The potential impact of higher interest rates and further fiscal consolidation on households: evidence from the 2015 NMG Consulting survey

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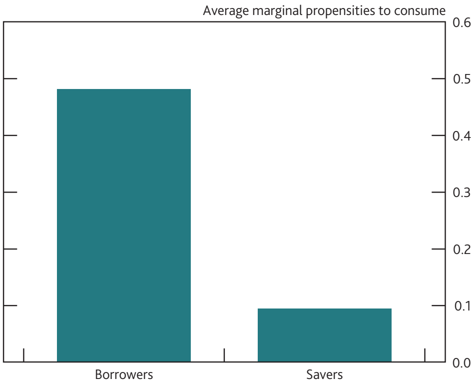
- The balance sheet positions of mortgagors have improved modestly over the past year.
- Households appear a little better placed to cope with a rise in interest rates than a year ago and survey responses do not imply that a rise in rates would have an unusually large impact on spending.
- The survey results suggest that the Government's plans for fiscal consolidation are likely to continue to weigh on household spending.

Overview

The financial situation of households is a key determinant of how they respond to changes in the economy, and how they adjust to such changes has important implications for both monetary policy and financial stability. Results from the latest NMG survey of households point to a modest improvement in mortgagors' balance sheet positions over the past year. The proportions of households with high mortgage debt to income and debt-servicing ratios have fallen slightly, while reported levels of financial distress are low and have declined a little further for both mortgagor and renter households. Using the survey responses, this article assesses how households might respond to (i) a hypothetical and immediate 2 percentage point rise in interest rates (although in practice any increase is likely to be more gradual and limited than that) and (ii) the Government's plans for fiscal consolidation.

Higher interest rates would increase the financial pressure on some households, but households are in a slightly better position to cope with a rise in interest rates than they were a year ago. The survey results suggest that, if interest rates were to rise, borrowers would cut spending by more for each extra pound of interest payments than savers would raise spending for each extra pound of interest received. In other words, borrowers have higher marginal propensities to consume (**summary chart**). Those marginal propensities to consume are close to previous assumptions made by Bank staff and do not imply that an increase in interest rates would have an unusually large effect on aggregate household spending.

Summary chart Estimated marginal propensity to consume of different types of households[(a)]



Sources: NMG Consulting survey and Bank calculations.

(a) See footnote to **Chart 10** for more details on how this chart is constructed. The chart shows data from the 2015 H2 survey.

Around a third of households reported that they have been negatively affected by the fiscal consolidation over the past five years. The most common response has been to cut spending. Households continue to expect to be affected by fiscal consolidation in the future. And there are some households who may be vulnerable to higher interest rates and who expect to be more heavily affected than average by further fiscal consolidation, although that group is relatively small.

Introduction

The financial situation of households is a key determinant of how they respond to changes in the economic and policy environment, and how they adjust to such changes may have implications for both monetary policy and financial stability. The health of households' finances will affect the extent to which they change their spending in response to these developments. It can also help to determine how likely households are to suffer financial distress which, in turn, can affect whether lenders incur losses on loans to those households.

Aggregate data can provide only a limited assessment of the state of households' finances. There are large differences in debt positions between households. These differences will affect their likelihood of facing financial distress and how they respond to shocks. It is therefore important to examine disaggregated data at the household level to help understand these differences. Household survey data can also provide useful information on households' views on a range of topics, including the extent to which they are prepared for policy changes.

Between 2 and 22 September 2015, NMG Consulting carried out an online survey of around 6,000 UK households on behalf of the Bank of England. Each year since 2004, the Bank has commissioned NMG Consulting to conduct a household survey during September, with additional April surveys in 2014 and 2015.(1) This article analyses the results from the latest survey. The box on page 359 provides more detail on the survey methodology.

The NMG survey includes questions on households' balance sheet positions, income, financial distress and influences on spending. These questions are typically included in each wave of the survey. The results are available on a timelier basis than the results from similar questions included in other household surveys. In addition, each wave of the NMG survey typically also includes more bespoke questions on areas of policy interest.(2)

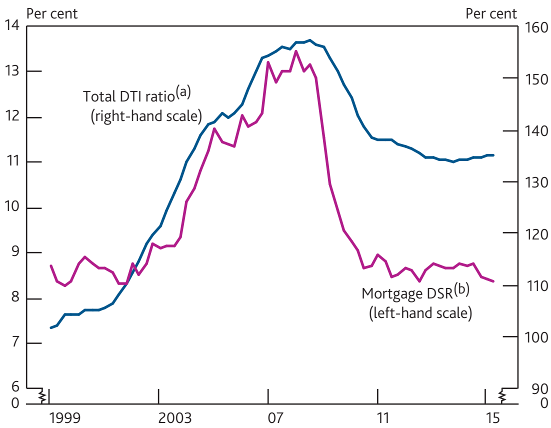
The recent financial crisis had a severe impact on the financial situation of many households. In the early stages of the recovery, the NMG survey was used to explore factors that may have restrained household spending growth. These factors included weak income growth, tight credit conditions, concerns about debt levels, the effects of fiscal consolidation and uncertainty about future income.(3) As the recovery has progressed, real income growth has strengthened, credit conditions have improved, and concerns about debt levels have fallen. However, as set out in the 2015 Autumn Statement, the fiscal consolidation that has been under way since 2010 is set to continue. Furthermore, at the time of the Monetary Policy Committee's (MPC's) meeting in November 2015, financial markets expected that an increase in Bank Rate to 0.75% would occur by the fourth quarter of 2016. And financial markets expected Bank Rate to reach 1.5% in three years' time.

This article uses responses to the latest NMG survey to assess how households might respond to higher interest rates and further fiscal consolidation. The article begins by describing recent developments in household balance sheets and financial distress. That sets the context for how households may respond to future developments in the macroeconomic and policy environment, which is the focus of the second part of the article. Last year's *Bulletin* article on the NMG survey (Anderson *et al* (2014)) included a detailed assessment of the implications of higher interest rates. Some of that analysis is updated in this article and is used to assess how prepared households are for an increase in interest rates and whether that has changed over the past year.

Developments in households' balance sheets

The stock of household debt rose rapidly in relation to income in the decade before the financial crisis, increasing from around 105% in 1999 to around 155% in 2008 (**Chart 1**). It has since fallen back a little, in part due to a reduction in the proportion of households with a mortgage, but remained relatively high at around 135% in 2015 Q2. And as reported in

Chart 1 Aggregate household debt to income (DTI) ratio and mortgage debt-servicing ratio (DSR)



Sources: ONS and Bank calculations.

(a) Household gross debt as a percentage of a four-quarter moving sum of household disposable income. Includes all liabilities of the household sector except for the unfunded pension liabilities and financial derivatives of the non-profit sector. The household disposable income series is adjusted for financial intermediation services indirectly measured (FISIM).
(b) Household mortgage DSR is calculated as mortgage interest payments plus mortgage principal repayments as a percentage of household disposable income. The household disposable income series is adjusted for FISIM.

(1) The data from the latest survey and all previous surveys are available at www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2015/nmgsurvey2015.xlsx.
(2) In the latest survey, questions were included on the implications of higher interest rates, the impact of fiscal consolidation, factors affecting housing market activity and the buy-to-let market.
(3) For example, the 2012 *Quarterly Bulletin* article examines how those factors may have affected spending. See Bunn *et al* (2012).

Survey method

Introduction and methodology

The latest NMG survey was carried out online between 2 and 22 September, covering 6,007 households in Great Britain. The survey was conducted annually during September between 2004 and 2013, with April and September surveys in 2014 and 2015. The survey has been run online since 2012, following pilots in 2010 and 2011. Before that, the survey was face-to-face.

Moving the NMG survey online facilitated the introduction of a panel element where the same households were asked to respond to successive surveys. Around half of the respondents to the latest survey had completed a previous survey. Unless otherwise stated, this article reports results from the cross-sectional data.

The NMG survey has a number of advantages relative to other household surveys. It is more timely than many other surveys; it may be better at measuring financial distress by virtue of being conducted online where respondents are more willing to disclose sensitive information about their finances; and it contains questions on topical policy issues that are not often available in other surveys.

A drawback of the NMG survey is that there may be a greater risk of selection into the survey based on unobservable characteristics than is the case for some other household surveys. The survey is weighted to be representative of the age, gender, region, housing tenure and employment status distributions of Great Britain. But, because the sample is drawn from the Research Now panel used by the survey provider rather than the population as a whole (which is typically the case for surveys conducted by the ONS) there may be a risk that certain types of people are more likely to respond to online surveys and be part of that panel, which could bias the results. However, in any survey, even when the probability of being invited to complete the survey is known, certain types of households may still be more or less likely to respond. The NMG survey data do follow broadly similar trends to the aggregate data and other surveys in many respects and so are still likely to be a useful source of information on distributional issues given the advantages described above.

Different approaches to asking about household income

The main methodological change introduced in the latest survey was around how households are asked to report their income. In previous years the NMG survey has always asked households to report only their total income. However, average household income in the NMG survey has typically been lower than reported in other household surveys, which tend to ask more detailed questions about the components of household income and then aggregate those up. It is possible that some respondents to the NMG survey forgot to report either some components of income or the income of some household members.

Tests in the Spring 2015 NMG survey asked households to report income using four different approaches that were randomly allocated across respondents. Average income was higher when asking about the income of each household member separately, reflecting an increase in the number of households in the upper part of the income distribution, while asking about the components of income made less difference, but had a notable impact on response rates (**Table 1**). For the Autumn 2015 survey, only the previous approach of asking for total income and the one asking for the total income of each household member separately were retained, with the sample split in half. Again, similar differences were observed, with higher average income when asking about each member (**Table 1**) suggesting that some households do not include the income of all members when just asked for the total, although at the expense of a modest fall in response rates.

Table 1 Average income from experiments using different income questions

Income question	2015 H1 mean income (£)	2015 H2 mean income (£)	2015 H1 non-response rate (per cent)[(a)]
(1) Total household income only[(b)]	33,106	33,832	13
(2) Total household income for each household member[(c)]	39,140	38,511	22
(3) Income components for household only[(d)]	34,912	n.a.	33
(4) Income components for each household member[(e)]	38,365	n.a.	39

Sources: NMG Consulting survey and Bank calculations.

(a) Share of respondents that started the survey but either did not complete the survey or did not answer the household income question.
(b) Question: 'Please state the total annual income of the whole of your household, before anything is deducted for tax, National Insurance, pension schemes etc'.
(c) Question: 'Please state the total annual income of each adult in your household, before anything is deducted for tax, National Insurance, pension schemes etc'.
(d) Question: 'Please state the annual income of the whole of your household (before anything is deducted for tax, National Insurance, pension schemes etc) which comes from each of the following categories: [employment; self-employment; benefits; private pension; investments]'. Only asked in 2015 H1 survey.
(e) Question: 'For each member of your household please state the annual income (before anything is deducted for tax, National Insurance, pension schemes etc) which comes from each of the following categories: [employment; self-employment; benefits; private pension; investments]'. Only asked in 2015 H1 survey.

Changing the income question introduces a discontinuity in the data for households presented with the new approach. Over the longer term this should help to improve the accuracy of the survey, and this new approach is likely to be extended to all respondents in the next survey. But where year-on-year comparisons that involve income are made in this article, only the half of households that were asked the old income question variant are used. That is to ensure that the reported figures reflect genuine changes and not methodological differences.

the July 2015 *Financial Stability Report*, it remains high compared with other developed economies.

Over the past year, aggregate total household debt has grown at a similar rate to the National Accounts measure of household income. Within that, the stock of unsecured debt has grown faster than mortgage debt, although mortgage debt still accounts for around three quarters of the stock of total household debt. The overall proportion of household income spent on servicing mortgage debt is currently low, given the low level of interest rates, and has been little changed since late 2014 (**Chart 1**).

In the latest NMG survey, the average amount outstanding on unsecured loans was broadly unchanged from the 2014 survey, with a small increase in the amount outstanding on secured loans. In the 2015 survey, households reported that the average outstanding mortgage was around £85,000. Among those households with unsecured debt, the average amount outstanding was £8,000.

There were changes to the income questions asked to some households in the latest survey, which are described in more detail in the box on page 359. But for those asked the same question, average household income before tax was slightly higher in the latest survey than a year ago.

Measures of household debt sustainability

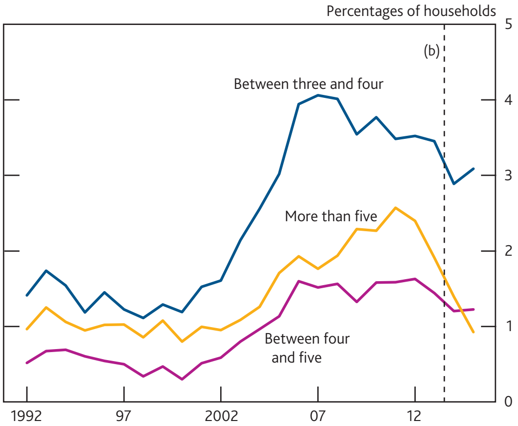
(i) Mortgagors

Two indicators that are commonly used to assess the sustainability of household balance sheet positions are the debt to income (DTI) ratio and debt-servicing ratio (DSR), which is the proportion of income spent on debt repayments (including both capital and interest payments). With both indicators, a higher ratio is typically associated with a higher risk of financial distress, particularly if incomes were to fall or repayment costs were to increase from their current levels.

The share of households with a very high mortgage DTI ratio (above five) has fallen back since 2012 (**Chart 2**). That share is now back to levels seen in the 1990s. The proportion of households with a moderately high mortgage DTI ratio (between three and five) has been more stable recently, and is now at similar levels to those seen in the mid-2000s.

The share of households spending a high proportion of income on mortgage repayments has fallen a little over the past year and, given lower interest rates, is a much smaller share than it was in 2008. The proportion of households with mortgage DSRs between 30% and 40% has dropped over the past year (the left panel of **Chart 3**), although the share of households with a mortgage DSR ratio of 40% or above was broadly unchanged at just over 1%.

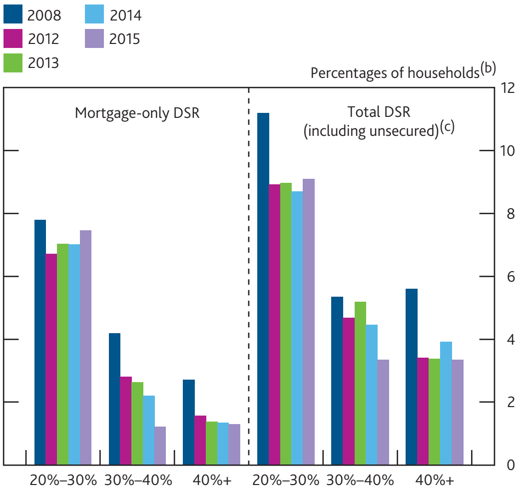
Chart 2 Distribution of mortgage DTI ratios[a]



Sources: Living Costs and Food (LCF) Survey, NMG Consulting survey and Bank calculations.

(a) Ratio of outstanding mortgage debt to pre-tax annual income.
(b) Data up to 2013 are based on responses to the LCF survey. Data for 2014 and 2015 are based on responses to the NMG Consulting survey and have been spliced onto the earlier LCF survey data series in 2013. 2014 and 2015 NMG data are from the H2 surveys only.

Chart 3 Distribution of DSRs for households with mortgages[a]



Sources: NMG Consulting survey and Bank calculations.

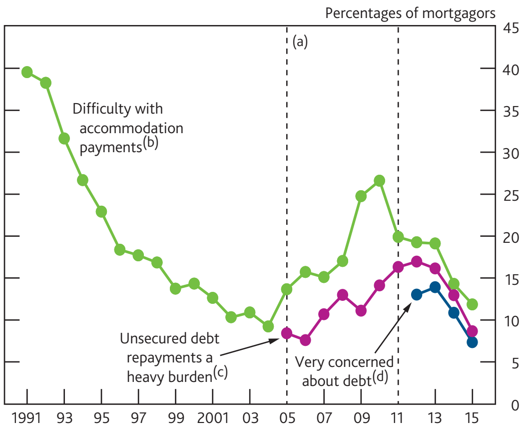
(a) The mortgage DSR is calculated as total mortgage payments (including principal repayments) as a percentage of pre-tax income. The total DSR is calculated as total mortgage and unsecured debt payments (including principal repayments) as a percentage of pre-tax income. Reported repayments may not account for endowment mortgage premia.
(b) The chart shows the number of mortgagors within a particular DSR band as percentage of all households (including non-mortgagor households). 2014 and 2015 NMG data are from the H2 surveys only.
(c) The total DSR of mortgagors who were unsure or preferred not to state if they had unsecured debt is based only on their mortgage repayments. Households who were unsure or preferred not to state the value of their debt repayments, or who reported unsecured debt repayments larger than their outstanding unsecured debt, were not used in calculating the DSR distribution for each housing tenure group.

In addition to mortgage debt, around 70% of households with a mortgage also held at least one form of unsecured debt in the latest survey. Although average balances on unsecured loans are usually small relative to mortgage debt, repayments for these loans can be significant relative to income. This is because interest rates on unsecured loans tend to be high and because repayment periods are usually relatively short.

If both secured and unsecured debt repayments are taken into account, the proportion of mortgagor households with DSRs above 30% increases materially (comparison of left and right panels on **Chart 3**). On average, unsecured debt repayments accounted for around a quarter of the total debt-servicing costs for mortgagors in the 2015 survey, rising to around a third for those with total DSR ratios of above 40%.

Once unsecured debt repayments are taken into account, the proportion of mortgagors with DSRs above 30% has still fallen over the past year (**Chart 3**). Consistent with this improvement in balance sheet positions, fewer mortgagors reported concerns about their debt or problems paying for their accommodation (**Chart 4**).

Chart 4 Measures of financial distress for mortgagors



Sources: British Household Panel Survey (BHPS), NMG Consulting survey and Bank calculations.

(a) Data from 2011 onwards are from the online NMG survey. Data for 2014 and 2015 are from the H2 surveys only. Data from 2005 to 2010 are from the face-to-face NMG survey. Data from 1991 to 2004 are from the BHPS. Data from the BHPS and face-to-face NMG surveys have been spliced to match the online NMG survey results.
(b) Question: 'Many people these days are finding it difficult to keep up with their housing payments. In the past twelve months would you say you have had any difficulties paying for your accommodation?'.
(c) Households with unsecured debt were asked 'To what extent is the repayment of these loans and the interest a financial burden on your household?'.
(d) Question: 'How concerned are you about your current level of debt?'.

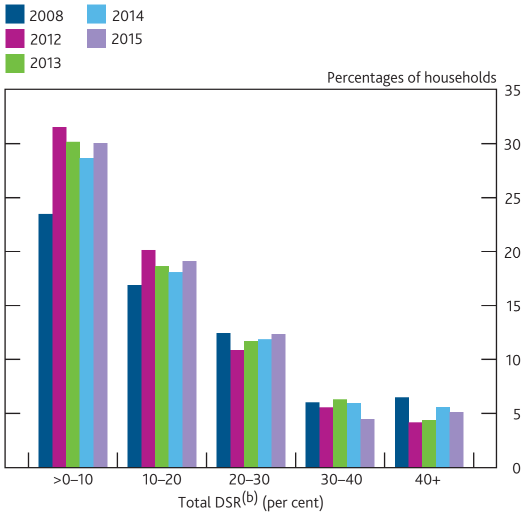
(ii) All households

Debt is held not just by households who own their home with a mortgage. Renters and outright homeowners also need to be considered too. Unsecured debt accounts for all of the debt-servicing costs of these households. Forty per cent of outright owners and around 70% of renters reported that they held at least one form of unsecured debt in the 2015 survey.

Including non-mortgagors, around 5% of all households had a total DSR of 40% or above in the latest survey (**Chart 5**). A similar proportion had DSRs of between 30% and 40%. The proportion of all households with a total DSR of 30% or above has fallen a little since the 2014 survey. However, the share of non-mortgagor households (renters and outright owners) with DSRs above 30% was little changed.

Large debt repayments relative to income may be a particular burden for renter households, who also have to pay rent out of their income. Nevertheless, the proportion of renters reporting their unsecured debt repayments to be a heavy burden has fallen in recent years (**Chart 6**).(1)

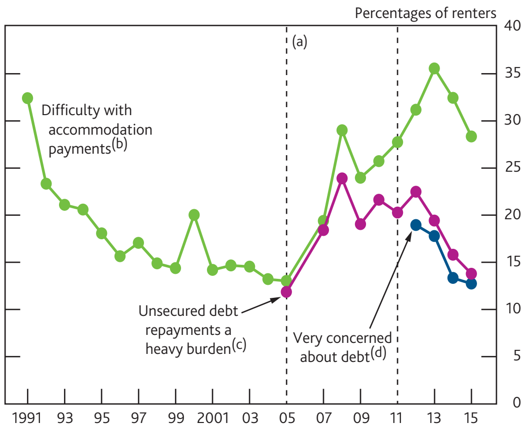
Chart 5 Distribution of DSRs for all households(a)



Sources: NMG Consulting survey and Bank calculations.

(a) 2014 and 2015 NMG data are from the H2 surveys only.
(b) See footnotes (a) and (c) of **Chart 3** for a description of the calculation of total DSR.

Chart 6 Measures of financial distress for renters



Sources: BHPS, NMG Consulting Survey and Bank calculations.

(a) Data from 2011 onwards are from the online NMG survey. Data for 2014 and 2015 are from the H2 surveys only. Data from 2005 to 2010 are from the face-to-face NMG survey. Data from 1991 to 2004 are from the BHPS. Data from the BHPS and face-to-face NMG surveys have been spliced to match the online NMG survey results.
(b) See **Chart 4** footnote (b) for question asked.
(c) See **Chart 4** footnote (c) for question asked.
(d) See **Chart 4** footnote (d) for question asked.

Responses to developments in policy and the macroeconomic environment

The current state of households' finances will be an important factor affecting how they respond to future changes in the macroeconomic environment. Two important changes that are likely to affect households over the next few years are increases in interest rates and the Government's plans for fiscal consolidation. The impact of those changes on the economy will depend, in part, on how households react to them. This section considers how households might respond based on the latest NMG survey.

(1) Fewer households reporting that their unsecured debts are a burden is also consistent with recently released early indicators from the ONS Wealth and Assets Survey, which cover the period up to June 2015.

At the time of the MPC's meeting in November 2015, an increase in Bank Rate to 0.75% was fully priced into financial markets by the fourth quarter of 2016. The MPC also indicated at their November meeting that any increases in Bank Rate were expected to be gradual and to a lower level than in previous cycles. The impact of a given rise in interest rates will, in part, depend on how much households change their spending in response and on the extent to which that rise in rates leads to any increase in financial distress.

Since 2010, the Government has announced a succession of measures in order to cut the United Kingdom's budget deficit, some of which have already been implemented and some of which will take effect over the coming years. In the August 2015 *Inflation Report*, the MPC noted that the overall drag on economic activity from the consolidation is uncertain.(1) Measures such as changes to public sector pay or taxes may take longer to feed through to economic activity than other measures, such as lower public investment, and the effects will depend on how households and companies react to changes in their income.

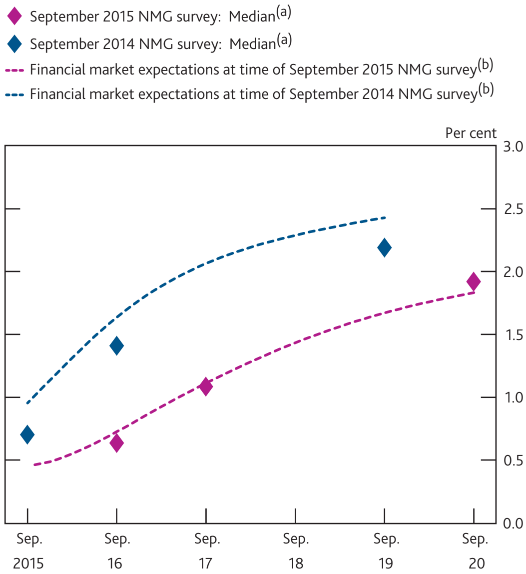
Although the section below considers the implications of higher interest rates and further fiscal consolidation in turn, they should not be considered independently as they are likely to affect some of the same households. The extent of the fiscal consolidation and its effect on consumer spending and inflation will be one of many factors that the MPC will take into consideration when assessing the appropriate stance of monetary policy.

Higher interest rates

Households' median expectations for Bank Rate were very similar to those based on financial market measures at the time of the 2015 survey. Both expected gradual and limited increases in Bank Rate (see the magenta line and diamonds in **Chart 7**). Survey respondents expected a lower path for Bank Rate than at the time of the 2014 survey (those previous expectations are shown by the blue diamonds on **Chart 7**). In the 2015 survey, households' median expectation for Bank Rate in September 2016 was 0.6% (compared to 1.4% at the time of the 2014 survey) with 61% of households expecting Bank Rate to be higher than its current level of 0.5% by that point. The interest rate expectations of households with high DSR ratios, who are potentially most vulnerable to higher interest rates, were similar to those of other households.

The analysis in this section is based on a purely hypothetical scenario in which Bank Rate rises immediately by 2 percentage points to 2.5%. **While this analysis can shed some light on how households may respond to a rise in interest rates, it is important to interpret the results of the scenario analysis with caution**. Most obviously, both financial markets and the MPC expect Bank Rate to increase in a gradual and limited way

Chart 7 Expectations for Bank Rate



Sources: Bloomberg, NMG Consulting survey and Bank calculations.

(a) Question: 'The level of interest rates set by the Bank of England (Bank Rate) is currently 0.5%. At what level do you expect that interest rate to be in each of the following time periods? One year from now/two years from now/five years from now?'.
(b) Forward curve estimated using overnight index swap rates over the period which the survey was conducted. The September 2014 survey was conducted from 3 September to 24 September 2014. The September 2015 survey was conducted from 2 September to 22 September 2015. Forward curves constructed in this way are likely to reflect a measure close to the mean expectation of financial market participants.

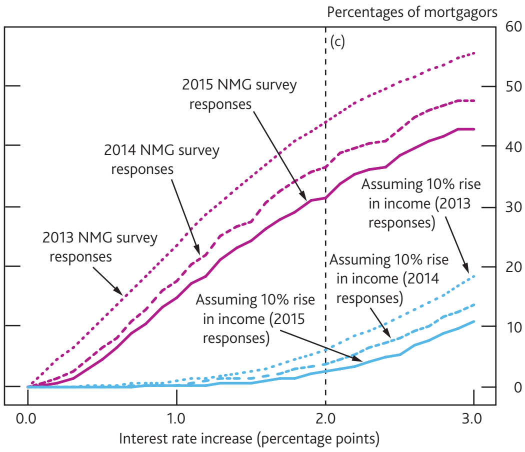
as the economy recovers. The actual path Bank Rate will follow over the next few years will depend on economic circumstances. This scenario was chosen for simplicity and to allow the results to be comparable to those from the 2014 survey.

Other assumptions underpinning the scenarios also need to be mentioned. Household income is assumed to remain unchanged — whereas in practice, increases in Bank Rate are likely to occur in a period when incomes are rising. However, the approach taken here avoids the need to make assumptions about how other aspects of households' financial situations may change over time. The scenarios also assume full and instantaneous pass-through of higher Bank Rate into the interest rates faced by households. This is likely to overestimate the actual impact as many households hold loans and saving products whose interest rates are fixed for a period; although over a longer time horizon some of those contracts may need to be refinanced. In the 2015 NMG survey, 58% of mortgagors reported that they held a fixed-rate mortgage, compared to 50% in the 2014 survey. In addition, and again for simplicity, we assume no change in repayments of the principal on loans.(2)

(1) The box on page 16 of the August 2015 *Inflation Report* discussed the implications of the policy measures announced in the *Summer Budget 2015*. See www.bankofengland.co.uk/publications/Documents/inflationreport/2015/aug.pdf.
(2) Typically, when interest rates rise, principal repayments fall for those on a repayment mortgage, and so the analysis presented here may overestimate the true extent of any increase in debt repayments.

The results from the latest survey suggest that households are in a slightly better position to cope with a rise in interest rates than a year ago. When asked how much their monthly mortgage payments could increase for a sustained period without them having to take action, such as cutting spending, working longer hours, or requesting a change to their mortgage, households reported having more available income than was the case a year ago. An estimated 31% of mortgagors would need to take action of the kind described above if interest rates rose by 2 percentage points while their income remained unchanged, down from 37% in 2014 and 44% in 2013 (the magenta lines on **Chart 8**).

Chart 8 Proportion of mortgagors that would need to respond to a rise in mortgage rates[(a)(b)]



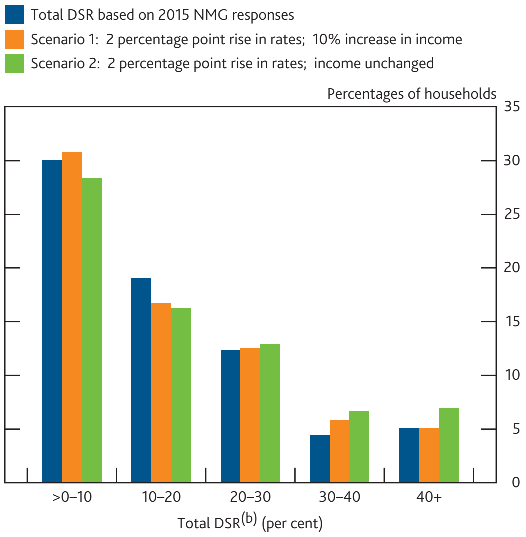
Sources: NMG Consulting survey and Bank calculations.

(a) Question asked to mortgagors with discounted, base rate tracker or standard variable-rate mortgages: 'The interest payment on mortgages is often linked to the official interest rate set by the Bank of England. If the rate was to increase, your monthly payments would also increase. About how much do you think your monthly mortgage payments could increase for a sustained period without you having to take some kind of action to find the extra money eg cut spending, work longer hours, or request a change to your mortgage?'. Households on fixed/capped-rate mortgages were asked the following question: 'Although your monthly mortgage payments are currently [fixed/capped] we would like to understand the impact if your payments were to increase tomorrow. About how much do you think your monthly mortgage payments could increase for a sustained period without you having to take some kind of action to find extra money eg cut spending, work longer hours, or request a change to your mortgage?'. The answers were provided in pounds.
(b) Households are defined as having to take action if the additional mortgage payments from higher interest rates (calculated using information on the size of the current outstanding mortgage) exceed the income available to meet higher mortgage payments. The income growth scenario line uses the same calculation but assumes that monthly household disposable incomes are increased in line with a 10% increase in annual gross household income.
(c) Denotes a 2 percentage point increase in interest rates.

Far fewer households would have to take action in response to higher mortgage payments if their income also rose by 10%. Assuming all of that extra income was used to meet additional repayments, the proportion of mortgagors that would need to take action in response to a 2 percentage point interest rate rise would fall to around 2% (the solid blue line in **Chart 8**) which is lower than the proportion based on the 2013 or 2014 responses.

An alternative approach to assessing the impact of higher interest rates is to consider how the number of households with high DSRs might increase. This may be important as high DSRs are associated with a higher risk of financial distress. If interest rates were to rise by 2 percentage points, but incomes were to remain unchanged, the proportion of households with a total DSR of at least 40% would rise from around 5% to 7% (illustrated by the green bars in **Chart 9**). The share of households who would fall into this category after a rate rise was slightly lower than when a similar experiment was conducted in 2014. One reason for this is that there were fewer households in the latest survey with total DSRs of 30% to 40% that would be likely to move up into the over 40% group if rates were to increase. If the income of all households were to rise by 10%, there would be no increase in the proportion of households in the 40% DSR group after a 2 percentage point rate rise (the orange bars in **Chart 9**).

Chart 9 Sensitivity of the distribution of total DSRs to higher interest rates[(a)]



Sources: NMG Consulting survey and Bank calculations.

(a) The 2015 distribution replicates that shown in **Chart 5**. Scenarios 1 and 2 assume full pass-through of a 2 percentage point interest rate rise to the debt-service costs of both mortgage debt and unsecured debt. Scenario 1 also assumes a 10% increase in gross income for all households.
(b) See footnotes (a) and (c) of **Chart 3** for a description of the calculation of total DSR.

These experiments illustrate that, unsurprisingly, the outlook for household income is a key factor that will determine the vulnerability of households to a rise in interest rates. In the November 2015 *Inflation Report*, aggregate real post-tax household income was projected to grow by 2¼% in each year from 2016 to 2018. However, the distribution of income growth among households will also be important.

The survey also included some questions asking households directly how they would respond to a 2 percentage point rise in interest rates. This was presented to them in the context of how much their own interest payments/receipts would change, calculated using responses for the amount of debt and deposits they have from earlier questions in the survey. Presenting figures in this way should have made it easier for households to respond accurately, by placing the impact of higher rates in the context of their own personal financial situations.

Table A Borrowers' responses to a hypothetical 2 percentage point rise in interest rates[(a)(b)]

Percentages of households (change relative to 2014 NMG survey)	All mortgagors	Mortgagors with DSR ≥ 30%[(c)]	Unsecured only borrowers
Cut spending	55 (-2)	51 (2)	58 (-4)
Save less	33 (-3)	21 (0)	24 (-2)
Work more/take a second job	18 (-1)	26 (3)	20 (-3)
Take up employment myself	1 (-1)	3 (-2)	2 (-1)
Someone else in household will take up employment	2 (-1)	2 (-4)	2 (1)
Get financial help	5 (-1)	11 (0)	10 (1)
Request change to loan	22 (0)	30 (9)	14 (-1)
Move somewhere cheaper	7 (-2)	13 (4)	n.a.
Move and rent	4 (-2)	9 (-3)	n.a.
Other	7 (1)	7 (2)	7 (2)

Sources: NMG Consulting survey and Bank calculations.

(a) Question: 'If your monthly mortgage/unsecured loan payments were to increase for a sustained period by £x [which is calculated automatically from software as the payment increase under a 2 percentage point increase in interest rates], how do you think you would respond? Please assume your income would not be any higher unless you take action to increase it'. Households were allowed to select up to three options.
(b) The table only records the responses of households with net debts. Unsecured borrowers were only asked the question if they had more than £4,999 of unsecured debt. When calculating percentage shares, households who preferred not to respond to this question are included in the denominator.
(c) See footnote (a) of **Chart 3** for a description of the calculation of mortgage DSR.

Over half of borrowers — both mortgagors and households with only unsecured debt — reported that they would cut spending in response to a 2 percentage point rise in interest rates (**Table A**). The expected responses to higher rates were similar to those reported a year ago, and the expected responses of mortgagors with high mortgage DSRs (the middle column in **Table A**) were not very different to those of borrowers as a whole.

The share of savers who reported that they would raise spending in response to an interest rate rise was considerably lower than the proportion of borrowers who reported that they would spend less. Only 10% of savers reported that they would respond by increasing spending (**Table B**). Around half of savers said that they would allow the extra income to remain in their account, and just over a third indicated they would put aside additional savings. The additional savings income earned by these households would be available to be spent at a later date.

The survey also asked households to quantify how much they would change their spending. A summary statistic for assessing the relationship between changes in income and consumption is the marginal propensity to consume (MPC). In this case, the MPC for borrowers is a measure of how much spending would be cut for each extra pound of income that is diverted to higher interest payments. For savers it represents how much spending would increase for each extra pound of interest receipts received.

Borrowers reported an average MPC of 0.48 in response to higher loan repayments (**Chart 10**). In calculating this figure, more weight is given to borrowers with a larger amount of outstanding debt in order to give a sense of how much aggregate spending would change for a given change in interest payments. The reported MPC of borrowers was marginally lower than a year ago. The average MPC of savers was unchanged at 0.09.

The survey results do not imply that an increase in interest rates would have an unusually large effect on household spending. Based on these MPCs, a 1 percentage point rise in interest rates is estimated to reduce aggregate spending

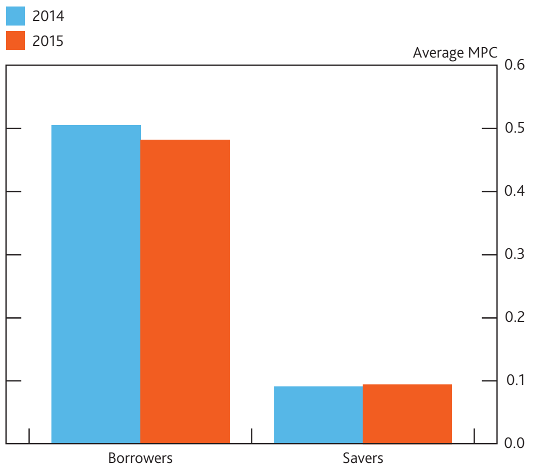
Table B Savers' responses to a hypothetical 2 percentage point rise in interest rates[(a)(b)]

Percentages of households (change relative to 2014 NMG survey)	All savers
Increase spending	10 (0)
Do nothing (let interest accumulate)	50 (2)
Put more money into savings accounts	36 (-2)
Work fewer hours	2 (0)
Other	2 (0)

Sources: NMG Consulting survey and Bank calculations.

(a) Question: 'If the monthly interest you receive on your savings were to increase for a sustained period by £x [which is calculated automatically from software as the payment increase under a 2 percentage point increase in interest rates], how do you think you would respond? Please assume your other sources of income would not change'. Households were allowed to select any of the options. When calculating percentage shares, households who preferred not to respond to this question are included in the denominator.
(b) The table only records the responses of households with positive net savings. Savers were only asked the question if they had more than £4,999 of savings. Households with a mortgage were not asked this question, regardless of their level of savings.

Chart 10 Estimated marginal propensity to consume for different types of households[(a)]



Sources: NMG Consulting survey and Bank calculations.

(a) Questions: 'If your monthly loan payments were to increase for a sustained period by £x [which is calculated automatically from software as the payment increase under a 2 percentage point increase in interest rates], how do you think you would respond? Please assume your income would not be any higher unless you take action to increase it'. Households were allowed to select up to three options. Respondents who reported they would cut spending were then asked 'How much would you reduce your monthly spending by in this situation?'. The marginal propensity to consume is calculated as the reported aggregated change in spending within a type of household as a share of the aggregated change in interest payments within a type of household. Respondents who reported that they would not change spending were given an MPC of zero. Unsecured borrowers and savers with debt/deposits of less than £5,000 were not asked how they would respond to higher interest rates and are therefore assumed to have an MPC of zero. For mortgagors, only their MPC out of changes in mortgage interest payments is considered. Borrowers who reported that they would cut spending but did not respond to the question about by how much were assumed to have an MPC of 1 (the median response of mortgagors who did say how much they would change spending). Savers who reported that they would increase spending but did not respond to the question about by how much were assumed to have an MPC of 0.75 (the median response of savers who did say how much they would change spending). Mortgagors are defined as households with a mortgage who have positive net debt, unsecured borrowers are non-mortgagors with positive net debt and savers are households with net savings. Data for 2014 and 2015 are from the H2 surveys only.

directly by around 0.5% as a result of redistributing income from borrowers to savers, although this is only one of the channels through which changes in interest rates can affect aggregate spending.(1) These estimates of marginal propensities to consume are close to previous assumptions made by Bank staff (which are based on the academic literature).(2)

Fiscal consolidation

Since 2010, the Government has announced a number of measures to reduce the country's budget deficit. Estimates from the Institute of Fiscal Studies suggest that, as of fiscal year 2014/15, around half of the planned consolidation relative to the March 2008 *Budget* had taken place. The latest NMG survey, as in previous waves, for example, 2012, included a set of questions asking households how they had been affected by the fiscal measures, how they had responded and how they expected be affected in the future. The survey was carried out prior to policy announcements in the Autumn Statement.

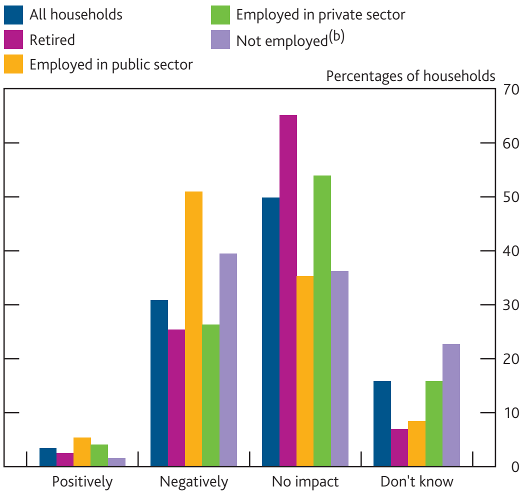
Again, there are some caveats to make before drawing strong inferences from this analysis. To start with, it is hard to assess what would have happened in the economy if a fiscal consolidation had not taken place. In addition, the questions asked do not allow for an assessment of whether households only focus on how they have been/expect to be directly affected by the fiscal consolidation or whether they also take into account the implications it has on them via the aggregate impact of the consolidation on GDP and employment.

Around 30% of all households reported that they had been adversely affected by the fiscal consolidation since 2010 (**Chart 11**). That is lower than in the 2011 and 2012 surveys, the last time the survey included fiscal questions, although this difference may partly be due to a change in the way the question was asked.(3) Fifty per cent of households in the latest survey reported that fiscal measures introduced since 2010 had not affected them, with a very small proportion saying they had been positively affected and the remainder unsure.

Survey responses indicate that the impact of the fiscal consolidation has varied by employment status, with those employed in the public sector being most heavily affected, followed by non-retirees that are not employed (**Chart 11**).

When asked in 2015 about which aspects of the fiscal consolidation had negatively affected their household, the most frequently chosen option was a reduction in spending on public services. This differs from previous surveys in 2011 and 2012 when higher taxes were cited more often (**Table C**). That could reflect the closer proximity of the previous surveys to the VAT increase that came into effect in January 2011. It may be the case that households in 2015 are not remembering as

Chart 11 Impact of fiscal measures since 2010 on households by employment status(a)



Sources: NMG Consulting survey and Bank calculations.

(a) Questions: 'Since 2010, the Government has announced a succession of measures in order to cut the country's budget deficit. How have these measures affected your household over the past five years?'. 'Does your household gain more than half of its income from work for the public sector (by this we mean working directly for the public sector or for industries or services that mainly depend on contracts with the government for their business activity)?'. Percentages are calculated excluding those respondents who reported 'prefer not to state' to the effect of fiscal measures on their household. Results are shown from 2015 H2 NMG survey only.
(b) Includes full-time students/those still at school; those unemployed and seeking work; those not in paid work because of long-term illness or disability; those not in paid work for other reasons.

far back as 2011 and are only recalling how they have been affected over the more recent past.

As in previous surveys, the proportion of households that expected to be affected by further fiscal consolidation was larger than the proportion who reported that they have already been affected. In 2015, 34% of households reported that they had been affected since 2010, but 67% expected there to be an effect still to come.

Higher taxes and cutbacks in public services are the two most commonly cited ways in which households expected to be affected by the fiscal consolidation in the future. A high level of concern about higher taxes (although a little less than in 2012) was despite the fact that the remaining consolidation is planned to be achieved primarily through lower government spending rather than higher tax revenue. The proportion concerned about services being cut back had increased a little since the 2012 survey, while concerns about loss of benefits or job had fallen slightly, although they remained important for a number of households (**Table D**).

(1) For example, higher interest rates will also encourage consumption to be postponed because greater returns on saving increase the amount of future consumption that can be achieved by sacrificing a given amount of spending today.
(2) Previous internal work by Bank staff has assumed MPCs of 0.5% for borrowers and 0.2% for savers.
(3) In 2011 and 2012 the survey asked how respondents had been affected by the past fiscal measures with the option to choose 'I do not think I have been heavily affected'. In 2015, the survey first asked whether respondents had been positively or negatively affected by the fiscal consolidation before asking what the specific impact had been on those who had been negatively affected.

Table C Impact of fiscal measures since 2010 on households[(a)]

	Percentages of households		
	2011[(b)]	2012	2015
Affected	51	48	34
Negatively	n.a.	n.a.	31
Loss of income benefits	11	14	11
Loss of job	6	6	3
Cut back on services	16	17	14
Lower income[(c)]	21	n.a.	n.a.
Lower pre-tax income[(c)]	n.a.	6	5
Higher taxes	21	22	7
Positively	n.a.	n.a.	3
No impact	39	41	50
Don't know	10	11	16

Sources: NMG Consulting survey and Bank calculations.

(a) Questions: In 2015, respondents were asked 'Since 2010, the Government has announced a succession of measures in order to cut the country's budget deficit. How have these measures affected your household over the past five years?'. Respondents who answered 'Negatively' were then asked 'In what way has your household been affected by these changes?' and were allowed to choose up to three options so impacts may not sum to totals. Some households responded 'don't know' or 'prefer not to state' to the question asking them to specify the way they had been affected negatively. Percentages are calculated excluding those respondents who reported 'prefer not to state' to the effect of fiscal measures on their household. See footnote 3 on page 365 for changes in survey questions from 2011 and 2012.
(b) Includes only responses completed online.
(c) The possible responses to this question changed marginally between 2011 and 2012 surveys. 2012 and 2015 surveys refer to 'Lower pre-tax employment income' while the 2011 survey refers to 'Lower income'.

Table D Expected future impact of fiscal measures on households[(a)]

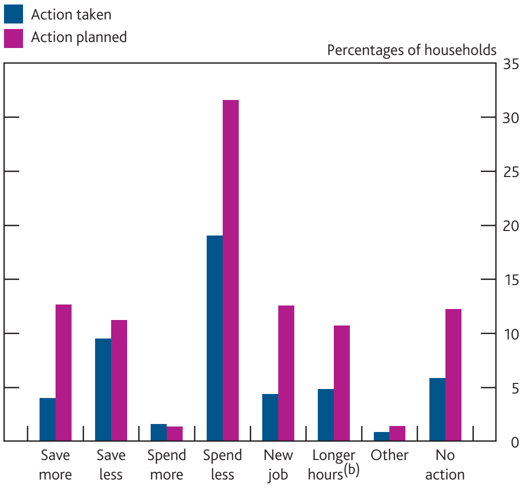
	Percentages of households		
	2011[(b)]	2012	2015
Affected	76	70	67
Loss of income benefits	18	21	17
Loss of job	22	22	18
Cut back on services	26	27	30
Lower income[(c)]	33	n.a.	n.a.
Lower pre-tax income[(c)]	n.a.	9	7
Higher taxes	39	40	33
No impact	15	19	19
Don't know	10	10	14

Sources: NMG Consulting survey and Bank calculations.

(a) Question: 'Some of the Government's measures will come into effect over coming years. Which of the following are you most concerned about for the future?'. Respondents were allowed to choose up to three options so impacts may not sum to totals. Percentages are calculated excluding those respondents who reported 'prefer not to state' to the future effect of fiscal measures on their household.
(b) Includes only responses completed online.
(c) The possible responses to this question changed marginally between 2011 and 2012 surveys. 2012 and 2015 surveys refer to 'Lower pre-tax employment income' while the 2011 survey refers to 'Lower income'.

In response to the fiscal measures implemented so far, the most common actions by households have been spending less and saving less (blue bars in **Chart 12**).[(1)] In the 2015 survey, around 20% of households reported having cut spending in response to fiscal measures, which is broadly similar to the percentage of households who reported cutting spending due to concerns regarding credit availability or their level of debt. The results from the survey suggest that the fiscal consolidation may have been a significant factor weighing on household spending since the financial crisis, although it is impossible to know how household spending would have evolved in the absence of a fiscal consolidation.

Chart 12 Actions taken or planned by households in response to fiscal consolidation[(a)]



Sources: NMG Consulting survey and Bank calculations.

(a) Respondents that have been/expect to be positively or negatively affected by the fiscal measures are asked 'Which, if any, of the following actions have you taken/will you take in response to those measures?' and can choose up to three options. Some households responded 'don't know' or 'prefer not to state', not shown on the chart. Percentages are calculated excluding those respondents who reported 'prefer not to state' to the effect of fiscal measures on their household. Results are shown from 2015 H2 NMG survey only.
(b) Work longer hours/take a second or better paid job.

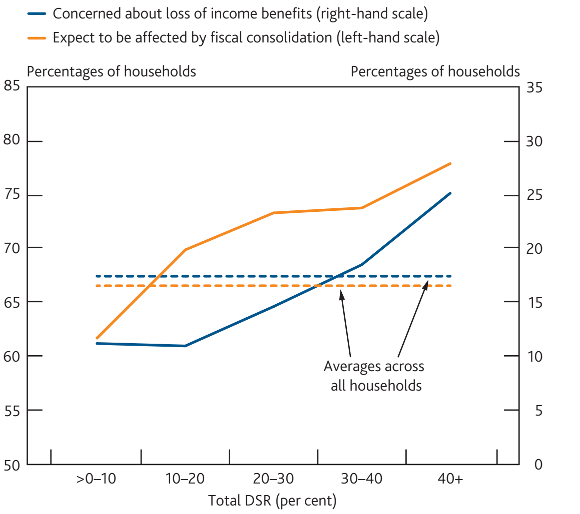
Cutting spending was also the most common expected response to fiscal consolidation in the future. Relative to their actions over the past, an even greater proportion — around 30% — of households expected to cut spending in response to fiscal measures in the future (magenta bars in **Chart 12**). The survey results suggest that the consolidation might weigh on aggregate household spending for some time to come, although some households were concerned about higher taxes, which are not currently a large component of the planned consolidation.

While the fiscal consolidation will affect different households in different ways, the implications for monetary and financial stability may be greater if the most affected households also face financial pressure from other sources. As already discussed, households with high debt-servicing costs may be most vulnerable to a rise in interest rates. On average, high DSR mortgagors expected to be more affected by further fiscal consolidation than low DSR mortgagors and the average household (the orange lines in **Chart 13**).

High DSR mortgagors had a higher level of concern around the loss of income benefits than low DSR mortgagors, on average (the blue line in **Chart 13**). However, the survey was carried out prior to policy announcements in the Autumn Statement, which included the decision to reverse the main cuts to tax credits announced in the *Summer Budget 2015*. These

(1) These options were only added to the latest survey, which makes a comparison of responses over time difficult. The proportion of households reporting that they have taken no action has reduced to 6% from around 20% in 2011 and 2012 which is perhaps a consequence of the change of options rather than an indication of household reactions.

Chart 13 Mortgagors' expectations about the future impact of fiscal measures by total DSR(a)(b)



Sources: NMG Consulting survey and Bank calculations.

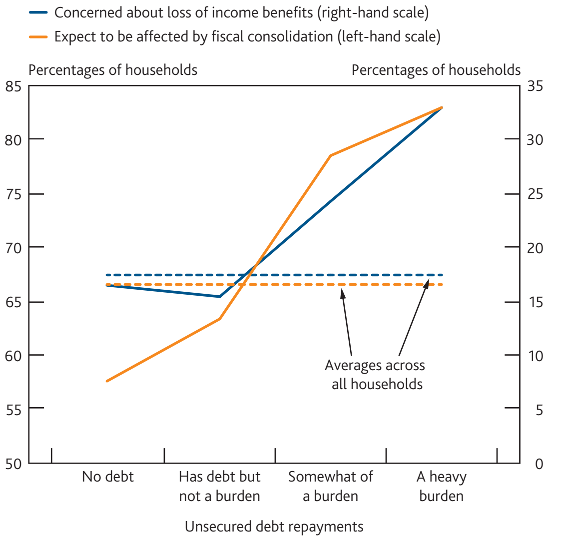
(a) Question: 'Some of the Government's measures will come into effect over coming years. Which of the following are you most concerned about for the future?'. Respondents were allowed to choose up to three options. Percentages are calculated excluding those respondents who reported 'prefer not to state' to the future effect of fiscal measures on their household. Results are shown from 2015 H2 NMG survey only.
(b) See footnotes (a) and (c) of **Chart 3** for a description of the calculation of total DSR.

reductions in tax credits may have been one of the measures that households were most concerned about in the survey, and so it is possible that those concerns may now be lower than when the survey was conducted, although, relative to the size of the economy, the Office for Budget Responsibility still expects welfare spending to fall during the parliament. Mortgagors with higher DSRs did not expect to be disproportionately affected by most other fiscal measures.

The monetary and financial stability implications of tighter fiscal policy may not just be limited to mortgagors. Unsecured borrowers who are already struggling with their debts may find it harder to make their repayments if their income is affected. Non-mortgagors who reported their unsecured debt to be a heavy burden were more likely than those not finding their debt a burden to expect to be affected by future fiscal measures. These groups also had different average levels of concern about a loss of benefit income (**Chart 14**).

While there are some households who may be adversely affected by both monetary and fiscal policy simultaneously, that group is relatively small. Only a quarter of all mortgagor households with a total DSR in excess of 40% were concerned about loss of benefit income, which corresponds to less than 1% of all households. And non-mortgagors finding their unsecured debts to be a heavy burden and who were worried about a loss of benefit income only accounted for around 4% of all unsecured debt.

Chart 14 Non-mortgagors' expectations about the future impact of fiscal measures by reported burden of debt repayments(a)(b)



Sources: NMG Consulting survey and Bank calculations.

(a) Question: 'Some of the Government's measures will come into effect over coming years. Which of the following are you most concerned about for the future?'. Respondents were allowed to choose up to three options. Percentages are calculated excluding those respondents who reported 'prefer not to state' to the future effect of fiscal measures on their household. Results are shown from 2015 H2 NMG survey only.
(b) Question: Households with unsecured debt were asked 'To what extent is the repayment of these loans and the interest a financial burden on your household?'.

Conclusion

In aggregate, household debt remains high relative to income, but the cost of servicing that debt is historically low. From a distributional perspective, data from the latest NMG survey suggest that there has been a modest further improvement in the balance sheet positions of mortgagors over the past year. The proportion of households with high DTI ratios and high DSRs has fallen slightly, while reported levels of financial distress are low and have declined a little further.

Those modest improvements in balance sheet positions imply that households are in a slightly better position to cope with an increase in interest rates than they were a year ago. Households reported that they had more income available to meet any increase in mortgage repayments. The survey results do not imply that an increase in interest rates would have an unusually large effect on household spending.

The survey results suggest that the fiscal consolidation is an important factor that has weighed on household spending, and it is likely to continue to do so. There are also some households who may be more vulnerable to both higher interest rates and who expect to be more heavily affected than average by further fiscal consolidation, although that group is relatively small. Developments in income will be an important determinant of how households' financial positions evolve, but will be of particular importance for more vulnerable households.

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