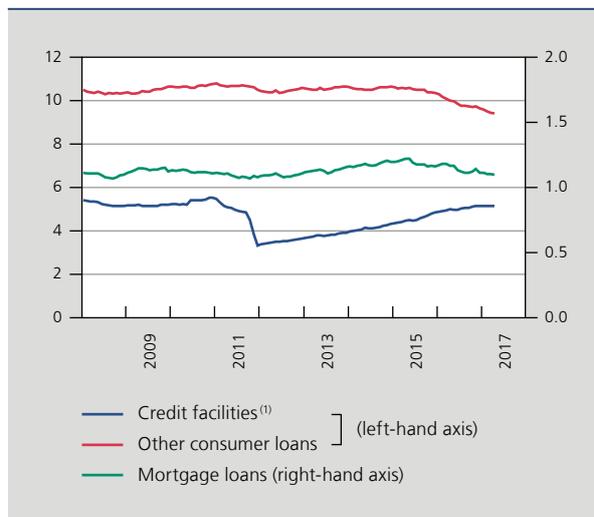
The default rates in the year of allocation express the relationship between the number of loans in arrears after a given period (six months, one year, etc.) and the total

CHART 12 HOUSEHOLD DEBT



Sources: BIS, ECB, NBB.

**CHART 13** DEFAULTS ON LOANS TO HOUSEHOLDS  
(in % of the number of loans)



Source: NBB.

(1) There was a trend break in credit facilities at the end of 2011 due to a widening of the scope of the Central Individual Credit Register. Since that time, all permitted current account overdrafts must be registered, which was not the case previously.

amount of credit in the year in question. Unlike the previous indicator, they take no account of any loan regularisation. When broken down by lending type – mortgage loans, consumer credit, credit facilities – indicators suggest a stabilisation or fall in default rates in recent years, except for credit facilities, though the increase here is not large. This analysis is supported by the figures on collective debt rescheduling arrangements, which increased by only 0.6% in 2015 and fell in 2016 (by 2.2%) and 2017 (0.6% in the first quarter), compared with an annual advance of over 10% between 2009 and 2011.

Although the general default indicators give no cause for major concern, two specific caveats should be mentioned here.

The first concerns the possibility of a rise in interest rates, which would push up interest payable on household debt. From this perspective, the risk in the short term is relatively limited in Belgium, since the vast majority of new mortgage loans in the recent period (2012-16) were taken out with a fixed-rate period of ten years or over. Just under three-quarters of all mortgage loans taken out in the past two decades (January 1997 to December 2016) met this criterion, and between 2012 and 2016 it applied to almost 85% of all new loans.

A second point is the possibility of a negative shock to household incomes (e.g. a new rise in the unemployment

rate), something that would also reduce households' repayment capacity. Although the default risk is relatively small at macroeconomic level, this is not the case for certain categories of households with particularly high repayment burdens relative to their incomes. The recommendations of the macroprudential regulators are therefore directed more at loans with a higher risk of default.

#### 4. Distribution effects of low interest rates

The low interest rate environment affects the financial position of households in several ways. To evaluate the differentiated impact of low interest rates, a very simplistic distinction is sometimes made between households which save and households which borrow, with the savers losing interest income and the borrowers finding it easier to repay their loans. In reality, however, the impact of low interest rates is so complex that an overly simplistic analysis can give a very distorted picture. For example, the current low interest rate policy can also contribute to a stable financial environment which supports growth and employment, and can therefore impact on the (protection of) household income from employment. The distinction between savers, borrowers and wage-earners is of limited relevance in any case, because households can belong to several categories at once.

The HFCs findings make it possible to illustrate this complexity. Households which derive an income from salaried employment or from financial assets (and so receive interest or dividends) or which are repaying debts (and therefore pay interest) represent nine out of ten of all households. At the same time, a third of households belong to all three categories at the same time: they earn a salary, receive financial income and are repaying debts. In addition, the vast majority of households which are repaying debts also receive income from financial assets, and conversely almost half of households which have an income from financial assets are also repaying debts. The majority of wage-earners also receive financial income. These findings illustrate that the population cannot simply be divided up into groups which do or do not benefit from a particular movement in interest rates. Many savers with an income from financial assets also earn a wage and/or are repaying debts. They therefore experience both unfavourable and favourable effects from low interest rates. It is not always easy to separate "winners" from "losers".

That said, lower interest rates do have negative income effects, by reducing the income from financial assets. At the same time, however, they increase the value of bonds and shares and therefore create positive valuation

effects. But this equation does not apply for deposits, as the value of short-term assets is not sensitive to interest rate changes. Low interest rates also tend to push up property prices, again generating asset gains. In this sense, property can be regarded as a long-term asset. The low interest rate policy also has certain positive income effects because it makes it easier to repay debt. New loans can be taken out more cheaply, and households with existing mortgage and other loans with variable interest rates also benefit directly, while fixed-rate loans can be refinanced at lower rates. The variation in the composition and the size of net wealth between (groups of) households is paralleled by the variation in the impact on those households of low interest income or payments and positive valuation effects.

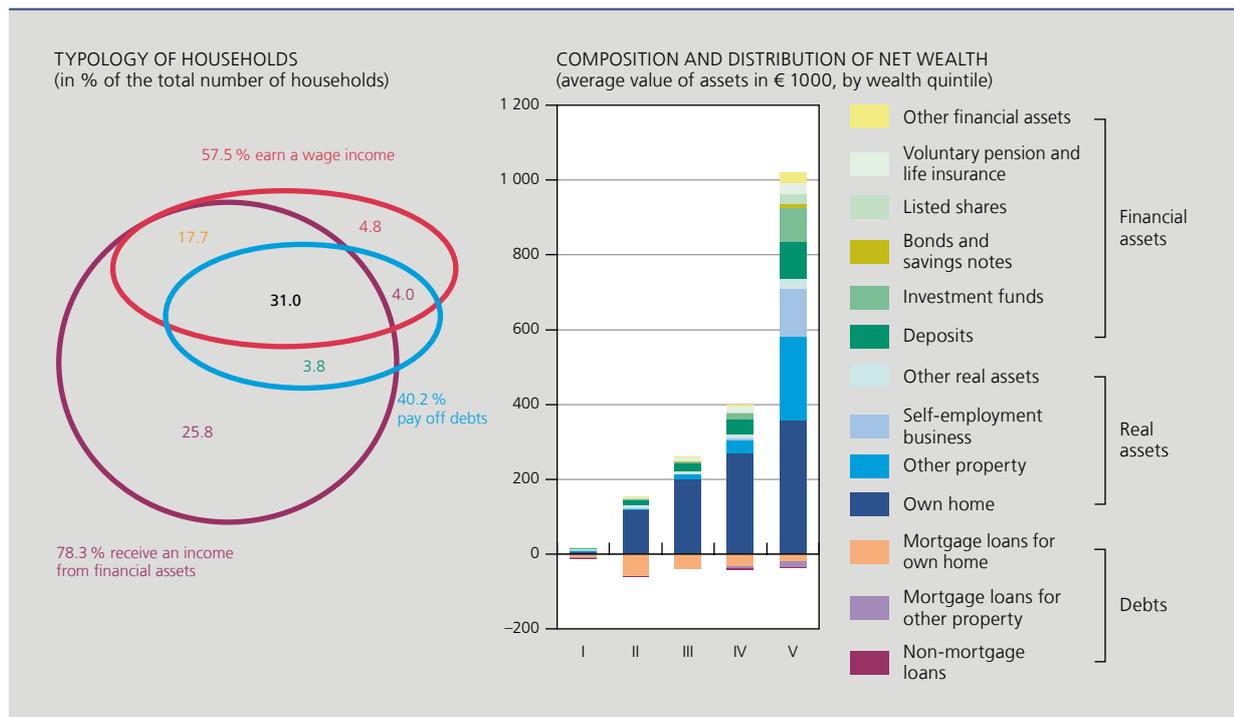
The HFCS enables the entire distribution of net household wealth to be analysed<sup>(1)</sup>, making it possible to compare the composition of the net wealth of affluent and less affluent households. To do this, households are divided into quintiles based on their total net wealth. The size and composition of that wealth does indeed vary considerably between the quintiles. Households in the lowest quintile (the 20% least affluent households) have little wealth, and what they do have consists mainly of deposits and

other real assets (vehicles or other items of value). The wealth of the three middle quintiles, which could be termed the middle class, consists mainly of their own homes, primarily supplemented by deposits and – to a lesser extent – individual voluntary pensions and life insurance products. This middle class also has the highest outstanding mortgage debt. The more affluent households in the highest quintile own homes that are generally worth more than in the lower quintiles, but these homes account for a smaller share (less than half) of the total wealth of these better-off households. Their wealth also consists of additional property in addition to their own homes as well as various financial assets. Mortgage finance to purchase additional property is taken out mainly by households in the highest net wealth quintile.

Looking at the concentration of different assets in the wealthiest households, the HFCS shows that in 2014 an estimated 88.1% of the value of listed shares held by Belgian households was in the hands of the 20% of households with the highest total net wealth. Holdings in investment funds and bonds are also relatively highly

(1) For a description of the survey and an analysis of the results for 2010 and 2014, see Du Caju (2013, 2016).

**CHART 14** COMPLEX DISTRIBUTION ASPECTS OF LOW INTEREST RATES  
(typology of households and their net wealth in 2014)



Source: NBB (HFCS 2010 and 2014).

concentrated in the highest quintile, though the next quintile down is also represented here. When it comes to property, it is notable that secondary property is also heavily concentrated among the relatively wealthy households, with 81.3 % of the value of such property being held by households in the highest quintile. The high observed concentration of assets in the form of shares or secondary property in the top 20 % of households does not apply, or applies to a lesser extent, to (the value of) their own home or to deposits held and investments in individual voluntary pensions and life insurance. These asset classes are more evenly distributed, especially home ownership: only 37.5 % is held by the wealthiest 20 %. Deposits and individual voluntary pensions and life insurance are slightly more concentrated, but much less so than shares. They occur in all quintiles, though their value is on average less in the lowest quintile. An estimated 55 % of the total value of deposits is concentrated in the highest quintile. As surveys generally underestimate total financial wealth, the concentration of these assets is likely to be stronger in the real world.

The composition and distribution of wealth outlined above may shed some light on which groups of households are influenced in which direction by low interest rates and by the valuation effects on their assets. The results appear to show that the positive valuation effects mainly occur in the highest wealth quintile. Shares, bonds and investment funds are found almost exclusively in this quintile, and these are therefore virtually the only households to benefit from the gains on these securities. Individual supplementary pensions and life insurance products, which typically have a longer investment horizon and therefore increase in value when interest rates fall, are more uniformly distributed among the higher quintiles. Property, and in particular owner-occupied homes, is the biggest asset component in all quintiles. These households thus benefit from increases in the value of this asset, but in absolute terms those in the wealthiest quintile derive the most benefit because the value of their homes is highest. Low interest rates make borrowing to finance property purchase cheaper; this mainly benefits the middle net wealth quintiles, since only a small proportion of households in the lowest quintile have a mortgage or own a house. Households in the middle quintiles have more mortgage debt than those in the wealthiest quintile, both in absolute terms and in relation to their assets.

All in all, the distribution effects of a low interest rate environment are difficult to assess. The wealthiest households lose income from financial assets but also benefit most from asset price gains. Households in the middle quintiles, in particular, are able to finance their homes

more cheaply thanks to lower interest charges. Although the interest they receive on deposits falls, the value of their homes increases. The least affluent households lose interest income on their savings, if they have any; only a few of them own their own homes, but those that do pay less interest on their mortgages.

## Conclusion

In reaction to the financial crisis and subsequent recession that hit the global economy from 2008, the ECB has been pursuing extremely accommodating monetary policies, reflected in unparalleled reductions in interest rates and liquidity injections on a massive scale. Property and financial asset prices have also gone up as a result.

This rather unusual environment has impacted Belgian households' incomes, wealth and financial behaviour. For one thing, lower interest rates have heavily eroded net interest income, as interest revenues have plummeted while loan burdens have remained more or less stable relative to disposable income. At the same time, though, households did lock in positive valuation effects on their assets, which somewhat cushioned the adverse rate cut impact on income.

In macroeconomic terms, lower financial income has put a brake on households' disposable income in a virtually uninterrupted way between 2009 and 2016. However, this has not prompted households to pull in the reins and make concomitant cuts in their spending; instead, they have saved less. As lower interest rates eroded financial income, they have served rather as a redistribution mechanism at the expense of households with incomes largely derived from wealth and in favour of households with little or no property income and mostly deriving their resources from labour.

Microeconomic surveys confirm that the low interest rate environment, coupled with revaluation of assets, has had diverging effects on different households depending on the level and the composition of their wealth. Although the most well-off households, which typically have a great deal of financial wealth, have been the hardest hit by falling returns, they have also benefited most strongly from positive valuation effects, i.e. gains on their asset portfolios. Middle-wealth households, often owner-occupiers, have mainly benefited from lower interest charges, which have amply made up for the loss in savings income. Lastly, households in the lower wealth quintiles, which typically do not own their own homes and have little or no financial savings resources, faced relatively few effects from the low interest environment, positive or negative.

The composition of savings reveals that new financial investment has typically focused on riskier products, reflecting households' search for yield. At the same time, net inflows into accounts and deposits remained positive, suggesting high levels of uncertainty. The latter category plays into private individuals' need for precautionary saving and may suggest that they are staying on the sidelines to await better opportunities.

Meanwhile, the low interest rate environment has stimulated property investment by households, with related

spending on real estate other than the household main residence having also gone up. The funding of these investments has led to an increase of the household debts.

This confluence of trends may carry certain risks, such as a default risk on loans due to a negative income shock for households, or interest rate risks due to an uptick in rates increasing their repayment burdens. Some categories of households and types of loans – specifically those about which macroprudential authorities have issued specific recommendations – may be more affected by such risks.

## Bibliography

Basselier R. & G. Langenus (2014), "Recent changes in saving behaviour by Belgian households: the impact of uncertainty", NBB, *Economic Review*, December, pp. 53-62.

Baugnet V. & L. Dresse (2011), "Developments in private consumption over the past three years", NBB, *Economic Review*, September, pp. 47-58.

Bean C. *et al.* (2015), *Low for Long? Causes and Consequences of Persistently Low Interest Rates*, CEPR, Geneva Reports on the World Economy 17.

Burggraeve K. & P. Jeanfils (2005), *Noname – A new quarterly model for Belgium*, NBB, Working Paper Research 68.

Du Caju Ph. (2012), "Asset formation by households during the financial crisis", NBB, *Economic Review*, June, pp. 87-100.

Du Caju Ph. (2013), "Structure and distribution of household wealth: An analysis based on the HFCS", NBB, *Economic Review*, September, pp. 41-62.

Du Caju, Ph. (2016), "The distribution of household wealth in Belgium: initial findings of the second wave of the Household Finance and Consumption Survey (HFCS)", NBB, *Economic Review*, September, pp. 27-43.

ECB (2016), *Savings and investment behaviour in the euro area*, Occasional Paper Series, January.