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Productivity in the UK:  
Progress towards a productive  
economy

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# CONTENTS

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	Page
1 Summary	1
2 The links between productivity and employment	5
3 The productivity challenge	13
4 Increasing employment	43
5 Conclusions	51
Annex A: Understanding the productivity gap	53
Bibliography	57



# SUMMARY

**I.1** This is the second Treasury paper in a series examining productivity in the UK. The first document (*Productivity in the UK: The Evidence and the Government's Approach*)<sup>1</sup> analysed the UK's productivity gap, and described the Government's strategy for raising productivity. This paper develops those themes and begins to assess the progress that has been made in moving towards a productive economy. The paper also profiles a number of case studies of individuals and businesses to highlight the impact of some of the Government's main policy interventions.

**I.2** The Government's central objective is to achieve high and stable levels of growth and employment. To do this, it must address long-standing structural problems, allowing the UK to become a more productive economy, using all its available resources effectively to generate economic well-being for all.

**I.3** In recent years the UK's record on employment has been strong, and employment rates are now higher than in almost every other OECD country. There are early signs that productivity growth is beginning to increase, although the UK still has a sizeable productivity gap with other industrialised countries.

**I.4** Although average productivity growth over the last four years has not been strong, this has been a time of strong employment growth, with approximately 1 million people entering employment. As they enter the workforce, new workers are generally between one-half and two-thirds as productive as workers already in the labour market. This is partly because new workers, on average, have less experience and are less skilled than existing workers, and partly because it takes time for the capital stock to adjust to the larger workforce. Although getting more people into employment is an essential part of progress to a productive economy, and is good for economic growth, it can in the short term dampen aggregate productivity growth.

**I.5** Structural reform, by its very nature, takes time to take effect and feed through to aggregate productivity. At a time of strong employment growth this is especially true. It may not be surprising, therefore, that sustained higher productivity growth may only now be beginning to show through in the aggregate figures.

**I.6** The US experience during the late 1990s is illustrative in this respect. Between the first and second half of the 1990s, productivity growth in the US economy accelerated. What the US experience during the second half of the 1990s shows is that although an expanding labour force can have a short-term dampening effect on labour productivity, this can be offset if supported by capital investment and new innovative and entrepreneurial working practices.

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<sup>1</sup> HM Treasury, November 2000. The paper is summarised in Annex A.

**Box 1.1: The key drivers of productivity growth : developments****Investment:**

- Business investment as a percentage of GDP was around 14 per cent in 2000, up from around 10 per cent in 1994;
- In the 2000 Spending Review, the Government allocated some £43 billion of additional funding; as part of this, net public sector investment is set to more than double by 2003–04.

**Skills:**

- Literacy levels at age 11 have improved by nearly a third over the last four years;
- More sixteen year olds are obtaining higher levels of qualifications than ever before; 49 per cent of sixteen year-olds obtained at least five GCSEs in 2000, compared to 43 per cent in 1994.

**Innovation:**

- Civil R&D spending by business increased by around 8 per cent between 1998 and 1999;
- ICT usage figures have grown steadily, with over 1.7 million small and medium-sized businesses now online, exceeding the Government's target of 1.5 million.

**Enterprise:**

- The UK has been rated by the OECD as having the lowest barriers to entrepreneurship of any major economy;
- The number of small businesses in the economy grew by 170,000 between 1997 and 1999.

**Competition:**

- Increased competition has forced prices in some key sectors to fall; prices for fixed telephone lines, for example, are estimated to have fallen by 27 per cent between 1994–95 and 1999–2000, with prices for international calls falling by 38 per cent over the same period.
- There is evidence that the new competition regime is generating public attention to competition problems, allowing the competition authorities to monitor the economy more actively and effectively.

A detailed analysis of the progress made against each driver is contained in chapter 3.

**1.7** The Government's aim is, consequently, to pursue the twin objectives of high employment growth and high productivity growth at the same time, in the understanding that both are essential to making progress towards a productive economy.

**1.8** There is some evidence of improved performance in both these areas. Employment growth since 1996 has averaged 1.5 per cent per annum. Recent productivity figures have also been encouraging. In the 12 months to December 2000, manufacturing productivity rose by 5.4 per cent. The most recent available figures for whole economy productivity show an increase of 2.6 per cent.<sup>2</sup>

**1.9** Despite this, it is too early to conclude that the UK has begun to succeed in meeting its productivity challenge. Closing the UK's productivity gap is likely to require years of sustained investment in human capital (through enhanced education and training programmes) and physical capital (including Information and Communication Technology and public infrastructure), along with a continued drive to encourage innovation and enterprise within a competitive business environment.

<sup>2</sup>Q3 1999 – Q3 2000.

**I.10** The Government's strategy, as set out in the November 2000 document on productivity, is based on two pillars: first, providing macroeconomic stability to allow firms and individuals to invest for the future; secondly, making microeconomic reforms to ensure that markets function efficiently and to tackle the barriers to productivity growth.

**I.11** Microeconomic reforms are centred around the key drivers of productivity growth: investment, skills, innovation, enterprise and competition, as well as the productivity of the public sector.

**I.12** Whilst there are signs that these reforms may be beginning to produce some positive effects, this only represents the first stage in bringing about sustained improvements in the UK's productivity performance. The next step will be to build on the progress made so far, and to continue to focus on delivering improvements through each of the key drivers of productivity performance.

**I.13** The productivity challenge facing the Government is to achieve its long-term ambition to have a faster rise in productivity than its main competitors as it closes the gap. Chapter 2 describes this challenge, giving the background to the UK productivity story, and looking at the relationship between productivity and employment. Chapter 3 then takes stock of progress in each of the key drivers of productivity. It looks at the particular measures taken by the Government and profiles the impact of some of these in a number of case studies. Chapter 4 does the same for employment measures. Chapter 5 draws the main conclusions from the paper.



# 2

## THE LINKS BETWEEN PRODUCTIVITY AND EMPLOYMENT

**2.1** The Government's central economic objective is to achieve high and stable levels of growth and employment, and to do so by securing an increase in the trend growth rate of the economy. This can be achieved in two ways: by increasing the number of people working, and by increasing how much each person produces (i.e. how productive they are). A productive economy uses all the resources it has available to generate economic well-being for all and is characterised by high levels of employment and productivity.

**2.2** Table 2.1 breaks down output growth between 1997 and 2000<sup>1</sup> into that attributable to increased employment and that resulting from each worker producing more. It shows that productivity growth accounted for almost two-thirds of total output growth across the period, but that employment growth still accounted for a substantial part (over one-third) of output growth.

**Table 2.1: Decomposition of output growth (per cent)**

	1997 to 2000
Employment growth	4.4
Productivity growth	7.0
Output growth	11.4

*Source: HM Treasury.*

**2.3** The mid-points of the Budget 2001 forecast ranges are again anchored on the neutral assumption of 2½ per cent a year trend output growth.<sup>2</sup> The Government, however, seeks to raise the trend rate of growth – that is, the rate at which the economy can grow over the medium-term without causing inflationary pressures. Of this, about one-fifth is expected to come from increased employment, and four-fifths from increased labour productivity.<sup>3</sup>

### THE GOVERNMENT'S APPROACH

**2.4** To achieve a high and stable trend level of growth, the Government's strategy is to provide the best environment for all participants in the economy, firms and workers, to maximise their potential to work effectively and efficiently. The strategy is based on providing a stable macroeconomic environment within which firms can make critical long-term decisions with greater certainty, and, within that environment, to make markets work through a series of microeconomic reforms designed to:

- (i) raise **productivity**, through improving performance in investment, skills, innovation, enterprise and competition, as well as the productivity of the public sector; and
- (ii) increase **employment**, through Welfare to Work and policies to make work pay.

<sup>1</sup> Figures available until 2000 Q3.

<sup>2</sup> Set out in the November 2000 Pre-Budget Report.

<sup>3</sup> For a full exposition of this see HM Treasury: Trend Growth: Prospects and implications for policy, November 1999.

## PRODUCTIVITY

**2.5** Productivity growth is expected to be the major contributor to long-term growth. There is clearly room for the UK to improve its productivity performance considerably. UK productivity lags that of its major competitors; this is true whichever measure of productivity is used. On the measure of output per worker, US productivity is 45 per cent greater than that of the UK, France is 19 per cent higher and Germany leads by 7 per cent. Box 2.1 sets out the productivity gap and discusses the measurement of productivity.

### Box 2.1: Measuring productivity and the productivity gap

Productivity refers to how well an economy uses the resources it has available, by relating the quantity of inputs to outputs. There are several measures of this relationship:

- **Output per worker** – the productivity of each person in active employment;
- **Output per hour** – a related concept which takes account of part-time work and time spent not working; and
- **Total factor productivity (TFP)** – this takes account not only of labour inputs, but also capital. It must, however, be estimated rather than directly measured and requires an accurate measure of the capital stock, which is often not available.

The Government's central measure is output per worker. This has the advantages of being the most straightforward to measure and also being immediately linked to the overall objective of raising trend growth. However, no matter which of these measures is used, UK productivity lags that of other industrialised countries, as shown in the table below.

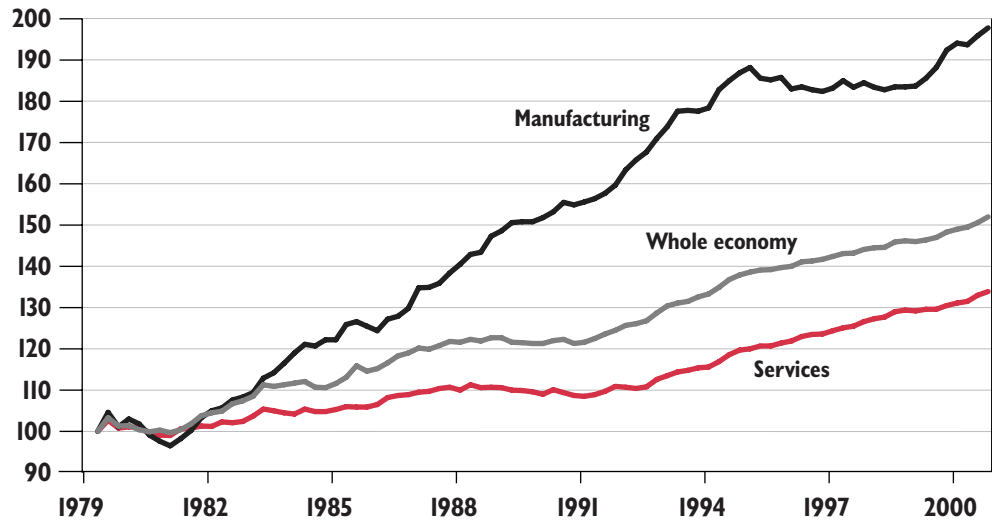
Table	Productivity comparisons, 1999		
	US	France	Germany <sup>4</sup>
Output per worker	145	119	107
Output per hour worked	126	123	114
Total factor productivity	118	120	113

Source OECD, and O'Mahony (1999).

(UK=100)

<sup>4</sup> German productivity figures have recently been revised downwards due to changes in the way that German employment statistics are calculated. Until recently, Germany had not been using the strict ILO definition of employment. This has now been rectified, with consequential implications for the measures of productivity. New social security legislation also means that the threshold for paying social security contributions has been reduced markedly, so more workers are being covered by the administrative systems. The figures have also changed since German re-unification – the gap with the former West Germany is greater.

**2.6** Overall, UK productivity has seen an increase throughout the 1990s, although not all sectors have experienced the same rate of growth. Chart 2.1 sets out the trend for productivity across the whole economy, and then separately for manufacturing and services. Box 2.2 focuses on manufacturing productivity.

**Chart 2.1: UK productivity index<sup>1</sup> by sector, 1979 to 2000**

<sup>1</sup>Productivity is measured as output per worker.

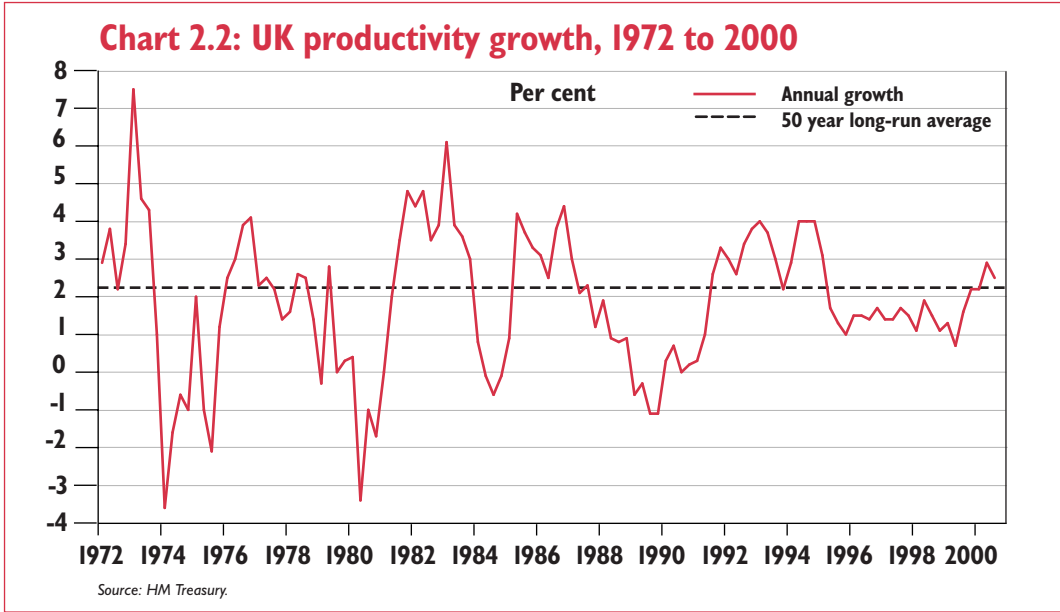
Source: ONS, 1979Q1 = 100.

### Box 2.2: Recent manufacturing performance

Manufacturing output grew by over 5 per cent in the 12 month period to December 2000, the strongest rate of annual growth since 1994 by a substantial margin. Furthermore, during 2000 exports achieved their strongest rate of growth since 1973. Recent business survey results show manufacturers anticipating a further strengthening of activity in coming months.

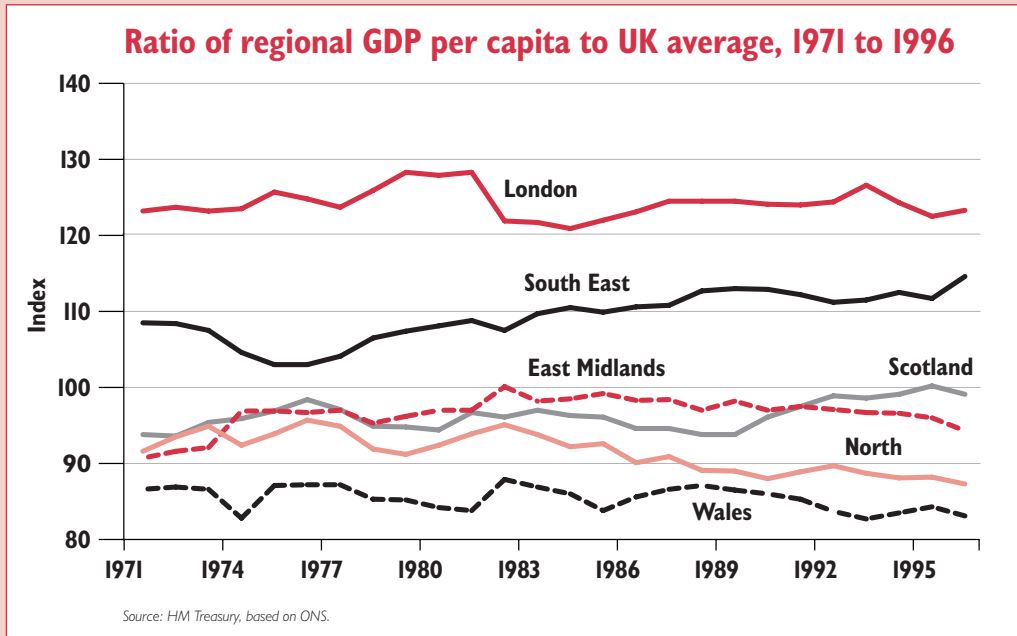
The expansion in the output of the manufacturing sector has been helped by recent relatively strong gains in productivity. Following a period of weak productivity growth between 1995 and 1998, manufacturing output per worker began to pick up early in 1999 and has continued to grow strongly since then. In 1999 as a whole, manufacturing productivity recorded its fastest rate of increase since 1992 and productivity growth in 2000 remained well above the historical average for the sector of just over three per cent.

**2.7** Chart 2.2 sets out the productivity growth rate for the whole economy. Much of the historical variation in productivity growth has been cyclical, with labour productivity growth tending to be fastest at the early stages of a recovery and slowest in the early stages of a downturn. The chart shows that productivity growth fell below its long-run average in the mid-1990s, and did not exceed it again until 2000. This was, however, a period of strong employment growth, as discussed in paragraphs 2.11 to 2.13 below.



**Box 2.3: Productivity in the UK regions**

There are significant and persistent variations in GDP per capita amongst UK regions. For example, in 1999 GDP per capita in the North East was nearly £6,900 (over 40 per cent) below that of London.<sup>1</sup> Furthermore, these differentials in relative regional GDP per capita have been highly persistent over the last 30 years (see chart below). Indeed, there is evidence that, broadly, the existing pattern of regional differentials goes back to the early 1920s.<sup>2</sup>



The main source of these inequalities is regional variations in labour productivity levels (measured as output per worker). Treasury estimates show that the East, South East and London have the highest labour productivity levels, with most other regions trailing by 10-25 per cent and Northern Ireland by over 40 per cent.<sup>3</sup> Other factors affecting regional inequalities are differences in unemployment rates, participation rates and working-age population share.

Recent research has shown that differences in the skill composition of the workforce in UK regions are the main underlying factor associated with regional productivity differentials.<sup>4</sup> For example, in London 22.9 per cent of the working-age population is educated to degree-level or equivalent, compared to 9.1 per cent in the North East. Similarly, in the North East 19.8 per cent and in Northern Ireland 26.1 per cent have obtained no qualifications, compared with 14.9 per cent in London and 11.3 per cent in the South East.<sup>5</sup>

There is also evidence of significant differences in innovation between regions, in terms of the adoption of new technologies and working-practices, with the South East and London leading the rest of the country.<sup>6</sup> Furthermore, measures of entrepreneurial activity in the regions show large variations. For example, the number of new business start-ups per resident population in London is triple that in the North East.<sup>7</sup>

The government's regional policy is based on two pillars:<sup>8</sup>

- generating sustainable growth through coordinated policy measures targeted at regional and local market failures in skills, innovation and enterprise; and
- building on each region's indigenous strengths by encouraging regional and local initiatives and providing these with the necessary flexibility in a national framework.

Regional Development Agencies (RDAs) were set-up in April 1999 to act as strategic leaders in regional and local economic development. As announced in the 2000 Spending Review they have been equipped with substantial resources and increased flexibility. Their budget has risen to £1.2 billion this year, will rise to £1.45 billion next year and to over £1.7 billion in 2003–4.

To further build regional capacity in innovation and skills, Regional Innovation Funds (£54 million) and Regional Venture Capital Funds (£270 million) have been set-up to deliver a £1 billion increase in venture capital investment. RDAs play a co-ordination role on both. The Regional Innovation Fund will support clusters and networks of businesses across the regions. Regional Venture Capital Funds are aimed at boosting the level of small-scale risk capital available to high growth firms in the regions, helping to meet a demand that is currently underserved by the commercial market.

<sup>1</sup> ONS News Release: Regional GDP, 27 February 2001.

<sup>2</sup> Feinstein, Matthews and Odling-Smee (1982).

<sup>3</sup> Calculated from ONS Press Release: Regional Gross Domestic Product, February 2001 and Regional Labour Market Statistics Press releases.

<sup>4</sup> Duranton and Monsastiriotis (2000).

<sup>5</sup> ONS, Regional Trends (2000).

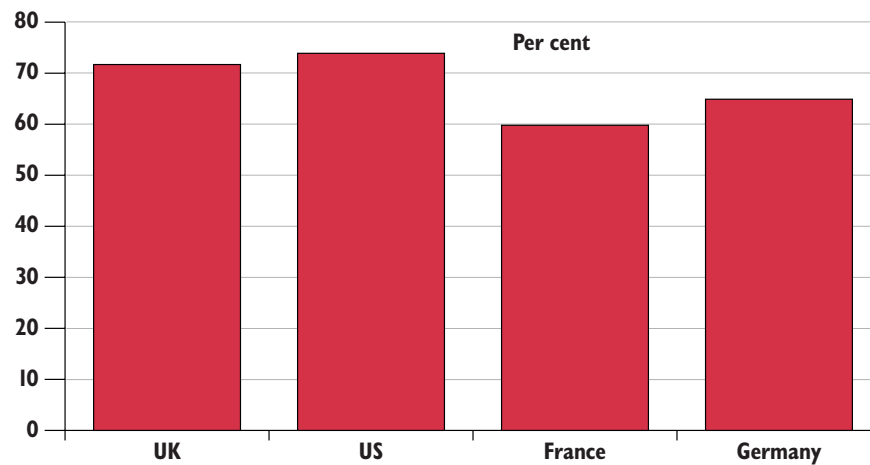
<sup>6</sup> Barnes (2001).

<sup>7</sup> Small Business Service (2000).

<sup>8</sup> See, for example, Balls (2000).

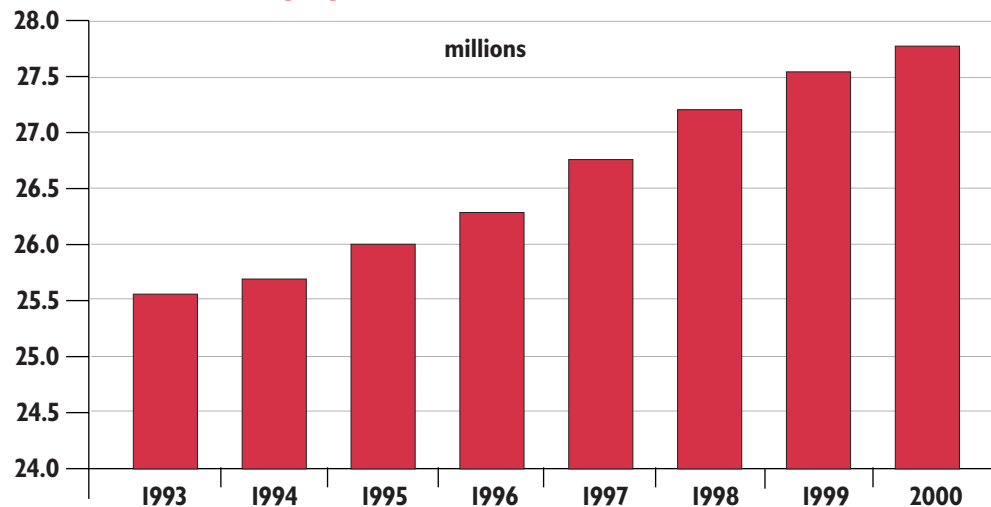
## EMPLOYMENT

**2.8** UK employment performance over recent years has been impressive, and the employment rate is now higher than in most OECD countries. Chart 2.3 shows how the UK compares in this respect with the US, France and Germany.

**Chart 2.3: Employment rates of working age population, 1999**

Source: OECD.

**2.9** Employment growth in the UK has averaged 1.5 per cent per annum since 1996. Chart 2.4 shows UK employment growth during the 1990s.

**Chart 2.4: Employment in the UK<sup>1</sup>, 1993 to 2000**

<sup>1</sup> Labour Force Survey definition used for Unemployment series  
Source: Labour Market Statistics, Feb 2000

**2.10** The International Labour Organisation (ILO) measure of the rate of UK unemployment is at 5.3 per cent, its lowest level since the series began in 1984. The claimant count is just over 1 million,<sup>4</sup> its lowest level since the 1970s. In total, over 1 million people have gained jobs in the last four years.

<sup>4</sup> Figure as at January 2001.

**2.11** The recent improvement in the UK's employment record can be attributed to many factors. From a platform of macroeconomic stability, policies to make work pay and Welfare to Work have increased employment amongst groups previously detached from the labour market. For example, since 1998, 274,000 people between the ages of 18 and 24 have found employment having been through the New Deal for Young People.

## THE LINKS BETWEEN PRODUCTIVITY AND EMPLOYMENT

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**2.12** Both increasing productivity (measured as output per worker) and increasing employment have the effect of raising aggregate output. Employment growth and productivity growth are, however, not independent of each other.

**2.13** As employment grows, the level of output per head of the population is increased by the rise in employment levels, even though there may be a one-off reduction in the level of output per worker. The overall economy has, however, become more productive, in that labour market participation and national income have both increased.

**2.14** Econometric analysis<sup>5</sup> supports the view that new entrants into employment are on average between one-half and two-thirds as productive as existing workers, which is broadly consistent with the evidence that relative entry wages are around half average weekly wage rates.<sup>6</sup> During such a phase, it is to be expected that average productivity growth (as statistically recorded) could be dampened, even though aggregate output is increasing.

**2.15** Raising employment levels by improving the functioning of the labour market may therefore tend to reduce labour productivity growth over an initial transitory period. The UK may have experienced such an effect over the late 1990s. There is no reason to suppose, however, that long-term trend growth in output per worker has been affected. This will depend on the economy's record of investment and innovation.

**2.16** A key factor affecting productivity in the longer term is whether skills levels of the new entrants to the labour force increase over time. The evidence in the UK is that this process of "upskilling" is not evenly spread; those workers with the lowest skills levels tend to receive the least workforce training.<sup>7</sup> In a period of high employment growth combined with high levels of employment (as has been the case in the UK over recent years), more low skilled people can enter the workforce. Consequently, it is important to redress the imbalance of training opportunities for this group to avoid holding back future productivity growth.

**2.17** Moreover, as firms increase their capital stock and adopt new technologies, it is possible to attain substantial productivity increases even when employment growth is strong. This has been the experience of the US in the second half of the 1990s which managed to move to a position of high employment and high productivity growth. Box 2.4 looks at US productivity growth in the 1990s.

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<sup>5</sup> Internal analysis by HM Treasury.

<sup>6</sup> Gregg & Wadsworth (2000).

<sup>7</sup> McIntosh (1999).

**Box 2.4: US productivity growth in the 1990s**

Between the first and second halves of the 1990s, labour productivity growth in the US economy accelerated from 1.5 per cent to 2.5 per cent a year. This was accompanied by employment growth throughout the decade, with stronger growth in the second half of the nineties.

An influential study by economists at the Federal Reserve Board<sup>1</sup> has broken down the acceleration in labour productivity into its various elements. Their findings are set out in the table below. This analysis suggests that new workers entering the labour market were, on average, less productive than existing workers.

Even so, labour productivity was able to accelerate substantially as a result of three factors. First, substantial capital investment, especially in ICT and related technology, allowed firms to increase productivity greatly. Secondly, over and above the effects of an increased capital stock, ICT probably spurred firms to adopt more efficient methods of organisation and working, which themselves contributed considerably to higher productivity growth. Thirdly, productivity improvements in firms involved in ICT production were so large as to impact on overall productivity growth, even though the sector itself was not very large (around 2 per cent of the total output).

The US experience shows that although an expanding labour force may have a short-term dampening effect on labour productivity, this effect can be offset. Thus, if supported by capital investment and new innovative and entrepreneurial working practices, it is possible to attain high labour productivity growth and employment growth at the same time.

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**Factors underlying increase in US labour productivity between 1991-95 and 1996-1999 (percentage points)**


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Acceleration in labour productivity growth	1.04
Of which:	
• Better labour quality	-0.13
• More capital per person	0.48
<i>More use of ICT</i>	0.45
<i>Other capital</i>	0.03
• More efficient production	0.67
<i>In ICT and semiconductor manufacture</i>	0.26
<i>General spillover (TFP) effects in other production</i>	0.41

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Source: Oliner and Sichel (2000).

<sup>1</sup> Oliner and Sichel (2000).

**3.1** Chapter 2 showed that the UK has a substantial productivity gap with other major industrialised countries. This chapter describes the Government's major policy initiatives to redress that gap, examines key indicators to take stock of progress to date, and profiles a number of specific case studies. Section 1 focuses on the UK's macroeconomic position, looking at the progress that has been made in moving towards stability. Section 2 looks at microeconomic reforms in each of the priority areas (investment, skills, innovation, enterprise and competition) separately; taking stock of progress to date, focusing on the key indicators and describing the main policy measures taken.<sup>1</sup>

## SECTION I: MACROECONOMIC STABILITY

**3.2** A broad consensus now exists that macroeconomic stability is essential for maximising long-term economic growth and employment. The high volatility of inflation and output in the UK over the last 30 years has held back economic growth and impaired job creation by making it difficult for individuals and firms to plan, save and invest.<sup>2</sup>

**3.3** Since 1997, the Government has introduced a new framework for the operation of macroeconomic policy with the objective of delivering economic stability. The monetary policy framework aims to deliver low and stable inflation, while the fiscal policy framework is designed to achieve sound public finances over the medium term. Both frameworks are characterised by high levels of transparency, responsibility and accountability and are underpinned by legislation.

**3.4** The improved macroeconomic environment, being delivered by the macroeconomic framework, is reflected in terms of the impact on:

- the inflation rate; and
- the cost of capital.

**Inflation 3.5** The primary objective of the monetary policy framework is to deliver low and stable inflation, with the Monetary Policy Committee (MPC) of the Bank of England given operational independence to set interest rates to meet the Government's inflation target of 2½ per cent.<sup>3</sup> The MPC must aim not to overshoot or undershoot this target by one percentage point. This ensures that deviations below the target are treated just as seriously as those above, and that policy settings are neither unnecessarily tight nor loose.

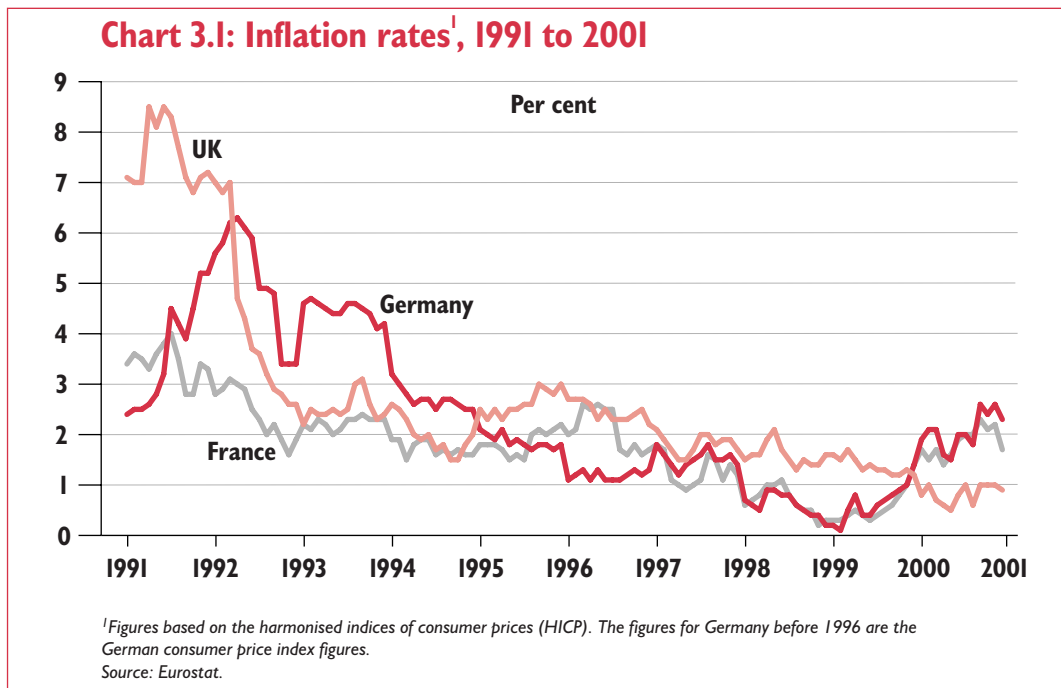
**3.6** While fiscal policy settings are primarily concerned with securing sound public finances, where possible they will act to support monetary policy. The automatic stabilisers in fiscal policy will act to dampen the effects of the economic cycle, boosting aggregate demand when the economy is below trend, and reducing aggregate demand when it is above trend.

<sup>1</sup>For a systematic review of the UK's comparative record in various dimensions of economic performance, see also Department of Trade and Industry (2001).

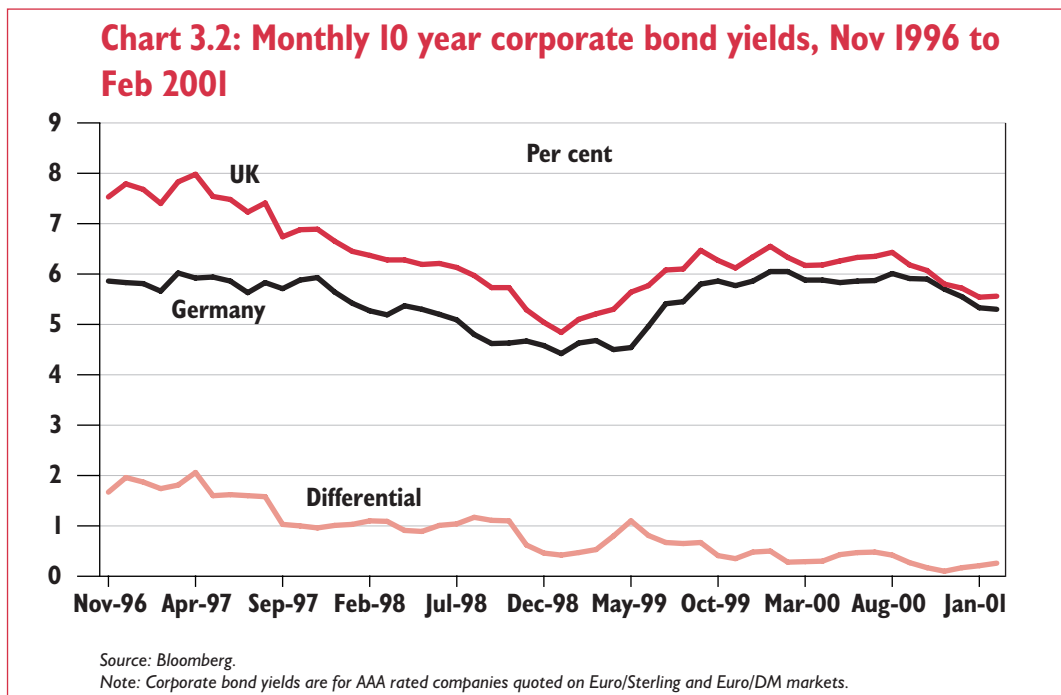
<sup>2</sup>The impact of inflation volatility on growth is estimated in a recent study by the OECD (2000b) of its member countries, which found that countries with higher inflation variability tended to grow less rapidly than those with low inflation variability.

<sup>3</sup>Measured as 12-monthly increases in RPIX – the Retail Prices Index excluding mortgage interest payments.

**3.7** Under the new macroeconomic framework, inflation has been low, stable and close to target. On a comparable basis, inflation in the UK, once amongst the highest in Europe, is now the lowest (see chart 3.1).



**The cost of capital** **3.8** A more stable economic environment reduces the degree of risk to business in undertaking investment. This means that the cost of capital – the price which business pays to borrow money – should fall. Direct measures of the cost of capital are not available<sup>4</sup>, but yields on UK corporate bonds (a proxy for a measure of the cost of capital) fell sharply between 1997 and 1998, closing the gap with, for example, Germany (see chart 3.2). The differential between UK and German bond yields is now almost eliminated.



<sup>4</sup>This is partly because the actual cost of capital varies from project to project according to the method of financing used and the degree of associated risk.

## SECTION 2: MICROECONOMIC REFORMS

### Box 3.1: Opportunity for all in a world of change: White Paper on Enterprise, Skills and Innovation

Published in February 2001, the White Paper included announcements on:

**Closing the skills gap** – improving basic skills for 750,000 adults, boosting vocational courses, and bringing in more ICT training and reforming sectoral and company training;

**Building strong regions and communities** – boosting R&D, innovation and skills through new centres in regions, providing new support for start-up businesses and manufacturing, and working through Regional Development Agencies to develop strategies for success;

**Investing in innovation** – providing £90 million for the commercialisation of research, working to ensure faster broadband rollout and faster take-up of e-business, promoting the take-up of digital TV, and giving stronger emphasis to green technologies and markets;

**Fostering enterprise** – relaxing insolvency rules, creating a new role for the Office of Fair Trading to monitor Government regulations, and driving forward the “Think Small First” strategy of the Small Business Service; and

**Strengthening European and global connections** – introducing two initiatives to attract business talent to the UK, launching a global partnership programme to help UK firms attract international partners, and undertaking a major study on the benefits of EU economic reform.

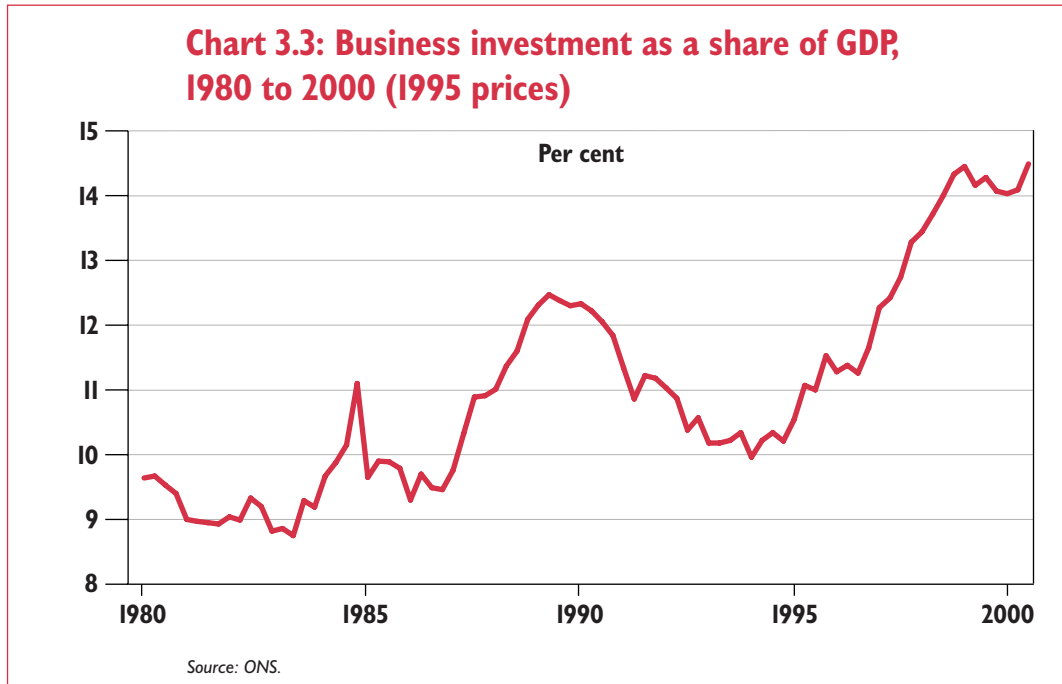
**3.9** While macroeconomic stability is the necessary precondition for raising productivity and the trend rate of growth, the Government has implemented a series of carefully designed microeconomic reforms, directed at making markets work efficiently. Each of the key drivers of productivity growth is considered below, summarising the progress to date and giving details of the main recent policy developments.

### INVESTMENT

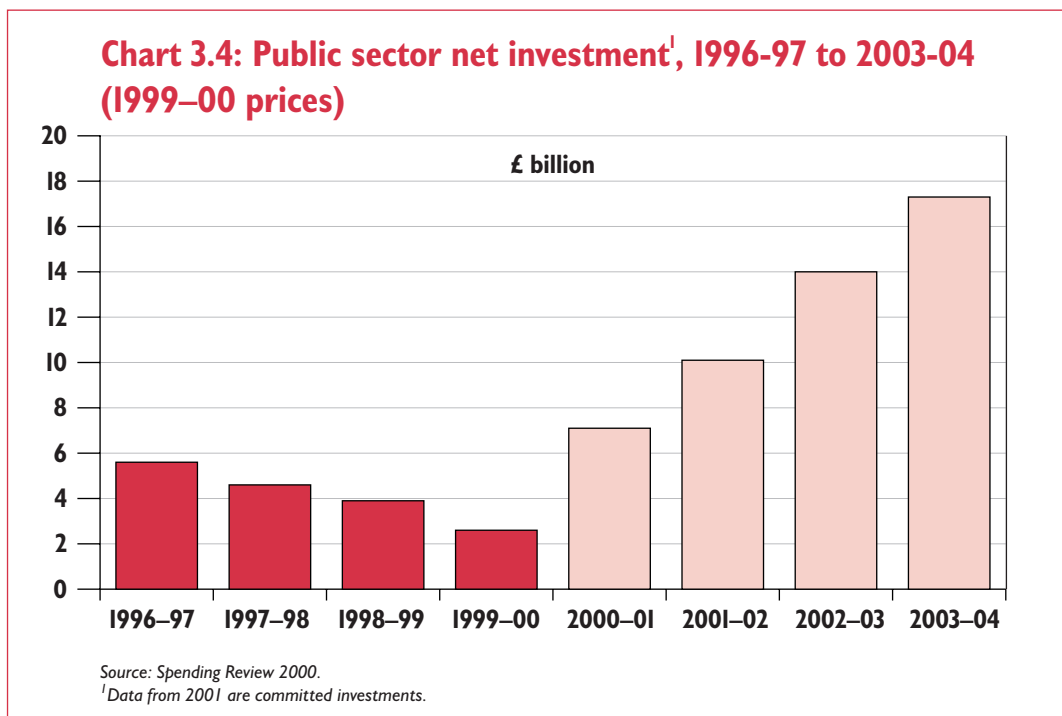
**3.10** Growth in an economy relies heavily on investment in physical capital to augment the productivity of labour. Numerous studies have identified a central role for physical capital in promoting productivity and growth.<sup>5</sup>

**Business investment 3.11** Business investment has been increasing substantially in recent years. Chart 3.3 sets out business investment as a share of GDP. It shows that investment in the last two years has been higher than at any other point in the last two decades.

<sup>5</sup> Dougherty and Jorgenson (1997); Oulton (2001).



**Public investment 3.12** Whereas public sector net investment in 1999–2000 was only 0.3 per cent of GDP, the spending reviews of 1998 and 2000 are set to increase this figure to 1.8 per cent of GDP in the year 2003–04. Chart 3.4 shows this increase in real terms.



**Case study: Investing in infrastructure**

The need to reverse long-term neglect of investment in the UK's transport infrastructure is apparent to all. The Government outlined its commitment to modernise Britain's transport system in its Ten Year Plan, released in July 2000. The plan will provide for £59 billion of public and private investment for transport. This level of investment will be able to deliver improvements to existing roads; build 70 new bypasses; modernise trains; improve the transport system in rural areas and invest in up to 25 light rail lines.

The Tyne and Wear Metro extension, currently under construction, provides one example of transport modernisation. This light rail project will link Sunderland to Newcastle via the Tyne and Wear Metro by using 14 kilometres of existing Railtrack route between Pelaw and Sunderland (the Metro will share this section of track with heavy rail services) and carrying on to South Hylton on 4.5 kilometres of new track. Eight new stations are being provided and four existing Railtrack stations are being upgraded.

The £98 million project consists of a mixture of Government funding (£35 million), private funding from Railtrack and Nexus (£40 million and £8 million) and some European regional development funding (£15 million).

Expected to open in early-2002, the Metro extension will enable metro trains to run between Sunderland and Newcastle at 10 minute intervals throughout the day. The Tyne and Wear Metro already carries over 30 million passengers a year and the extension will further reduce congestion on the road network in key corridors and in city centres. About 16 per cent of the customers are expected to be drawn from existing car users, thus reducing both traffic jams and pollution levels. The extension will also improve the integration of the existing public transport system, provide users with a direct link to the area's main air and rail services (including Newcastle's international airport) and increase access to work.

According to Ken Mackay, Director of Major Projects, Nexus: "This is a prime example of continuing the history of innovation and investment in the North East. It proves that, with appropriate arrangements in place, the public and private sectors can work in partnership to deliver improved public transport."

**3.13** Nevertheless, the investment challenge is a considerable one. The UK's capital stock is low because of years of under-investment, in both the private and the public sector. In order to remedy that shortfall, the up-turn in investment will need to be sustained.

**Investment – the Government's approach**

**Private sector investment** **3.14** Government policy has targeted investment in physical capital both in the private and in the public sector.

**3.15** In order to invest, firms must have access to affordable capital but, more importantly, they must be in a position to plan effectively for the future. As discussed above, the Government has sought to promote private sector investment through promoting macroeconomic stability. Even in the context of a stable macroeconomic environment, however, firms must have access to affordable capital in order to invest. Efficient capital markets ensure that firms are able to finance potentially viable investments, enabling them to expand operations to meet demand.

**3.16** The Government has put in place a number of measures to ensure that firms have access to affordable capital. In many cases, the cheapest capital available to firms is from retained profits, but the corporate tax system that the Government inherited favoured the distribution of profits over retained profits. The Government thus made major reforms in 1997 and 1998, through:

- abolishing the payable tax credit, thereby removing the distortion that encouraged companies to pay out dividends rather than reinvest their profits; and
- reducing corporation tax rates (moving to a 30 per cent main rate and a new 10 per cent starting rate for the smallest companies).

**3.17** Another major tax change, designed to prevent the tax system distorting investment decisions, was the abolition of Advance Corporation Tax (ACT). This ended the double taxation of overseas profits and removed a distortion which encouraged the inefficient investment of surplus capital.

**3.18** The Government has also facilitated the provision of venture capital through the continued commitment to tax-advantaged schemes such as Venture Capital Trusts and the Enterprise Investment Scheme, and the introduction of the Corporate Venturing Scheme to increase the availability of venture capital to small high-risk trading companies from corporate investors. In addition to these schemes, the Government is promoting public-private venture capital fund partnerships and business angel investments.

#### **Case Study: Venture Capital Trusts**

**Venture Capital Trusts (VCTs) provide early stage and development capital for small unquoted higher risk trading companies; they have raised over £1 billion from individual investors so far. Investors can benefit from tax relief both when they subscribe for shares in a VCT, and when it distributes income or gains.**

**First Fibre (FFL) moved into optical fibre technology for high-security military applications in 1984. The optical communications technology the company had developed proved to be a key to developing high-speed communications technology for the telecommunications industry. By 1998, sales were £3.2 million per year and the company was breaking even, but its parent had financial problems and was unable to fund its growth.**

**Advent Venture Partners helped FFL gain independence from their former owners in 1998 and together with the Quester VCT provided the finance to enable the company to develop its full potential.**

**FFL then concentrated on building up sales in the US and Europe. In April 2000, FFL was approached by ADVA, a German electronics company, with a view to an outright purchase. After negotiations, ADVA upped their offer from £53 million to £54.6 million. The purchase was completed in July 2000, providing £7.6m to each VCT, for an outlay of only £1.25 million in 1998 and 1999.**

**A broad range of investors were able to witness and enjoy the fruits of this typical high-tech VCT investment, where technology developed initially for military uses now provides fast, reliable data communications between computer networks. Spotting and exploiting such opportunities can lead to outstanding returns for investors.**

**According to Sir David Cooksey, Chairman of Advent: “VCTs have played a major part in improving the flow of equity investment into growing small firms, who have historically found it difficult to raise sums of less than £2 million from large investment institutions. The VCT industry has grown rapidly on the back of well-targeted incentives which have encouraged private individuals to invest. VCTs help to secure the early development of exciting growth companies which do most to create jobs, provide new economic activity and pay substantial taxes as they grow, justifying the tax incentives enjoyed earlier by the VCTs themselves”.**

**3.19** Recognising the importance of efficient capital markets for investment, in Budget 2000, the Government asked Paul Myners, Chairman of Gartmore Investment Management, to investigate possible distortions in institutional investment decision-making, including issues such as:

- whether regulatory provisions have unintended effects on investment decision-making;
- how pension funds make their investment decisions, and the role of professional advisers;
- how institutional investors' results and charges are reported; and
- the incentive effects of the methods used to assess fund performance.

**3.20** The review issued a consultation document in May 2000, to which over 200 responses were received. In November Paul Myners wrote an open letter to Ministers setting out proposals on two issues: the Minimum Funding Requirement and legal restrictions on pension funds' investment in limited partnerships. His final report was published yesterday, and the Government is responding to his proposals in this Budget.

#### **Case study: Venture Capital Funds**

The Government is promoting investment in new technology through new public-private venture fund partnerships. The aim is to help redress an historic weakness in the UK's venture capital market in the supply of finance to smaller technology-based companies with growth potential. The UK High Technology Fund (UKHTF) does this by using the Government's 'cornerstone' investment of £20 million to attract in more than £100 million of private sector capital from institutional investors. The long-term aim is to demonstrate, via this fund, the role that such venture investment can play as part of a balanced equity portfolio.

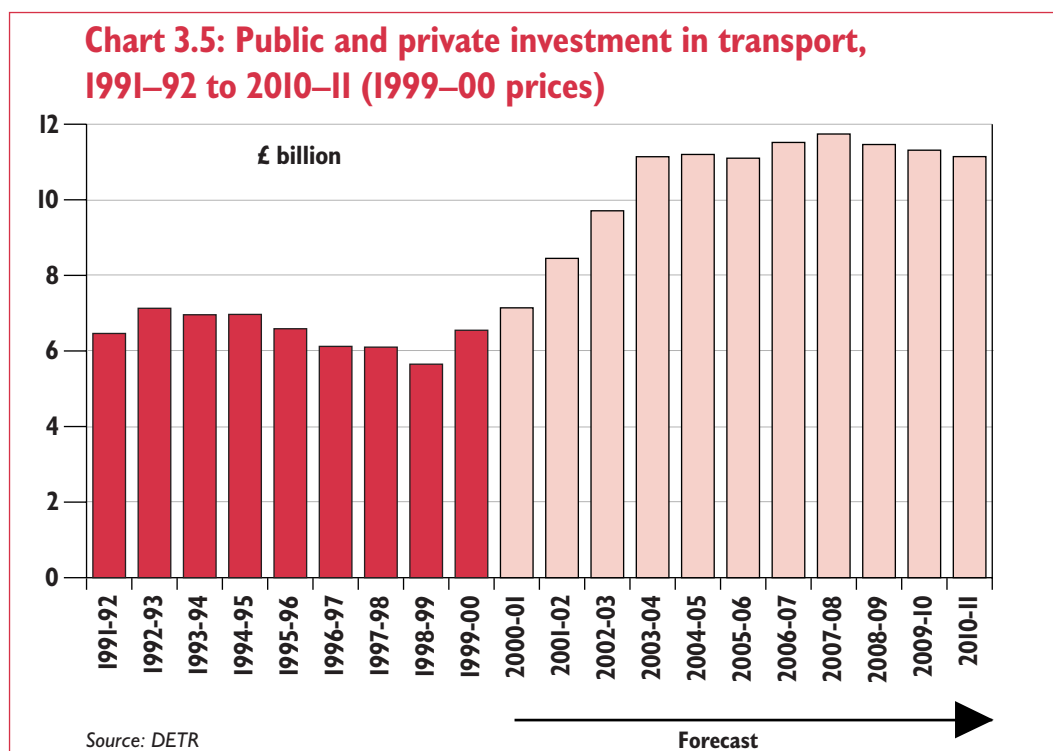
The Fund is investing through specialist venture capital operators including Add Partners, Advent, Amadeus, Merlin Bioscience, and MTI. It is helping to finance the commercialisation of a wide range of technologies and the growth of new enterprises developing these businesses. The technologies invested in so far include novel vaccines; ultra-cheap plastic micro-chips to endow everyday products with 'intelligence'; a new cardiac monitoring method; new cancer therapies; and a new WAP search engine. The UKHTF has also succeeded in attracting in capital from UK pension funds and other institutions which have historically been reluctant to invest in UK technology-focused venture capital.

According to the UKHTF's fund manager, John McCrory of Westport Private Equity: "The Government's sponsorship of the UKHTF has encouraged 14 leading UK pension funds and two major overseas institutions to look again at this exciting and profitable area of investment. The UK investors are responsible for the stewardship of over £60 billion of pension fund assets. Thus, the UKHTF has already achieved its objective of introducing a broad spread of UK pension funds to the investment opportunities provided by the early stage UK technology sector. The additional funding for the underlying venture capital teams also provides further long-term equity support to UK technology companies. I am confident that UKHTF will act as a catalyst in encouraging further long-term pension fund investment in these companies".

**Public sector investment** **3.21** It is not only private sector investment, but also effectively targeted public sector investment, that is vital to economic growth. An effective infrastructure is vital to ensuring that firms are able to operate efficiently, without needlessly wasting resources.

**3.22** To address this, in the 2000 Spending Review, the Government announced that annual public sector net investment would more than double in real terms over the next four years - rising from £7 billion in 2000–01 to £18 billion in 2003–04.

**3.23** A central element of this public investment commitment is, in partnership with the private sector, to be directed at transport. The 10 year Transport Plan<sup>6</sup> published in July 2000 set out a long-term programme, with substantially increased resources from both the private and the public sectors, to be directed at road, rail and local transport. Under this plan, from 2001–02 transport investment will rise sharply, so that by 2003–04 it will be almost double current levels. Chart 3.5 shows transport investment projections through to 2010–11.



## SKILLS

**3.24** A second key determinant of productivity is human capital; the levels of skills within the population.<sup>7</sup> Skills are fostered through formal and informal education and learning. Training occurs before individuals enter the labour market (initial training) and later in life (continuing training).

**3.25** Increasing the stock of skills in an economy helps to increase the productivity of that economy in a number of ways.<sup>8</sup> Higher skilled workers are not only better at innovating, researching and developing, but they also tend to adapt more easily to change and are better at implementing and getting the most from new technologies.

**3.26** The UK's poor productivity record can in part be explained by a poor skills base.<sup>9</sup> As chart 3.6 shows, in the UK, around 55 per cent of the workforce have low skills, compared to only around 23 per cent in Germany. And most recent figures show that, in the United States, 38 per cent of the workforce has a degree or equivalent, compared to only 27 per cent in the UK.<sup>10</sup>

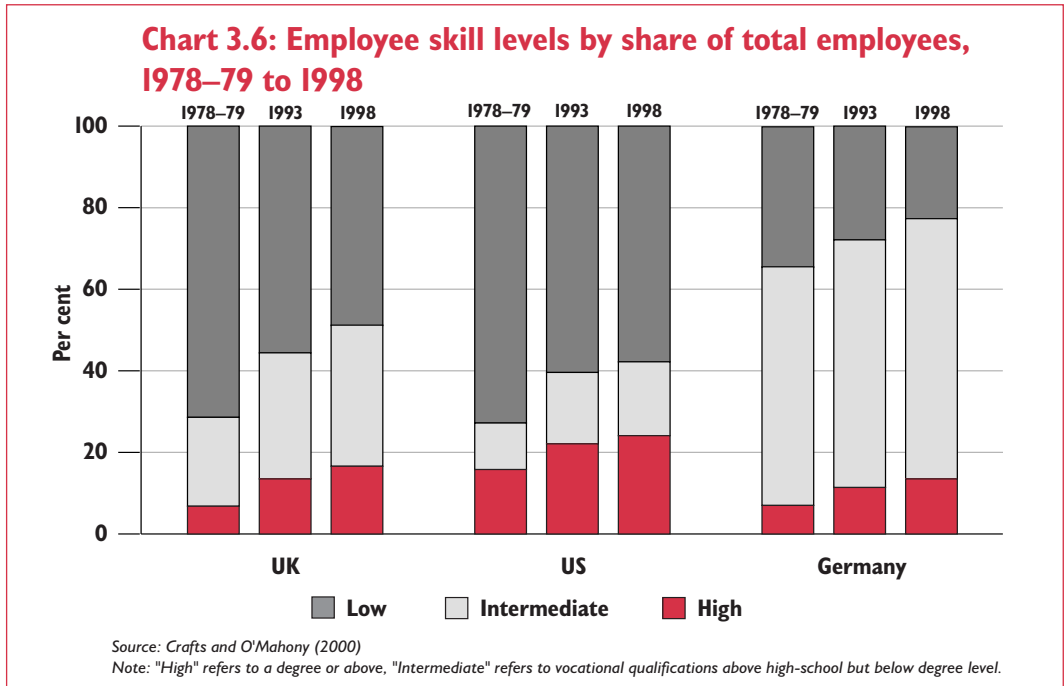
<sup>6</sup> DETR (2000).

<sup>7</sup> Benhabib and Spiegel (1994).

<sup>8</sup> There is widespread agreement that education plays a key role in increasing productivity growth – see Bassanini and Scarpetta (2001), Krueger and Lindahl (2000), Temple (2000), Aghion and Howitt (1998).

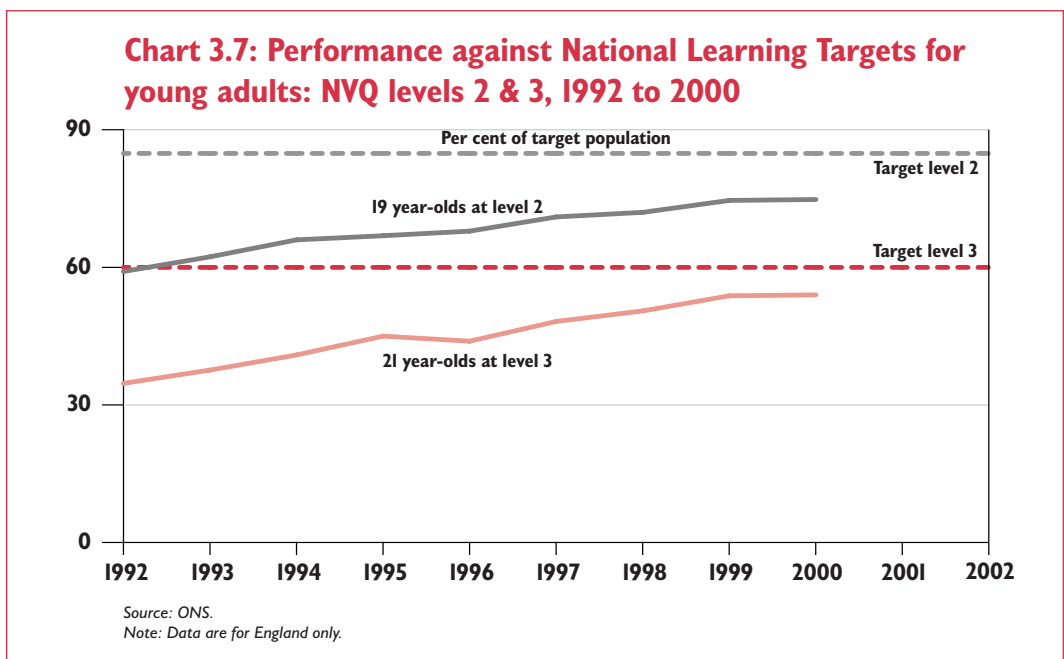
<sup>9</sup> Crafts and O'Mahony (2001).

<sup>10</sup> DfEE analysis of Labour Force Survey.



**3.27** The UK's education and training record has in recent years shown some encouraging signs:

- for the population as a whole, basic skills levels are gradually improving. The proportion of adults of working age in England with no formal qualifications fell from 18.4 per cent to 15.1 per cent between 1996 and 2000;
- literacy and numeracy levels at age 11 have increased consistently over recent years. Between 1996 and 2000, nearly a third more 11-year olds achieved the reading levels expected for their age;
- the proportion of school-leavers obtaining at least five GCSEs has increased by nearly 15 per cent between 1994 and 2000; the number of young adults achieving NVQ levels 2<sup>11</sup> and 3 has also risen (see chart 3.7); and
- the percentage of seventeen year-olds achieving at least one A-level or equivalent has risen from 21.8 per cent in 1994 to 24.3 per cent in 1999.



<sup>11</sup> NVQ level 2 is equivalent to 5 GCSEs at grade A\* to C.

**Box 3.2: Raising learning standards in schools**

Investing in people starts at the school level. The Government's aim is to improve the standard of education in UK schools so that all young people have developed the necessary skills by the age of 16 for them to enter work successfully and be able to continue their development through lifelong learning.

The national literacy and numeracy programme has been instrumental in raising attainment at the age of 11. The Government is now extending the principles of the programme to the early years of secondary school. In addition, it has set out plans to enhance the diversity of secondary education, with each school having a unique ethos and approach. As part of this, some schools will now be able to specialise in subjects such as business and enterprise, engineering and science in addition to existing specialisms in technology, modern languages, arts and sports. Learning mentors will help every child to reach their potential, preventing pupils being left behind, while encouraging gifted pupils to excel.

To improve and modernise schools' buildings, the Government has trebled schools capital spending between 1996–97 and 2000–01. £7.8 billion will be spent on school buildings over the next three years, with a further £1 billion for ICT equipment.

There are some signs of improvements in skills levels that should feed through to productivity growth in the future. For example, over the past four years the proportion of school children meeting the expected level of literacy at age 11 has risen from 57 per cent to 75 per cent. For the expected level of numeracy, the rise has been from 54 per cent to 70 per cent. And by 2004, there will be five pupils per PC in secondary schools and eight in primary schools – compared with 8.7 and 17.6 respectively in 1998.

**3.28** Higher education participation in the UK has also increased dramatically in recent decades. This expansion stopped in the mid 1990s, but has now resumed:

- in 2000, 33 per cent of 18 to 21-year olds went into higher education, and the UK has the highest first degree graduation rate in the EU;
- graduate employment levels remain high; only five per cent of graduates failed to find a job or further study within six months of graduating in 1999.

**3.29** The picture for continuing training, however, remains mixed. While participation in workforce training has increased in recent years, the average length of training has decreased, producing little change in overall volume.<sup>12</sup> Training is also distributed very unevenly, with lower skilled workers and those in smaller enterprises significantly less likely to receive training. The National Skills Task Force identified the problem of low-skilled adults as one of their three main priorities, with individuals, business and Government all having a role to play in addressing this issue.<sup>13</sup>

**3.30** Investment in human capital, like investment in physical capital, produces greater improvements in productivity performance in the long-term rather than the short-term. Skills take time to acquire, but once acquired can be deployed and developed throughout a person's career. Similarly, low skills levels within the existing workforce can take a long time to turn around.

<sup>12</sup> Felstead, Green and Mayhew (1998).

<sup>13</sup> National Skills Task Force (2000).

### Case study: Individual Learning Accounts

Individual Learning Accounts (ILAs) aim to widen participation and encourage people to take greater responsibility for their own learning. Launched in September 2000, the programme allows the first million ILA holders to receive a contribution of £150 towards the cost of eligible learning, as long as they pay at least £25 themselves. ILA holders can receive discounts of 20 and 80 per cent on approved courses. The larger discounts are focused on computing skills and basic maths courses. Employers can also contribute to their employees' ILAs and receive tax relief for doing so. Over 700,000 ILAs have been opened in the UK so far.

Lee Marley Brickworks in south-east London contacted TUC Learning Services, Southern and Eastern region, regarding using ILAs for their 400 employees, the majority of whom are low-skilled and have few or no qualifications. Lee Marley wanted to provide additional training to the courses that he already provides for his staff and saw ILAs as a way of encouraging employees to think about their own self-development. According to Lee: "Individual Learning Accounts have enabled me to support my staff's ambitions in a more affordable way. If you're helping your staff develop, they're much more likely to stay with you and make business growth more sustainable."

Working with Lewisham College and TUC Learning Services, 250 ILAs have been opened to pay for NVQ courses and general IT courses. In addition to supporting staff learning through ILAs, Lee has also given people time off to study, and additional money to put towards the cost of their learning. He has matched each individual's contribution of £25 and is helping people with the cost of courses over £200.

As part of a joint drive run by Littlewoods and USDAW/TUC Learning services to encourage lifelong learning, Littlewoods agreed to promote ILAs at two of its pilot sites, and to match funds once 100 accounts had been opened at each site.

After receiving advice and guidance from USDAW and TUC learning representatives, over 163 staff registered as ILA holders. June, a learning representative, has used her account to study for a City & Guilds in teaching. According to June: "Since working to promote Individual Learning Accounts, the interest has been amazing. The £150 has not just been an incentive to people, but a genuine opportunity for those who have always wanted to learn something new, but just couldn't afford it."

## Skills – the Government's approach

**School Education 3.31** The Government is seeking to improve both the quality and quantity of skilled workers in the UK. This means ensuring that good opportunities to learn are available not just at school, but at all stages in an individual's life.

**3.32** Ensuring that Britain's young people enter the workforce with the right skills means starting at an early age. The Government has been working to reverse the record of under-investment and under-achievement in Britain's schools, and to provide all children with the skills they need to succeed in a modern economy. Some of the main elements of this approach include:

- the Sure Start programme, ensuring that children from deprived areas start school ready to learn;
- new strategies for teaching literacy and numeracy in primary schools, and demanding targets for literacy, numeracy, science and ICT at age 14;

- investment in connecting schools to the internet: all schools will be connected to the internet by 2002;
- modernisation of the comprehensive school system through the introduction of specialist schools; and
- provision of AS-level options at 16, enabling students to study a broader range of subjects for longer.

**Further Education 3.33** Education and training outside schools plays a vital role in promoting vocational learning in a diverse range of forms. Historically, however, it has suffered from fragmentation, insufficient funding and the lack of a coherent vocational pathway. To start to remedy these failings, the Government has:

- established the Learning and Skills Council to unify funding of post-16 education and training, and to improve the quality of provision;
- promoted Modern Apprenticeships,<sup>14</sup> which provide school-leavers with an opportunity to pursue vocational related education while enjoying the benefits of employment; and
- worked to develop a genuine ladder of vocational development, to include vocational opportunities at GCSE, A-level and through the new Foundation Degrees.

#### **Box 3.3: Funding for education**

**All levels of the UK education system have suffered from under-funding in recent decades.**

**Through two successive Spending Reviews, the Government has begun to address the funding deficit by providing extensive new resources for new programmes (such as Sure Start) to meet targets for improvement, and particularly for investment. Capital spending on education and training will rise by an average of 17 per cent a year in real terms over the next three years, to a total of £3.8 billion in 2003-04.**

**Higher Education 3.34** In addition to ensuring that young people leave school with a foundation of essential skills, the Government has taken steps to improve higher education:

- it has set an ambition that, by the end of the decade, 50 per cent of young people will have the opportunity to benefit from higher education by the time they are 30;
- it has reversed the real terms decline in funding per student, breaking a trend that had lasted for more than a decade;
- it has developed, in response to the Dearing review,<sup>15</sup> a basis for funding the sector that provides more resources by allocating costs more fairly between those who benefit – students, graduates, their families, and the state; and
- it is investing almost £160 million over the next three years in measures to ensure that more students from the poorest backgrounds take up places in Higher Education.

<sup>14</sup> Participation in Advanced Modern Apprenticeships has risen from 28,400 in 1995-96 (the year of their introduction) to over 88,000 in 1999-00; participation in Foundation Modern Apprenticeships, introduced in 1997, now stands at more than 97,000.

<sup>15</sup> National Committee of Inquiry into Higher Education (1997).

**Case study: UK online – ICT learning Centres**

Information and communication technology (ICT) is becoming an increasingly important component of the capital stock. Consequently, if people are to fulfil their productive potential they will increasingly need ICT skills. If the barriers to acquiring such skills are not overcome, individuals are in danger of being marginalised both within the economy and society. In recognition of this, the Government has allocated £252 million to establish 1000 ICT learning centres across the country by 2002. There are currently around 100 centres operating in England, with many more to open over the coming months.

One such centre is operated by the Greater Manchester Bangladesh Association (GMBA) in Longsight, Manchester. Many people use the centre to acquire and develop ICT skills. Users differ considerably in age and racial background, and many of them may have found it difficult to access training through traditional routes. Funding from the Capital Modernisation Fund has complemented that from the Single Regeneration Budget to help establish a modern learning centre with firm community links and contributions from voluntary organisations.

**In-work training and lifelong learning** 3.35 Learning should not be limited to schools, colleges and universities. To make the most of their potential, people must have opportunities to learn throughout their lives: at work and at home. Adults who have missed out on earlier chances can gain skills later and people in work can take advantage of learning to keep pace with developments in their jobs or to help advance their careers. The Government is therefore promoting in-work training and lifelong learning through measures that include:

- learndirect (the brand name for the University for Industry), a national e-learning network;
- Individual Learning Accounts (ILAs), which aim to widen participation in learning, and which provide individuals with attractive discounts on approved courses;
- a national network of ICT learning centres;
- the Council for Excellence in Management and Leadership, which will provide recommendations for addressing the skills deficiencies and shortages identified in the National Skills Taskforce report;
- the Union Learning Fund, which promotes learning at work and tackling a lack of basic skills; and
- the network of National Training Organisations, which work with education and training providers to meet current and future skills needs of employment sectors.

**Case study: learndirect**

learndirect, the public face of the University for Industry, aims to change the face of learning by enabling adults to increase their skills across a range of disciplines. A wide range of short courses are offered online so that people can access the learning material at a time convenient to them and they can study at their own pace. Those without access to the internet at home can go to one of about 950 learndirect centres around the UK. Currently, there are about 70,000 learndirect users.

One example, in Tottenham, north London, is the Open Learning Partnership (OLP) which coordinates 17 learndirect centres across the area. One of these, the Valleymedia centre, offers customers free use of their computers and access to professional staff for personal tutoring in computing skills. Despite the programme being in its infancy, the north London area alone has witnessed over 2,000 people accessing over 5,000 courses in just four months. This year the OLP has received over £1.5million in funding and will receive a further £750,000 to set up four new centres.

According to Doug Gowan: “By making access to learning much more flexible we are beginning to make a real impact on the skills of people in work and of people looking for a job. It’s all about access to high quality learning opportunities, and making the best use of information and communication technologies. There’s no doubt that the skill requirements of jobs in all sectors of the economy are going up – so we are finding new ways to give people the opportunity to upgrade their skills.”

A wide variety of people use learndirect – from people seeking to upgrade their skills so that they can move into employment to small business operators and their employees looking to gain IT skills. This can be particularly helpful to those small businesses intending to move online.

The courses available include basic numeracy and literacy skills, business and management courses, retail & distribution and information technology. Of these, the information technology courses are proving the most popular. After the successful completion of the course, the learndirect centre issues a certificate so that employers can see what the individual has achieved.

The learndirect programme has helped to address the skills gap that exists in the local area by helping both individuals and businesses adapt to changing technologies. In doing so, it is contributing to the regeneration of areas such as Tottenham.

**INNOVATION**

**3.36** The third critical input to production is technology, including innovations in best-practice techniques. Innovation is about the development of new ideas, new products and new ways of doing things and is a catalyst for growth. The evidence shows, for example, that spending on research and development (R&D) is associated with higher levels of innovation and productivity growth<sup>16</sup>.

**3.37** There is clear evidence that the returns to the overall economy are substantially higher than returns to individual companies investing in R&D. This is due to spillover effects, where the benefits of a new technology may be exploited by a number of companies.<sup>17</sup>

<sup>16</sup> See, for example, Griliches (1992,1994).

<sup>17</sup> Griffith (2000).

**3.38** Progress in innovation can be assessed statistically by looking at:

- levels of R&D expenditure;
- numbers of patents granted to UK businesses; and
- investment in and adoption of new technologies

#### **Case study: Linking scientific knowledge with business innovation**

The Higher Education Reach-Out to Business & the Community Fund (HEROBC) has channelled £88 million to UK universities and colleges to foster higher education's links with business and the community and to facilitate knowledge transfer.

The University of the West of England, Bristol (UWE) was awarded a £1.1 million grant in 1999. UWE already had an expanding research base and a growing portfolio of research funding, especially from industry. Its four-year business plan was informed by an independent study of industry and academic needs, pointing to a more strategic approach to relations with industry and the community. One year into the plan, this seems to have borne fruit, with a £500,000 increase in research income.

In its first year, HEROBC funding allowed UWE to establish a business and regional development unit, a 'Working with Industry' staff development programme, and a network of business development managers.

According to Linda Skinner, Director, Centre for Research, Innovation and Industry: "Reach-out funds have already proved significant in helping focus and strengthen support for academic business activity through a more effective point of access for industry and the community".

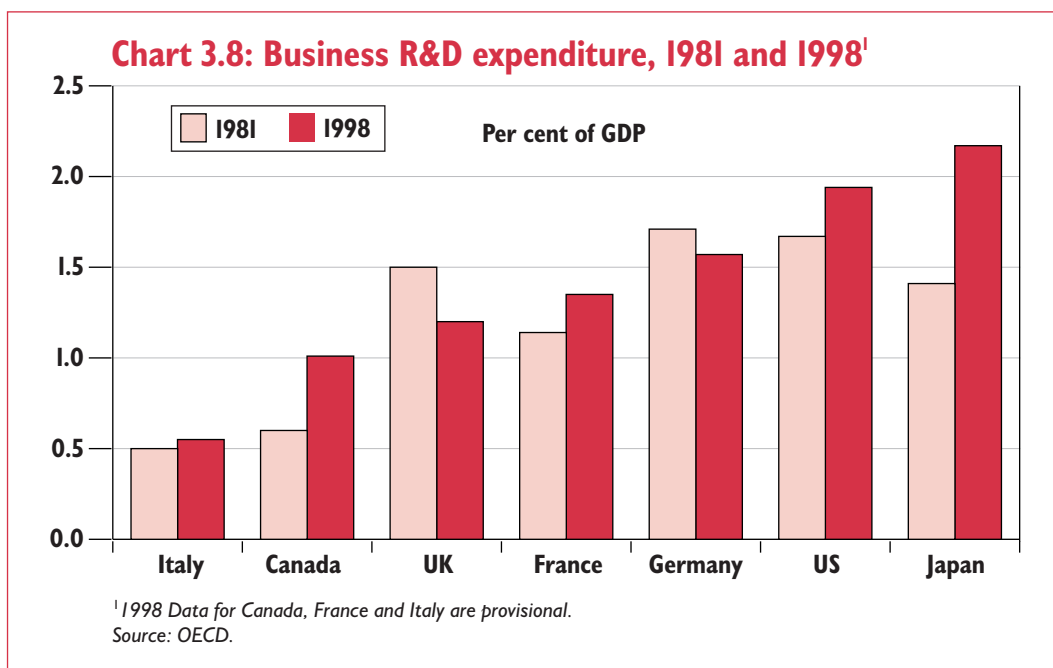
A key feature of UWE's strategy has been to focus effort on those industry sectors designated by the Regional Development Agency as priority targets for economic development. For example, a joint study by UWE and Bristol-based Hewlett-Packard Research Labs has produced advanced plans for a digital media/e-Commerce incubator unit in the heart of the city. These plans have been enthusiastically received by local industry, including Aardman Animations.

Another significant industry in the region is the food industry. Reflecting the economic importance of this sector, UWE recently forged links with regionally based agencies to develop a £700,000 MAFF Link project, developing a disposable sensor to detect organophosphate residues in food. UWE has particular expertise in this area and is designated a Centre of Excellence for Advanced Sensor Design by the DTI.

UWE's 'Working with Industry' staff development programme has proved popular with academics and is already paying dividends. A new Teaching Company Scheme with Hydro, a local SME, illustrates the programme's success in encouraging and assisting staff to develop relations with industry. Hydro's main products include storm drain systems and the two year Teaching Company Scheme programme with UWE is helping them to develop better design processes.

According to Alfred Morris, Vice-Chancellor, University of the West of England, Bristol: "UWE places particular emphasis on its work with industry and the community and this tranche of Reach-Out funding has helped our university to strengthen support for regional development. Although our focus is regional, the impact is global."

**R&D expenditure 3.39** Business R&D expenditure in 1999 was eight per cent higher than it was a year earlier, although R&D levels must be raised further if the R&D gap is to be closed. There has been a general trend of declining expenditure throughout the 1990s. Chart 3.8 illustrates that, whereas UK business spending on R&D fell from 1.5 to 1.2 per cent of GDP between 1981 and 1998, in most other industrialised countries the proportion rose. Because the UK has trailed other countries so substantially in this respect, there is a long way to go before it can be said that the R&D gap has been closed.



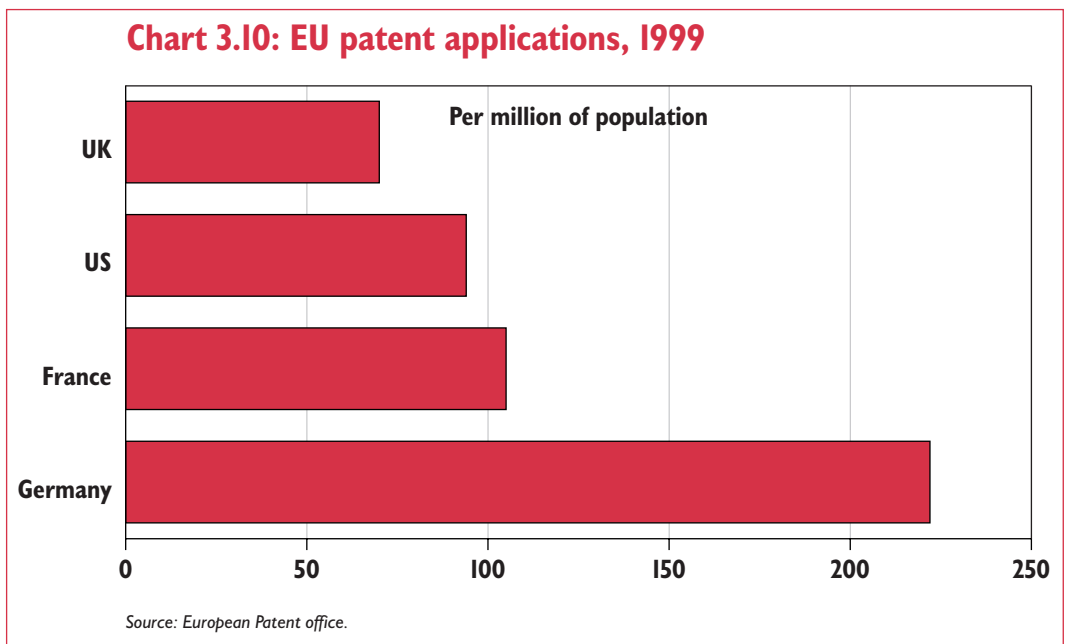
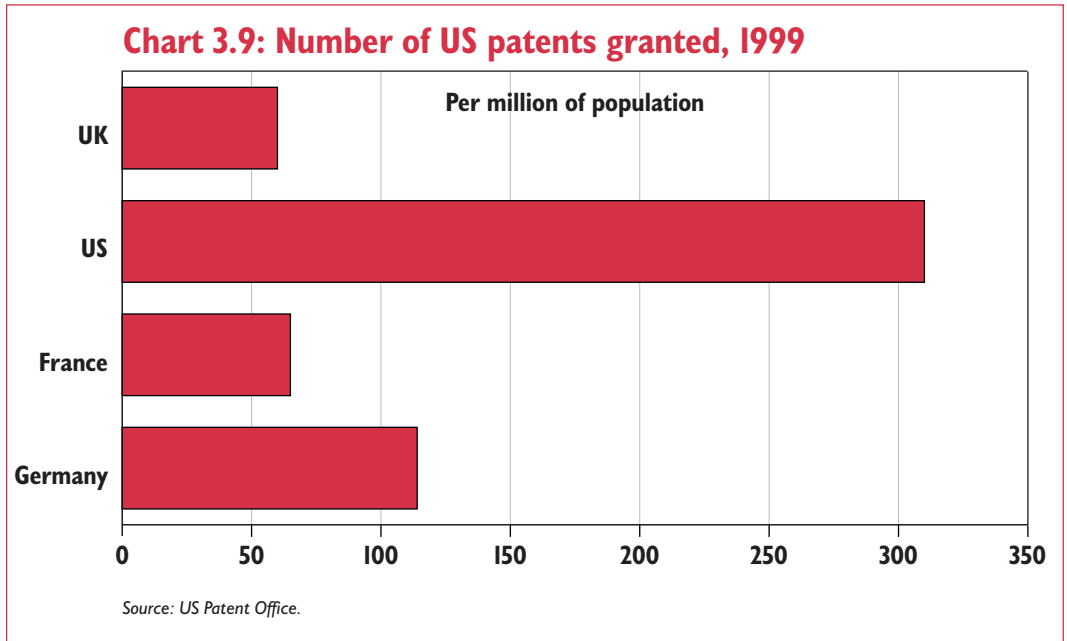
### Case Study: R&D tax credit for small and medium-sized enterprises

Micropathology Ltd was set up in 1995 by Dr David Burnett, a medical scientist, and Dr Colin Fink, a clinical virologist, to gain the freedom to pursue research and to improve the standards for infectious disease diagnosis in the UK. Despite the challenges of a start-up commercial venture working in a medical environment, the company has steadily expanded and moved to the University of Warwick Science Park in 1999.

In its fifth year of activity the company spent over half its resources on research and development, examining novel diagnostic methods and the natural history of infection. Most of the work is collaborative with university and hospital departments and projects range widely in scope and complexity. Undergraduates and post-graduates engage in joint projects with Micropathology staff.

Access to the tax credit for R&D immediately provides a basis for funding additional research staff. The extra post-tax internal finances will also enable the company to purchase state of the art laboratory equipment for sophisticated genetic studies. The tax credit should thus facilitate increased company activity without the need to seek outside funding, the company having grown with only minimal borrowing from shareholders.

According to Dr Fink: "We regard the acknowledgement and support for small companies' R&D effort through the tax credit as the single most important measure from Government in the five years of our company's operation".



**Patents 3.40** R&D expenditure is a measure of inputs into the innovation process. One measure of outputs to this process is the number of patents granted to UK businesses. Charts 3.9 and 3.10 compare patents granted to different businesses by the US and EU patent offices. The UK trails France, Germany and the US on both measures.

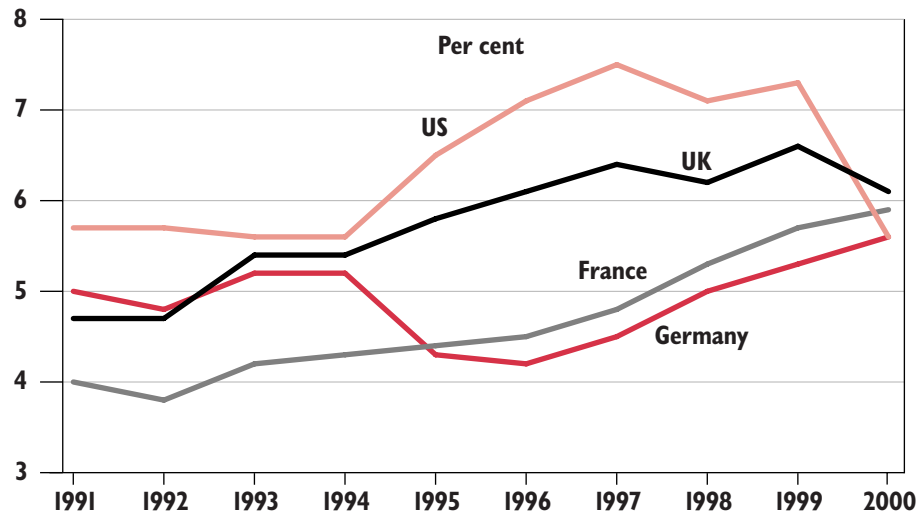
**3.41** However, the UK position is beginning to improve in this respect. The annual number of patents granted to UK residents by the US Patent and Trademark Office between 1996 and 1999 increased by 38 per cent, a larger increase than in any of the comparator countries.

**Information and communications technology (ICT) 3.42** A further indicator of innovation is the adoption of “leading-edge” technologies. Recent academic studies of US growth performance have emphasised the role of ICT in driving productivity growth<sup>18</sup> both through firms producing and using ICT.

<sup>18</sup>Jorgenson and Stiroh (2000); Oliner and Sichel (2000).

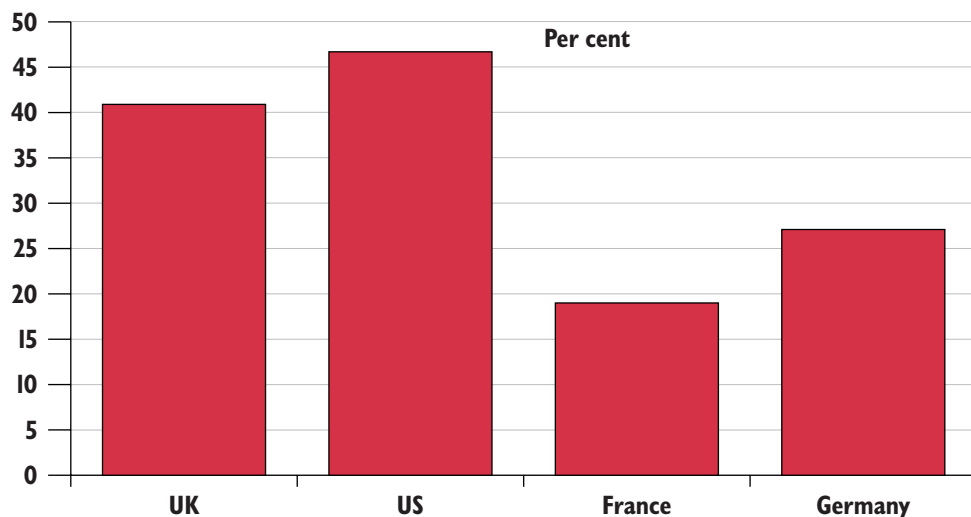
**3.43** There are a number of ways of measuring ICT. One is to look at expenditure on ICT, as in chart 3.11. This shows that in 2000 the UK spent a slightly higher proportion of GDP on ICT than the other comparator countries. Another measure is to look at the usage of ICT. Chart 3.12, for instance, compares the same countries in terms of the number of households with PCs and with internet access. On this indicator the UK trails the US but leads France and Germany by a sizeable margin. Business use of ICT has also increased, with over 1.7 million small and medium-sized enterprises now online.

**Chart 3.II: ICT expenditure as a share of GDP, 1991 to 2000**



Source: EITO.

**Chart 3.I2: Level of internet access<sup>1</sup>, 2000**



<sup>1</sup> Measured as the percentage of citizens who have internet access at home.  
Source: EITO.

### Innovation - the Government's approach

**3.44** In addition to the measures described above aimed at encouraging viable investment, the Government has sought to address the UK's poor performance on innovation by:

- (i) putting in place the right **framework** for innovation; through measures such as the reform of the taxation of intellectual property;
- (ii) taking steps to improve the **supply** of innovative ideas through boosting the science base; the recent Science and Innovation White Paper announced a new £1 billion programme in partnership with the Wellcome Trust, to fund improvements in science infrastructure, and £250 million to promote research in key new areas such as genomes. Policies have also been developed to encourage innovation in Higher Education, such as University Challenge, the Higher Education Reach Out to Business & The Community Fund (HEROBC) and University Innovation Centres; and
- (iii) stimulating the **demand** of businesses to innovate, through introducing enhanced capital allowances for small firms buying ICT equipment, incentivising the lending of computers by employers to their employees, and introducing an R&D tax credit for small and medium-sized companies. In addition, the Chancellor announced in the Pre-Budget Report that the Government was considering further measures to complement the small company tax credit. Alongside Budget 2001, the Government is publishing a consultative document (*Increasing Innovation*) to seek views on offering a similar incentive to large companies.

#### **Case study: The University Challenge Fund**

The University Challenge Fund supports early stage commercialisation of university research. The White Rose Consortium, consisting of the Universities of Leeds, Sheffield and York, won a total of £4.5 million from University Challenge. The consortium has used this, together with an additional £1.5 million from the three universities, to set up the White Rose Technology Seedcorn Fund (WRTSF), which opened in March 1999 with an investment fund of £6m.

The WRTSF supports university innovations at their earliest stages and provides venture capital to develop companies, arising from high quality research opportunities created at the three universities. The WRTSF plans to invest in 100 new companies over the next decade. The ultimate objective of the fund is for it to be self-financing.

WRTSF provides venture capital funding of up to £250,000, in exchange for an investment in a company. It also has funds available to support initial market research. It is expected that inventors will operate through their university's technology transfer companies, such as Leeds Innovations, which turn research into commercial reality.

To date the WRTSF has committed nearly £2 million in funding and made eight investments in companies. The first of these investments was in Ecertec Ltd, a company specialising in the development of novel materials used in electronics application. Ecertec Ltd is founded on the work of Dr Andrew Tavernor and Dr Tim Comyn, both of the University of Leeds. Although they have a high reputation in this area and had already worked with a number of companies on a consultancy basis, the creation of Ecertec Ltd has helped to identify new business opportunities, develop further intellectual property and give sharper commercial focus to the operation.

The revenue to Ecertec comes from the manufacture, sale, and licensing of its own novel materials. The company is focused on high-value, technologically advanced materials used in special applications.

According to Professor Chris Taylor, Pro-Vice-Chancellor for research at Leeds: "The investment in Ecertec Ltd was the first White Rose investment, but it is the precursor of many more which have been under development in the last year. This reflects the growth of entrepreneurial and 'third-arm' activity at Leeds and its sister universities and shows how funding of this kind is fundamental to the universities' commercialisation process".

## ENTERPRISE

**3.45** Enterprise is a key driver of productivity growth. New firms bring with them new ways of doing things, and increase the competitive pressure on other firms. Research has shown<sup>19</sup> that new firms entering the market account for a significant part of total productivity growth.

**3.46** The progress being made in terms of promoting enterprise can be assessed by looking at:

- assessments of the barriers to entrepreneurship;
- the number of start-ups; and
- the survival rate of start-up businesses.

**Barriers to entrepreneurship** **3.47** The OECD has constructed indicators to rank countries according to the size of barriers to entrepreneurship. These take account of factors such as licences and permits, the complexity of rules and procedures and administrative burdens. On this index, the UK came out as having the lowest barriers to entrepreneurship of the countries covered.

**Table 3.1: Indicators of barriers to entrepreneurship, 1998<sup>1</sup>**

	Overall Barriers to entrepreneurship <sup>2</sup>	Administrative burdens on startups	Regulatory and administrative opacity	Barriers to competition
	Rank	Rank	Rank	Rank
<b>UK</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>5</b>
Canada	2	8	2	6
Australia	3	6	9	12
Ireland	4	4	12	2
New Zealand	5	4	13	4
<b>US</b>	<b>6</b>	<b>2</b>	<b>11</b>	<b>18</b>
Denmark	7	1	14	20
Norway	8	10	7	8
Netherlands	9	9	8	13
Portugal	10	12	5	15
Austria	11	16	3	16
Greece	12	15	10	7
Spain	13	19	6	1
Sweden	14	7	20	14
Finland	15	11	17	16
<b>Germany</b>	<b>16</b>	<b>17</b>	<b>16</b>	<b>2</b>
Switzerland	17	14	18	9
Japan	18	13	21	10
Belgium	19	18	19	10
<b>France</b>	<b>20</b>	<b>20</b>	<b>15</b>	<b>19</b>
Italy	21	21	4	21

<sup>1</sup> Rankings range from 1 (most favourable) to 21 (least favourable) of the countries compared.

<sup>2</sup> The overall rankings on barriers to entrepreneurship are calculated by assigning weights to the rankings in the sub-categories.

Source: OECD 2000.

<sup>19</sup> Griffith (2001).

**3.48** A recent study by Arthur Andersen, looking at entrepreneurship in Europe, concluded that the UK was “...doing more than most of its European neighbours to stimulate entrepreneurial activity, and even tops the United States.” The study analysed a variety of factors important to start-up businesses including access to funding, bureaucracy, availability of skilled workforce, encouragement of risk taking, and creative measures to stimulate growth. Like the OECD, this study constructed a country ranking, where the UK scored 49 points out of a possible 60, ahead of the all other countries covered including the US (which scored 45 points).<sup>20</sup>

#### **Case study: Entrepreneurial investment and capital gains tax**

Enterprises with potential for rapid growth often need significant risk capital investment in their early stages to fund this growth. The involvement of experienced individuals as investors (so called ‘business angels’) can also provide valuable mentoring for an enterprise enabling it to develop and attract further financing from venture capital funds. This financing can accelerate the growth of enterprises, helping them to move rapidly to employment and value creation.

The Government recognises the importance of entrepreneurial risk-taking investment, and has strengthened the fiscal incentives to encourage this activity. In 1998, the Government introduced a new taper relief for individuals’ longer term capital gains, with a particular incentive to invest in business assets (including substantial shareholdings in businesses).

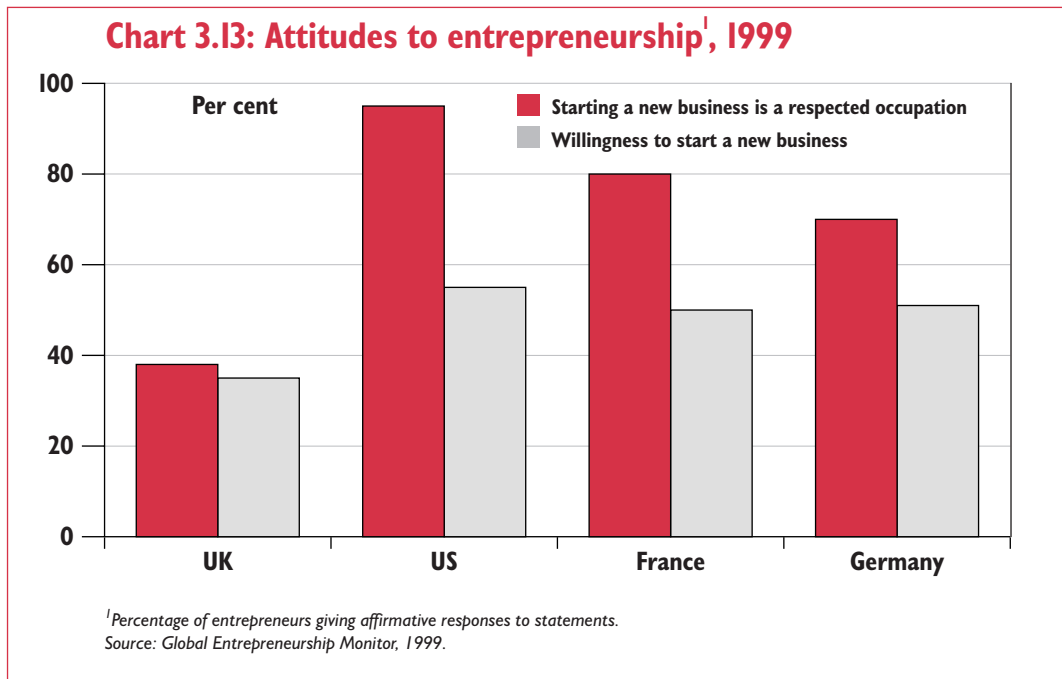
In recognition of the need to widen the sources of finance and bring fiscal incentives more into line with entrepreneurial investment patterns, the Government introduced in Budget 2000 a shorter capital gains tax (CGT) taper for business assets (four years in place of ten). The Government has also widened the assets definition to include all shareholdings in unquoted trading companies, and virtually all employee shareholdings in all types of companies.

New Street Production is a television and radio production company that was launched in Birmingham in 1995. Two years ago, Haydn Price, who founded the company, needed expansion funds but had no assets as security for bank borrowing. He registered with the University of Warwick Science Park, an Associate of the National Business Angels Network, and was put in touch with an experienced business angel investor, Keith Chadwick, attracted to invest in this sector by the CGT incentives.

Mr Chadwick invested £75,000 for a 25 per cent stake in the company, deferring capital gains made on a previous business start-up which he had grown and taken to flotation. This is just one of seven business angel investments he has made. New Street Productions is now looking to bring on board another business angel investor to raise a further £500,000. Mr Price says that taking on a business angel has transformed his business. Selling a slice of equity enabled him to develop his business and gain access to valuable advice as well as development capital.

<sup>20</sup> Arthur Andersen and GrowthPlus (2001).

**Attitudes to risk 3.49** For the UK, one of the key barriers to entrepreneurship appears to be the prevailing attitude towards risk-taking. Chart 3.13 indicates that in the UK setting up a business seems to be held in lower esteem than in the US, Germany, or France, and that there is substantially less willingness to set up a business. Another cultural problem in the UK may be the stigma that is attached to bankruptcy. The Government recently announced a package of measures designed to encourage more people to start or re-start businesses after failure, ensuring that those whose failure is honest are not punished or stigmatised.<sup>21</sup>



<sup>21</sup> DTI/DfEE (2001).

### Case study: Science Enterprise Challenge

Science Enterprise Challenge (SEC) is a key part of the Government's strategy to encourage a culture of entrepreneurship within universities and to increase the entrepreneurial skills base of students. £29 million has already been allocated. The University of Nottingham was successful in obtaining £2.5 million from SEC to establish the Institute for Enterprise and Innovation (UNIEI). The bid was supported by the East Midlands Development Agency.

UNIEI aims to be a centre of excellence in the development of enterprise and entrepreneurial skills and the commercialisation of research. The money received from SEC proved to be a catalyst for development of the enterprise and innovation programme by unlocking private funding, other state funding, and funds from the university itself. UNIEI has built on Nottingham's strong research base and has helped to build extensive links with industry, other universities, and with several overseas universities and companies – such as the University of Michigan and the Ford Motor Company in the US.

According to Professor Martin Binks, Director UNIEI: "Preparing the SEC bids inspired a radical new approach to entrepreneurial skills generation and the commercialisation of research at the University. SEC funding allowed us to implement this in practice."

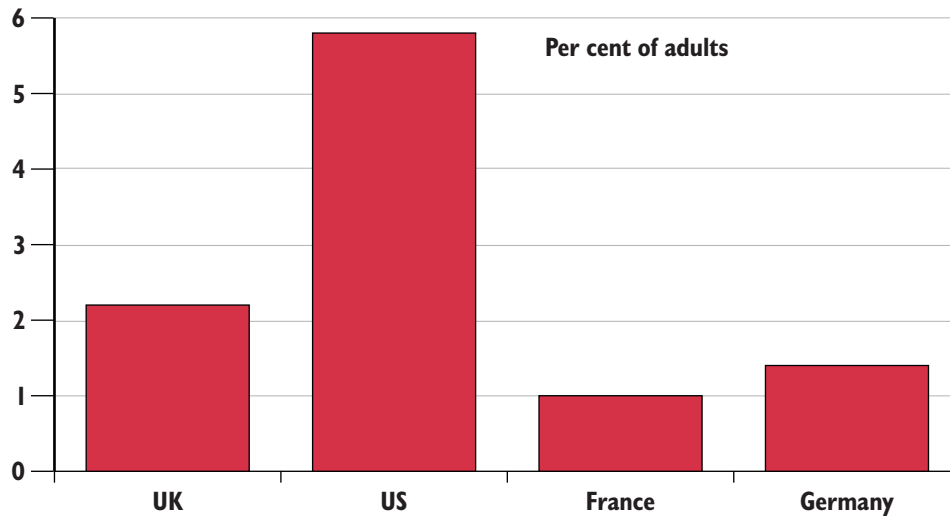
In September 2000, UNIEI launched an MSc in Entrepreneurship, Science and Technology. In addition two business planning modules, 'Science Technology and Business' and 'Creativity and Effective Problem Solving' have been set up – both courses have been very well received by the Sciences, Engineering and Medicine faculties and numbers are expected to rise rapidly.

UNIEI also used the SEC funding to develop their 'concept bank' model. This enables academics to 'deposit' raw ideas for UNIEI students to work on and develop potential commercial applications. This innovative approach to experiential learning allows students to engage with live ideas for new businesses and products, and enables the originator to benefit from their input. If the idea looks ready for commercial exploitation, UNIEI can then help the originator by putting them in touch with potential investors, through its network of business angels and venture capitalists.

SEC funding also helped UNIEI to expand Nottingham's network of Business Development Officers (BDOs). BDOs work to develop awareness of the commercial possibilities of research, and liaise closely with business organisations to strengthen industry links and to facilitate technology transfer.

According to Professor Sir Colin Campbell, Vice Chancellor, The University of Nottingham: "The University of Nottingham Institute for Enterprise and Innovation has been established under the auspices of Science Enterprise Challenge. I am confident that the Institute will help to realise the entrepreneurial potential of Higher Education with creativity and energy."

**Number of start-ups** 3.50 Chart 3.14 shows the number of start-ups in the UK compared to the US, Germany and France. Amongst the European countries the UK compares favourably. However, all European countries lag the US performance, by a considerable margin.

**Chart 3.14: Business start-ups, 2000**

Source: *Global Entrepreneurship Monitor, 2000.*

### Case study: All-employee share ownership plan

The All-Employee Share Ownership Plan (AESOP) was introduced in Finance Act 2000, designed to encourage employees to take a stake in the success of their companies. It is aimed at boosting levels of employee share ownership, which has been shown to deliver beneficial effects on productivity.

One of the first firms to take up the opportunities offered by the new plan was ScottishPower. The company has used each of the main elements of AESOP (free shares, partnership shares and matching shares) to encourage employees to join the plan, which it operates alongside their existing Save As You Earn scheme.

In the first instance, the company made an offer to every member of staff of around £250 worth of free shares, working out at 50 shares per person. In addition to these free shares, employees are also able to buy up to £125 in partnership shares in the company each month out of their pre-tax salary (i.e. before income tax and National Insurance contributions have been deducted). ScottishPower matches the investment that their employees make in partnership shares by giving them one free share for every share bought under the plan.

Employees who keep the shares in the plan for at least five years will pay no income tax or National Insurance in respect of those shares. And if they leave the shares in the plan until they sell them, then they will have no capital gains tax to pay either.

About 75 per cent of ScottishPower's workforce had joined the new share plan by February 2001 and 65 per cent had taken up the partnership share offer in addition to their free shares.

ScottishPower also praised the Inland Revenue for its assistance in fine-tuning the scheme rules, particularly its "fast-track" approvals process which enabled the company to have the scheme up and running only months after the legislation came into force.

According to Chief Executive Sir Ian Robinson: "We have long encouraged our staff to use tax efficient ways of owning shares in their company and the AESOP scheme offers employees a further opportunity to be involved in and benefit from the future success of ScottishPower."

**Case study: The Phoenix Fund**

The £96 million Phoenix Fund, which is administered by the Small Business Service, encourages entrepreneurship as a means of tackling social exclusion by improving access to business support and finance for the unemployed and ethnic groups in very disadvantaged areas. It also encourages networking between a number of enterprise support agencies through the use of ICT.

The Phoenix Fund awarded over £750,000 over three years to Dingle Opportunities Ltd (DOL), a social enterprise in a particularly distressed area of central Liverpool. This funding will enable DOL to train new entrepreneurs, develop and support labour training programmes and encourage the start-up of social enterprises and new businesses.

In order to help ensure that the skills base of the local community keeps pace with advances in technology, DOL works with local schools and community groups to develop a strategy to provide local people and organisations with access to telecommunications hardware and training.

This has led to the creation of the Telematics project. Over a three year period, the project trained a group of young people to build a community business in the development of multi-media software. This group were all long-term unemployed people, the majority of whom had no formal academic qualifications or prior training in ICT.

The success of the Telematics project – which received £230,000 in Government funding – was substantial. The project had 23 participants, 17 of whom found jobs after leaving the project and a further three went into self-employment. One of these entrepreneurs has been successfully running his engineering business for over 18 months, employing 3 staff.

**Survival rates 3.51** The UK compares favourably with other European countries (if not the US) in terms of the number of start-ups. However, in terms of creating the conditions for start-up firms to grow and flourish, the UK's performance is less impressive.

**3.52** There are some indications that the position on survival rates is beginning to change, with improvements during the 1990s. For example, the numbers of businesses having survived for at least one year after registration rose from 83.4 per cent in 1993 to 88.4 per cent in 1998.

**Enterprise – the Government's approach**

**3.53** The Government has sought to promote enterprise through a number of measures, aimed at providing the right climate for businesses to succeed, and removing barriers to growth at all levels throughout the economy.

**3.54** To enhance the business support that is available to smaller firms, the Government launched the Small Business Service (SBS) in April 2000. The SBS is working to make Government support for small business simpler and more coherent, and to improve the help available for SMEs in dealing with regulation.

**Case study: Enterprise Investment Scheme**

In parallel with the changes to capital gains tax, the Government has continued to refine the Enterprise Investment Scheme (EIS), which provides significant incentives for investment focused on smaller higher-risk trading companies. In Budget 2000, the Government reduced (from five to three years) the minimum period for which investments must be held if they are to qualify for income tax relief under the schemes; and made it easier for EIS investors to invest alongside venture capital funds. Investment under EIS has been increasing in recent years, up to at least £250 million in 1999–2000.

James Johnston of Exodus Electronic, a small high-tech company based in South Wales, has used business angel finance as development capital. Exodus has developed a domestic switching system, operating by means of radio frequencies rather than wiring. The company intends to sell its products to industry and through electrical wholesalers, initially in the UK but widening the marketing base in due course to Europe and beyond. Potential turnover in the UK is £4 million. Components are all sourced from partners in South Wales, where the company is based, with benefits for local employment.

Mr Johnston raised £244,000 in January 2000 and a second tranche of £185,000 in November 2000, and has plans for further fund raising. He says he could not imagine how the investment would have been raised without the incentives to investors from the Enterprise Investment Scheme, given the restricted availability of capital from sources other than business angels. He was introduced to a group of business angels through Xénos, the Wales Business Angel network, who were willing to invest using the EIS to offset their risks and enhance their potential returns.

**3.55** To improve the fiscal incentives for enterprise, the Government has made significant reforms to the capital gains tax regime. In addition a number of improvements to Venture Capital Trusts and the Enterprise Investment Scheme have been introduced. The new Enterprise Management Incentives have also been introduced, to enable small, higher risk companies to recruit and retain the key employees they need.

**3.56** The Government has also introduced policies such as the Science Enterprise Challenge to increase awareness of enterprise and the commercial possibilities of research within higher education. And £23 million in core funding has been allocated for 2001–02 to boost enterprise activities in schools, through programmes such as Young Enterprise and Understanding Industry.

### Case study: Developing enterprise in schools

Young Enterprise Northern Ireland (YENI) delivers a range of enterprise programmes to over 20,000 young people a year by providing them with the knowledge, skills and attitudes necessary for success in the workplace and the wider economy. YENI received £400,000 of Government funding in 1999–2000.

One of YENI's programmes is *Knowledge through Enterprise for Youth (KEY)*, which was developed with support from the International Fund for Ireland. It helps disadvantaged youths move from education to employment, by reducing early drop-out rates and equipping them for work.

KEY participants take part in a series of intensive residential programmes, which give them a focused opportunity to learn about enterprise outside the classroom. The young people take part in a wide range of activities including giving individual presentations, identifying possible career paths, undertaking IT research projects, budgeting and personal finance and preparing a CV. They are introduced to local business mentors who help them with their interview skills. They then set up their own small firm, which allows them to put their new skills into practice.

KEY has produced impressive results. An independent evaluation carried out by the National College of Ireland showed that over 95 per cent felt that they are now more confident and motivated. The evaluation also found that, after taking part in KEY, 50 per cent of participants believed they would achieve either GCSE or NVQ qualifications compared with only 28 per cent before they went on the programme.

73 per cent of parents surveyed in the report rated their child's motivation level as above average after the programme, compared to only 30 per cent beforehand. One parent, whose son had never worked before, said "After attending KEY, he rang up a garage and got a summer job himself. Before he would have been asking me to ring for him, but he now seemed to know what to do himself."

KEY has also succeeded in tackling truancy rates in some of Northern Ireland's schools. A truancy report on six schools in the Belfast area found that on average truancy levels fell by 36 per cent following participation in KEY. One teacher said, "I think their attitude to each other and also to the teachers has improved, which means that things are less of a struggle when they come into class. Their whole approach has improved."

Another teacher said, "They realise the value of education now. Their work attitude and work rate are much better."

## COMPETITION

**3.57** Competition plays a central role in driving productivity growth.<sup>22</sup> It encourages firms to innovate by reducing slack, putting downward pressure on costs and providing incentives for the efficient organisation of production.

**3.58** Accurate measures of competition across the economy as a whole are difficult to obtain. It is, however, possible to look at some proxies for the extent of competition, and the effectiveness of the competition authorities, including:

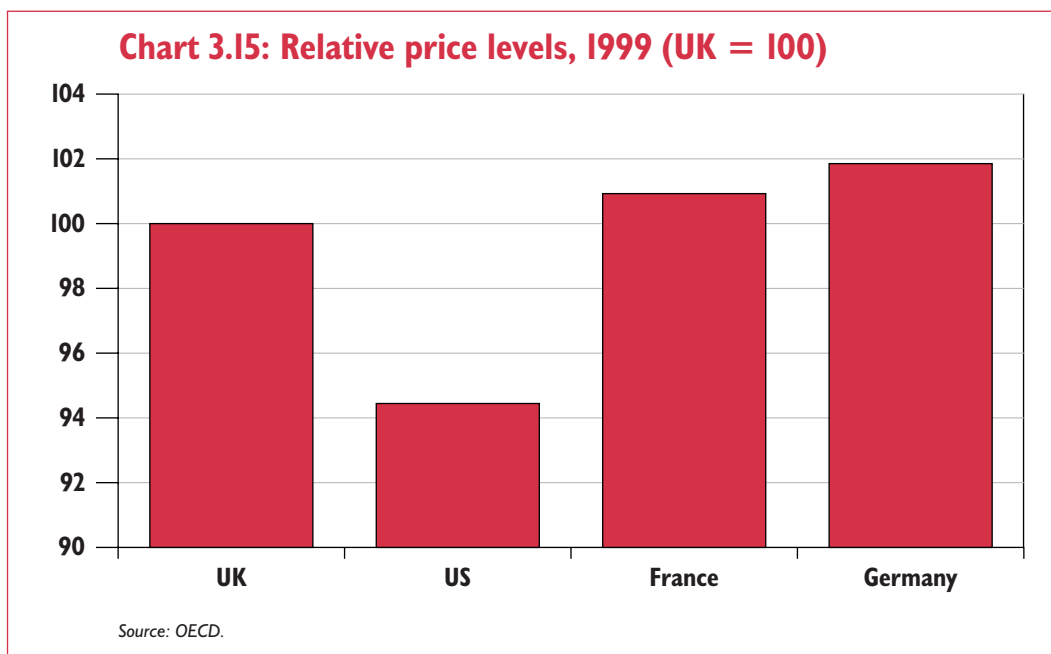
- the number of complaints made to the competition authorities; and
- comparing the average level of prices in different countries.

<sup>22</sup>See, for example, Nickell (1996).

**Complaints to competition authorities** **3.59** The Competition Act has only been in place for a year, so it is too early to be able to assess its impact fully. There are already some signs, however, that it is having a positive effect in terms of generating public attention to competition problems, and allowing the Office of Fair Trading (OFT) to monitor the economy more effectively. In the first year of the Competition Act, the number of complaints to the OFT has increased by more than four and half times.

**Average price levels** **3.60** A further measure which can be considered in looking at competition is relative price levels in different countries. Chart 3.15 shows that across the economy as a whole the UK has significantly higher prices than the US, but slightly lower prices than France or Germany.

**3.61** Such comparisons, however, need to be heavily qualified, as they can be influenced by many factors aside from competition such as exchange rate fluctuations, differences in product quality and tax regimes. In general, studies of price comparisons support the finding that the UK has significantly higher prices than the US, but find that price variations within countries are just as great as price variations between countries.<sup>23</sup>



#### Case Study: Competition in telecommunications

In recent years, competition in telecommunications has increased substantially. Over this period, prices have fallen rapidly. The UK's 40 million mobile phone subscribers (which exceeds the number of fixed lines) have experienced a fall in prices by 24 per cent between January 1999 and September 2000. Furthermore, Oftel estimates that prices for fixed lines have fallen by 27 per cent between 1994–95 and 1999–2000 with prices for international calls falling by 38 per cent over the same period.

Increased competition has also allowed UK consumers to exercise greater choice - with a quarter of consumers switching suppliers in each of the mobile and fixed markets. The competitive environment is also delivering consumer satisfaction. In a recent survey, 90 per cent of mobile consumers indicated overall satisfaction with their service, whilst on average 87 per cent of residential consumers of fixed telecoms expressed satisfaction with their service in surveys carried out across the leading suppliers.

<sup>23</sup> for example, Haskel and Wolf (2000).

### Competition – the Government’s approach

**3.62** The Government has introduced a new legal framework for competition policy, which gives new stronger powers to ensure effective competition policy.

**3.63** One of the key planks of the Government’s competition policy was the introduction of the Competition Act (1998), which came into force on 1 March 2000. The Act enhances the powers available to the OFT to tackle anti-competitive practices and abuses of a dominant market position. It also introduces strong penalties for transgressors – up to 10 per cent of UK turnover for each year of the infringement up to a maximum of three years – and ensures that the OFT is able to identify and pursue cases of anti-competitive behaviour entirely independently of Ministers.

**3.64** With this new prohibition-based regime, and the prospect of financial penalties, the incentives for firms to behave anti-competitively should be significantly reduced. This will mean that the benefits of the Government’s approach are widespread and not restricted only to those areas where the competition authorities take action.

**3.65** In addition to these changes, the Government launched an investigation into competition in banking. The review, led by Don Cruickshank, made a series of recommendations aimed at tackling market power within the banking sector. The Government’s response was to:

- open up access to payments systems and oversee access charges;<sup>24</sup>
- introduce voluntary CAT (Charges, Access, Terms) standards for credit cards and consultation on the extension of CAT standards to other financial services products;
- ask the Competition Commission to examine the supply of banking services to small businesses. It is due to report in June 2001;
- review whether self-regulatory codes, such as the Banking Code, are delivering sufficiently strong benefits to consumers. The review group is due to report in April this year; and
- review the effect of the Financial Services and Markets Act on competition two years after its commencement.

**3.66** The ultimate aim of these changes is to deliver lasting improvements to services to banking customers.

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<sup>24</sup>The Government set out its proposals for legislation in a consultation document ‘*Competition in Payment Systems*’, published in December 2000.

**Case Study: Competition in UK Banking: access to ATM machines**

In March 2000, the Government released the Cruickshank report on competition in UK banking. The report's findings included a number of items on automatic teller machines (ATMs): consumer charges were too high; the larger providers had preferential access to money transmission networks; and new suppliers faced significant barriers to entry.

In response to a draft of the report, the LINK ATM network announced that non-financial institutions would be able to apply for membership of LINK. LINK also announced a reform to wholesale pricing, a ban on double charging by both a customer's bank and the ATM owner, and a commitment to introduce on-screen notification of charges.

According to John Hardy, Chief Executive of Link: "This will greatly increase the number of ATMs available to consumers, especially in rural areas. By allowing non-financial institutions to apply for membership of LINK, we are encouraging greater competition and opening up the market for cash distribution in the UK."

By January 2001, a further six independent ATM deployers had joined the LINK network and, together, the new deployers had plans to install over 22,000 ATMs. An additional seven were actively negotiating entry to LINK or preparing to do so. Consumers have benefited from having free access to around 90 per cent of the 34,000 ATMs currently in the UK and will soon be able to use a greater number of ATMs in more diverse locations.

**Case Study: Competition in car retailing**

In March 1999, the Competition Commission was asked to investigate the supply of new motor cars within the UK. The report, published in April 2000, found that the market supplying new cars within the UK was not operating as competitively as it should.

During the course of the inquiry, partly as a result of consumer group pressure and partly as a result of some resistance from consumers themselves, the manufacturers went some way to meeting UK motorists' concerns (as identified in the Competition Commission report). For example, between December 1999 and December 2000, new car prices have fallen by over 10 per cent.

However some fundamental issues remain unresolved. These include reviewing the almost universal practice of selective and exclusive distribution which is permitted by the current EC motor vehicles block exemption. The Government believes that changes are needed in EU arrangements for car distribution if the consumer is to secure fair prices and full benefit from the single market.

# 4

## INCREASING EMPLOYMENT

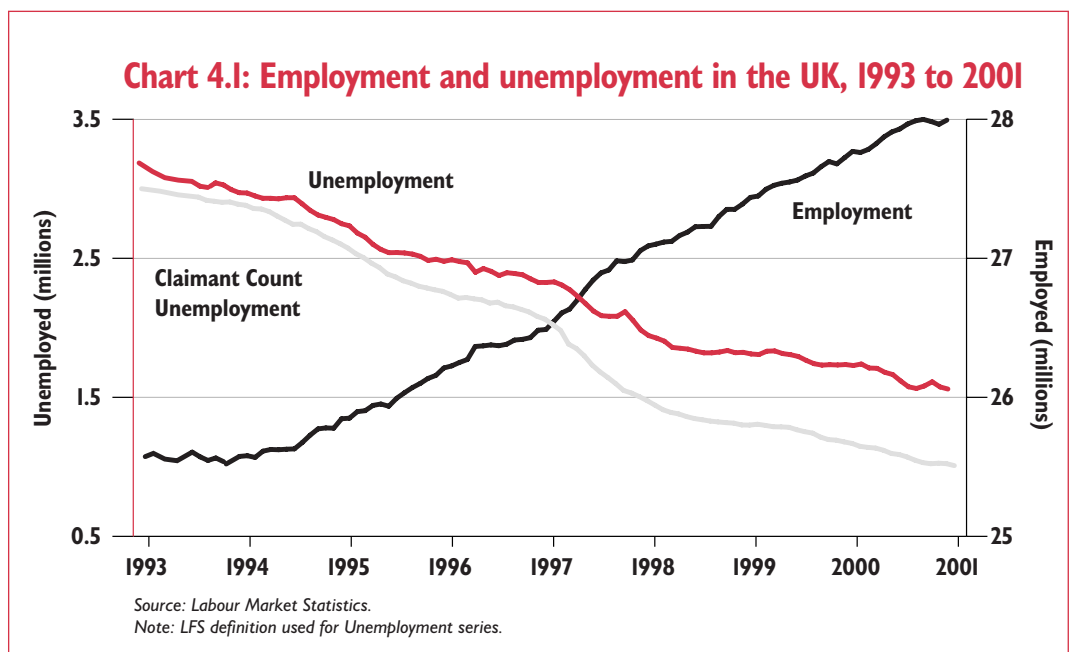
### INTRODUCTION

**4.1** The Government's central economic objective is to achieve high and stable levels of growth and employment. As stated in chapter 2, this can only be achieved by increasing both productivity and the number of people employed in the UK. Whereas previous chapters have mainly concentrated on the productivity story, this chapter looks at employment. It begins by assessing the UK's recent employment performance, goes on to examine weaknesses in the UK labour market, and then assesses recent policies devised to address these weaknesses.

**4.2** The Government set out its commitment to the goal of high and stable employment in 1997, making explicit that this could only be achieved within a framework of macroeconomic stability and sustained economic growth. The success in achieving that goal can be assessed in terms of the impact on:

- employment rates;
- national and regional unemployment rates;
- labour force participation rates; and
- rates of unemployment among groups historically detached from the labour market.

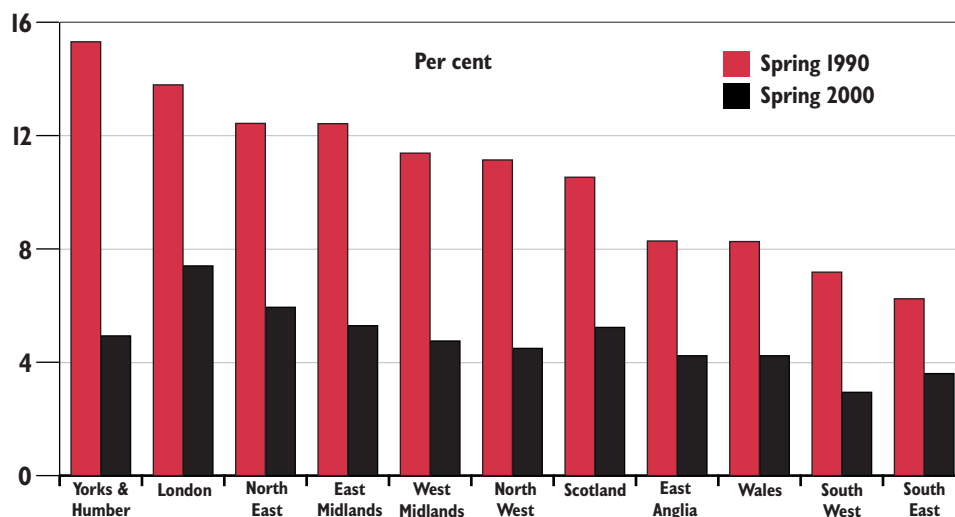
**4.3** Since 1997, employment has risen by over 1 million, and remains close to record levels (chart 4.1). Unemployment is low, with the claimant count measure of unemployment, in terms of both rates and levels, at its lowest since the 1970s.



**4.4** Alongside these falls in unemployment, vacancies remain at record levels. Data on vacancies are an indication of the strength of labour demand. This suggests that job opportunities are widespread: in 2000 there were an estimated 1.1 million vacancies across the economy. Comparing the peak of the last cycle to today shows that, while in the past there

were lower numbers of job vacancies in areas of high unemployment and vice versa, vacancies are now more evenly distributed throughout the country (chart 4.2). And improvements have occurred across the whole of the UK, with employment rising and unemployment falling in every region since 1997 (chart 4.3). However, despite a narrowing of the differences between regions over the last decade, pockets of deprivation remain.

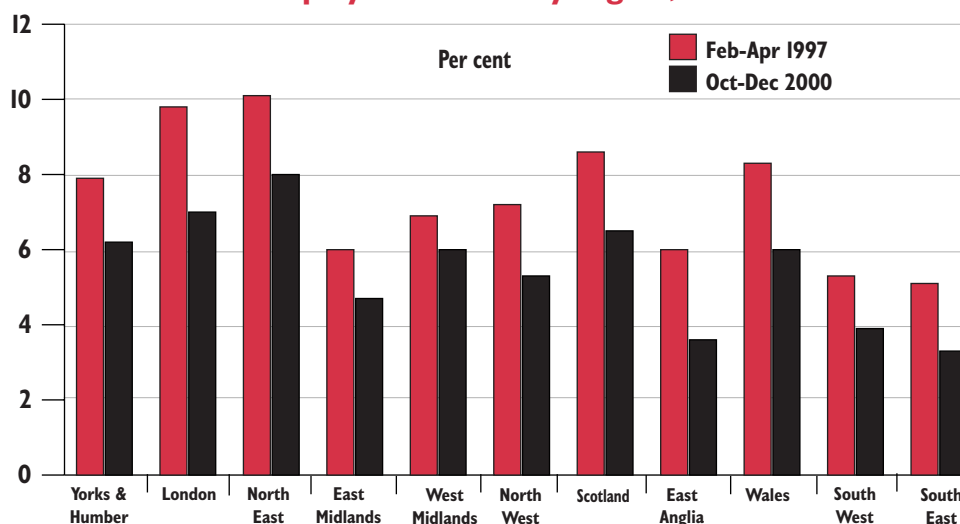
**Chart 4.2: Unemployed per unfiled vacancy, 1990 and 2000**



Source: ILO.

Note: Data for Northern Ireland are not available.

**Chart 4.3: Unemployment rates by region, 1997 and 2000**



Source: ILO.

**4.5** The UK's labour market performance in the late 1990s has been impressive, not just historically, but also when compared to other countries. Using the OECD definition of the employment rate allows reliable comparisons across countries. Aside from Denmark and Sweden, the UK now has the highest employment rate in the EU (chart 4.4). The proportion of people in the UK actively participating in employment also compares extremely well internationally (chart 4.5).

Chart 4.4: Employment rates, 1999

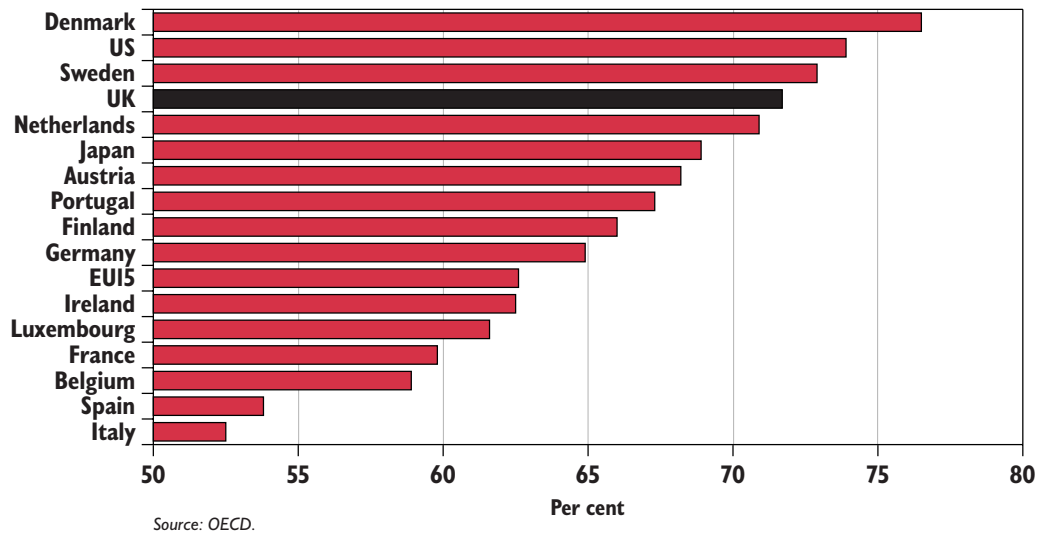
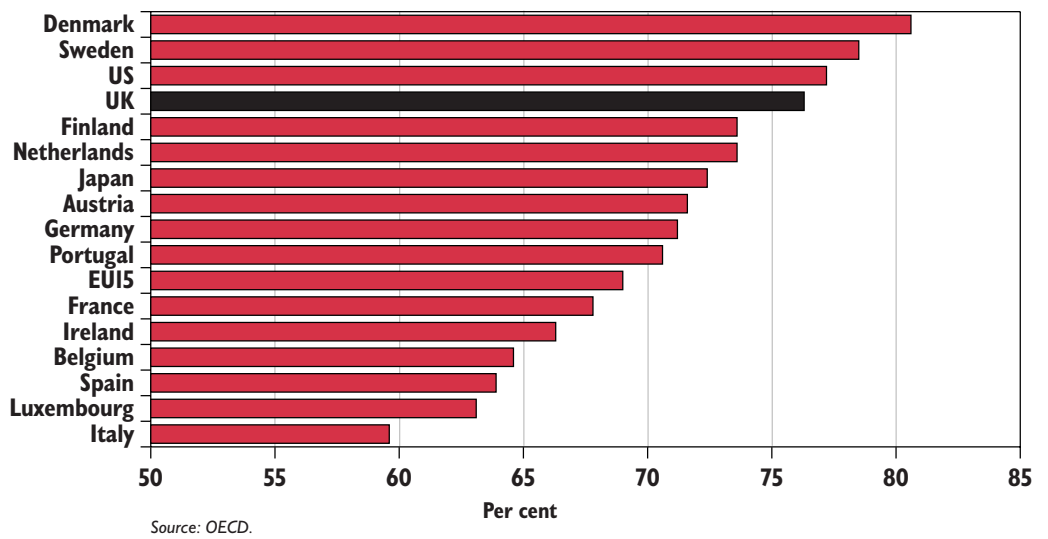


Chart 4.5: Labour force participation rates, 1999



**4.6** There have also been large falls in unemployment rates of groups previously detached from the labour market; youth unemployment has fallen by around 80 per cent since 1997, while long-term unemployment has been cut by two-thirds.

**4.7** Table 4.1 below shows preliminary Treasury estimates of the increases to labour supply resulting from the recent reforms to income tax, National Insurance Contributions and Working Families' Tax Credit (WFTC). It shows that the Government's reforms are not only resulting in increased labour market participation, but that they are having the most significant impact on those areas where the problem of worklessness has been most acute.

**Table 4.1: Labour supply effects of Government reforms to make work pay<sup>1</sup>**

Singles	37,100
Lone Parents	42,100
Couples, partner in work	17,300
Couples, both out of work	63,800
<b>Total effect</b>	<b>160,000*</b>

<sup>1</sup> Since 1997

\* Figures may not sum due to rounding.

## BARRIERS TO EMPLOYMENT GROWTH

**4.8** Macroeconomic stability and sustained economic growth have provided the foundation for high aggregate employment growth. However, they have not been sufficient to provide employment opportunities across all segments of the UK labour market. Government policies have concentrated on tackling barriers to employment growth that have resulted in concentrations of non-employment over the last 20 years.

**4.9** Among the most persistent problems present in the UK labour market have been high levels of youth and long-term unemployment. Inactivity was also increasingly concentrated within certain categories of individuals and groups, such as the over 50s and lone parents.

**4.10** To address these labour market problems and to improve the gains to work for those facing particular work incentive problems, the Government has introduced Welfare to Work policies, notably the New Deal, together with policies to make work pay, such as WFTC.

### Case Study: Training opportunities through New Deal

**New Deal for people aged 25 plus helped Donald from Sunderland demonstrate his value to potential employers when qualifications alone were not enough to find a job. Although he had an HND in Illustration and Graphic Design and had done some work based training in Information Technology, Donald had been out of work for over two years and needed to build up a portfolio that could show his current skills in order to help his chances of working in graphic design. Experience gained with a local training organisation helped achieve this, and allowed him to update his skills in desktop publishing. He now has a permanent job as a Mac computer operator, and feels the New Deal training and experience was invaluable in securing that job.**

## THE NEW DEAL

**4.11** The New Deal was initially targeted at reducing high levels of long-term youth unemployment. Launched nationally in April 1998, it focuses not only on getting young people into jobs today, but also on investing in their long-term futures. For example, the continuity and support offered by the personal adviser assigned to each participant is unlike anything seen on a previous programme.

**4.12** Since June 2000, the Gateway stage of the New Deal for Young People (NDYP) has been enhanced, with additional help for ‘soft skills’ such as presentation, punctuality and communication skills available to participants after a certain time on the programme.

**4.13** The NDYP is also built around a framework of rights and responsibilities. New opportunities are offered, but only in exchange for a greater expectation that people will then use these opportunities to become more independent by finding work. For young people who turn down the offer of help, the NDYP removed the option of remaining indefinitely on benefit.

**4.14** NDYP has proved very successful at reducing both labour market detachment and long-term youth unemployment. The latest macroeconomic evaluation estimates that youth unemployment fell by an additional 40,000 due to the NDYP during its first two years in operation.<sup>1</sup>

**4.15** The Government initially set a target of moving 250,000 young people off welfare and into work in 1997. This target has now been surpassed, with 274,230 young people finding work through the NDYP.

**4.16** Building on this success, the New Deal has been extended to help other groups to perform well in the labour market, including lone parents, long-term unemployed people over the age of 25, people over 50, and people with disabilities.

## MAKING WORK PAY

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**4.17** Many people are reluctant to take jobs where the financial gain is small or non-existent. Historically, the gap between out-of-work and in-work incomes has often been too small to provide a sufficient incentive to move off benefits and into employment. There is some evidence that those without work may be reluctant to take a job if they will be less than £40 a week better off.

**4.18** Since 1997 the Government has embarked upon a series of reforms to the tax and benefits system. This includes measures to help make work pay at all levels of the labour market such as:-

- reforms to NICs: removing the unfair “entry fee” and raising the point at which employees begin to pay NICs; and
- the introduction of a new 10p rate of income tax, and a reduction in the basic rate to 22p – its lowest level for 70 years.

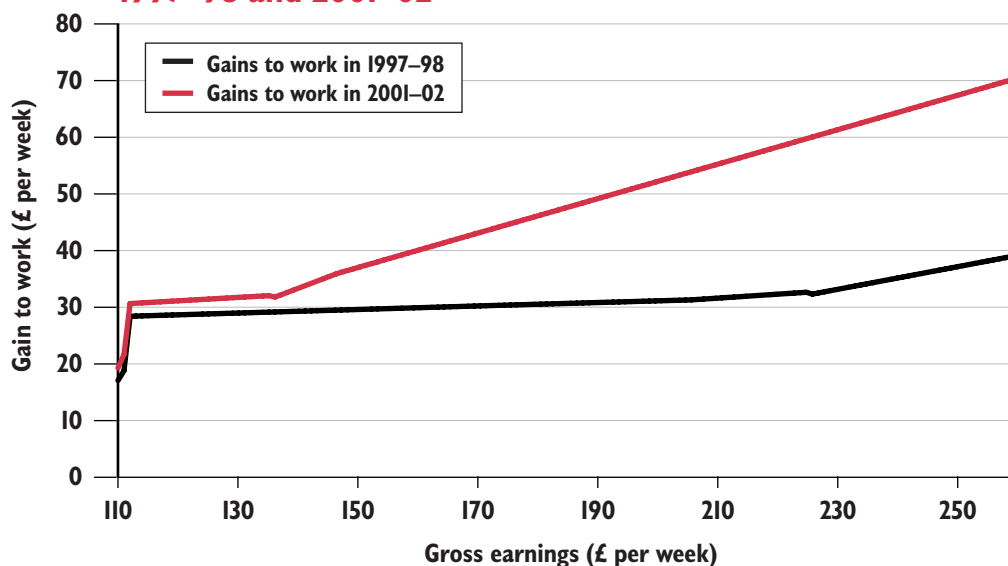
**4.19** These reforms have been underpinned by the introduction in April 1999 of the National Minimum Wage (NMW). The NMW has removed the worst excesses of low pay and an estimated 1.2 to 1.5 million people have benefited from its introduction.

**4.20** In 1997, an unemployed couple with two children under 11 would have needed to get a job with a weekly wage of nearly £260 in order to be £40 better off (chart 4.6). This figure has now fallen to just over £150 – very close to the average entry wage for this group.

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<sup>1</sup> Riley and Young (2000).

**Chart 4.6: Gains to work before and after reforms, 1997–98 and 2001–02**



Source: HM Treasury.

#### Case Study: WFTC – Making Work Pay

Sharon, a lone parent in East Lancashire, had been claiming Income Support since 1996. She had been doing voluntary work in a charity shop but thought she would like to take up paid work. She attended an interview with a NDLPA (New Deal Lone Parent Adviser) during which an In Work Benefit Calculation for WFTC was undertaken. On the strength of this she decided that she would be able to manage her finances. She has now found a job working for a department store.

She has been able to claim £91.00 per week from WFTC and has received a £200 job finders grant. In addition, she was able to claim Income Support as a lone parent for 14 days after starting work.

## WORKING FAMILIES' TAX CREDIT

**4.21** Families with children have, in the past, faced particular problems with work incentives. To address these problems, the Working Families' Tax Credit (WFTC) was introduced in October 1999. Already more than 1.1 million families are receiving WFTC, around 300,000 more than received Family Credit at its peak. Families are on average receiving around £30 a week more compared to Family Credit.

**4.22** WFTC includes a generous childcare tax credit component, which helps many families for whom the cost of childcare is a barrier to work. The credit is worth 70 per cent of eligible childcare costs up to limits currently set at £100 a week for a family with one child and £150 for a family with two or more children. Around 124,000 families are benefiting from the childcare tax credit, more than twice the number that received Family Credit at its peak.

**4.23** Families with children in particular face a large work incentive problem. In 1997 labour market participation rates were 40 per cent for lone parents, 57 per cent for women with a family and 83 per cent for men with a family.<sup>2</sup> This compared to a labour market participation rate for the whole of the UK of 75 per cent.

<sup>2</sup> Dilnot and McCrae (1999).

**4.24** This and other evidence indicates that a major determinant of labour market behaviour is the presence of young children in the family, particularly for women. WFTC has helped to make work pay for families with children and the generous childcare component has reduced barriers to work where childcare costs may have previously been an obstacle.

**4.25** WFTC is an important first step towards integrating the tax and benefit system, improving the mechanisms that had evolved over time for supporting children. It has also ended the inefficient process of people having to pay tax and claim separate work benefit support, and increased the incentive for people with children to choose work over benefits.

**4.26** Similarly the Disabled Person's Tax Credit (DPTC), launched in October 1999 provides financial incentives and increases employment opportunities to those who formerly received incapacity or disability benefits.

#### **Case Study: Job Sharing**

**Beverly and Jane are both lone parents in Derbyshire. They were both looking for administration/reception work part-time 20 to 25 hours a week. A local employer was advertising a vacancy for that type of work, paying £4.50 an hour but working 40 hours a week. The vacancy had been advertised a week or so when the employer rang the Jobcentre because he was getting very little response to his advertisement. As both clients were ideal for the job apart from the hours, their adviser rang the employer to see if they could consider a job share. Whilst a little apprehensive initially, the employer was persuaded to see both Beverly and Jane independently the following morning. The employer was impressed with them both and rang to let their adviser know that he would be taking them on at 22 hours per week each from the following Monday morning.**

**As the In Work Benefit Calculations had already showed they would both be better off in the job, their adviser was able to see both clients at short notice to fast track their WFTC awards.**

## **SUMMARY**

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**4.27** In summary, the UK's employment record in the late 1990s has been impressive. Macroeconomic stability and sustained economic growth have provided the foundation for high aggregate employment growth. Government policies introduced under Welfare to Work and policies to make work pay have also been successful at increasing employment growth among groups previously detached from the labour market.

**4.28** Improvements in the number of people in employment in the UK have contributed to increasing economic growth. However, this remains only one part of the challenge. Given the success of getting more people into employment, the next challenge will be to raise the productivity levels of all those in work.



**5.1** This paper has taken stock of the progress that the UK has made towards the goal of becoming a more productive economy. A productive economy is one which is characterised by both high employment and high productivity growth.

**5.2** The aggregate figures show that the UK has performed well on employment growth in recent years. Productivity growth has been less strong, and while recent figures are encouraging – the latest figures for whole economy productivity in the UK show an annual increase of 2.6 per cent – the UK still has a substantial productivity gap with its main competitor countries.

**5.3** To some extent, the increase in employment may have dampened productivity growth as new workers are generally less productive than existing workers. The US experience in the late 1990s has, however, shown that it is possible to achieve high productivity growth at the same time as high employment growth.

**5.4** The UK's macroeconomic framework has been discussed, with the evidence showing that the Government's fiscal and monetary policy frameworks are delivering a platform of stability for the UK economy.

**5.5** The paper has focused separately on the main indicators of productivity and employment. The key drivers of private sector productivity have been assessed. The analysis shows that in each of these areas there are some early signs of improvement, although major challenges remain.

**5.6** The paper has looked in some detail at the key drivers of productivity growth, examining a range of indicators to assess progress. Amongst the findings were:

- **investment** – business investment as a percentage of GDP rose to around 14 per cent in 2000, up from around 10 per cent in 1994. And, following the 2000 Spending Review, public sector investment is set to more than double over the next three years;
- **skills** – literacy levels at age 11 have improved by nearly a third over the last four years. In addition, GCSE results for 16 year-olds are the best ever, with 49 per cent obtaining at least five passes at grades A\* to C, compared to 43 per cent in 1993;
- **innovation** – the amount of research and development (R&D) carried out by companies has shown a recent up-turn, after a long period of relative decline. Between 1998 and 1999, civil R&D spending by business increased by around 8 per cent;
- **enterprise** – the OECD and Arthur Andersen both rated the UK as having the best environment for entrepreneurial activity when compared with a number of other competitor countries;
- **competition** – the UK has again made some strides forward, with the adoption of a tougher legislative regime for anti-competitive behaviour through the introduction of the new Competition Act and giving stronger powers to the Office of Fair Trading.

**5.7** Much remains to be done if the UK is to achieve strong and lasting improvements in productivity growth. The magnitude of the productivity challenge should not be underestimated. Sustained increases in investment in physical capital and human capital, together with promoting innovation in a competitive business environment are all essential if the UK is to make substantial progress.

**5.8** Government, businesses and employees will all have a vital role to play if this task is to be accomplished.

#### **Box 5.1: The CBI/TUC productivity campaign**

Recognising that closing the productivity gap cannot be achieved without a wider drive across the economy, in October 2000 the Chancellor invited the TUC and CBI to work together on an agenda to raise productivity.

In a joint response, the TUC and the CBI endorsed the Chancellor's request. As a result, working groups have been set up in the four areas identified as being most urgently in need of attention:

- training, with a focus on developing intermediate skills in the workplace. The group will be chaired by John Monks (General Secretary, TUC) with John Roberts (Chief Executive, Post Office) his deputy;
- investment, to consider the barriers to investment in the UK economy. The work will be chaired by Digby Jones (Director General, CBI), with Bill Morris (General Secretary, TGWU) his deputy;
- technology and innovation. This group will be chaired by Sir Ken Jackson (General Secretary, AEEU) with John Robinson (Chairman, Wimpey) his deputy; and
- dissemination and application of best practice, building on existing Government initiatives. The work will be chaired by Paul Barron (President Alstom UK) with John Edmonds (General Secretary, GMB) his deputy.

Each working group will include additional members from the two organisations, academics and regional representatives. In advance of the 2001 Pre-Budget Report, the groups will come forward with proposals oriented towards action, concentrating on what employers, unions and the Government can do to raise productivity.

# A

## ANNEX A: UNDERSTANDING THE PRODUCTIVITY GAP

### INTRODUCTION

**A.1** This annex summarises the conclusions of the first Treasury paper in the series examining UK productivity (*“Productivity in the UK: the Evidence and the Government’s Approach”*). It assesses the factors which account for the productivity gap at the national level and at the firm level, and sets out the Government’s strategy for meeting the productivity challenge.

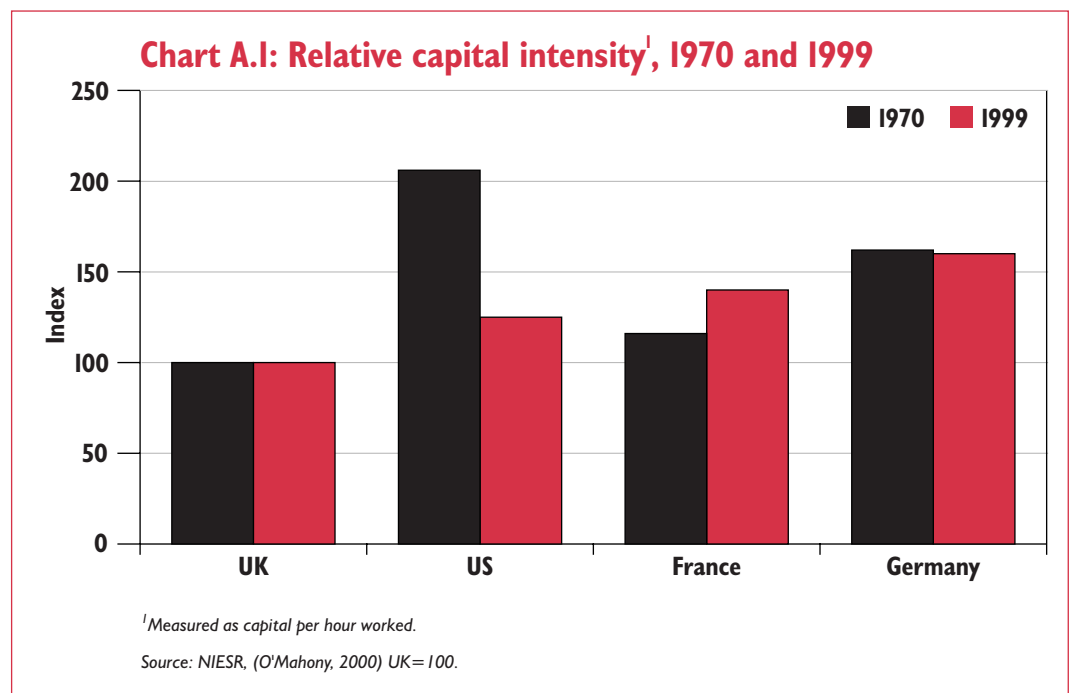
### THE FACTORS UNDERLYING THE PRODUCTIVITY GAP

**A.2** The central conclusions of the first paper were that the productivity gap could be accounted for by physical capital, human capital, innovation and technological progress, competition and enterprise.

#### Physical capital

**A.3** In the past, the capital stock of firms and the stock of public infrastructure in the UK has been well below that in other major industrialised countries. This shortfall has been a major part of the explanation for relatively poor UK productivity, and reflects years of low investment in both the public and private sectors.

**A.4** Chart A.1 sets out estimates of the UK’s capital to labour ratio relative to the US, France and Germany; it shows that the UK’s weak position on capital per hour worked dates back a considerable time.



<sup>1</sup> HM Treasury, November 2000.

### Human capital

**A.5** The skills level of the workforce is another important contributor to growth. Highly productive firms generally have a more skilled workforce.<sup>2</sup> And a highly skilled workforce will tend to increase the productive output of the economy and enhance economic growth.

### Innovation and technological progress

**A.6** Productivity growth relies on a continual stream of inventions and innovations both of new technologies and improved working practices. Levels of expenditure on R&D, and the stock of ICT in the economy both have the potential to affect growth.

### Competition and enterprise

**A.7** Competition plays a central role in driving productivity growth. It encourages firms to innovate by putting pressure on costs and providing incentives for efficient production. It also acts to reallocate resources away from inefficient firms to more productive competitors and new entrants. Recent studies have found that increased competitive pressure has a positive impact on firm efficiency and productivity growth rates.<sup>3</sup>

**A.8** Enterprise also creates competitive pressure as new firms introduce innovative practices and new technology and challenge incumbents' performance. Analysis of firm-level data shows that almost half of manufacturing productivity growth is associated with new firms starting up.<sup>4</sup>

## THE GOVERNMENT'S STRATEGY

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**A.9** The Government's aim in promoting a productive economy is to raise the trend rate of growth. It aims to do this by both increasing employment over the economic cycle, and by increasing the productivity of the economy.

**A.10** The principle underlying Governmental strategy is to provide the best environment for all participants in the economy to maximise their productive potential and not to interfere directly in the way businesses are run. This means rather than supporting failing businesses or trying to "pick winners", the key to productivity growth lies in creating and sustaining an environment for productive businesses to flourish.

**A.11** The Government's strategy for promoting a productive economy is based on two key pillars:

- providing a **stable macroeconomic environment** within which firms can make critical long-term decisions with greater certainty; and
- making markets work through a series of **microeconomic reforms**, designed to raise productivity and increase employment.

### Stable macroeconomic environment

**A.12** A stable macroeconomic environment makes it easier for firms to plan and invest. Since 1997, the Government has introduced a new framework for macroeconomic policy. Monetary and fiscal policy are now highly transparent, based on clear rules and targets, and underpinned by legislation. As a result, the Government has created a platform of economic stability upon which the economy can grow.

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<sup>2</sup> Barnes and Haskel (2000).

<sup>3</sup> Blundell, Griffith and Van Reenen (1995) and Nickell (1996).

<sup>4</sup> Griffith (2001), Barnes and Haskel (2000).

### Microeconomic reforms

**A.13** Macroeconomic stability is the essential precondition for the Government to achieve its objective of raising long-term economic growth. However, other policies operating at the microeconomic level are also necessary to create a productive economy.

**A.14** Effective markets and competition provide the best means of ensuring that the economy's resources are allocated efficiently. All markets in the economy have an important part to play in promoting economic growth, in terms of raising both employment and productivity:

- **Product markets:** efficiently functioning product markets create competitive pressures that increase output in three ways:
  - (i) keeping prices down, causing firms to increase output to satisfy demand from more consumers;
  - (ii) ensuring that firms innovate as, if they do not, they will lose their position in the market; and
  - (iii) ensuring that firms conduct their operations in such a way as to minimise their costs of production.
- **Capital markets:** well functioning capital markets ensure that firms have adequate access to the capital they need to operate efficiently and to grow. Efficient capital markets promote economic growth by:
  - (i) ensuring that firms can finance potentially viable investments enabling them to expand operations to meet demand;
  - (ii) providing funds for firms to innovate, generating new technologies and new, more productive ways of operating;
  - (iii) enabling shareholders to place incentives on firms to maximise the efficiency of their operations; and
  - (iv) allowing people to maximise their productive potential by borrowing to pay for the acquisition of skills and training.
- **Labour markets:** well-functioning labour markets are not only essential to tackling the underlying causes of deprivation and inequality, they are also vital for generating growth:
  - (i) increased labour supply allows employment to rise to meet the demands of a growing economy for increased output;
  - (ii) flexible labour markets ensure that the economy is able to adjust rapidly to take advantage of new growth opportunities; and
  - (iii) well-functioning labour markets reward workers according to their performance and skills.

**A.15** Although markets provide the best means of allocating an economy's resources, many markets are subject to imperfections or failures. Market failure exists when the competitive outcome of markets is not efficient from the point of view of the economy as a whole; i.e. when the benefits that the market confers on individuals or firms diverge from the benefits to society as a whole.

**A.16** Market failures occur in many different ways and for a wide range of causes. However, they can all be classed into four generic categories:

- **externalities** – spillover effects which occur when actions by a firm or individual create benefits that do not accrue to that firm or individual;
- **market power** – when competition works effectively, firms innovate and set prices to win business. When there is market power, however, this process is hindered. First, firms do not need to be so efficient and can set higher prices. Secondly, market power shifts the dynamic incentive to innovate, which is essential to growth;
- **information** – a lack of information may raise problems for the efficient functioning of markets;<sup>5</sup>
- **poor regulation** – although Government regulation has a vital role to play in ensuring that markets operate efficiently, excessive or unnecessary regulation can obstruct efficient market functioning.

**A.17** Table A.1 shows how the Government's policies to promote a productive economy have tackled particular market failures.

**Table A.1: Government policy to encourage productivity growth since 1997**

	Capital Markets	Labour Markets	Product Markets
<b>Externalities/Public Goods</b>	<ul style="list-style-type: none"> <li>• Financial Services and Markets Act.</li> <li>• Changes to the CGT system.</li> <li>• Corporate Venturing Scheme.</li> <li>• Improvements to Enterprise Investment Scheme and Venture Capital Trusts.</li> </ul>	<ul style="list-style-type: none"> <li>• Improve standards in schools.</li> <li>• Create Learning and Skills Councils to improve education and training for those aged 16 and over.</li> <li>• Improve lifelong learning through Individual Learning Accounts and University for Industry.</li> <li>• Council for Excellence in Management and Leadership to improve management education.</li> <li>• The New Deal.</li> <li>• Reforms to work permits.</li> </ul>	<ul style="list-style-type: none"> <li>• R&amp;D tax credits for SMEs.</li> <li>• Policy to encourage clusters.</li> <li>• Improving the science base through the Joint Infrastructure Fund and University Challenge.</li> <li>• Improvements to commercialisation of public sector science following the Baker Report.</li> <li>• Science and Innovation White Paper.</li> <li>• Consultation on extending R&amp;D tax incentives to large companies.</li> </ul>
<b>Market Power</b>	<ul style="list-style-type: none"> <li>• Cruickshank Review of Banking.</li> <li>• Competition Commission reference into SME banking.</li> <li>• Setting up of Paycom.</li> </ul>	<ul style="list-style-type: none"> <li>• The Minimum Wage and Low Pay Commission.</li> </ul>	<ul style="list-style-type: none"> <li>• The new Competition Act.</li> <li>• International price comparisons.</li> <li>• The Consumer White paper, 1999.</li> </ul>
<b>Informational problems</b>	<ul style="list-style-type: none"> <li>• Macroeconomic framework</li> <li>• Myners Review of Institutional Investment.</li> <li>• DTI enterprise fund.</li> <li>• 100 per cent Capital Allowances for Small Business Spending on ICT equipment.</li> </ul>	<ul style="list-style-type: none"> <li>• Employee share ownership to align incentives of staff, management and shareholders.</li> <li>• Enterprise Management Incentives.</li> </ul>	<ul style="list-style-type: none"> <li>• The OFT Review of professional services.</li> <li>• CAT standards on investment products.</li> </ul>
<b>Regulation and taxation</b>	<ul style="list-style-type: none"> <li>• Reduction in Corporation Tax rates to 30, 20 and 10 per cent.</li> <li>• Introduction of permanent 40 per cent Capital Allowances for SMEs.</li> <li>• Abolition of Advance Corporation Tax.</li> </ul>	<ul style="list-style-type: none"> <li>• Policy to make work pay including the Working Families Tax Credit.</li> <li>• Reforms to National Insurance Contributions.</li> </ul>	<ul style="list-style-type: none"> <li>• Small Business Service</li> <li>• Regulatory Impact task-force.</li> </ul>

<sup>5</sup>More specifically, markets with informational asymmetries are characterised by moral hazard and adverse selection, both of which can cause problems for market functioning.

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