GLAECONOMICS

London's Economic Outlook: Autumn 2004

The GLA's medium-term planning projections

October 2004

Transport for London

LONDON DEVELOPMENT AGENCY

MAYOR OF LONDON

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1. Executive Summary

The Greater London Authority's (GLA) fifth London forecast[1] predicts that:

- London will see continued, steady, above-trend employment growth in 2004 and 2005, but this growth rate is expected to diminish from a high of 1.4 per cent in 2005, returning to trend in 2006.
- Gross Value Added (GVA) growth will remain above trend to 2006 with 2004 expected to be the strongest year with growth at 3.8 per cent. Growth is expected to drop to 3.1 per cent in 2005 and to 2.7 per cent in 2006.
- Household spending will peak in 2004 at 3.0 per cent, below the rate of GVA growth. It is expected to remain below GVA growth at 2.6 per cent in 2005 and 2006 as consumers adjust to the impact of interest rate rises.

New data shows that London's GVA growth exceeded the UK's average in the second quarter (Q2) of June 2004 for the first time since Q1 of 2002.

Compared with GLA Economics' spring forecast, the unit has revised its overall employment growth estimates between 2004 and 2006 slightly upwards from 70,000 to 100,000. The GVA growth estimate has been revised upwards by one percentage point for 2004, very slightly upwards for 2005, and slightly down for 2006. Our predictions for GVA growth, employment growth and household spending are generally slightly above the average of independent forecasts.

Table 1: Summary of projections

Annual growth rates (per cent)	**2003**	**2004**	**2005**	**2006**
London GVA (constant 2001 £ billion)	0.3	3.8	3.1	2.7
Consensus (average of independent forecasts)		*3.5*	*3.1*	*2.7*
London civilian workforce jobs	1.2	1.4	1.2	0.9
Consensus (average of independent forecasts)		*1.1*	*1.0*	*1.0*
London household income (constant 2001 £ billion)	1.2	2.9	2.8	3.2
London household spending (constant 2001 £ billion)	2.1	3.0	2.6	2.6
Consensus (average of independent forecasts)		*2.8*	*2.5*	*2.5*
Memo: Projected UK Inflation rate (RPIX[2])	*2.8*	*2.2*	*2.7*	*2.7*
Projected CPI[3] inflation rate	*1.4*	*1.4*	*2.1*	*2.2*

Source: Experian Business Strategies

[1] The forecast was commissioned by GLA Economics and prepared by Experian Business Strategies.
[2] RPIX = Retail price inflation without mortgage interest payments. Although not part of the GLA Economics forecast for London, for information the forecaster's view of the inflation rate is reported. Up to December 2003, the Bank of England's inflation target was to keep annual RPIX inflation at 2.5 per cent.
[3] CPI = Consumer Price Index. Although not part of the GLA economics forecast for London, for information the forecaster's view of the CPI inflation rate was reported. Since December 2003 the Bank of England's inflation target is to keep annual CPI inflation at two per cent.

2. Introduction

The autumn 2004 edition of *London's Economic Outlook* (LEO) is GLA Economics' fifth London forecast. The forecasts are issued every six months to assist those preparing planning projections for London in the medium term. The forecasts provide:

1. The 'consensus forecast' – a review of independent forecasts indicating the range of views about London's economy and the possible upside and downside risk. (In this document, 'consensus forecast' refers to the average of independent forecasters.)

2. Projections for output, employment, household expenditure and household income in London.

3. An in-depth assessment of a topic of particular importance to London's medium-term future. This issue features a study of the factors influencing world growth.

Report outline

The following section (Section 3) reviews the world, UK and London's recent economic performances. Section 4 presents GLA Economics' review of independent London forecasts (the 'consensus forecast'). The forecast itself is in Section 5. The sixth section, by Paul Ormerod of Volterra Consulting, analyses the factors leading to growth in the Organisation for Economic Co-operation and Development (OECD) countries. Section 7, by Dr Neil Blake, explains the revisions to Experian Business Strategies' estimates of London's output for the period since 2001.

Any economic forecast is what the forecaster views as the economy's most likely future path and as such is inherently uncertain. GLA Economics' review of independent forecasts provides an overview of the range of alternative opinions. Independent forecasts are supplied to the GLA for the main macroeconomic aggregates by the following organisations:

- Cambridge Econometrics (CE)
- The Centre for Economic and Business Research (CEBR)
- Experian Business Strategies (EBS)
- Oxford Economic Forecasting (OEF)

Only the most likely outcomes, which the different forecasting organisations provide, are recorded. Each forecaster may also prepare scenarios they consider less likely but these are not shown here. The low and high forecasts combine the worst and best growth forecasts respectively taken from each year separately and which, may therefore, come from different forecasters. High and low estimates therefore may not represent the view of any one forecaster over the whole of the forecast period.

Data changes since spring 2004

There have been three revisions to the historical data since the LEO spring forecast:

- Because of chain-linking, the new Office of National Statistics' (ONS) procedure for measuring real GVA, output figures are revised every year. GVA is estimated relative to a base year in which real and nominal prices are the same. The base year is changed every year between the LEO spring and autumn forecasts. Hence the last LEO used 2000 weights and this one uses 2001 weights. Chain-linking means that the new output figures cannot be compared with those in previous editions. Only output growth rates are comparable.
- GLA Economics has commissioned new long-term employment projections from Volterra Ltd. The unit's medium-term economic projections are consistent with Volterra's employment projections. From now on, LEO will use the new long-term projections.
- As a result of updates to ONS regional and national data, GLA Economics' historical estimates of London's GVA and employment, supplied by EBS, have been revised. Up to 2001 the revisions are minor, but for 2001 and 2002 they are more significant. For this reason an appendix detailing these revisions is included.

Economic forecasting is not a precise science. These projections provide an indication of what is most *likely* to happen, not what will *definitely* happen.

3. Economic background: Growth strengthens as financial markets remain uncertain

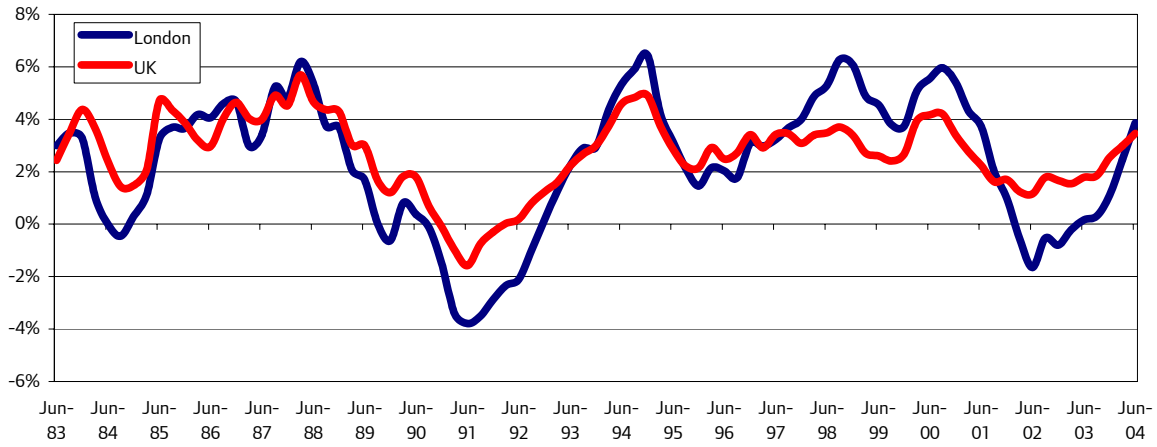
This section provides an overview of recent developments in London, UK and world economies.

London

As Chart 3.1 shows, London's GVA growth exceeded the UK's average in the second quarter (Q2) of 2004 for the first time since Q1 of 2002. This is consistent with a general pattern in which London's economy shrinks further than the UK's in downswings and grows faster in upswings. Growth of 3.9 per cent in Q2, compared with the previous year, follows growth of 2.5 per cent in Q1 and 1.1 per cent in Q4 of 2003.

Chart 3.1: GVA growth in London and the UK

Growth in GVA compared with the same quarter in the previous year



Source: Experian Business Strategies

This growth is above London's trend over the whole of the cycle but has not reached the heights of growth of the 1990s' boom years. Between Q1 of 1994 and the same quarter of 2000, annual growth averaged 4.5 per cent. This picture of increasing growth is consistent with a pattern of reported rising activity in the service sector, which is proportionately a far larger part of London's economy than other industries. The British Chamber of Commerce's (BCC) *Quarterly Economic Survey* for Q2 of 2004 reports that a net balance of 58 per cent of London's service sector's businesses expect to increase their profitability over the next 12 months, compared with 47 per cent in the UK. London's service sector's businesses also expect to employ more people with the net balance who expect to increase their workforce over the next three months increasing to 46 per cent in Q2 of 2004, compared to 30 per cent in the UK.

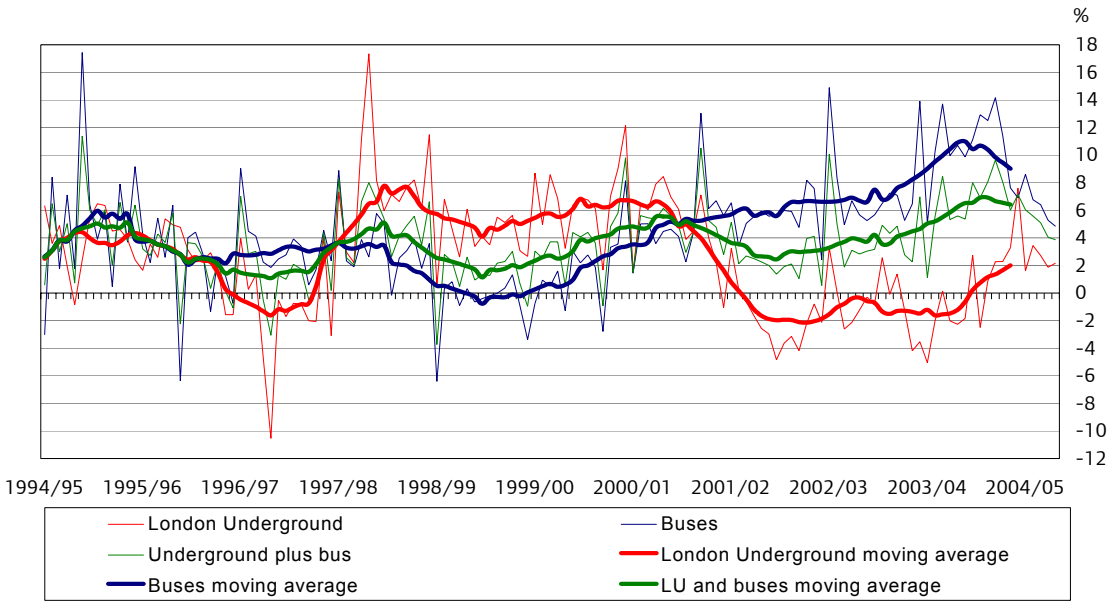
Further evidence that London is expanding faster than the national average comes from the Royal Bank of Scotland's survey of London's economy released on 11 October

2004,[4] which states that business optimism is leading firms to hire staff at the fastest rate in a year. Its headline business activity index registered 58.2, up from 57.4 in August, while Britain's figure was 54.3. A figure above 50 indicates expansion.

Further evidence of a modest but consistent recovery comes from transport system use, which continues to grow faster than both GVA and employment. In recent periods the positive annual rate of growth in Underground passenger numbers has been sustained and the average rate of growth in bus passenger numbers, though declining, remains strong.

Chart 3.2: London transport usage

Annual percentage change in passengers using London Underground and buses



Source: Transport for London

Claimant count unemployment remains low at 3.4 per cent in September, ILO (International Labour Organisation) unemployment[5] has slightly increased from 6.8 per cent in the March to May period to 6.9 per cent in the June to August period, but is down from the 7.4 per cent recorded in the same three months last year.

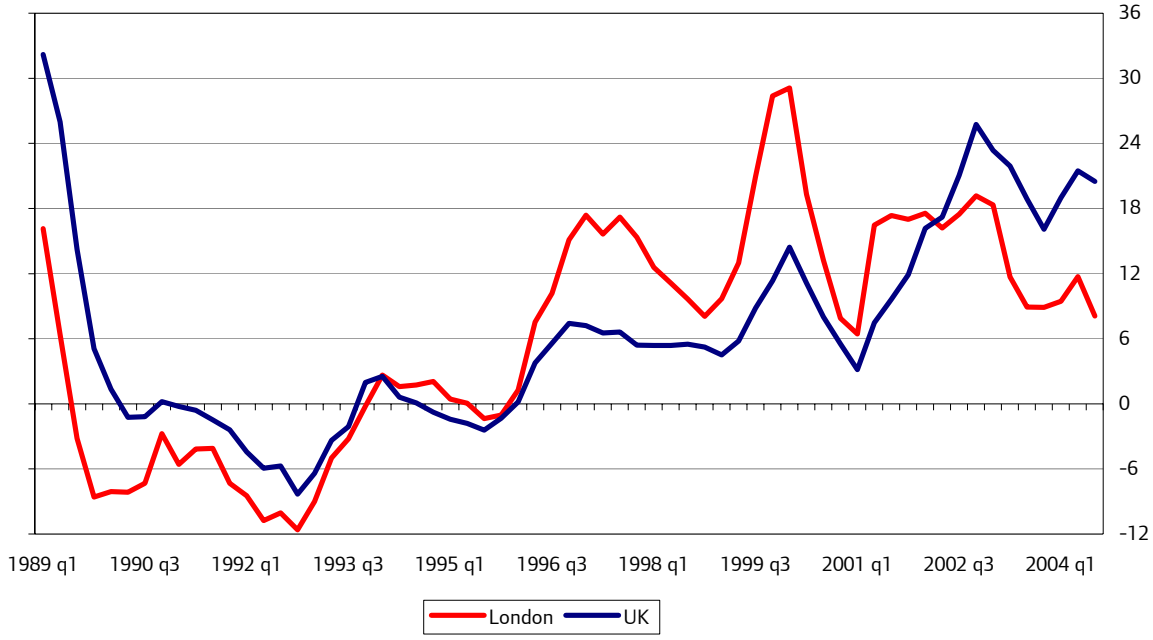
On the investment side, there is renewed demand in the London office market. Figures released on 8 October by Cushman and Wakefield Healey and Baker[6] show that City investment rose by 30 per cent in Q3, bringing the year's total to £4 billion and making it 'extremely likely' that the City market would beat last year's £4.4 billion turnover. Investment in the West End also rose, from £750 million to £872 million between Q2 and Q3. Nevertheless, the evidence of growth from actual occupancy is more patchy.

[4] Evening Standard, 11 October 2004
[5] Unemployment based on the definition produced by the ILO which is the generally accepted international standard.
[6] Financial Times, 8 October 2004

Take-up in central London is expected to be 12 million square feet (sq ft), compared with 9.1 million sq ft last year but this is not better than last decade's market average, according to a survey by CB Richard Ellis[7]. Q3 take-up in the West End fell from 1.2 million sq ft to 0.95 million sq ft, according to CB Richard Ellis.[8]

There are signs that inflationary pressures may be easing; London's housing market has responded more rapidly than the UK's to the Bank of England's sequence of interest rate rises, and London's house price inflation is now substantially below that of the UK, as it was during 1989 - 1992. New figures from the HBOS house price index show a decrease in UK house price inflation to 20.5 per cent in Q3 of 2004. London's house price inflation on this measure was 8.1 per cent which was 3.6 percentage points less than the previous quarter and less than half the UK's rate.

Chart 3.3: UK and London house prices
Year-on-year growth from quarterly figures, seasonally adjusted data



Source: HBoS Housing

Thus the overall pattern is of modest but stable economic recovery. Clearly, however, the future of London as a world city is shaped by its national and international environment, to which this document now turns.

World situation

World growth has strengthened in 2004. US and Japanese growth fell slightly in Q2 of 2004 but the previous quarter was a high point. A firmer European recovery is also evident and the Eurozone growth rate, though significantly lower than that of the US

[7] Financial Times, 8 October 2004
[8] Financial Times, 8 October 2004

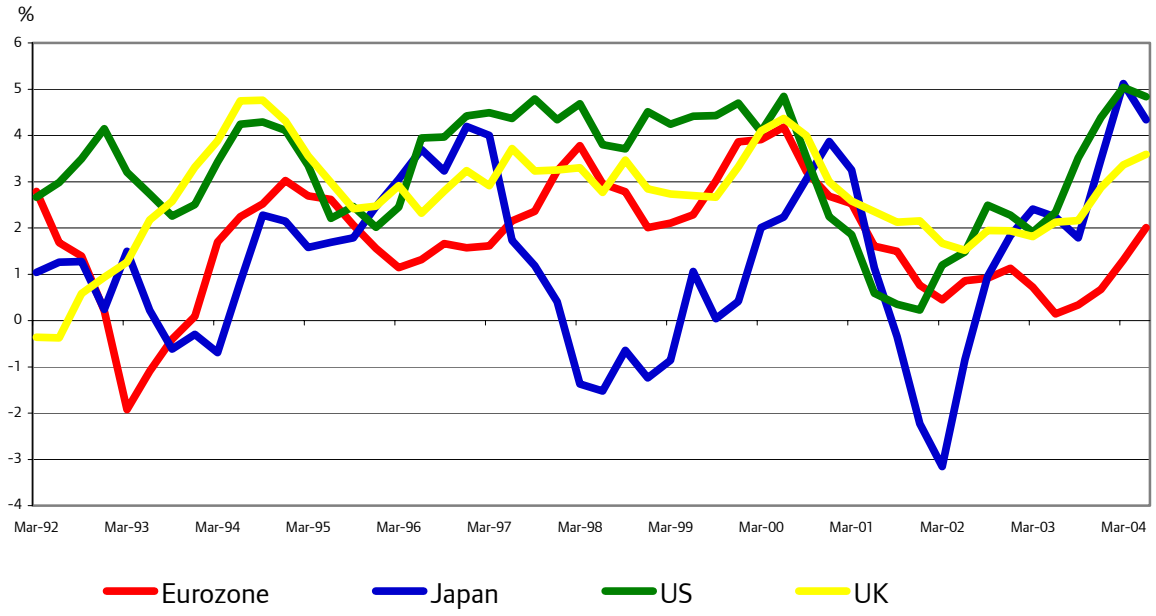
and Japan, has risen for four successive quarters. A number of key emerging markets have shown strong growth.

However in the early part of 2004 stock markets were unsure of the timing, speed and strength of the world recovery, and moved downwards between February and August except for South-East Asia. At the time of writing a recovery has begun especially in the London and Asian markets, but has not continued for long enough to confirm a return to the generalised recovery in stock markets which began in the summer of 2003.

The International Monetary Fund's (IMF) *Financial Stability Report* notes that readjustments in financial markets have been in part provoked by a sequence of staged interest rate rises in some of the major economies, as investors adjusted their expectations of how quickly, and how high, interest rates would rise. The report also expressed concern at commercial and other imbalances in the world economy. The underlying evolution of growth and investment in the world economy are critical to London's future.

Global economic upswing continues

Chart 3.4: Growth of GDP, constant 1995 prices



Source: Ecowin and GLA Economics

The evidence of renewed world growth is strong. In Q1 of 2004 both US and Japanese growth rates, when compared with the same quarter of the previous year, were higher than at any point in the last ten years. Growth, even in the Eurozone, which lags farthest behind world trends, has risen for four consecutive quarters. Large emerging markets are performing particularly strongly. Compared with the same quarter last year,

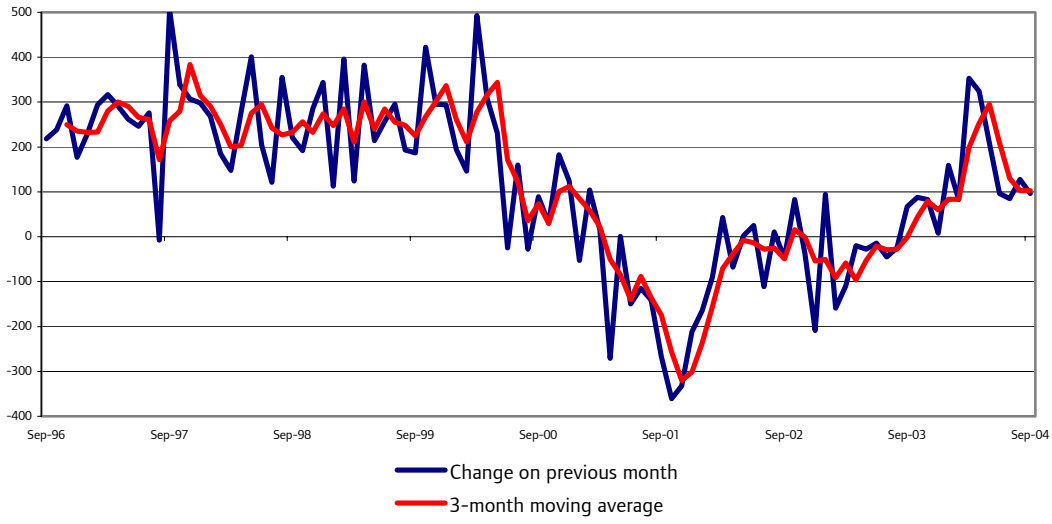
in Q2 of this year China grew at 9.7 per cent, Brazil at 5.7 per cent, Russia at 7.4 per cent and India at 7.4 per cent.

Some doubts have been raised about the real extent of the growth and Q2 of 2004 did see a mild downturn in Japanese and US growth rates. However, this still leaves the growth rates of these economies at high levels relative to those achieved in recent years.

New Japanese figures show growth in Q2 at 0.3 per cent following two quarters of exceptionally strong growth of 3.4 percent in total. Persistent deflation remains a problem; since the start of 1993 this has averaged around –0.2 per cent on an annual basis, encouraging people to hold rather than spend money and other liquid assets.

For technical reasons deflation makes estimates of short-term real growth less reliable, and Japanese quarterly growth rates have recently been volatile. Hence it is probably better to look at annual growth rates and not react too much to one quarter's growth rate. On this basis, Japan's Q2 annual growth at 4.5 per cent is higher than any reported figure for the last twelve years apart from the Q1 figure. It also follows two years of rising year-on-year Japanese growth rates that have been positive for five quarters.

Chart 3.5: US non-farm payroll job growth, seasonally adjusted (thousands)



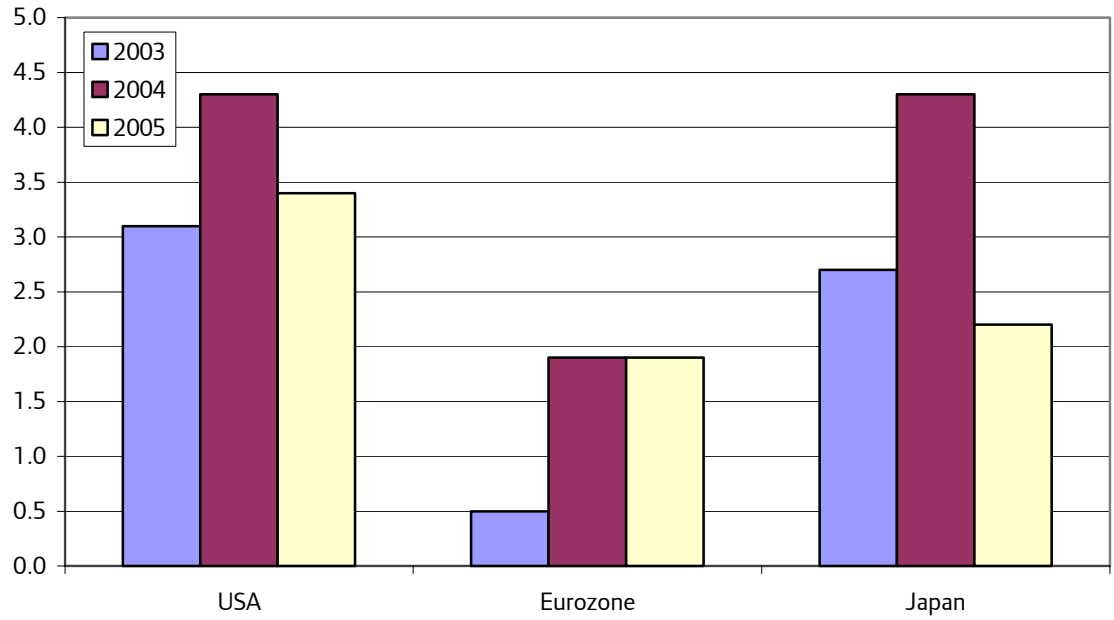
Source: Ecowin and GLA Economics

Doubt has arisen from US employment figures suggesting that the rise in output is overstated, as discussed in our spring forecast[9]. Non-farm payroll employment in the USA, seasonally adjusted, fell every month from May 2001 until the beginning of this year, covering the initial phase of the US recovery (see Chart 3.5). However initially in

[9] GLA, 'London's Economic Outlook: Spring 2004. The GLA's medium-term planning projections', 2004

2004 the trend was upward. August's figures showing 144,000 new jobs were widely read as a signal of relatively healthy growth although less than half of March's peak and certainly below the trend of the growth years 1996 - 2000. September's growth of 96,000 new jobs was disappointingly low and increases the possibility that the US recovery may have softened.

Chart 3.6: Forecast and recent annual growth in the main advanced economies
Per cent annual growth



Source: The Economist's survey of forecasters, 9 October 2004

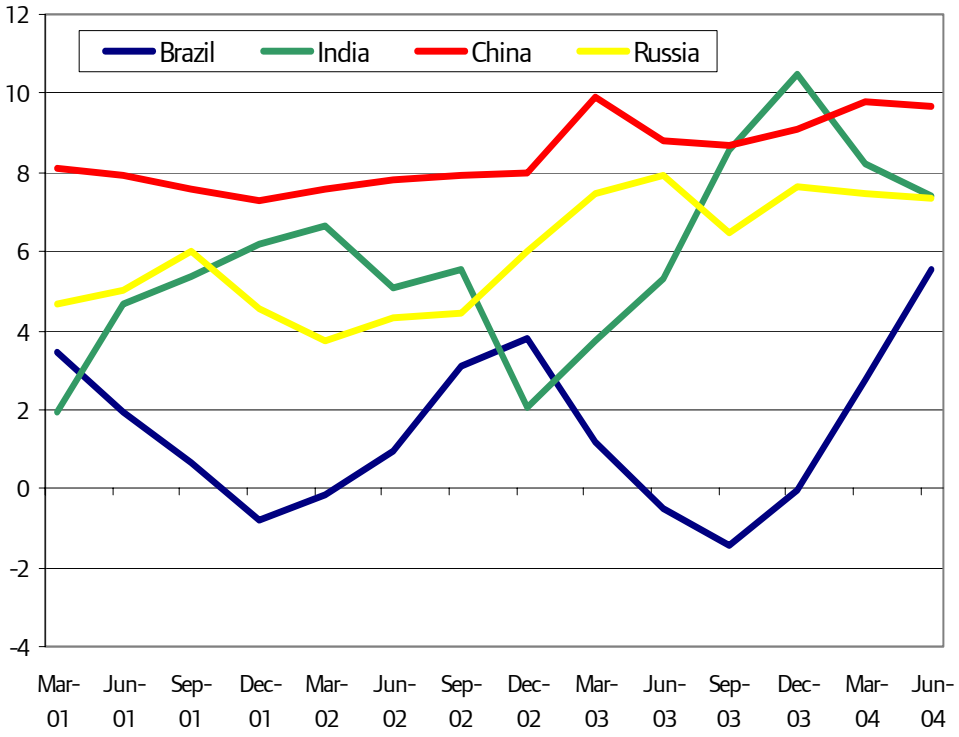
In the Eurozone growth has clearly been firming although it remains below trend and the consensus amongst forecasters[10] is for sub-trend growth this year and next, see Chart 3.6. Somewhat worrying are the recent comments by Guy Quaden, a European Central Bank (ECB) Governing Council member, that the ECB was 'particularly vigilant' to inflationary pressures. There is clearly a risk that inappropriately tight monetary policy will constrain future Eurozone growth.[11]

China is starting to slow down after a period of very rapid growth, following conscious action by the Chinese government to dampen the pace of investment in response to concerns that it is overstretching domestic energy and transport capacity, and driving up raw material prices[12]. Chinese growth nevertheless remains exceptional with the authorities reporting 9.7 per cent growth in industrial production in the first half of 2004.[13] Some commentators are concerned that China may experience a hard landing next year pointing to factors such as a sharp rise in corporate inventories, and a

[10] The Economist, 'Survey of forecasters', 10 September 2004
[11] Standard Chartered, Global Research, 8 September 2004
[12] Speech by Vice-Premier Huang-Ju to World Industrial and Commercial Organisations Summit, 20 September 2004. Please see: www.chinaview.cn.
[13] Speech by Vice-Premier Huang-Ju to World Industrial and Commercial Organisations Summit, 20 September 2004. Please see: www.chinaview.cn.

perception that investment has been expanding too rapidly, with recent very rapid growth being extrapolated by decision makers into the future. Morgan Stanley[14] for instance estimates that Chinese fixed investment may be 20 per cent above trend. However, the consensus amongst forecasters is still for rapid growth in 2005.

Chart 3.7: Real growth in key emerging markets
Percentage growth on same quarter in the previous year



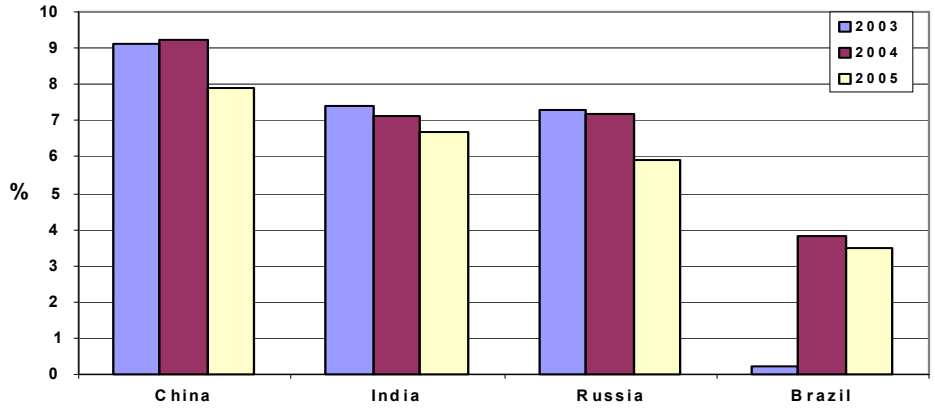
Source: Ecowin

Rising inflation is a concern in India, where it hit 8.2 per cent in the year to August, the highest for three-and-a-half years, suggesting that interest rates may soon rise. Even so, continued rapid economic growth is anticipated this year and next.

[14] Morgan Stanley Global Economic Forum

Chart 3.8: Forecast growth in the major emerging economies

Growth in the major emerging economies



Source: IMF and the Economist

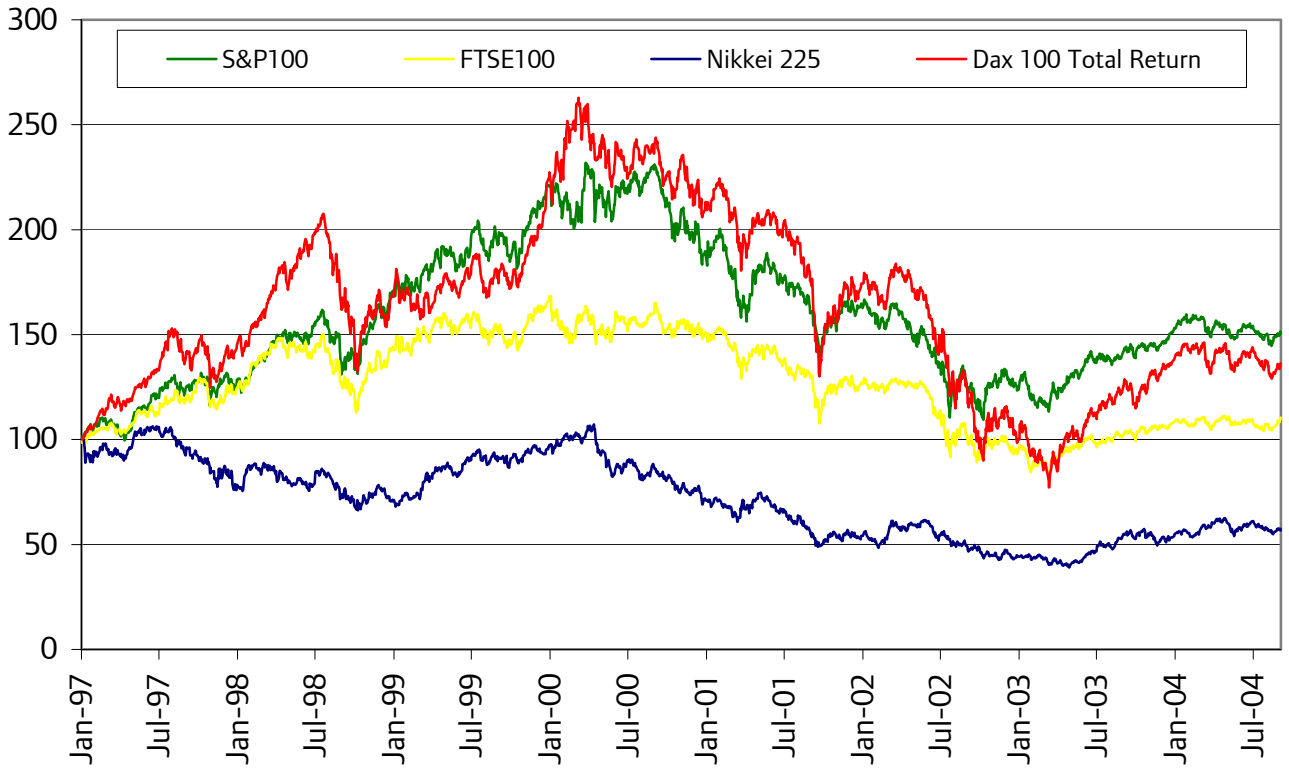
As a major oil producer, Russia's economic growth has been stimulated by high oil prices and also by low real interest rates. The first half of this year has seen strong growth in Brazil following a poor 2003. Data for the second quarter showed a broadening out of growth with exports, consumption and investment all contributing. The rise in investment spending is encouraging for the sustainability of future Brazilian growth. On the back of this upturn in activity some concerns have been raised about Brazilian inflation with Brazil's central bank increasing official interest rates by one quarter of a percentage point in September.

What is happening on world stock markets?

Reservations, discussed above, about the reliability of the most recent growth data highlight important uncertainties but the cumulative evidence of strong overall world growth is convincing. This makes it important to examine in more detail the contrast between this strong performance and that of major equities markets, which exhibited a downward movement between February and August having reached just over half the level of their previous high point, attained during 2000.

At the time of writing a recovery from the downward movement between February and August 2004 has begun, especially in the London and Asian markets, but has not yet continued for long enough to confirm a return to the upward trend of 2003.

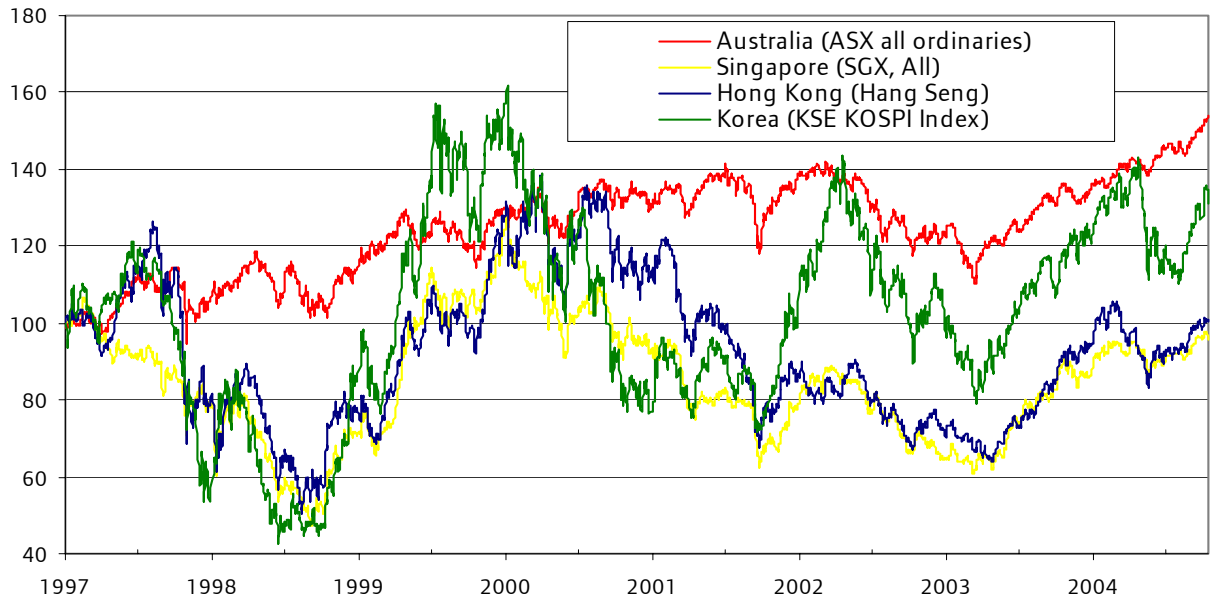
Chart 3.9: **Major country stock market indices**
Selected stock market indices (rebased to 1997=100)



Source: Ecowin

The downward trend in early to mid 2004 was widespread but not uniform. Australia maintained the upward trend established in January 2003 (see Chart 10) and other bellwether Asian markets (Singapore, Korea and Hong Kong) saw only a short and comparatively minor decline during the first half of 2004.

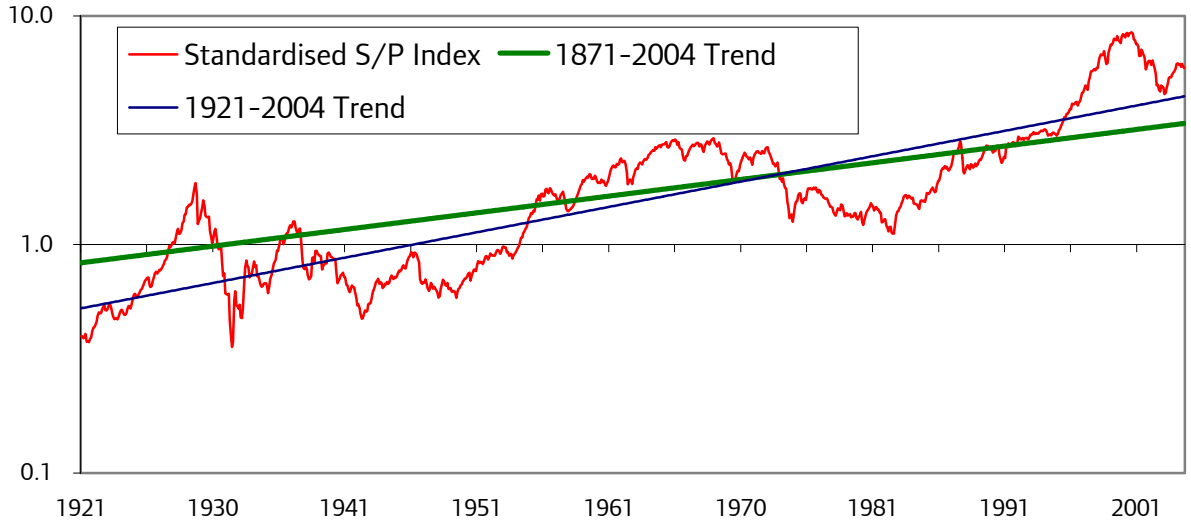
Chart 3.10: Selected South-East Asian stock markets



Source: Ecowin

There is also initial evidence of renewed growth beginning in early August, particularly in London markets which rose above their April levels in mid-September. Nevertheless, recent movements in world stock markets call for a more careful look.

Chart 3.11: 80-year and 130-year trends in real equity prices



Source: Ecowin

The clearest view is formed by considering the long term. Comparable and continuous price indices for US markets have been compiled going back to 1871. If we correct for the effect of inflation it can be seen that the run-up in US equity prices preceding the fall after 2000 was the highest in thirty years (see Chart 3.11). On the basis of a simple time trend since 1871, stock markets in 2000 look significantly overvalued. However, some caution is required about simple trend lines. Any trend line drawn through a cyclic process depends critically on the start and end point so if, for example, the trend line is redrawn starting from the trough of 1921, it has a steeper upward slope and the bubble of 2000, as the IMF terms it,[15] is less above trend[16]. It is possible both to argue that overvaluation is still significant or that most of it has disappeared.

With regard to the future, three possibilities present themselves:

1. The reversal of the upward movement of 2003, between February and August 2004, may have been be a temporary interruption reflecting geopolitical uncertainties such as concerns about Iraq, oil supplies, terrorism following the Madrid bombing, and uncertainty about how much and how quickly interest rates were expected to rise as monetary policy tightened across key economies. The recovery that began in August 2002 may resume once these are overcome.

[15] IMF, 'Global Financial Stability Report', September 2004, p1

[16] Further errors may arise because early or backdated stock indices can introduce a bias towards successful firms, suggesting that the early parts of the long-run data given above may overstate the index. In that case the 'true' value of the lower part of the curve before 1920 would be lower and the trend line correspondingly higher.

2. The economy is still experiencing an ongoing correction from the fundamentally overvalued stock markets of 2000, the depth of which is still not known.

3. The stock markets reflect an awareness of deeper problems in the world economy which have not yet fully expressed themselves in the Gross Domestic Product (GDP) growth figures, but which are expected to impact in the future, undermining future growth, profitability and stock market valuations.

Of these, the third possibility has unequivocally negative implications for growth but is an unlikely explanation as forecasters are not predicting a sudden dip in growth. Possibility the second option is more ambiguous. A market correction may be healthy in the medium to long run, since it can be expected to correct inefficiencies in financial markets which have been transmitting inaccurate information about the fundamentals of the world economy. A return of markets to their 'fair values' should in the longer term lead to more efficient investment decisions.

However in the short term any major downward market correction should be expected to depress growth. It may lead to companies going out of business through inability to attract capital, and force companies to write down capital losses against revenue, decreasing earnings in the short term. A reduction in equity prices would also increase the cost of capital borrowing and would hence reduce investment. This introduces a risk that the world economy would pass through a period of substantially slower investment growth, and therefore, slower GDP growth.

A substantial or prolonged downward market correction would also reduce consumer spending through wealth effects, particularly in countries such as the USA where large volumes of personal savings are tied up in equities.

A judgement between these three possibilities must await more data coming in and this important feature of the background to London's economic future needs to be carefully monitored at this time.

Is world growth sustainable?

A series of factors have been raised as possible causes of a slowdown. Concerns about oil prices have been in the headlines, however there are several reasons why these are expected to be less of a threat to world growth than they appeared to be in the 1970s (see 'The price of oil' box).

The two primary questions to consider are therefore:

1. Is the world economy investing at a sufficient rate to sustain the growth rates of the last two years?
2. Are there fundamental imbalances in the world economy, particularly those provoked by the ever-rising US current account and fiscal deficits, which will choke growth in the short to medium term?

The price of oil

The Brent Crude price of oil has more than doubled in the past five years and has risen nearly 50 per cent in the past year to around $50 per barrel by mid-October 2004.

High oil prices worry analysts because of history. They trebled during 1973 - 1974 and UK inflation rose to 26 per cent annually, followed by a deep recession. In 1979 - 1980 they doubled, and this time inflation reached 22 per cent followed by another recession. So why might things be different this time?

Firstly, the price is lower in real terms than it was in these two episodes. It would have to rise to $80 per barrel to reach the equivalent of its level in the early 1980s. Moreover the price hike is small compared with previous shocks. Prices are now around 30 per cent higher than the average of year preceding the price rise. In 1974 the comparable rise was around 250 per cent and in 1980 it was around 180 per cent.

Secondly advanced countries, including the UK, are becoming less energy-intensive. Investment bankers Morgan Stanley estimate that energy consumption as a proportion of GDP in the USA has fallen by 46 per cent in the last thirty years. The Bank of England's August 2004 inflation report estimated that OECD energy intensity has fallen to around half the levels of the early 1970s.

However, prices have still risen for various reasons including:

- Exceptionally rapid growth of investment in countries such as China is creating a new rising component of demand.
- General geopolitical uncertainty as oil producers tend to be located in political hotspots such as the Middle East, Venezuela and Russia.
- Supply is tight in relation to demand. World supply is at around 99 per cent of capacity. The International Energy Authority in its August oil market outlook forecast supply this year at 83.0 million barrels per day (mbpd) and demand at 81.4 mbpd. Under-investment in production, transportation, refinery and storage capacity creates bottlenecks and even if they have long-term reserves, suppliers cannot immediately respond to sharp increases in demand.
- Some demand is speculative. Companies expect the price to rise, and buy larger than normal amounts ahead of time as a precaution, or in the hope of reselling later at a profit. Such speculative demand is anticipated to dissipate as geo-political uncertainty reduces.

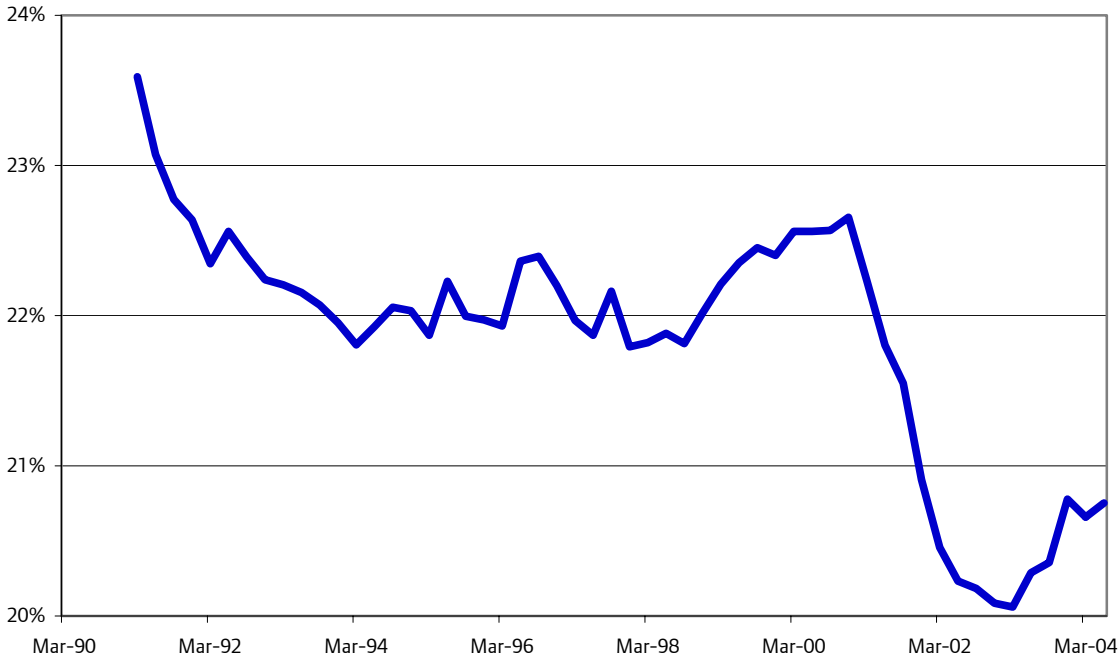
The Energy Information Administration, the statistical arm of the US Energy Department, has predicted that oil prices will remain above $40 until the end of 2005. What effect might this have on the world and UK economies? The IMF in its September *World Economic Outlook* calculates that if oil prices around $38 were sustained, this would add $107 billion to the trade deficits of the advanced countries and reduce their GDP growth by 0.3 per cent in 2005. If permanent, it calculates that this would reduce world output by approximately half a percentage point. While it makes no separate calculation of this particular scenario's impact on emerging market economies as a whole, it calculates that a one-year sustained increase of $5 per barrel would reduce the GDP growth rate of China by 0.4 per cent and India by 0.5 per cent.

Is the world investing enough?

In the advanced economies investment in nominal terms, as a proportion of GDP, is at a low level relative to the 1990s, despite a small, recent upturn, as Chart 3.12 shows. This is, however, in contrast with the movement of real investment. As Chart 3.13 shows, the growth rate of real investment has been positive and rising since March 2002 for all major regions except the Eurozone. In the Eurozone itself, after a fairly long period in which investment actually declined, the growth rate turned positive in March of this year.

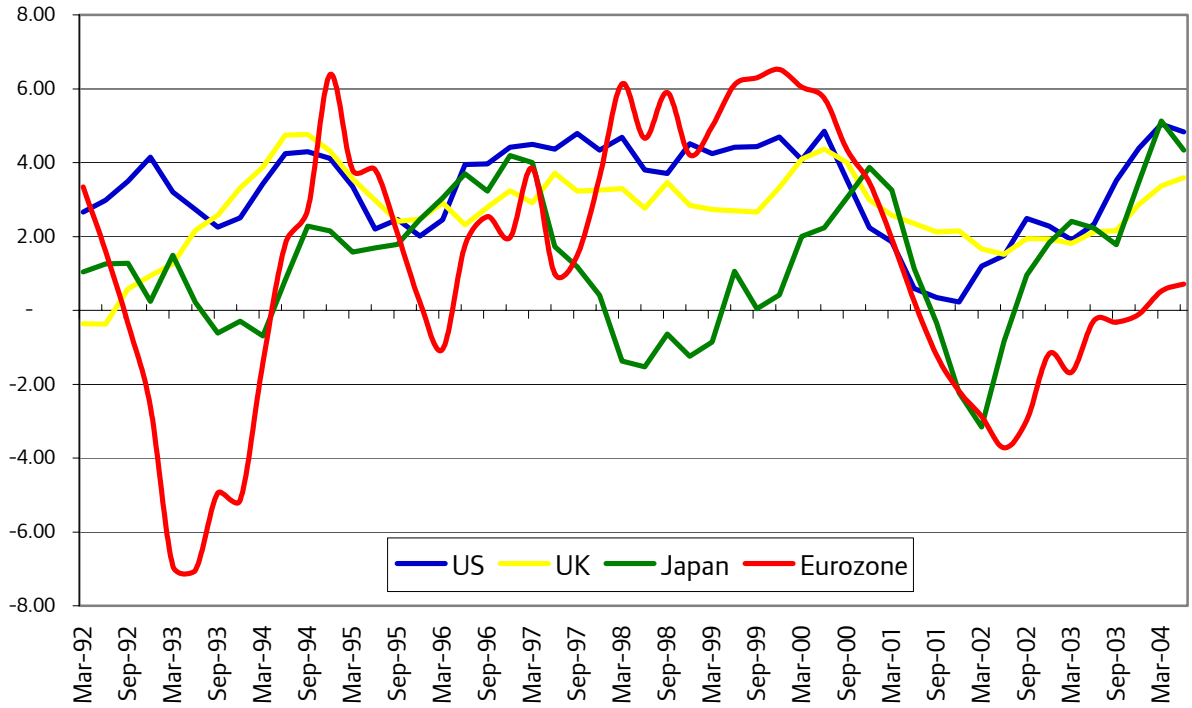
This means that in the advanced countries nominal investment as a percentage of GDP has been falling, while rising in constant price terms. As Chart 3.14 shows, the prices of investment goods are falling relative to the prices of goods and services generally. This trend began in 1980; prices of investment goods in the USA have been almost flat since that time and have fallen significantly relative to the price of goods and services in general. Similar trends are apparent to varying degrees in all Western economies.

Chart 3.12: Share of investment in GDP for the big six: France, Germany, Italy, UK, US and Japan



Source: Ecowin

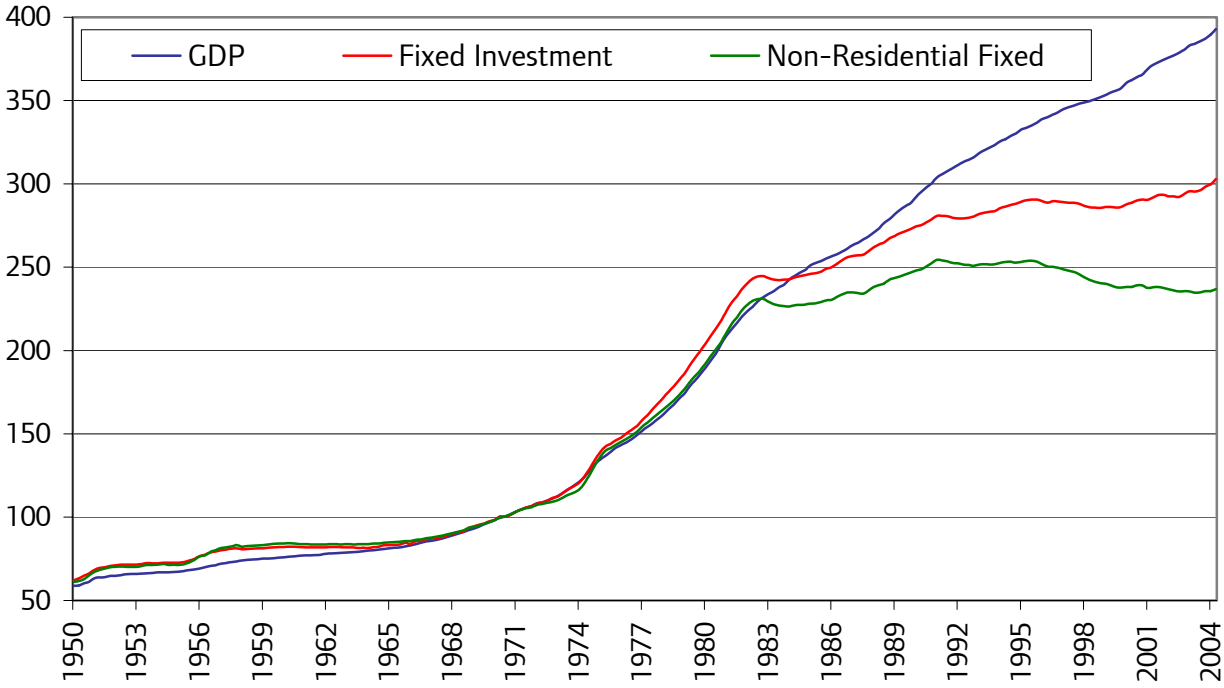
Chart 3.13: Growth rate of investment in constant prices



Source: Ecowin

The falling price of investment goods relative to output generally means that the productive capacity that the advanced countries can obtain for a given nominal investment, as a percentage of GDP, is rising. Given this there is less of a need to worry about nominal investment falling as a share of GDP. So this higher level of real investment provides more comfort that, should the world economy continue to expand, capacity is likely to be available to meet rising demand. The past has seen prolonged, benign expansions during which investment in new technologies has helped to sustain economic growth. This occurred for example with steel and electricity in the US during the so-called 'Belle Époque' of 1893 - 1914 and again with road and air transport during the 'Golden Age' of 1947 - 1968.

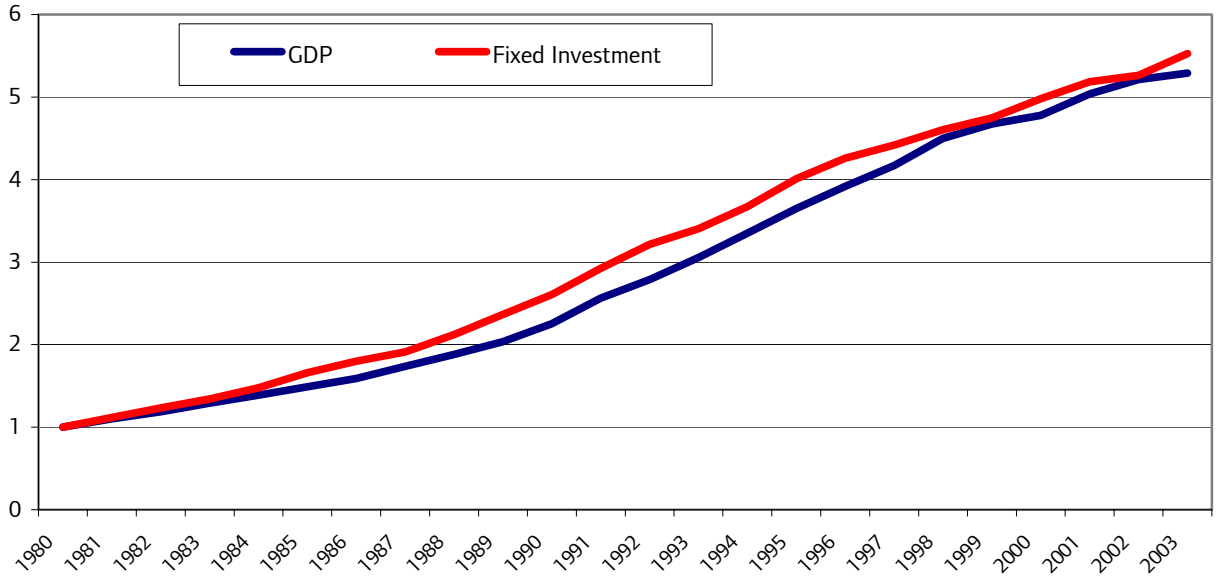
Chart 3.14: Price indices for investment goods and GDP in the USA



Source: Ecowin and EIU

In contrast with the advanced countries, the price of investment goods in emerging markets does not appear to be falling, relative to GDP. As Chart 3.15 shows, investment goods in India – a key representative of an emerging economy – have risen in line with GDP.

Chart 3.15: Implicit deflators for GDP and investment goods, India



Source: Ecowin and EIU

This may reflect differences in the type of investment good purchased in emerging markets – more skewed towards traditional building and machinery than electronic IT equipment. So the benefit of falling investment costs appears to be restricted to the world's advanced economies.

However investment is also a source of nominal aggregate demand and, at least during the investment-led expansion of 1947 - 1968, was substantively higher as a proportion of GDP than it is now. If nominal spending on investment does not recover to the demand levels seen in the late 1990s, and if at the same time consumer and government spending growth lessen, this increases the short-term risk of a shortage of demand in the world's advanced economies.

In such circumstances, the importance of macroeconomic policy having scope to stimulate demand becomes critical. Substantial fiscal deficits across the leading advanced world economies mean there is little if any scope for further fiscal policy action to stimulate demand. However both the Bank of England and, to a lesser extent, the ECB would have scope to cut interest rates in such circumstances. US federal rates stand at just 1.75 per cent, but the Federal Reserve Bank has signalled a clear policy of seeking to gradually raise interest rates, which should provide scope for interest rates to be cut in the future, as long as the timing of any slowdown is after the US has restored interest rates to more normal levels. Japan stands out as the economy that has no scope to cut interest rates, as they are currently close to zero. However even here, and in other economies if policies other than lower interest rates were required, the option exists of directly pumping liquidity into the system to stimulate demand.

Medium-term risks: Is the expansion geographically balanced?

The focus of concerns about medium-term risks is the potentially unbalanced character of world growth. Attention has already been drawn to the sclerotic rate of Eurozone growth. The second major risk relates to the US's current account, and related fiscal deficit, reflected in the stress laid by the IMF's *Financial Stability Report* on the dangers of imbalances in world trade. The third issue is the uneven distribution of world investment.

The twin deficits and the dollar's future

The financial position of the US private sector has moved from a surplus of six per cent of GDP in 1980 to a deficit of six per cent in 2003[17]. The US current account deficit has expanded to 5.7 per cent of GDP in Q2 of 2004, while a fiscal surplus of 1.5 per cent of GDP in Q2 of 2001 has moved to a fiscal deficit of 2.6 per cent of GDP in Q2 of 2004.

Currently the world, in particular the Japanese, German and some emerging market economies, appears willing to fund the US current account deficit. Net inflows of capital continue from both private sector investors and official sources. However, a sudden change in investor sentiment would remove such inflows and send the US dollar down

[17] Martin Wolf, 'America is now on the comfortable path to ruin', Financial Times, 14 August 2004

with a jolt. A falling US dollar will reduce the value of dollar-denominated assets in other currencies. This could provoke a rapid withdrawal of capital from US financial markets leading to a fall in the value of these markets. This would have a direct impact on the wealth of US consumers and a negative impact on US growth. In addition, the UK and other stock markets could be expected to follow any declines seen on Wall Street. This possibility remains a substantial risk to the near term global economic outlook.

Eurosclerosis

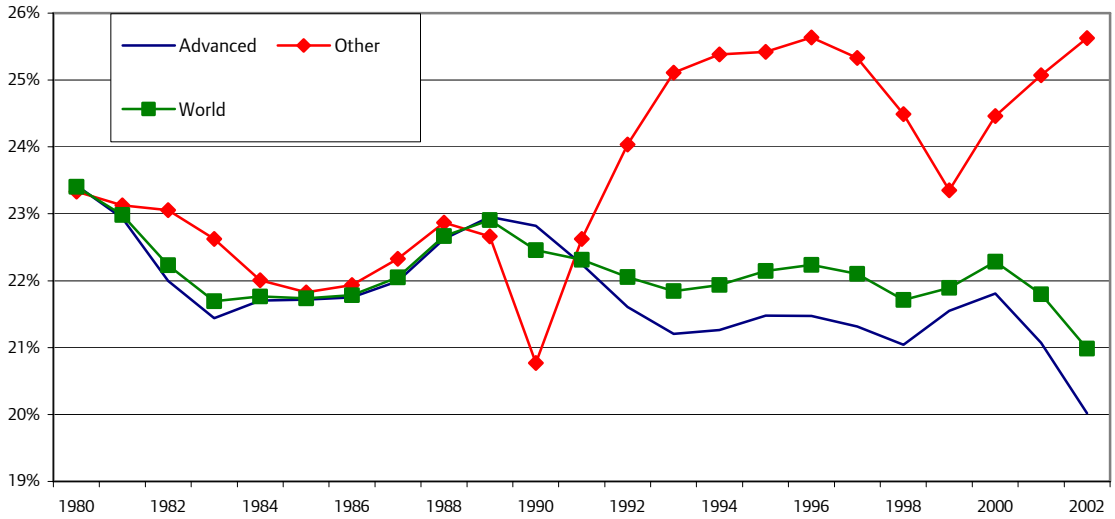
An additional reason for world current account imbalances is the sclerosis (inflexible performance) of the Eurozone economies, which is holding back demand for US exports. As recently noted by the Chancellor of the Exchequer, Eurozone economies need to spur their efforts to reform their supply sides which would allow them to sustain higher growth in the medium and longer term.

Where is investment taking place?

A powerhouse of investment growth is the large surge outside the advanced countries, of which China accounts for nearly half. However spending on investment in the advanced countries is rising substantially more slowly and is three to four percentage points below the average for the decade prior to 2002.

However recent trends in investment for the world as a whole depend on how you combine investment in the advanced and emerging economies. Chart 3.16 below shows investment as a share of GDP converted into a common currency using market exchange rates. On this measure the overall outturn is a decline in the world investment rate.

Chart 3.16: Investment as share of GDP for the advanced countries and the rest of the world



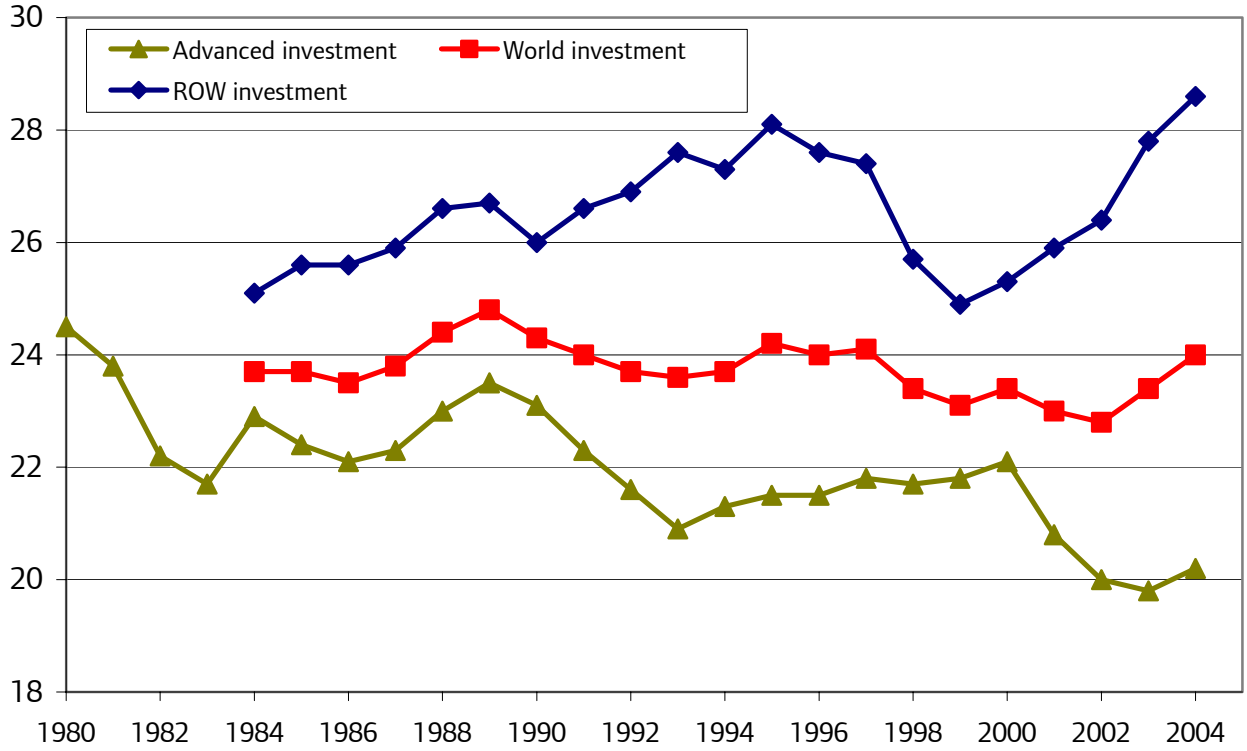
Source: IMF, Institute of Fiscal Studies and GLA Economics

However, if the contribution of emerging market investment to GDP is calculated at Purchasing Power Parity (PPP) exchange rates instead of market exchange rates, the outcome is a rise in world investment as a percentage of GDP (see Chart 3.17). PPPs were developed because market exchange rates can deviate substantially for sustained periods from their long-run values. In the long run, exchange rates should move towards rates that would equalise the prices of an identical basket of goods and services in any two countries. Prices tend to be lower in emerging economies, so £1 of spending or production in India or China, for example, is worth a lot more than £1 of spending or production in the UK. PPP measures take account of these price differences.

If wages and prices in emerging market countries are lower across the board then this should also presumably be true for domestically produced capital goods. If so, then the price of capital goods in developing economies relative to advanced economies would also be much lower at market exchange rates, and PPPs would be a more appropriate conversion mechanism. Additionally, if it is accepted that output at current exchange rates undervalues GDP in developing countries then the value of investment as a percentage of GDP would also be undervalued if converted at market exchange rates.

However when emerging markets import capital goods from the advanced economies they have to buy these in prices denominated in dollars, euros or yen. Given low exchange rates relative to PPPs, the price of imported capital will then be much higher than domestic capital and this would argue for conversion at market exchange rates.

Chart 3.17: World investment as a share of GDP in PPP terms

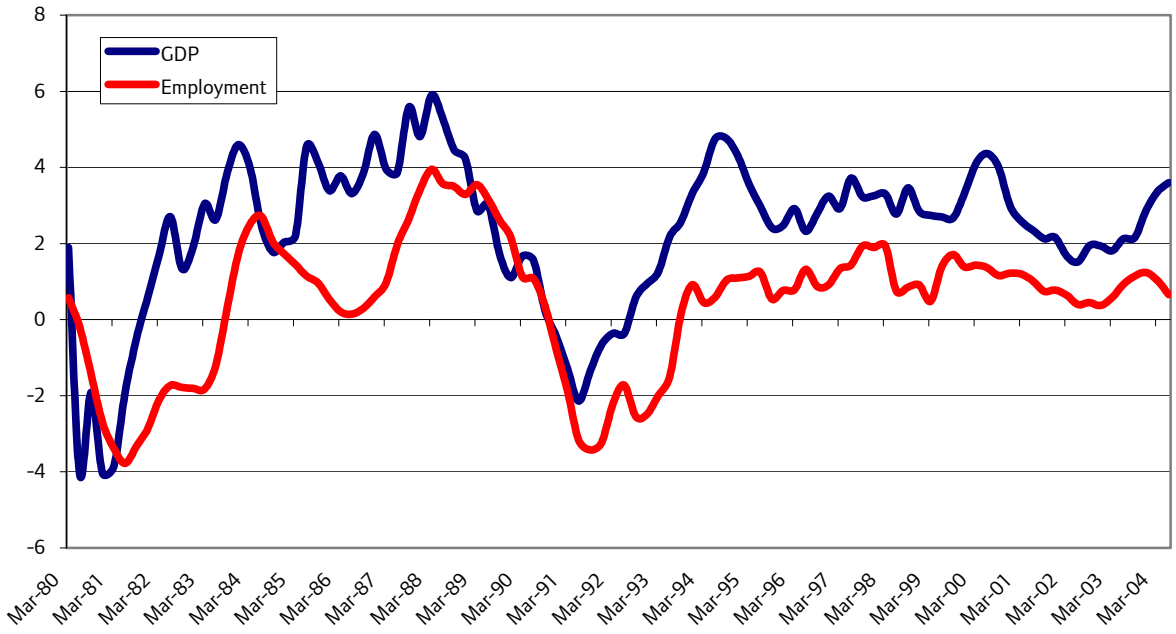


Source: IMF World Economic Outlook and GLA Economics

As the PPP and market exchange rate conversion show different trends in world investment growth, it is not possible to definitively state what is actually happening with world investment nor, if these trends persist, whether world growth in the medium term will be held back by a lack of investment and capacity.

In the UK expansion continues

Chart 3.18: UK GDP and employment growth rates



Source: Ecowin

The UK economy's performance has continued to strengthen. GDP has entered its 48th consecutive quarter of positive growth reaching 3.6 per cent growth in Q2 of 2004 compared with the previous year, and rising by 0.9 per cent in Q2 compared with Q1. The Treasury, in their 2004 budget, forecast growth of 3 to 3½ per cent during 2004 and 2005, slowing to 2½ to 3 per cent in 2006, while the average of the most recent review of independent forecasters is for growth of 3.4 per cent in 2004 falling to 2.6 per cent in 2005. The National Institute of Economic and Social Research (NIESR) estimates that growth in Q3 of 2004 was 0.4 per cent[18]. Their growth indicator has been an accurate predictor of actual growth, and on the basis of it and actual growth for the first half of 2004, the UK is looking at growth of 3 to 3½ per cent this year. The OECD's June *Economic Outlook* predicted growth in 2004 of 3.1 per cent for the UK followed by 2.7 per cent growth in 2005, and the IMF's September *World Economic Outlook* predicts 3.4 per cent in 2004 followed by 2.5 per cent in 2005. Thus, although growth is comfortably positive, a return to the high growth rates of the late 1990s is not generally expected. This could well reflect a period of more stable growth with less swing above and below the trend.

[18] NIESR estimates of monthly GDP, 6 October 2004

Demand and spending

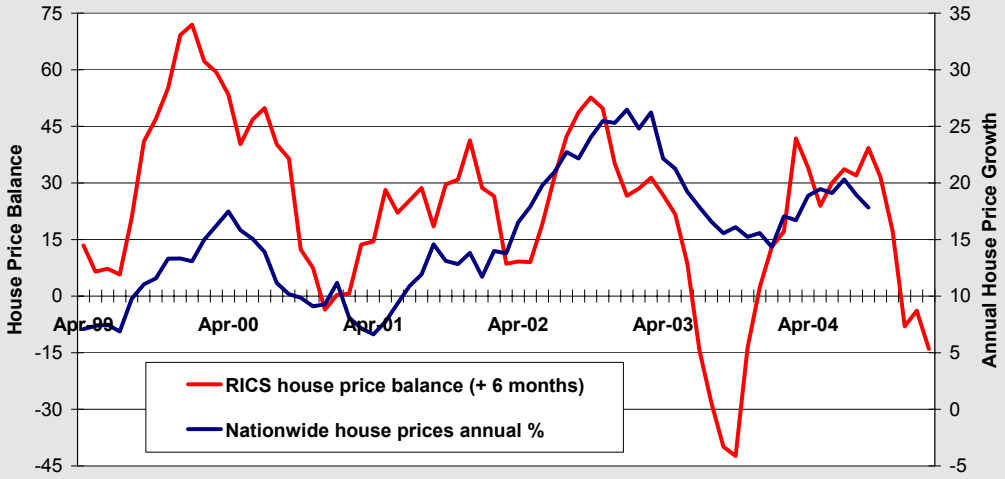
The sequence of carefully managed interest rate rises, coupled with the initial slowdown in housing markets is widely expected to reduce consumer spending. There are early indications that this is indeed happening. According to the latest British Retail Consortium and Confederation of British Industry (CBI) retail surveys increasing interest rates and the cool summer weather have taken their toll on UK retail sales. Despite remaining just positive the sales performance declined sharply in the CBI survey and was the slowest since March 2003. Official figures for August were stronger than the survey evidence had suggested with the seasonally adjusted volume of retail sales 0.6 per cent higher than for July and 6.5 per cent higher than a year ago. However, this data does provide evidence of a slowdown in the underlying growth rate with the seasonally adjusted volume of retail sales in the three months ending August (at 1.4 per cent) the slowest growth since the three months ending September 2003.

GLA Economics anticipates a gradual slowing of the housing market and consumers' expenditure (see box entitled *the housing marketing and consumption*).

The housing market and consumption

Future house prices are one of the major risk factors affecting the UK's economic outlook. Recent figures suggest that the housing market is starting to slow. The British Bankers' Association (BBA) reported that the (seasonally adjusted) rise in net lending of £4.4 billion in August was the lowest growth since June 2002 and well down on the average of £5.6 billion of the previous half year. BBA figures also show that loan approvals for house purchases in both July and August were more than 20 per cent down on the same months in 2003. A similar picture emerges from official Bank of England statistics. In July and August approvals for housing loans stood at 100,000 and 96,000 respectively down by around 20 per cent on the average rate of approvals (124,000) for the first five months of 2004. Mortgage lending growth in August was £8.4 billion, nearly ten per cent down from the first six months of 2004's average of £9.3 billion. House prices also appear to be slowing. The Nationwide Building Society reported that house prices rose by just 0.3 per cent in August and September combined while the Halifax reported an increase of just 0.8 per cent over the same two months combined. Both lenders reported a slowdown in annual house price inflation to September. Halifax to 19.8 per cent and Nationwide to 17.8 per cent. On the basis of the Royal Institution of Chartered Surveyors (RICS) house price balance, this deceleration looks set to continue (see Chart 3.19).

Chart 3.19: Outlook for house prices



Source: RICS and Nationwide

But how fast and how far could house prices fall and what could be the impact of such a fall on consumers' expenditure and economic growth? Many analysts believe that UK house prices have risen to levels that cannot be wholly justified by economic fundamentals.

Three types of house price valuation ratios are commonly considered in order to assess whether or not the housing market is overheating:

- House price to income as an indicator of affordability.
- Mortgage payment to income ratios as an indicator of affordability.
- House price to rents as an indicator of the relative cost of owner occupation compared to renting and as an indicator of the return for buy to let investors.

PricewaterhouseCoopers (PwC) report that in 2003 the ratio of house prices to average household disposable income was around 33 per cent above its long-term average, similar to the peak of 1989 which saw prices 35 per cent above average[19]. Given that in the last year house prices have continued to grow at double digit rates it is very likely that UK house price to income ratios are at an all time high. Similarly, depending on the measure of rents used the house price to rents ratio in 2003 was 20 to 40 per cent above its long run average[18]. In contrast, the ratio of average mortgage payments to average earnings is currently low relative to the peak of the late 1980s and early 1990s because of low nominal interest rates[18]. However nominal interest rates have come down in part just because of lower inflation. Real interest rates are lower than they were at the start of the 1990s but the decline is much less than that for nominal interest rates. Over the lifetime of a mortgage it is real rather than nominal interest rates that matter. Lower nominal rates and lower inflation will tend

[19] PricewaterhouseCoopers, 'UK Economic Outlook', July 2004

to alter the time profile of mortgage repayments with more of the burden falling later on in the mortgage's life as lower inflation erodes less of the real value of the initial mortgage's capital value. Hence it seems unlikely that the relatively small decline in real interest rates could justify the large increases in house prices that the UK has experienced in recent years.

Goldman Sachs, using a formal economic model of house prices, has recently estimated that UK house prices are currently overvalued by around 15 per cent[20]. Similarly, the IMF analysing house price growth between 1997 and 2003 has concluded that 'the sharp increase in prices … cannot be explained by movements in fundamentals alone'[21]. Looking at their results suggests that UK house prices grew by ten to 15 per cent more than their model predicted over this period. In contrast, PwC assessed house prices by considering the risk premium implied by the level of house prices relative to the return that can be obtained from a risk free investment such as government bonds. PwC concluded that this risk premium was about equal to its long run average value suggesting that house prices are not overvalued.[22]

It is very difficult to be precise about either the extent to which UK house prices are overvalued or how far they could fall given that historically a period of overvaluation has tended to be followed by a period of undervaluation. However given the research reported above and in order to illustrate the potential size of any impact let us assume that house prices could from peak to trough fall by 15 to 25 per cent. Table 3.1 illustrates the impact on consumption that such falls could have based on research by Goldman Sachs, OECD and HM Treasury.

Table 3.1: Impact of consumption

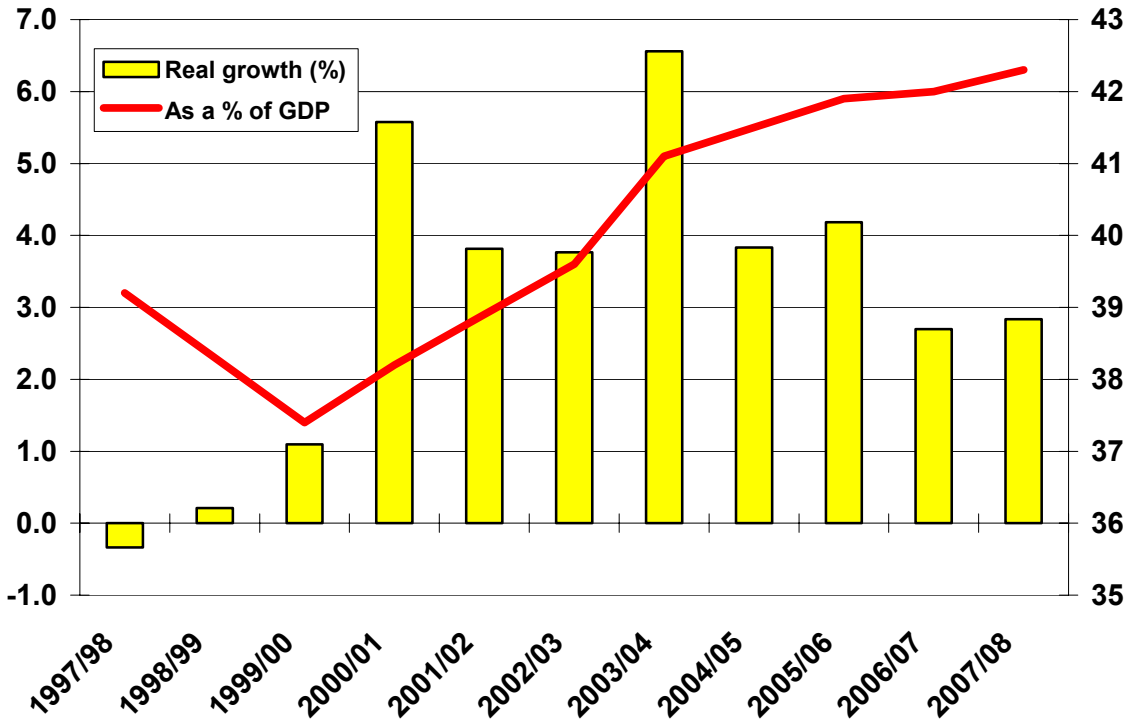
	Real House Price Fall of 15%	Real House Price Fall of 25%
Goldman Sachs[23]	-0.6%	-1.0%
OECD[24]	-1.1%	-1.8%
HM Treasury[25]	-1.5%	-2.5%

[20] M Buchanan and T Fiotakis, 'House Prices: A Threat to global recovery or part of the necessary rebalancing?', Goldman Sachs Global Economics Paper No. 114, 2004
[21] IMF, 'World Economic Outlook', September 2004
[22] IMF, 'Global Financial Stability Report', September 2004, p1
[23] Based on M Buchanan and T Fiotakis, 'House Prices: A threat to global recovery or part of the necessary rebalancing?', Goldman Sachs Global Economics Paper No. 114, 2004
[24] Based on OECD, 'Economic Outlook', June 2004
[25] Based on HM Treasury, 'Housing, consumption and EMU', June 2003

Now the key question to ask is over what period could such a reduction in house prices and consumption occur? A reduction in consumption of 2.5 per cent concentrated in one year would have a dramatic impact on the UK economy, but such a reduction spread over a number of years would be much more modest. The absence of a trigger in the form of much higher interest rates and/or rising unemployment that has in the past been required to generate a housing market 'crash' suggests that the most likely outcome is for the housing market to cool down gradually. This suggests that the most likely outcome is for consumption to slow gradually.

Government spending intentions have been spelled out in the 2004 Spending Review (SR2004) and were analysed in *London's Economic Today* for July 2004. As Chart 3.20 shows, 2003/04 was a peak year in government spending growth. In 2004/05, which includes the present period, this growth rate is projected to slow to 3.8 per cent followed by 4.2 per cent in 2005/06. This nevertheless means government spending will be rising relatively rapidly and contributing to GDP growth. From 2006/07 a marked slowdown in the growth of government spending is planned.

Chart 3.20: Real growth in government spending (left axis) and government spending as a percent of GDP (right axis)



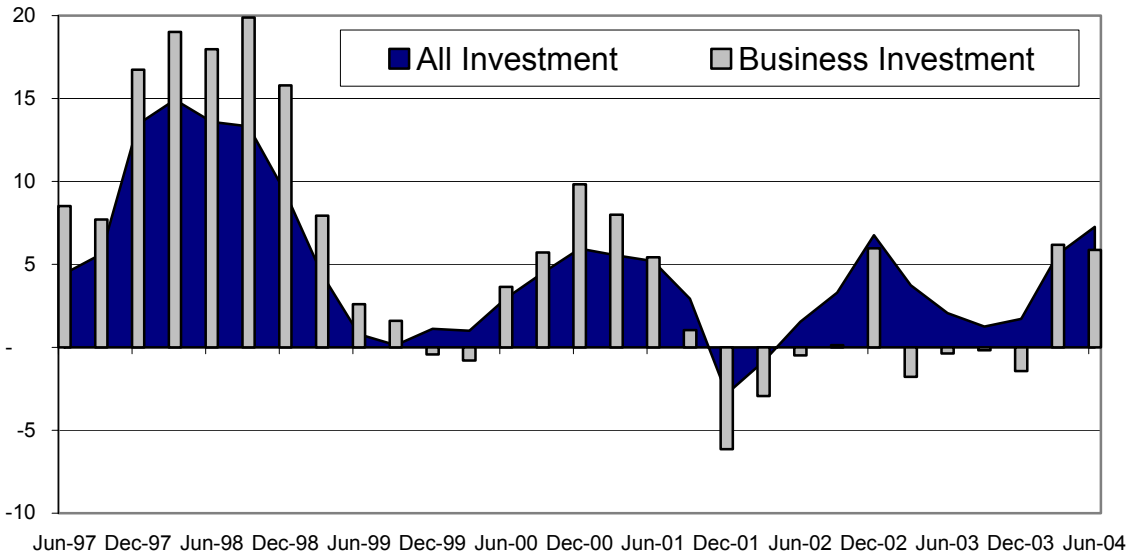
Source: HM Treasury and GLA Economics

Profitability and investment

Company profitability is recovering from the low points that were reached in 2001 for service industries and 2002 for manufacturing. The net rate of return of UK private non-financial corporations in Q2 of 2004 was 13.8 per cent, 0.8 per cent higher than the average for 2003 and the highest since 1999. The return to profitability is having some effect on business investment which grew in Q2 of 2004 at 5.9 per cent compared with the same quarter last year. Significantly, business investment growth has been positive for the last two quarters, the first time since June 2001 and a change from the pattern of the previous two years in which residential investment dominated growth.

Chart 3.21: Growth rates of UK investment

Real growth rate of UK investment on same quarter of previous year

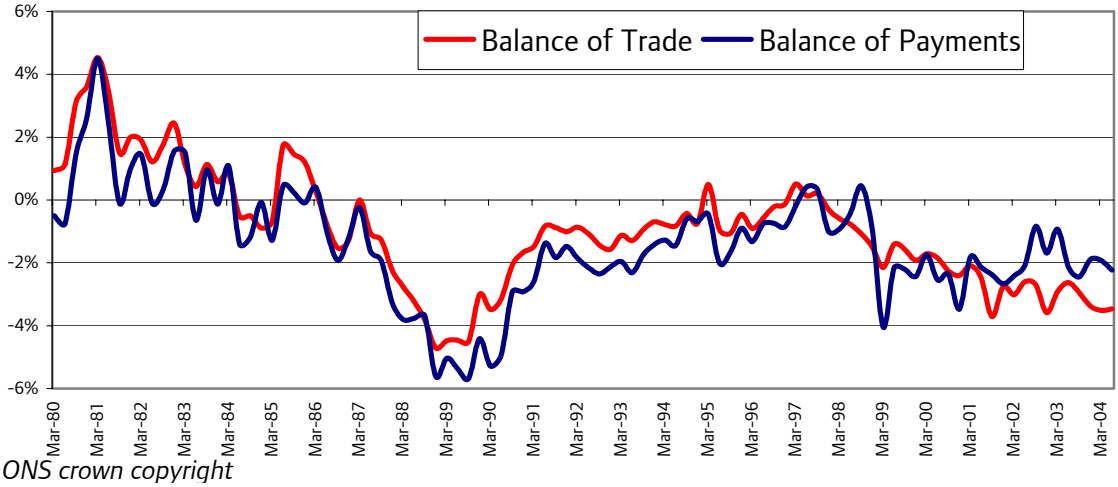


Source: ONS Crown Copyright

Balance of trade

Chart 3.22: UK balance of trade and balance of payments

Growth on same quarter last year



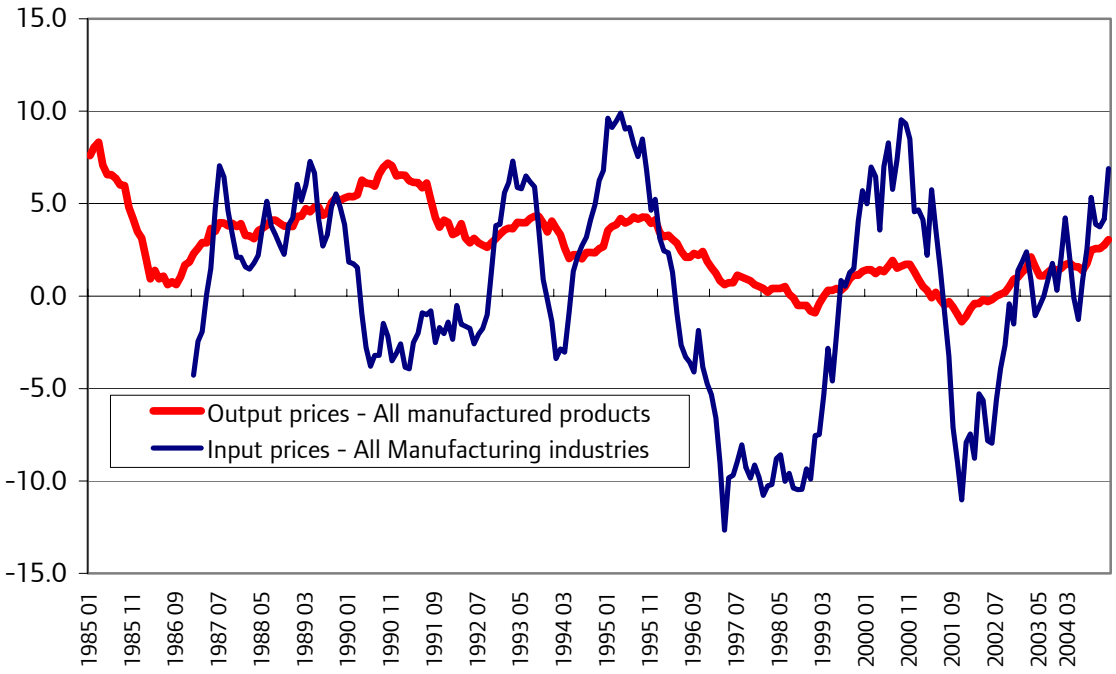
Source: ONS crown copyright

In the late 1980s the UK trade deficit was a cause for concern, at one point dipping towards five per cent of GDP. As Chart 3.22 shows, while the UK has been running a deficit in most quarters since 1988, as a proportion of GDP it has not risen to 1989 levels. It is also particularly important, in the case of the UK, to pay attention to the balance of payments which includes transfers (flows of interest, profits and other income from abroad). Since March 2001 the UK's balance on transfers has shown a significant surplus, which goes some way to offsetting the trade deficit. As can be seen, the balance of payments as a whole has been showing a deficit averaging two per cent over the last four years, showing no signs of dipping back to the levels of the late 1980s. Hence the UK's current account deficit remains manageable and is not considered a risk to the UK's economic outlook. In Q2 of 2004, annual UK export growth stood at 2.4 per cent and with the expectation of a continuing world recovery, export growth should continue. However annual import growth stood at 6.1 per cent in this quarter meaning overall net trade continues to contribute negatively to UK output growth.

Inflation and prices

A gradual slowdown in the housing market and in consumers' expenditure alleviates some of the fears of a hard landing from house price growth that were expressed in the April 2004 issue of *London's Economic Outlook*. It has also reduced inflationary fears. Inflationary pressures are shown in Chart 3.23 which illustrates the underlying upward trend in both input and output prices of manufactured goods, a process which has been in place since April 2002. However these increases are from very low to only modest levels. Furthermore, manufactured goods prices are only a small component of overall inflation.

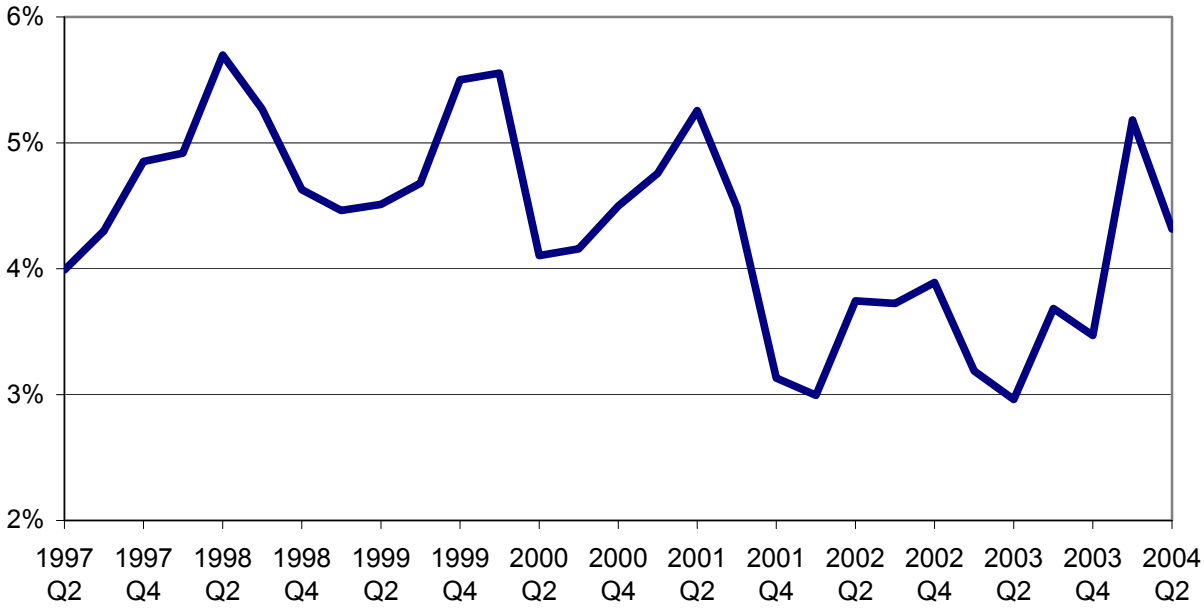
Chart 3.23: Producer prices: Input and output prices of manufactured goods



Source: ONS Crown Copyright

Chart 3.24 shows that growth in average earnings has been accelerating since July of last year, although this moderated slightly in Q2 of this year.

Chart 3.24: Average earnings index



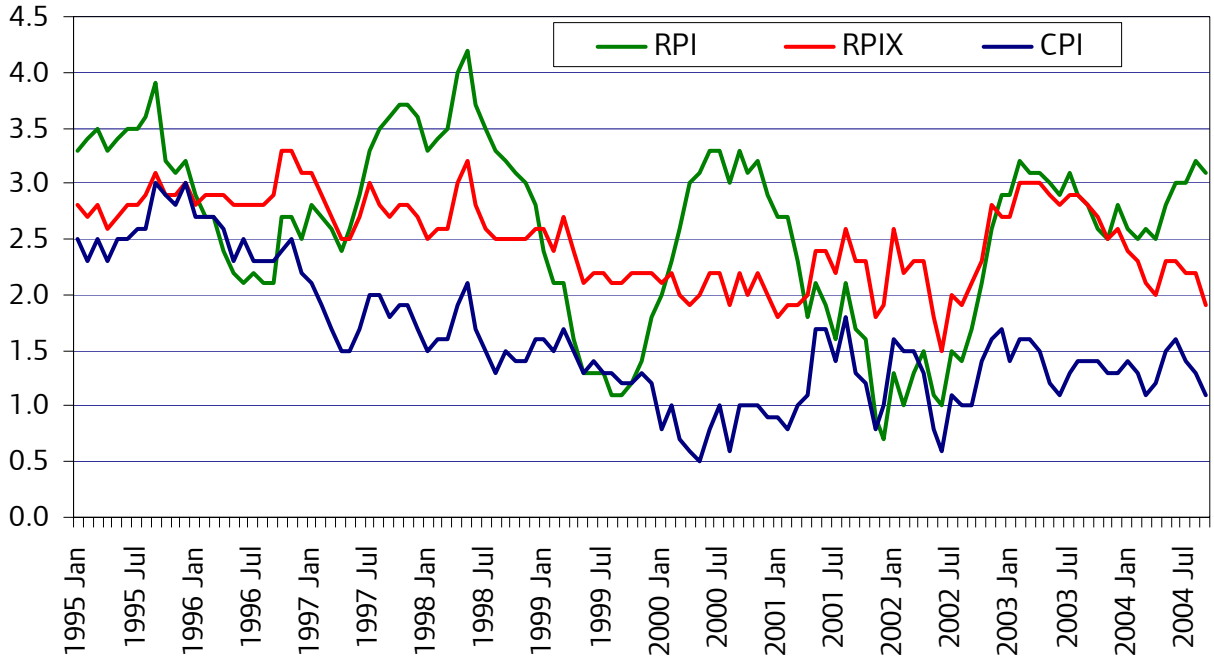
Source: ONS crown copyright

Inflationary pressures will be greater if the economy is running into labour shortages or insufficient productive capacity. UK wide unemployment continues to fall to 4.7 per cent in June to August with 4.8 per cent in the previous quarter, 5.0 per cent a year ago and 5.2 per cent a year before that. In regards to spare capacity, the Bank of England's *Inflation Report* notes that capacity utilisation has picked up according to most available measures. The CBI's measure of capacity utilisation, derived from survey information and published in its *Quarterly Industrial Trends*, is at its highest since January 1998, showing five per cent more firms working at full capacity than working below capacity in both services and manufacturing. The BCC's capacity utilisation index for manufacturing has also risen to nearly five per cent above its post-1995 average with its index for services over five per cent above average, both close to the previous highest levels which were recorded at the beginning of 2001. Another measure is suppliers' delivery times, which tend to increase when demand is running ahead of supply. The Chartered Institute of Purchasing and Supply's (CIPS) manufacturing survey reports that delivery times have lengthened in recent months in manufacturing and construction.

Inflation nevertheless remains restrained. As Chart 3.25 shows, overall CPI inflation had been on the rise earlier in 2004 but has now fallen for three months. Modest rises only takes the RPI index, which includes housing costs and mortgage payments, to just above three per cent. The CPI is well below the two per cent level now targeted by the Bank of England. This has led to some reduction of Bank of England concerns about

inflation which is also reflected in market expectations that interest rates will level out at around five per cent in late 2004 and early 2005. The Bank of England's projections on the basis of market expectations for interest rates is for CPI inflation to reach its two per cent target after two years and then stabilise at this level thereafter.

Chart 3.25: Inflation (per cent annual rate)



Source: ONS Crown copyright

4. Review of independent forecasts

What the forecasts provide

The main forecast reports on four indicators: workforce employment, real output, private consumption (household expenditure) and household income in London. The consensus reports on the first three of these, since most forecasters do not yet provide forecasts of household income. Both annual growth rates and 'standardised' absolute levels (see following) are reported.

Both the consensus and GLA Economics' own forecasts also provide predictions of growth rates for employment and output in six broad sectors:

- manufacturing
- construction
- transport and communications
- distribution, hotels and catering
- finance and business services
- other (mainly public) services.

Output (constant year 2001 £ billion)

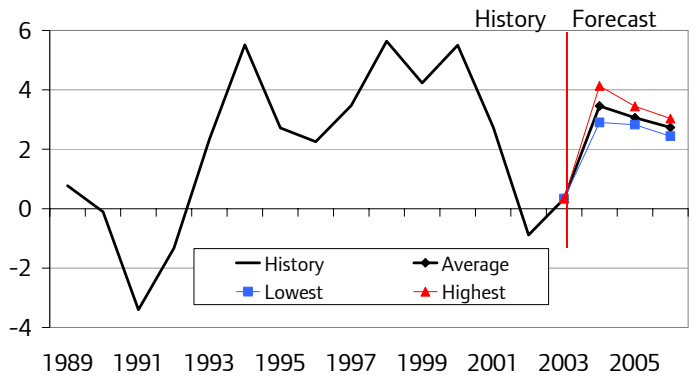
On average, forecasters expect growth above the 2.5 per cent trend from 2004 to 2006, with growth rates peaking this year and levelling off thereafter.

The consensus (average of independent forecasters) is for stable growth at 3.5 per cent in 2004 falling to 3.1 per cent in 2005 and 2.7 per cent in 2006.

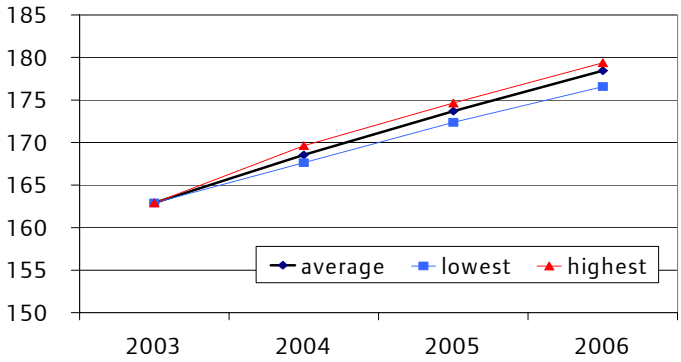
As a result of revisions to historical data, GVA growth for 2002 is now estimated to be negative.

London's output is now estimated to have been £163 billion in 2003 at 2001 prices, and the consensus is that it will rise to £178 billion by 2006.

Annual growth (per cent)



Level (constant year 2001 £ billion)



Annual growth (per cent)			
	2004	2005	2006
Average	3.5	3.1	2.7
Lowest	2.9	2.8	2.4
Highest	4.1	3.4	3.0

Level (constant year 2001 £ billion)			
	2004	2005	2006
Average	169	174	178
Lowest	168	172	177
Highest	170	175	179

History: Annual growth (per cent)

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
0.8	-0.1	-3.4	-1.3	2.3	5.5	2.7	2.3	3.5	5.6	4.2	5.5	2.7	-0.9	0.3

History: Level (constant year 2001 £ billion)

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
122.8	122.7	118.5	116.9	119.7	126.3	129.7	132.6	137.2	145.0	151.1	159.4	163.8	162.4	162.9

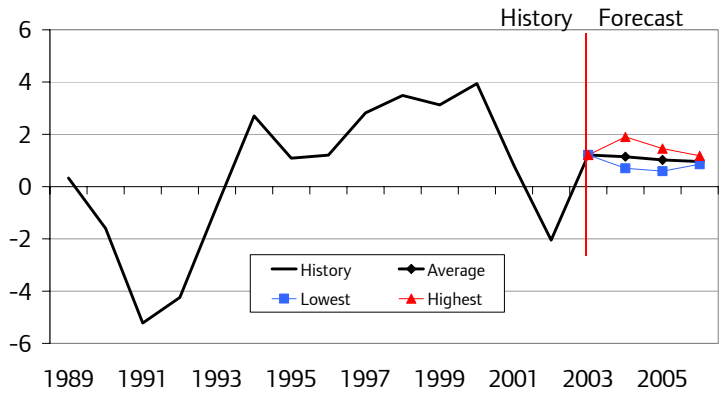
Employment (workforce jobs)

The consensus is for steady growth, slightly above the trend growth rate of 0.9 per cent, throughout 2003-2006.

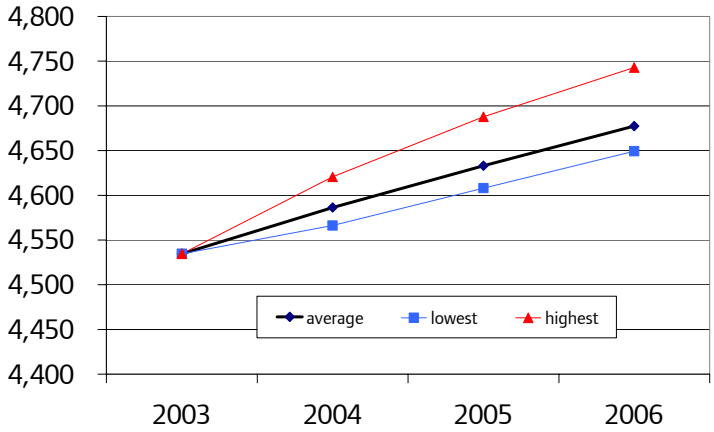
The lowest forecast is for growth slightly below trend at 0.7 per cent in 2004, 0.6 per cent in 2005 and 0.8 per cent in 2006.

Historical revisions to workforce employment data mean that in all years, London's total employment is now estimated to be 30,000 - 35,000 less than previously thought.

Annual growth (per cent)



Level (thousands)



Annual growth (per cent)			
	2004	2005	2006
Average	1.1	1.0	1.0
Lowest	0.7	0.6	0.8
Highest	1.9	1.5	1.5

Level (thousands)			
	2004	2005	2006
Average	4,590	4,630	4,680
Lowest	4,570	4,610	4,650
Highest	4,620	4,690	4,740

History: Annual growth (per cent)

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
0.32	-5.23	-5.35	-4.24	-0.74	2.71	1.08	1.50	2.82	3.49	3.12	3.94	0.80	-2.05	1.21

History: Level (thousands)

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
4,270	4,200	3,980	3,820	3,790	3,890	3,930	3,980	4,090	4,230	4,370	4,540	4,570	4,480	4,530

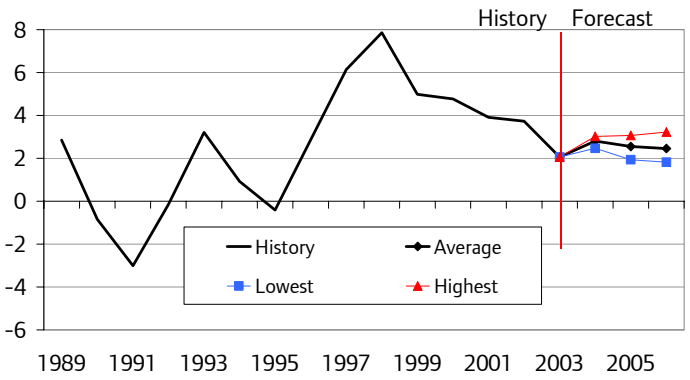
Household expenditure (constant year 2001 £ billion)

The consensus is that the pace of growth in consumer spending, which has been particularly high in the last six years, will stabilise at 2.5 per cent by 2006.

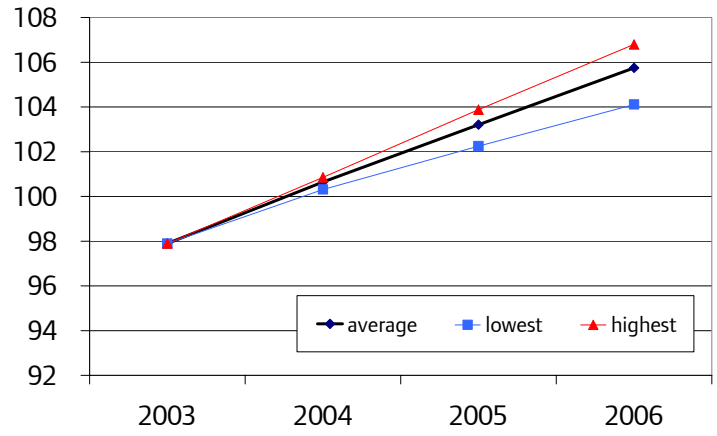
Household spending is expected to be slightly below the rate of GVA growth, at 2.8 per cent for 2004 (GVA growth 3.5 per cent), 2.5 per cent for 2005 (GVA 3.1 per cent) and 2.5 per cent (GVA 2.7 per cent) in 2006.

Apart from 2004, estimates of consumption differ more widely than for GVA or employment.

Annual growth (per cent)



Level (constant year 2001 £ billion)



Annual growth (per cent)			
	2004	2005	2006
Average	2.8	2.5	2.5
Lowest	2.5	1.9	1.8
Highest	3.0	3.1	3.2

Level (constant year 2001 £ billion)			
	2004	2005	2006
Average	101	103	106
Lowest	100	102	104
Highest	101	104	107

History: Annual growth (per cent)

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
2.9	-0.9	-3.0	-0.2	3.2	0.9	-0.4	2.9	6.1	7.9	5.0	4.8	3.9	3.7	2.1

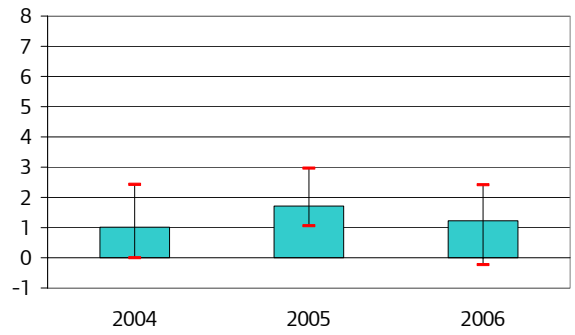
History: Level (constant year 2001 £ billion)

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
69	68	66	66	68	69	69	71	75	81	85	89	92	96	98

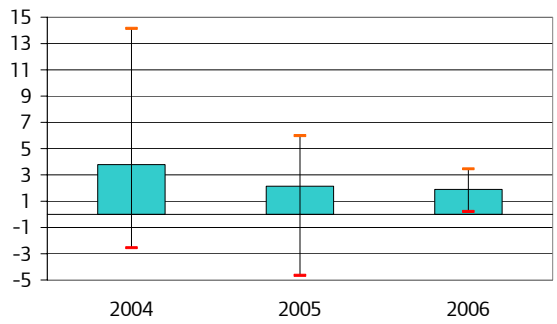
Output growth by sector

Finance and Business is expected to be the fastest growing sector to 2006 with manufacturing growing the slowest.

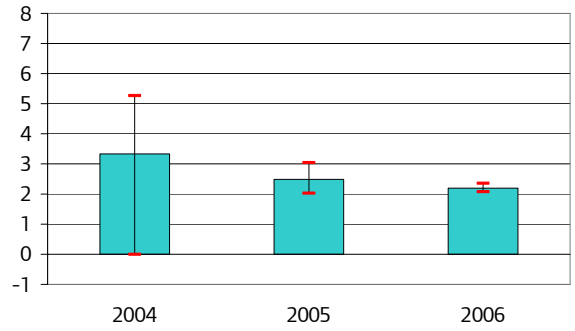
Manufacturing



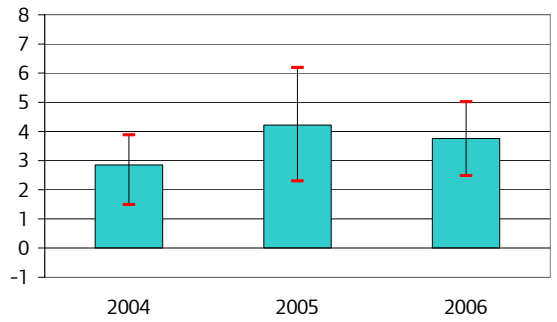
Construction



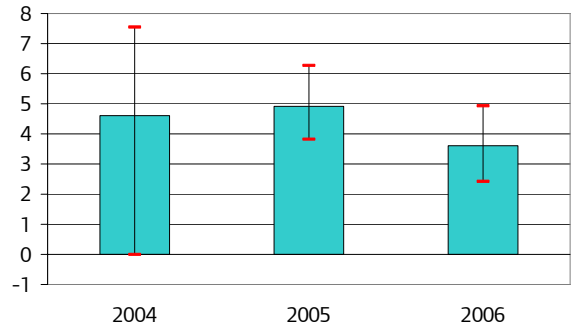
Distribution, hotels and catering



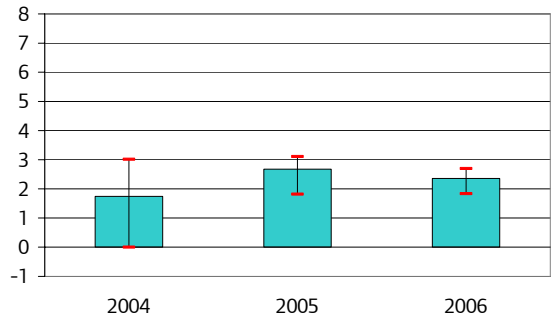
Transport and communications



Finance and business



Other (mainly public) services

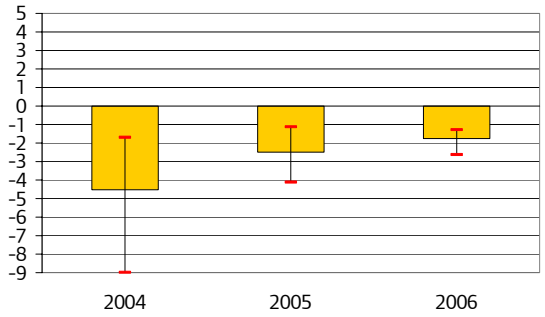


		2004	2005	2006			2004	2005	2006
Manufacturing	*Average*	1.0	1.7	1.2	**Construction**	*Average*	3.8	2.1	1.9
	Lowest	0.0	1.1	-0.2		*Lowest*	-2.5	-4.6	0.2
	Highest	2.4	3.0	2.4		*Highest*	14.2	6.0	3.5
Distribution	*Average*	3.3	2.5	2.2	**Transport and communications**	*Average*	2.9	4.2	3.8
	Lowest	0.0	2.0	2.1		*Lowest*	1.5	2.3	2.5
	Highest	5.3	3.0	2.4		*Highest*	3.9	6.2	5.0
Finance and business	*Average*	4.6	4.9	3.6	**Other (mainly public) services**	*Average*	1.7	2.7	2.4
	Lowest	0.0	3.8	2.4		*Lowest*	0.0	1.8	1.8
	Highest	7.5	6.3	4.9		*Highest*	3.0	3.1	2.7

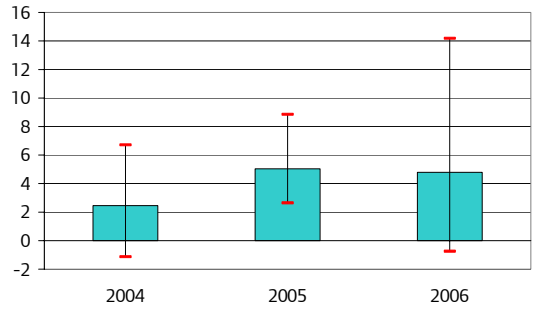
Employment growth by sector

Forecasters expect modest overall employment growth but the picture across the sectors remains mixed. Job losses in manufacturing are expected to continue. On average the transport and communications sector is expected to see falling employment in 2004, followed by positive job growth in 2005 and 2006. As with output, estimates for construction also vary widely.

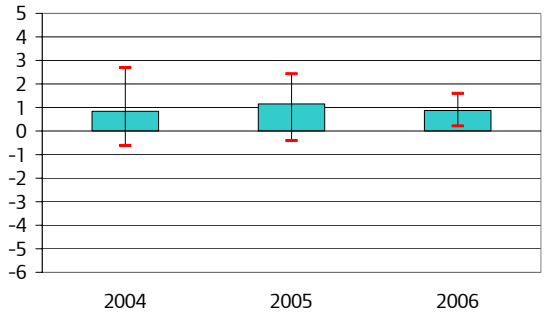
Manufacturing



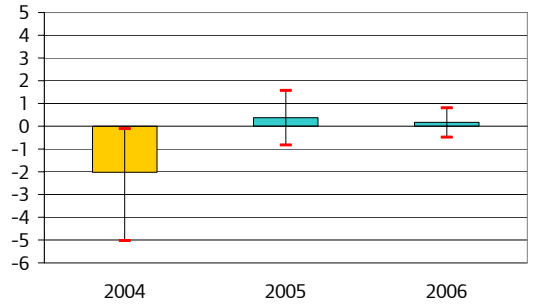
Construction



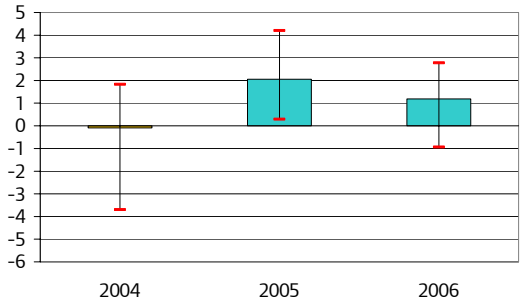
Distribution, hotels and catering



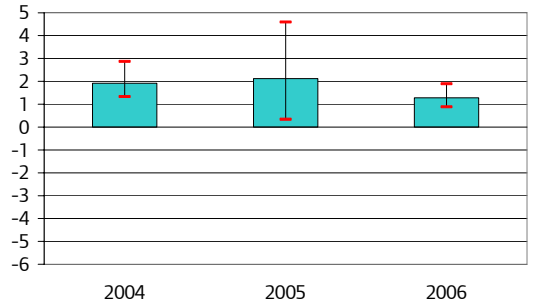
Transport and communication



Finance and business



Other (mainly public) services



		2004	2005	2006			2004	2005	2006
Manufacturing	*Average*	-4.5	-2.5	-1.8	**Construction**	*Average*	2.5	5.0	4.8
	Lowest	-9.0	-4.1	-2.6		*Lowest*	-1.1	2.6	-0.7
	Highest	-1.7	-1.1	-1.3		*Highest*	6.7	8.9	14.2
Distribution	*Average*	0.8	1.2	0.9	**Transport and communications**	*Average*	-2.0	0.4	0.2
	Lowest	-0.6	-0.4	0.2		*Lowest*	-5.0	-0.8	-0.5
	Highest	2.7	2.4	1.6		*Highest*	-0.1	1.6	0.8
Finance and business	*Average*	-0.1	2.1	1.2	**Other (mainly public) services**	*Average*	1.9	2.1	1.3
	Lowest	-3.7	0.3	-0.9		*Lowest*	1.3	0.3	0.9
	Highest	1.8	4.2	2.8		*Highest*	2.9	4.6	1.9

5. The GLA Economics forecast

Assumptions and methods

This forecast combines the GLA's long-term trend projections for employment and population with medium-term assumptions about the growth of the UK economy derived from the Treasury's August review of independent forecasts of the UK economy (HM Treasury 2004b).

The GLA's long-term employment projections for London have been updated from those underlying the London Plan and will be published shortly. The model is constrained for the year 2010 to London-based employment projections derived from the long-term growth rate of London's population and the workforce. The UK assumptions comprise the medium-term growth rates of UK total output.

Detailed assumptions for the UK

Table 5.1 shows the assumptions adopted by the GLA for its forecast and compares them to the Treasury's latest budget 2004 forecast and the August 2004 consensus estimates, which both form an input into GLA Economics' forecast for London.

Table 5.1: UK economic assumptions

		2004	2005	2006	2007	2008-10
GLA forecast	GVA	3.3	2.8	2.5	2.5	2.5
	Consumption	3.0	2.5	2.3	2.7	-
Budget 2004	GVA	3-3½	3-3½	2½-3	-	-
	Consumption	3-3¼	2¼-2¾	2¼-2¾	-	-
Consensus[26]	GVA	3.0	2.8	2.5	2.5	-
	Consumption	3.0	2.5	-	-	-

GLA Economics has adopted consensus growth estimates throughout, taken from the Treasury's (2004b) August review of independent forecasts. These estimates, when applied to EBS's UK model, generate UK growth rates for manufacturing and non-manufacturing which impact on the London forecast, since it has a much higher share of non-manufacturing production than the UK average. These are shown below in Table 5.2.

Table 5.2: Implicit UK growth rates

	2004	2005	2006
Manufacturing output	1.5	2.4	2.3
Non-manufacturing output	3.1	4.2	2.8

Source: EBS's UK forecast using GLA Economics assumptions on UK GDP growth

[26] For 2004 and 2005 the median of new forecasts from the August *Review of Independent Forecasts*; for 2006 onwards the average of medium-term forecasts from the same publication.

Projection and forecast

It is necessary to distinguish carefully between the GLA's long-term employment projections and this forecast which is GLA's medium-term planning projections.

Trend projections, by definition, do not incorporate cyclical variations and constitute estimates of jobs and output at comparable points in the cycle. The actual course of output and employment will vary around this trend. Trend projections are essential for planning to provide capacity (such as office space, housing and transport) to accommodate the needs of the economy throughout and at the peak of the cycle and not just at its low points. For business planning (for example, in deciding the timing of investments and the likely course of revenue) estimates of actual numbers of jobs and actual output at any point in time are required. The medium-term planning projections provide these estimates.

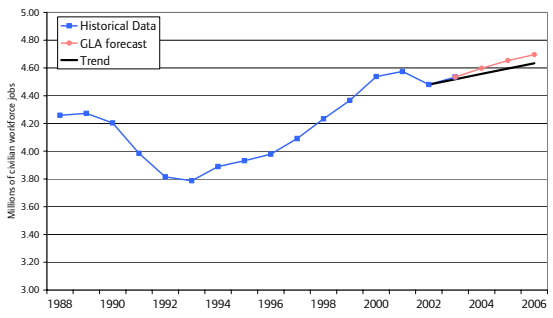
As time progresses and more data become available, it becomes possible to identify whether underlying trends are continuing or whether new trends are being established. While the forecast is calibrated to the GLA's employment projections for 2010, it provides early warnings of significant deviations from these projections because it accounts for the most recent data and incorporates the latest estimates of UK growth rates.

Results

Employment and output are both expected to grow steadily above trend for 2004 - 2006. Output growth is expected to peak at 3.8 per cent in 2004 after which, although above trend, it is forecast to reduce to 3.1 per cent in 2005 and to 2.7 per cent in 2006. Employment is predicted to grow above trend but not as fast as some of the rates observed during the boom years 1996 - 2000. It is expected to slow in 2006 to the trend rate of 0.9 per cent annually. Household income is forecast to grow around three per cent per annum for the period 2004 to 2006 with household spending generally growing at a slightly slower rate.

Chart 5.1: Trend and forecast employment

Jobs (millions of workforce jobs)



Output (constant year 2001 £ million)

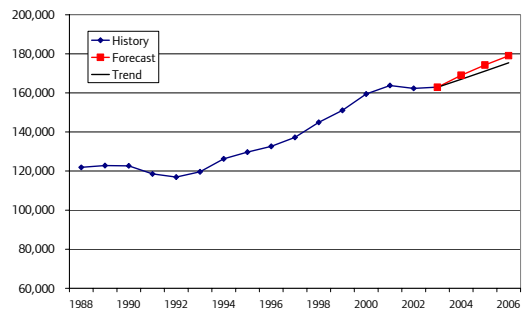


Table 5.3: Forecast and historical growth rates (per cent)

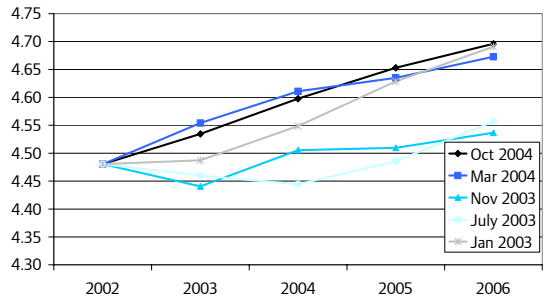
	2000	2001	2002	2003	2004	2005	2006
GVA	5.5	2.7	-0.9	0.3	3.8	3.1	2.7
Civilian workforce jobs	3.9	0.8	-2.1	1.2	1.4	1.2	0.9
Housing income	7.1	6.8	1.9	1.2	2.9	2.8	3.2
Household spending	4.8	3.9	3.7	2.1	3.0	2.6	2.6

Table 5.4: Forecast and historical levels (constant year 2001 £ billion except jobs)

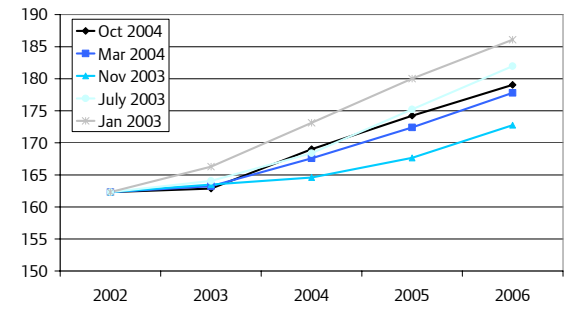
	2000	2001	2002	2003	2004	2005	2006
GVA	159.4	163.8	162.4	162.9	169.0	174.2	179.0
Workforce jobs (millions)	4.54	4.57	4.48	4.53	4.60	4.65	4.70
Household income	100.8	107.7	109.8	111.1	119.2	117.5	121.2
Household spending	89.0	92.5	95.9	97.9	100.8	103.6	106.5

Chart 5.2: Comparison with previous forecasts

Jobs (millions of workforce jobs)



Output (constant year 2001 £ billion)



This is the first issue of *London's Economic Outlook* for which historical data is available for 2003 covering part of the period of past forecasts, which are shown in Table 5.1 and Chart 5.2. First estimates for GVA and employment growth in 2003 are shown; it should also be noted that with data already available for two quarters of 2004, the risks associated with the forecast for this year are reduced. The results are consistent with the view that some of the growth in both employment and GVA forecast for 2003 were in fact delayed until 2004 so the outturn for 2003 is below the spring forecast and predictions of growth for 2004 have been revised upwards.

Compared with the spring 2004 forecast, the prediction for GVA growth in 2004 has been revised upwards from 2.7 per cent to 3.8 per cent, and in 2005 from 2.9 per cent to 3.1 per cent. GLA Economics' predictions of employment growth have been revised upwards for all three years of the forecast.

Table 5.5 Comparisons with previous forecasts (per cent annual growth)

	GVA				Jobs			
	2003	**2004**	**2005**	**2006**	**2003**	**2004**	**2005**	**2006**
Oct 2004	0.3	3.8	3.1	2.7	1.2	1.4	1.2	0.9
Mar 2004	0.6	2.7	2.9	3.1	1.6	1.2	0.5	0.8
Nov 2003	0.7	0.7	1.9	3.0	-0.9	1.5	0.1	0.6
July 2003	1.1	2.6	4.1	3.9	-0.5	-0.4	0.9	1.6
Jan 2003	2.4	4.1	4.0	3.4	0.2	1.4	1.8	1.3

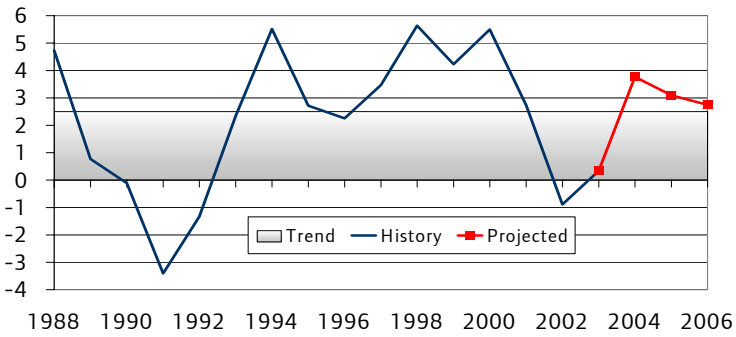
Output

Revisions to historical data mean that GVA growth is now estimated to have been negative in 2002, which was not the case in previous forecasts.

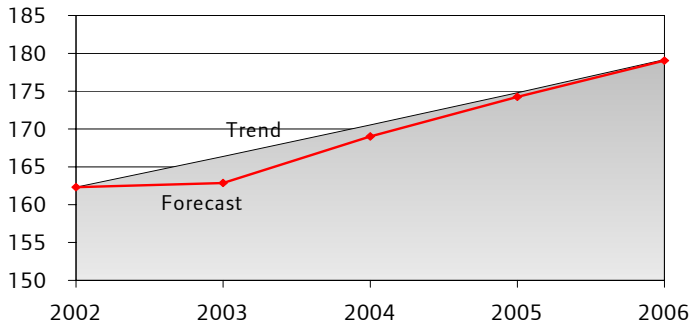
Output growth is expected to be above trend, throughout the forecast period, peaking at 3.8 percent in 2004, before falling back to 3.1 per cent in 2005 and 2.7 per cent in 2006.

This places the GLA forecast slightly above the average independent forecasts for 2004, and inline with them for 2005 and 2006.

Annual growth (per cent)



Level (constant year 2001 £ billion)



Growth (annual per cent)			
	2004	2005	2006
GLA	3.8	3.1	2.7
Consensus	3.5	3.1	2.7

Level (constant year 2001 £ billion)			
	2004	2005	2006
GLA	169	174	179
Consensus	169	174	178

History: Annual growth (per cent)

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
0.8	-0.1	-3.4	-1.3	2.3	5.5	2.7	2.3	3.5	5.6	4.2	5.5	2.7	-0.9	0.3

History: Level (constant year 2001 £ billion)

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
122.8	122.7	118.5	116.9	119.7	126.3	129.7	132.6	137.2	145.0	151.1	159.4	163.8	162.4	162.9

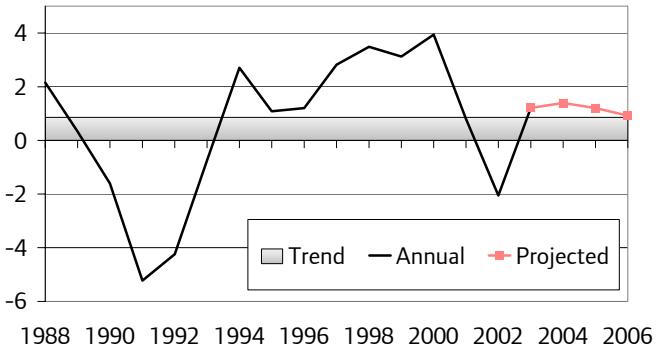
Employment

Employment growth is expected to gradually slow from 1.4 per cent in 2004 to 0.9 per cent in 2006, a rate of growth in line with the latest long-term projections for London.

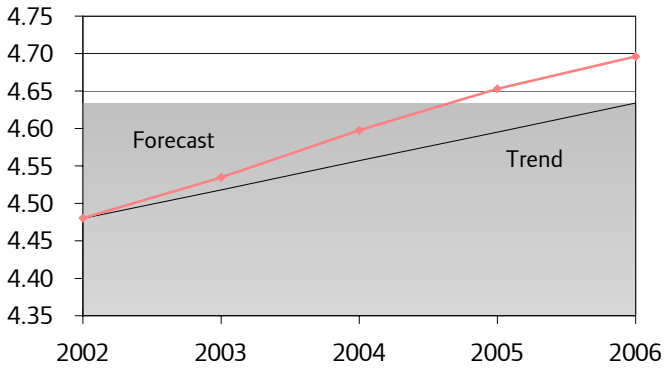
For the period 2004 to 2006 as a whole this projection is slightly higher than the consensus amongst outside independent forecasters.

At the end of 2006, it is now expected that London will have 4.7 million workforce jobs.

Annual growth (per cent)



Level (thousands of workforce jobs)



Growth (annual per cent)			
	2004	2005	2006
GLA	1.4	1.2	0.9
Consensus	1.1	1.0	1.0

Level (thousands of workforce jobs)			
	2004	2005	2006
GLA	4,600	4,650	4,700
Consensus	4,590	4,630	4,680

History: Annual growth (per cent)

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
0.32	-5.23	-5.35	-4.24	-0.74	2.71	1.08	1.50	2.82	3.49	3.12	3.94	0.80	-2.05	1.21

History: Level (thousands)

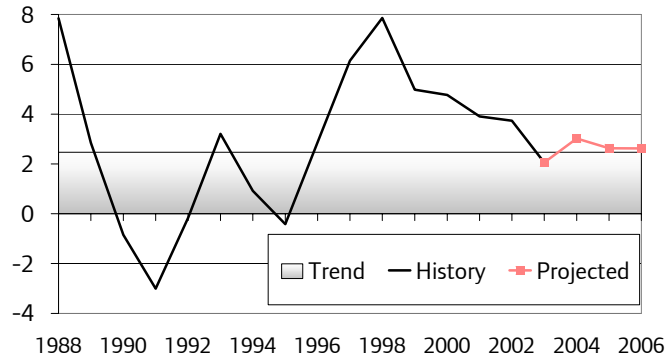
1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
4,270	4,200	3,980	3,820	3,790	3,890	3,930	3,980	4,090	4,230	4,370	4,540	4,570	4,480	4,530

Household expenditure

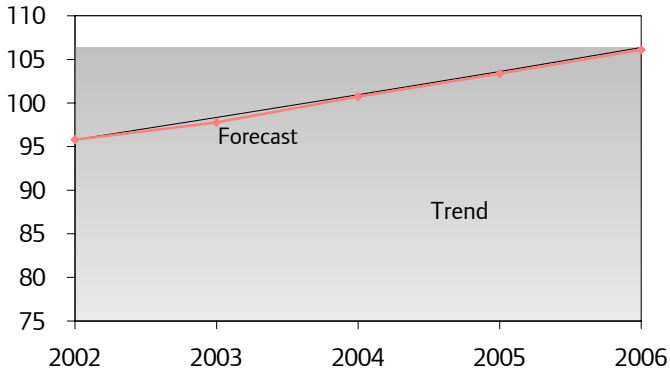
Evidence is growing that consumers are beginning to respond to the Bank of England's succession of staged interest rate rises, and this is reflected in the forecast which predicts that household expenditure will grow more slowly than GVA over the forecast period.

Growth of household expenditure is forecast to be 3.0 per cent in 2004, and 2.6 per cent in each of the following years, slightly above the average of the independent forecasters.

Annual growth (per cent)



Level (constant year 2001 £ billion)



Growth (annual per cent)			
	2004	2005	2006
GLA	3.0	2.6	2.6
Consensus	2.8	2.5	2.5

Level (constant year 2001 £ billion)			
	2004	2005	2006
GLA	101	103	106
Consensus	101	103	106

History: Annual growth (per cent)

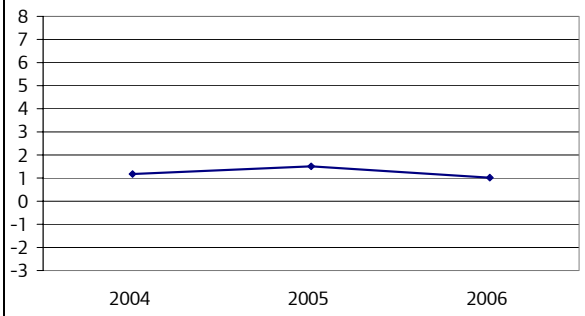
1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
2.9	-0.9	-3.0	-0.2	3.2	0.9	-0.4	2.9	6.1	7.9	5.0	4.8	3.9	3.7	2.1

History: Level (constant year 2001 £ billion)

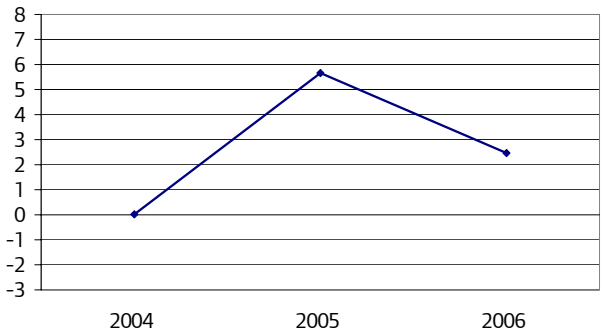
1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
69	68	66	66	68	69	69	71	75	81	85	89	92	96	98

Output growth by sector (per cent annual change)

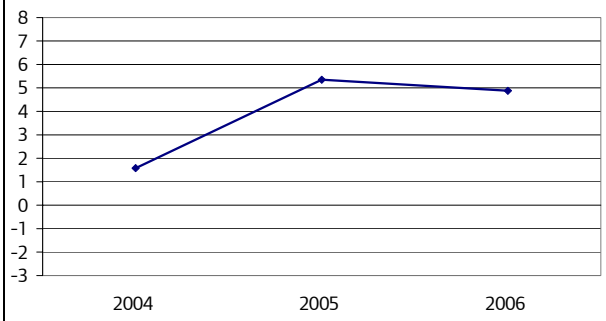
Manufacturing



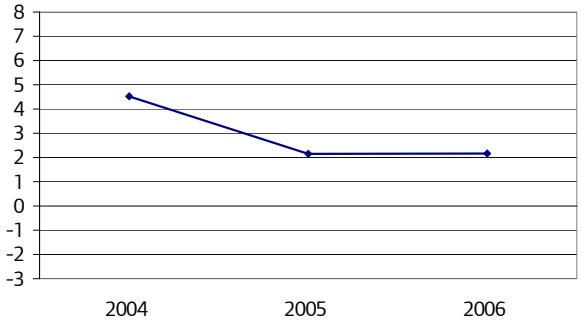
Construction



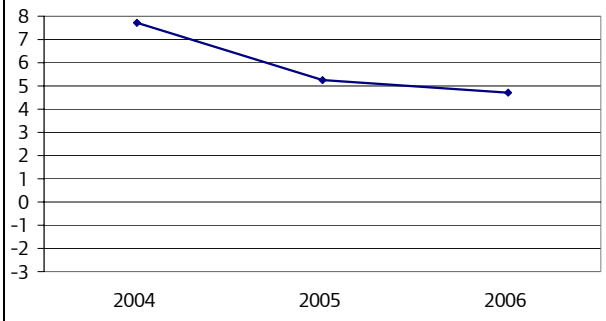
Transport and communication



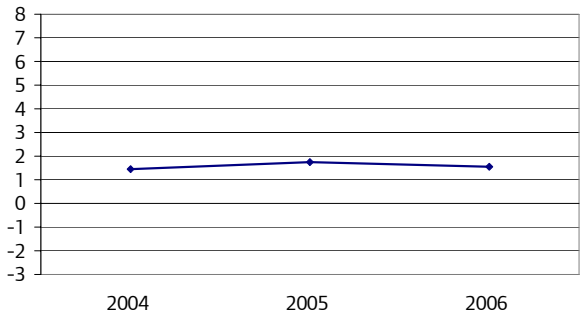
Distribution, hotels and catering



Finance and business



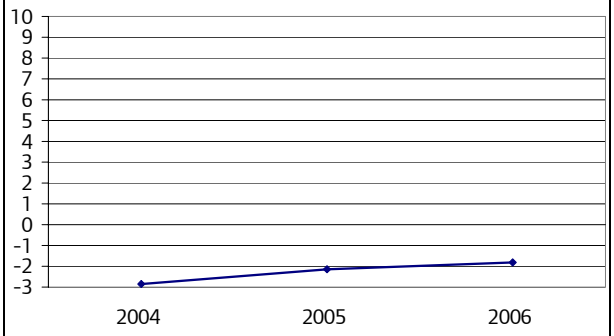
Other (mainly public) services



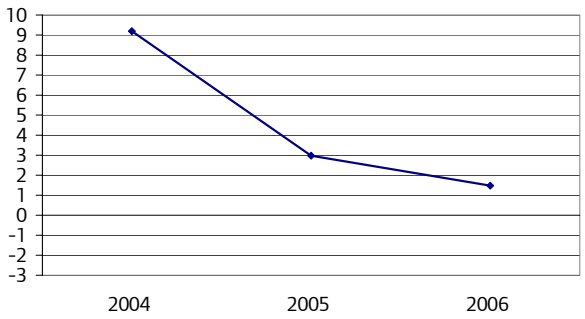
	2004	2005	2006		2004	2005	2006
Financial and business services	7.7	5.2	4.7	Other (mainly public) services	1.4	1.7	1.6
Distribution, hotels and catering	4.5	2.2	2.2	Manufacturing	1.2	1.5	1.0
Transport and communications	1.6	5.4	4.9	Construction	0.0	5.7	2.5
(Memo: non-manufacturing)	*4.6*	*4.0*	*3.5*				

Employment growth by sector (per cent annual change)

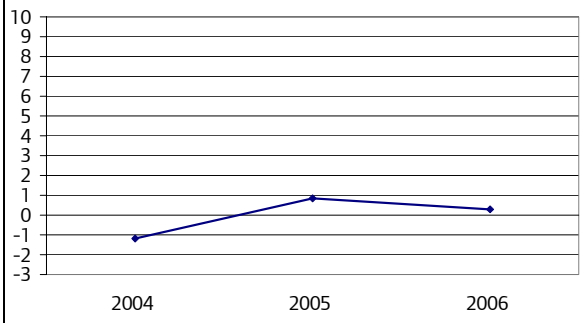
Manufacturing



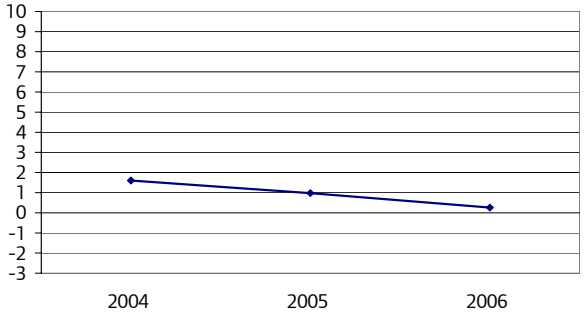
Construction



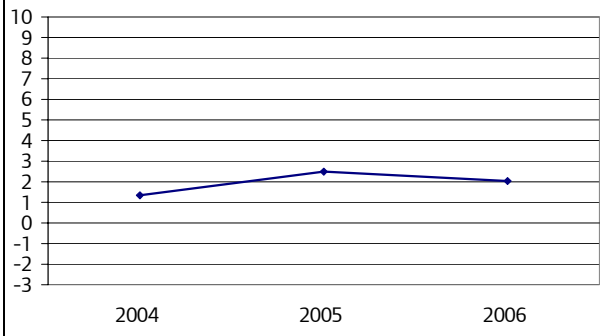
Transport and communications



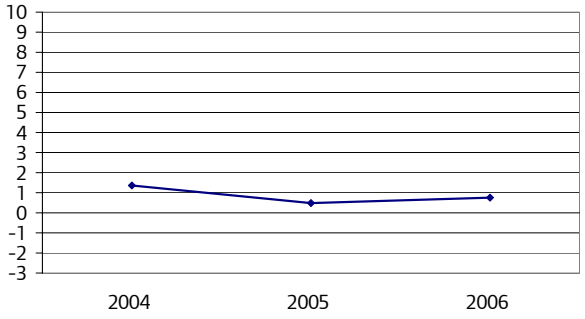
Distribution, hotels and catering



Finance and business



Other (mainly public) services



	2004	2005	2006		2004	2005	2006
Financial and business services	1.3	2.5	2.0	Other (mainly public) services	1.4	0.5	0.8
Distribution, hotels and catering	1.6	1.0	0.3	Manufacturing	-2.9	-2.1	-1.8
Transport and communications	-1.2	0.8	0.3	Construction	9.2	3.0	1.5
Memo: non-manufacturing	*1.6*	*1.4*	*1.1*				

6. Economic prospects in the medium term

by Paul Ormerod, Volterra Consulting[27]

Thirty years ago, the Western world was in the grip of a major economic crisis. The world monetary system of fixed exchange rates that had existed for 25 years had broken down. The price of oil had just increased no less than four-fold. Inflation was rising rapidly, accelerating beyond 20 per cent in the worst affected countries such as Britain and Italy. Unemployment was increasing sharply. Almost every Western economy was in recession.

This period represents a major break in the underlying rates of economic growth in the Western economies. Growth rates almost everywhere have been markedly lower in the most recent three decades compared to those achieved from 1950 to the mid-1970s. The focus of the present paper is on the rate of economic growth that is likely in the West, in the light of the experience of the past three decades. A perspective on this requires not merely technical analysis, but the broader standpoints of both economic history and political economy. It needs to be examined why growth slowed down so much.

More generally, the economic history of the past 30 years essentially consists of the consequences of, and the policy reactions to, these dramatic events. The suppression of inflation was the primary aim of policy, and this has been achieved.

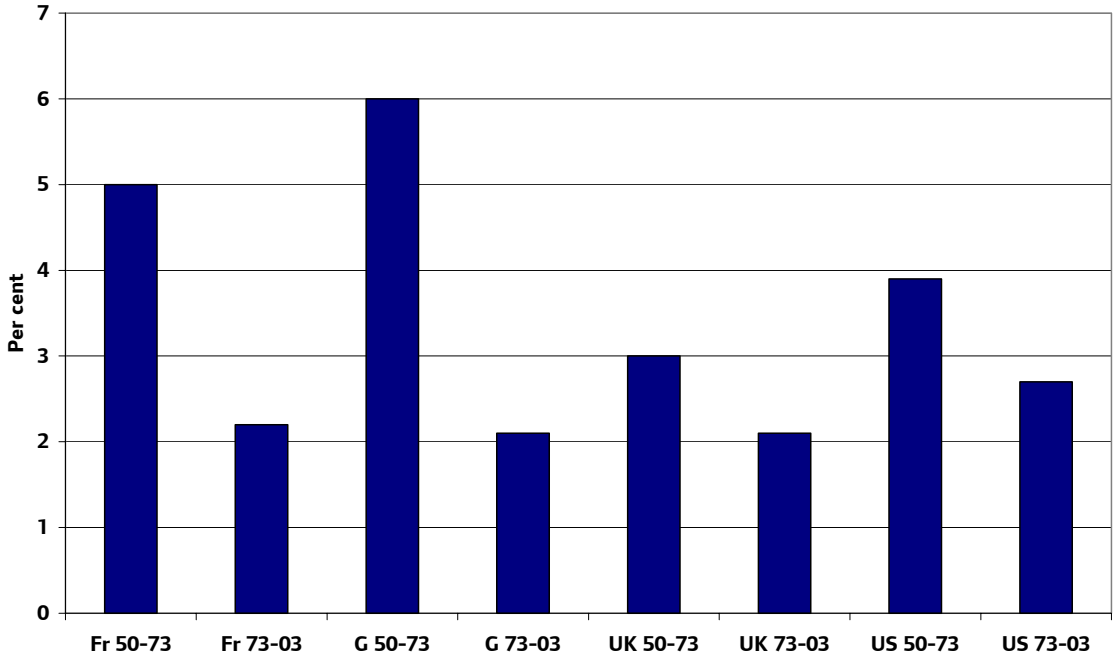
Inflation everywhere is now very low. Using the latest data published by the Treasury, for example, inflation in the UK is only 1.4 per cent, in Germany 2.0 per cent, in France 2.6 per cent and even in America, where it is the highest of any of the major economies, it is still only 3.0 per cent. The Monetary Policy Committee worries about minor fluctuations in inflation, but these are against a general background of low inflation.

How and why this has happened, and the prospects for inflation in the future are, however, the topics of a future article.

Chart 6.1 shows annual average growth rates 1950 - 1973 and 1973 - 2003 in France, Germany, the UK and the US.

[27] The views expressed in this article are those of the author alone and do not necessarily coincide with the views held by GLA Economics or the GLA as a whole.

Chart 6.1: Change in annual GDP growth and change in wage share of GDP in 20 OECD countries. Averages 1974-2003 and 1960-1973.



Source: Volterra Consulting

The experience of France and Germany is entirely typical of the EU economies other than the UK, with almost all of them showing a sharp deceleration in growth over the most recent 30 years compared to the post-war period up to 1973.

In terms of percentage points, the slow down may appear to be small, but over a period of years even small differences in growth rates cumulate. For example, if the UK had sustained its 1950 - 1973 growth rate in the years since 1973, its GDP would now be 30 per cent higher than it is now. The slow down in the UK growth has been the smallest of the four countries plotted in Chart 6.1. US GDP would be 40 per cent higher now if the 1950 - 1973 growth rate had been kept up, while France's GDP would be no less than 125 per cent higher than it is now.

The very rapid growth rates seen in most EU economies up to the mid-1970s were essentially unsustainable. They arose from a unique combination of circumstances. First of all, the immediate transition from wartime economies after 1945 was handled much better than the transition after the end of the First World War. Then, the Western powers bickered amongst themselves, restricting the flow of capital movements and putting up obstacles to trade. In contrast, in the late 1940s the US, as the sole Western superpower, was able to impose its vision in terms of economic policies. Fortunately, these were benign and positive. There was a commitment to move towards free trade, which as a consequence increased trade stimulating growth. A world monetary order of pegged exchange rates was established which provided low and stable inflation up until the late 1960s/early 1970s. And, perhaps most important of all, the Marshall Plan

provided vital foreign currency from America to the European economies at a time when their recoveries could have been easily set back substantially because of an inability to pay for the necessary imports.

By 1950, pre-war living standards had been surpassed in all European countries, except West Germany where this did not take place until 1953. The economic opportunities were immense. On the one hand, the labour forces in these countries had survived the war in much better shape than they had the First World War ensuring a large pool of skilled labour on which to draw. On the other, much of the capital stock of the economies of continental Europe had been destroyed during the war. There was therefore a huge potential for new investment. Almost any kind of investment in factories, offices or machinery stood a very good chance of making a good profit.

And against this fertile background for a supply-side boom, there was the example of the US. America had not only survived the war almost completely intact, its technological development had made huge strides forward. In 1950, after allowing for inflation, the American economy was almost 60 per cent larger than it had been in 1940. Enormous opportunities existed for Europeans simply to copy as best they could the best practice methods of production and the high tech investment that existed in America.

In such circumstances, European growth rates boomed. Equally, however, there was bound to be a slow down. For example, the closer Europe became to the technological frontiers established in the US, the harder it became to close the gap. So a substantial proportion of the reduction in growth rates in the EU over the past thirty years would have taken place regardless. The economic crisis of the mid-1970s merely served as the trigger point for this slow down.

A more fundamental reduction in growth rates has nevertheless taken place. In the UK, for example, growth has been 0.9 percentage points a year lower since 1973 than it was during 1950 - 1973, and in the US the reduction has been 1.2 percentage points. This is the order of magnitude of the slow down which needs to be explained when considering the prospects over the next few decades in the West. The reduction in growth has been much more dramatic elsewhere in the EU but, as noted above, much of this was an inevitable consequence of the unique combination of circumstances in which these economies were fortunate to find themselves in the early 1950s.

Profits are an integral part of the Western economies. It is the prospect of earning profits that encourages firms to introduce new technology, invest in new capital equipment, investigate more efficient ways of organising production and search for better methods of sourcing. In short, profits motivate the whole process of operating a successful business. And economies grow only when businesses grow, whether they are new or long-established, small or large.

The decades of the 1950s and 1960s saw historically high levels of profits in the Western economies. As noted above, investment opportunities were plentiful. Rising prosperity led to the creation of a positive feedback from consumers. As living standards rose, the demand for consumer products was high. It was during this period that mass penetration into households of durable goods such as telephones, televisions and washing machines took place. There were still periods of relative recession, when growth was lower than normal, and periods of boom, but these were against a background of a strong and persistent rise in demand for consumer durables. Businesses could anticipate with confidence that over the course of any particular business cycle the overall level of demand in the economy would be high.

In almost every Western economy, the late 1960s and early to mid-1970s saw the development of a marked squeeze on profits. Labour disputes, encouraged by two decades of effectively full employment, rose, and the growth in money wages outstripped the growth of the economy as a whole. The *share* of profits in the economy fell as a result. This was compounded by the immediate economic difficulties brought about by the oil-price induced crisis of the mid-1970s.

As the economy grows, the monetary value of profits rises in most individual years, sometimes simply in nominal terms because of inflation yet more often in real terms. Over a period of years, the monetary value certainly grows. To compare the state of profitability at different points in time, even in the same economy, therefore, we need to examine the share of profits in the economy as a whole, rather than simply the value of profits as such. The economy, too, grows over time in both real and nominal terms. Calculating the share of profits gives a much better indicator of the true state of profits than the monetary value of profits. Profits can grow in money terms, but if they grow less rapidly than the economy, their share will fall.

Consistent and reliable estimates for the shares of both profits and wages in the national economies of the West are compiled by the OECD for each year since 1960. For some countries, these estimates extend further back, but the qualitative story which is told is the same whether we consider a wide set of countries since 1960 or a subset of these since the early 1950s:

- On average, in the three decades since the mid-1970s, the share of profits in the economies of the West has been lower and the share of wages higher, than it was on average in the 1950s and 1960s.
- The fall in the share of profits has been more marked in the continental economies of the EU than it has been in the Anglo-Saxon economies of North America, Australasia and the UK.

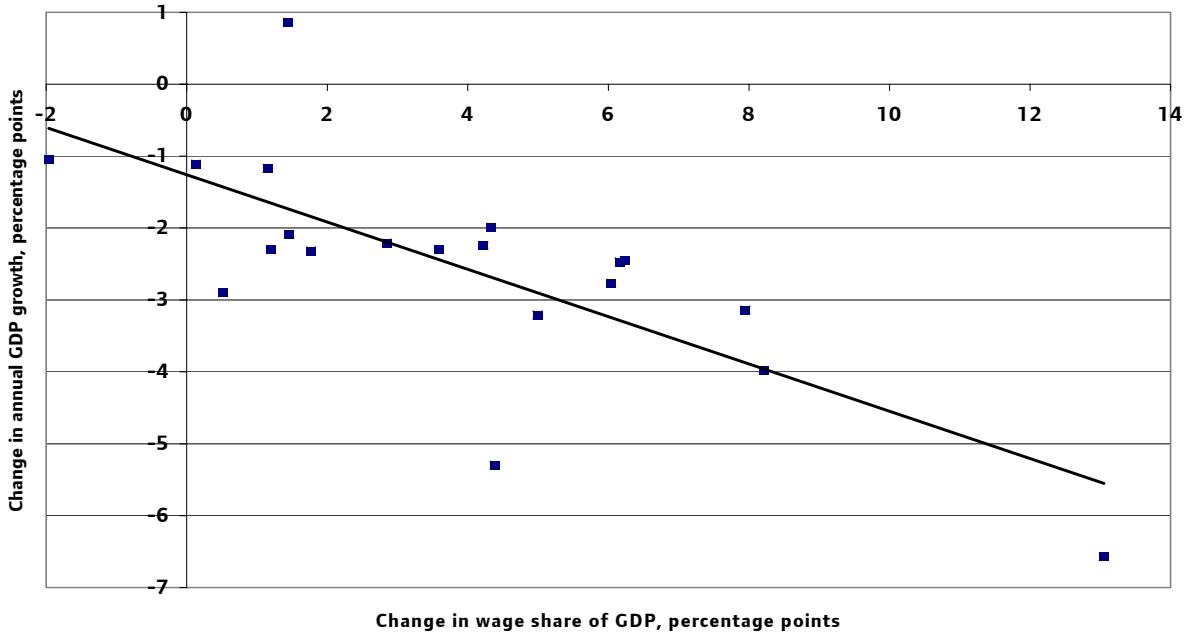
There have been fluctuations from year to year and there has been a gradual revival of profitability in the EU over the past decade or so compared to the low levels seen in the

1970s. But on average, across 20 Western economies[28], the share of profits in the total economy was 5.5 percentage points lower over the 1974 - 2003 period than it was during 1960 - 1973. This may not seem a great deal except when translated into actual cash. For example, 5.5 percent of the size of the UK economy is no less than £55 billion. In the UK itself, the fall has been much less than this, and this number is used here for the purpose of illustrating the importance of a change of the order of five percentage points. In cash terms, it is a huge amount.

Almost all economic data except in financial markets is estimated rather than being observed directly. For example, the economy cannot be put onto a pair of scales or have a tape measure wound around it to measure its size. Instead, indirect evidence has to be used to estimate both its total size and its various component parts. For reasons that are not discussed here for brevity purposes[29], estimates of the share of wages are somewhat more reliable than those of profits in any particular year, so in the following analysis, share of wages rather than the share of profits is used. Wages and profits do not constitute the entire economy, but the vast bulk of it when it is defined in terms of income.

Chart 6.2 shows a very clear relationship between changes in the share of wages between 1974 - 2003 and 1960 - 1973, and the change in the real rate of economic growth.

Chart 6.2: Change in annual GDP growth and change in wage share of GDP in 20 OECD countries. Averages 1974-2003 and 1960-1973.



[28] Austria, Australia, Belgium, Canada, Denmark, France, Finland, Germany, Ireland, Italy, Japan, Netherlands, Norway, New Zealand, Portugal, Spain, Sweden, Switzerland, UK and USA.

On the left hand axis, the change in the rate of growth between these two periods is plotted, and on the bottom axis the change in wage share in national income, both in percentage points. Each small circle summarises the experience of a particular country. So at the far bottom right of the chart, for example, it can be seen that the rate of growth fell by over six percentage points in Japan while the share of wages in the Japanese economy grew by well over ten percentage points.

The relationship between the two variables is not perfect, but there is clear evidence that the higher the increase in the share of wages, the higher has been the reduction in economic growth. The simple correlation between the two is –0.74. The straight line plotted in Chart 6.2 shows the fitted values from a simple linear regression of the change in growth rates on the change in the wage share.

Much economic theory concentrates not on the relationship between profitability and economic growth, but on investment in new capital equipment and growth. Certainly, new investment can affect the rate of growth but it is only one of the many ways in which firms are able to become more efficient and expand their output. As noted above, profits motivate the whole range of business activity. An important way for firms to become more efficient, for example, is to make better use of their existing capital equipment. Benchmarking against competitors is an important aspect of business activity. Sometimes this will imply the need for new investment, but more often it will point to the need simply to use existing resources in a more efficient way. The latter is a very important source of growth in practice. Focussing simply on new capital equipment leaves out many of the sources of growth that are motivated and financed by profits.

Of course, factors other than the change in the share of wages in national income will have contributed to the slowdown in economic growth. Some will be specific to individual countries, and others may be more general. Conventional economics, however, has found it very hard to identify what these general factors might be.

Substantial academic literature exists on this topic, which includes the notorious 'post neo-classical endogenous growth theory'. However, the only factor which is consistently important in accounting for growth across a range of individual studies is the level of real per capita GDP at the start of the period over which growth is being investigated. The higher GDP per head is at the start of the period, the lower on average is the subsequent growth rate of the country, because a higher starting point gives less scope to grow by simply copying the practices of the country or countries with the most advanced technology or organisation of production.

[29] Books on how the national economic accounts are compiled do exist which document these reasons in great detail. But these books make the works of Proust seem like light hearted bedtime reading

There is no inevitable reason why this should be the case, and the result is very specific to data sets which focus on the experiences of the second half of the 20th century. Essentially, what is being captured in the technical statistical analysis is the set of reasons discussed above as to why the EU economies experience a marked slow down in growth in the final quarter of the 20th century.

However, to integrate the impact of the wage share as closely as possible with existing empirical results on growth in economics, the research also took into account the previous experience of the countries in our data set in terms of economic growth. The technical details are set out in the Appendix.

One way of illustrating the outcome when both the change in wage share and the 1960 - 1973 growth rate are taken into account is to group the countries into clusters. Clustering is a standard tool of statistical analysis. It takes a set of objects, in this case the countries in our data set, and uses attributes of these objects – the attributes being the change in growth and wage share and the 1960 - 1973 growth rate – to classify them into separate groups. The idea is that the countries, in this example, which have most in common in terms of the values of these three variables will be placed into separate clusters. Countries within the same cluster are by no means identical in terms of their experiences, but they have more in common with each other than with countries in different clusters.

This analysis shows that the 20 countries can be classified into three distinct groups of clusters. One group consists of most of the Anglo-Saxon economies, Australia, Canada, Ireland, Norway, UK, and the US. Norway is in this group because of the great importance of North Sea oil to this economy, which sustained both its growth rate and its profit share over the past 30 years. In these countries, the slow down in growth was relatively modest. The rise in the share of wages was small, or in the case of the UK actually fell, and their growth rates over the 1960 - 1973 period were moderate compared to those experienced elsewhere.

The largest group is mainly made up of the EU countries; Austria, Belgium, Denmark, France, Finland, Germany, Italy, Netherlands, New Zealand, Sweden and Switzerland. The typical growth rate here was not dramatically higher during 1960 - 1973 than was the case with the first group, but the rise in wage share was higher. The fall in the growth rate was in consequence greater. In other words, it is mainly their experience in terms of the share of wages that explains the different outcomes on the change in growth rates in these two groups of countries.

Finally, there is a third group with high growth during 1960 - 1973 where the increase in the share of wages was large. As a result, the slow-down in growth experienced was considerably greater than is typically the case in the countries in the first two groups. This group comprises Japan, Portugal and Spain.

Table 6.1 summarises the typical experience of the three groups.

Table 6.1: Typical values of the change in growth rates, the change in wage share and the 1960 - 1973 growth rate grouping (clustering) the 20 countries into 3 separate groups

Group	Change in GDP growth 1974-2003 on 1960-73	Change in share of wages 1974-2003 on 1960-73	Annual GDP growth 1960-73
1 'Anglo-Saxon'	-1.2	0.8	4.3
2 'EU'	-2.6	4.9	4.8
3 'Other'	-5.3	8.3	8.6

The outcome of this analysis confirms the importance of the increase in the share of wages (fall in the share of profits) in explaining the lower growth rates experienced in the West since the mid-1970s. On average, this accounts for a slow down of around 0.5 percentage points with the 'underlying' slowdown in the order of one percentage point. In other words, the growth rates in the immediate post war years in the EU economies were simply unsustainable, and once allowed for, the slow down in growth which remains is around one percentage point, and the increase in the share of wages in GDP explains around half of this underlying slowdown.

Looking ahead, the world is at the onset of a dramatic transformation of its economy. There is a significant increase in the effective supply of labour to the world economy. Eastern Europe with its educated labour force has been opened up and there has been more than a decade of political stability experienced since the fall of the Soviet bloc. The entry into the EU of these countries is a strong guarantee of their continuing stability.

For decades after independence, India was obsessed by the cult of central planning and relative isolation from the world economy. Growth took place, but only slowly relative to the growth in population. More recently, India has begun to move towards more market-oriented solutions and is engaging much more actively with the outside world.

China remains a mystery with estimates of the true level of its GDP varying by at least a factor of two, depending essentially on how the conversion is done from domestic Chinese currency into US dollars. This may seem a mere technicality, but it is in fact very important. On paper, for example, in terms of their own currencies, some of the economies of the Soviet bloc were reasonably prosperous at the end of the 1980s. But once they were opened up to the West, it became apparent that this was not the case. Many of the goods that they produced, such as the Trabant car, could not be sold in open competition even at prices that were close to zero.

However, what is clear is that China has grown rapidly, no matter how the size of its economy is measured, and it is becoming engaged with the rest of the world on a major scale.

So we have three large regions of the world, Eastern Europe, India and China, becoming integrated with the world economy on a substantial scale. Previously, these economies had been to all intents and purposes isolated.

This represents a massive increase in the effective world supply of labour. Its effects have already been seen. In the mid-1990s, for example, Japanese domestic production of standard television sets was effectively wiped out in the space of 18 months by imports from China. German car manufacturers are setting up plants in Eastern Europe, and are trying to persuade their domestic labour forces to work longer hours for the same pay in order to be able to compete.

The implication is that a fall in the share of labour income (although not necessarily a fall in real wage levels), and a corresponding rise in profits, will be needed in the West in order to sustain growth rates. The economies with the institutional structures and cultures that facilitate this are the ones that are likely to register the highest growth rates in the medium to longer term. Even so, it is not clear that in liberal democracies a fall of sufficient magnitude in the share of wages required to sustain existing growth rates can be brought about.

A more positive approach from the West relies on new technology and innovation, in continuous quality improvements and moves upmarket in terms of the goods and services that are produced. Here, America does not just lead the world at present, but has done so for at least 100 years. Standard economic theory predicts that economies, at least those with similar cultural and historical backgrounds, will converge in terms of GDP per head. Yet in 1900, GDP per head in France and Germany was around 80 per cent of that in the US and in 2000 the gap was almost exactly the same.

Fortunately, it is currently a period of rapid technological change. It is hard to measure such a concept in any precise terms, and to a large extent it remains impressionistic. But for much of the second half of the 20th century, there were few, if any, really fundamental innovations in terms of the products and services produced for consumer markets. It was a period during which growth was sustained by the spread of existing inventions such as cars, telephones, central heating and air travel, to a larger and larger proportion of the population of the West. The products themselves improved over time but remained recognisably the same as the more primitive versions that had existed before the Second World War.

Now, entirely new products and services are arising from the electronic revolution. Moreover, a distinguishing feature of this kind of technology is that, once convergence

onto a particular standard has been obtained, this in itself generates an explosion in new products designed to meet and operate with this standard.

Around a hundred years ago, it was not clear that the petrol-driven combustion engine would become the dominant technology in cars. Rival technologies existed. As is typically the case, convergence onto a single dominant technology was achieved. But once this was done, the scope for developing new products around the technology was limited. Seating could be made more luxurious, engine designs improved, and so on, but these were all extensions of an existing product. In contrast, the electronic consumer revolution is able to generate completely new products once standardisation has been achieved. For example, once standardisation had been achieved on communication protocols between personal computers, the Internet could be created.

In terms of medium to longer-term growth prospects, there are two key factors. First, the huge growth in effective world labour supply and the consequent need to reduce the share of wages – but not the level of real wages given the expectation that technology will drive up productivity and so the level of real wages that can be sustained without deterring growth – in the economies of the West. Second, a period of major technological advance that should prove a positive effect on growth for several decades to come.

It is hard to escape the conclusion that the US, amongst the economies of the West, is best placed to accommodate these factors. In contrast, the continental economies of the EU are less well equipped and face quite formidable problems of adjustment.

Technical appendix

A linear regression for a sample of 20 OECD countries of the change in average annual real GDP growth rates 1974-2003 on 1960-73 (DG) on the change in the share of wages in national income (DW) and the average annual real growth rate 1960-73 (G6073) produces the results found in Table A1.

Table 6.2: Linear regression

Coefficients	Value	Std.Error	t-value	Pr(>|t|)
(Intercept)	1.5634	0.6928	2.2568	0.0375
DW	-0.1299	0.0676	-1.9204	0.0717
G6073	-0.7042	0.1604	-4.3902	0.0004

Residual standard error: 0.7583 on 17 degrees of freedom

Multiple R-Squared: 0.7853

The coefficient on DW is expected to be negative, so the t-statistic can be interpreted in terms of a 1-tail test.

In terms of specification tests, the Ramsey RESET test using the square, cubed and fourth power of the fitted values of the original regression gives a calculated value of F(3, 14) = 0.66, so the null hypothesis that the model has no omitted variables is only rejected at p = 0.59. The Cook-Weisberg test for heteroskedasticity of the residuals gives a calculated value of the chi-squared statistic of 1.54, so the null hypothesis of no heteroskedasticity of the residuals is only rejected at p = 0.22. A Kolmogorov-Smirnov test of the null hypothesis that the residuals are normally distributed is in fact rejected at p = 0.0232. The reason for this is the very large residual on the observation for Ireland, a tiny economy which by a range of dramatic policy changes succeeded in having higher growth in the later period compared to the former, the only OECD developed country to achieve this.

Excluding Ireland makes little difference to the results, see Table A2.

Table 6.3: Excluding Ireland

Coefficients	Value	Std.Error	t-value	Pr(>|t|)
(Intercept)	1.2797	0.3795	3.3716	0.0039
DW	-0.1025	0.0371	-2.7665	0.0138
G6073	-0.6965	0.0873	-7.9791	0.0000

Residual standard error: 0.4126 on 16 degrees of freedom

Multiple R-Squared: 0.9184

The null hypothesis is rejected on the Ramsey test at p = 0.74, on the Cook-Weisberg at p = 0.83, and on the Kolmogorov-Smirnov at p = 0.61.

Using the full sample, bootstrapping the equation 1,000 times (Efron, B. and Tibshirani, R. J. (1993), *An Introduction to the Bootstrap*, San Francisco: Chapman & Hall) shows that the slight non-normality of the residuals does not affect the inference we can draw. The mean value of the coefficient on DW is –14.12 with a standard error of –6.18.

We tested for non-linearity using the technique of local linear regression. A standard simple linear regression model takes the form:

(1) $$y = \alpha + \beta X + \varepsilon$$

In locally area regression, we build the smooth function s(X) as follows. Take a point, say X_0. Find the k nearest neighbours of X_0, which constitutes a neighbourhood $N(X_0)$. The number of neighbours, k, is specified as a percentage of the total number of points, called the span.

Calculate the largest distance between X_0 and another point in $N(X_0)$:

(2) $$\Delta(X_0) = \max_{N(X_0)} |X_0 - X_i|$$

Assign weights to each point in $N(X_0)$ using the tri-cube function:

(3) $$W\left(\frac{|X_0 - X_i|}{\Delta(X_0)}\right)$$

where

$$W(u) = \left\{(1-u^3)^3\right\} \text{ for } 0 \le u \le 1 \text{ and } W(u) = 0 \text{ otherwise}$$

Calculate the weighted least squares fit of y on the neighbourhood $N(X_0)$. Take the fitted value $\hat{y}_0 = s(X_0)$. This can then be repeated for each of the predictor values.

In the limit, local area regression approaches simple linear regression. Standard analysis of variance tests can be carried out of the null hypothesis of a linear specification against any given non-linear one, or of one non-linear one against another non-linear one. If this is rejected, a more non-linear equation is estimated, and the original mildly non-linear model becomes the null hypothesis in the test against this. Once a null hypothesis is not rejected, the procedure halts. If the original linear hypothesis is not rejected, linearity is tested against a more non-linear alternative.

Algorithms for carrying out local regression are available in the statistical package S-Plus (see W.S.Cleveland, E.Grosse and W.M.Shyu, 'Local Regression Models' in J.M.Chambers and T.J.Hastie, eds., *Statistical Models in S*, AT and T Bell Laboratories, 1992 and S-Plus: Modern Statistics and Advanced Graphics: Guide to Statistics, Vol.1, MathSoft Inc., Seattle, 2000).

We found no evidence of non-linearity in the specification of the equation.

An alternative way of examining the data is by using the technique of clustering. More specifically, we use fuzzy clustering. Details of the algorithm are available on request. We find that the data can be partitioned into 3 clusters. The cluster centres take the values found in Table A3.

Table 6.4: Cluster centres values

	DG	DW	G6073	(size)
1	-1.222158	0.8103224	4.292491	6
2	-2.570738	4.9039056	4.786222	11
3	-5.323898	8.3359174	8.065936	3

This tells us that the value of DG at the center of cluster 1 was –1.22 percentage points, of DW 0.81 percentage points, and G6073 4.29 per cent. Cluster 2 saw on average a sharper fall in growth, with the 1960-73 experience being similar to that of the countries in cluster 1. However, the increase in wage share was much larger in cluster 2 countries than in those in cluster 1. Finally, cluster 3 sees the highest values of all three variables.

Cluster 1:	Australia, Canada, Ireland, Norway, UK, US
Cluster 2:	Austria, Belgium, Denmark, France, Finland, Germany, Italy, Netherlands, New Zealand, Sweden, Switzerland
Cluster 3:	Japan, Portugal, Spain

7. A note on the revisions to estimated GVA growth in London

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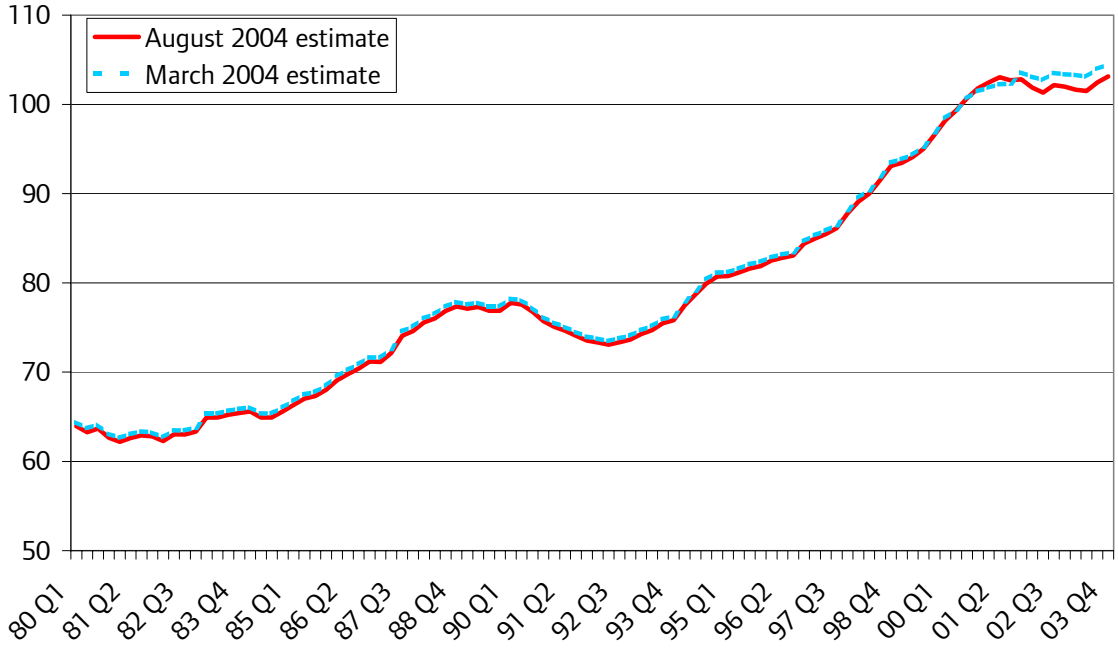
The estimates of GVA growth for London in 2002 produced by EBS in August 2004 showed a decline of 0.9 per cent. This was in sharp contrast to the earlier estimate, last revised in March 2004, which showed an increase of 0.7 per cent. This note examines the reasons behind the revision.

Chart 7.1 and Chart 7.2 illustrate the extent of the revisions going back to 1980. Note that the latest estimates are in 2001 prices while the earlier figures were in 2000 prices. This complicates the comparison.

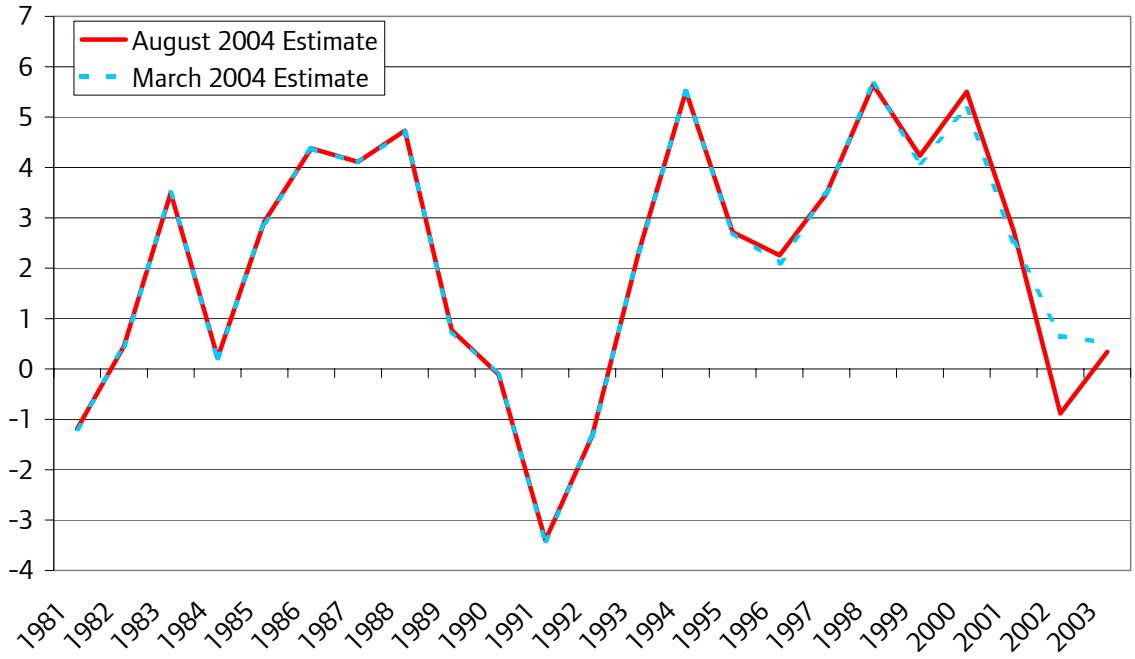
Chart 7.1 expresses both series as an index with 2000=100 for ease of comparison.

Chart 7.1: Estimates of real GVA in London



Source: Experian Business Strategies

Chart 7.2: Estimates of real GVA growth in London



Source: Experian Business Strategies

The revisions prior to 2001 are not particularly large. Changes to annual estimates are due entirely to revisions in the Regional and/or National Accounts data, while amendments to quarterly estimates are the result of revisions to the quarterly employment data (which are an input into the quarterly interpolation of the annual data). Consequently, this note concentrates in part on the revisions to 2001, but more specifically to those in 2002.

Estimating real GVA in London: A brief guide to the Experian Business Strategies methodology

The main input into the EBS estimates of real GVA in London are the ONS' Regional Accounts data on GVA by industry in London. The Regional Accounts industry detail, however, are on a residence basis, rather than a workplace basis. Workplace-based estimates of GVA are produced by ONS but no industry breakdown is given and the estimates are smoothed using a moving average procedure. The EBS estimates are based on the raw, un-smoothed data, and use an estimate of London workplace-based GVA by industry, based on the residence-based data and estimates of the impact of commuting based on workplace-based employment and average earnings data. The DTI's estimates are used directly in the case of the construction industry. The current price estimates are deflated using UK deflators for eleven broad industry categories to give constant price estimates of GVA.

Quarterly estimates are produced by interpolating the annual data using a mixture of employment and survey (BCC and CBI) data. When using employment data, the

assumption is made that employment lags GVA, so that an increase in employment is indicative of a more rapid increase in GVA and vice-versa. Note also that the quarterly pattern is sensitive to movements in the annual series. For example, if the annual data is slowing/falling in year 't+1', the estimated quarterly pattern will tend to show slowing/falling quarterly growth rates towards the end of year 't'. This is a plausible characteristic but problems can be encountered when dealing with the final year of annual data.

The Regional Accounts are generally two years out of date at the aggregate level and three years out of date at the industry level. In the case of the March 2004 estimates, we had Regional Accounts GVA estimates to 2001 and industry estimates to 2000. The recent estimates have a further year of data in both cases. The annual industry estimates are brought into line with the GVA totals by growing them in line with estimated growth in income from employment based on official employment estimates and average earnings by industry from the *New Earnings Survey*. These figures are then constrained to industry growth estimates at the UK level and to aggregate workplace-based GVA growth estimates at the regional level. This is essentially an attempt to mimic the method used by ONS themselves in generating the Regional Accounts data.

Beyond the most recent Regional Accounts GVA estimate, the data are extrapolated using a mixture of employment and survey data (BCC and CBI) with DTI estimates being used for construction. For all periods, official constant price data for Wales, Scotland and Northern Ireland are used directly.

Sources of revisions

Apart from long-term revisions, which tend to be small and are due to changes in Regional Accounts, National Accounts or employment data (quarterly pattern), there are two main sources of revisions. In the case under discussion, these were:

Revisions to 2001 – due to the receipt of new data on GVA by industry. This will tend to have a bigger impact on estimated growth by industry rather than on total GVA, as a Regional Accounts estimate of total GVA growth was available for the March estimates.

Revisions to 2002 – due to receipt of the first Regional Accounts estimate of GVA growth for 2002 (no industry breakdown).

Revision to the UK estimates will also have had an impact in both cases. The revision to the London estimates in 2001 were:

Table 7.1: Estimated real growth rates for London in 2001

	GVA		**FTE employees**	
	March estimate	August estimate	March estimate	August estimate
Primary	-3.2	4.7	4.6	3.7
Manufacturing	-2.4	-2.7	-7.1	-4.5
Construction	13.5	11.6	0.4	2.0
Distribution, hotels & catering	1.4	1.0	1.4	0.7
Transport & communications	-3.5	1.4	1.1	1.1
Financial & business services	3.8	4.1	3.0	2.3
Other (mainly public) services	3.5	4.1	2.4	3.2
GVA/Total employment	2.5	2.7	1.7	1.5

The latest estimates for 2001 show big revisions for primary industries, for transport and communications and, to a lesser extent for construction. GVA in primary industries is difficult to estimate using income from employment and we believe that the ONS incorporate other information. The revisions to construction are in line with revisions to the DTI estimates while the revision in distribution, hotels and catering reflects the downward revision to employment in that industry in London. The upward revision to transport and communications reflects erratic movements in the *New Earnings Survey* data used in the earlier estimate. Small sample sizes meant that no data was available for some groups of employees in some industries. Where this happened we previously assumed that average earnings were the same as at the GB level. This tended not to be problematic as the sample size was always large for important industries in London. In 2001, however, this was not the case for some parts of transport and communications in London. We have subsequently changed to a more sophisticated interpolation method that should avoid this problem in the future.

The revisions to 2002 are of a rather different nature. No Regional Accounts data for 2002 were available in March. As a result, the 2002 estimates were provisional and based solely on employment estimates, survey data and UK level estimates. The latest estimates incorporate the GVA totals for 2002 with the industry breakdown based on estimates of income from employment (based in turn on employment estimates and *New Earnings Survey* data).

Table 7.2: Estimated real growth rates for London in 2002

	GVA		FTE employees	
	March estimate	August estimate	March estimate	August estimate
Primary	-9.7	-13.1	-6.8	-21.1
Manufacturing	-3.5	-3.9	-5.8	-7.6
Construction	4.4	2.8	-10.6	-7.6
Distribution, hotels & catering	4.5	-1.5	0.3	-1.0
Transport & communications	-4.6	-8.3	-6.9	-6.7
Financial & business services	0.8	2.1	-3.0	-5.1
Other (mainly public) services	3.0	1.1	2.4	2.0
GVA/Total employment	0.7	-0.9	-1.8	-3.2

The latest aggregate GVA estimate is largely governed by the ONS' estimate of nominal growth in workplace-based GVA for London. The latest estimate of the industrial breakdown shown in Table 7.2 is determined by the income from employment estimates (together with estimates of UK growth and income from employment in other regions), so it cannot be certain than these will not be revised substantially when the next set of Regional Accounts are released. With the exception of GVA in the primary industries, we are, however, reasonably confident that the revisions will be small as long as there are no major revisions to employment growth. The issue, therefore, is why the March estimates for London were over-optimistic.

At the aggregate level, Table 7.2 shows that we have revised down our GVA growth estimates by 1.6 percentage points (+0.7 to –0.9 per cent) while the latest ONS estimates show that London employment (full-time equivalent employees) growth has been revised down by 1.4 percentage points (-1.8 to –3.2 per cent). Offsetting these were 0.3 and 0.4 percentage point increases in the ONS estimates of GVA and employment growth for the UK as a whole. The unattributed aggregate revision for London is therefore –0.1 percentage points (-1.6 – (-1.4) – 0.3 + 0.4).

Table 7.2 also shows both the March and August estimates of GVA growth in 2002 by industry. The big downwards revisions were to distribution, hotels and catering, transport and communications, primary and other (mainly public) services. Financial and business services were actually revised up. Unlike the 2001 estimates produced in March, the 2002 estimates did not use any information from the *New Earnings Survey*. This is because our procedure has been to use *New Earnings Survey* data to break down

the Regional Accounts GVA aggregate but not in estimation work for subsequent years. If we had we would have seen that average earnings in distribution, hotels and catering in London in 2002 increased by 2.1 per cent compared with 2.9 per cent for the UK, and that average earnings in London in transport and communications actually fell by 1.2 per cent against an increase of 2.2 per cent at the GB level.

If we take relative changes in average earnings as an indicator of relative changes in productivity, then the *New Earnings Survey* data together with the downward revision to estimated employment growth in some sectors explains most of the 2002 revision.

Conclusions

The earlier estimates of GVA growth in London in 2002 were heavily dependent on employment data supplemented by survey data. ONS have made substantial revisions to employment, which have revised down both London's growth rate and London's growth rate relative to other regions in 2002. These revisions explain almost all of the downward revision of the estimated GVA growth in London in 2002.

The strong upturn in GVA growth since mid-2003 evident in the old estimates is still present in the latest set and the recovery is now estimated to have continued into the second quarter of 2004. The bounce back is associated with a strong upturn in the employment and survey data used to estimate recent growth.

Appendix A: Explanation of terms and some sources

Definitions, differences, and revisions

As mentioned in the introduction, forecasting organisations use varying definitions of the regional indicators they supply. It is not therefore always possible to assign a completely consistent meaning to the terms used.

Throughout this report, as far as is compatible with the individual definitions applied by the forecasters, 'employment' refers to 'workforce employment' as defined in *Labour Market Trends*. *London's Economic Outlook* 3 (November, 2003) and *The GLA's Workforce Employment Series* provide a more detailed explanation of this term.

Forecasters' definitions are broadly compatible with this but in some cases differences arise from the treatment of small items such as participants in government training schemes or the Armed Forces. The GLA uses civilian workforce employment throughout.

Output refers to Gross Value Added (GVA), a term introduced by the 1995 revision of the European System of Accounts (ESA95). Some forecasters still estimate Gross Domestic Product (GDP) which can differ slightly from GVA. Imputed rental income from the ownership of property is in some cases included, and in some not. *London's Economic Outlook* 3 (November 2003) provides a more detailed explanation of this term.

All forecasters now produce estimates of real output which are weighted to the year 2001, following the publication, by the ONS, of chain-linked and re-weighted estimates of UK output.

Estimates of nominal regional GVA are available up to 2002 from the ONS.[30] No official estimates of real regional GVA are available because of the difficulties in producing authoritative regional price deflators, although the ONS has now produced regional price indexes for the year 2003.[31] Most regional forecasters supply their own estimates of London's GVA. The London GVA figures used in our own forecast are supplied by EBS and coincide with those of the ONS for 2001.

GVA estimates are less reliable than employment estimates because there is no independent source of information from which to judge the size of total sales by London-based agents. ONS estimates are calculated by the factor incomes method, beginning from wages paid to people with workforce jobs located in London. Profits are imputed on the basis of these earnings estimates from knowledge of national sectors of employment. Most regional forecasters adopt a variant of this technique.

[30] See I Cope, D Vincent, J Marais and P Lucas, 2003
[31] See D Fenwick and J O'Donaghue, 2003

Consumption refers to private consumption, otherwise known as household expenditure; in some cases the expenditure of non-profit organisations is included and in some it is not.

'Distribution' refers to Retail, Hotels and Catering. 'Other (mainly public) Services' refers to Defence, Health, Education and Other Services, and all other sectors have their standard meaning.

Appendix B: Glossary of acronyms

BBA British Bankers' Association
BCC British Chamber of Commerce
CBI Confederation of British Industry
CIPS The Chartered Institute of Purchasing and Supply
DTI Department of Trade and Industry
EBS Experian Business Strategies
ECB European Central Bank
GDP Gross Domestic Product
GLA Greater London Authority's
GVA Gross Value Added
HBOS Halifax Bank of Scotland
ILO International Labour Organisation
IMF International Monetary Fund
LEO London's Economy Outlook
mbpd million barrels per day
NIESR National Institute of Economic and Social Research
OECD Organisation for Economic Co-operation and Development
ONS Office of National Statistics
PPP Purchasing Power Parity
PwC PricewaterhouseCoopers
Q2 second quarter
RICS Royal Institution of Chartered Surveyors

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Hindi

यदि आप इस दस्तावेज की प्रति अपनी भाषा में चाहते हैं, तो कृपया निम्नलिखित नंबर पर फोन करें अथवा नीचे दिये गये पते पर संपर्क करें

Vietnamese

Nếu bạn muốn có văn bản tài liệu này bằng ngôn ngữ của mình, hãy liên hệ theo số điện thoại hoặc địa chỉ dưới đây.

Bengali

আপনি যদি আপনার ভাষায় এই দলিলের প্রতিলিপি (কপি) চান, তা হলে নীচের ফোন্ নম্বরে বা ঠিকানায় অনুগ্রহ করে যোগাযোগ করুন।

Greek

Αν θέλετε να αποκτήσετε αντίγραφο του παρόντος εγγράφου στη δική σας γλώσσα, παρακαλείστε να επικοινωνήσετε τηλεφωνικά στον αριθμό αυτό ή ταχυδρομικά στην παρακάτω διεύθυνση.

Urdu

اگر آپ اِس دستاویز کی نقل اپنی زبان میں چاھتے ھیں، تو براہ کرم نیچے دئے گئے نمبر پر فون کریں یا دیئے گئے پتے پر رابطہ کریں

Turkish

Bu belgenin kendi dilinizde hazırlanmış bir nüshasını edinmek için, lütfen aşağıdaki telefon numarasını arayınız

Arabic

إذا أردت نسخة من هذه الوثيقة بلغتك، يرجى الاتصال برقم الهاتف أو مراسلة العنوان أدناه

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਸ ਦਸਤਾਵੇਜ਼ ਦੀ ਕਾਪੀ ਤੁਹਾਡੀ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਚਾਹੀਦੀ ਹੈ, ਤਾਂ ਹੇਠ ਲਿਖੇ ਨੰਬਰ 'ਤੇ ਫ਼ੋਨ ਕਰੋ ਜਾਂ ਹੇਠ ਲਿਖੇ ਪਤੇ 'ਤੇ ਰਾਬਤਾ ਕਰੋ:

Gujarati

જો તમને આ દસ્તાવેજની નકલ તમારી ભાષામાં જોઈતી હોય તો, કૃપા કરી આપેલ નંબર ઉપર ફોન કરો અથવા નીચેના સરનામે સંપર્ક સાધો.

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