

4. The economic outlook

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Summary

- The economic outlook for the next few years is worse than it has been for some time. Our central forecast is that there will be a moderate slowdown in the UK economy over the coming fiscal year followed by a rather weak recovery in 2009. This implies two years of growth below the economy's long-run trend rate.
- We expect weaker consumer spending for the next few years as the incentives to save increase and the availability and price of credit make borrowing less easy.
- Although we expect slower domestic demand growth in the next year or so, growth is also likely to slow in the economies of the UK's major trading partners (particularly the euro area and the US). Without a very sharp depreciation in sterling, net trade is not likely to boost growth in the UK.
- This forecast for the UK economy differs somewhat from that of the Treasury. In particular, we forecast somewhat weaker GDP growth than the Treasury in fiscal years 2008–09 and 2009–10. Thereafter, we actually project slightly stronger growth than the Treasury does.

4.1 Introduction

The near-term outlook for the UK economy has clearly worsened over the past year, particularly since the financial market turmoil that began in August. But underlying factors had already made weaker consumer spending and a rebalancing of the economy towards higher saving both desirable and likely. Along with the Treasury and the Bank of England, we see a soft patch for the UK economy this year – and we think it could extend some way into 2009. That said, longer-term fundamentals continue to look relatively sound. Productivity and labour force growth seem likely to sustain trend growth of close to 2½% per year. The credible framework, and conduct, of monetary policy are also likely to ensure that inflation expectations do not drift far from the inflation target.

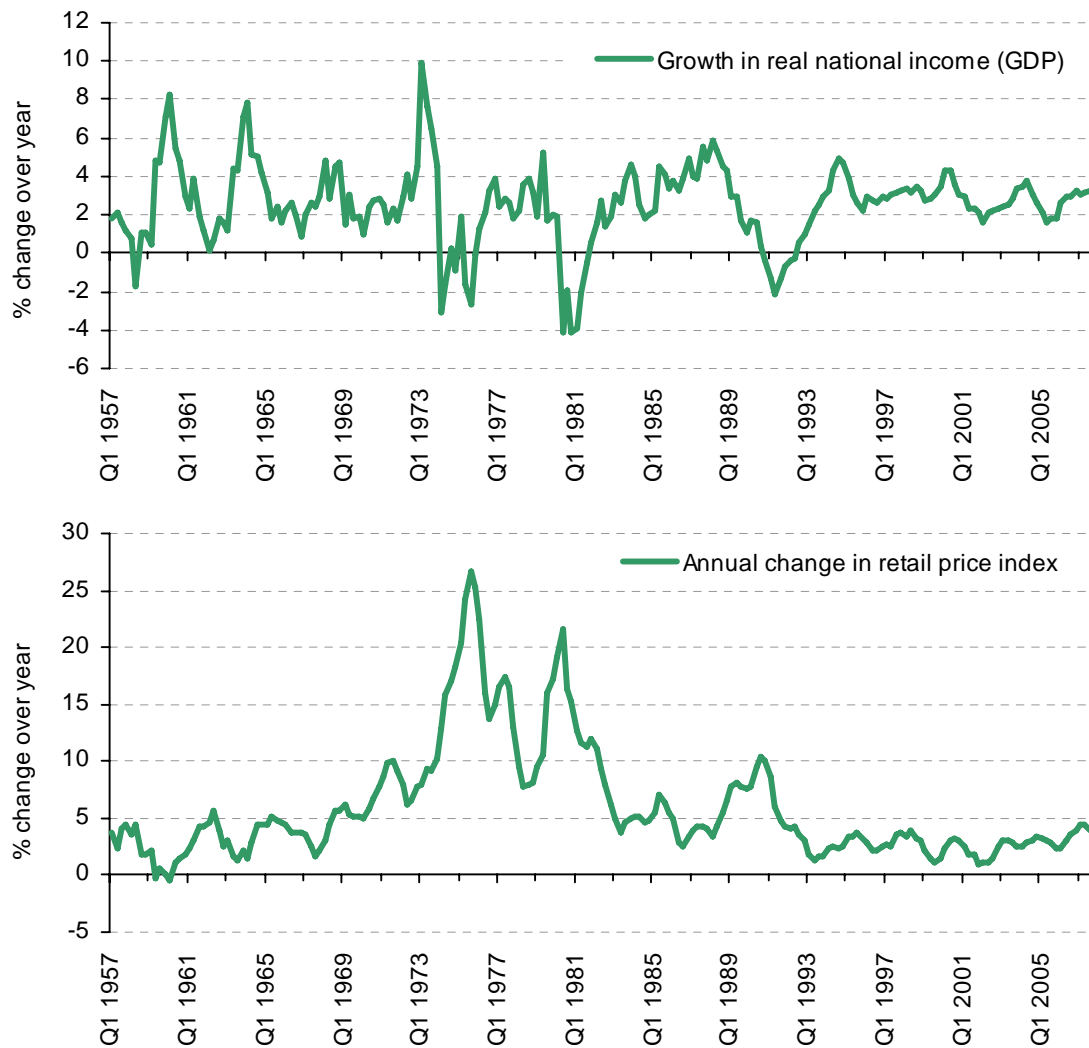
Section 4.2 discusses recent developments and the short-term outlook for the economy. Section 4.3 assesses the longer-term trend growth rate of the economy and asks what this implies about the shape of the economic cycle. Section 4.4 brings together our assessment of the short-term outlook and medium-term potential and presents both a central and a more pessimistic scenario for the economy over the next five years. We discuss the outlook for the public finances and debt issuance under these scenarios in Chapters 5 and 6 respectively.

4.2 Recent developments and near-term outlook

Introduction

The UK's economic performance under Labour continues to look remarkably stable by the standards of the past 50 years. Volatility in economic activity and inflation has been exceptionally low over the past 10 years (Figure 4.1). However, this may have helped sow the seeds for a more volatile period ahead. Less fear of sharp gyrations in the economy may well have contributed to the very rapid rise in household debt and perhaps also the government's willingness to run budget deficits on a scale not normally associated with periods of extended economic growth. As a result, the UK economy may now be less able to weather an economic shock than it was a few years ago, particularly one that adversely affects the labour market. Crucial to any such assessment are the extent of spare capacity in the economy and the likely rate of growth of productive potential. These are issues we address in Section 4.3.

Figure 4.1. Economic growth and inflation since 1957



Source: ONS.

For the last year or so, economic growth in the UK has been strong – quarterly output growth over the past year has been consistently at or above trend. But, even before the financial market turmoil that began at the end of last summer, and the subsequent tightening of credit conditions, several factors suggested that the UK economy was very likely to slow. The Bank of England had raised interest rates by a cumulative 1.25 percentage points since July 2006 and the impact of these rate rises is yet fully to work its way through. The UK's housing market looked increasingly vulnerable to a correction – possibly a sharp one. Aggregate real disposable income for households has been stagnant and, in aggregate, UK households had been spending almost all their disposable income in recent quarters – saving is very low.

Our central forecast for calendar year 2008 GDP growth (1.8% after a likely 3.0% in 2007) is a long way short of an outright contraction, but we see risks to our forecasts as skewed to the downside. Strong annual effects also mask the size of the slowdown: in the first three quarters of 2007, average quarter-on-quarter annualised GDP growth was 3.1%; in the following three quarters, we predict growth of only 1.3%. Our central forecast of 1.8% growth in 2008 is slightly below the bottom end of the Treasury's range of 2 to 2½% (the bottom end of the range is effectively used in the Treasury's fiscal projections).

Now that credit conditions have tightened, it seems very unlikely that they will revert back to their pre-August-2007 levels in 2008. We expect 2008 to be characterised by tighter bank lending criteria, slower lending growth and wider secured lending spreads compared with 2007 (see Box 4.1). Tighter credit conditions have also made further falls in house prices and housing transactions likely. Derivative contracts written on the national house price index (HBOS measure) are consistent with around a 7–8% fall in nominal house prices in 2008. This would represent a fall of around 10% in real terms. Further, the UK's main trading partners now look set for slower growth next year, dampening the outlook for UK exports unless sterling depreciates significantly. Expectations of slower global growth in 2008 are also likely to dampen business investment.

The Treasury's own view is not dissimilar to our own: past interest rate rises are expected to slow growth in 2008, while tighter credit conditions are assumed to feed through into household and company spending. The main differences are rather in the skew of risk – our central case is marginally below the bottom of the Treasury's range of forecasts and we see risks as skewed to the downside around our central forecast. Further, we do not expect as sharp a rebound in growth in 2009 as the Treasury does. We see a degree of persistence in many of the factors driving growth slower in 2008, in particular higher household saving and more cautious lending practices.

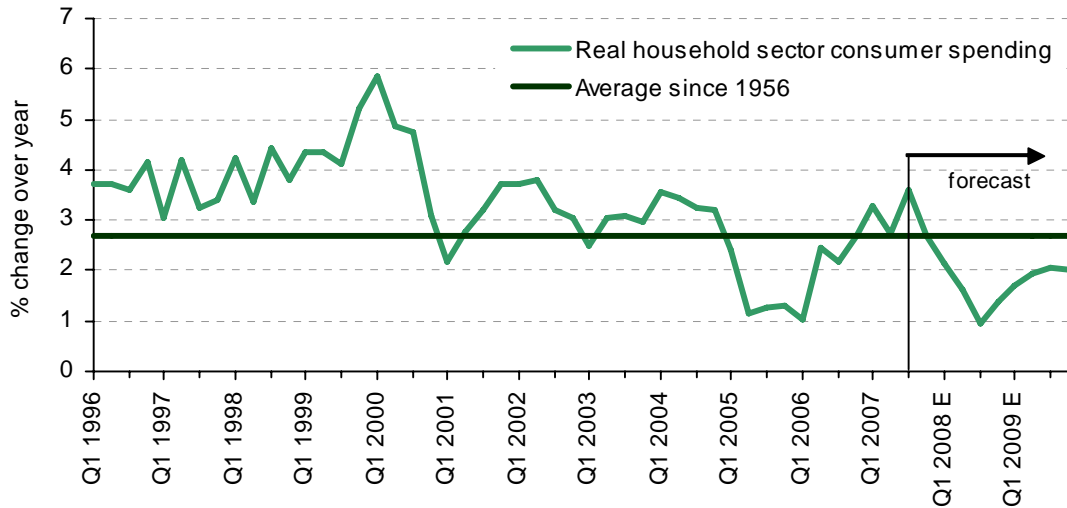
The big unknown is how long tight conditions in credit markets are likely to persist. In particular, if mortgage lending is not to fall sharply in 2008, the market for issuing mortgage-backed securities needs to re-open fairly soon.

Consumer spending

We expect consumer spending growth to slow significantly in calendar year 2008 (Figure 4.2). Our central forecast is for 1.5% real consumer spending growth after around 3.1% in 2007 and we expect consumer spending growth to remain below par in 2009. Debt levels and debt service costs are already high. Many households will find their finances under increased

strain as fixed-rate mortgages reset during tighter lending conditions. Slower housing market activity is likely to imply fewer purchases of durable goods often associated with a home move (e.g. washing machines, carpets, furniture). Lower house prices also deplete the collateral households have available to borrow against. The household saving rate is likely to rise as consumer spending slows.

Figure 4.2. Real consumer spending growth

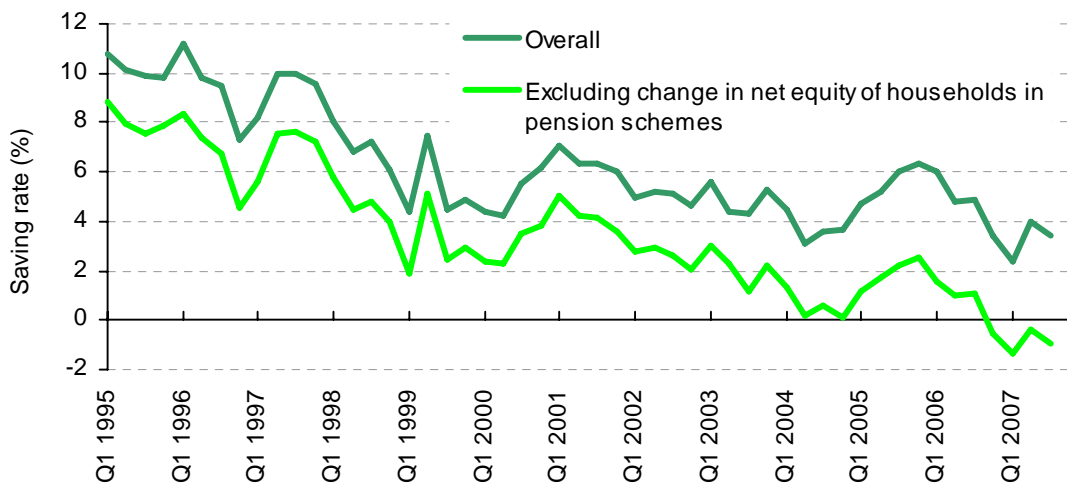


Sources: ONS; Morgan Stanley Research. E = Morgan Stanley Research forecast.

Household saving rate

The household saving rate has remained at relatively low levels. Excluding contributions made on behalf of households to company pension schemes, the saving rate is now negative for the first time since 1989 (Figure 4.3). Such a low saving rate is unsustainable in our view. We expect the household saving rate to move gradually higher as three recent forces come to have an impact on household spending and saving decisions: more expensive and less readily available credit; higher interest rates offered on savings; and a less benign economic outlook.

Figure 4.3. Saving rate

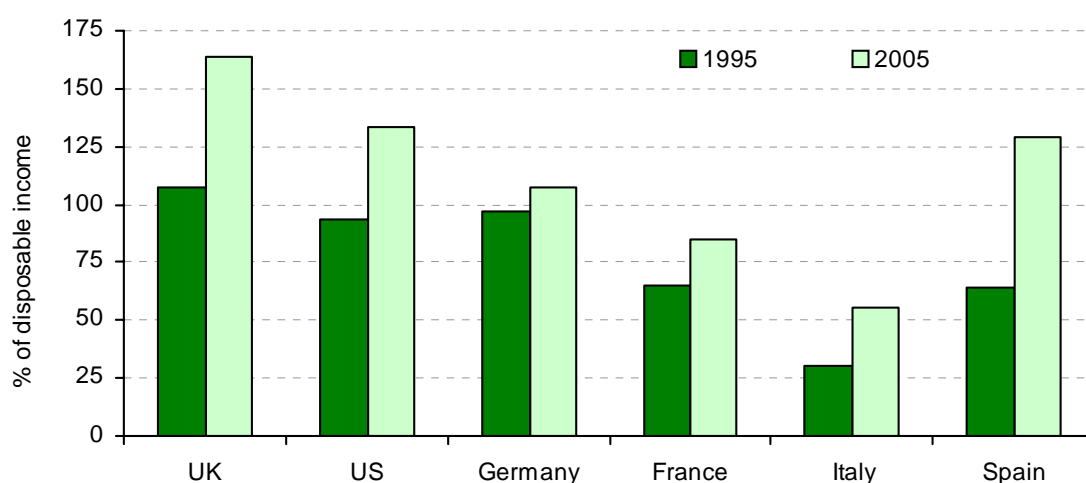


Sources: ONS; Morgan Stanley Research.

Household balance sheets

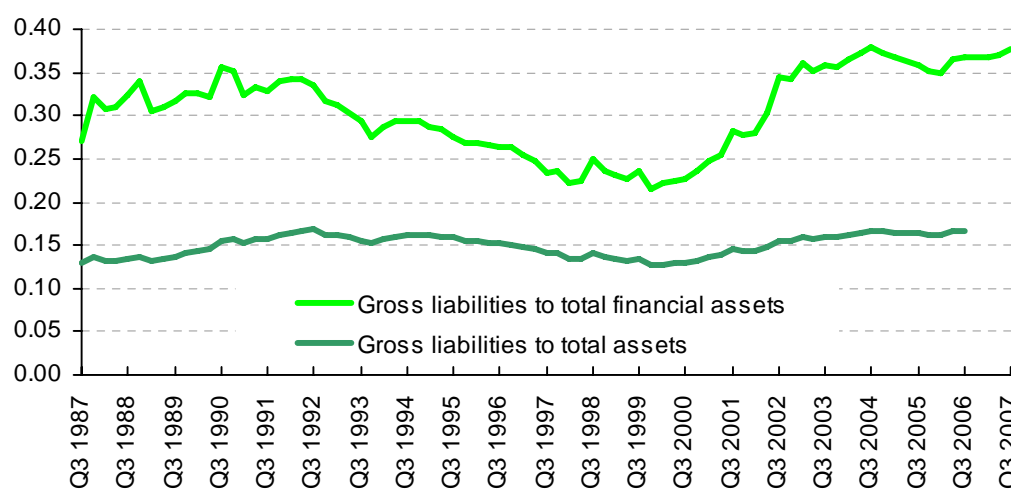
Household sector liabilities are overwhelmingly in the form of loans (largely secured loans), the biggest chunk of which is owed to banks. Overall household sector financial liabilities amount to some £1.5 trillion or around £60,000 per household. Income gearing (the ratio of household sector liabilities to disposable income) looks extended at around 175% (Figure 4.4). The more highly geared households are, the more sensitive household expenditure is likely to be to shocks in actual and expected interest rates. What happens to secured loan rates is particularly important for mortgage holders. Given the 1.25 percentage point cumulative rise in base rates seen before the financial turmoil of the summer, many households face tighter credit conditions. High household gearing increases the risk of significantly lower consumer spending growth in 2008 and beyond.

Figure 4.4. Household gross financial liabilities



Sources: Eurostat; Federal Reserve; BEA; Morgan Stanley Research.

Figure 4.5. Household capital gearing: increased debt and assets



Note: Total assets uses interpolated non-financial assets series.
Source: ONS.

However, both sides of the aggregate household balance sheet have expanded. Net worth (fixed and financial assets less financial liabilities) has risen substantially as a percentage of income. Of course, some of these gearing ratios look relatively healthy because we effectively offset the build-up in secured debt with the rising value of the housing asset purchased with the debt. However, even looking at the ratio of gross liabilities just to financial assets, gearing appears to have stabilised (albeit at a higher level than the historical average) thanks to the continued build-up of cash assets (Figure 4.5). But there is overwhelming evidence that financial assets and liabilities are very unequally distributed. There are substantial pockets of vulnerability in the UK household sector disguised by the aggregate balance sheet statistics. HMRC data, for example, suggest that net liquid assets (stocks, bonds, cash and other savings) tend to be higher for retirees, who also typically have the lowest debts (Table 4.1).

Table 4.1. Individual wealth distribution, 2003

Average £s per person	Age		
	18–44	45–64	65+
Assets			
Securities	11,728	13,823	27,969
Cash	13,918	22,133	34,094
Loans, mortgages etc.	3,870	3,207	1,479
Policies of insurance	30,299	20,060	5,717
Residential buildings	76,437	86,454	87,050
Other buildings and land	3,527	4,353	5,223
Total gross capital value	153,893	175,195	174,871
Liabilities			
Mortgages	16,581	6,216	1,658
Other debts	22,222	10,635	2,892
Total net capital value	115,090	158,344	170,321

Notes: Data use net capital value of estate data from HMRC on year-of-death basis. They take the total amount in each asset/liability category divided by the total number of estates in each age bracket (where HMRC uses the estate multiplier method to estimate the wealth of the living by regarding those who die in a year as a sample of the total population). Note that these figures can be volatile and 'influenced by the deaths of a few wealthy people, especially if they are young'.

Sources: HMRC; Morgan Stanley Research.

Household borrowing and disposable income

The household aggregate ratio of interest paid to disposable income is not exceptionally high, but has nevertheless crept steadily higher since 2003 and leaves households increasingly vulnerable to shocks. The debt-servicing ratio (including principal payments on secured debt) is at more worrying levels. Adjusting for mortgage interest tax relief, the debt service ratio calculated on this aggregate household basis is at similar levels to the peak of the recession of the early 1990s (Figure 4.6).

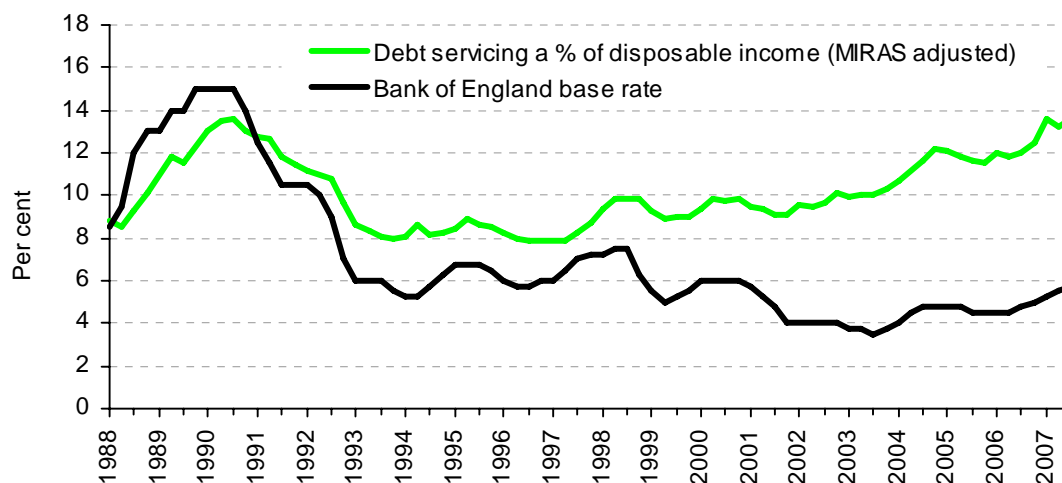
A number of factors are likely to be adding to pressures on households' budgets, in particular:

- **Mortgage resets:** Over Q4 2007 and throughout 2008, a substantial number of fixed-rate mortgages are due to expire. Between Q4 2005 and end-2006, 1.9 million fixed-rate mortgages were taken out in the UK. The vast majority have fixed-rate terms of between two and five years and a lot of these will have been two-year fixed-rate mortgages. If we assume 75% are two-year fixed-rate mortgages, then the fixed term on around 1.4 million

fixed-rate mortgages will expire between Q4 2007 and end-2008 (affecting around 6% of all UK households assuming relatively few households have multiple mortgages). The average rate paid on fixed-rate mortgages taken out in 2005 and 2006 was about 5.1%. Average quoted mortgage rates for two-year fixed-rate mortgages at end-December were 6.1% for loan-to-value ratios of 75% and 6.5% for loan-to-value ratios of 95%. So, on average, those hoping to move onto another two-year fixed-rate mortgage would currently be facing around a 1 percentage point increase in the interest rate charged on their mortgage. Many households, particularly those borrowers categorised as sub-prime (i.e. relatively poor credit risks), who are currently rolling off two-year fixed-rate deals are likely to be facing much steeper increases in payments. The Bank of England's own calculations suggested an increase more in the order of 2 percentage points.¹

- Disposable income growth** (Figure 4.7): Real gross household disposable income growth (which is measured post interest payments) has been slow in 2007, growing only 1.0% year-on-year in the first three quarters of 2007 (compared with 3.2% growth in real household consumer spending). Most consumers make some efforts to smooth their spending over time such that movements in income do not feed through one-to-one into spending. However, analysis suggests that for about 15% of UK households, current spending equals current income.² Further, to the extent that credit conditions have tightened, smoothing of expenditure becomes harder / more expensive to do for those who might wish to spend more than their current income.

Figure 4.6. Debt servicing and interest rates



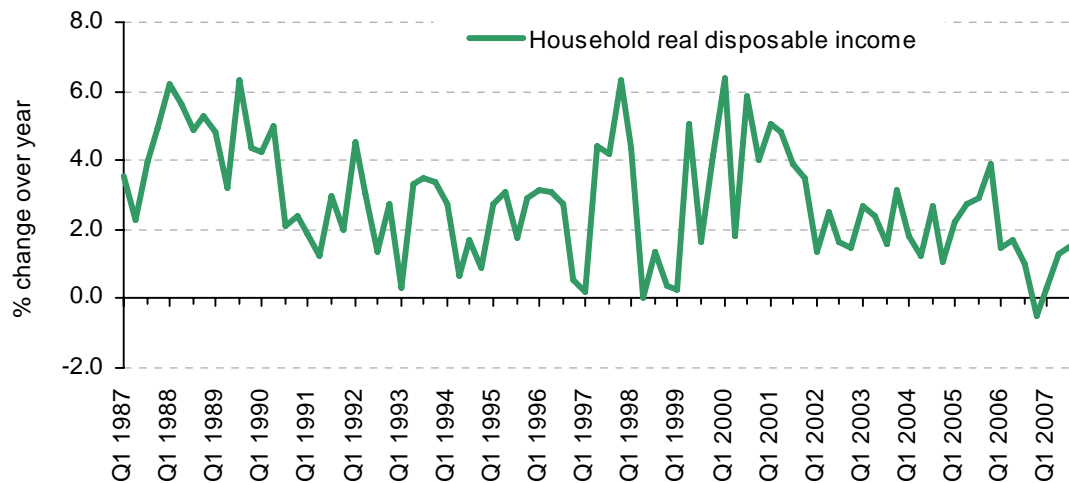
Notes: Debt servicing is interest payments by households and regular payment of mortgage principal. MIRAS is mortgage interest tax relief (phased out during the 1990s).

Sources: Bank of England; ONS; Inland Revenue; Morgan Stanley Research.

¹ Bank of England, *Financial Stability Report*, Issue 22, 25 October 2007 (<http://www.bankofengland.co.uk/publications/fsr/2007/fsr22.htm>).

² R. Banerjee and N. Batini, 'UK consumers' habits', External MPC Unit Discussion Paper 13, Bank of England, May 2003 (<http://www.bankofengland.co.uk/publications/externalmpcpapers/extmpcpaper0013.pdf>).

Figure 4.7. Sluggish real disposable income growth

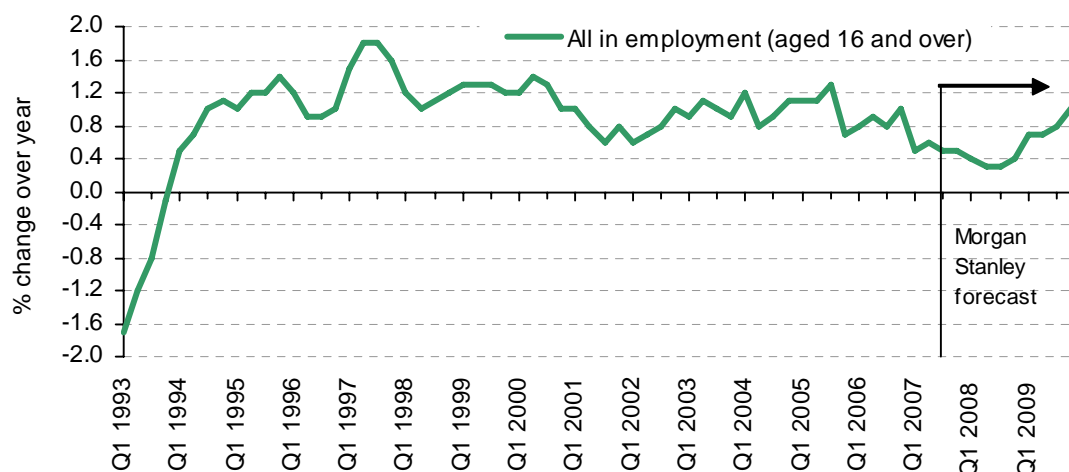


Source: ONS.

Employment and wages

Employment growth (Figure 4.8) and wage growth seem unlikely to offset other pressures for slower consumer spending growth. In an environment of slower output growth, employment growth is likely to be sluggish and unemployment will likely rise slightly. The public sector has, on balance, shed jobs over 2006 and the first half of 2007. While, over the same period, the ‘financial intermediation’ sector has seen very little growth in jobs, real estate has accounted for about a quarter of the net jobs generated and business services just under a half. Growth, and therefore hiring, in the financial services and real estate sectors now look vulnerable, particularly if tight credit conditions persist well into 2008. With profit growth likely to be weaker than in recent years, business services hiring could also prove vulnerable.

Figure 4.8. Employment growth



Sources: ONS; Morgan Stanley Research.

In an environment of sluggish employment growth and rising unemployment, wage settlements in the private sector are unlikely to pick up sharply. The relatively tight settlement for public spending departments announced in the Comprehensive Spending Review has also

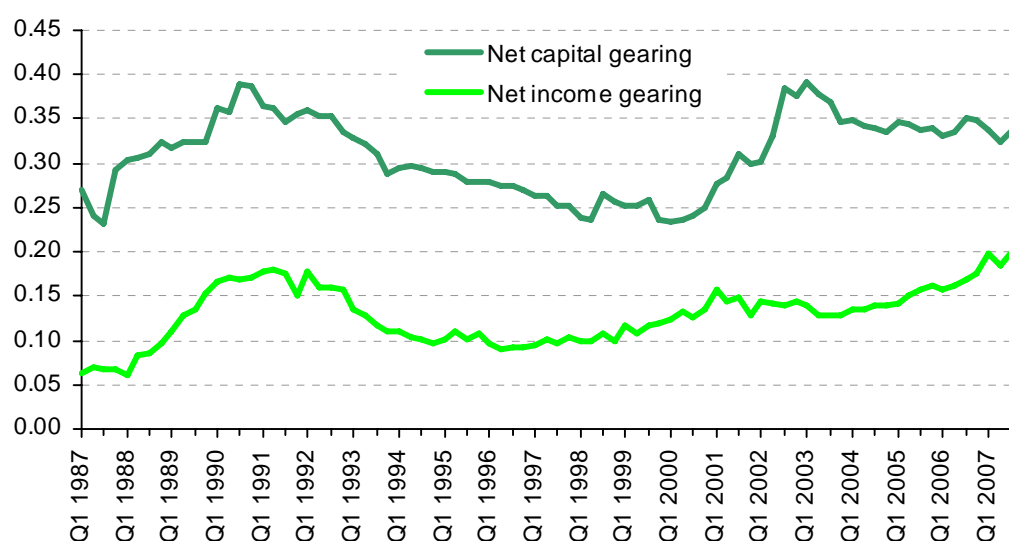
led to the government attempting to slow pay growth in the public sector (see Chapter 8 for more details).

Investment

Our central forecast is for real fixed investment spending growth to slow to about 3% in 2008 after an increase of around 6% in 2007. Within that, we expect residential investment growth to slow in both 2008 and 2009.

Investment seems likely to be depressed by the tightening in credit conditions. The cost of capital has risen slightly over the past year for non-financial companies and the Bank of England has reported tighter credit availability for corporates. Although non-financial companies in the UK can, in aggregate, fund 100% of their fixed investment from retained earnings, they would need to borrow in order to undertake direct investment / mergers & acquisitions and to continue to build up cash assets. Corporate income gearing has risen in recent years (Figure 4.9). Net interest payments as a percentage of gross operating surpluses are now at very similar levels to peaks in the late 1980s / early 1990s (right around the time the UK tipped into recession and when nominal interest rates were a great deal higher than they are now).

Figure 4.9. Private non-financial corporate gearing (ratios)



Notes: Net capital gearing measure: [non-equity financial liabilities less liquid assets (we use currency and deposits plus money market instruments plus bonds)] divided by [numerator plus 'shares and other equity']. Our net income gearing measure: net interest paid / gross operating surplus.
Sources: ONS; Morgan Stanley Research.

UK firms appear to have relatively strong balance sheets and are shielded to some extent by the recent robust growth of aggregate retained income and healthy levels of profitability. Corporate sector holdings of cash are large (around £660 billion in Q3 2007). However, the Bank of England, in its October 2007 *Financial Stability Report*, suggests that although most of the UK corporate sector is in a healthy financial position, 'profit growth and rising liquidity buffers have been concentrated in firms that were already strong'. Further, 'the proportion of

corporate debt held by firms whose profits were not large enough to cover their debt interest payments has started to rise again'.³

The buildings and structures component of investment (just under 40% of total investment) may be particularly vulnerable. The commercial property sector is capital-intensive and looks particularly likely to be affected by reduced availability of credit. Morgan Stanley analysts expect commercial property capital values to fall 12.5% in 2008. Residential investment also seems likely to slow as the housing market cools.

Beyond credit conditions, however, other factors also have an impact on firms' investment decisions, not least including uncertainty and the global growth outlook. Uncertainty on the outlook is very likely to have increased in the past six months and growth in both the US and the euro area (two of the UK's main trading partners) seems likely to slow in 2008.

Monetary policy

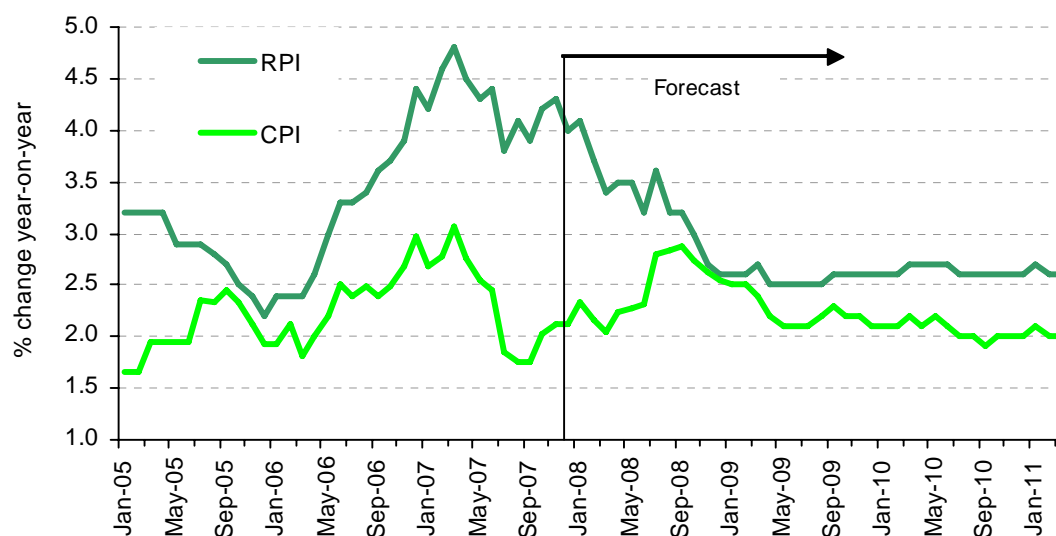
We consider base rates of around 5.25% to be roughly 'neutral' in the UK – that is, at a level such that if capacity utilisation is sustainable, and growth at its trend level, inflation would settle at around the target level (2% consumer price index (CPI) inflation). In reaching that judgement, we use a five-equation model that allows us to determine the long-run steady-state levels for key macroeconomic variables. Part of this model incorporates a Bank of England reaction function such that short-term interest rates are consistent with a path for inflation that stabilises around the target. With inflation at target, this steady state has base rates at a 'neutral' level of just over 5.25%.

If this assessment is about right, then rates are now at, or marginally above, a neutral level and so the Bank of England has plenty of 'monetary policy ammunition' available in the event of a very serious downturn in the UK economy.

While risks to economic growth look skewed to the downside, risks to inflation look more symmetric. There are significant risks in both directions for CPI inflation from current levels. Food and energy prices (9% and 7% of the bundle of goods used to calculate total CPI respectively) are likely to rise further in the next few months. However, we forecast slower economic growth, rising unemployment and relatively subdued wage growth – so domestically-generated inflation pressures seem likely to weaken. On balance, we think that CPI inflation will remain close to, but generally above, the Bank of England's 2.0% target during 2008. There is a key difference between changes in the level of relative prices and ongoing inflation pressures. For example, in the case of food it matters whether what we are seeing is a relatively brief adjustment of the price of food to a new equilibrium, or whether upward price pressure is likely to persist. In the case of the former, after 12 months (assuming no second-round effects), higher food prices would then drop out of the year-on-year price-level comparison and leave inflation back where it was, all else equal. Evidence seems to be building that upward pressure on inflation from food pricing may be more persistent than this.

³ Page 27 of Bank of England, *Financial Stability Report*, Issue 22, 25 October 2007 (<http://www.bankofengland.co.uk/publications/fsr/2007/fsr22.htm>).

Figure 4.10. Our central inflation forecasts

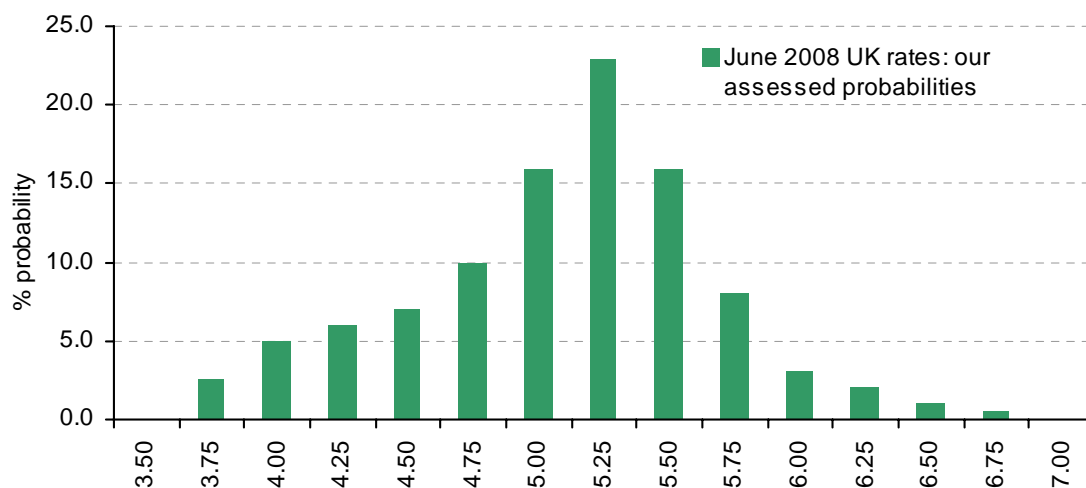


Sources: ONS; Morgan Stanley Research estimates.

Overall, with slower growth in domestic demand offsetting the impact of inflation pressures coming from higher materials prices, we see some – rather limited – scope for the Bank of England to cut rates.

Our own, long-held, view is that the single most likely outcome is that the Bank will want to reduce rates to a neutral level quickly (from their current level of 5.5%). If growth slows significantly in 2008 to slightly under 2% – but with inflation likely to be above target for much of the year – the Bank may well feel disinclined to cut rates below 5.25%, at least so long as the growth prospects for 2009 seem even marginally brighter. Around that scenario the risks are not symmetric though. We believe the chances of a much sharper downturn in the UK are significant such that the probability of rates falling further than 5.25% by the middle of 2008 (which we think is close to 50%) is greater than the probability of being above 5.25% (which we see at near to 30%). See Figure 4.11, where we illustrate our subjective assessment of the probability distribution of the policy rate in June 2008.

Figure 4.11. Subjective probability distribution: June 2008 policy interest rate



Source: Morgan Stanley Research estimates

Box 4.1. The cost of credit and capital

Three-month LIBOR relative to the policy rate: In normal times, the risk premium of the 3M LIBOR over the base rate would be expected to be relatively small. But, over the last five months of 2007, the risk premium rose very substantially. Adjusting for expectations of rate changes suggests that this premium was well over 1 percentage point by the beginning of December 2007, but fell back sharply in January. 3M LIBOR is an important benchmark rate for interest rate markets. Some lending is directly linked to that rate, but it is also used to price swaps, for example.

Mortgage pricing: Between end-2006 and end-2007, the quoted rate on a two-year fixed-rate mortgage (with a 75% loan-to-value ratio) rose by almost 1 percentage point. Over the same period, the base rate had risen by only 0.5 percentage points (after the December 2007 rate cut). Even the average quoted rate for a base-rate tracker rose by slightly more than the base rate (0.66 percentage points) over the period.

Cost of capital for companies: In contrast to households, the cost of capital to companies may have risen very little. The cost of using equity (and retained earnings) to fund investment has effectively fallen, if we assume that the cost of equity is equal to a 'safe' government bond yield plus a steady equity risk premium (government bond yields have fallen significantly). We estimate that the weighted average cost of capital has only risen by around 0.3 percentage points since the end of 2006.

Potential impact on spending and investment: We estimate that the cost of funding for households has risen by more than the cost of capital for (non-financial) corporates. Further, we think that the elasticity of household spending to changes in household interest rates is likely greater than the elasticity of corporate fixed investment with respect to changes in the cost of capital. In other words, consumer spending is likely to be directly hit harder than investment by the changes we have seen in financial conditions.

Our ballpark estimate of the impact on business fixed investment from a given increase in the real cost of capital is that it reduces the level of investment by around 40% of that rise in the long run, based on estimates of the substitutability of capital and labour. We estimate that the cost of capital to companies has increased by around 0.3 percentage points, so that the impact is likely to be, all else equal, around 0.1% off corporate fixed investment.

On consumer spending, Benito et al. (2007)^a describe an overlapping-generations model with different levels of household debt. In response to an unexpected 1 percentage point increase in real interest rates, with balance sheets as they were in 2005, they estimate that consumer spending falls in the first period (first year) by 2%. Even after four years, the level of consumer spending is still 1.0% or so lower in their model. Based on that estimate, given an increase in the cost of funds for consumer spending of around 0.7%, we would expect a decline of up to 1.4%, all else equal.

^a A. Benito, M. Waldron, G. Young and F. Zampolli, 'The role of household debt and balance sheets in the monetary transmission mechanism', *Bank of England Quarterly Bulletin*, 2007, Q1: 70–8.

Bank of England monetary policy, however, has become much harder to operate under recent financial market conditions. Few households and companies explicitly pay or receive the base rate. What matter to households and companies are the rates they actually pay and receive. In normal times, the spread between the base rate and the rates they pay and receive should remain relatively constant, but it has become a great deal more volatile since the summer of 2007. This affects the transmission of monetary policy. If, for example, the Bank of England cuts rates but the spread between average mortgage rates and the base rate widens, then households could – as many have done – find themselves making higher mortgage payments, rather than lower. For more details, see Box 4.1.

Banks partly rely on the wholesale debt markets (the capital markets) in order to finance new lending – retail deposits have been insufficient. While it remains expensive (due to relatively high inter-bank rates) and difficult (due to very low demand for mortgage-backed securities) to access the capital markets for funds, the spread of lending and deposit rates is likely to remain rather high relative to base rates. With banks needing to fall back on retail deposits, they are likely to compete hard for savings deposits. Banks also need to preserve liquidity while access to capital markets remains difficult. This is partly why we see the balance of risks to growth and to monetary policy in 2008 as clearly skewed to the downside from our central forecast of neutral rates (5.25%).

In addition to this general overview of near-term risks to the UK outlook, two specific areas of the UK economy warrant special attention – the financial sector and housing. These are important parts of the economy with potentially significant implications for UK economic growth. Events in financial markets since last summer also have a particular bearing on these two areas of the economy.

The financial sector

The fallout from recent turmoil in financial markets is likely to dampen aggregate output growth in the financial services sector. Lending to households will likely be lower; securitisations are running at very low levels; and leveraged buy-outs will be hit.

But just how important is the financial sector to the UK economy? Of course, a functioning financial system is essential for the smooth working of the economy – and so the scope for disruption to the flow of funds between companies and households to have a knock-on impact on general economic activity is immense. But the direct impact of financial sector output on total output and employment is a somewhat different consideration.

The financial sector is important for national output. Financial intermediation accounts for nearly 10% of total gross value added. In 2006, it accounted for approximately a quarter of growth in total value added.

Financial intermediation accounts for only 4% (1.1 million) of employee jobs in the UK, while manufacturing still accounts for 11%. Financial intermediation has also accounted for very little of the net job creation seen over the past couple of years. However, ‘financial intermediation’ will not include everything we might consider to be a financial service. Employment figures may also underestimate the importance of this group of employees to consumer spending in the economy: in 2006, median full-time employee weekly earnings in financial intermediation were 120% of the median for all full-time employees (£537

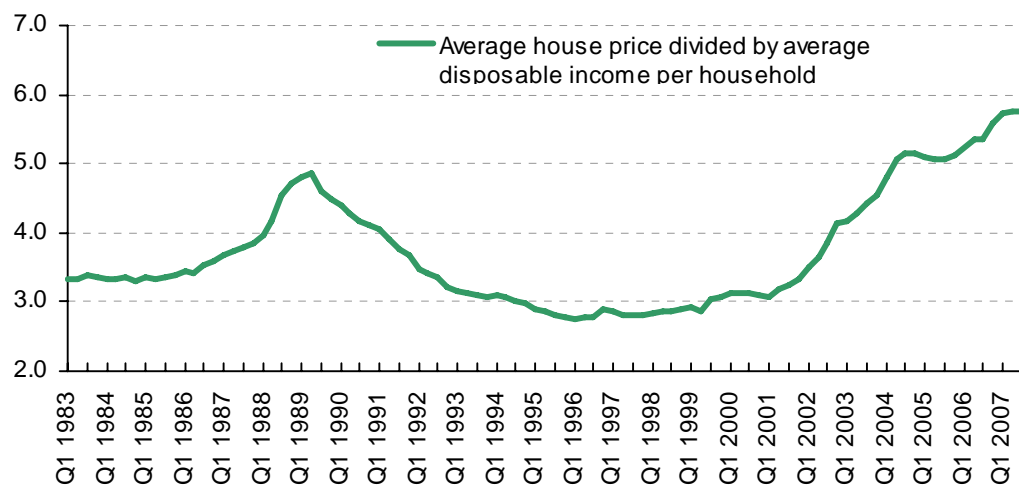
compared with £447). Growth in median financial intermediation earnings was also faster than growth in the overall median.

Housing

Several of the house price series are now consistent with house prices being flat or falling across much of the country; mortgage approvals and net mortgage lending is significantly lower than a few months ago. Survey data suggest that newly agreed sales and new buyer enquiries are weaker than during the first half of 2007.

Even before the summer, the balance of risks already seemed firmly in the direction of slower housing market activity and lower prices. Simple measures of housing valuation and affordability have looked stretched for some time, and they continue to do so. Most strikingly, the average house price is now nearly six times average disposable income, up from around three times in the mid-1990s and five times at the peak of the housing boom of the late 1980s (Figure 4.12). Seen from an investor perspective, UK housing also looks more expensive. Relative to the FTSE 100 dividend yield, the net yield on UK residential property in 2006 was at its lowest level since at least 2001.⁴ It has also become more difficult to generate net income flows from buy-to-let investments following increases in mortgage rates.

Figure 4.12. House prices relative to average household disposable income (ratio)



Notes: Average house price uses HBOS series. Average disposable income uses aggregate disposable income of the household sector divided by the (interpolated) number of households.

Sources: ONS; HBOS; DCLG; Morgan Stanley Research.

We have built a relatively straightforward model to try to explain house price movements over the last 10 years. We assume that the demand for housing depends on three factors: average per-capita incomes; the population; and the real ‘user cost’ of home ownership. The third factor depends on the level of real house prices, interest rates and other costs (e.g. house insurance and taxes), net of anticipated changes in house prices. We use estimates from the large literature on the UK housing market for the sensitivity of demand to these factors. Since

⁴ <http://www.ipd.com>.

we are explaining past movements in house prices, we can simply replace the supply side of the model with the change in the actual stock of dwellings over the period.

The major unknown factor in this procedure is figuring out how people decide where they think house prices will be going, i.e. the component of user cost related to the 'net anticipated change in house prices'. We make an assumption that people attach some weight to what has happened to house price inflation in recent years (the 'backward-looking' element), but that they also attach some weight to a belief that there is a tendency for prices to move towards some long-run average rate of increase (the 'forward-looking' element).

We find that in accounting for the change in prices over the past 10 years, we need to ascribe some of the rise to changing expectations (around 50 percentage points out of a total of 120). It is hard to account for house price appreciation simply in terms of changes in 'fundamentals'.

When we roll this model forward in order to forecast future house prices, the backward-looking element is potentially destabilising (if people believe that a period of price falls means further falls in prices, their demand is curtailed, thereby adding to downward price pressures). In projecting the model forward, we assume that non-mortgage cost elements are stable and assume steady 2.5% annual growth in household real disposable income. The model tends to predict house price falls, but the numerical results are very sensitive to assumptions made on the path of real mortgage rates, the pace of house-building and the proportion of expectations that are backward- and forward-looking. This limits the model's usefulness as a predictor of house prices.

In our view, a useful central house price forecast comes from expectations implicit in futures contracts (derivatives) priced on the HBOS national house price index. These have recently traded at levels suggesting a 7–8% or so drop in nominal house prices over the next year (which would imply around a 10% fall in real terms). That would take prices back to around where they were in Q3 2006.

We think that the link between household spending and house prices is variable over time and may not be especially strong. Any fall in house prices creates winners and losers. The losers in this case would be those about to trade down or exit the property market. The winners would in particular be first-time buyers, for whom housing affordability has been increasingly stretched. However, there is likely to be some link between house prices / housing activity and consumer spending. Falling house prices would likely have an influence largely by reducing the value of the collateral against which consumers can borrow and also through general effects on consumer confidence and by dampening demand for durable goods often associated with moving house (e.g. washing machines, furniture and carpets). In a recent paper, John Muellbauer estimates a marginal propensity to consume out of housing wealth of about 0.03.⁵ This implies that a 10% fall in real housing wealth would take around three-tenths of a percentage point from growth in real consumer spending.

⁵ J. Muellbauer, 'Housing, credit and consumer expenditure', 4 August 2007; paper prepared for Federal Reserve Bank of Kansas City's Jackson Hole Symposium, 31 August – 1 September 2007.

4.3 Trend growth and the economic cycle

In this section, we discuss how the UK's productive potential is likely to evolve. An economy's potential output growth is the best guess at the average growth rate we are likely to experience over a long time horizon; it is a key determinant of future tax revenues and therefore of the longer-term sustainability of fiscal policy. Alternatively, potential output growth can be viewed as the economy's speed limit: when the economy grows faster than the limit set by its potential (or trend) growth rate, in time inflation pressures will tend to be increasing and the central bank is likely to respond by raising its policy interest rate.

Estimating productive potential: a simple economic approach

We can decompose growth in national output into the (weighted) sum of three key components: changes in labour supply; changes in the amount of capital per worker (known as capital deepening); and technological progress (also known as the growth in total factor productivity or TFP). To work out the relative contribution of these three components, we use a production function, which relates an economy's output to the available inputs (labour and capital) and the existing technology. By using historic data on the evolution of output and inputs such as employment levels and the stock of capital, we can get a sense of the economy's ability – or efficiency – to transform inputs into outputs (also known as total factor productivity). We can also see how this ability has evolved over time. The key results of this exercise are shown in some detail in Tables 4.2 and 4.3.

Table 4.2 looks at how changes in the supply of labour and population growth have contributed to shaping the evolution of UK potential growth. The supply of labour is decomposed into the participation rate, the employment rate and the number of hours worked by employees. The contribution of each of these components towards potential growth is then calculated and shown in the table. From Table 4.2, it is evident that rising labour participation and population growth have had a steady and positive influence on UK potential growth.

Figure 4.13 shows that labour participation has risen to levels comparable to those of the early 1990s; this positive contribution is likely to diminish in the future, as labour participation is unlikely to grow meaningfully above current levels. Besides, we continue to expect the contribution of employment and hours worked to be marginally negative, meaning that the overall contribution of labour variables towards potential growth seems likely to decline somewhat. This is one of the reasons behind our expectation of a gradual slowdown of potential growth over the forecast horizon from 2008 to 2011.

An estimate of TFP growth is shown in the second column of Table 4.3.⁶ We do not find any evidence of a significant rise in TFP growth. In fact, we find that, despite the strong UK growth performance of recent years, TFP growth has remained slightly below its long-term average of around 1.6% per year.

⁶ We estimate TFP by using a standard (Cobb–Douglas) production function; for details, see chapter 3 of R. Chote, C. Emmerson, R. Harrison and D. Miles, *The IFS Green Budget January 2006*, IFS Commentary 100, January 2006 (<http://www.ifs.org.uk/budgets/gb2006/06chap3.pdf>).

Together, the forecasts for labour inputs, capital deepening and TFP growth suggest a short-lived improvement in potential growth to slightly above 2½% in 2009, returning to 2½% in 2010 and 2011.

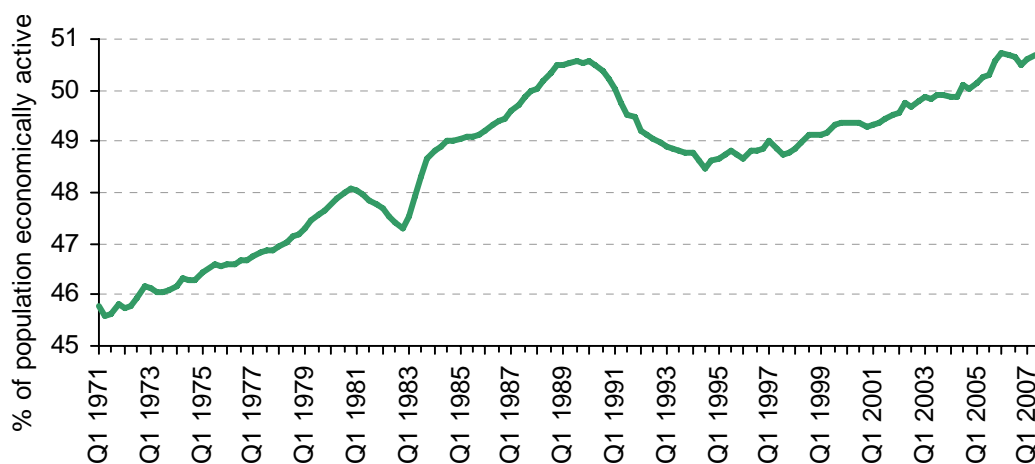
Table 4.2. Potential GDP growth (part one): the contribution of labour inputs

	Factors (percentage point contributions):					Actual observed GDP growth
	Labour participation	Employment rate	Hours worked	Population growth	Total contribution: labour variables and population	
1972–2006	0.2	0.0	–0.2	0.2	0.2	2.3
1996–2006	0.2	0.2	–0.2	0.4	0.6	2.8
2001–06	0.3	0.1	–0.2	0.5	0.5	2.5
2001	0.2	0.3	–0.4	0.4	0.5	2.3
2002	0.3	0.2	–0.4	0.4	0.5	2.0
2003	0.3	0.1	–0.3	0.4	0.5	2.7
2004	0.3	0.0	–0.2	0.5	0.5	3.2
2005	0.3	–0.1	–0.1	0.6	0.7	1.8
2006	0.3	–0.1	0.0	0.7	0.8	2.8
2007 Q1–Q3	0.3	–0.2	0.1	0.6	0.7	3.1
<i>Forecasts</i>						
2008	0.3	–0.1	–0.1	0.4	0.5	
2009	0.3	–0.1	–0.1	0.4	0.5	
2010	0.2	0.0	–0.1	0.3	0.4	
2011	0.2	0.0	–0.1	0.3	0.4	

Note: The trend rate of the underlying components from the production function is calculated using an HP filter, which aims to decompose output into a permanent ('trend') component and a cyclical factor.

Source: Morgan Stanley Research.

Figure 4.13. Labour participation



Note: We define labour participation as employment plus unemployment (aged 16 years and above) divided by the overall population.

Sources: Morgan Stanley Research; ONS.

Table 4.3. Potential GDP growth (part two): capital deepening and innovation

	Factors (percentage point contributions):				Actual observed GDP growth
	Capital deepening	TFP growth	Total contribution from labour variables and population (from Table 4.2)	Overall potential GDP growth from sum of filtered contributions	
1972–2006	0.5	1.6	0.2	2.3	2.3
1996–2006	0.7	1.5	0.6	2.8	2.8
2001–06	0.7	1.5	0.5	2.7	2.5
2001	0.8	1.4	0.5	2.8	2.3
2002	0.8	1.4	0.5	2.7	2.0
2003	0.7	1.5	0.5	2.6	2.7
2004	0.6	1.5	0.5	2.6	3.2
2005	0.6	1.5	0.7	2.7	1.8
2006	0.5	1.5	0.8	2.8	2.8
2007 Q1–Q3	0.5	1.5	0.7	2.7	3.1
<i>Forecasts</i>					
2008	0.5	1.5	0.5	2.5	
2009	0.5	1.5	0.5	2.6	
2010	0.5	1.6	0.4	2.5	
2011	0.5	1.6	0.4	2.5	

Note: The trend rate of the underlying components from the production function is calculated using an HP filter, which aims to decompose output into a permanent ('trend') component and a cyclical factor.

Source: Morgan Stanley Research.

Another way of estimating productive potential: statistical filters

The production function approach discussed above (Tables 4.2 and 4.3) relied on specific economic assumptions.⁷ Here, we focus on methods that distinguish an underlying trend from transient or cyclical perturbations directly from the actual data on economic output. In other words, we do not have to make any specific assumptions about the nature of the production function or about what is happening to the labour force or capital stock.

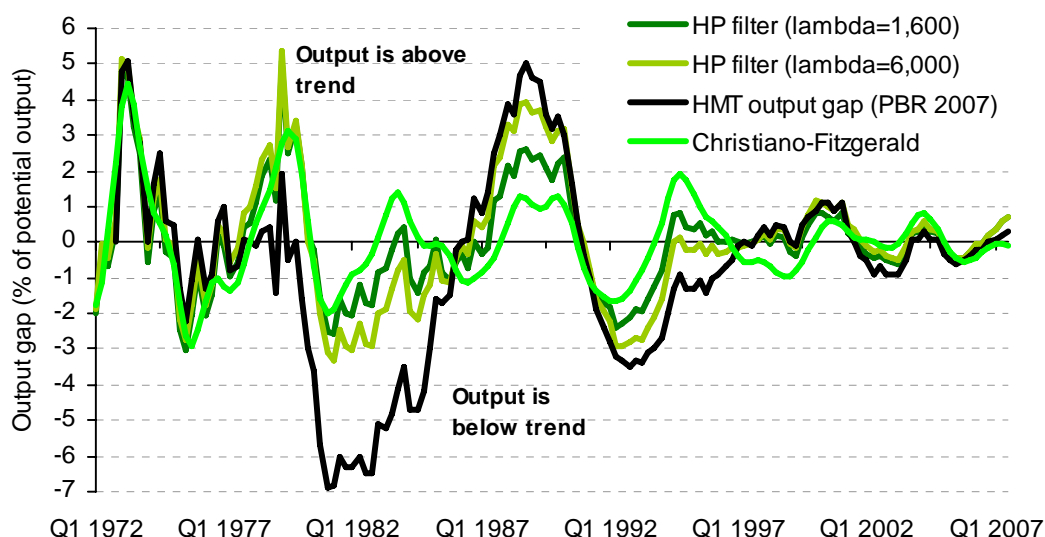
Here, we use a statistical approach, which is simply based on the path of output, to look at economic fluctuations and the dating of business cycles.

The economic cycle is made up of two phases: a period when output is above trend followed by a period when output is below trend. When actual output exceeds potential output, the output gap – the percentage difference between actual output and potential output – is said to be positive. At an on-trend point, the output gap is zero, as actual and potential output are equal. These fluctuations or cycles are characterised by periods when output (typically real gross domestic product, but non-oil gross value added on the Treasury's definition) is above trend and times when it is below trend.

⁷ For instance, we assumed a simple Cobb–Douglas specification where technology enters multiplicatively.

To avoid relying excessively on any given statistical method, we compute potential output using a few different statistical algorithms. Once this is done, we can estimate how far output is above or below its underlying potential level. This in turn enables us to estimate when economic cycles have started and ended, and compare that with the Treasury's estimates of economic cycles. The result of this exercise is shown in Figure 4.14.

Figure 4.14. Cyclical fluctuations in the UK economy since 1972



Sources: ONS; HM Treasury; Morgan Stanley Research.

Among statistical techniques to identify trends, the most widely known is the Hodrick–Prescott (HP) filter. More recent evolutions are the Baxter–King (BK) and Christiano–Fitzgerald (CF) band-pass filters.⁸ We use the filters to see whether the results they generate match our findings from the production function approach, which suggested at best a short-lived improvement in potential growth to slightly above 2½%.

Figure 4.14 shows the amount of spare capacity corresponding to these various measures of the trend and also includes the Treasury's own estimate, which tends to show more marked deviations from the trend than the statistical algorithms. The Treasury estimated in October's Pre-Budget Report that economic activity was around ¼% above potential in the third quarter of 2007. The Hodrick–Prescott filters suggest a figure closer to ¾%, while the Christiano–Fitzgerald filter suggests that output was fractionally below potential.

The uncertainties in dating economic cycles are compounded by the UK's recent economic stability: the economy has been operating close to its trend rate of growth, with small fluctuations around this trend. This has made the identification of cycles particularly hard, as the Treasury acknowledged in the 2007 Pre-Budget Report.

Using statistical filters, the average duration of a full economic cycle has been around seven years, slightly less than under the Treasury's methodology (Table 4.4). Applying a simple HP filter directly on the series of UK output (extended until 2011 with our GDP forecasts)

⁸ See, for example, L. J. Christiano and T. J. Fitzgerald, 'The band pass filter', *International Economic Review*, 2003, 44(2): 435–65.

suggests that the economic cycle ended around the third quarter of 2006. The current cycle started in the final quarter of 2006, and, according to our central forecasts, it should end in early 2010. As ever, there is no single way to date the cycle, and applying different filters can lead to different conclusions. For instance, using the (asymmetric) Christiano–Fitzgerald band-pass suggests that the current cycle started in early 2000 and won't end until early 2010. As shown in Figures 4.15 and 4.16, recent experience has been that estimates of the output gap produced using statistical filters have been less affected by revisions to economic data than the Treasury's estimates of the output gap.

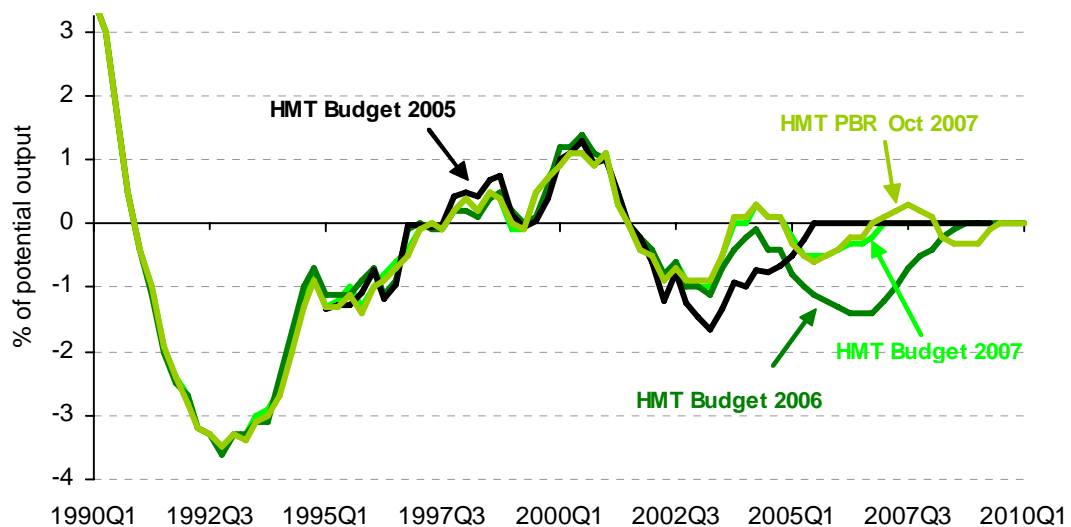
Table 4.4. Dates of UK economic cycles

HM Treasury	Statistical filters		
	HP 1,600	CF	BK
1972Q4 – 1978Q1 (22Qs)	1972Q4 – 1977Q3 (20Qs)	1972Q3 – 1977Q4 (22Qs)	1972Q3 – 1977Q3 (21Qs)
1978Q1 – 1986Q2 (34Qs)	1977Q4 – 1987Q2 (39Qs)	1978Q1 – 1982Q4 (20Qs)	1977Q4 – 1987Q1 (38Qs)
1986Q2 – 1997H1 (45Qs)	1987Q3 – 1994Q1 (27Qs)	1983Q1 – 1987Q3 (19Qs)	1987Q2 – 1994Q1 (28Qs)
1997H1 – 2006Q4 ^a	1994Q2 – 2003Q3 (38Qs)	1987Q4 – 1993Q4 (25Qs)	1994Q2 – 1999Q2 (21Qs)
	2003Q4 – 2006Q3 (12Qs)	1994Q1 – 1999Q4 (24Qs)	1999Q3 – 2003Q3 (17Qs)
	2006Q4 – 2010Q4 (17Qs)	2000Q1 – 2010Q1 (41Qs)	2003Q4 – 2006Q3 (12Qs)

^a See page 133 of HM Treasury, *2007 Pre-Budget Report and Comprehensive Spending Review*, October 2007: 'Evidence from the cyclical indicators monitored by the Treasury, and latest National Accounts data, imply the economy may have moved up through trend towards the end of 2006. However, it is too soon to assess whether or not the economic cycle has ended'. See also pages 140–142 of the 2007 PBR, where the Treasury states (paragraph A38) that 'with output assessed still to be close to trend, National Accounts data more than usually subject to revision, and growth forecast to slow in 2008, it is too soon to assess whether or not the economic cycle has ended'. (http://www.hm-treasury.gov.uk/media/8/A/pbr_csr07_annexa_380.pdf)

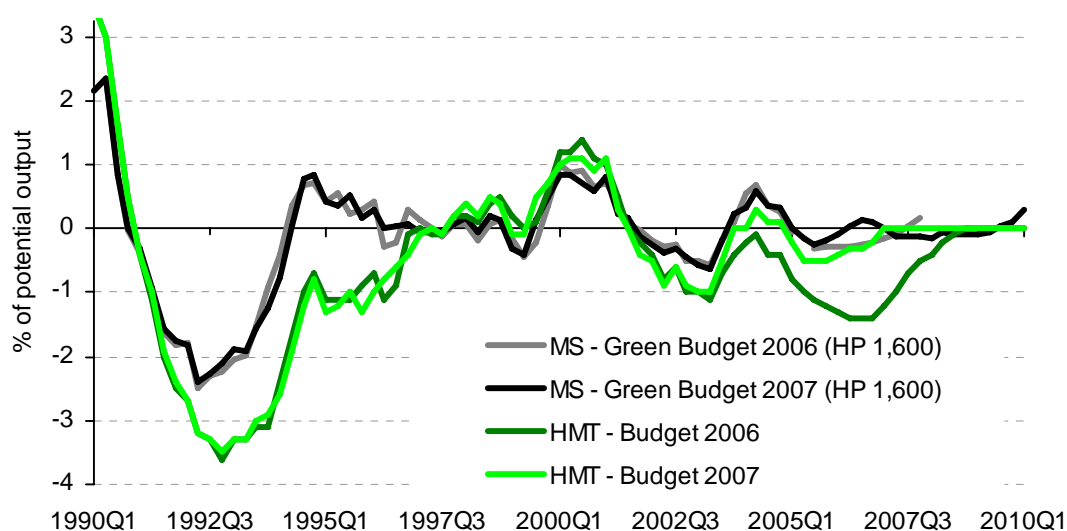
Sources: Morgan Stanley Research; HM Treasury.

Figure 4.15. Comparing the Treasury's recent estimates of the output gap



Source: HM Treasury.

Figure 4.16. Treasury and statistical filter output gap revisions



Sources: Morgan Stanley Research; HM Treasury.

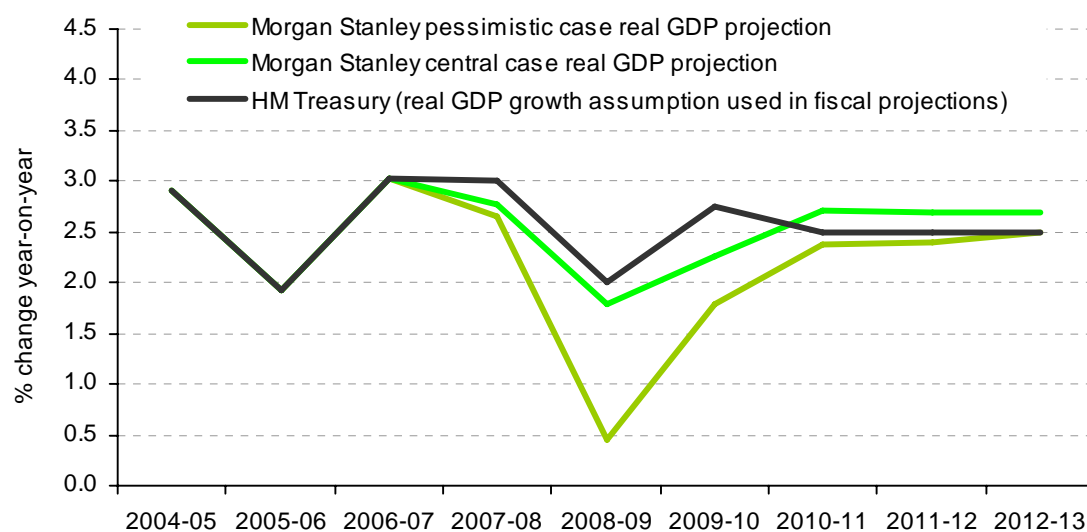
Conclusion: what is the trend rate of growth now?

On the whole, both approaches we employed (production-function-based and pure statistical filters) suggest that UK potential output growth is currently slightly above 2.5% a year, but it seems likely to slow in coming years, as the positive impact of rising participation rates wanes. We expect UK potential growth to edge slightly below 2.5% a year – less than the Treasury’s central estimate of 2¾%, though in line with the ‘cautious’ figure that the Treasury employs to make its fiscal projections. Given the highly uncertain macro environment, both in the UK and globally, the Treasury’s ‘cautious’ estimate does not seem cautious enough.

4.4 The next five years: two scenarios

As benchmarks against which to assess the outlook for the public finances, we present two scenarios for the economy over the next five years – a central case and a more pessimistic case. These are shown in Figure 4.17 alongside the Treasury’s 2007 Pre-Budget Report forecast. Our central and more pessimistic scenarios differ with respect to the economy’s cyclical position over the next couple of years. But, beyond that, they converge on a path guided by our estimates of trend growth described in the previous section. We see roughly a 40% probability that GDP growth turns out better than our central case, a 45% probability that growth turns out between our central and pessimistic case and a 15% probability that things turn out worse than our pessimistic case. More specifically, we see a roughly 35% probability that the economy evolves somewhere close to our pessimistic scenario.

Figure 4.17. Alternative GDP growth scenarios



Sources: HM Treasury; Morgan Stanley Research.

Central case

Our central case forecasts assume a moderate slowdown in the UK economy over the coming fiscal year, followed by a rather lacklustre recovery, with growth just above the historical average heading into the 'pre-Olympic' period, where the pace of growth may be temporarily boosted to an above-trend rate by a more rapid pace of investment.

We expect the next few years to be characterised by somewhat weaker consumer spending growth than we have seen over the past few years as many households build up their savings to more comfortable levels.

Table 4.5. Morgan Stanley central case economic projections

	2005–06	2006–07E	2007–08E	2008–09E	2009–10E	2010–11E	2011–12E	2012–13E
Real GDP (% annual change)	2	3	2¾	1¾	2¼	2¾	2¾	2¾
Real consumer spending (% annual change)	1¼	2¾	2¾	1½	2	2¼	2½	2½
Employment (% annual change)	1	¾	½	½	1	1	1	1
CPI inflation (% annual change)	2	2½	2¼	2	2	2	2	2
Output gap (%)	–½	0	½	0	–¼	0	½	½
Saving rate (%)	6	4	3½	3¾	4	4	4¼	4¼
Unemployment rate (%)	5	5½	5½	5½	5½	5¼	5	5
Productivity growth (% annual change)	1¼	1½	2¼	2	1¾	1¾	1¾	1¾

E = Morgan Stanley Research estimates.

Sources: ONS; Morgan Stanley Research.

A (relatively contained) housing correction helps subdue growth in investment, but we expect any correction to be largely worked through by the latter half of 2009–10, when we assume that construction really starts to pick up ahead of the London Olympics.

Net trade continues making a negative or neutral contribution to GDP growth throughout the period. Although we expect slower domestic demand growth in the next year or so, growth is also likely to slow in the economies of the UK's major trading partners (particularly the euro area and the US). Without a very sharp depreciation in sterling, this negative contribution to GDP growth seems likely to persist as domestic demand growth picks up.

This forecast for the UK economy differs somewhat from that of the Treasury. In particular, we forecast somewhat weaker GDP growth than the Treasury in fiscal year 2008–09 and 2009–10. Beyond that point, the Treasury actually projects slightly weaker output growth than we do for use in its budget projections, when we expect investment spending growth to pick up more strongly.

'Pessimistic case'

Our pessimistic case is a 'technical recession' (defined as two successive quarters of falling output; see Box 4.2). But it would be a very moderate recession by historical standards.

In this scenario, the household saving rate rises sharply with two quarters of contraction in household spending; business investment contracts in the first half of 2008; unemployment rises to a seven-year high. In this scenario, the UK records a technical recession and 0.7% growth overall in 2008. The key to whether this scenario actually comes to pass is consumer spending and saving behaviour. We see at least three potential (interlinked) triggers:

- **Trigger one: sharp prolonged tightening in credit conditions.** Funding conditions for banks have worsened and credit conditions have tightened for many households. In particular, the interest charged on sub-prime mortgages has risen sharply. However, data suggest that this has not yet strongly affected average quoted mortgage rates. Since the end of last year, quoted mortgage rates have risen across products, but much of this reflects the interest rate rises seen over the year from the Bank of England (75bp to July) rather than additional credit tightening. Our pessimistic scenario could be triggered if bank funding conditions do not improve sufficiently over the first half of 2008. Lenders might then pass on a relatively small portion of Bank of England rate cuts to borrowers and make significantly less credit available to households. Households would need to save more in order to build a deposit sufficient for banks to lend to them for house purchase and households would be less able to smooth spending using borrowing, encouraging precautionary savings. In order to attract retail deposits to plug some of their funding gap, banks may not reduce the rates offered to depositors as the Bank of England cuts rates, incentivising higher savings. In very rough terms, a mortgage rate that was 1.5 percentage points higher than our base case would cut consumer spending growth by about 2 percentage points. Household secured debt is about £1.1 trillion. If mortgage rates charged on existing mortgages were 1.5 percentage points higher across the board with no offset from higher interest payments to savers, then the increase in debt repayment in a year would be equivalent to approximately £17 billion or almost 2% of annual nominal consumption expenditure by the household sector.

Box 4.2. 'Stagflation' and 'recession'?

With growth forecasts for 2008 being reduced, and with inflationary pressures lingering, two rather emotive words have re-entered general discussions of economic issues in the media and within the forecasting community: 'stagflation' and 'recession'. Both require proper definition in order to be meaningful.

The term 'stagflation' was coined during the 1970s – a period of simultaneously extremely high inflation and recession. A return to that looks very improbable given today's monetary policy framework and greater economic flexibility and openness in the UK.

The term 'recession' is somewhat more precise than 'stagflation'. Even so, one should be clear as to whether one means a couple of quarters of (perhaps only slightly) negative quarter-on-quarter GDP growth – sometime called a 'technical recession' – or, for example, a more serious contraction in the level of GDP in one calendar year compared with the previous year. A situation where national income records two consecutive quarters of negative quarter-on-quarter growth (a technical recession) while inflation remains above the 2% target looks relatively plausible. But to describe such a scenario as 'stagflation' is misleading.

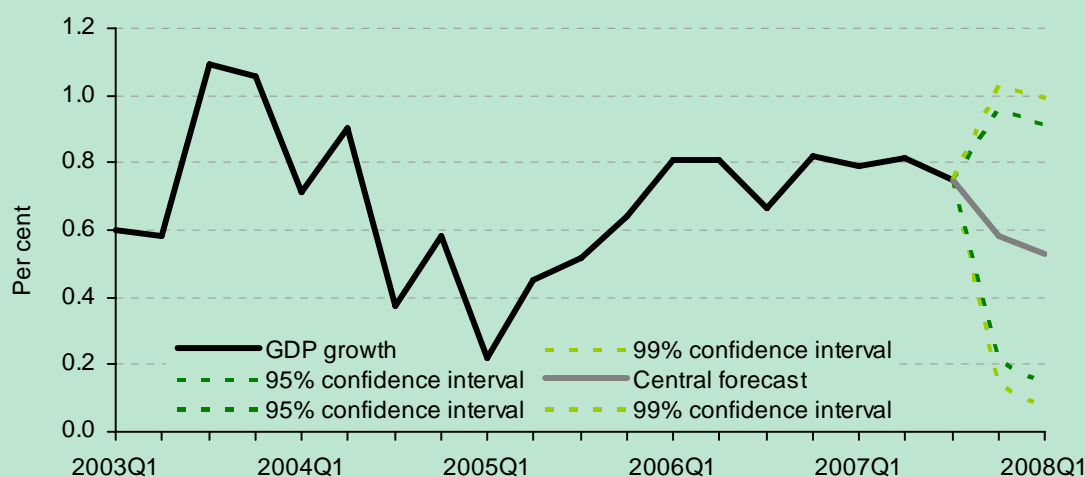
In assessing how likely a UK recession now is – on any definition – it is instructive to look at the characteristics of past periods when national output has fallen. There are several striking things to notice:

- Although we have not seen national output decline in any quarter since 1992, such events have been relatively common over the longer term. Indeed, there have been 39 quarterly falls in national output since 1956Q1 – almost one quarter in every five. On average, output has fallen by a sizeable 0.7% in each of these quarters.
- There have been 14 occasions since 1956Q1 on which output has fallen for at least two consecutive quarters, meeting the definition of a technical recession. The economy has been in technical recession for around 7% of the time over this period, with the longest declines taking place in the early 1980s and the early 1990s.
- On past performance, there is an 18% chance that a fall in output in a single quarter will mark the start of a technical recession. The average technical recession over the past 50 years has lasted for three quarters, has involved a 2% fall in output and has required five subsequent quarters of growth to restore output to its pre-recession level.
- On five occasions since 1956 – one year in 10 – output has declined over a full calendar year (in other words, output in one full year was lower than in the previous full year). These occasions have been clustered, taking place in 1974 and 1975, then in 1980 and 1981, and most recently in 1991.
- In terms of the size of the contraction (from the peak in national output to its trough), the recessions of the mid-1970s and early 1980s were deeper than that of the early 1990s. But the 1991 recession was followed by a year of sub-1%

growth, so the aggregate output 'lost' relative to what would have happened if the economy had grown throughout at its trend rate was comparable to that of the earlier two episodes.

Our simple econometric model of national output growth suggests that the probability of a technical recession in the next two of quarters is very small. Falls in quarter-on-quarter GDP are outside the 99% confidence interval of our central forecast (Figure 4.18). However, this probability is a lot smaller than the frequency of recessions historically would suggest (close to 10%). It is also a great deal smaller than our own subjective probability of a technical recession in 2008. As the discussion of our pessimistic scenario above indicates, we would put that at somewhere close to 35%. Our GDP model is backward-looking and recent GDP growth has been very strong, which helps to explain its more optimistic assessment.

Figure 4.18. Quarterly GDP growth



Sources: ONS; Morgan Stanley Research.

- **Trigger two: strong reaction to an asset price correction.** There is a clear risk that households react more strongly to falls in house prices than in our central forecast, particularly when combined with tighter credit conditions that would potentially increase the importance to households of having collateral in their homes. In addition, there is a significant risk that the equity market falls in 2008, implying a further negative wealth effect for households.
- **Trigger three: job cuts.** As growth prospects for the UK's main trading partners and for household demand fade and become more uncertain, investment plans may be sharply curtailed, hiring plans stalled and jobs cut. In our central case, the labour market remains relatively robust. If job cuts were to pick up strongly, domestic demand prospects could fade further and housing activity could fall sharply while mortgage arrears and repossessions pick up.

Table 4.6. Morgan Stanley pessimistic case economic projections

	2005– 06	2006– 07E	2007– 08E	2008– 09E	2009– 10E	2010– 11E	2011– 12E	2012 –13E
Real GDP (% annual change)	2	3	2¾	½	1¾	2½	2½	2½
Real consumer spending (% annual change)	1¼	2¾	2¾	¼	1¾	2¼	2¼	2¼
Employment (% annual change)	1	¾	¼	–¾	½	½	1	1¼
CPI inflation (% annual change)	2	2½	2¼	1½	1½	2	2	2
Output gap (%)	–½	0	1	–½	–½	0	¼	½
Saving rate (%)	6	4	3¾	5¼	5¼	5¼	5¼	5
Unemployment rate (%)	5	5½	5½	6¾	7	7	7	7
Productivity growth (% annual change)	1¼	1½	2¼	1½	1¼	1½	1¾	1½

E = Morgan Stanley Research estimates.

Sources: ONS; Morgan Stanley Research.

Conclusion

Despite relatively good overall economic outcomes over the past 10 years, we see several rather worrying signs of economic weakness in the short to medium term. We see particular downside risks relative to the Treasury's forecasts in fiscal year 2008–09 and 2009–10.