ARTICLE

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Recent developments in the household saving ratio

SUMMARY

The household saving ratio summarises the income and expenditure positions of the household sector. This article considers developments in the ratio during the current recession, discussing the drivers in income and consumption and their interaction in the context of developments in the labour market, government policy and wider economic conditions.

Introduction

The aim of this article is to examine and evaluate the current developments in the household saving ratio in view of the recent deterioration in household balance sheets. **Figure 1** illustrates the path of the saving ratio over the last four decades. Notable is its persistent decline from a high point in the 1990s through to 2008 and its sharp reversal in 2008 and 2009.

Figure 1 highlights the declining trend in the saving ratio since the late 1970s, falling during periods of economic growth then recovering to a lower peak in periods of turbulence in the economy. The period of decline following the 1990s recession was particularly long, so much so that the saving ratio entered the current recession in a negative position.

The factors supporting this pattern of recovery in saving during times of economic uncertainty are examined in the body of the article. These factors are generally linked to labour market uncertainty and the position of household and government balance sheets.

Household final consumption expenditure fell significantly in 2008 Q4 and 2009 Q1, the period immediately following the fall of Lehman Brothers and deterioration in the labour market.

A feature of the current recession has been the development of household income, the denominator in the saving ratio, which has been supported by fiscal and monetary policy over 2009 and the overall response of the labour market relative to previous recessions. The different response of the saving ratio in other major developed economies may reflect attitudes to risk and debt as much as different labour market and output developments.

What is the saving ratio and why is it important?

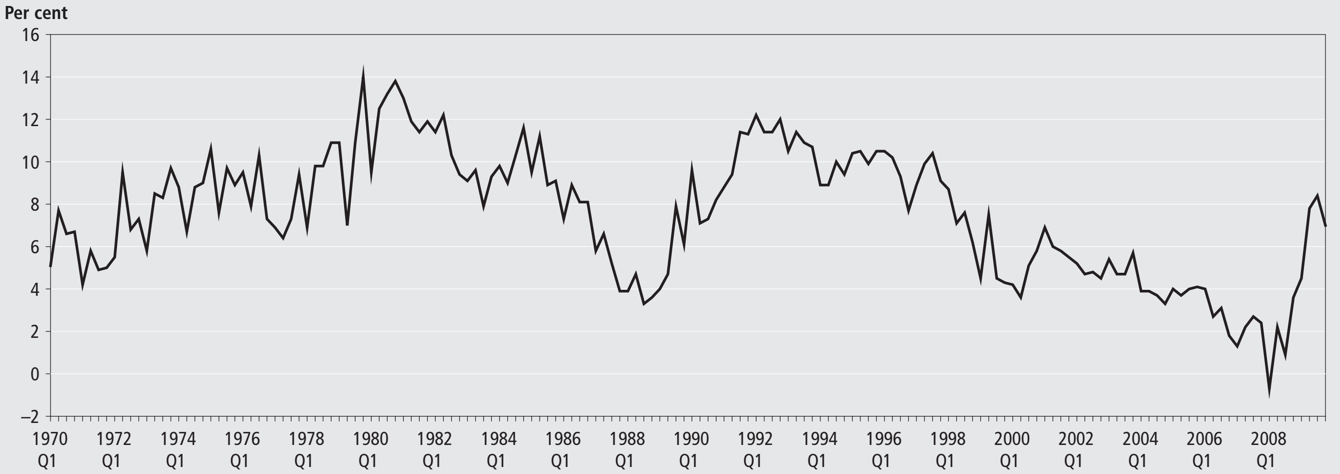
The saving ratio expresses the amount of saving that the household and non-profit institutions serving households (NPISH[1]) sector makes in relation to its available resources. Total resources are comprised of gross disposable income and an adjustment for the change in the net equity of households in pension funds.

The saving ratio is a key indicator of households' willingness and ability to purchase goods and services. In National Accounts terms, saving is defined as the part of households' available resources that is not spent on final consumption of goods and services. It does not therefore equate with the use of the term saving in common parlance. For instance, saving in the National Accounts sense will fall if households increase their spending through recourse to increased borrowing, even though they have not changed their saving in the conventional sense. As with all aggregate data, this single indicator can mask the vast divergence in saving within the household sector and as such can only inform the overall position.

Given that consumer expenditure accounts for more than 60 per cent of all spending in the UK economy, the

Figure 1

Household saving ratio[1]

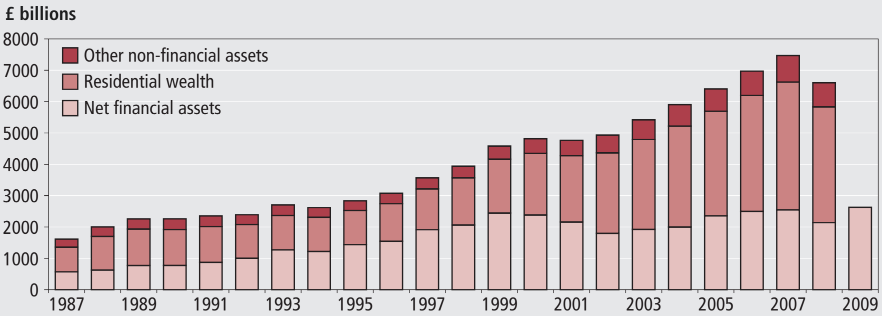


Note: *Source: Office for National Statistics*

1 Current prices, seasonally adjusted.

Figure 2

Household and NPISH sector net worth[1]



Note: *Source: Office for National Statistics*

1 Data for residential wealth and other non-financial assets in 2009 are unavailable until Blue Book 2010.

importance of the saving ratio and its constituent components is apparent. For a more detailed discussion of the construct of the saving ratio and accompanying measurement issues, see Chamberlin and Dey-Chowdhury (2008).

The saving ratio is calculated in current prices and all component analysis will be consistent with this. Where constant price data are discussed for expenditure components, this will be explicitly stated within the analysis. Income data are only deflated in the aggregate and as such no constant price analysis can be performed at the lower level.

Household sector balance sheet

Before examining the factors driving the recent rebound in the saving ratio, the article will outline the structure and decline in the net wealth position of the household sector balance sheet over the last two years.

The household sector balance sheet represents the relationship between household assets and liabilities. **Figure 2** illustrates the developments in the stock of net household wealth split between its main components; financial assets, residential wealth and other non-financial wealth (only financial asset data are available for 2009 at present). The figure clearly shows that the household sector's balance sheet grew strongly over the period, driven by the accumulation of financial assets and residential wealth. The former has been driven by growth in equity markets and the latter by increasing house prices (See Chamberlin 2009).

The accumulation of residential wealth has been fuelled by rising house prices. This investment in residential wealth has been financed by a corresponding growth in financial liabilities, in particular loans secured on dwellings. The household sector has therefore had to borrow from other sectors of the economy. From 2000 onwards, the sector has been a persistent borrower from other parts of the economy. In particular the main counterpart to this increased borrowing has been a rising surplus to the rest of the world sector, as confirmed by the growth in the UK's current account deficit through the last decade. More recently, the household sector has returned to surplus and become a net lender, as the availability of mortgages has declined and households have continued with the process of de-leveraging their balance sheets.

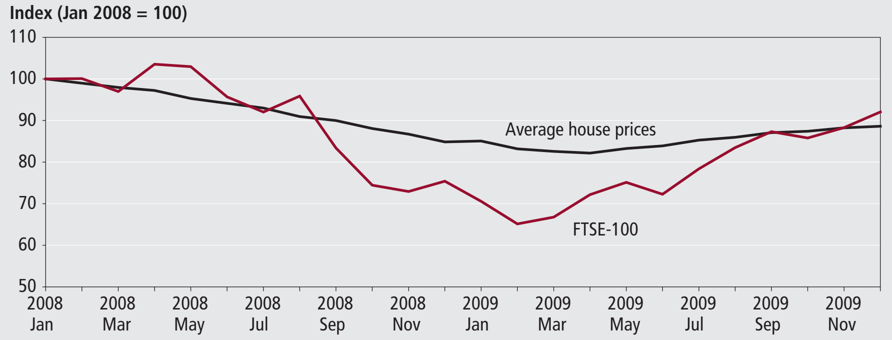
As full data will not be available until the completion of the 2010 Blue Book exercise in June, we are not currently able to capture fully the impact of the recession on the household balance sheet. It is clear nevertheless, that through 2008, the credit crisis impacted on the value of both financial assets and residential wealth, as the prices of both equities and houses declined during the year. Through 2009 however, there has been a modest recovery in both the stock market and house prices, although insufficient to re-capture the losses incurred in 2008, as illustrated by **Figure 3**.

Movements in the saving ratio could be explained by a reduction in consumption expenditure, or they may reflect an increase in disposable income or some combination of the two. We will examine each of these factors in turn and consider the nature of each of these contributions to the recent movement in the saving ratio. **Figure 4** traces the developments in total household resources, final consumption expenditure and the saving ratio over the last five years.

Consumption expenditure

Household consumption expenditure has been volatile over the current recession, with 2008 data showing a slowing in the rate of growth of expenditure until quarterly growth finally turned negative

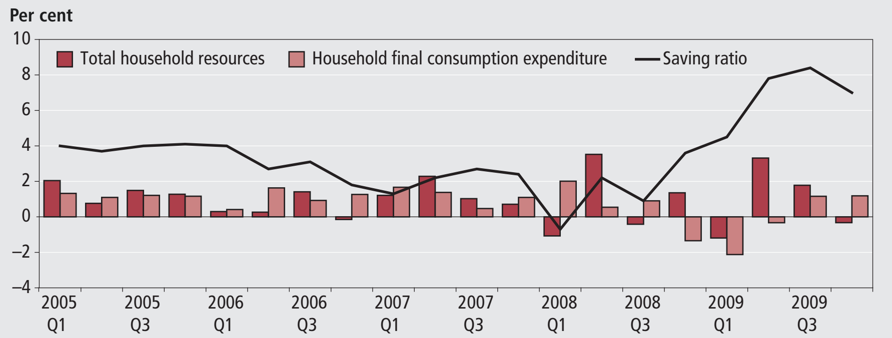
Figure 3
Developments in house prices and the stock market[1]



Note: *Source: Office for National Statistics*

1 The FTSE 100 and the average of the Nationwide, Halifax and Communities and Local Government house price indices (given equal weights) rebased to January 2008.

Figure 4
The saving ratio and growth of household total resources and final consumption expenditure[1]



Note: *Source: Office for National Statistics*

1 Current prices, seasonally adjusted, quarter on quarter growth rates.

Figure 5
Households final consumption expenditure growth[1]

Note: *Source: Office for National Statistics*

1 Current prices and constant prices, seasonally adjusted.

into quarter four. Consumption growth fell quite markedly, concurrent with the period of deterioration in the labour market and in the aftermath of the worst period of balance sheet uncertainty for the financial sector (immediately following the collapse of Lehman Brothers in September 2008). Expenditure has started to recover slowly in the final two quarters of 2009 and is now close to the level seen at the start of 2008 in current prices. However, considering consumption outside of the context of the saving ratio, it is of more interest to consider constant price data, which indicated that the fall in consumption was less steep but for a longer period of time (**Figure 5**). In constant price terms, household final consumption expenditure was 3.8 per cent lower in 2009 Q4 than at the peak in 2008 Q1.

The contributions to the more protracted period of decline in consumption expenditure in constant price terms comes as services and non-durable goods (including food) growth falls off earlier and continues to offer a negative contribution into the third and fourth quarters of 2009.

As the financial crisis began to unfold, through the deterioration in economic growth and subsequent labour market losses, individuals' and households' motives for holding money began to change. It is generally considered that households will save as a precaution against future periods of expected low income, such as those experienced through an economic downturn. This has been clearly evident through the recession, with households increasing their saving and paying down debt. However, saving has also increased as a result of the deterioration in households' demand for money to fund expenditure and diminishing speculative demand, the demand for liquid assets - to take advantage of short term money making opportunities - as a result of declining house and asset prices (See Figure 3).

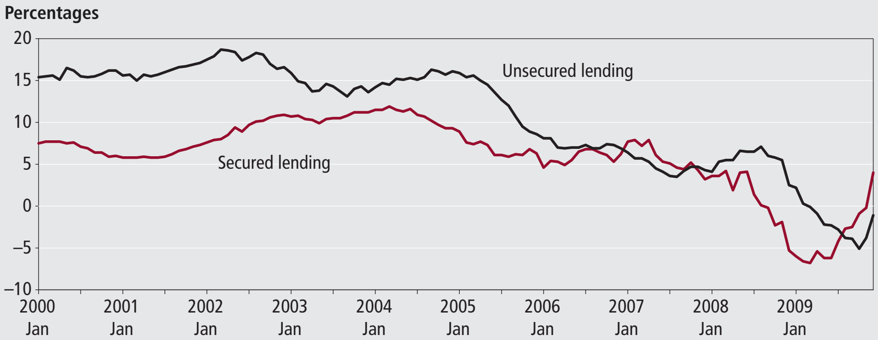
The nature of this recession has ensured that other factors have placed downward pressure on the path of consumption expenditure. Restrictions on the availability of secured and unsecured credit increased as commercial banks' risk appetite tightened in the face of increasing losses. The Bank of England's credit conditions survey outlines the financial sector's lack of appetite for unsecured lending which is borne out by lending data shown in **Figure 6**. In contrast the appetite for secured lending, particularly for the purchase of houses, recovered somewhat as financial markets and house prices began to recover.

Developments in house prices are likely to have had an additional impact on consumption expenditure through the deterioration in available equity for withdrawal, as house prices did not reach a trough until April 2009 (just over four quarters into the recession).

Growth in housing equity withdrawal began to slow down into 2008 turning negative into 2009 (Source: Bank of England). This highlights not only the reduction in the volume and value of housing market transactions, but also the increasing risk aversion of households who have begun to borrow less than the amount needed for housing investment.

As well as pushing down on the level of consumption, the economic downturn has, at present, altered the make up of goods and services consumed by households. **Figure 7**

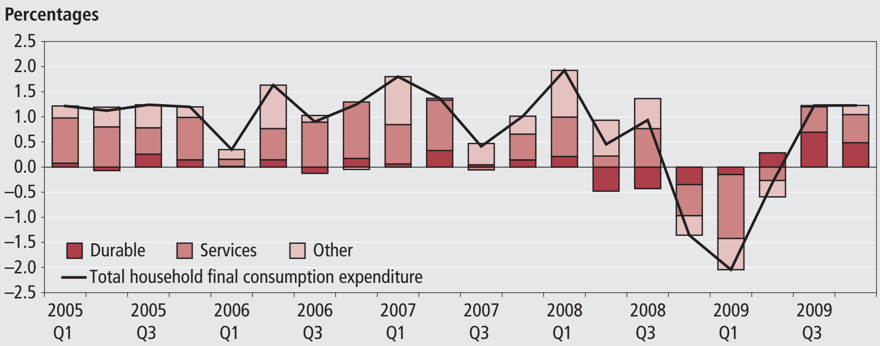
Figure 6
Growth rate of monetary financial institutions net secured and unsecured lending to individuals[1]



Note: *Source: Office for National Statistics*

1 Month on same month one year before, seasonally adjusted.

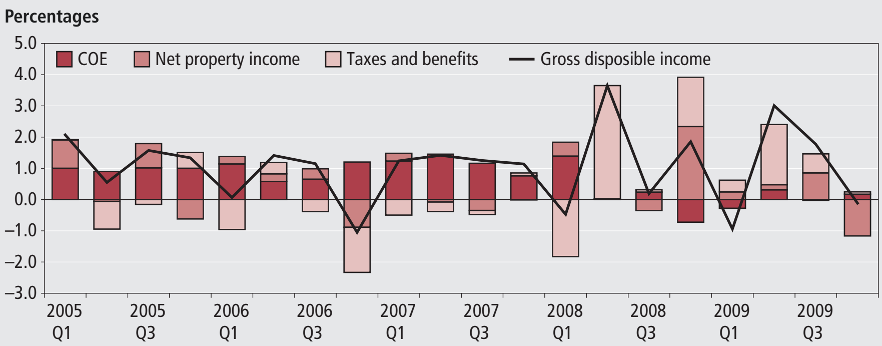
Figure 7
Contributions to HHFCE growth[1]



Note: *Source: Office for National Statistics*

1 Current prices, seasonally adjusted.

Figure 8
Contributions to the growth in gross disposable income[1]



Note: *Source: Office for National Statistics*

1 Quarter on previous quarter growth, current prices, seasonally adjusted. Component contributions will not add to the total as not all components are displayed.

illustrates that there has been a shift in the contribution of durable goods and services expenditure to total consumer expenditure. Expenditure has been substituted away from services and durable goods (such as cars) towards non-durable goods. The decline in expenditure is to be expected, given the observations regarding the growth in precautionary saving. The developments in the mix of spending, further supports this as consumers reduce non-discretionary services and big ticket spending on durable goods to support both saving and non-discretionary spending on items such as food and energy.

It is possible to observe the impact of the car scrappage scheme in 2009 as durable goods begin to contribute positively to household consumption expenditure growth. Without this positive contribution from durable goods, the position of household expenditure would have been considerably weaker in the second half of 2009.

Further theoretical consideration of these developments was provided by Chamberlin (2009). Revisiting this analysis provides additional context to the idea that declining consumption and the paying off of debt combined with supportive monetary policy, lead to an increase in the saving ratio.

Economic theories of consumption

If consumption is based on a long-term view of income, then it might fall in the current period if economic conditions deteriorate to the extent that households' expect their lifetime incomes to have been reduced. This theory is known as the permanent income hypothesis.

Surveys conducted by the Bank of England for their November 2008 and February 2009 *Inflation Reports* indicate that income expectations have indeed been lowered. This might be as a result of both reduced wage expectations and anticipated future increases in taxation. Beyond this, the expectation of lifetime wealth, also considering assets may also be of importance. However, the ability to value assets over a lifetime is more difficult in response to cyclical fluctuations and the impact in this context is not as well defined.

The theory of Ricardian equivalence states that households will anticipate that any tax cut in a downturn to encourage consumption will have to be offset by increased taxation in the future. As such, it is rational to recognise this increased future liability and save all of the gains brought about in the current period. As such, this would limit the positive influence fiscal policy can have upon household consumption expenditure in aggregate terms.

Disposable income

Disposable income is the total income available to households to use for consumption or saving, and it represents the denominator in the saving ratio calculation. **Figure 8** shows the development of gross disposable income and its components since the beginning of 2005. It outlines that gross disposable income has remained relatively buoyant, albeit volatile through this recession.

An increase in disposable income would be expected to increase the saving ratio holding all other factors constant. However, as income increases a proportion of this increase is usually given to consumption which will influence the impact upon saving. Income increases from some components may be associated with a different consumption effect than others. For instance, households may be able to budget more readily for changes in wages and salaries and adjust consumption in a measured manner, whilst a change in incomes through interest rate movements may take longer to feed through into households' budget decisions.

Part of the strength of income growth is consistent with the operation of automatic stabilisers – taxes and benefits – which have supported income through the recession and offset part of the negative impact of the deterioration in compensation of employees (COE) defined as the total amount paid out in wages and salaries including employers' pension and insurance contributions.

The component series are quoted as 'net'; this is in the context of the balance between resources and uses rather than any consideration of depreciation of assets within income.

For instance, net property income is equivalent to property income receipts (resource) minus property income payments (use). As property income as a whole is classified as a component of income, property income payments are treated as a negative factor on income rather than a positive consumption expenditure.

Since 2008 Q1 growth in total COE has been weak, in fact turning negative in 2008 Q4 and 2009 Q1. As such, the contribution of COE to total gross disposable income growth has deteriorated.

Although this movement in COE is in line with the recession of the early 1990s, the response is more muted than seen in the 1980s recession. This could in part be explained by the flexibility in the labour market, with firms maintaining employment relative to previous recessions, and many firms offering lower wages or reduced hours in an attempt to keep redundancies at bay. Also, the current recession saw a decline in the prevalence of high bonuses, particularly in the financial sector. This, added to the efforts of firms to maintain their workforce through lower wages and hours, could have contributed to the current weakness in COE. Finally, it is also worth considering the effect of the high level of inflation seen in the early 1980s as this is likely to have put upwards pressure on earnings and therefore supported compensation of employees throughout that recession (especially as data are in current prices).

Taxes on income and wealth have also contributed positively to growth in gross disposable income for several quarters of the current recession. Economic theory suggests that income and wealth will be lower in a recession, due in part to lower levels of employment and lower earnings growth, and therefore tax receipts will also be lower. The extent of the observed fall in taxes however, has been surprising given the relative resilience of the labour market. This may to some extent reflect the loss of income by high earners, including lower bonuses, who contribute disproportionately to tax revenues.

Average Weekly Earnings (AWE) data in **Figure 9** not only confirms the decline in bonus payments, but the deterioration in total pay. The combination of these two effects clarifies the decline in tax receipts on income.

The movement in taxes and benefits in the current recessionary period is consistent with lower earnings and the rise in unemployment. Within this series, social contributions, which are linked to earnings, have been weak, which is in line with the weak contributions from compensation of employees. Higher unemployment would also generally lead to an increase in unemployment benefits thereby adding to income growth. However, given the resilience of the labour market through the current recession, it follows that these effects have been more muted than in the past.

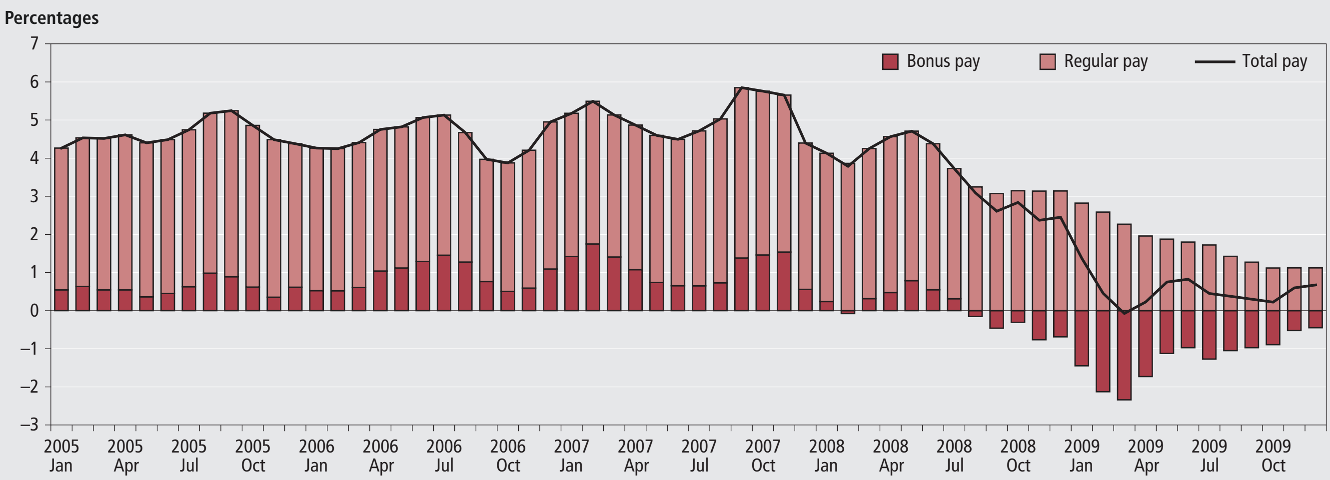
Figure 10 shows that taxes on income (predominately PAYE) as a proportion of income has fallen since its peak in the first quarter of 2008. The scale of decline from peak to current trough is greater in the current period than it was in the 1990s.

It is a decline in taxes on income that has been driving the positive contribution to disposable income. This is to be expected, as income from property has fallen, in line with housing market developments. Also profits of sole traders will have been hit harder than established sizeable limited companies and pension values will have been hit by the decline in stock markets.

Another driver of the change in household disposable income is net property income, which includes rent, interest, distributed income of corporations and the property income component of insurance policy holders (For definitions of components see the **Annex** to this article).

Property income has fallen considerably since early 2008. Both payments and

Figure 9
Contributions to total average weekly earnings growth[1]

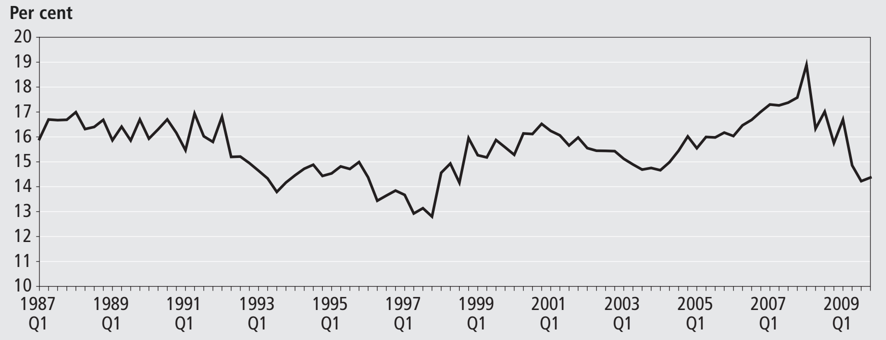


Note:

1 Three months on the same three months a year ago.

Source: Office for National Statistics

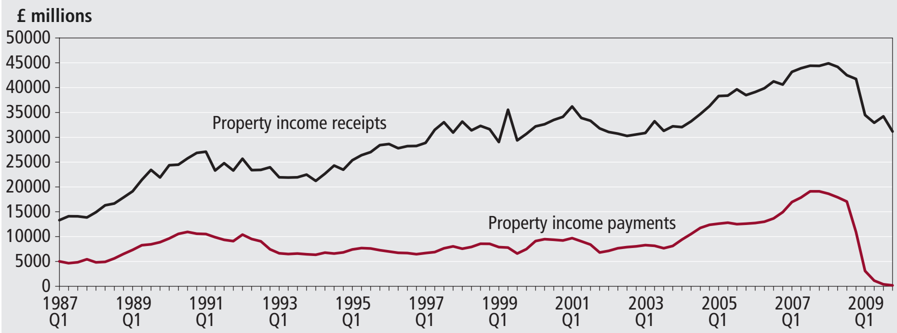
Figure 10
Income tax as a percentage of household disposable income[1]



Note: *Source: Office for National Statistics*

1 Current prices, seasonally adjusted.

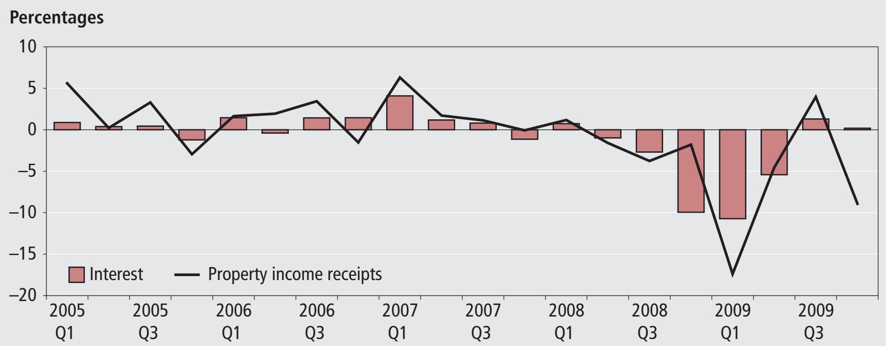
Figure 11
Property income receipts and payments[1]



Note: *Source: Office for National Statistics*

1 Current prices, seasonally adjusted.

Figure 12
Contributions to growth in property income receipts[1]



Note: *Source: Office for National Statistics*

1 The component contributions will not add up to the total as not all components are displayed.

receipts of the household sector have fallen, but payments have fallen more, thereby resulting in a positive contribution to net incomes (See **Figure 11**).

Property income payments consist largely of interest payments. Interest payments (and receipts) in this context refer to the risk free element derived from the underlying reference rate (the London inter-bank offer rate - LIBOR) with the difference between this risk free rate and the offered market rate for borrowing and lending reflecting a risk premium on the part of individuals and institutions. As such, interest data are heavily influenced by movements in the Bank of England policy rate.

The market element of interest payments is captured by the risk premium and is given by the indirect measure of financial intermediation (FISIM – See Akritidis 2007 for methodology) and is allocated to consumption as the counterparty to output data for the financial sector.

Large movements in interest payments are consistent with a reduction in interest paid on mortgages as rates fell in 2008/2009 and, with commercial banks' balance sheets under pressure, the appetite and ability to extend credit being severely curtailed.

In comparison, interest accounts for a much smaller proportion of property income receipts and data are therefore influenced less heavily by movements in the reference rate of interest.

Through the most recent recession, with the exception of 2009 Q3, property income receipts have fallen. **Figure 12** shows that this fall has been driven by falls in interest receipts, movements in the other components' have generally been more volatile and their contributions less significant.

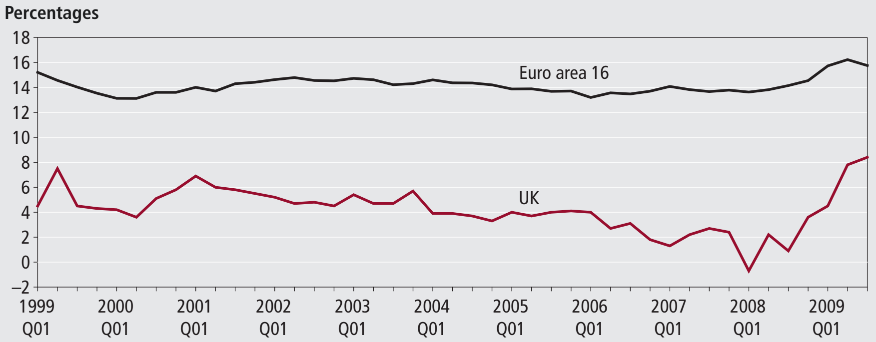
Households total interest payments have been much larger than receipts, reflecting the high levels of indebtedness in the household sector when compared to its lending position to other sectors. This means that when the reference rate of interest fell as the Bank of England policy rate fell it effected households asymmetrically, providing greater impact to interest payments than receipts.

International comparisons: the US and the Eurozone

The methodology for calculating the Eurozone saving ratio is identical to that employed in the UK. **Figure 13** traces the development in the ratio for both the Euro Area and the UK over the last 10 years. There are two differences between the developments in the UK and the European rates. Firstly, the saving ratio in the Euro Area has been persistently above that of the UK over the period considered, reflecting Europeans' propensity to spend less of disposable income and to save more resources than their UK counterparts. The second observation is that the ratio has been much more stable in the euro area in comparison with that in the UK.

The stable growth in consumption in the euro area emphasises its more balanced economic growth pattern versus that of the UK, which has been more dependent on consumption as a key driver of growth over the last two decades. This partly reflects the financial sectors' special role in the UK over this period and the accompanying credit growth and liberalisation of lending requirements. The Euro Area has been more dominated by export intensive and consumption light Germany; and France, which has generally run a small surplus or deficit in proportion to GDP as a whole

Figure 13
UK and Euro Area 16 saving ratio



Source: Office for National Statistics, Eurostat

(though this has deteriorated somewhat in the most recent period) and where household consumption growth has been closer to overall GDP growth.

In the US the saving ratio is calculated from two perspectives. The first measurement is made through the National Income and Product Accounts, an approach similar to that used in the UK. Here gross saving is determined as the difference between disposable income from labour, property and wealth less consumption. A flow of funds approach is used to produce the second measurement, where gross saving is calculated as the change in household net wealth between the current and previous period. For consistency purposes it is the saving ratio produced from the first approach that we will compare with that of the UK.

The US ratio has exhibited similar developments to those in the UK, declining through recent times and then subsequently recovering through the economic crisis (see **Figure 14**). Like the UK, US citizens had easy access to credit, high levels of employment and income and growing wealth positions through increasing housing and equity prices. All of these factors have to a greater or lesser extent increased consumption relative to income, driving down the saving ratio.

A key feature to observe is that the US saving ratio began to recover more quickly than that of the UK. This is believed to be as a result of the crisis arising and impacting directly on the US economy. US households will have therefore been ahead of UK counterparts in changing their saving and consumption behaviour in response to the deterioration in household balance sheets. Recent improvements in the growth of US house and asset prices, along with a relative improvement in the labour market are believed to be the factors underpinning the decline in the US saving ratio in the latest period, as the series does not rebound as sharply as in the UK.

Conclusion

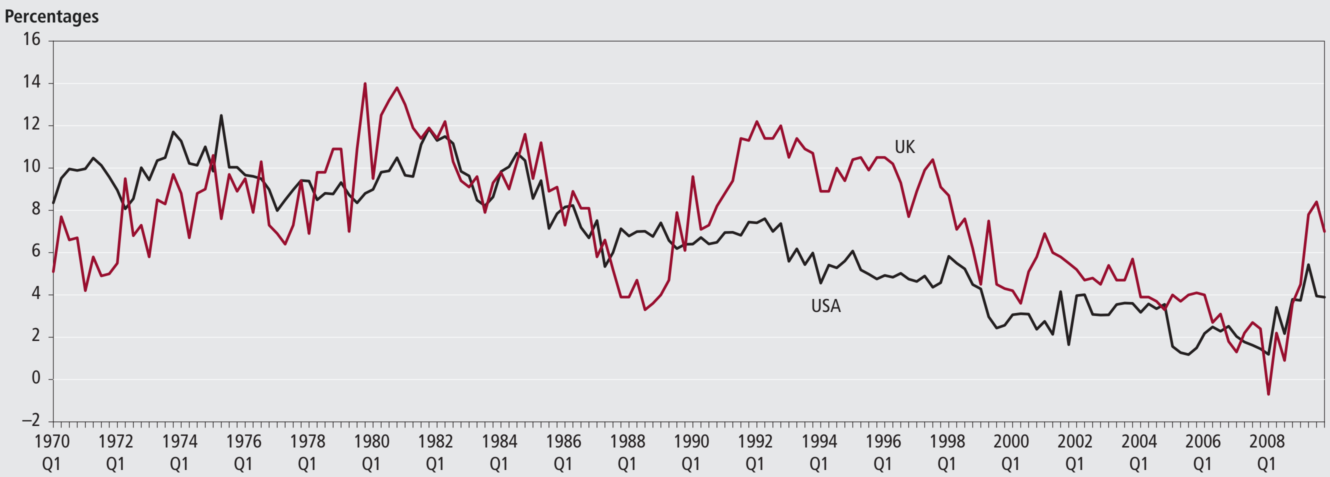
The saving ratio in the UK had been declining since the early 1990s as the household sector increased its consumption expenditure at a greater pace than its disposable income. This partly reflects a period of sustained economic growth and the increased consumption which comes with economic prosperity. It also reflects the increased reliance upon cheap and easy credit which came about as a result of financial deregulation and the increased importance of the financial sector in the UK economy.

This path of decline reversed sharply as the recession developed, as the saving ratio increased from a low point of –0.7 per cent in Q1 2008 to a recent high of 8.4 per cent in Q3 2009. This increase in saving reflects a rational response to the deterioration in household balance sheets, to increased economic uncertainty and the increased precautionary need to hold liquid assets.

Household consumption expenditure has fallen significantly in volume terms and was still 3.8 per cent below its peak in Q1 2008 in the final quarter of 2009. Expenditure on services fell significantly at the end of 2008 and in the first half of 2009, whilst expenditure on durable goods started to fall earlier in the year. The impact of the car scrappage scheme can be seen in Q3 and Q4 2009, as expenditure on durable goods stopped falling in volume terms and grew strongly in current price terms.

Personal income growth has remained relatively buoyant over the recession, though it has suffered from an increased degree of volatility. Where compensation of employees had previously supported growth in incomes, it has weakened over the second half of 2008 and 2009 as earnings growth and employment have weakened. However, the positive contribution of net interest

Figure 14
UK and USA saving ratio



Source: Office for National Statistics, Bureau of Economic Analysis(US) payments has helped to support income as the Bank of England policy rate was reduced rapidly and markedly.

Note

1 Non-Profit Institutions Serving Households (NPISH) are units formed by groups of households in order to supply services to themselves or to other households on a non-commercial basis. NPISHs include political parties, trade unions, religious organisations, sports and bridge clubs, cultural associations, charities and associations with philanthropic aims (eg Red Cross) and certain charitable foundations. Lequiller and Blades (2006)

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FURTHER INFORMATION

Further information on household final consumption expenditure (HHFCE) can be found in *Consumer Trends*.

Further information on the saving ratio can be found in the *Quarterly National Accounts statistical bulletin*.

ACKNOWLEDGEMENT

The authors would like to thank Grant Whiting for his valuable input.

ANNEX

Classifying property income in the National Accounts

Property incomes are classified in the following way in the National Accounts:

Interest

Under the terms of the financial instrument agreed between them, interest is the amount that the debtor becomes liable to pay to the creditor over a given period of time without reducing the amount of principal outstanding.

This form of property income is receivable by the owners of deposits, securities other than shares, loans, and other accounts receivable.

Interest paid decreases by the FISIM on loans, and interest received increases by the FISIM on deposits.

Distributed income of corporations

Dividends

Dividends are a form of property income received by owners of shares to which they become entitled as a result of placing funds at the disposal of corporations.

Withdrawals from income of quasi-corporations

Withdrawals from the income of quasi-corporations consist of the amounts which entrepreneurs actually withdraw for their own use from the profits earned by the quasi-corporations which belong to them.

Property income attributed to insurance policy holders

Property income attributed to insurance policy holders corresponds to total primary incomes received from the investment of insurance technical reserves. Insurance technical reserves are invested by insurance enterprises and pension funds in financial assets or land (from which net property income, i.e. after deducting any interest paid, is received) or in buildings (which generate net operating surpluses). Any net income received that results from the investment of insurance enterprises’ own funds is to be excluded in proportion to the ratio between own funds and a sum of own funds and insurance technical reserves.

Rent

Rents on land

The rent received by a landowner from a tenant constitutes a form of property income.

This heading also includes the rents payable to the owners of inland waters and rivers for the right to exploit such waters for recreational or other purposes, including fishing.

Rents on land do not include the rentals of buildings and of dwellings situated on it; those rentals are treated as the payment for a market service provided by the owner to the tenant of the building or dwelling, and are shown in the accounts as the intermediate or final consumption of the tenant unit.

Rents on sub-soil assets

This heading includes the royalties that accrue to owners of deposits of minerals or fossil fuels (coal, oil or natural gas) who grant leases to other institutional units permitting them to explore or to extract such deposits over a specified period of time.

Quasi-corporations are unincorporated enterprises that operate as though they are corporations. As such they are self-contained and independent, and must have a full set of accounts. It should be possible therefore, to identify flows of income and capital between the quasi-corporation and its owner. In the UK, it is expected that only partnerships will be sufficiently separable from their owners to be classified as quasi-corporations; sole proprietor businesses will not be.