

# Productivity Policy

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## Summary

- The UK has been narrowing its ‘productivity gap’ with other advanced economies since the early 1990s, but there is no evidence of any acceleration or deceleration in catch-up since 1997.
- The research and development (R&D) tax credits are the largest single new policy aimed at increasing innovation by businesses, but on their own they are unlikely to contribute more than one-quarter of the increase in business R&D required to meet the government’s ambition of raising R&D from 1.9% to 2.5% of national income by 2014.
- All the main parties want to reduce the burden of regulation, but according to the OECD the UK remains one of the least regulated advanced economies.

## 1. Introduction

Long-term increases in prosperity and living standards depend on sustained growth in labour productivity (output per worker). In recent decades, the level of labour productivity in the UK has been low compared with that in similar countries such as the USA, France and Germany, and the government has set itself a target of increasing the rate of labour productivity growth and narrowing this productivity gap. However, in the short term, productivity growth is affected by many influences beyond the control of governments, such as the global economic cycle. In the long term, productivity growth is determined by a range of factors, such as the rate of invention and diffusion of new technologies, the level of skills in the labour force, and the extent to which the business environment encourages entrepreneurial activity and investment.

Government policy influences these factors in complex ways and over long periods of time, so that the current underlying rate of productivity growth is affected by the policies of both past and present governments. As a result, it is not possible to link year-on-year developments in productivity outcomes to specific policies, and government policy should be evaluated in the context of long-term trends. At the same time, specific policies sometimes have measurable intermediate goals, and where this is the case they should be evaluated according to whether the goals themselves are sensible and the extent to which they are achieved without introducing unwelcome distortions to the economy.

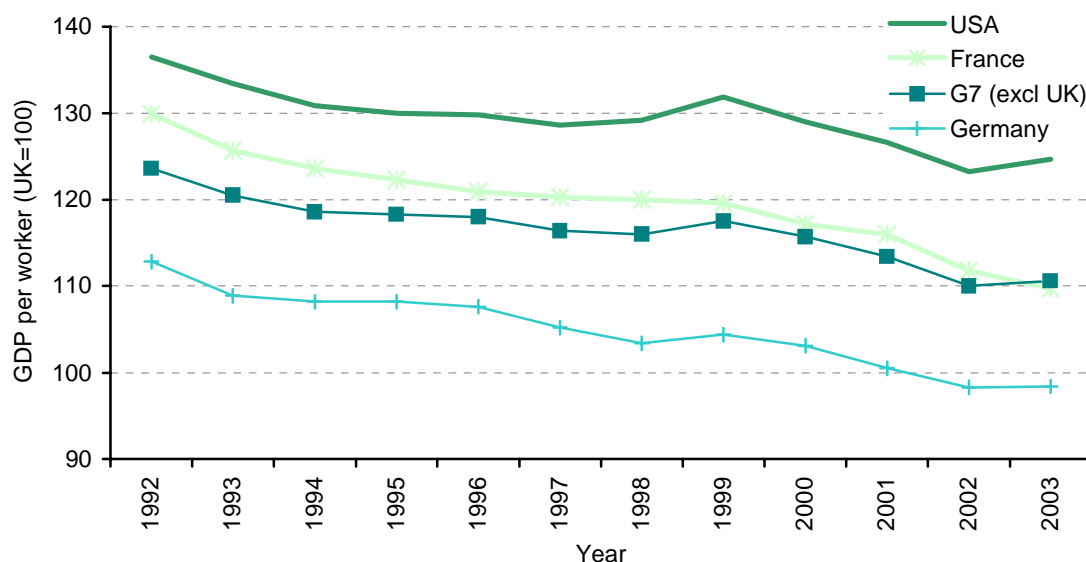
In this Briefing Note, we first present internationally comparative evidence on the UK’s productivity performance (Section 2) and some of the underlying ‘drivers’ of productivity identified by the government (Section 3). We then provide an overview of productivity policy under both Labour governments since 1997, and discuss the recent direction of policy in this

area (Section 4). Finally, we discuss the proposals of the three main parties in the area of productivity policy (Section 5).

## 2. The UK's productivity performance

The simplest measure of labour productivity targeted by the government is the amount of output produced per worker. On this measure, the UK has lower labour productivity than the USA and France. Figure 1 shows GDP per worker over 1992–2003 for these countries, as well as the unweighted average for the G7 countries excluding the UK,<sup>1</sup> where each value is expressed as a percentage of UK productivity. Over the period as a whole, the UK experienced faster productivity growth on average than the USA, France and Germany. Thus the graph shows that the UK has narrowed its productivity gap with all three countries: the USA was 37% more productive than the UK in 1992, but only 25% more productive in 2003, while the productivity gap with Germany has been eliminated altogether on this measure.

Figure 1. GDP per worker (UK=100)



Source: ONS, *International Comparisons of Productivity*, 2005.

The overall rate of catch-up was, if anything, slightly faster during the 1992–97 period than in the period since 1997, although Figure 1 shows that there has been a slight acceleration since 1999. Overall, there is no clear evidence of any significant acceleration or deceleration in the rate of catch-up since 1997. However, as discussed above, productivity growth is affected by a range of short- and long-term factors in each country, so any changes in the pattern of catch-up since 1997 could not be attributed to specific Labour policies. In addition, international comparisons of productivity are subject to a fairly wide margin of error, so too much emphasis should not be placed on small changes. Box 1 discusses several further issues relating to the comparison of productivity across countries.

<sup>1</sup> These are the USA, Japan, Germany, France, Italy and Canada.

### Box 1. Measures of productivity

The simplest measure of productivity, shown in Figure 1, is the amount of GDP produced per worker, and the government's productivity target is based on this. However, in many ways, a more useful concept is the amount of GDP produced per hour worked, since this reflects more accurately the technology and efficiency with which output is produced for a given unit of labour input. Average hours per worker are higher in the UK than in France and Germany, but lower than in the USA, so the UK performs less well on this measure compared with France and Germany than in Figure 1, and slightly better compared with the USA. Nevertheless, the general trend over time is very similar for both measures. There are several difficulties involved in accurately measuring average hours worked across different countries, so the data on GDP per hour worked should be viewed with extra caution.

In recent Budgets and Pre-Budget Reports, the government has also presented a third international comparison based on 'GDP per person of working age'. This is not strictly a measure of productivity, since it takes into account the proportion of the working-age population that are not employed. The UK performs significantly better on this measure compared with France and Germany because it has a higher working-age employment rate. It is often argued that part of the explanation for the UK's relatively low level of productivity is that it manages to employ a high proportion of less-skilled individuals, who tend to have lower productivity. This tends to reduce average GDP per worker, even though it increases GDP per person of working age. It is certainly the case that much of the expansion of employment in the UK over the last 10 years has been in service sectors with low average productivity. However, the USA combines similar levels of employment to the UK with significantly higher labour productivity, so this cannot explain the UK's productivity gap with the USA.

The UK's labour productivity gap can conceptually be decomposed into three components: that part of the gap explained by a lower average stock of capital per worker (for example, machinery and computers); that part explained by lower average skills per worker; and a residual component representing the technology and efficiency with which inputs are combined to produce output. Researchers have attempted to measure the contributions of these three components to the UK productivity gap using a technique known as growth accounting.<sup>a</sup> The general conclusion from this approach is that the UK's productivity gap with France and Germany can be largely explained by a lower average stock of capital per worker, as well as lower levels of intermediate skills. However, a significant part of the gap with the USA remains unexplained by these factors, and is attributed to superior levels of technology and efficiency in the USA. While these conclusions may provide some guidance for policy, growth accounting is based on a number of fairly strong assumptions, and its results should be seen as suggestive rather than definitive.

<sup>a</sup> See, for example, M. O'Mahony and W. de Boer, 'Britain's relative productivity performance: updates to 1999', mimeo, National Institute of Economic and Social Research, 2002.

We can ask which sectors of the economy contribute the most to the UK's overall labour productivity gap, and how the resulting composition of the gap has changed over the past decade. While much of the discussion of productivity has traditionally focused on manufacturing, it turns out that the two sectors that account for the largest proportion of the overall UK–USA productivity gap are 'wholesale and retail' and 'financial intermediation'.<sup>2</sup> These two service industries together account for over one-third of the total gap, and their contribution has risen significantly since the early 1990s as they increased both their share of total UK employment and their productivity gap with the USA. In contrast, the share of the gap accounted for by most manufacturing industries decreased over the 1990s, the main exception being 'machinery and equipment', where the USA has seen a significant acceleration in productivity growth. The UK has narrowed the productivity gap in a number of other sectors since the early 1990s, particularly in 'business services', which includes industries such as labour recruitment, software consultancy and market research.

The sectoral distribution of the productivity gap may have lessons for policy. For example, about 80% of formal R&D is performed in the manufacturing sector, so policies such as the R&D tax credits that focus specifically on R&D will probably have little effect on productivity growth in the service sector. Having said this, there is some evidence that R&D is becoming increasingly important in some service sectors, so policy-makers should consider the extent to which current policies are designed to be suitable for service sector firms.

In the retail sector, other factors such as planning regulations and investment in information and communication technology (ICT) are thought to be important determinants of productivity. While the fact that the UK has a significant productivity gap in retail may suggest scope for effective policy intervention, each policy should be considered on its own merit. For example, while larger retail stores tend to have higher productivity, this does not necessarily imply that the average store size in the UK is too small. Differences in planning regulations across countries may reflect differences in land availability or national preferences over shopping and travel options, and these should be weighed against any productivity gains.

### 3. The 'drivers' of productivity

The government's policy framework is built around five key 'drivers' of productivity: science and innovation; investment; enterprise; skills; and competition. In practice many of the 'drivers' overlap and interact in complex ways, but the framework is useful for presentational purposes, and we briefly consider progress on each in turn.

#### 3.1 Science and innovation

The broadest measure of investment in science and innovation across countries is total expenditure on R&D as a percentage of national income, or R&D intensity. In 2002 this was 1.9% in the UK, compared with 2.7% in the USA, 2.5% in Germany and 2.2% in France. As shown in Figure 2, UK R&D intensity has fallen fairly steadily since 1981, and it fell

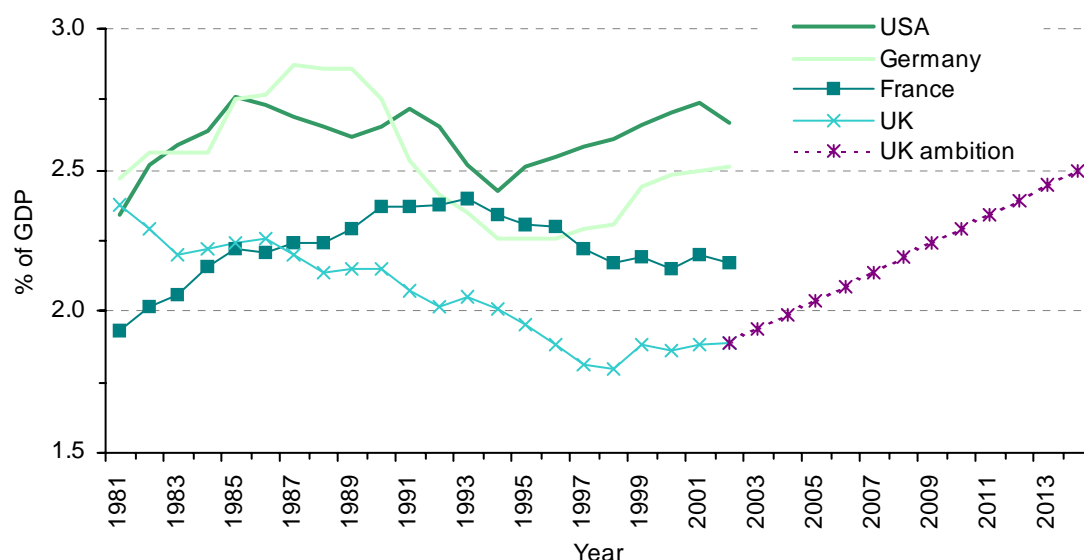
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<sup>2</sup> See R. Griffith, R. Harrison, J. Haskel and M. Sako, *The UK Productivity Gap and the Importance of the Service Sectors*, IFS Briefing Note no. 42, 2003 ([http://www.ifs.org.uk/publications.php?publication\\_id=1790](http://www.ifs.org.uk/publications.php?publication_id=1790)).

particularly sharply during the mid-1990s while it was rising in the USA and Germany. In the early 1980s, UK R&D intensity was supported by high levels of defence R&D, which was reduced significantly over the second half of the decade.

The slight recovery since 1998 cannot be attributed to specific policy measures, and the government's main policies in this area – the R&D tax credits – were introduced too recently for any noticeable effects to show up in the latest available data. The EU Lisbon Agenda set a target for total R&D intensity in the EU at 3% of GDP by 2010, and the government has an ambition to raise UK R&D intensity to 2.5% by 2014. As shown in the graph, this would require rapid increases in R&D intensity to levels not achieved since the early 1980s. The government expects most of the increase to result from increased R&D spending by business (which currently accounts for about two-thirds of total R&D), with publicly performed R&D (in universities and government laboratories) contributing the rest. In Section 4, we argue that, even on the most generous estimate, the new R&D tax credits alone are unlikely to contribute more than one-quarter of the increase in business R&D spending that would be required for the government's R&D ambition to be achieved.

Figure 2. R&D as a % of GDP, 1981–2002 and the government's ambition



Sources: OECD and authors' calculations.

The UK performs better on some other measures of scientific innovation. For example, it has more academic articles and citations per head than all three countries mentioned above, with 25% more than the USA and about 60% more than France and Germany.<sup>3</sup> The disparity between this measure and the UK's relatively low R&D intensity is sometimes taken to suggest that the UK is good at producing new scientific ideas but relatively bad at commercialising them. However, the recent Lambert Review of Business–University Collaboration found only limited evidence for this.<sup>4</sup>

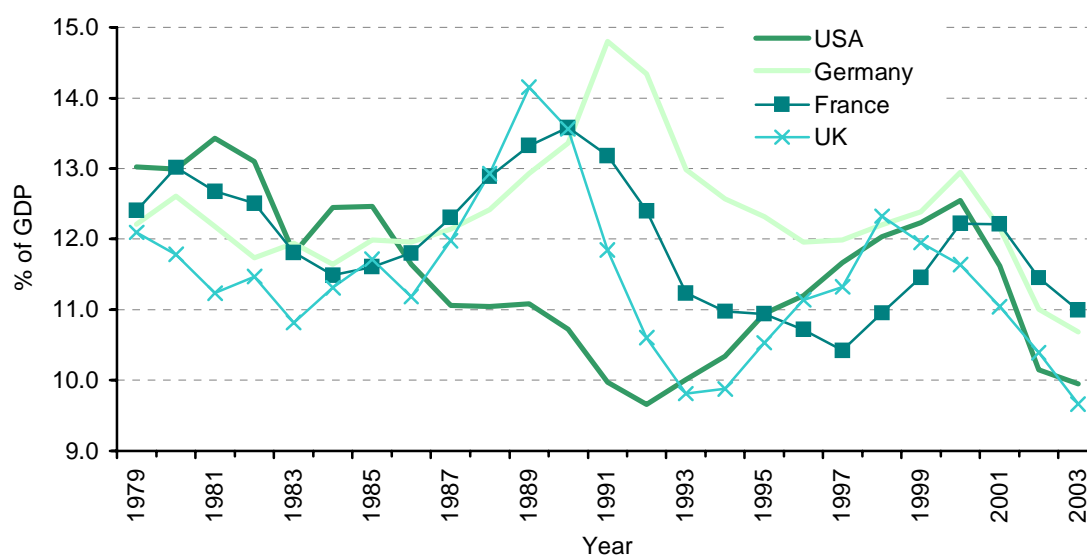
<sup>3</sup> DTI, *UK Productivity and Competitiveness Indicators* (<http://www.dti.gov.uk/competitiveness/indicators2003.htm>).

<sup>4</sup> *Lambert Review of Business–University Collaboration: Final Report*, HM Treasury, London, December 2003 ([http://www.hm-treasury.gov.uk/consultations\\_and\\_legislation/lambert/consult\\_lambert\\_index.cfm](http://www.hm-treasury.gov.uk/consultations_and_legislation/lambert/consult_lambert_index.cfm)).

### 3.2 Investment

Figure 3 shows that business investment as a share of GDP in the UK has followed a cycle similar to that in France, Germany and the USA. Despite low interest rates and the government's success in maintaining macroeconomic stability, UK business investment has failed to sustain the peak seen in the late 1990s. Some possible contributory factors include the weakness of the stock market, heightened uncertainties following 11 September 2001, tensions in the Middle East and the rise in oil prices, and uncertainty about prospects for business taxation in the UK following a succession of consultation documents that questioned, for example, the future of capital allowances, and a number of challenges to UK corporation tax rules at the European Court of Justice. For further discussion, see the IFS Election Briefing Note on business taxation.

Figure 3. Business investment as a % of GDP



Note: Both business investment and GDP are measured in current prices.  
Source: OECD.

### 3.3 Enterprise

The government emphasises enterprise and the creation of new businesses as a key driver of productivity growth. There are many difficulties involved in measuring rates of new business creation across countries, but most measures place the UK marginally above Germany and France, but significantly below the USA, with little change in these rankings over time.<sup>5</sup>

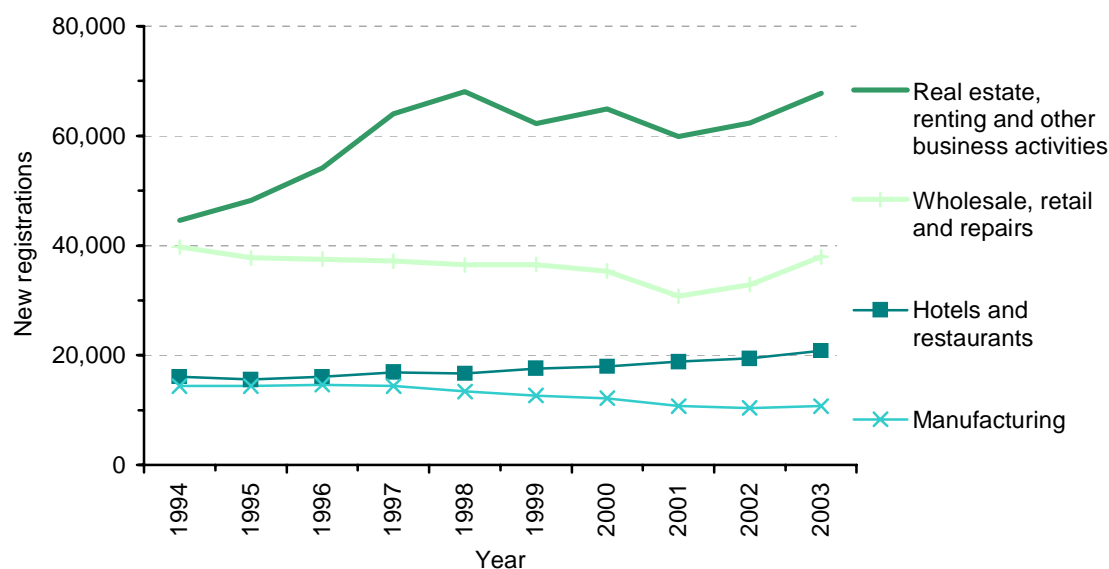
The OECD has recently published comprehensive indices of regulations across OECD countries in 1998 and 2003.<sup>6</sup> These indices are based on survey responses from member governments on hundreds of individual regulations, so they relate to legal and administrative frameworks rather than economic outcomes. It is also worth noting that these indicators do

<sup>5</sup> DTI, *UK Productivity and Competitiveness Indicators* (<http://www.dti.gov.uk/competitiveness/indicators2003.htm>).

<sup>6</sup> OECD, *Indicators of Product Market Regulation* ([http://www.oecd.org/document/1/0,2340,en\\_2649\\_33733\\_2367297\\_1\\_1\\_1\\_1.00.html](http://www.oecd.org/document/1/0,2340,en_2649_33733_2367297_1_1_1_1.00.html)).

not capture the strictness of enforcement of regulations. In the area of ‘barriers to entrepreneurship’, the UK improved very slightly between 1998 and 2003, and now has the lowest barriers to entrepreneurship of all OECD countries on this measure. In particular, the index of ‘administrative burdens on start-ups’ fell slightly, and the UK now scores better on this measure than all OECD countries except Denmark and Ireland.

Figure 4. New VAT registrations for selected industrial sectors



Source: Small Business Service, VAT Statistics.

Within the UK, we can look at new VAT registrations as an indicator of the rate of new business creation. The total number of new registrations per year has risen slightly since 1994 from 170,000 to just under 190,000 in 2003, but the overall pattern closely follows the economic cycle, so it is difficult to discern any definite trend.<sup>7</sup> Instead, Figure 4 shows the number of new VAT registrations in four large sectors of the economy over 1994–2003. Only a small and falling proportion of new VAT registrations are in manufacturing, while the number of new registrations in ‘real estate, renting and other business activities’ grew significantly over the period. This sector includes many new property-related companies, but also includes ‘business services’, an industry where the UK has seen both large increases in employment and a narrowing of the productivity gap, as discussed in the previous section. The remaining two sectors – ‘wholesale, retail and repairs’ and ‘hotels and restaurants’ – are both sectors where the UK productivity gap has widened over the past decade. The former has seen a decline in new registrations, with a small recovery since 2001, while the latter has seen a steadily growing number of new registrations.

### 3.4 Skills

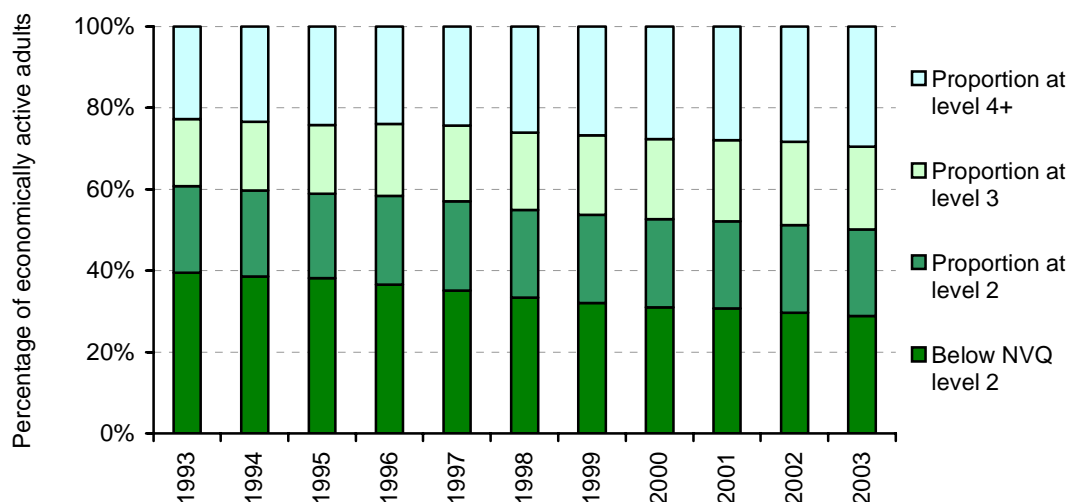
The skill level of the labour force is a key determinant of productivity for several reasons. Skills may have a direct effect on productivity because skilled workers will generally be more

<sup>7</sup> Small Business Service, VAT Statistics. The requirements for VAT registration changed in 1994 so that the numbers for earlier years are not comparable.



productive in carrying out a particular task than less-skilled workers. However, the availability of skilled workers may also indirectly affect productivity by increasing the incentives of firms to invest in new technologies that require a skilled workforce. For example, there is little point investing in a new IT system if your workers do not have the necessary skills to use the new system effectively.

Figure 5. Highest qualification, UK



Sources: UK Labour Force Survey; DTI, *UK Productivity and Competitiveness Indicators* (<http://www.dti.gov.uk/competitiveness/indicators2003.htm>).

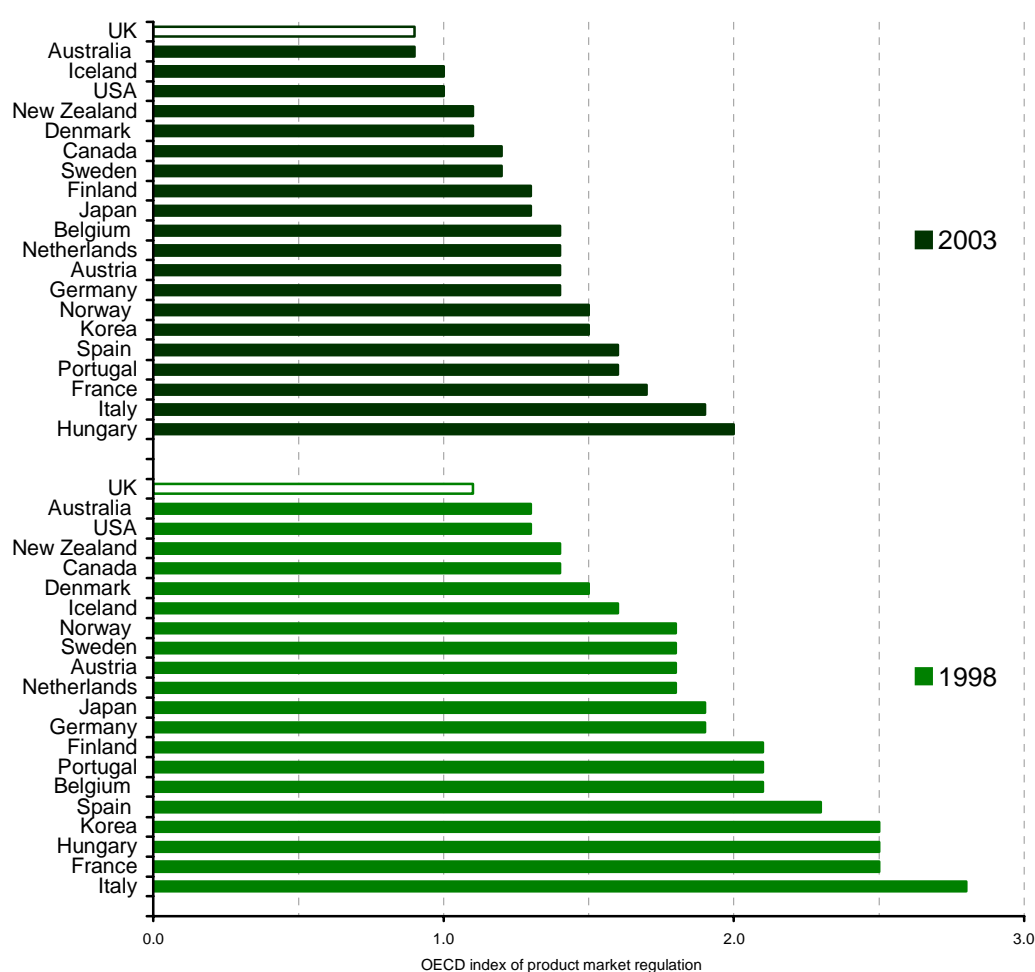
International comparisons generally indicate that the UK has a relatively high proportion of low-skilled workers and a relatively low proportion of medium-skilled workers compared with France, Germany and the USA. In addition, the UK has a lower proportion of high-skilled workers than the USA.<sup>8</sup> Within the UK, Figure 5 shows the share of economically active adults with different levels of qualifications over the period 1993–2003. The graph indicates that the proportion with the lowest qualification level (below NVQ level 2) has fallen fairly steadily since 1993, while the proportion with the highest level (corresponding to degree-level qualifications) has risen. This is mainly due to the expansion of higher education in the UK that has resulted in a higher proportion of workers having degree-level qualifications as younger people come into the labour force. The falling proportion with the lowest level of qualifications may be partly due to people acquiring higher levels of qualifications through education or training, but is also likely to be affected by low-skilled individuals becoming economically inactive, either through retirement or for other reasons.

### 3.5 Competition

The level of competition that firms face in the markets for their products is considered to be a key determinant of innovation and productivity growth. In particular, evidence suggests that low levels of competition and high barriers to entry in an industry reduce the incentives for incumbent firms to introduce new products or improve their efficiency.

<sup>8</sup> DTI, *UK Productivity and Competitiveness Indicators* (<http://www.dti.gov.uk/competitiveness/indicators2003.htm>).

Figure 6. OECD index of product market regulation



Source: OECD, *Indicators of Product Market Regulation*  
[http://www.oecd.org/document/1/0,2340,en\\_2649\\_33733\\_2367297\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/1/0,2340,en_2649_33733_2367297_1_1_1_1,00.html).

It is extremely difficult to measure and compare the actual level of competition across countries, so most international comparisons are based on the institutions and regulations that affect the degree of competition that firms face. The government cites a peer review of the competition regime (for example, including the Office of Fair Trading and the Competition Commission), based on surveys of lawyers, business representatives and other experts, that places the UK significantly above France, but below Germany and the USA, in terms of the effectiveness of their competition regimes.<sup>9</sup> However, competition is affected by many other factors, including the EU competition regime, EU trade policy, and domestic product market regulations that raise barriers to entry for new firms.

Figure 6 shows the OECD's summary index of product market regulation for 1998 and 2003, which is constructed from data on actual regulations and restrictions across countries. According to this measure, the UK had the lowest overall level of product market regulation of all OECD countries in 1998 and in 2003. However, the countries with the highest levels of regulation in 1998 experienced on average the largest reductions in regulation between 1998

<sup>9</sup> DTI, *UK Productivity and Competitiveness Indicators* (<http://www.dti.gov.uk/competitiveness/indicators2003.htm>).

and 2003, so the gap between the UK and the most regulated countries decreased over this period.

### Box 2. Outsourcing and offshoring

Outsourcing and offshoring were sensitive topics in last year's US presidential election, largely as a result of popular fears that increasingly skilled service sector jobs would be lost to low-cost countries such as India. Although there has been some controversy over offshoring of call centres and other business service activities in the British press over the past 12 months, it seems unlikely to become an election issue to the same extent, and none of the main parties say they want actively to restrict offshoring by companies.

To some extent this is not very surprising, given that the UK's economy is already much more open to foreign trade than that of the USA. In addition, although much of the popular debate is focused on call centres, UK trade in services is spread across a wide range of business service industries, including some high-skilled industries such as computer services, R&D services and technical consultancy. Overall, the UK is a net exporter of these business services, and the sector accounted for half of all UK employment growth over the last 20 years.<sup>a</sup>

Even when offshoring is associated with net job losses, this does not necessarily imply that Government should seek to limit it. Offshoring is a natural result of increasing global economic specialisation and successful offshoring is likely to improve the performance of UK companies in a similar way to trade in manufactured goods. Overall these long term gains are likely to outweigh any short term losses. Any government intervention should focus on measures that improve flexibility in the economy, for example by improving skills and potentially providing support for re-training.

<sup>a</sup> See L. Abramovsky, R. Griffith and M. Sako, *Offshoring of Business Services and Its Impact on the UK Economy*, IFS Briefing Note no. 51, London, 2004 ([http://www.ifs.org.uk/publications.php?publication\\_id=3078](http://www.ifs.org.uk/publications.php?publication_id=3078)).

## 4. Productivity policy under Labour

In this section, we provide an overview of productivity policy under both Labour governments since 1997. Although there have been changes to the competition regime and many small policy changes in the areas of taxation, business support and science, we focus mainly on tax-related policies. Most of the measures we consider were introduced in Labour's first term – for example, the small firms' R&D tax credit and various enhanced capital allowances for small and medium-sized enterprises (SMEs). In its second term, Labour mainly introduced revisions to existing measures, although in some cases these represented significant policy developments. In Section 4.3, we discuss the recent direction of government policy in this area, including the DTI reviews of business support and innovation, the Lambert Review of business–university collaboration, the 10-year science framework and the Hampton Review of regulatory inspections and enforcement. Another IFS Election Briefing

Note gives further details on business taxation measures plus information on the costs of the main measures.

## 4.1 Innovation

The R&D tax credits are the single largest new policy aimed at increasing private sector innovation activity. The principal economic rationale for intervention is that firms may under-invest in R&D because other firms can benefit from the new knowledge that they generate. R&D tax credits aim to reduce firms' costs of performing R&D by allowing them to deduct more than 100% of current R&D expenditure from their taxable profits.<sup>10</sup> In economic terms, this raises the firm's private rate of return from R&D towards the higher rate of return to the economy as a whole.

The SME R&D tax credit was introduced in 2000 and the large firms' credit followed in 2002. The SME credit is the more generous of the two, but because SMEs account for a small proportion of total R&D spending, it was forecast to cost only £100 million a year. The actual annual cost is now estimated to be over £250 million, largely due to greater-than-expected take-up of a repayable aspect of the credit, whereby SMEs with insufficient taxable profits can claim a cash payment equal to 24% of eligible R&D expenditure. This is particularly attractive to small R&D-intensive start-ups that have not generated any taxable profits. Inland Revenue statistics show that there were over 3,000 claims for the SME R&D tax credit in 2003–04.<sup>11</sup> The large firms' credit was forecast to cost £400 million a year, and there are currently no published figures on the number of claims or actual costs. However, as with the SME credit, it seems likely that the total costs could be significantly higher than forecast. These figures compare with almost £900 million of direct public funding for private sector R&D in 2002, most of which was to fund defence R&D projects, which might be expected to have different economic implications from civil R&D.

There is evidence from several other OECD countries that R&D tax credits are effective in generating additional R&D, though this evidence suggests that it could take as long as 10 years for the full effects to materialise.<sup>12</sup> Hence it is still too early to evaluate the effectiveness of the UK R&D tax credits. However, a simple back-of-the-envelope calculation suggests that, even on the most optimistic estimates, the current R&D tax credits will not on their own contribute significantly to achieving the government's ambition to increase total UK R&D intensity to 2.5% by 2014. The effectiveness of R&D tax credits depends on how responsive business R&D expenditure is to changes in its price. While there is significant uncertainty on this point, a sensible upper estimate is that a 1% reduction in the cost of R&D results in the long run in a 1% increase in R&D expenditure.<sup>13</sup> Generously assuming that all business expenditure on R&D is eligible for relief under the R&D tax credits, and that all companies

<sup>10</sup> For example, under the UK large firms' R&D tax credit, if a firm spends £100 on R&D, it can deduct £125 from its taxable profits. If it pays tax on its profits at the 30% rate, this saves it an extra 30% of £25 in corporation tax payments, which is £7.50, reducing the post-tax price of the R&D by 7.5%.

<sup>11</sup> Source: HM Revenue & Customs, Corporate Tax Statistics ([http://www.hmrc.gov.uk/stats/corporate\\_tax/menu.htm](http://www.hmrc.gov.uk/stats/corporate_tax/menu.htm)).

<sup>12</sup> See, for example, N. Bloom, R. Griffith and J. Van Reenen, 'Do R&D tax credits work? Evidence from an international panel of countries, 1979–1994', *Journal of Public Economics*, 2002, vol. 85, pp. 1–31.

<sup>13</sup> See B. Hall, *Effectiveness of Research and Experimentation Tax Credits: Critical Literature Review and Research Design*, report prepared for the Office of Technology Assessment, Congress of the United States, 1995.

make sufficient taxable profits to benefit from the credits, this suggests that the UK R&D tax credits might raise UK business R&D intensity by up to 0.1% of GDP. This is less than one-quarter of the 0.5% of GDP increase that would be required to meet the government's long-term ambition.<sup>14</sup>

## 4.2 Investment and enterprise

Reductions in corporation tax rates represent the most expensive single group of policies, with the main rate reduced from 33% to 30%, the small firms rate from 23% to 19%, and the introduction in 2002 of the 0% starting rate (which was significantly restricted in 2004 following the introduction of a minimum rate of 19% on distributions of profits). For further discussion, see the IFS Election Briefing Note on business taxation. To the extent that lower tax rates increase the expected returns that firms receive from investment projects, these reductions could contribute to higher overall levels of investment.

Many of the other measures are specifically designed to increase investment by SMEs. For example, the government has permanently increased the first-year capital allowance for SMEs from 25% to 40%, allowing SMEs to offset 40% of the cost of new capital investment against taxable profits in the first year of the project. A similar scheme temporarily allowed SMEs to offset 100% of investments in information and communication technology (ICT) capital between April 2000 and March 2004 against tax. Reforms to capital gains tax introduced a taper system, which reduced the amount of tax payable the longer an asset is held before being sold. This was intended to encourage long-term investment, although the time for which assets must be held to qualify for lower rates was successively reduced after the policy was introduced. The government also made changes to the Venture Capital Trust and Enterprise Investment Schemes and introduced a Corporate Venturing Scheme which provides tax relief for corporate investors in smaller businesses.

Given the small proportion of total investment activity accounted for by small and medium-sized companies, these relatively inexpensive measures are not likely to affect significantly the aggregate measure of investment that we considered in the previous section. Nevertheless, policies aimed specifically at small firms may be justified if there exist economic distortions that particularly affect the investment and innovation behaviour of smaller firms – for example, by restricting their access to finance. These objectives should be balanced against any additional complexity and distortions that are introduced to the tax system by distinguishing between different types of firm.

In 2000, the government introduced the Share Incentive Plan (SIP), an all-employee share-ownership scheme that essentially substituted for the existing Approved Profit Sharing scheme. At the same time, it introduced the Enterprise Management Incentives (EMI) scheme, which provides tax relief on share options for employees in small companies. The

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<sup>14</sup> Business sector R&D intensity in 2003 was 1.2%. Assuming that all companies face a tax rate of 30%, the large firms' credit reduces the average cost of current spending on R&D by 7.5% and the SME credit reduces it by 15%. Further assuming that all business expenditure on R&D is eligible for the credits, and that 90% of eligible R&D is performed by large firms, the expected long-run increase in business R&D intensity is equal to  $1.2\% \times (0.9 \times 0.075 + 0.1 \times 0.15)$ , which comes to just under 0.1% of GDP. This is likely to be an overestimate since the first two assumptions are generous. Alternatively, still assuming that the long-run price elasticity of R&D is equal to 1, the extra R&D generated is roughly equal to the total cost of the policy to the government, which is currently expected to be less than 0.1% of GDP.

SIP aims to provide incentives for long-term shareholding, and improved work incentives to employees. While encouraging employee share-ownership may improve individual work incentives by tying part of employees' income to the performance of the firm, employees under these schemes may also face higher risk with regard to their incomes and wealth than employees that diversify any investments by holding shares in different firms. In addition, there is no clear rationale for tax-advantaged employee share-ownership schemes. If employee share-ownership does improve performance, it is clearly in firms' own interests to promote this form of remuneration.

### 4.3 Recent policy reviews

The government has recently carried out a number of policy reviews in the areas of business support, innovation, business–university collaboration, science investment, and regulation. We briefly discuss each in turn.

In 2003, the DTI published a review of UK innovation performance and government support for innovation.<sup>15</sup> The main conclusion was that there was a need to simplify and improve direct government support for innovation. One outcome of this is the new Technology Strategy, a competitive process through which the government distributes grants worth about £200 million a year for research on key 'underpinning technologies', identified by networks of business representatives and academics. The Innovation Report also promised more 'joined-up government' in the area of innovation, particularly through regulation and procurement activities. In his 2005 Budget, Gordon Brown committed the government to improving the access of small and medium-sized firms to government R&D contracts.

Drawing on the Innovation Report, in 2004 the DTI published a review of its direct business support activities, on which it spends about £500 million a year, both centrally and through Business Link.<sup>16</sup> The review focused on three areas for improvement: streamlining the structure of business support to reduce complexity and duplication; more rigorous evaluation of support schemes; and improved marketing of schemes. The number of schemes was subsequently reduced from over a hundred to nine 'products', of which five provide support for innovation, two encourage the spread of best practice, one provides loan guarantees for small firms, and one provides subsidies for investment in 'assisted areas'. In practice, the actual simplification of business support was less significant than this streamlining suggests, with some of the new products acting as umbrellas for several existing schemes. Nevertheless, the new structure does represent an improvement over the previous situation. Rigorous evaluation remains a problem in many cases, partly because it is inherently difficult to compare the outcome of a particular support scheme with what would have happened without it, but also partly due to poor evaluation design in some instances and unclear rationales underlying some schemes.<sup>17</sup>

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<sup>15</sup> DTI, *Innovation Report – Competing in the Global Economy: The Innovation Challenge*, December 2003 ([www.dti.gov.uk/innovationreport](http://www.dti.gov.uk/innovationreport)).

<sup>16</sup> See DTI, *Business Support Solutions: A New Approach to Business Support*, 2004 ([http://www.dti.gov.uk/bss/product\\_guide.pdf](http://www.dti.gov.uk/bss/product_guide.pdf)).

<sup>17</sup> For further discussion, see L. Abramovsky, R. Harrison and H. Simpson, *Increasing Innovative Activity in the UK? Where Now for Government Support for Innovation and Technology Transfer?*, IFS Briefing Note no. 53, November 2004 ([http://www.ifs.org.uk/publications.php?publication\\_id=3186](http://www.ifs.org.uk/publications.php?publication_id=3186)).

The government commissioned Richard Lambert, former Editor of the *Financial Times*, to undertake a review of business–university collaboration, which was published in December 2003.<sup>18</sup> The motivation behind the review was a widespread perception that the UK has a world-class research base that does not result in a sufficient amount of commercialisation of new inventions and technologies. The review concluded that there was indeed a need for businesses to engage more with universities, and recommended additional funding for commercially relevant university research. It also identified a need to simplify intellectual property (IP) negotiations between firms and universities, and the government has since published ‘off-the-shelf’ IP contracts for this purpose.

In 2004, the government published a 10-year framework for investment in science and innovation.<sup>19</sup> The headline announcement was an increase in funding for public scientific research at an annual rate of 5.8% in real terms over the current Spending Review period (2004–05 to 2007–08). The 10-year framework also announced the government’s objective of increasing UK R&D intensity from 1.9% of GDP to 2.5% by 2014, with more than three-quarters of the increase expected to come from increased business expenditure on R&D.

Finally, the government commissioned Philip Hampton, Chairman of J. Sainsbury plc, to undertake a review of regulatory inspections and enforcement, which was published in March 2005.<sup>20</sup> The main conclusion was that the system of regulatory enforcement in the UK is unnecessarily complicated and imposes too much form-filling and too many inspections on businesses. The review recommended that inspections be guided by the principle of risk assessment, so that the burden of enforcement falls less on businesses with the best records of compliance. It estimated that this could reduce the need for inspections by up to one-third. It also suggested merging 31 national regulators into seven bodies to reduce overlaps in regulators’ activities. In the March 2005 Budget, the government accepted the review’s recommendations in full. We discuss the approaches of all the main parties to regulation in the next section.

## 5. The main parties’ proposals

All three main parties state that they want to reduce the burden of regulation on businesses. In some ways, this focus on regulation is surprising given that most internationally comparable measures of regulation suggest that the UK is relatively lightly regulated. For example, according to the OECD, in 2003 the UK had the lowest levels of product market regulation and second lowest levels of labour market regulation (as measured by employment protection legislation) of all OECD countries.<sup>21</sup> However, much of the media and political attention in

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<sup>18</sup> HM Treasury, *Lambert Review of Business–University Collaboration: Final Report*, December 2003 ([http://www.hm-treasury.gov.uk/consultations\\_and\\_legislation/lambert/consult\\_lambert\\_index.cfm](http://www.hm-treasury.gov.uk/consultations_and_legislation/lambert/consult_lambert_index.cfm)).

<sup>19</sup> HM Treasury, DTI and DfES, *Science and Innovation Investment Framework 2004–2014*, July 2004 ([http://www.hm-treasury.gov.uk/spending\\_review/spend\\_sr04/associated\\_documents/spending\\_sr04\\_science.cfm](http://www.hm-treasury.gov.uk/spending_review/spend_sr04/associated_documents/spending_sr04_science.cfm)).

<sup>20</sup> HM Treasury, *Hampton Review on Regulatory Inspections and Enforcement, Final Report*, March 2005 ([http://www.hm-treasury.gov.uk/budget/budget\\_05/other\\_documents/bud\\_bud05\\_hampton.cfm](http://www.hm-treasury.gov.uk/budget/budget_05/other_documents/bud_bud05_hampton.cfm)).

<sup>21</sup> For the index of product market regulation, see Figure 6 above. Source: OECD, *Indicators of Product Market Regulation* ([http://www.oecd.org/document/1/0,2340,en\\_2649\\_33733\\_2367297\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/1/0,2340,en_2649_33733_2367297_1_1_1_1,00.html)).

the UK is on aspects of labour market regulation, and the enforcement of regulations, that are difficult to measure and may not be captured by these summary indices.

While the three main parties' proposals in this area are similar in many ways, a distinction can be drawn between proposals that aim to reduce the burden of existing regulation by improving its implementation, and proposals that actually aim to remove specific regulations. For example, all three parties say they want to simplify the existing system, remove overlapping regulations, and improve monitoring of new regulations before they are implemented. It is difficult to judge in advance the relative merits of the different approaches in this area. The only specific pledge to remove substantive existing regulations is from the Conservatives, who say they would negotiate to restore the UK opt-out from the European Social Chapter in order to remove a range of employment legislation.<sup>22</sup>

Much of the focus of the opposition parties in this area is on the role of the DTI, portrayed as the source of much of the regulatory burden. The Liberal Democrats say that they would abolish the DTI altogether, although they would distribute almost all of its main functions to other departments.<sup>23</sup> For example, consumer issues would be transferred to a new Department for the Consumer, employment issues would be transferred to the Department for Work and Pensions, and science and technology issues would be transferred to the Department for Education. The Chief Secretary to the Treasury would take on ministerial responsibility for business within the Cabinet. The Conservatives would keep the DTI but reduce its core staff to 850, one-fifth of the current level.<sup>24</sup> The Small Business Service would be abolished and all but three of the DTI's business support programmes would be either removed or converted into stand-alone bodies. As with many of the other proposals in the area of deregulation, it is extremely difficult to evaluate the expected impact of any of these proposals on UK productivity performance.

On the whole, this election is notable for a lack of significant proposals from any of the main parties in other areas of productivity policy. For example, none of the parties is proposing to make changes to the main rates of corporation tax or to the R&D tax credits, although the government has said it will carry out another consultation on improving the latter. In some ways, the absence of radical suggestions is welcome. As discussed above, productivity growth is the result of long-term investment decisions by firms, and policy stability is likely to be particularly important for policies such as the R&D tax credits to have a significant impact. The long-term nature of productivity policy also helps to explain why it is not top of the political parties' priorities at election time.

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<sup>22</sup> *Conservatives General Election Manifesto 2005 and Action on Deregulation*, April 2005 (<http://www.conservatives.com/tile.do?def=policy.listing.page>).

<sup>23</sup> *Liberal Democrats General Election Manifesto 2005* (<http://www.libdems.org.uk/media/documents/manifesto05.rtf>).

<sup>24</sup> *The James Report* (January 2005) and *Reversing the Drivers of Regulation* (December 2004) (<http://www.conservatives.com/tile.do?def=policy.listing.page>).