

3. Paying it down: past trends and future prospects for UK debt¹

Key points

- The total stock of debt held by UK households, non-financial companies and the government rose sharply during the 2000s, so that by the time of the global financial crisis in 2008, the economy's debt burden was equivalent to more than 250% of national income (GDP), from less than 200% at the turn of the century.
- The onset of the crisis saw the private sector begin to pay down its debt, but the combination of higher government spending and falling tax revenue saw public debt double as a proportion of GDP between 2007 and 2013.
- Several years of government austerity and private-sector deleveraging brought the total debt stock down from 268% of GDP in 2012 to 252% in 2017, but the economy remains much more indebted than it was before the crisis.

- Over the next five years we expect the government to continue to reduce the size of its debt relative to GDP, but households are likely to borrow at a faster rate than economic growth to buy houses and fund university education. The net effect will be a slow rise in the economy's total debt stock to a projected 259% of GDP in 2023.
- The likelihood that the Bank of England will raise interest rates slowly but regularly in the coming years means that the cost of repaying the debt will rise. We estimate that debt interest costs could rise from 7.7% of GDP in 2017 to 9.6% of GDP in 2023, squeezing the discretionary spending power of households and companies.

“ We estimate that debt interest costs could rise from 7.7% of GDP in 2017 to 9.6% of GDP in 2023”.

Introduction

Since the global financial crisis of 2008-9, successive UK governments have sought to narrow the budget deficit and to stabilise and then bring down the level of public debt relative to GDP. Austerity has driven fiscal policy for nearly a decade. More recently, commentators, including the Bank of England², have become increasingly concerned about the state of households' finances, particularly the level of unsecured borrowing and a decline in the savings rate. In this research article we explore how the UK economy's debt stock has changed since the financial crisis and consider how it might evolve in the future.

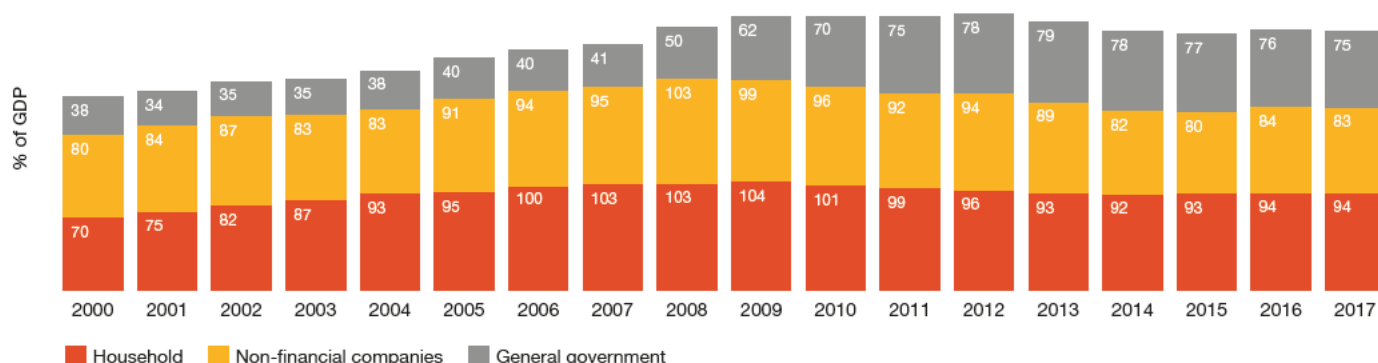
We begin by examining trends in total debt levels since the turn of the millennium (Section 3.1). Next, we move onto a more detailed discussion of trends in borrowing in three major sectors of the economy: households (Section 3.2), non-financial companies (Section 3.3) and central and local government (Section 3.4). In these sub-sections we also discuss the main vulnerabilities of each sector.

In Section 3.5, we then outline some illustrative projections for how UK debt may change over the next five years and what this may mean for debt interest payments as interest rates also rise over this period. We summarise our findings and conclude in Section 3.6. In addition, Box 3.1 considers trends in financial sector debt in the UK.

¹ This article was written by Mike Jakeman and Robbie Allatt with additional inputs from John Hawksorth and Nick Forrest.

² Bank of England, Financial Policy Committee statement, September 2017, <https://www.bankofengland.co.uk/statement/fpc/2017/financial-policy-committee-statement-september-2017>

Figure 3.1 – Gross UK debt stock outstanding by sector as % GDP



3.1 – Trends in total UK debt: 2000-17

Figure 3.1 shows official data on the total gross³ debt outstanding of UK households, non-financial companies and general government (central and local government) as a proportion of GDP since 2000⁴. These figures are taken from the ONS's annual Blue Book of national accounts data, which was most recently published in July 2018. Our analysis in this article focuses on the period since the turn of the millennium, as it is at this point that debt accumulation in the private sector really began to accelerate.

Figure 3.1 shows:

- the economy's debt burden grew considerably during the early years of the 2000s, rising from below 200% of GDP in 2000 to more than 250% by 2009;
- this rapid accumulation of debt was driven primarily by the household sector, with government borrowing growing at only around the same pace as nominal GDP over this period;
- the rise in the debt stock as a proportion of GDP was ended in 2009 by the global financial crisis;
- total debt remained at this level for four years, during which time there was a major shift in the holdings of this debt from the private sector to the public sector;
- in the years since the crisis, total debt levels have come down fractionally in both sectors, but both households and non-financial companies have begun to increase their borrowing as a proportion of GDP since 2015.

We provide a precise breakdown of the debt stock in cash terms and as a proportion of GDP in Table 3.1. At the end of 2017, the total cash value of debt in the UK economy stood at £5.1 trillion, compared with just over £2 trillion in 2000. However, for the majority of this article we will focus on the ratio between debt and GDP, as it is from GDP that the debt will have to be repaid.

The table shows the three phases of the evolution of the debt stock, with the private sector accumulating debt quickly prior to the crisis; the government subsequently increasing its borrowing while the crisis was at its peak (and in the immediate aftermath) and the period of deleveraging in both sectors since.

However, it is also important to note that since 2015 households and non-financial companies have again begun to increase their borrowing at a faster rate than nominal GDP growth, triggering a renewed rise in the overall debt to GDP ratio.

3 Gross debt is defined to include loans taken out and bonds and other debt securities issued by economic units in each of the three sections. It does not include unfunded or underfunded pension liabilities, which would add to the total for government and non-financial companies, but are not included in the national accounts.
4 This total excludes financial sector debt so as to avoid the risk of double counting. However, we explore trends in financial sector debt further in Box 3.1.

We consider this change in behaviour has its origins in both demand and supply factors. On the demand side, several years of improvement in the labour market boosted consumer confidence, while the introduction of higher university tuition fees drove a significant increase in the value of student loans⁵. On the supply side, banks became more willing to lend, thanks partly to a nudge from government initiatives such as Help to Buy.

To explore these issues further, the following sub-sections look in detail at each of the sectors comprising the UK debt stock and consider different metrics where necessary.

3.2 – Household debt

Although GDP is a useful denominator for debt ratios across the economy, for households it is more meaningful to look at ratios of debt to disposable income (i.e. after taxes and other net transfers). Figure 3.2 shows this ratio for both mortgage debt and total debt. The difference between the two lines represents unsecured credit, or debts such as credit cards and car loans that are not backed by housing collateral.

Both mortgage debt and gross household debt rose sharply relative to disposable income in 2000-07, fuelled by booming house prices, low unemployment and general economic stability. These conditions boosted households' appetite to take on debt and lenders' willingness to provide it, particularly mortgage debt, which grew at an annual average of 11.3% in this period. As the bottom line in Figure 3.2 shows, the ratio of mortgage debt to housing assets fell a little in the early 2000s, as the supercharged growth in property prices exceeded even the increase in borrowing for mortgages.

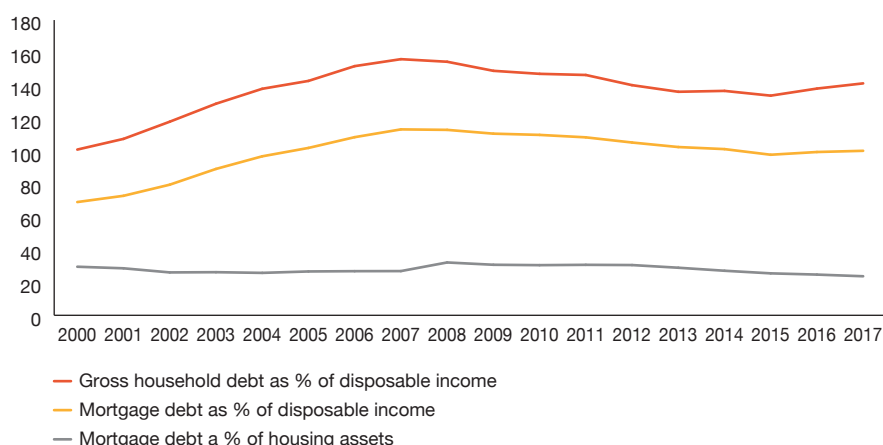
The global financial crisis caused these trends to go into reverse. Between 2008 and 2015, the ratios of both mortgage debt and total household debt to disposable income fell from their peaks in 2007.

Table 3.1: Trends in gross UK debt stock by sector

% of GDP (except last column)	2000	2004	2008	2012	2017	Value of debt stock (£ trillion at end of 2017)
Households	70	93	103	96	94	1.9
Non-financial corporations	80	83	103	94	83	1.7
General government	38	38	50	78	75	1.5
Total debt	188	214	255	268	252	5.1

Source: PwC analysis of ONS data from 2018 Blue Book

Figure 3.2 – Key household debt ratios



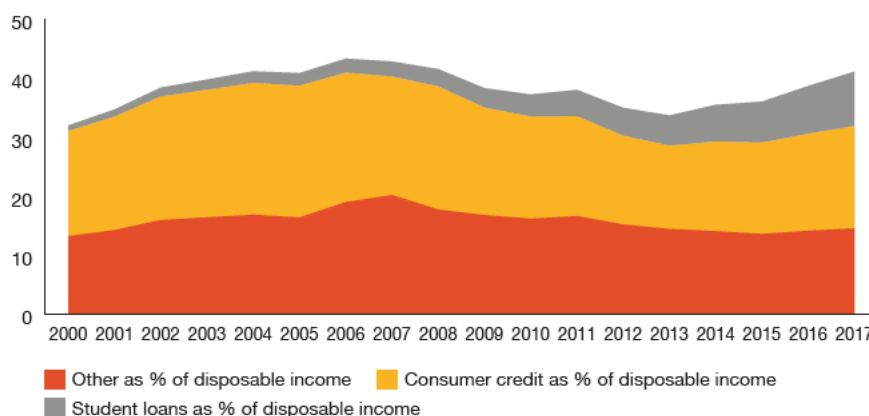
Source: PwC analysis of ONS data from 2018 Blue Book

⁵ The rise in student loans is likely to have implications for the government and its debt stock. In late 2017 the government sold £3.6 billion of student loans to private investors for £1.8 billion. In a sense, it paid a significant premium to the private sector to transfer the risk of non-repayment. Technicalities in the rules of fiscal accounting mean that illiquid assets owned by the government do not contribute to public sector net debt but liquid assets do, giving the sale of student loans the appearance of reducing government debt. However, the IMF and the OBR have described government asset sales that reduce net debt as a fiscal illusion, as the losses will inevitably need to be paid for by increased government borrowing. Currently, the House of Commons Treasury Committee estimate that the inclusion of the estimated cost to government of borrowing to support the student finance system in deficit calculations would increase the value of the deficit by £6-7 billion a year, or 15-17% of the current budget deficit. We note that the current treatment of student loans in the national accounts flatters the budget deficit figures but also makes the household debt projections appear worse than they are. We discuss student loans in more detail in Section 3.2.

There was a moderation in the pace of mortgage lending, which slowed to an average of just 0.7% a year between mid-2009 and mid-2013, as banks tightened lending conditions and consumer confidence weakened, while the value of unsecured debt dropped as households reduced their discretionary spending. During the same period, the ratio of mortgage debt to housing assets rose sharply in 2008 as house prices fell, before it resumed its previous downward trend as the fundamentals of the housing market reasserted themselves.

Consumer behaviour appears to have returned to type in 2015, when both debt ratios began to rise. The Bank of England has suggested that banks loosened lending conditions at this time, and this, along with the launch of the government's Help to Buy initiative, appears to have triggered a mild acceleration in mortgage lending growth. But the more significant increase came from unsecured debt. Figure 3.3 illustrates the two factors behind this increase. First is a rise in the value of outstanding student loans, which have grown from around 10% of non-mortgage debt in mid-2010 to more than 23% by late 2017, thanks to the tripling of the upper limit for annual tuition fees from £3,000 to £9,000 in 2012. Second is the creation of new borrowing agreements to finance car purchases.

Figure 3.3 – Components of unsecured household debt



Source: PwC analysis of Bank of England June 2018 Financial Stability report data and ONS data from 2018 Blue Book

We discuss the outlook for household debt alongside our projections in Section 3.5. However, we note that by mid-2018 lending criteria appeared to be tightening for both mortgages and consumer credit, as noted by the Bank of England in its most recent credit conditions survey. This means that mortgage debt is likely to grow sluggishly for the next two years, before a strengthening of consumer confidence drives stronger demand from the beginning of the 2020s, on the assumption of a reasonably smooth Brexit.

The outlook for unsecured credit is slightly different. Although we expect growth in borrowing for big-ticket items to moderate as interest rates are raised, the value of student debt is likely to continue to grow quickly. Growth in university enrolment has remained steady in spite of the fee increase, while the cap on tuition fees was permitted to move in line with inflation from 2017-18. Furthermore, the inevitability of debt repayment does not apply entirely to student loans: repayments only kick in once the borrower earns an annual salary of £25,000, and the debt is cancelled entirely, no matter how much is owed, after 30 years⁶.

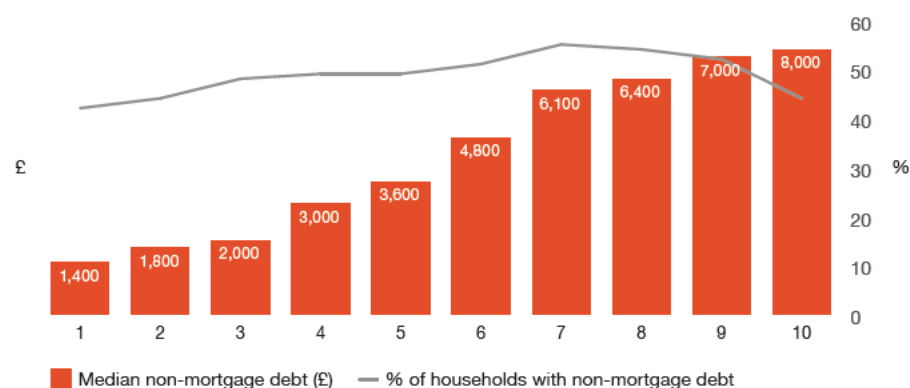
6 The fiscal implications of this are discussed in the previous footnote.

The combination of slow growth in mortgage debt and a moderation in unsecured lending growth (other than student loans) means that the total debt to disposable income ratio is likely to remain at current levels in the short term, but a revival in the housing market from the start of the next decade could push it up again.

In the coming years the Bank of England is projected to raise interest rates gradually but regularly from its current very low level of 0.75%. Higher interest rates will cause households to feel the squeeze of high inherited debt levels. However, measures introduced by the Financial Policy Committee to guard against loosening mortgage underwriting standards, such as the Affordability Test, ought to improve the resilience of mortgage debt to increases in the Bank rate⁷.

The sustainability of non-mortgage debt to higher interest rates is less certain. Although the proportion of households with unsecured debt is fairly consistent across income groups, Figure 3.4 shows that the median value varies considerably, at £1,400 for households in the lowest decile and £7,200 for those in the highest⁸. However, households with ‘problem debt’ are disproportionately concentrated among those with low incomes.

Figure 3.4 – Non-mortgage debt by income decile (Jul 2014–Jun 2016)



Source: PwC analysis of ONS data from Wealth and Assets Survey

These households are particularly vulnerable to rate increases, with around 60% of low-income households that face difficulties servicing their debts doing so because of higher repayment costs, rather than falling incomes. They generally have fewer financial assets relative to debt and are more likely to take out new borrowing when already under pressure⁹. Similarly, PwC¹⁰ has found that these households are more likely to use credit to purchase essential items, which suggests that they have little flexibility to reduce their dependency on debt as the cost of loans rises.

⁷ The FPC's affordability test recommends that mortgage lenders test whether borrowers could still afford their mortgages if, at any point over the first five years of the loan, their mortgage rate were to be 3 percentage points higher than the reversion rate specified at origination.

⁸ ONS, 'Wealth and Assets Survey', February 2018, <https://www.ons.gov.uk/releases/wealthingreatbritainwave52014to2016>

⁹ Institute for Fiscal Studies, 'Problem Debt and Low-Income Households', January 2018, <https://www.ifs.org.uk/publications/10336>

¹⁰ PwC, 'Precious Plastic', October 2017, <https://www.pwc.co.uk/industries/financial-services/insights/precious-plastic.html>

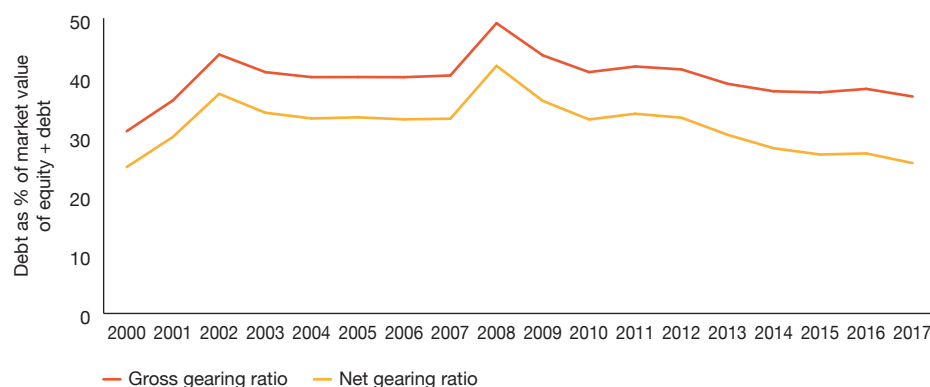
3.3 – Non-financial company debt

Over the past 30 years, non-financial companies have accumulated a large debt stock, with much of the growth occurring in three short periods. At the end of the 1980s, their debt rose as a proportion of GDP from 39% in 1987 to 58% in 1990, while ten years later the ratio climbed from 62% in 1997 to 84% in 2001. Finally, another burst saw it reach 103% in 2008, from 83% in 2004. Each of these periods coincided with rapid growth in private equity and the use of debt to fund mergers and acquisitions (M&A).

However, our preferred method of measuring corporate debt levels is to use gearing ratios. These are defined as the ratio of debt to debt plus equity, where equity is expressed at market values. Our analysis includes both gross gearing and net gearing. In the latter case debt levels are adjusted down by the value of currency and bank deposits held. This means that net gearing ratios are lower, but as Figure 3.5 shows, the two measures follow a similar trend over time.

Particularly noticeable are the sharp increase in the gearing ratios in the early 2000s. This increase owed more to falling equity prices during the bursting of the dot-com bubble rather than a boom in corporate borrowing. ONS data shows that the value of equity held by non-financial firms fell from almost £2 trillion in 2000 to £1.3 trillion in 2002. During the mid-2000s, the ratios held steady. Equity prices bounced back quickly, but these were matched by similar growth in corporate debt.

Figure 3.5 – Gearing ratios of non-financial companies



Source: PwC analysis of ONS data from 2018 Blue Book

Both ratios jumped up again in 2008, as the onset of the financial crisis triggered both another fall in equity prices and a surge in corporate borrowing, but this higher level was not sustained, as equity prices snapped back in 2009.

In the years since the crisis, both ratios have fallen steadily and by 2017 were between 10 and 20 percentage points lower than in 2008. Again, it has been equity valuations that have driven the change. Borrowing has been largely flat, and in cash terms has yet to match the level reached in 2008. Meanwhile, the value of equity has risen steadily, at an annual average rate of 5.2% between 2010 and 2017. The net gearing ratio has also fallen considerably faster than the gross ratio. This is because non-financial firms have held onto more and more assets in currency and bank deposits.

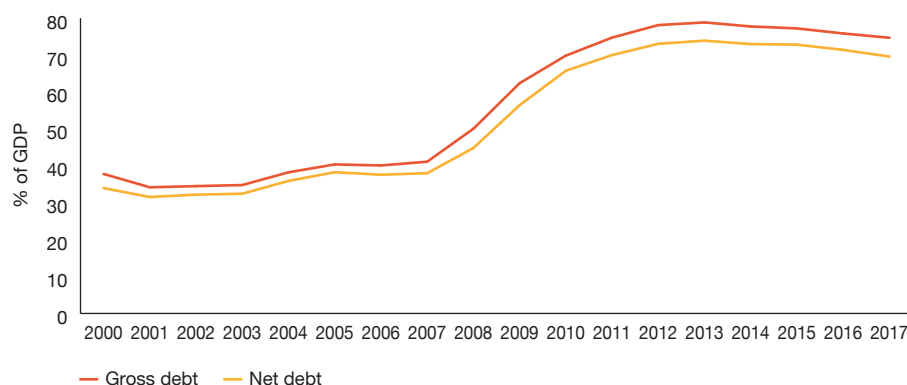
Research by the Bank of England in 2017 found that one-third of non-financial firms believed that they had under-invested in previous years¹¹. Respondents gave a range of explanations for their behaviour.

Around 50% said that the availability (or lack) of external financing was an obstacle, while a slightly smaller proportion cited the cost of borrowing. There were real economic blockages too: uncertainty was cited by 85% of firms, while risk aversion was mentioned by around 70%, suggesting that the crisis may have had long-lasting effects on behaviour. Finally, the research found that many firms had not lowered their 'hurdle rates', or the rate of return required for an investment to proceed, despite a fall in the cost of borrowing.

That the most common obstacles were related to sentiment rather than the availability of finance suggests that non-financial companies could increase their borrowing in the coming years as memories of the crisis fade. This may also explain why loan growth jumped in 2016-17, growing by 6% a year, compared with a fall of 0.8% a year in 2010-15. But much now depends on how smoothly Brexit evolves, as well as movements in global financial markets, which can have a large impact on M&A activity and so on corporate borrowing requirements.

¹¹ Bank of England, 'Are firms underinvesting – and if so why?', February 2017, <https://www.bankofengland.co.uk/speech/2017/are-firms-underinvesting-and-if-so-why>

Figure 3.6 – General government debt as % GDP



Source: PwC analysis of ONS data from 2018 Blue Book

3.4 – General government debt

For most of the last 40 years, general government debt¹² as a proportion of GDP has followed a countercyclical pattern in a range of between 30% and 50% of GDP. When the economy was growing strongly, such as at the end of the 1980s and the early 2000s, the stock fell relative to GDP, while during the recession of the early 1990s, it grew. However, Figure 3.6 shows that this trend ended abruptly in 2008–9, when the debt stock shot up out of this range during the global financial crisis. Since then, governments have focused on slowing the growth of the debt stock, and recently it has fallen by several percentage points of GDP.

During the crisis the economy endured a deep recession that weakened both sides of the government's finances. With the economy shrinking, its tax receipts declined, while initiatives to support the economy, like a temporary reduction in VAT in 2009 and a cut to stamp duty on property purchases, cost the Exchequer around £25 billion. Consequently, the general government deficit expanded from £41 billion in 2007 (equivalent to 2.6% of GDP) to £154 billion in 2009 (10.1% of GDP), while the debt stock grew in cash terms from £634bn in 2007 to £959 billion two years later.

Since 2010, the government has run an austerity programme to repair its finances. The budget deficit has narrowed and the gross debt to GDP ratio has fallen from 79% in 2013 to 75% in 2017. These efforts have not resulted in a decline in the absolute value of public debt: the stock rose from just under £1.4 trillion to just over £1.5 trillion over these years.

The government is aiming for the structural budget deficit to be brought down to less than 2% of GDP by 2020/21 and for the net debt to GDP ratio to be in decline by the same year. In fact, it is already achieving both targets in the current year, although its longer term goal of eliminating the deficit by the mid-2020s is much more challenging, given upward pressures on spending on the NHS and social care and the raising of the income tax threshold announced in the 2018 budget.

In assessing whether this level of indebtedness is problematic, in the short term the answer depends more on debt interest payments, while in the long term it is more to do with the size of the stock relative to GDP. The value of debt interest payments is set by a combination of the maturity of the gilts that the government issues and the interest rate it sells them at. In this respect, the government's payments are considerable but manageable, largely because the big issuance of new debt in response to the financial crisis was made at a time when interest rates were very low.

For example, public debt interest payments have risen sharply in cash terms since the financial crisis, from around £32 billion in 2007/08 to £42 billion in 2017/18. But as a proportion of GDP, payments were static, at 2%, thanks to economic growth over this period. Indeed, on this measure, debt interest repayments were greater two decades earlier, when they stood at 3.1%, even though the cash value was much lower, at £29 billion.

¹² Note that we focus here on gross general government debt, whereas the government's fiscal targets focus on net public sector debt. The latter is higher because it includes the debt of public corporations, but lower because it is net of liquid financial assets of the public sector. At least since the turn of century, however, these two measures have followed broadly similar trends over time (in earlier decades they were more distinct due to a large public corporations sector prior to the privatisations of the 1980s and 1990s).

As for the stock itself, a famous study by Reinhart and Rogoff (2009) suggested that a public debt burden greater than 90% of GDP was associated with financial crises that were likely to disrupt economic growth. Later, however, the robustness of this 90% figure was questioned. Collard, Habib and Rochet (2015), for example, developed a measure of the maximum sustainable public debt, or the highest level at which investors would be willing to roll over maturing debt were an economy to stumble. For the UK, this was estimated at 126% of GDP¹³. The current gross debt-to-GDP ratio of 75% well below these levels, suggesting that the debt burden is unlikely of itself to be a threat to the future health of the economy. That said, if the government is going to maintain a debt-to-GDP ratio that is significantly higher than it was prior to the global financial crisis, it may constrain its ability to respond to future recessions with similarly elevated spending.

In the long term, there are also structural factors that will put upward pressure on the debt stock. The ageing of the population means that state spending on pensions and health and social care will rise, necessitating either greater borrowing or offsetting tax increases. There is also the more immediate challenge of managing the economy's performance during Brexit. To this end, the Chancellor, Philip Hammond, maintained the same contingency of around £15 billion in his 2018 budget which could be deployed to stimulate the economy in the event of a Brexit-related downturn.

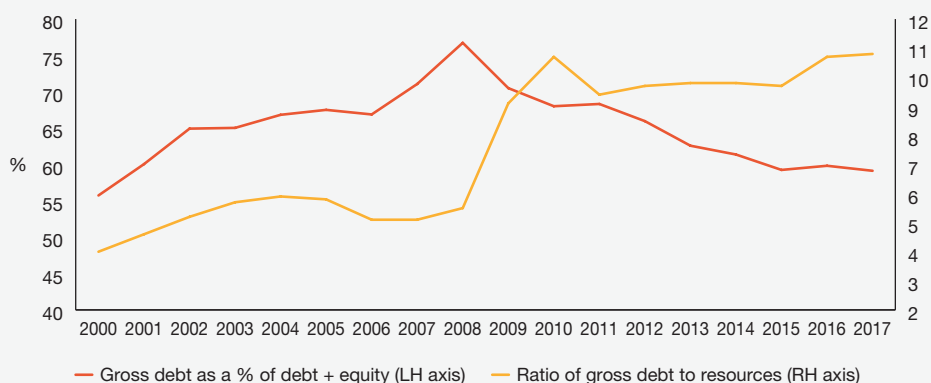
¹³ Bank of England, 'It pays to be paranoid: the importance of fiscal space', November 2017, <https://www.bankofengland.co.uk/speech/2017/richard-sharp-ucl-economics-and-finance-society>

Box 3.1 – Financial sector debt

In this box we briefly explore how the stock of financial sector debt has changed in the years since the financial crisis. It is much more difficult to interpret debt levels for financial services than for other sectors of the economy, as debt is used in a different manner in many transactions between financial companies. For simplicity, we will solely be looking at the liabilities on bank balance sheets: loans taken out and the bonds issued by financial corporations themselves, excluding any deposits held by these institutions.

As a proportion of GDP, UK financial corporations' gross debt has been in slow decline since 2009, falling from a peak of 239%, although this trend appears to have begun to reverse in 2015. However, it is more informative to examine gross debt through gearing ratios. Figure 3.1.1 shows the ratio of gross debt to debt plus equity falling quickly since the onset of the crisis, suggesting a strengthening of balance sheets. It is important to note that the value of equity held by UK financial institutions has more than doubled from its 2008 low and that this increase has been instrumental in pulling down the gearing ratio. It also means that another collapse in equity prices, such as the one in 2008, would see balance sheets weaken quickly.

Figure 3.1.1 – Financial sector debt ratios



Source: PwC analysis of ONS data from 2018 Blue Book

Another way of assessing financial sector debt is by viewing it in relation to the income of financial institutions. As illustrated in Figure 3.1.1, the gross debt to income ratio of such firms increased sharply with the fall in incomes that occurred as the global financial crisis took hold. Importantly, this ratio has remained at this much higher level, as incomes were no greater in 2017 than they were in 2010.

The main source of financial-sector revenue has historically been interest income, and a fall in mortgage and consumer lending, combined with years of record-low interest rates, led to interest income dropping dramatically, from £457 billion in 2008 to £139 billion in 2017. It is important to notice that interest expenditure also fell over this period, meaning that the impact on net interest income has been much less pronounced, and it is this measure that would be most important for the sector in the event of another economic downturn.

Table 3.1.1: Breakdown of financial sector debts and financial derivatives by type of institution

	Banks and building societies		Other financial intermediaries and auxiliaries		Insurance companies and pension funds		Total financial sector debt	
£ billion	2009	2017	2009	2017	2009	2017	2009	2017
Bonds and other debt securities	1154	1002	892	956	26	34	2072	1992
Loans	2	3	1557	1569	38	89	1598	1661
Total debt	1156	1005	2449	2525	64	123	3670	3653
Derivative assets	4080	2506	1072	1448	97	106	5249	4060
Derivative liabilities	4027	2457	1084	1435	94	105	5159	3997
Net derivatives	53	49	-12	13	3	1	89	63

Source: PwC analysis of ONS data

Table 3.1.1 presents a breakdown of financial sector debts by types of institution. We can observe several structural changes to the sector in the ten years following the financial crisis:

- the total debt of banks and building societies has fallen slightly since 2009, while other financial intermediaries and auxiliaries (such as hedge funds and fund managers) have increased their debt load, particularly through bonds and other debt securities;
- the debts of insurance companies and pension funds have almost doubled since 2009, but remain fairly immaterial relative to their other non-debt liabilities, such as pensions;
- the value of derivative assets and liabilities has declined by around £1.2 trillion from 2009, but remains high relative to other liabilities of financial institutions (though these tend to cancel out in net terms); and
- exposure has transferred from traditional banks to the shadow banking sector in the face of a stricter regulatory environment following the financial crisis¹⁴.

To summarise, at 179% in 2017, UK financial sector debt remains significantly higher as a proportion of national income than it did in the early 2000s. However, the same measure has fallen considerably since the financial crisis and the rise since 2015 has been mild. Furthermore, the Bank of England is currently satisfied by banks' capital ratios.

¹⁴ Derivatives played a significant role in the evolution of global financial crisis from its roots in the US the sub-prime mortgage segment. However, they are very much a game between financial institutions and do not typically interact with the real economy. Although there is no guarantee that they will not play a part in any future financial crisis, it is beyond the scope of this article to consider any potential spill-over effects arising from holdings of derivatives.

3.5 – Medium-term outlook for UK debt levels and debt interest payments

Projecting the future path of the debt stock is complicated by high levels of uncertainty surrounding the UK economy, not least relating to Brexit. However, in this section we set out what we consider to be a plausible main scenario for the next five years and then offer a broader range of outcomes under high and low growth scenarios. We then look at what this may mean for debt interest payments as interest rates rise over the next five years.

Our main scenario is based on the following assumptions:

- nominal GDP grows by an average of 4% a year in 2019-23, a slightly higher rate than in 2017-18 owing to our expectations of inflation remaining above or very close to the Bank of England's 2% target in 2019-20 and economic growth accelerating from current levels to closer to 2% on average in 2021-23;
- growth in borrowing by non-financial companies accelerates gradually in 2019-20 as economic uncertainty diminishes and growth is faster and more consistent in 2021-23; gearing ratios rise as growth in equity prices slows amid tightening monetary policy, while the gross debt-to-GDP ratio rises steadily;

Table 3.2: Main scenario projections for UK debt stock (and plausible ranges)

Sectors	Debt in cash terms (£ trillion)		Debt as % of GDP	
	2017	2023	2017	2023
Households	1.9	2.6	94	100
General government	1.5	1.8	75	69
Non-financial companies	1.7	2.4	83	91
Total	5.1	6.7	252	259
Plausible range		6-7.4		245-273

Source: ONS data and PwC scenarios

- growth in household debt slows relative to nominal GDP in 2018-19 reflecting further sluggish growth in mortgage demand and tighter lending criteria for unsecured borrowing; this trend reverses from 2020 as concerns about the economic outlook diminish after a relatively smooth Brexit and the stock of student loans continues to expand rapidly, triggering a renewed rise in the gross debt-to-GDP ratio; and
- general government borrowing progresses broadly in line with the expectations of the OBR, with higher tax receipts further reducing the debt-to-GDP ratio to less than 70% by 2023.

Applying these assumptions gives us a central projection for the UK debt stock by 2023 in cash terms and as a proportion of GDP, as shown in Table 3.2.

Figure 3.7 – Projections of gross UK debt stock outstanding by sector

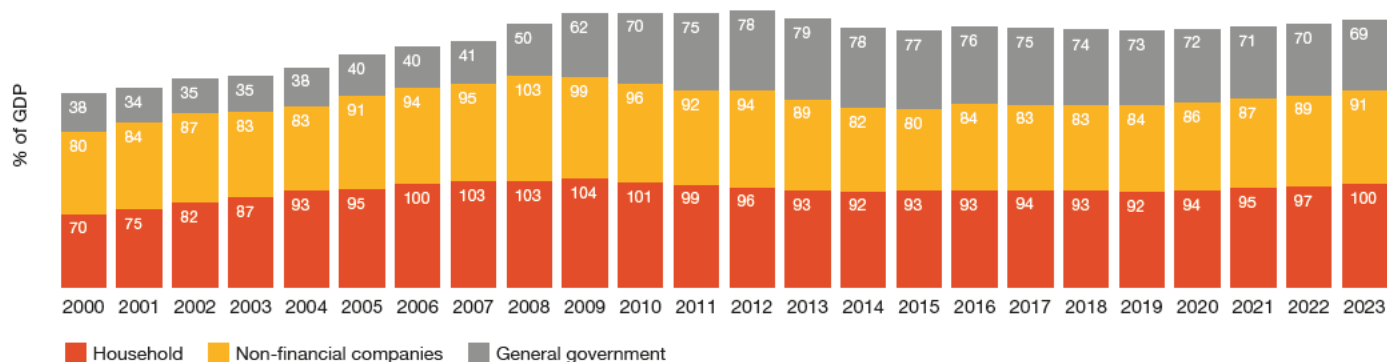


Figure 3.7 illustrates that in the first years of the projection, the debt-to-GDP ratio for households and the government falls, more than offsetting a small rise for non-financial companies, so that the economy-wide ratio dips marginally, to 249% by 2019. Thereafter, we expect household debt to rise more quickly, leading to a renewed rise in the total debt-to-GDP ratio to 259% by 2023. We note that this growth is relatively gradual and will be influenced by a variety of factors, including the outcomes of the Brexit process, the performance of the global economy, the Bank of England's monetary policy and the appetites of lenders and borrowers.

To reflect this, we also outline alternative high and low growth scenarios to represent the range of plausible outcomes for the debt stock. In the high growth scenario, a strong economy triggers a faster accumulation of debt in the household and non-financial companies sectors (and faster deleveraging in the government sector thanks to a larger denominator), which drives the total debt stock up to 273% of GDP by 2023, surpassing the previous peak of 268% of GDP set in 2012. In the low growth scenario, the trends are reversed. Households and non-financial companies slow their rate of borrowing, while the government borrows more to support the economy. The total debt stock falls to 245% of GDP. It is worth noting that, even in this low growth scenario, the debt stock is significantly higher than it was before the financial crisis.

The effect of higher interest rates on future debt repayments

In addition to considering potential movements of the debt stock, we have also analysed potential paths for debt interest payments. These projections are illustrative and are intended to give an indication of the broad direction of repayments rather than being precise forecasts. In our main scenario, shown in Table 3.3, we use the same assumptions as in our debt stock projections, with the addition of the Bank of England raising its base rate to 2% by 2023, in line with the Bank's estimate for the long-run neutral interest rate. An additional 125 basis points on the rate over the next five years would increase debt servicing costs for all three sectors of the economy, so that total debt repayments could rise in cash terms from a little above £150 billion in 2017 to around £250 billion by 2023. As a proportion of GDP, this represents an increase from 7.7% to 9.6% as shown in Table 3.3.

We carried out the same analysis for our high and low growth scenarios, also using the higher and lower denominators for GDP. We assumed that the base rate rose to 3% by 2023 in the high growth scenario, but also that lenders were unable to pass on all of the increase to borrowers. In the low growth scenario, the base rate reaches only 1% by 2023, but this small addition to rates is transmitted to consumers and businesses in full. These scenarios gave us an estimated range for debt repayments for the total economy of between 7.5% and 11.2% of GDP in 2023.

Table 3.3: Illustrative projections for UK debt repayments

Sectors	Debt repayments in cash terms (£ billion)			
	2017	2023 (main scenario)	2023 (low growth scenario)	2023 (high growth scenario)
Households	66	104	76	125
General government	41	47	41	52
Non-financial companies	50	96	68	126
Total	157	247	186	304
Total as % of GDP	7.7	9.6	7.5	11.2

Source: ONS data and PwC scenarios

These projections need to be accompanied with a couple of caveats. Those households with savings would benefit from higher interest rates, as would companies with interest-bearing bank deposits. This would make larger debt repayments easier to bear. There would be no effect on student loans, as interest rates on this borrowing are linked to movements in the retail price index, not the Bank rate, so these have been stripped out of our debt repayment calculations. Finally, mortgage holders may not be affected immediately, given that more than 60% of mortgages are now on fixed rates, but terms for new mortgages and remortgages would gradually rise along with the base rate.

In sum, repaying the higher debt stock following the financial crisis is likely to become more expensive in the coming years, and this could exert a dampening effect on discretionary spending for both households and businesses. The cost of debt servicing is likely to be an important factor in the decision-making of the Bank of England, which must balance the sensitivity of households and businesses to tighter monetary policy against the need for higher rates to meet inflation targets (and also allow scope for future rate cuts to support the economy during any future economic downturn).

3.6 – Summary and conclusions

Our analysis has revealed that the total UK debt stock grew steadily from below 200% of GDP at the turn of the millennium in 2000 to around 270% in the aftermath of the global financial crisis. This expansion was driven by households and non-financial companies, who took advantage of a growing economy, rising equity prices and accommodative monetary policy to borrow more money, and by banks, who were keen to expand their lending levels. Government debt during this period was fairly stable at historically relatively low levels of around 40% of GDP or less up to 2007.

The financial crisis put an end to these trends. Households and non-financial companies began to reduce their debt quickly, and economy-wide deleveraging would have been greater still were it not for a surge in borrowing by the government. The public sector then began its own deleveraging programme, which is still ongoing. We note a change in behaviour among households and non-financial companies since 2015, when they began to accumulate debt at a faster rate than nominal GDP growth.

It is a little soon to say with confidence that the most recent movements in private sector debt represent the start of a longer term trend. The unusual amount of uncertainty facing the UK economy in 2018-19—as a result of Brexit, a stumbling housing market in London and the likelihood of further interest rate increases—means that these years are likely to see a pause in debt accumulation relative to GDP. But, after that, on the assumption of a smooth Brexit transition being agreed with the EU and a subsequent gradual recovery in UK business and consumer confidence, the private sector is likely to resume faster rates of borrowing that cause the debt stock to rise further relative to GDP.

The outlook for general government debt is subject to fewer uncertainties: the government has been reducing its debt stock as a proportion of GDP steadily for five years and this is likely to continue, even taking account of the easing of austerity announced in the October 2018 Budget. That said, we note the long-term structural challenges posed by the ageing of the population through a smaller tax base and higher demand for health and social care for the elderly, as well as increased state pension spending.

Both the projected increase in the debt stock and the rise in debt repayments are relatively modest, but they will come on top of already high levels of debt, so that, by 2023, total debt could again be approaching the peak of around 260% of GDP seen during financial crisis. That interest rates are expected to rise only very gradually in this period, and only to around the level of the Bank of England's long-run neutral rate, may mean that the effect of higher debt repayments on household budgets is manageable and the squeeze on discretionary spending is limited. However, we also note the distributional differences in debt between households and the greater vulnerability of those more reliant on credit. This means that, for some, the UK economy's appetite for debt remains a risk.

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