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TAX 'N' SPEND

NO WAY TO RUN AN ECONOMY

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Printed by The Centre for Policy Studies, 57 Tufton Street, SW1.

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CHAPTER ONE
INTRODUCTION AND SUMMARY

1.1 INTRODUCTION

There is no doubt that the current Government has increased the size of the public sector significantly. Data were released in the 2004 Budget, which showed that public sector spending was planned to rise to about £580 billion (over 42% of GDP) by financial year 2007/08 (FY2007), compared with spending of £320 billion (39% of GDP) in FY1997.[1] And this is over a period of modest inflation. Moreover, this large spending increase has been accompanied by significant rises in both taxes and public sector borrowing.[2] The current Chancellor's policy, however well-intentioned, is undoubtedly one of high public spending and high taxation.

The forthcoming 2004 Spending Review will cover the Government's detailed spending plans for FY2005, FY2006 and FY2007.[3] It is, therefore, an opportune moment to ask whether large increases in public spending and the state's share of GDP helps or hinders the overall GDP growth prospects of the country. In other words, does the Chancellor's "tax 'n' spend" policy help or hinder growth?

1.2 HIGH PUBLIC SPENDING DAMAGES GROWTH

Chapter 2 presents conclusive evidence that the size of the state's share of GDP and the concomitant burden of taxation are correlated with economic performance. Other things being equal, the bigger the state, the less well-performing the economy is likely to be. Following on from this, it can be concluded that the Chancellor's "tax 'n' spend" policies (along with the

increased regulatory burden) are slowly undermining the economy's resilience, dynamism and competitiveness. The current benign economic situation should not lull us into a false sense of security and complacency. This is, moreover, at a time of ever-increasing global competitiveness, with the rise of China a notable feature of the changing economic landscape. Given these circumstances, high tax and high spend policies are "no way to run an economy".

The key conclusions of the chapter are:

- In the UK, the public sector's share of GDP fell between 1997 and 2000, but it is now rising rapidly. As a consequence, the UK is becoming more "European" and less "American" in terms of the size of the public sector. (Section 2.2.)
- Similarly, the UK tax/GDP ratio is on a rising trend, though the pattern is "dampened" by the swings in public sector balances. Again the UK is becoming more "European" and less "American". Moreover, the British tax burden is rising at a time when many countries are reducing theirs. (Section 2.3.)
- US growth between 1993 and 2003 easily outstripped growth in the three key Eurozone countries. (The UK's growth record was also better than in these countries.) Moreover, the US's GDP per capita and other measures of (material) affluence are comfortably ahead of any EU country, with the exception of Luxembourg, and the gap between the US and the EU is likely to grow. (Section 2.4.)
- There are significant empirical and methodological difficulties in estimating the relationship between the "size of the state" (in terms of public spending and the related size of the tax burden) and economic performance. (Section 2.5.) Nevertheless, and notwithstanding these problems, it is clear that there is strong evidence of the economic damage done by high public spending. There is also strong evidence of the economic damage done by high taxes, which are the (almost) inevitable result of high public spending. The EU, including the UK, would be well advised to cut back the size of the public sector in order to improve economic performance. (Sections 2.6 and 2.7.)

1.3 SCOPE FOR REDUCING THE SIZE OF THE STATE

Chapter 3 starts by asking how big the state should be. It then looks at the scope for efficiency improvements so that the size of the state can be reduced as a share of GDP, hence releasing resources for a better performing economy, without jeopardising the provision of public services.

The main conclusions are:

- Economic research suggests that increased public sector spending, starting from a low base, can be economically beneficial. But as the public sector expands, diminishing marginal returns set in until the point where, on balance, further increases in public spending (and in taxes) damage growth by crowding out private spending and

destroying incentives. Free market economists estimate the state's share of GDP should be no more than 30% to 35% – above these levels, state spending does more harm than good. (Section 3.2)

- The current public spending to GDP ratio is around 42%. As a first step this ratio should be cut to 40% by allowing public spending to grow more slowly than GDP. But, providing the necessary reforms to the public services can be pushed through, there is no reason why further reductions in the state's share should not be achieved over the years. A target of, say, 35% would require an improvement in overall efficiency of less than 15%, which should be attainable. (Section 3.2.)

If the Government's spending was as efficient as that of Japan, the US or Luxembourg, public spending could be reduced to 84% of current levels.

- According to some crucial research for the European Central Bank (ECB), many governments fall far short of the three "best" countries (Japan, the US and Luxembourg) in terms of the efficiency of their public services provision. The UK, whilst not one of the worst, falls significantly behind the best. If, for example, the UK were as efficient as the best, public spending would only need to be 84% of current spending in order to maintain services. This figure, coincidentally, would give a public spending to GDP ratio of around 35%. (Section 3.3.)
- The Government set up the Gershon Review in 2003 in order to identify some public sector savings in order to reallocate them to frontline services. (The reallocated resources are to be part of the 2004 Spending Review.) Whilst the Review is to be welcomed, and it is not before time, it is fairly unambitious and does not go far enough. The possible savings, as reported in the press, are likely to be around a modest £20 billion by FY2007. Moreover, there is no option of using the savings for preventing tax rises. And, finally, the Gershon Review will probably have little to say on public services reform. (Section 3.4.)

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3. Spending Reviews occur every two years and cover a three-year period. There have been three to date: (1) July 1998: *Comprehensive Spending Review: Modern public services for Britain: investing in reform (1999-2002)*, which covered FY1999 to FY2001; (2) July 2000: *Spending Review 2000: Prudent for a purpose: building opportunity & security for all (2001-2004)*, which covered FY2001 to FY2003; (3) July 2002: *2002 Spending Review: Opportunity & security for all: investing in an enterprising, fairer Britain (2003-2006)*, which covered FY2003 to FY2005.
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CHAPTER TWO
HIGH PUBLIC SPENDING DAMAGES GROWTH

> Great nations are never impoverished by private, though they are sometimes are by public, prodigality and misconduct.
>
> Adam Smith, *Wealth of Nations*, 1776.

2.1 INTRODUCTION

Public sector spending has risen from about £320 billion (39% of GDP at market prices, according to the Treasury) in financial year 1997/98 (FY1997) to about £460 billion (nearly 42% of GDP) in FY2003.[1] Moreover, it is planned to rise to nearly £580 billion (over 42% of GDP) in FY2007. [2] In the decade FY1997 to FY2007, the Chancellor is, therefore, planning to increase the annual spending total by over £250 billion, at a time of reasonably modest inflation. This represents an average annual step increase of £25 billion or around 2½% of GDP.

Public spending will have increased by £250 billion between FY1997 and FY2007 – the equivalent of over £10,000 per household.

This chapter is concerned with the relationship between the size of the state (as measured by the shares of spending and taxation within GDP) and the overall performance of the economy. It presents solid evidence that the size of the state's share of GDP and the burden of taxation are correlated with economic performance. Other things being equal, the bigger the state, the less well-performing its economy is likely to be.

2.2 PUBLIC SPENDING: INTERNATIONAL COMPARISONS

Since the late nineteenth century, public spending has very risen sharply in developed countries. In 1870, the public sector's share of GDP was under 10% in the UK. It is now over 40% and rising. Even in the US, where the public sector has traditionally been a smaller part of the economy than in Europe, the share has gone up from under 5% in 1870 to around 35% today. (See annex, table 1 for more details.)

More recent data on General Government spending as a share of GDP are shown in the table below for the G7 countries and the Eurozone area (which is dominated, in economic terms, by Germany, France and Italy).

Since 2000, the difference between the US and UK in terms of the ratio of public spending to GDP has doubled, while the difference between the UK and the Eurozone has halved.

GENERAL GOVERNMENT TOTAL OUTLAYS, AS A % OF NOMINAL GDP (OECD DEFINITIONS)

	1997	2000	2001	2002	2003	2004	2005
G7 countries:							
Canada	44.3	41.0	41.4	40.6	40.1	40.1	39.9
France	54.9	52.5	52.5	53.4	54.4	54.1	53.6
Germany	49.3	45.7	48.3	48.5	49.4	48.6	47.6
Italy	51.1	46.8	48.5	47.7	48.5	47.9	48.5
Japan	35.4	38.6	38.0	38.7	38.3	38.1	38.1
UK	41.0	37.0	40.3	40.8	42.8	43.0	43.4
US	34.8	33.6	34.7	35.6	35.9	35.7	35.7
Eurozone	50.2	47.0	48.1	48.2	48.9	48.4	47.9
Eurozone-UK	9.2	10.0	7.8	7.4	6.1	5.4	4.5
US-UK	-6.2	-3.4	-5.6	-5.2	-6.9	-7.3	-7.7

Source: OECD, *Economic Outlook*, December 2003. Please note that these data give different spending/GDP ratios for the UK than are quoted above in section 2.1 because of definitional differences.

Four conclusions jump out of the figures:

- In the UK, the public sector's share of GDP fell from 1997 to 2000 to just 37% in 2000. It is now rising very rapidly.
- As a consequence, the UK is becoming more "European" and less "American" in terms of the size of the public sector. The gap (positive) between the Eurozone and the UK is narrowing and the gap (negative) between the US and the UK is widening. Unless the UK curbs spending growth, the UK could well converge with the Eurozone.

- France has the largest share of public spending to GDP, followed by Italy and Germany. The UK is next, followed by Canada, Japan and the US.
- Canada is the only one of the G7 countries that has successfully pushed down the public sector's share of GDP over this period. Of the non-G7 countries, Australia and New Zealand have also succeeded in reducing the size of the state.

2.3 THE TAX BURDEN: INTERNATIONAL COMPARISONS

Reflecting the increasing public sector share of GDP in the UK, the tax burden as a share of GDP has tended to increase in recent years. The pattern for taxation is, however, not as clear-cut as for spending because of the swings in the public sector financial balances. General Government balances were in deficit in 1997, in surplus from 1998 to 2001, slipping back into deficit in 2002. (For revenue data back to 1870, see annex, table 2.) General Government tax data are shown in the following table.

GENERAL GOVERNMENT TOTAL TAX AND NON-TAX RECEIPTS, AS A % OF NOMINAL GDP (OECD DEFINITIONS)

	1997	2000	2001	2002	2003	2004	2005
G7 countries:							
Canada	44.5	44.1	42.8	41.4	41.2	40.9	40.8
France	51.8	51.1	50.9	50.3	50.4	50.4	50.2
Germany	46.6	47.1	45.5	45.0	45.3	44.9	44.1
Italy	48.4	46.2	45.8	45.2	45.8	45.0	44.6
Japan	31.6	31.1	31.9	31.5	30.9	31.2	31.2
UK	38.8	40.9	41.0	39.3	39.9	40.0	40.1
US	33.9	35.1	34.3	32.1	31.0	30.6	30.8
Eurozone	47.5	47.2	46.4	46.0	46.1	45.7	45.2
Eurozone-UK	8.7	6.3	5.4	6.7	6.2	5.7	5.1
US-UK	-4.9	-5.8	-6.7	-7.2	-8.9	-9.4	-9.3

Source: OECD, *Economic Outlook*, December 2003.

The following conclusions can be drawn from these figures:

- As with spending, the UK is becoming more "European" and less "American" in terms of the share of GDP going in tax. The gap (positive) between the Eurozone and the UK is narrowing and the gap (negative) between the US and the UK is widening.[3, 4]
- France has the largest tax burden, followed by Italy and Germany. Canada and the UK are next, followed by Japan and the US. Canada's finances are, however, more sustainable than the UK's.
- Even though Canada, Germany and the US have all managed to reduce the tax burden over this period, these "improvements" have been accompanied by deteriorating public sector finances in both Germany and the US.
- Of non-G7 countries, Australia and New Zealand have also succeeded in reducing the tax burden.

Apart from OECD data, one of the most useful comparisons of the burden of taxation is published by *Forbes Global*, which publishes a "tax misery index". The Tax Misery Index is calculated by adding the top marginal rates for taxes on personal incomes, on corporate earnings, on wealth and on purchases (including VAT) plus social security payments rates for employers and employees. As such, it is a rather specific measure of "tax misery" and needs to be interpreted with care. But it, nevertheless, shows trends, which can usefully inform the debate on international tax comparisons.

The following table covers selected countries only. For the complete table, see the annex, table 3.

TAX MISERY INDEX: INTERNATIONAL COMPARISONS (SELECTED COUNTRIES)

Rank (2004)	Country	2000	2002	2003	2004	Change 2000/01) to 2004
1	France	193.1	181.2	179.3	174.8	-18.3
2	Belgium	171.1	164.2	153.1	156.1	-15.0
3	Sweden	150.5	149.3	149.8	149.7	-1.8
4	China	Na	154.5	145.0	145.0	-9.5
5	Italy	153.9	147.5	145.0	144.0	-9.9
9	Spain	138.7	138.5	135.5	135.5	-3.2
12	Netherlands	142.8	130.8	129.9	130.2	-12.6
19	Japan	123.6	117.3	124.9	121.5	-2.1
20	Portugal	125.8	124.8	126.8	121.3	-4.5
22	US (New York)	Na	Na	Na	116.7	Na
24	Germany	143.0	115.1	116.6	112.5	-30.5
26	**UK**	**109.7**	**109.3**	**111.3**	**111.3**	**1.6**
36	US (Texas)	Na	Na	Na	94.6	Na
38	Russia	124.5	92.6	92.6	90.6	-33.9
39	Ireland	109.5	93.0	90.3	90.3	-19.2
42	Australia	Na	88.5	90.0	88.5	0.0
46	India	Na	79.3	79.3	80.0	0.7
47	Singapore	Na	93.5	87.0	80.0	-13.5
49	Hong Kong	Na	41.0	43.0	43.0	2.0

Sources: Gary Duncan, "Just wait, taxpayers, you'll soon be free", *The Times*, 29 May 2003 for 2000, 2002 and 2003 data; and Grant Clelland, "Old Europe tops the world table for inflicting tax misery", *The Business*, 30 May 2004 for 2004 data.

The following conclusions can be drawn from the Tax Misery data:

- The EU's western continental countries dominate the top part of the table, with France at the head. But it is noticeable that France, Belgium, the Netherlands, Italy and, especially, Germany have moved to cut their tax burdens quite aggressively in recent years (as has Ireland).
- The UK, even though still about half-way down the table, is notable by increasing its Tax Misery Index, when many other countries are doing the opposite. It is, therefore, losing relative competitiveness in what is becoming a more competitive world.[5]

2.4 GROWTH RATES AND LIVING STANDARDS: INTERNATIONAL COMPARISONS

In recent years, the major eurozone economies have been comprehensively out-performed by the US, and even the UK, as the table below shows.

GDP GROWTH RATES 1993-2003: CUMULATIVE 1993=100

	1993=100	2003 (1993=100) estimate
US	100	137.6
Japan	100	114.0
Germany	100	114.8
France	100	122.6
Italy	100	118.9
UK	100	131.5

Sources: OECD, *Economic Outlook*, June 2003 and December 2003.

Some of the US's better performance (and indeed the UK's) can be attributed to the higher labour input.[6] But the policy makers of the key Eurozone countries should not regard this with complacency as a significant part of their lower labour input can be attributed to involuntary unemployment. Moreover, if the differential growth rates continue in the US's favour, as they are likely to do, the GDP gap between the US and the EU can only grow, especially when allowance is made for the EU's unfavourable demographic trends.

A recent study by Bergström and Gidehag[7] compared the current differences between the US living standards and those in the EU. It concluded that higher levels of national income and lower taxes meant that private consumption per person was currently 77% higher in the US than in the EU. Moreover, the gap was set to widen this year and, indeed, next year. The authors also concluded that the really prosperous US regions have nearly twice the affluence of the EU.

According to their calculations, if the EU were a state of the US, it would belong to the poorest group of states. France, Italy, the UK, and Germany all had a lower GDP per capita than in all but the four poorest US states (Arkansas, Montana, West Virginia and Mississippi). Luxembourg was the only EU country that enjoyed per capita GDP at an American level. The report noted that:

> The current economic debate among EU leaders lacks an understanding of the gravity of the situation in many EU countries. Structural reforms as well as far reaching welfare reforms are well overdue. The Lisbon process lacks true impetus, nor is it sufficient to improve the economic prospects of the EU.

It is clear, therefore, that the EU is economically under-performing the US. Moreover, with the tectonic plates of the international economy shifting towards a resurgent China (and to a lesser extent India), the EU can only come under increasing competitive pressures and find it more difficult to raise "its game" in terms of economic growth. Whilst it is widely accepted that GDP data and GDP per capita are but crude and necessarily materialistic measures of economic welfare (some people, for example, may prefer leisure to wealth and stringent environmental controls to less

stringent controls) they are, nevertheless, widely accepted measures. The EU's slipping economic performance and competitiveness should be of concern to Europe's political leaders.

2.5 THE "BIG STATE" AND ECONOMIC GROWTH

In the rest of this chapter, the correlation between the "Big State" – defined in terms of a high share of public spending to GDP and a high tax burden – and economic growth is examined. There are significant empirical and methodological difficulties in estimating the relationship between fiscal variables and long-run GDP growth. In other words, there are many difficulties in ascertaining whether large public sectors damage growth.

Very broadly these difficulties, which are discussed in detail elsewhere,[8, 9] include:

- There is the problem of "simultaneity" of fiscal variables and GDP growth. If, for example, public spending (whether direct spending by the public sector or transfers, such as social security payments, for other agents to spend) is increased, GDP is likely to increase. This is occurring at present in the UK economy, where large rises in direct public spending is stimulating GDP.
- Different types of public spending are likely to have different impacts on the economy depending on how "productive" they are, so merely correlating spending with growth will not give the whole picture. Some economists distinguish between "productive" and "non-productive" spending, with "non-productive" spending (rather obviously) being much more damaging to growth than "productive" spending. Increased spending by public sector near-monopoly providers (including health and education) could be especially damaging to economic growth because of the lack of competitive pressures within the sectors. Increased spending by these providers is all too likely to divert resources from ("crowd out") more productive and more competitive parts of the economy.
- Measuring the tax burden, and its impact on incentives, is not straightforward because the tax systems are not straightforward. One issue is whether average tax rates or marginal tax rates are chosen. And if marginal rates are chosen and people are in receipt of means-tested benefits, then the rates must be amended to allow for the rate of withdrawal of benefits. Tax credits, where state welfare provision moves from public spending to negative taxation, need to be correctly accounted for – as do exemptions.
- Some taxes may have a stronger impact on economic behaviour than others and, therefore, a breakdown of tax revenues is important in assessing their impact on economic growth. A distinction is sometimes made between "distortionary" taxes (which significantly affect incentives, such as high marginal rates of income tax) and "non-distortionary" taxes (which do not, such as, arguably, sales taxes).

Clearly "distortionary" taxes are much more damaging to growth than "non-distortionary" taxes. High marginal income tax rates, for example, have two significant effects on earners:

- the income effect: they reduce income;
- the substitution effect: it reduces the opportunity cost of leisure and people may replace work with leisure. Progressive taxes have higher substitution effects than proportional taxes.

- There is a need to clarify causes and effects. For example, higher growth can lead to higher tax revenue, which may (falsely) be interpreted as a high tax burden improving growth. A variant on this theme is when lower marginal rates result in improved economic performance that, in turn, leads to higher tax revenue (as shown by the famous "Laffer curve").
- There may be long lags in the response of the economy to changes in fiscal policy.

Nevertheless, and notwithstanding these problems:

- There is strong evidence of the economic damage done by high public spending (see 2.6).
- There is economic damage done by high taxes, which are the (almost) inevitable result of high public spending (see 2.7).

2.6 PUBLIC SPENDING AND ECONOMIC PERFORMANCE

As already suggested, the main economic concern about a large public sector is that resources are transferred from the productive sectors (mainly in the private sector) to those parts of the public sector that can be considered as "less productive" or even "non-productive". This is the "crowding out" argument.

Non-productive parts of the private sector would soon go bankrupt. But this is not the case for the public sector. As Bergström and Gidehag[10] write:

> There is a lack of dynamic in the public sector that is a problem which contributes towards the inefficient use of resources. Every year in the business sector, hosts of enterprises are started up. Many of them grow, others lose market shares and a very large number go bust. This form of dynamic is lacking in the public sector, where start-ups and bankruptcies are practically unknown.

Even without venturing into econometric territory, there is enough convincing evidence to show that "crowding out" is currently happening in the British economy. The author has already written about the falling productivity in the public sector, at a time when private sector productivity, especially in manufacturing, is rising quite well.[11] As resources are transferred from the private sector (through higher taxes) to the growing public sector, productivity and output are damaged.

Moreover, even on a glancing inspection of the growth figures, it is clear that there is a tendency for countries that have high public spending to perform relatively poorly economically, whilst countries which have rolled back the state (for example, Ireland) have seen an improvement in performance and those that have kept it low (including the US) have performed well.

Turning to econometric evidence there are many studies, most of which show robust evidence of the damaging effects of a larger public sector. These studies include:

- David B Smith[12] quotes the long-running studies carried out by the now defunct Macro-Economic Modelling Bureau at the University of Warwick. By and large, the Warwick work indicated that, after a year or so, real GDP measured in constant prices increased by less than any given volume rise in public spending. This implied that the private sector was crowded out at least on a pound-for-pound basis and that total national output was probably at least partially crowded out as well.
- David B Smith's "early work" for OECD member countries,[13] concluded that there was a statistically significant negative correlation between public spending and growth, although different components of public spending did not all have exactly the same detrimental effects. Direct public consumption was, apparently, more harmful than transfer payments. He also found that public consumption spending seriously crowded out private investment.
- Robert J Barro,[14, 15] concluded that there was a statistically significant negative effect of government consumption on economic growth. (He also concluded that, other things being equal, the rate of economic growth was negatively correlated with the level of output already achieved – in other words, economic maturity).
- David B Smith,[16] using Barro's estimate of the negative impact of government consumption on GDP growth and the change in the public spending ratio between 1960 and 1998, generated the estimated impact on economic growth of the increase in public spending over this period for the OECD countries. He estimated that, for the UK, if 1960 spending levels had been maintained in 2000, GDP would have been over 50% higher in 2000 than it was. His full results are in annex, table 4.
- Vito Tanzi and Ludger Schuknecht,[17] in their extensive analysis of the relationship between the size of the state and economic growth, concluded that:

  > The expansion of public expenditure and of welfare state during the last three decades has yielded limited gains in terms of social objectives while possibly damaging the countries economic performance. Today, countries with small governments and the newly industrialising countries show similar levels of social indicators but these are achieved with lower expenditure, lower taxes and higher growth than countries with big governments.

They also concluded that drastically lower levels of public spending could be achieved, with the possibility that it need not account for more than 30% of GDP. (This is discussed further in chapter 3.)

2.7 TAXATION AND ECONOMIC PERFORMANCE

Higher public spending is inevitably associated with high taxes – even if fluctuating public sector finances can provide temporary cushions. There are two arguments against high taxes: the moral case and the economic case. Concerning the first case, there is a strong argument for allowing people to keep as much of their hard-earned income as possible and letting them spend it as they wish or, in the case of businesses, allowing them to plough their profits back into the business. As David B Smith has written:[19]

> All taxes expropriate the fruits of capital, labour or enterprise. They transfer resources from the people who created the wealth to those who did not. It can be argued that such transfers are fundamentally unjust.

Underlying the current Chancellor's "tax 'n' spend" policy there is, on the contrary, the unspoken belief that it is somehow more moral and virtuous for him to spend taxpayers' money rather than letting people spend their own money for themselves. It is as if high taxes are moral even though they forcibly take money from those who work hard, undermine economic growth and, incidentally, hit the poorest 20% (by income) disproportionately hard.[20] A strange sort of morality.

The rest of this section is concerned with the economic case against incentive-damaging high taxes – especially when high taxes damage the incentives that encourage work and risk-taking and, hence, economic performance. (High taxes, coupled with means-tested benefits, also damage the incentives to save.) As with the relationship between high public spending and economic performance, there are a considerable number of studies unequivocally showing that high taxes damage growth. These studies include:

- Graeme Leach[21] quoted seven main studies (and a set of additional model simulations) showing the negative impact of taxation on economic growth. (See annex, table 5 for details.) One of the most significant pieces of research he quoted was the 1997 OECD study.[22] This study concluded that a 10% point increase in the tax to GDP ratio reduced GDP growth by 0.5% to 1.0%. Leach[23] estimated that if these OECD results were applied to the UK then, by the end of Labour's second term in office, the Chancellor's "tax 'n' spend" fiscal policy could reduce the long-term GDP growth rate by at least 0.25% per annum.
- Mendoza, Razin and Tesar[24] showed more specific negative effects of high taxes. They showed, firstly, that the higher the effective tax rate on capital income, the lower the savings rate and, secondly, the higher the taxes on income from labour, the lower the number of hours worked and the higher the level of unemployment.

- An OECD study on taxation and the labour and product markets[25] stated that "heavy taxation of wage earnings discourages employment, notably in Europe… and efforts to ease this problem have proved beneficial".
- Significantly, work done for the European Commission by Gemmell and Kneller[26] concluded that the taxes tested in simulations had negative growth effects.
- Bergström and Gidehag[27] in their study of the comparative economic performances of the US and the EU (and "why Europe lags behind") concluded that:

> The expansion of the public sector into overripe welfare states in large parts of Europe is and remains the best guess as to why our continent cannot measure up to our neighbour in the west.

High taxes do not just damage growth. There is evidence that high taxes (and heavy regulation)[28] encourage firms and workers to drift into the shadow (or black or informal) economy. This is especially the case if tax enforcement is weak. Under these circumstances high levels of tax evasion drive down tax revenues with the result that a high "tax burden" may not be apparent in the tax/GDP ratio.

Schneider[29] estimated that the shadow economy had increased significantly during the 1990s. (See annex, table 6 for details.) Specifically, he estimated that the British shadow economy had increased from about 9½% to nearly 13% over this period. He wrote that:

> There is a common finding that shadow economies were growing during the 1990s. Furthermore, the results show that an increasing burden of taxation and social security payments, combined with rising state regulatory activities, are the main driving force.

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4. In comparison, this year's Tax Freedom Day was 11 April in the US, the earliest since 1967. Source: www.taxfoundation.org
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CHAPTER THREE
THE SCOPE FOR REDUCING THE SIZE OF THE STATE

> The important thing for Government is not to do things which individuals are doing already, and to do them a little better or a little worse; but to do those things which at present are not done at all.
>
> John Maynard Keynes, *The end of laissez-faire*, 1926.

3.1 INTRODUCTION

Before discussing the scope for reducing the size of the state with a view to releasing resources for a better performing economy, this chapter asks how big the state should be. It then looks at the scope for efficiency improvements so that size of the state can be reduced as a share of GDP without jeopardising the provision of public services.

3.2 HOW BIG SHOULD THE STATE BE?

Economists approach this fundamental question by introducing the concept of the collective provision of "public goods". Public goods are defined as goods the consumption of which has to be decided by society (and its government) as a whole, rather than by each individual. They have three characteristics. The first is where one person's use of them does not deprive others from using them. This is termed "non-rivalrous" consumption. The second is that they are "non-excludable" – if one person consumes them it is impossible to restrict others from using them. And, thirdly, they are "non-rejectable" – individuals cannot abstain from their consumption even if they wanted to. National defence is a public good of this sort. The second and third reasons (non-excludability and

non-rejectability) effectively mean that no market can exist and government must ensure the provision, financed by taxation. Many items are partly public and partly private goods. Education and health can be placed in this category. Improved educational and health standards can benefit the community as a whole, as well as the individuals who receive these services directly.

But how is the optimal size of the state to be determined? Free market economists agree that there can be quite high marginal returns to increased spending when it is starting from a low base.[1] The imposition of the rule of law and improved health and educational standards, for example, are not just desirable in themselves, but they also boost economic growth. But as the public sector expands diminishing marginal returns set in until the point where, on balance, further increases in public spending (and in taxes) damage growth by crowding out private spending and destroying incentives. This point is where the optimal size of state is determined in economic terms.

As Bassanini and Scarpetta[2] wrote in their summary of the literature on fiscal policy and economic growth:

> The main conclusion from the literature is that they may be…a size effect of government intervention…at a low level the productive effects of public spending are likely to exceed the social costs of raising funds. However, government expenditure and the required taxes may reach levels where the negative effects on efficiency and, hence, growth starts dominating.

They added:

> These negative effects may be more evident when the financing relies heavily on more distortionary taxes (eg direct taxes) and where public expenditure focuses on "unproductive" activities.

Many economists have sought to quantify the optimal spending/GDP and/or tax/GDP ratio. In 1945 Dr Colin Clark suggested that the critical point of taxation was at about 25% of national income (or output).[3] Above this point, nations would suffer damaging consequences, including serious inflation. Keynes cautiously endorsed Clark's position, saying that 25% was "about the limit of what is easily borne."

More recent estimates, even by free market economists, have crept up to the 30% plus mark. Tanzi and Schuknecht[4] suggested that public spending needed to be no higher than 30% of GDP "to achieve most of the important social and political objectives that justify governmental interventions". David B Smith,[5] the doyen of British "small state" economists, has suggested that spending should be cut to no more than a third of GDP – above this level state spending does more harm than good.

As already mention in chapter 2, the current public spending/GDP ratio is around 42% and planned to remain at this level at least until FY2007. Given data showing falling public sector productivity and evidence that using GDP at market prices understates the "real" share of the public sector,[6] this is clearly too high a share. The more efficient private sector is being crowded out. The public sector share should be reduced.

As a first step, public spending should be planned to grow at a slower rate than GDP, over a specific number of years, until the share is down to 40%. This strategy was recommended by Norman Blackwell,[7] and has been adopted by the shadow Chancellor.[8]

But this should not be the end of the exercise of reducing the size of the state and the tax burden. The focus must be on making the necessary reforms to the public services (including health and education), and rooting out waste and inefficiencies, so that top quality public services can be taxpayer funded without an unnecessarily large burden on the taxpayer. It is impossible to defend taxpayers' money being spent on public sector waste and inefficiency. And there is every reason to believe that, providing the necessary reforms are pushed through, the spending/GDP ratio can be lowered to, say, 35% over a period of years without damaging the funding of top quality public services. It would require an overall efficiency improvement of less than 15% to achieve the 35% target. This is more than possible – especially if the recent falls in public sector productivity could be reversed.

According to ONS data, public sector productivity fell in each of the last three years for which data are available.

According to ONS data, General Government productivity fell in 1999, 2000 and 2001 (the latest available), after rising by 1% in both 1997 and 1998. The data for 1998 to 2001 are shown in the table below. The table also includes extrapolated annual 1% productivity falls for 2002 and 2003. These seem reasonable given recent anecdotal evidence of falling productivity. (1% could well be on the low side.)

The table also includes illustrative calculations that assume public sector productivity grew by 2% per annum from 1999 to 2003. A 2% growth rate is much in line with whole economy productivity growth since 1998. Manufacturing productivity, it should be noted, is currently growing at an annual rate of between 5% and 6%.

GENERAL GOVERNMENT PRODUCTIVITY: AN ILLUSTRATIVE EXERCISE

	1998	1999	2000	2001	2002	2003
Annual productivity change (ONS)	(1%)	-2%	-1%	-2%	[-1%]	[-1%]
(1) ONS data as index 1998=1.00	1.00	0.98	0.97	0.95	[0.94]	[0.93]
Assuming 2% increase in productivity	(1%)	[2%]	[2%]	[2%]	[2%]	[2%]
(2) 1998=1.00	1.00	[1.02]	[1.04]	[1.06]	[1.08]	[1.10]
Ratio of illustrative to actual data = (2)/(1)	1.00	[1.04]	[1.07]	[1.115]	[1.15]	[1.18]

Source: for 1998-2001 productivity data: Alwyn Pritchard, "Understanding government output and productivity", *Economic Trends*, ONS, TSO, July 2003.

Data in square brackets: author's calculations.

The calculations in this table suggest that if a 2% annual productivity increase had been achieved between 1998 and 2003 instead of the recorded and extrapolated falls, then the productivity level in 2003 would have been around 18% higher. With even modest productivity improvements, a 35% spending/GDP target is quite feasible.

If public sector productivity increases since 1998 had matched those in the private sector, then the public sector would have been 18% more efficient – enough to reduce government spending as a proportion of GDP to 35%

3.3 PUBLIC SECTOR EFFICIENCY: ECB RESEARCH

The scope for dramatically improving the overall performance of the UK public sector was highlighted in a recent ECB paper by Afonso, Schuknecht and Tanzi.[9] In their introduction, they made this broad and thoroughly researched statement:

> Most studies conclude that public spending could be much smaller and more efficient than today. However, for this to happen, governments should adopt better institutions and should transfer many non-core activities to the private sector.

Afonso et al compiled Public Sector Performance (PSP) indicators, total Public Sector Efficiency (PSE) indicators and "efficiency scores" for 23 countries.

The overall PSP indicators were compiled using a selection of proxies for public sector performance such as the quality of the judiciary, education achievement, life expectancy and the state of the transport infrastructure. (The detailed results are shown in annex, table 7.) The authors concluded that the difference in overall performance was moderate across the 23 countries. Countries with "small" public sectors, on average, reported the highest scores for overall performance. Countries with "large" public sectors were associated with more equal income distribution.

The PSE indicators were calculated as the ratio of performance and expenditure. (They are also listed in detail in the annex, table 7.) The authors found significant differences in public sector efficiency across countries. Japan, Switzerland, the US, Australia and Luxembourg showed the best values for overall. The UK was 7th equal, well ahead of France (which was 20th equal) and Italy (which was 23rd). Small governments were the most efficient, large governments were the least efficient. These findings support the hypothesis of diminishing marginal returns to (i.e. marginal products of) higher public spending.

The authors also compiled two sets of efficiency scores (the detailed results are listed in the annex, table 8). They were:

- **Input efficiency**: which took the "best" countries (Japan, the US and Luxembourg) as exemplars and calculated, for the other 20 countries, the percentage of their current spending they would need to spend in order to maintain public sector "output", if they were as efficient as the best. The input efficiency score for the UK was 0.84. This means that UK public spending would only need to be 84% of current spend in order to maintain output, if the UK public sector were as efficient as the best.[10] In other words, 16% was "waste". A 16% saving would give the savings needed to achieve the 35% spending/GDP ratio, without cutting services (output), as discussed above. The input efficiency score for the EU (15) (weighted average by GDP share) was a dismal 0.72. This suggested that 28% of EU spending was waste. The most inefficient country was Sweden with an input efficiency score of 0.57, with an implied 43% waste. It should be noted that even though the "best" countries are the most efficient in the sample, they are not necessarily optimally efficient. If there are potential input efficiency gains in the "best" countries, as seems likely, then there is even more scope for input efficiency gains in the UK public sector.

16% of UK government spending is "waste" – compared to 28% of EU governments' spending.

- **Output efficiency**: which also took the "best" countries (ie Japan, the US and Luxembourg) as exemplars and calculated, for the other 20 countries, their actual public sector performance (given their spending) as a percentage of their potential performance if they were as efficient as the best. The output efficiency score for the UK was 0.80. This meant that the UK's public sector performance was only 80% as good as it could be, if the UK were as efficient as the best. As with input efficiency, it should be noted that if there are potential output efficiency gains in the "best" countries, as seems likely, then there is even more scope for output efficiency gains in the UK public sector.

3.4 PUBLIC SECTOR EFFICIENCY: THE GERSHON REVIEW

The current Government has accepted that there is scope for savings in the public sector. This acceptance has been driven by the recognition that, even though public spending has risen rapidly in recent years (especially for education and health), the improvements in outputs, so far, seem modest.

Reflecting these concerns, the Chancellor announced the setting up of the Efficiency Review of the public services (led by Sir Peter Gershon, the head of the Office of Government Commerce) in his 2003 Budget. The main aim of the Review was to identify major efficiency savings so that more resources could be "released" for frontline public services.[11] It has covered the whole of the public sector and the priority areas that have been specifically identified for study included procurement (of key importance), back office functions, and policy, funding and regulation. The Review's findings have been an input into this year's Spending Review.

There is much to commend the thinking behind the Gershon Efficiency Review. As has already been mentioned, public spending has been rising very quickly in recent years. The planned increase of £250 billion between FY1997 and FY2007 is huge and, arguably, out of control. Moreover, the bill for administration is quite shocking. According to last year's Pre-Budget Report, the bill for Britain's army of regulators, inspectors, paymasters and policymakers is costing the taxpayer a cool £12 billion a year.[12] The Gershon Efficiency Review is not a moment too soon.

The annual bill for Britain's army of regulators, inspectors, paymasters and policymakers is £12 billion.

The Efficiency Review's interim report, which has been widely covered in the media, has been labelled "radical" by the press, largely because of the proposed cut of 80,000 jobs in central government and its agencies or the regulators it appoints.[13] (Cuts of 40,000 have already been announced, chiefly at the Department of Work and Pensions and from the merger of the Inland Revenue and Customs and Excise.) However, although the scale of the Review is unprecedented, many of the proposals, including modernising procurement procedures, are already tried and tested (though not necessarily worse for that). The key proposed savings are, firstly, up to £15 billion by more efficient procurement and merging back office functions; and, secondly, up to £5 billion by using better IT and more support staff. If these savings were to be implemented, then the Chancellor would have the £20 billion in savings by FY2007, to be reallocated to frontline services, that he announced he was looking for in his 2004 Budget.

The Gershon Review is, of course, to be welcomed. But there are three good reasons for saying that it does not go far enough – by a very long way. The first is that, even though up to £20 billion of savings sounds quite impressive, it is unambitious. £20 billion of savings would represent less than one tenth of the increase in the annual spending total between FY1997 and FY2007 and be only 3½% of total spending in FY2007. It is an understatement to say that private companies would regard spending cuts of this magnitude as anything but radical.

The second reason is that the Gershon Review's remit did not include the option of making savings with a view to reducing the tax burden. All Gershon's savings are to be ploughed back into the ever-bigger "Big State" by the Chancellor. Surely the emphasis should be on identifying savings and demonstrating how public services can be operated more efficiently in order to prevent, as a first step, unnecessary increases in the tax burden[14] and, eventually, making way for tax cuts. Only by taking this approach can public spending as a percentage of GDP be brought down significantly without jeopardising the funding and delivery of top quality public services.

The third reason is the need to cut back the state's burgeoning meddling and interference in and regulation of everyone's lives. This is, arguably, an even more insidious manifestation of the "Big State" than the state's rising

share of GDP. Even though Gershon's remit included aiming "to reduce the bureaucracy faced by frontline professionals", it is highly unlikely that its proposals would really significantly cut central government's micro-management of, say, education, health and the police services. One of the key aspects of any reform programme for the public services must be to trust the professionals and "get off professionals' backs".[15]

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ANNEX
ADDITIONAL TABLES

TABLE 1 RATIOS OF PUBLIC EXPENDITURE, INCLUDING TRANSFERS, TO MONEY GDP AT MARKET PRICES (%)

	1870	1913	1920	1937	1960	1980	1990	1998
Australia	18.3	16.5	Na	Na	21.2	31.6	34.7	32.9
Austria	Na	Na	14.7	15.2	35.7	48.1	48.6	51.7*
Belgium	Na	13.8	Na	21.8	30.3	58.6	54.8	49.4
Canada	Na	Na	13.3	18.6	28.6	38.8	46.0	44.7*
France	12.6	17.0	27.6	29.0	34.6	46.1	49.8	54.3
Germany	10.0	14.8	25.0	42.4	32.4	47.9	45.1	46.9
Italy	11.9	11.1	22.5	24.5	30.1	[41.9]	53.2	49.1
Ireland	8.8	8.3	14.8	25.4	17.5	32.0	31.7	36.9
Japan	Na	Na	Na	Na	26.9	38.1	41.3	47.1*
New Zealand	Na	Na	Na	Na	28.0	48.9	41.2	37.6*
Netherlands	9.1	9.0	13.5	19.0	33.7	55.2	54.0	47.2
Norway	3.7	8.3	13.7	Na	29.9	37.5	53.8	46.9
Spain	Na	8.3	9.3	18.4	18.8	32.2	42.0	43.3*
Sweden	5.7	6.3	8.1	10.4	31.0	60.1	59.1	58.5
Switzerland	Na	2.7	4.6	6.1	17.2	32.8	33.5	37.6*
UK	**9.4**	**12.7**	**26.2**	**30.0**	**32.2**	**43.0**	**39.9**	**40.2**
US	3.9	8.1	7.0	8.6	27.0	31.8	33.3	32.8
Unweighted average of countries (with no missing observations)	8.9	10.1	18.1	23.7	29.8	44.8	45.8	45.7

* 1996 data not 1998

Source: David B Smith, *Public Rags or Private Riches: High Public Spending Makes Us Poor*, Politeia, 2001 (using data from the IMF's *World Economic Outlook* and the OECD).

TABLE 2 UK GENERAL GOVERNMENT REVENUE AS A % OF GDP

Year	% GDP
1870	8.7
1913	11.2
1920	20.1
1937	22.6
1960	29.9
1980	39.6
1990	38.7
1997	37.8

Source: Vito Tanzi and Ludger Schuknecht, *Public spending in the 20th century*, Cambridge University Press (CUP), 2000.

TABLE 3 TAX MISERY INDEX: INTERNATIONAL COMPARISONS: FULL RESULTS

Rank (2004)	Country	2000	2002	2003	2004	Change between 2000 and 2004*
1	France	193.1	181.2	179.3	174.8	-18.3
2	Belgium	171.1	164.2	153.1	156.1	-15.0
3	Sweden	150.5	149.3	149.8	149.7	-1.8
4	China	Na	154.5	145.0	145.0	-9.5
5	Italy	153.9	147.5	145.0	144.0	-9.9
6	Austria	Na	Na	Na	143.2	Na
7	Norway	Na	Na	Na	142.8	Na
8	Greece	Na	Na	Na	137.1	Na
9	Spain	138.7	138.5	135.5	135.5	-3.2
10	Argentina	Na	Na	Na	135.0	Na
11	Slovenia	Na	Na	Na	132.2	Na
12	Netherlands	142.8	130.8	129.9	130.2	-12.6
13	Czech Republic	Na	Na	Na	129.5	Na
14	Finland	Na	Na	Na	128.8	Na
15	Turkey	Na	Na	Na	126.5	Na
16	Brazil	Na	Na	Na	126.3	Na
17	Hungary	Na	Na	Na	125.0	Na
18	Denmark	N a	Na	Na	123.0	Na
19	Japan	123.6	117.3	124.9	121.5	-2.1
20	Portugal	125.8	124.8	126.8	121.3	-4.5
21	Poland	Na	Na	Na	119.8	Na
22	US (New York)	Na	Na	Na	116.7	Na
23	Israel	Na	Na	Na	116.3	Na
24	Germany	143.0	115.1	116.6	112.5	-30.5
25	Mexico	Na	Na	Na	111.3	Na
26	**UK**	**109.7**	**109.3**	**111.3**	**111.3**	**1.6**
27	Canada (Ontario)	Na	Na	Na	108.3	Na
28	Luxembourg	Na	Na	Na	107.9	Na
29	Slovakia	Na	Na	Na	106.9	Na
30	Switzerland (Zurich)	Na	Na	Na	106.7	Na
31	Malta	Na	Na	Na	105.0	Na
32	Estonia	Na	Na	Na	103.0	Na
33	South Korea	Na	Na	Na	100.7	Na
34	US (Illinois)	Na	Na	Na	97.3	Na
35	Lithuania	Na	Na	Na	97.0	Na
36	US (Texas)	Na	Na	Na	94.6	Na
37	Latvia	Na	Na	Na	91.1	Na
38	Russia	124.5	92.6	92.6	90.6	-33.9
39	Ireland	109.5	93.0	90.3	90.3	-19.2
40	Malaysia	Na	Na	Na	89.0	Na
41	Indonesia	Na	Na	Na	89.0	Na
42	Australia	Na	88.5	90.0	88.5	0.0
43	South Africa	Na	Na	Na	86.0	Na
44	Thailand	Na	Na	Na	83.0	Na
45	Taiwan	Na	Na	Na	82.1	Na
46	India	Na	79.3	79.3	80.0	0.7
47	Singapore	Na	93.5	87.0	80.0	-13.5
48	Cyprus	Na	Na	Na	74.3	Na
49	Hong Kong	Na	41.0	43.0	43.0	2.0
50	UAE	Na	Na	Na	18.0	Na

* Or between 2001 and 2004.

Sources: Gary Duncan, "Just wait, taxpayers, you'll soon be free", *The Times*, 29 May 2003 for 2000, 2002 and 2003 data; and Grant Clelland, "Old Europe tops the world table for inflicting tax misery", *The Business*, 30 May 2004 for 2004 data.

TABLE 4 ESTIMATED EFFECTS ON ECONOMIC GROWTH OF GROWTH IN PUBLIC SPENDING SINCE 1960

	Change in public spending burden 1960-98 (%)	Estimated impact on annual economic growth (%)	How much higher output would have been in 2000 with 1960 spending levels (%)
Australia	11.7	-1.6	88
Austria	16.0	-2.2	137
Belgium	19.1	-2.6	179
Canada	16.1	-2.2	138
France	19.7	-2.7	188
Germany	14.5	-2.0	118
Italy	19.0	-2.6	178
Ireland	9.6	-1.3	68
Japan	19.4	-2.6	183
New Zealand	20.2	-2.7	196
Netherlands	13.5	-1.8	107
Norway	17.0	-2.3	150
Spain	24.5	-3.3	271
Sweden	27.5	-3.7	34
Switzerland	20.4	-2.8	199
UK	**8.0**	**-1.1**	**54**
US	5.8	-0.8	37
Unweighted average	15.9	-2.2	135

Source: David B Smith, *Public Rags or Private Riches: High Public Spending Makes Us Poor*, Politeia, 2001.

TABLE 5 THE NEGATIVE IMPACT OF TAXATION ON ECONOMIC GROWTH

Study	Coverage	GDP impact
Cashin (1994)	23 OECD countries over the 1971-1988 period	1% point of GDP increase in tax to GDP ratio lowers output per worker by 2%
Engen and Skinner (1996)	US modelling together with a sample of OECD countries	2.5% point increase in tax to GDP ratio reduces GDP growth by 0.2% to 0.3%
OECD: Leibfritz, Thornton and Bibbee (1997)	OECD countries over the 1965-95 period	10% point increase in tax to GDP ratio reduces GDP growth by 0.5% to 1%
OECD (1997) additional model simulations	European Commission Quest 2-model simulations	1% of GDP rise in labour taxes reduces UK GDP by 2.4% – versus baseline level
Bleaney, Gemmell and Kneller (2001)	17 OECD countries over the 1970-94 period	1% point of GDP increase on distortionary tax revenue reduces GDP growth by 0.4% points
Folster and Henrekson (2001)	Sample of rich OECD/non-OECD countries over the 1970-95 period	10% point increase in tax to GDP ratio reduces GDP growth by 1%
Bassanini and Scarpetta (2001)	12 OECD countries over the 1971-98 period	1% point increase in tax/GDP ratio reduces per capita output levels by 0.3% to 0.6%
PricewaterhouseCoopers (2003)	18 OECD countries over the 1970-99 period	1% of GDP rise in distortionary taxation reduces GDP growth by 0.2% to 0.4%

Source: Graeme Leach, *The negative impact of taxation on economic growth*, Reform, new edition, September 2003.

The detailed references for the individual authors are: Paul Cashin, "Government spending, taxes and economic growth", *IMF Working Paper*, *94/92*, International Monetary Fund, 1994; Eric Engen and Jonathan Skinner, "Taxation and economic growth", *NBER Working Paper number w5826*, 1996; W Leibfritz, J Thornton and A Bibbee, "Taxation and economic performance", *OECD Working Paper number 176*, 1997; Michael Bleaney, Norman Gemmell and Richard Kneller, "Testing the endogenous growth model: public expenditure, taxation and growth over the long run", *Canadian Journal of Economics*, 2001; Stefan Folster and Magnus Henrekson, "Growth effects of government expenditure and taxation in rich countries", *European Economic Review number 45*, 2001; Andrea Bassanini and Stefano Scarpetta, "The driving forces of economic growth: panel data evidence for the OECD countries", *OECD Economic Studies number 33*, 2001.

TABLE 6 THE SIZE OF THE SHADOW ECONOMY AS A % OF GDP

	1989/90	1999/00
Australia	10.1	14.3
Austria	6.9	9.8
Belgium	19.3	22.2
Canada	12.8	16.0
Denmark	10.8	18.0
Germany	11.8	16.0
Finland	13.4	18.1
France	9.0	15.2
Greece	22.6	28.7
GB	**9.6**	**12.7**
Ireland	11.0	15.9
Italy	22.8	27.1
Japan	8.8	11.2
Netherlands	11.9	13.1
New Zealand	9.2	12.8
Norway	14.8	19.1
Portugal	15.9	22.7
Sweden	15.8	19.2
Switzerland	6.7	8.6
Spain	16.1	22.7
US	6.7	8.7
Unweighted average	13.2	16.7

Source: F Schneider, "What do we know about the shadow economy?", *World Economics*, October to December 2001.

TABLE 7 PUBLIC SECTOR PERFORMANCE (PSP) INDICATORS AND TOTAL PUBLIC SECTOR EFFICIENCY (PSE) INDICTORS (2000)

Country	Total PSP (calculated to average = 1)	Total PSE = performance/expenditure	Ranking
Australia	1.04	1.28	4
Austria	1.12	1.03	12=
Belgium	0.95	0.83	20=
Canada	1.02	1.04	11
Denmark	1.06	0.95	17
Finland	1.01	1.01	14
France	0.93	0.83	20=
Germany	0.96	0.97	15=
Greece	0.78	1.06	7=
Iceland	1.03	0.85	19
Ireland	1.05	1.05	10
Italy	0.83	0.80	23
Japan	1.14	1.38	1
Luxembourg	1.21	1.23	5
Netherlands	1.11	0.97	15=
New Zealand	0.93	0.93	18
Norway	1.13	1.09	6
Portugal	0.80	1.03	12=
Spain	0.89	1.06	7=
Sweden	1.04	0.82	22
Switzerland	1.07	1.33	2
UK	**0.91**	**1.06**	**7=**
US	1.02	1.26	3
Average	1.00	1.04	
Small governments*	1.07	1.26*	
Medium†	0.97	1.03†	
Large‡	1.01	0.90‡	
EU 15 (weighted)	0.94	0.94	
Eurozone (weighted)	0.93	0.92	

* Small government = public spending less than 40% of GDP.

† Medium = public spending between 40 and 50% of GDP.

‡ Large = public spending above 50% of GDP.

Source: António Afonso, Ludger Schuknecht and Vito Tanzi, "Public sector efficiency: an international comparison", *European Central Bank*, *Working Paper Series number 242*, July 2003.

TABLE 8 INPUT AND OUTPUT EFFICIENCY SCORES (2000)

Country	Input efficiency		Output efficiency	
	Score	Rank	Score	Rank
Australia	0.99	4	0.92	7
Austria	0.67	17	0.92	8
Belgium	0.66	19	0.79	18
Canada	0.75	12	0.84	13
Denmark	0.62	21	0.87	11
Finland	0.61	22	0.83	14
France	0.64	20	0.77	20
Germany	0.72	16	0.79	17
Greece	0.73	14	0.65	23
Iceland	0.87	7	0.90	10
Ireland	0.96	5	0.93	6
Italy	0.66	18	0.68	22
Japan	1.00	1	1.00	1
Luxembourg	1.00	1	1.00	1
Netherlands	0.72	15	0.91	9
New Zealand	0.83	9	0.81	15
Norway	0.73	13	0.93	5
Portugal	0.79	11	0.70	21
Spain	0.80	10	0.78	19
Sweden	0.57	23	0.85	12
Switzerland	0.95	6	0.94	4
UK	**0.84**	**8**	**0.80**	**16**
US	1.00	1	1.00	1
Average	0.79		0.85	
EU15 (weighted)	0.72		0.78	
Eurozone (weighted)	0.70		0.78	
Small governments*	0.98		0.96	
Medium*	0.81		0.82	
Large*	0.65		0.83	

* See table 6 for definitions of small, medium and large governments.

Source: António Afonso, Ludger Schuknecht and Vito Tanzi, "Public sector efficiency: an international comparison", European Central Bank, Working Paper Series number 242, July 2003.