3. The economic outlook

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Summary

- Economic growth has been relatively robust over the past few years, although it slowed substantially in 2005. The Treasury expects the economy to pick up, with growth of between 2¾% and 3¼% in 2007 and the output gap closing in 2008–09.

- There are downside risks to the Treasury's forecasts in the medium term, from a slowdown in productivity growth, inadequate saving and a large and persistent current account deficit.

- Investment and developments in the labour and housing markets pose risks to the Treasury's forecasts in the short term. On balance, these are skewed more to the downside than to the upside.

- We do not expect growth to accelerate significantly over the next two to three years, as the Treasury does. We expect growth close to trend in 2006 and beyond. Growth could be slower still if inflationary pressures force the Bank of England to raise interest rates.

- Our analysis suggests that there is little spare capacity in the economy. We estimate that the last full cycle was relatively short, having begun in 1999 and ended in the second half of 2003. The Treasury identifies longer cycles than we do: it believes that only three have been completed since 1972, whereas we identify five to six.

3.1 Introduction

The evolution of both government spending and tax revenues, and therefore deficits and the stock of outstanding debt, are sensitive to the path for overall economic activity and its composition. In this chapter, we assess the outlook for the UK economy and consider the chances that the Treasury's Pre-Budget Report assessment of growth and spending will be accurate. Whether the government meets its fiscal rules and what tax and spending decisions it makes in the coming years in large part depend on what happens in the wider economy.

The growth of productivity is a key determinant of the path of spare capacity and therefore of any assessment of the cyclical position of the economy. More fundamentally, it is a key determinant of the longer-run evolution of per-capita real incomes. We analyse in some detail the recent and likely future path of productivity.

Economic growth has been relatively robust over the past few years, although it slowed substantially in 2005. The Treasury expects the economy to pick up, with growth of between 2¾% and 3¼% by 2007 and the output gap closing in 2008–09. We see several medium- and

shorter-term risks to this outlook. In the medium term, inadequate levels of UK saving, the risks of a slowdown in productivity growth and the unwinding of external imbalances are threats to steady growth. In the shorter term, volatile investment, labour market developments and conditions in the housing market pose the main risks of over- or under-shooting the Treasury growth forecasts.

3.2 Recent developments

Economic growth has been robust in the past few years, driven by domestic demand, particularly from consumption and government spending. Unemployment remains low, at least as measured by official data, and inflation also remains relatively contained (though marginally above the government's target of 2% in November 2005). Despite slower growth over 2005, the UK's recent economic performance looks remarkably stable in the light of its experience over the past 40 years.

To some extent, the long-awaited 'rebalancing' of the UK economy has begun with a lower contribution to growth in demand in 2005 coming from consumer spending (Figure 3.1). The household saving rate moved up steadily, from an exceptionally low level, in the course of 2005.

### Figure 3.1. Tentative evidence of rebalancing away from the consumer
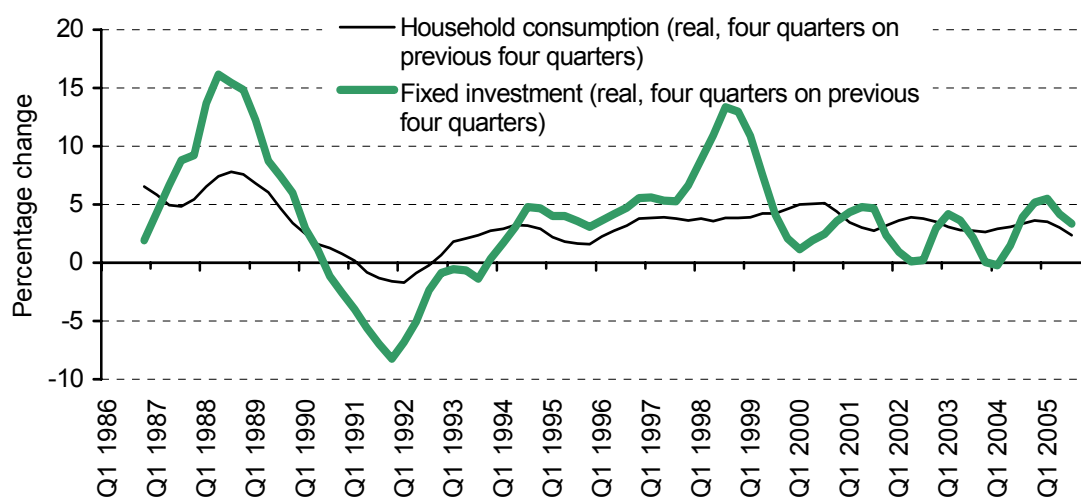
Source: ONS.

Over the year, the economy weathered a $60 dollar oil price without a fall in overall corporate profitability or in consumer spending. Households increased their rate of saving from 4.1% at the end of 2004 to 5.5% by Q3 2005; household borrowing (measured by total net lending to individuals) averaged £8.9 billion a month in 2005, compared with £10.3 billion a month in 2004 (see Figure 3.2). Aggregate consumer spending rose by around 1.8% in real terms (Q1 to Q3 compared with the same period a year earlier). The rate of return on corporate capital actually increased during the first half of 2005 (Figure 3.3). House prices were roughly flat in real terms, rather than sharply lower as many had feared; but the level of transactions is down 18% on the levels of 2004.

Figure 3.2. Balance sheet repair: slower debt, faster asset accumulation
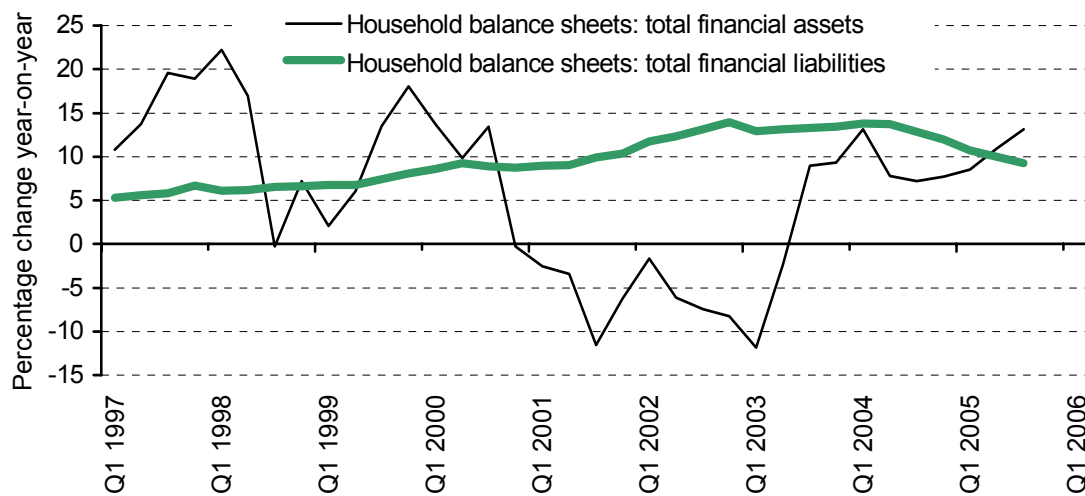
Source: ONS.

Figure 3.3. Profitability strong, despite slowdown in growth
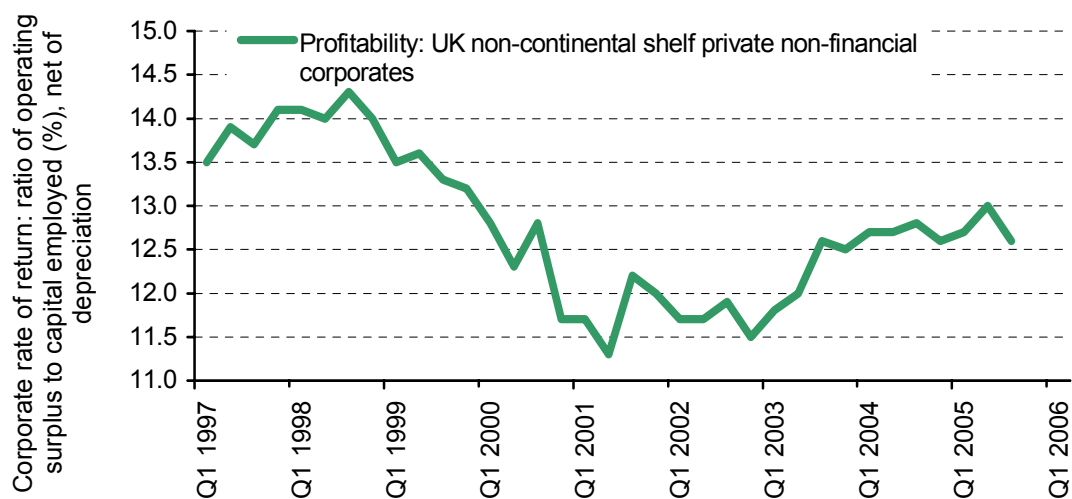

Source: ONS.

3.3 Medium-term risks

Yet a number of underlying weaknesses in the UK economy remain and these continue to threaten the medium-term outlook. Among them are that: (a) UK saving probably remains insufficient to fund trend economic growth of around 2½%; (b) productivity growth remains disappointing and its low level a risk to both future growth and inflation; and (c) the UK continues to run a sizeable, and growing, current account deficit.

We consider each of these in turn. We then consider what they imply for the near- and medium-term economic outlook.

Saving

The household saving rate in the UK (5.5% in Q3 2005) remains significantly below its longer-run average (7.8% since 1963). The public sector is in deficit – it is dissaving. The corporate sector has been saving – but not at a rate fast enough to keep the national saving rate from being one of the lowest in the developed world (Figure 3.4).

### Figure 3.4. UK gross national saving rate low compared with other economies
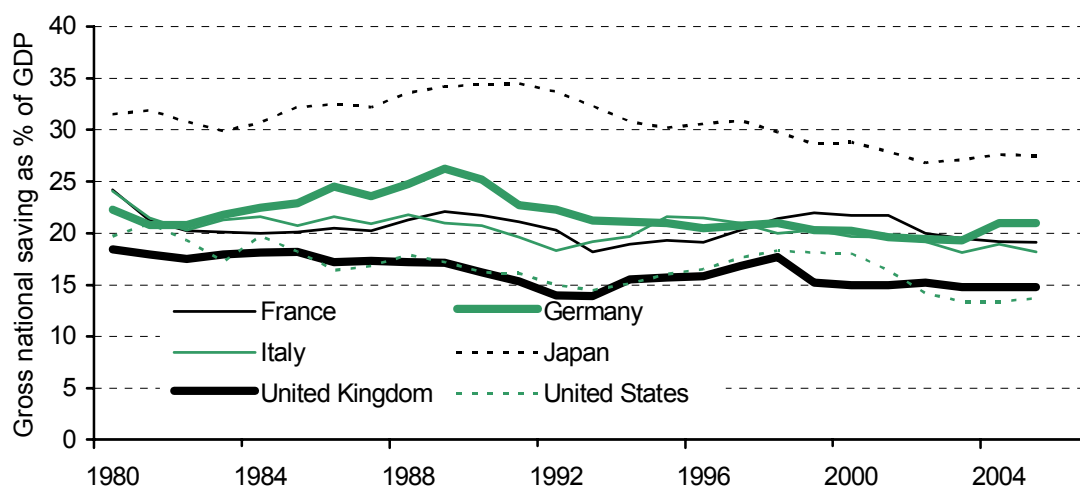
Source: IMF World Economic Outlook database, September 2005.

What really matters in the long run is whether a country is saving enough to preserve its stock of wealth. Assume that we need to keep the stock of national net wealth constant as a share of national income – something that is probably necessary to sustain growth. Then net wealth needs to grow by the product of the growth rate of the economy and the ratio of net wealth to national income. The total net worth[1] of the UK in 2004 was a little under four times national income. If real UK national income is to grow by 2½% a year, then we probably need net investment to be somewhere in the region of 10% of national income.

The actual level of net investment relative to national income in recent years has been just below 6% (Figure 3.5). However, the net national saving rate is much lower than this; in 2004, it was 4.4% (Figure 3.6). Since we are concerned about national income, the ownership of capital matters. And so it is the net national saving rate that should be compared with a target of around 9–10%. Clearly, the shortfall is significant. Without more saving, it is difficult to see how the UK can sustain 'trend' growth of 2½% per annum. One impact of low saving and investment is that the amount of capital available to produce with, relative to the population, grows less rapidly and this reduces the increase in living standards. We explore the link more carefully in the next subsection.

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[1] Tangible and intangible assets plus total *net* financial assets. Tangible assets include the value of houses, commercial property, plant and machinery, stocks and work in progress and civil engineering works. We do not want to include the value of land – a non-reproducible asset. We deduct half the value of residential assets so as to reflect land values.

Figure 3.5. Net investment not high enough to sustain 2½% GDP growth
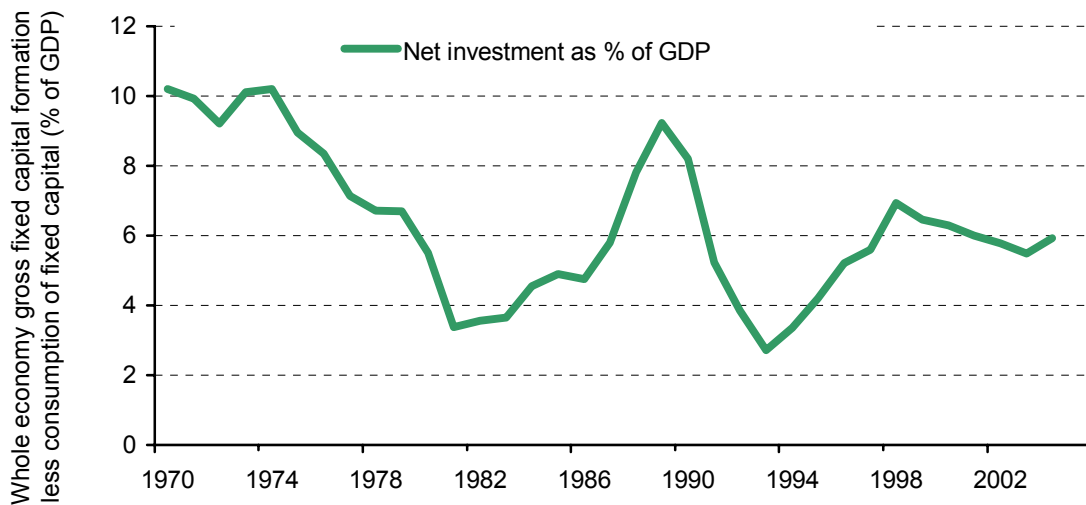
Sources: ONS; Morgan Stanley Research.

Figure 3.6. Saving rate looks too low to sustain 2½% GDP growth
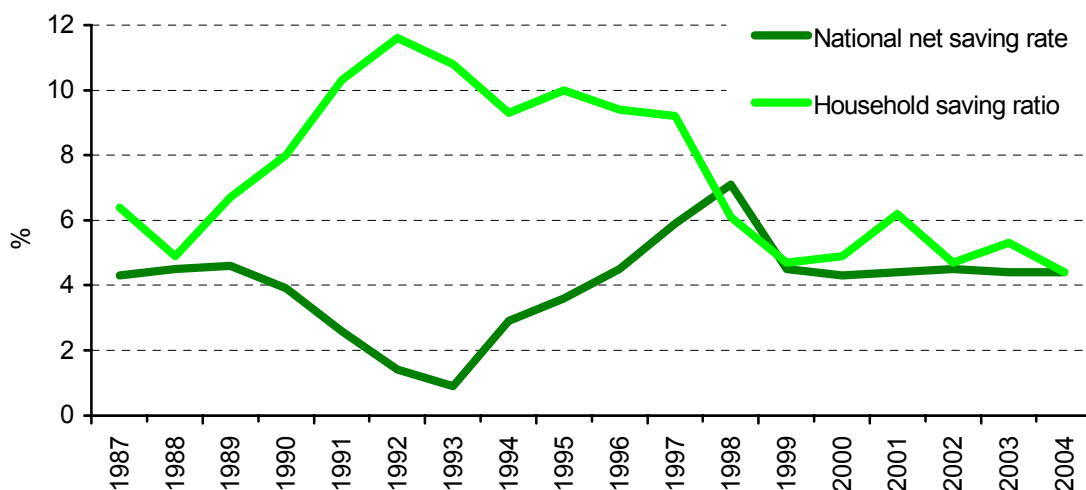
Sources: ONS; Morgan Stanley Research.

Productivity

Productivity growth is a key determinant of increases in living standards. Persistent differences in the rates of overall productivity growth across economies can result in very large divergences in living standards over time. For example, a 1% average annual rate of productivity growth implies that a country will need 70 years to double its level of national income, but it will only take 28 years if productivity growth is 2.5% (assuming that all else – in particular, employment rates – is constant).

Productivity reflects the effectiveness of an economy in extracting output from factors of production: labour and capital. The Treasury assumes that the trend rate of growth of the economy between Q1 2001 and Q4 2006 is 2¾%. Of this, 2.15% arises from labour productivity growth (output per hour worked) and another 0.6% reflects the assumed growth

rate of the population of working age (the effects of falling average hours worked and a rising trend employment rate offset each other).[2] Productivity is assumed to continue rising at 2½% a year in the future. Whether or not these assumptions are realistic is central to any assessment of the longer-term fiscal outlook and also to the judgement on the cyclical position of the economy.

Productivity developments shape both fiscal and monetary policy. A higher overall rate of productivity growth means that the economy can grow faster over time without this resulting in inflation rising and therefore higher interest rates.

Labour productivity – the UK's Achilles heel. Labour productivity is often measured as the level of an economy's output divided by the level of employment. An alternative measure of labour productivity is the ratio between the economy's output and the number of hours worked. In principle, this is a better measure of productivity[3] though it is harder to measure.

Table 3.1. Real GDP per hour worked (UK=100)

	France	Germany	USA	UK	Japan
1990	131	n/a	130	100	93
1995	137	126	120	100	90
2000	134	121	117	100	86
2003	129	115	112	100	82
2004	129	112	114	100	83

Note: Data for 2004 are provisional and subject to revision.
Source: ONS, experimental internationally comparable series.

Table 3.2. Real GDP per worker (UK=100)

	France	Germany	USA	UK	Japan
1990	131	n/a	137	100	107
1995	123	111	130	100	97
2000	118	104	128	100	92
2003	110	99	122	100	88
2004	111	97	124	100	89

Note: Data for 2004 are provisional and subject to revision.
Source: ONS, experimental internationally comparable series.

Table 3.1 shows that the gap between UK GDP per hour and that in France, Germany and the USA has been declining since 1995, but it remains significant: French workers produce almost 30% more output per hour worked than UK workers; US workers are 14% more productive. In the G5, only Japanese workers are less productive than their UK counterparts. The UK does better in terms of GDP per worker, rather than per hour worked, as shown in

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[2] Beyond Q4 2006, trend growth is predicted to fall to 2½% a year as growth in the working-age population is expected to be 0.4% a year instead of 0.6% a year. See table A2 of HM Treasury, *Pre-Budget Report 2005*, Cm. 6701, 2005, http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm for details.

[3] Output per hour worked tells us something about the ability of an economy's labour force to produce output from one unit of labour input, but this is only part of the story. It is also important to know how much labour input (e.g. number of hours worked) is being supplied by the workforce.

Table 3.2. On this basis, the UK does marginally better than Germany, but it still lags France and the USA.

Unproductive and working too much? French workers have historically been much more productive than UK workers (on a GDP-per-hour-worked basis), but they also work fewer hours on average. Over the last 20 years, hours worked per job have declined by almost 12% in France but only by about 4% in the UK (Figure 3.7). This helps to explain why the wealth gap between France and Britain on a GDP-per-worker basis is considerably smaller than on a GDP-per-hour-worked basis.

Figure 3.7. Average hours worked – highest in Japan, USA and UK, lowest in Germany
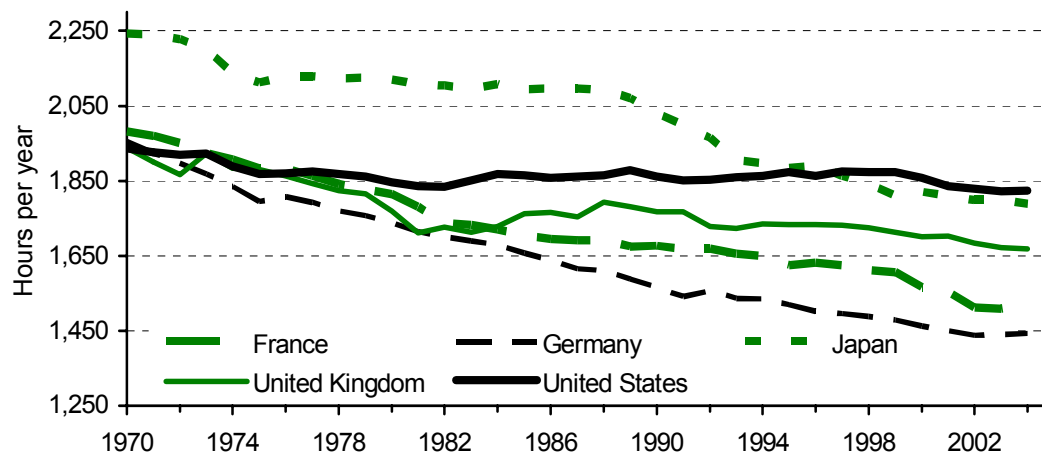
Note: USA – hours worked per worker, not per job.
Source: OECD Productivity database, 2005.

In the USA, hours worked have declined by only 2.4% (per employee) over the same period. Although there is no *conclusive* evidence that working more hours is associated with lower productivity levels, many high-labour-productivity countries, such as Finland and Sweden, tend to have shorter average hours worked. The USA, however, is the exception, with both high levels of labour productivity *and* high number of hours worked.

Why has UK productivity growth slowed sharply in 2005? Figure 3.8 shows the annual rate of growth of UK output per worker ('output per filled job'). This measure of labour productivity growth slowed sharply in 2005. It is important to understand what has caused this sharp decline in labour productivity growth and whether it will continue.

Four factors may be important:

- the mix of public sector / private sector jobs and differences in measured productivity between them;

- trends in capital per worker;

- changes in underlying labour productivity – sometimes called pure technical progress;

- cyclical – and therefore temporary – shifts in the intensity of work.

Figure 3.8. Labour productivity growth has slowed sharply
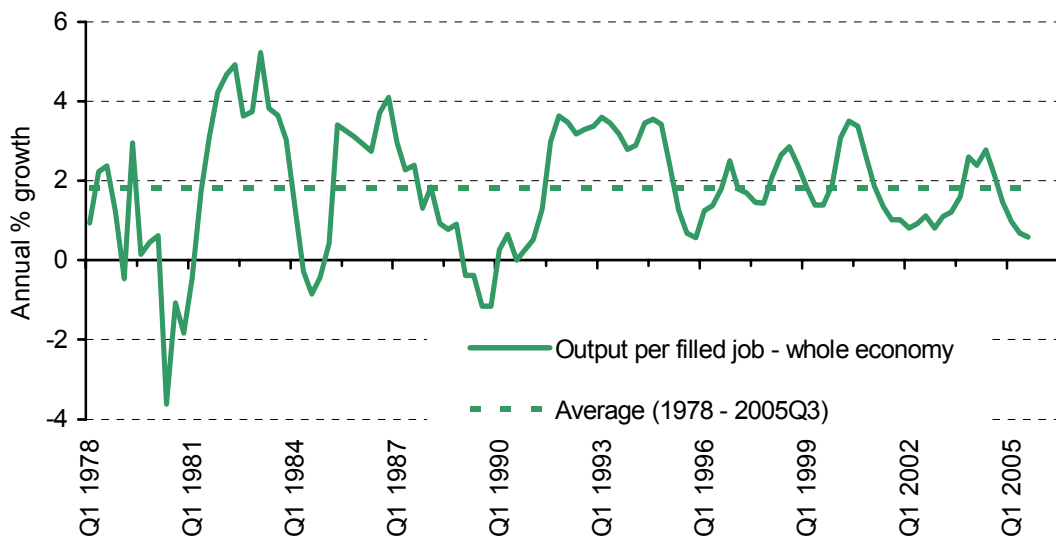
Sources: ONS; Morgan Stanley Research.

The public sector's share[4] of employment has been rising gently over recent years, from just over 19.2% in 1999 to 20.3% in the first half of 2005 (Figure 3.9). The public sector's labour share tends to move in small increments over time, and has barely moved in recent quarters. This suggests that little of the recent and rather sharp slowdown in economy-wide labour productivity since the second half of 2004 can be attributed to shifts in the relative shares of public and private sector employment. So we concentrate on the other factors to assess whether slow productivity growth may prove persistent.

Figure 3.9. The public sector's share of employment has been edging up
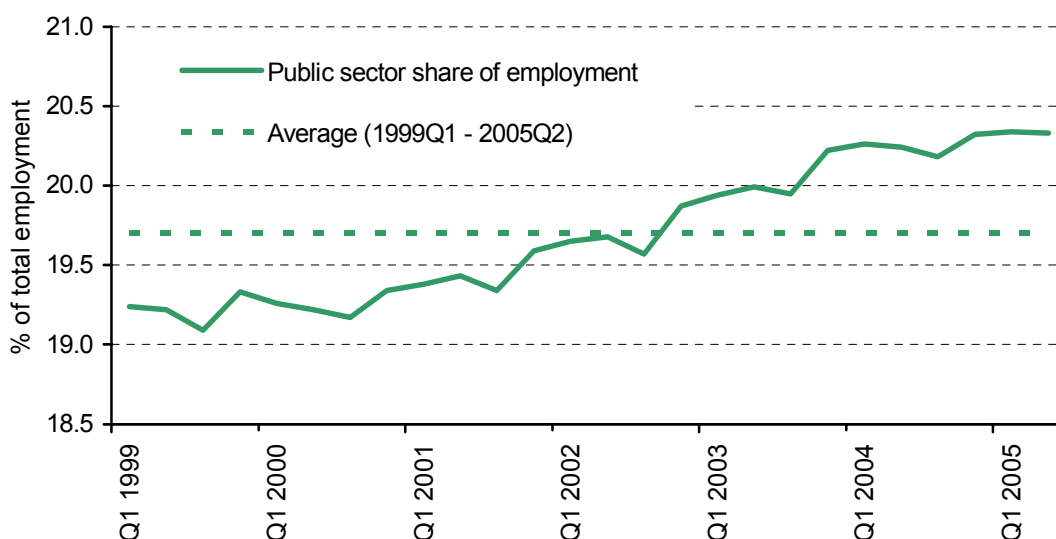
Note: We used the ONS series of public sector full time employment over total employment.
Sources: ONS; Morgan Stanley Research.

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[4] We used the ONS series of public sector full-time employment over total employment. In practice, this is at best a proxy of employment in the public sector, which is not observed exactly, partly due to outsourcing.

Dissecting UK economic growth and its drivers. We seek to pin down the longer-term determinants of growth in per-capita UK GDP using a simple economic framework (a standard production function approach[5]). We decompose growth in per-capita GDP into three fundamental drivers: (a) changes in the amount of labour in the economy; (b) changes in the amount of capital per worker (capital deepening); and (c) technological progress, i.e. changes in output that do not come about because of more inputs. Our approach is dubbed 'growth accounting'; it aims to measure the key forces that jointly account for changes in per-capita economic growth. This approach will enable us to assess the longer-term growth potential of the UK economy and to compare it with the Treasury's own assessment.

We first estimate the relative contributions of changes in labour and capital inputs. This allows us to isolate the contribution of technological innovation or total factor productivity, TFP (which is not directly observable and therefore has to be obtained residually).

Economic growth cannot rely on ever-increasing labour force participation or capital deepening – labour participation will eventually stop increasing, and the contribution from capital deepening is also bounded. Over long-enough horizons, technical progress (TFP) is believed to be the crucial driver of economic growth.

Our decomposition, shown in Table 3.3, suggests that trend TFP growth has slowed to around 1% in recent quarters. Underlying (or 'trend') TFP growth has fallen over the last 10 years – from about 1.6% to just over 1%; over this same period, US productivity growth has moved up to a much higher level than the UK's.

Table 3.3. Decomposing GDP per-capita growth – the UK experience

Factors:	Capital deepening	Participation rate	Employment rate	Hours worked	TFP growth trend	Cyclical component of TFP growth	GDP growth per capita
1972–2004	0.70	0.18	–0.01	–0.19	1.41	0.04	2.13
1972–1984	0.70	0.34	–0.42	–0.26	1.36	0.03	1.76
1985–1995	0.48	–0.02	0.21	–0.08	1.59	0.10	2.29
1996–2004	0.98	0.19	0.31	–0.25	1.28	0.02	2.52
2001	1.45	–0.01	0.22	–0.18	1.57	–1.22	1.82
2002	0.78	0.36	–0.05	–0.57	1.42	–0.32	1.62
2003	0.38	0.31	0.11	–0.40	1.57	0.13	2.10
2004	0.20	0.16	0.18	–0.19	1.34	1.07	2.75
2005 Q3	0.42	0.54	–0.18	0.07	1.08	–0.84	1.09

Note: The trend rate of TFP growth is calculated with a Christiano-Fitzgerald Band Pass Filter, which aims to decompose output into a permanent ('trend') component and a cyclical factor.
Source: Morgan Stanley Research.

[5] We assume Cobb-Douglas production technology, with labour share of 0.66; see pages 25–36 of R.J. Barro and X. Sala-i-Martin, *Economic Growth*, MIT Press, 1995, and chapter 1 of D. Romer, *Advanced Macroeconomics*, MIT Press, 2001.

Box 3.1. Decomposing GDP growth

We decompose per-capita GDP growth into three fundamental drivers using a standard production function approach. We start by assuming that output (real GDP) is extracted from two factors of production – capital (denoted K) and labour (denoted L). In addition, we allow for the level of technology to affect output. We assume a simple Cobb-Douglas production function. The symbol α denotes the share of capital's returns in GDP; $(1-\alpha)$ is the labour share of income. We assume that the labour share of income is 66% and that 34% is the share of capital.[a] Denoting technical progress (TFP) by A_t, we have

$$Y_t = A_t K_t^{\alpha} L_t^{(1-\alpha)} . \tag{1}$$

We are interested in output per-capita, which is the most useful measure of living standards, so we divide (1) by the level of the population (*pop*):

$$Y_t / pop_t = A_t (K_t / pop_t)^{\alpha} (L_t / pop_t)^{(1-\alpha)} . \tag{2}$$

Taking logs of (2), we can decompose changes in per-capita output as follows:

$$\Delta \log(Y_t / pop_t) = \Delta \log(A_t) + \alpha \Delta \log(K_t / pop_t) + (1-\alpha)\Delta \log(L_t / pop_t) . \tag{3}$$

We can decompose the labour component into

$$L_t = pop_t \bullet \rho art \bullet er_t \bullet h_t \tag{4}$$

where pop_t is population at time t, ρart is the labour participation rate, er_t is the employment rate and h_t is hours worked. Substituting (4) into (3), we get

$$\Delta \log(Y_t / pop_t) = \Delta \log(A_t) + \alpha \Delta \log(K_t / pop_t) + (1-\alpha)[\Delta \log(\rho art) + \Delta \log(er_t) + \Delta \log(h_t)] .$$

So growth in GDP per capita can be decomposed into a weighted average of capital deepening (weighted by the capital share of output) and total labour supplied in the economy (weighted by the labour share of income) plus TFP growth. TFP growth, $\Delta \log(A_t)$, is

$$\Delta \log(A_t) = \Delta \log(Y_t / pop_t) - \alpha \Delta \log(K_t / pop_t) - (1-\alpha)[\Delta \log(\rho art) + \Delta \log(er_t) + \Delta \log(h_t)] .$$

So we obtain estimates of technological progress residually.

The final step is to filter TFP growth using a simple statistical algorithm to separate the underlying ('trend') TFP growth from the 'noise' and cyclical movement that surround it. For this, we use the Christiano-Fitzgerald (CF) band-pass filter, which is similar in principle to the better-known Hodrick-Prescott (HP) filter (for a practical discussion of these various statistical filters, see chapter 3 of R. Chote, C. Emmerson, D. Miles and Z. Oldfield (eds), *The IFS Green Budget: January 2005*, http://www.ifs.org.uk/budgets/gb2005/index.php).

The results of this decomposition are shown in Table 3.3.

[a] For simplicity, we assume these shares to remain constant over time; see references in footnote 5 and the references contained therein.

The declining contribution of capital deepening is a cause of concern. The contribution of capital deepening has been declining steadily in recent years in the UK, to well below its historical average. Capital deepening added only 0.2% to annual GDP growth per capita in 2004 compared with its average historical contribution of 0.7%.

Favourable labour market conditions have boosted economic growth – but is this trend sustainable? Labour market developments, and rising participation in particular, have boosted GDP growth per capita in the UK in recent years, compensating for the lack of acceleration of TFP growth and the declining contribution from capital deepening. Rising employment and participation rates have more than compensated for the downward trend in average hours worked. Overall, labour market developments[6] added 0.25 percentage points to GDP growth per capita in the 1996–2004 period. But unemployment is already at historical lows and is unlikely to fall much further. With an ageing population, the percentage of the overall population available for work (our definition of participation) is unlikely to rise for much longer.

To conclude, we think that growth in overall GDP per capita has been enhanced by beneficial developments in the labour market whose effect is likely to be much smaller in the future. In addition, TFP growth has failed to accelerate, despite an unusually stable economy and a host of government measures to boost it. Instead, trend TFP growth appears to have slowed markedly since 2003.

Assuming the effect of rising labour supply gradually converges towards zero (a level consistent with its historical contribution of –0.02%), or at least moderates from recent levels, longer-term sustainable GDP growth per capita could easily fall below 2%. This suggests that there are downside risks to our own purely statistical estimates of potential GDP growth (of around 2.4% on an aggregate, not per-capita, basis).[7]

The Treasury's productivity and trend output estimates seem optimistic to us. On the whole, the Treasury estimate of recent and future underlying labour productivity growth of 2.25% seems somewhat optimistic. Because of that, the Treasury's estimate of potential growth (2.75% until Q4 2006 and a 'prudent' 2.5% thereafter) also seems optimistic, rather than conservative. Our analysis based purely on fitting trends to the aggregate data suggests potential GDP growth of around 2.4%; based on the decomposition of growth and the implied estimate of total factor productivity, we would assess near-term trend growth to be even lower.

External imbalances

The third of the underlying sources of weakness in the UK economy is closely related to the previous two: the current account deficit is a reflection of the level of saving in the UK relative to investment. The UK economy continues to run a significant current account deficit (and in terms of percentage of GDP, an even larger trade deficit). These deficits have been on

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[6] This is the joint effect of labour participation, employment and hours worked over the 1996–2004 period.

[7] That 2.4% trend aggregate growth figure is purely based on past GDP growth, and does not make any attempt to decompose output into contributions from factor inputs and productivity changes.

Figure 3.10. UK continues to run a significant trade and current account deficit
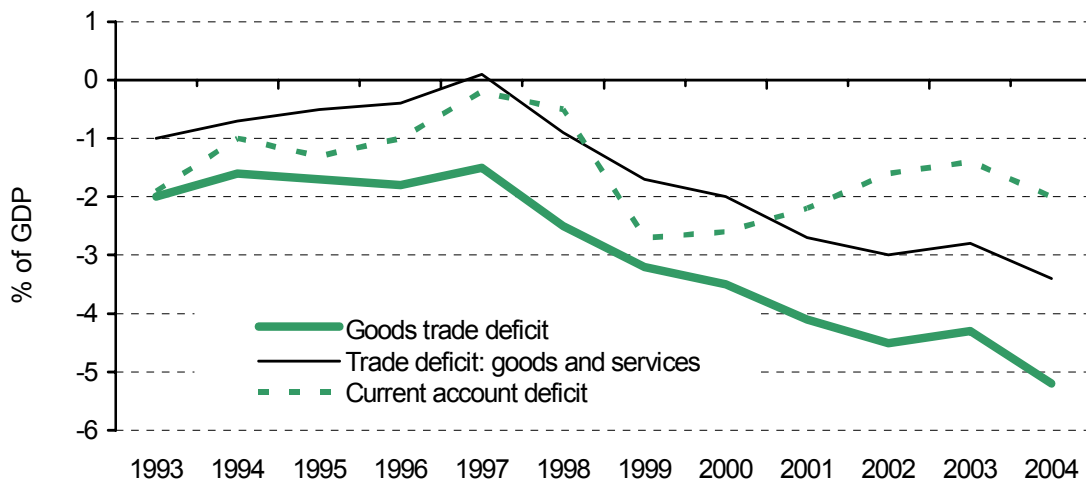
Sources: ONS; Morgan Stanley Research.

Figure 3.11. Net UK overseas liabilities (% of GDP)
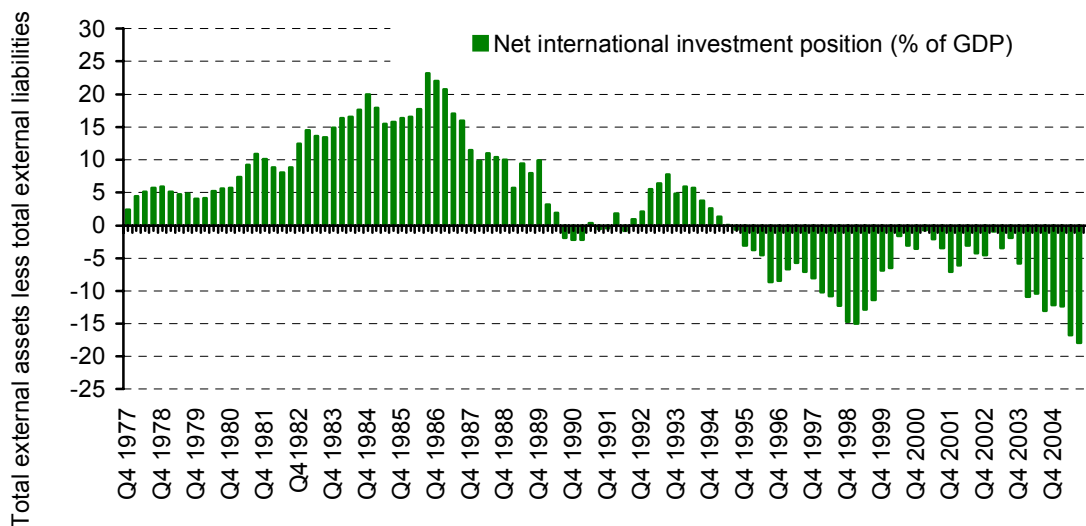
Sources: ONS; Morgan Stanley Research.

a gently rising trend since the end of the 1990s (Figure 3.10), following a period when the real value of sterling increased sharply against other currencies.

A continued rise in trade and current account deficits is clearly unsustainable; a continuation of deficits *at existing levels* is not necessarily unsustainable, though it would imply a continued build-up of net foreign liabilities.

Running continued current account deficits requires continued overseas financing; the balance of payments must balance. By Q3 2005, net UK overseas liabilities as a percentage of GDP were at their highest in 30 years (Figure 3.11). In 2004, more portfolio and direct investment left the UK than entered it (the deficit was 'funded' by 'other investment', the category including inter-bank loans). Foreign investors may prove rather less willing than they have been for the USA to continually fund such deficits. Should that prove to be the case, a potentially sharp adjustment in the sterling exchange rate index could come. Although there is

little agreement among economists on 'thresholds' of sustainability for external imbalances, the risk of a sharp economic adjustment in the UK appears to be rising rather than declining.

3.4 Shorter-term risks

Lessons from past forecasting performance

The Treasury forecasts that growth will be 2–2½% in 2006 and 2¾–3¼% in 2007 and 2008. Over the past 10 years, the Treasury's average (absolute) error for forecasting GDP for the current year and year ahead (compared with the centre of its projected range) has been half a percentage point. This compares with a 0.58 standard deviation of annual GDP growth over the same 10-year period.

Figure 3.12 shows the range within which there is a 66% probability that growth will fall. This is based on the assumption that the scale of past forecast errors tells us about the probability of future errors, that those errors are normally distributed, that they are symmetric around the Treasury's central forecast and that they are of the same size in future years.

### Figure 3.12. Treasury's projection of real GDP (% change terms)
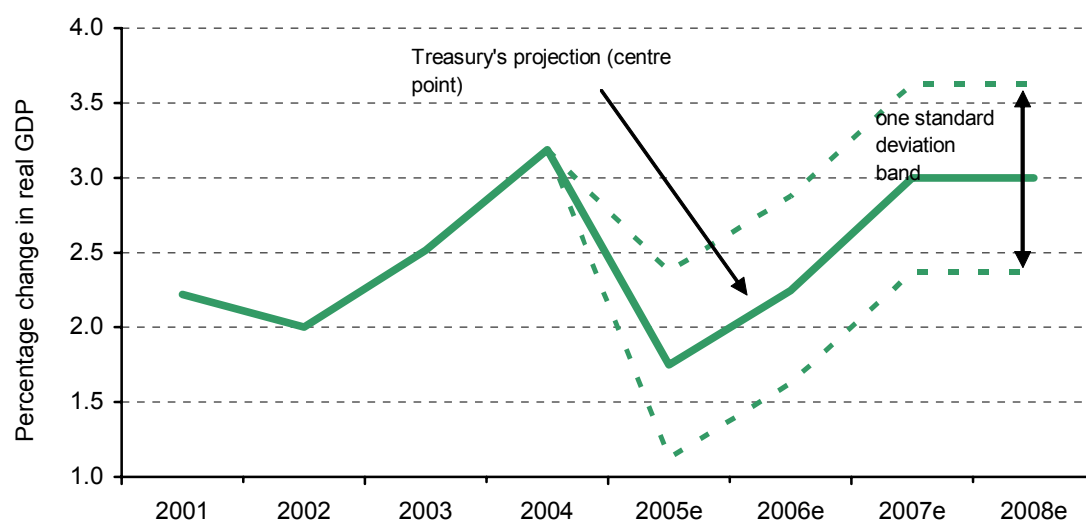
Note: We assume that the Treasury's forecast errors follow a normal distribution with mean zero and variance σ^2. The absolute forecast error then follows a half-normal distribution with a mean equal to $\sqrt{(2/\pi)}$ multiplied by σ. Since we know that the Treasury's mean forecast error is 0.5, we can deduce that $\sigma=0.63$ (and $\sigma^2=0.39$). Using this, we can use the properties of the normal distribution to tell us the probability of the forecast error lying in a given range. The probabilities given in the text may well be somewhat underestimated. This is because the Treasury gives the mean forecast error for the 'current year and year ahead projections made in autumn forecasts', when it would already have a significant amount of information to forecast the current year's GDP growth. We also assume forecast errors are uncorrelated across periods.
Sources: HM Treasury; ONS; Morgan Stanley Research.

Based on these assumptions, there is a one-in-three chance that the level of real GDP in 2008 is either at least 1.25% below, or more than 1.25% above, the midpoint of the Treasury's forecast range. In other words, there is a roughly two-in-three chance that the level of GDP is within 1.25% of the Treasury's central forecast (Figure 3.13). A 1.25% shortfall or overshoot in GDP would have a significant effect on government revenue and also probably on the Treasury's assessment of where the current cycle ends. The Treasury expects the output gap

to close by the end of 2008, but a 1.25% overshoot in GDP compared with the Treasury's forecasts would likely mean that the cycle ended before end-2008. (See Section 3.5 for an in-depth discussion of the timing of the cycle.)

Figure 3.13. Treasury's implicit projection of real GDP (log level terms)
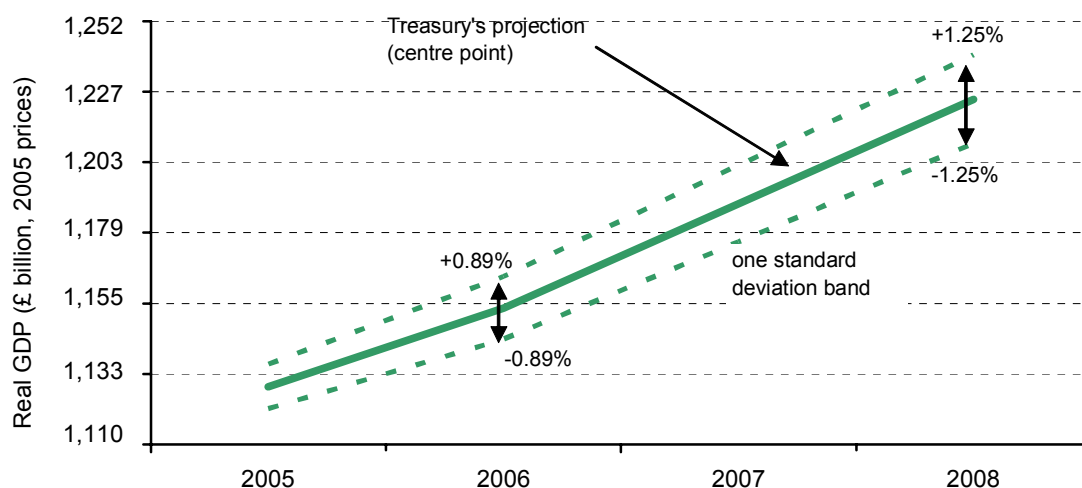
Note: See Note to Figure 3.12.
Sources: HM Treasury; ONS; Morgan Stanley Research.

We turn now to three particular short-term risks to the Treasury central forecast, in addition to the more general threats to the medium-term outlook highlighted previously. Investment may be stronger than the Treasury expects, while labour market conditions and the state of the housing market may push demand and output growth below the Treasury's central forecast.

Investment

The Treasury acknowledges that business investment represents an upside risk to its forecasts of economic growth: 'Given strong rates of profitability allied with a low cost of capital and benign financial conditions, companies are likely to be in a good position to step up investment spending relatively quickly in the event of other upside surprises from demand'.[8]

Corporate profitability and company balance sheets in the UK look unusually healthy. At the same time, most measures of the cost of capital are low. However, investment expenditure looks anaemic, which is a puzzle. In the period since 2000, investment has fallen to low levels relative to output and relative to the gross operating surpluses of companies. The rate of change in investment has also been low in recent years, in both nominal and real terms. Although real business investment growth (gross of depreciation) was fairly robust in 2004 (3.4%), this followed three years of stagnant spending.

Indeed, the corporate rate of return looks very healthy (see Figure 3.3 earlier). We measure this as the ratio of profits (arising from UK activities) to capital, where profits are measured after wages and employers' social contributions, but before dividends, interest and tax. Both net and gross of depreciation, pre-tax real rates of return on corporate capital, relative to net

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[8] Paragraph A.111 on page 203 of HM Treasury, *Pre-Budget Report 2005*, Cm. 6701, 2005, http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm.

(or gross) capital employed, are close to 40-year highs – although both are somewhat lower than the peak reached at the end of the 1990s. Profits, however, are not unusually high relative to UK national income. Indeed, the profits share of GDP in the UK is somewhat below the long-run average (Figure 3.14).

So the evidence is that: the rate of return on existing capital looks high; profits do not look unsustainably high relative to national income; and, in aggregate, there is no sign of substantial excess capacity. And the cost of capital (measured using the weighted average cost of capital – the WACC) is low. The gap between the average rate of return on capital and the

Figure 3.14. Corporate profits do not look unsustainably high
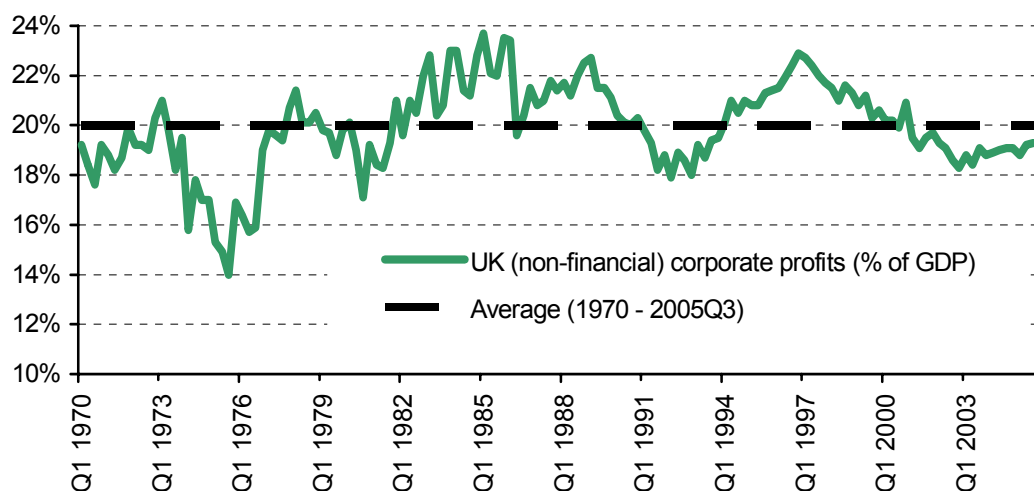
Source: ONS.

Figure 3.15. Investment rewards: large gap between return and cost of capital
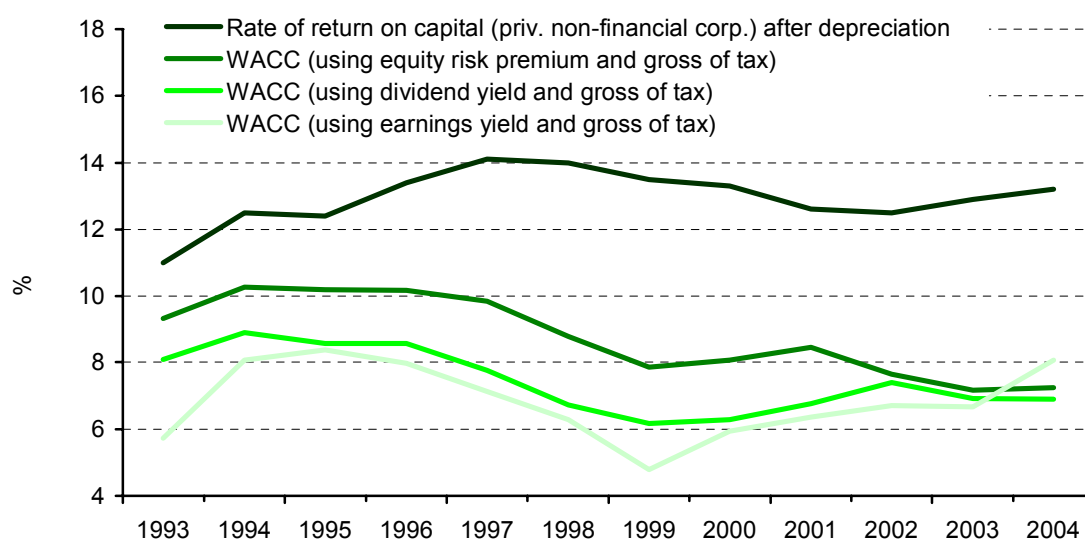
Sources: ONS; Morgan Stanley Research.

WACC is now probably greater than at any time in the period since the early 1990s (Figure 3.15).[9]

The clearest signal of the incentive to invest – the rate of return relative to the cost of capital – gives a strongly positive reading. Actual investment and near-term plans look, in the light of this, weaker than might have been expected.

Business investment may therefore outperform our calendar year 2006 forecast (for 2.5% growth in real terms) and the Treasury's 3–3.5% forecast. In the past, high business investment has not always generated higher returns (indeed, at times, it has been a good predictor of underperformance), but in the current environment of high profitability and low cost of capital, it is more likely to be a positive indicator of future performance.

Labour market

There are several labour market risks to both our own and the Treasury's UK economic forecasts, including the following:

- Unemployment may rise as more people come into the labour force but hiring does not keep pace.

- Earnings growth may rise, leading to rising inflation pressures that trigger an interest rate response from the Bank of England.

Unemployment on both the claimant count measure and the wider 'ILO' compatible measure rose in 2005. In January 2005, claimant count unemployment was 814,000; by November, it was 902,000 (Figure 3.16). ILO unemployment was 1.42 million in January, but 1.49 million in October.

Although employment increased during 2005, the labour force expanded faster partly on increased immigration and partly on a rise in participation. We expect a further modest rise in unemployment in the coming year or two, as employment growth fails to keep up with growth in the labour force. Since the beginning of 2004, public sector hiring growth has slowed while private sector hiring growth has picked up. However, with further civil service job cuts planned (in the 2004 Spending Review, gross reductions of 84,000 civil service posts were announced, of which over 25,000 had been cut by the time of December's Pre-Budget Report), and our assessment that 2006 could be another year of sub-trend growth, risks are likely to the upside for unemployment. If productivity growth also begins to improve, firms would have less need of additional hiring in order to meet any rise in demand.

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[9] The WACC is a weighted average of the real cost of debt and of equity. The real cost of debt is an estimate of the average real interest rate paid on public non-financial corporation (PNFC) debt (using the euro-sterling non-banks corporate index spread plus the 10-year index-linked government bond yield). The cost of equity is estimated in three different ways, by using: (1) the yield on an index-linked bond plus a 4% assumed equity risk premium; (2) the earnings yield (the inverse of the P/E ratio for the FTSE 350); and (3) the dividend yield for the FTSE 350 plus an additional estimated 0.5% for share buybacks and adding an assumed long-run growth rate of corporate earnings (of 2%). The weights use an estimate of gearing based on PNFC data from the National Accounts.

Figure 3.16. Recent increases in unemployment
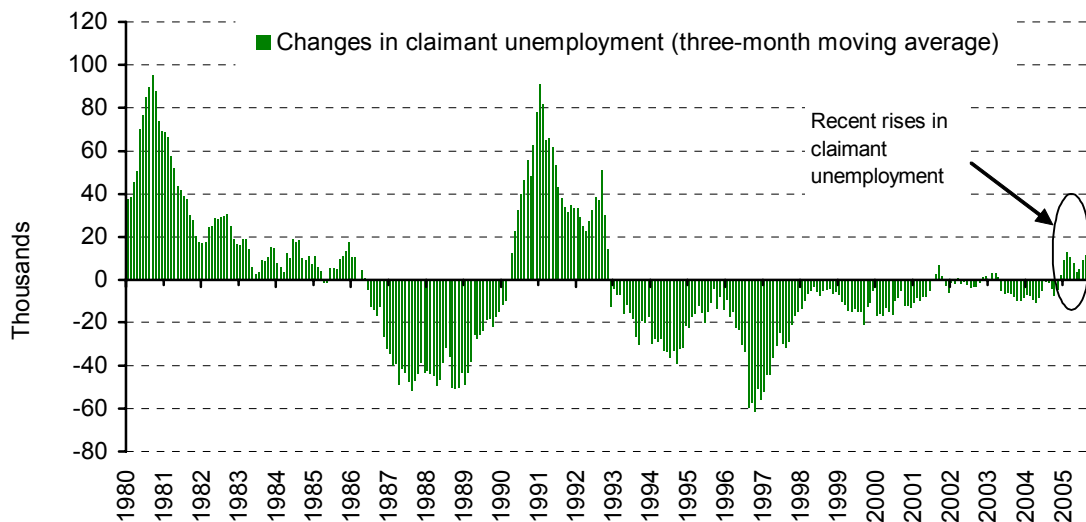
Earnings growth may pick up. Inflation on the CPI measure has picked up significantly over the past 12 months. So far, wage demands have been relatively contained, but should evidence emerge that wage growth is rising at a faster pace, the Bank of England would seriously consider raising interest rates early in the first half of 2006, even in the face of sub-trend output growth. Unit wage cost growth – important for firm price-setting – has already risen sharply as productivity growth has disappointed (Figure 3.17).

## Figure 3.17. Recent rise in unit wage cost growth
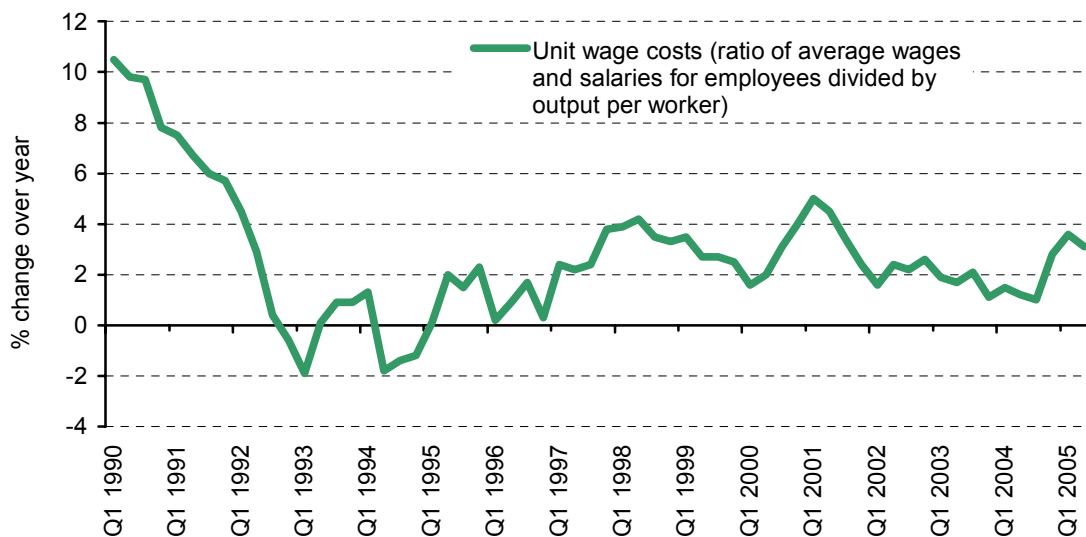
Housing market

Risks remain skewed to the downside for house prices in our view. Several valuation yardsticks suggest a degree of overvaluation and buy-to-let fundamentals have deteriorated markedly over the past year or so. Figure 3.18 shows that the returns on buy-to-let

investments in the form of gross rental yield have deteriorated sharply relative to the costs (in terms of mortgage rates).

While there is a substantial chance that prices may move lower, there is less prospect of prices rising fast in the near term. We believe that the knock-on impact on the wider economy of average house prices in the UK drifting lower would be very limited. However, a more significant fall in house prices – prices falling by 5% or more over the course of 2006 – though less likely, could have more serious knock-on effects on consumption and the wider economy.

Our overall judgement is that risks are likely weighted more to the downside relative to the Treasury's growth forecasts.

Figure 3.18. Deteriorating buy-to-let 'fundamentals'
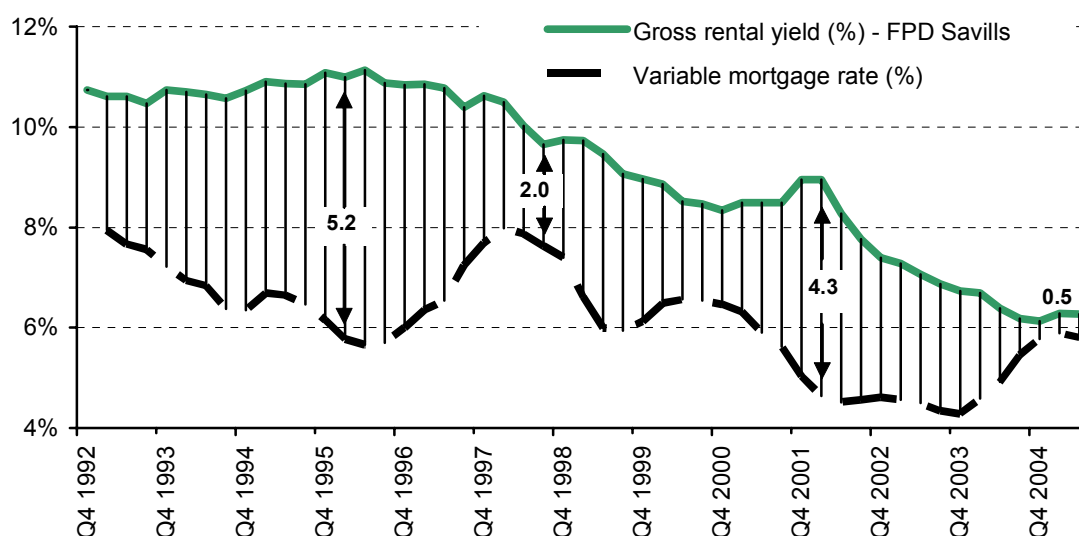
Sources: FPD Savills; Morgan Stanley Research (Building and Construction team); Nationwide.

3.5 The cycle, trend growth and spare capacity

Cycle analysis important for 'golden rule' and forecasting growth

Where we are in the business cycle is important for judging the likelihood of the Treasury meeting its two fiscal rules (see Chapter 2 for more details) and for helping to forecast the likely path of output growth. In order to forecast a path for output growth, it is important to assess whether the economy is currently operating above or below potential output. Our analysis of this issue naturally follows from our assessment of trends in productivity, investment and saving.

Trend growth

Judging where we are in the cycle requires an analysis of how far production is away from potential output (i.e. the size of the output gap). In order to judge that, we need an estimate of potential, or trend, output and its rate of growth. According to the 2005 Pre-Budget Report, 'The Treasury's neutral estimate of the economy's trend output growth rate for the 2005 Pre-

Budget Report is 2¾ percent a year to the end of 2006, slowing to 2½ per cent thereafter due to demographic effects, unchanged from Budget 2005'.[10]

We think that the Treasury is somewhat optimistic on near-term trend output growth and on its longer-term GDP projection. As discussed in the previous section, productivity growth has benefited from favourable developments in the labour market that are likely to be less supportive in the future, and total factor productivity growth has failed to accelerate. The longer-term sustainable growth in *per-capita* income could easily fall below 2%, compared with the historical average of around 2.1–2.2%. Population growth could add a few tenths to aggregate GDP growth, particularly if immigration flows are sustained for some time, and employment levels continue to rise. Our statistical estimates of aggregate potential GDP (not per capita) output growth are around 2.4%, though we judge that the chances that it is lower than this are greater than the chances that it is significantly higher.

Our statistical estimates suggest that the recent deceleration of output growth has dragged the potential rate of growth of the economy lower. Our projections suggest a potential growth rate of around 2.3% for the next three years and a gradual convergence towards 2.4% by 2009–10, but we judge that there are downside risks to this estimate.

Table 3.4. Estimates of potential output growth

(% annual change)	2004–05	2005–06E	2006–07E	2007–08E	2008–09E	2009–10E	2010–11E
Morgan Stanley central case	2.35	2.30	2.30	2.30	2.29	2.37	2.42
Treasury estimates	2.75	2.75	2.69	2.50	2.50	2.50	2.50

Note: The above estimates are based on statistical filters which separate the level of output into a trend 'underlying' component and a cyclical component. The cyclical component is zero on average over long-enough periods, and tends to reflect temporary deviations from the underlying trend.
Sources: Morgan Stanley Research; HM Treasury.

The output gap

The Treasury judges that there is currently spare capacity in the economy, of roughly 1.3% of potential output (as of Q3 2005), rising to about 1.5% in the following quarters.[11] It expects this gap to narrow over 2007 as growth picks up, and it anticipates the gap closing by the end of 2008. According to our estimates, the output gap is currently around the 0.5% mark. And our central projection is that this gap closes by 2007. These differences give an idea of how hard it is to measure and date economic cycles. There is no single way to date the cycle, and different methods will yield different results. Further, data revisions can change the start- and end-dates of past and current cycles.

Timing of the cycle

Despite the uncertainties surrounding its measurement, the dating of the business cycle (or economic cycle) plays a crucial role in establishing whether the government has met its

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[10] Paragraph A.39 on page 186 of HM Treasury, *Pre-Budget Report 2005*, Cm. 6701, 2005, http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm.

[11] Based on the December 2005 Pre-Budget Report.

'golden rule' that it should only borrow to fund investment *over the cycle* (see Chapter 2 for an in-depth discussion).

We define an economic cycle as the result of two economic phases. In the first phase, real GDP is above its potential (or trend) level, whereas in the following phase, GDP falls beneath its potential level. The cycle ends when output returns to its potential level (normal capacity utilisation). In other words, a cycle captures one good and one bad spell of the economy.

To date the cycle, we need to estimate the level of potential output. We do so by using statistical filters. To avoid relying excessively on any single measure, we estimate potential output using three different algorithms:[12] (a) the simple Hodrick-Prescott (HP) filter; (b) the Christiano-Fitzgerald (CF) band-pass filter; and (c) the Baxter-King band-pass filter.

These methods only allow us to infer when output is above its potential level and when it is below it, and by how much. But they will not explicitly tell us when a cycle started or ended. To date the cycle, we need to exercise judgement in order to say what constitutes a run of above- and below-trend output. For example, we have to make decisions about whether three quarters of above-trend growth and four quarters of below-trend growth are enough to constitute a full economic cycle. What if output were only marginally above its potential level; does this still constitute an upswing? Clearly, there is a fair amount of subjectivity involved in determining what constitutes a cycle.

Distinguishing cycles has become more difficult in the last 10 years; as the UK economy has undergone a period of unusual macroeconomic stability, output has fluctuated only slightly

Figure 3.19. Business cycles have become less marked, making the dating of the cycle harder
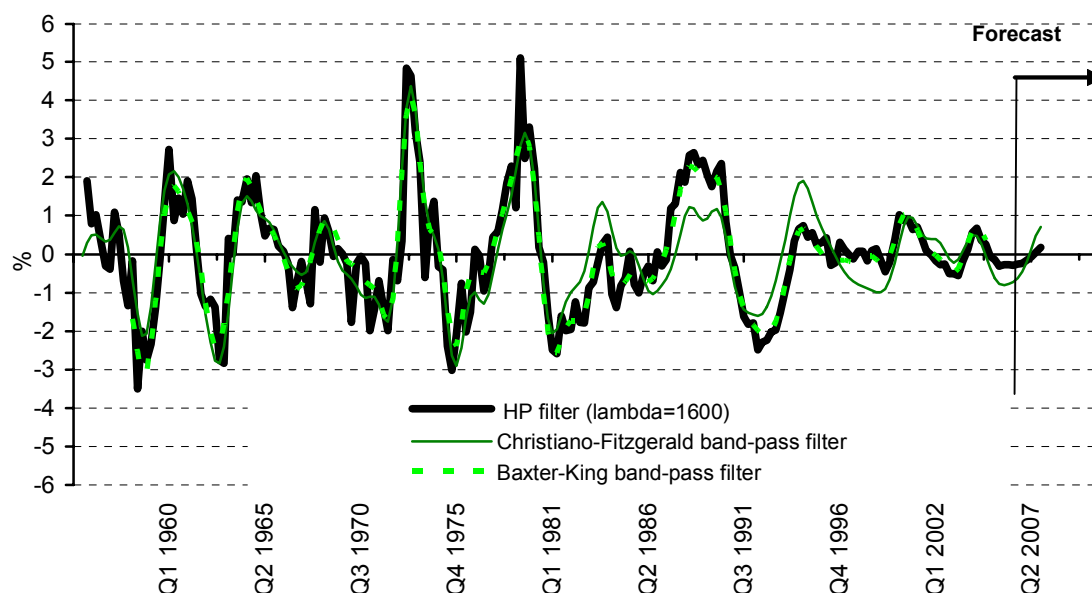
Source: Morgan Stanley Research.

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[12] Statistical filters separate the level of output into a trend 'underlying' component and a cyclical component. The cyclical component is zero on average over long-enough periods, and tends to reflect temporary deviations from the underlying trend. For details on these statistical filters and alternative ways of estimating the output gap, see chapter 3 of R. Chote, C. Emmerson, D. Miles and Z. Oldfield (eds), *The IFS Green Budget: January 2005*, http://www.ifs.org.uk/budgets/gb2005/index.php.

around its potential level. This is evident from Figure 3.19, which shows that the amplitude of the deviation of output from its potential level has recently become much smaller. In previous cycles, deviations of 2–3% of potential output were the norm, whereas since 1995 they have been below the 1% mark on most measures we estimate. As a result, only the CF band-pass filter traces cycles that are relatively easy to identify.

The greater difficulty in dating cycles, itself a reflection of the success of macroeconomic policy in reducing cyclical fluctuations, is one of the drawbacks to judging sustainability of fiscal policy by reference to the start and end of cycles.

Despite the differences in the methods of calculating potential output we employ, the broad dating of past UK cycles is fairly similar. Our statistical estimates suggest that the last full cycle was relatively short, and ended in the second half of 2003 (having begun in 1999), while the current cycle started in the final quarter of 2003.

In contrast, the Treasury's estimates of cycles tend to be much longer: only three cycles have been completed since 1972, according to its estimates. Our analysis suggests that there have been five to six full cycles since 1972.

Figure 3.20. The Treasury has shifted the start-date of the current cycle back to 1997 and it now predicts that it will last until the end of 2008
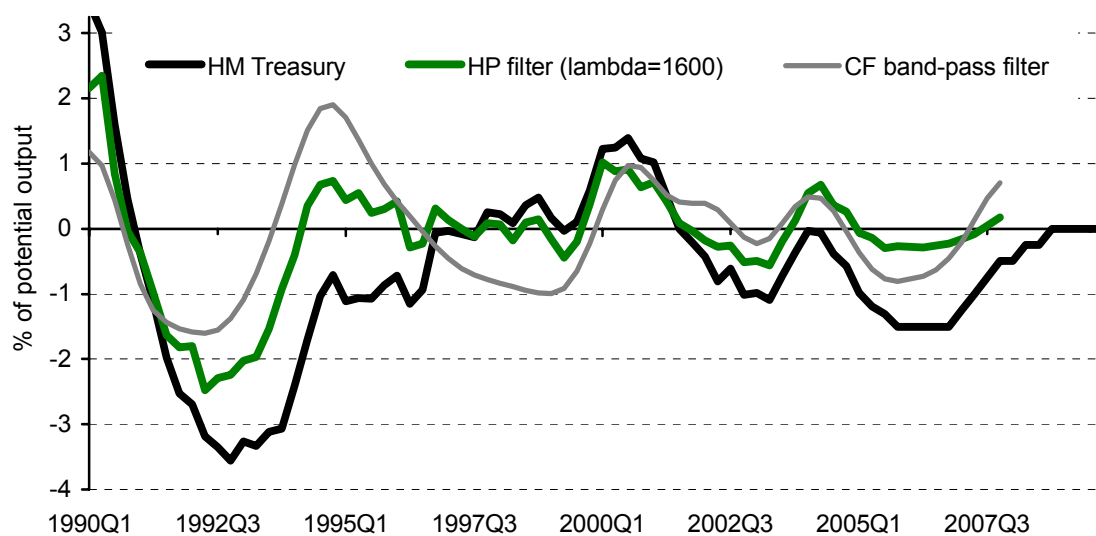
Sources: Morgan Stanley Research; HM Treasury.

Table 3.5. Dates of UK economic cycles

HM Treasury	HP 1600	CF	BK
1972Q4 – 1978Q1	1972Q4 – 1977Q3	1972Q3 – 1977Q4	1972Q3 – 1977Q3
1978Q1 – 1986Q2	1977Q4 – 1987Q2	1978Q1 – 1982Q4	1977Q4 – 1987Q1
1986Q2 –1997Q2	1987Q3 – 1994Q1	1983Q1 – 1987Q4	1987Q2 – 1994Q1
1997Q2 – F2008Q4	1994Q2 – 1999Q3	1988Q1 – 1993Q3	1994Q2 – 1999Q3
	1999Q4 – 2003Q3	1993Q4 – 1999Q4	1999Q4 – 2003Q3
	2003Q4 – F2007Q2	2000Q1 – 2003Q2	2003Q4 –
		2003Q3 – F2007Q2	

Sources: Morgan Stanley Research; HM Treasury.

As the golden rule means that the government should only borrow to fund investment *over the cycle*, the assessment of whether or not it has been met is heavily dependent on the dating of the cycle, which clearly is subject to great uncertainty and a substantial degree of subjectivity. (See Chapter 2.)

3.6 Morgan Stanley forecasts

Central case

We do not expect to see growth accelerate significantly over the next two to three years. We expect somewhat faster export growth and investment spending, but with consumer spending growth remaining below average. We expect growth close to trend in 2006 and beyond.

Some modest increase in consumer spending growth seems likely, however. Although households are likely to continue edging up their saving rate, we expect to see consumer spending growth moving gradually up again as the saving rate moves back to levels that more households feel comfortable with.

Table 3.6. Morgan Stanley central case economic projections

	2004–05	2005–06E	2006–07E	2007–08E	2008–09E	2009–10E	2010–11E
Real GDP (% annual change)	2¾	1¾	2¼	2¾	2¼	2½	2½
Real consumer spending (% annual change)	3½	1½	2	2¼	2	2¼	2¼
Employment (% annual change)	0.9	1.0	0.7	0.7	0.6	0.7	0.6
CPI inflation (% annual change)	1½	2¼	2	2	2¼	2	2
Output gap (%)	0.3	–0.3	–0.2	0.1	–0.1	0	0.1
Saving rate (%)	4¼	5½	5½	5¾	6	5¾	5½
Unemployment rate (%)	4¾	4¾	5	5	5	5¼	5¼
Productivity growth (% annual change)	1¾	1	1¾	2	1¾	1¾	1¾

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

A somewhat stronger contribution from net trade is plausible. Sterling probably remains overvalued. Morgan Stanley's currency team see sterling drifting lower in 2006. On their forecasts, the sterling exchange rate index would depreciate by around 3% by end-2007. This would help to boost export growth relative to imports so that the contribution of net trade to overall growth becomes positive.

Investment growth improves somewhat on our central forecast. Aggregate fixed investment growth may improve moderately on continued robust government investment growth and a pick-up in real residential investment partly on the back of the government's drive to increase housing supply. There are likely upside risks to our forecast for business investment growth. However, real interest rates remain at unsustainably low levels in our view. Any significant

back-up in yields would raise the cost of borrowing to firms and is one reason why our central case for business investment is for slightly slower growth in calendar year 2006 than in 2005.

Against that economic backdrop, we would expect inflation to stay close to the 2% target in 2006 and 2007. However, with output growth likely to pick up pace into 2007, the Bank of England may move interest rates up slightly in the second half of 2006.

This forecast for the UK economy differs from that of the Treasury. In particular, we forecast somewhat slower GDP growth than the Treasury in fiscal years 2007–08 and 2008–09. Beyond that point, the Treasury actually projects slightly weaker output growth than we do for use in its budget projections, as it makes a deliberately cautious assumption.

'Worse case'

Our 'worse case', which we view as a plausible downside scenario for output growth, envisages (in part) one of the earlier highlighted risks playing out. We assume that wage settlements begin to rise significantly in 2006. Occurring against an assumed backdrop of marginally higher oil prices and continued productivity disappointments, inflationary pressures rise markedly over the year. The Bank of England is forced to raise rates earlier and by more than in our central case.

Compared with our central case, GDP growth (both actual and trend) is somewhat slower in this scenario as the economy responds to interest rate rises. Consumption spending grows more slowly in the near term. Investment is rather flat.

We consider the public finance implications of this more pessimistic scenario, and of our central forecast, in Chapter 5, where we compare them with forecasts based on the Treasury's central projection for the economy.

Table 3.7. Morgan Stanley 'worse case' economic projections

	2004–05	2005–06E	2006–07E	2007–08E	2008–09E	2009–10E	2010–11E
Real GDP (% annual change)	2¾	1¾	1½	2	2	2½	2½
Real consumer spending (% annual change)	3½	1½	¾	1½	1½	2½	2½
Employment (% annual change)	0.9	0.9	0.3	0.6	0.6	0.9	0.9
CPI inflation (% annual change)	1½	2¼	2¾	2½	2½	2	2
Output gap (%)	0.4	–0.1	–0.2	–0.2	–0.2	–0.1	0.1
Saving rate (%)	4¼	5½	6¼	6	6	6	5¾
Unemployment rate (%)	4¾	4¾	5¼	5½	5½	5½	5½
Productivity growth (% annual change)	1¾	¾	1¼	1½	1½	1½	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 medium to longer term. Productivity performance has deteriorated somewhat and the UK is still saving too little. Nearer-term, we see particular downside risks relative to the Treasury's forecasts in fiscal years 2007 and 2008.