

IFS

Taxation in the UK

Stuart Adam
James Browne
Christopher Heady

Prepared for the Report of a Commission on
Reforming the Tax System for the 21st Century,
Chaired by Sir James Mirrlees

www.ifs.org.uk/mirrleesreview

The Institute for Fiscal Studies

Full Report to be published by
Oxford University Press



Taxation in the UK

Stuart Adam (IFS), James Browne (IFS) and Christopher Heady (OECD)¹

Executive summary

Budget 2008 forecast that UK government revenue in 2008–09 would be 39.0% of national income. This is a lower share than in 1978–79, reflecting a fall in non-tax receipts (such as surpluses of nationalised industries): taxes alone were forecast to raise 36.7% of GDP, a larger share than thirty years ago. On either measure, the tax burden has risen since Labour came to power in 1997, but remains lower than at its peak in the early 1980s.

Other developed countries have, on average, seen a larger rise in tax as a share of GDP than the UK since 1978. The share of national income taken in tax in the UK is now around the average for developed countries: lower than most of the EU15 countries (such as France, Italy and the Scandinavian countries), but higher than in most of the new EU countries of eastern Europe and higher than in the USA, Japan and Australia.

Most of the key developments in UK taxation over the last 30 years have been very much in line with those seen internationally:

- The share of revenue provided by VAT has greatly increased, while the share provided by taxes on specific goods has fallen by a similar amount.
- Basic and higher rates of income tax have been cut, and the number of rates reduced.
- Income tax has moved towards taxing members of couples independently.
- Tax credits have brought support for low-income workers within the tax system.
- Statutory rates of corporation tax have been cut, and the tax base broadened by reducing the value of allowances for capital investment.
- Shareholder taxation has been reformed to give less credit for corporation tax already paid on profits
- New environmental taxes have been introduced.

¹ This chapter draws heavily on the IFS's *Survey of the UK Tax System* (<http://www.ifs.org.uk/bns/bn09.pdf>), which is updated annually and was itself originally based on the UK chapter by A. Dilnot and G. Stears in K. Messere (ed.), *The Tax System in Industrialised Countries*, Oxford University Press, 1998. The authors thank Richard Blundell, Steve Bond, Mike Brewer, Michael Devereux, Carl Emmerson, Andrew Leicester, Cormac O'Dea, Jonathan Shaw and Matthew Wakefield for comments, advice and help with data and calculations. Any errors and omissions are the responsibility of the authors.

However, in some respects the UK is unusual:

- An unusually small share of UK tax revenue comes from social security (National Insurance) contributions, and an unusually large share comes from recurrent taxes on buildings (council tax and business rates).
- The UK applies a zero rate of VAT to many more goods than most other countries.
- The UK is unusual in having abolished tax relief for mortgage interest.
- Tax raising in the UK is exceptionally centralised, with only 5% of revenues raised locally; and it has become more centralised over time, notably with the move of business rates from local to central control.

The tax and benefit system as a whole redistributes significantly from rich to poor. But whether tax and benefit reforms have contributed to or counteracted the sharp increase in income inequality seen in the UK over the last 30 years is hard to determine definitively, in part because it depends on what is meant by 'reform'. The tax and benefit system in 2008 does more to reduce inequality than if the system of 30 years ago had remained in place with tax thresholds and (more importantly) benefit rates increased in line with inflation, but does less to reduce inequality than if the rates and thresholds of the 1978 system had kept pace with GDP per capita. Within this period, though, Labour's reforms have been clearly more progressive than the Conservatives': Labour's reforms since 1997 have had a similar effect on overall inequality as increasing benefit rates in line with GDP, while the Conservatives' reforms were roughly equivalent to increasing them in line with inflation.

On the other hand, reforms under the Conservatives did more to strengthen financial work incentives than those under Labour. The Conservatives' tax and benefit reforms unambiguously strengthened average incentives for people to be in work and for those in work to increase their earnings. Reforms since 1997, however, have had much less impact on incentives to be in work – on average, they are now slightly stronger than they would have been if Labour had increased the benefit rates they inherited in line with growth in the economy, and much the same as if they had increased benefit rates in line with inflation – and Labour's reforms have weakened average incentives for those in work to increase their earnings. All of these broad trends, however, hide substantial variations across the population.

The tax system influences the amount that people save and the form in which they do so. Owner-occupied housing and Individual Saving Accounts (ISAs) are not subject to personal income taxes; pensions are effectively subsidised by the provision of a 25% tax-free lump sum and by the exemption of employer pension contributions from National Insurance contributions (although deferral of tax from the point at which earnings are paid into a pension fund to the point at which they are withdrawn from the fund means that the attractiveness of saving in a pension depends a great deal on whether an individual's marginal tax rate is different at those two points). Pensions, ISAs and housing cover the significant saving activity of the bulk of the population, but other forms of saving are discouraged by income tax and capital gains tax – and to a markedly greater extent than the statutory tax rates might suggest, because no allowance is given for inflation. The decline of inflation from the very high rates 30 years ago has been a major factor reducing the extent to which the tax system biases the choice between different saving vehicles. Policy reforms have also reduced these distortions by reducing the highest income tax rates, introducing tax-free saving

vehicles such as Individual Savings Accounts and abolishing the subsidies offered through tax relief for life assurance and mortgage interest. The result of all this is that saving is now less likely to be heavily taxed, and less likely to be subsidised, than in the past.

Like different forms of personal saving, different forms of business investment are treated differently by the tax system. In the UK, as around the world, debt-financed investment is treated more favourably than equity-financed investment, and investment in plant and machinery is treated more favourably than investment in industrial buildings. Both of these distortions have been reduced since 1979.

1. Introduction

This chapter provides a description and assessment of the UK tax system, placing it in historical, international and theoretical contexts. We begin in Section 2 by outlining the evolution of the size and composition of tax revenues in the UK since 1978 and comparing this to developments in other OECD countries. Section 3 describes what has happened to the design of major taxes over the same period and compares this to worldwide trends in tax reform. The economic analysis of these developments is taken up in Section 4, which assesses their effects on the income distribution and incentives to work, save and invest. Section 5 concludes with a summary of the main issues raised. An Appendix describes each of the main taxes in 2008–09.

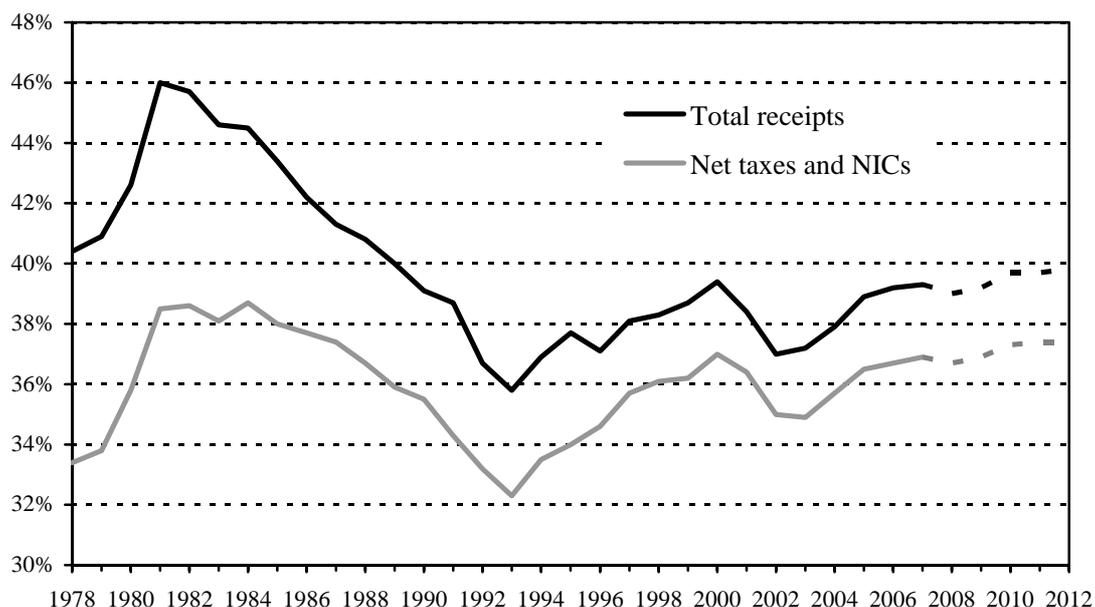
2. The level and composition of revenues

Total UK government receipts are forecast to be £575.2 billion in 2008–09, or 39.0% of UK GDP.² This is equivalent to roughly £11,500 for every adult in the UK, or £9,400 per person. Not all of this comes from taxes (or National Insurance (social security) contributions): net taxes and National Insurance contributions are forecast to raise £541.0 billion in 2008–09, with the remainder provided by surpluses of public-sector industries, rent from state-owned properties and so on.

Figure 1 shows the development of total government revenues and tax revenues since 1978–79. Receipts rose sharply as a proportion of GDP from 1978–79 to 1981–82, fell steadily from the early 1980s until the mid-1990s, but have risen again under the current government and are forecast to rise slightly more in the coming years, reaching 39.8% of GDP in 2012–13. The share of non-tax revenues fell substantially over the 1980s and 1990s as many public-sector industries were privatised, so that, although total receipts are now slightly lower than in 1978–79 as share of GDP, tax revenues are higher.

² All 2008–09 revenue figures in this section are 2008 Budget forecasts and so do not take account of later developments. Policy announcements on income tax, fuel duty and stamp duty land tax are discussed elsewhere in the chapter.

Figure 1. The tax burden, % of GDP



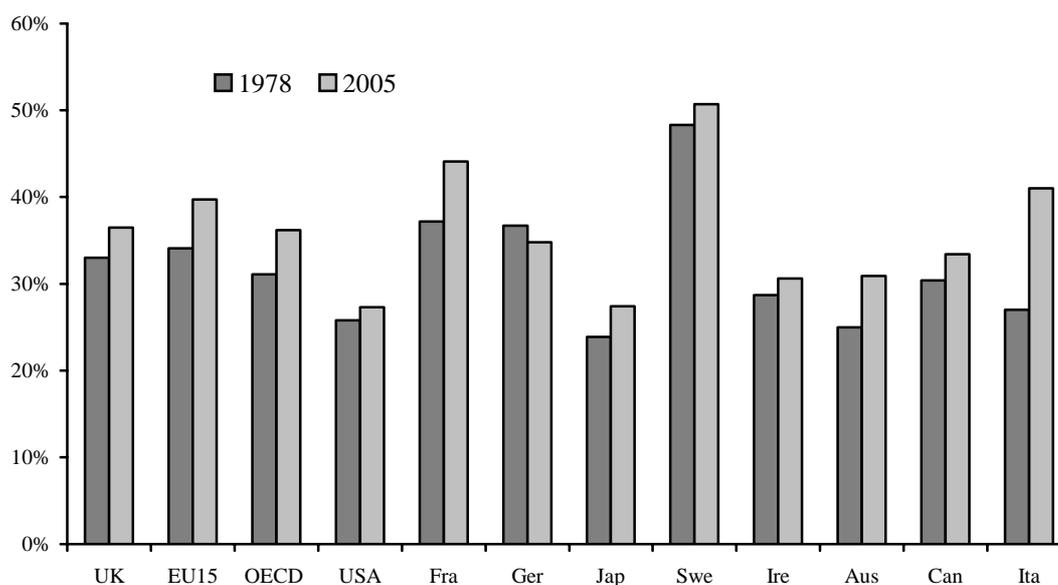
Note: Years are fiscal years, so 2008 means 2008–09

Source: HM Treasury, Public Finances Databank (18 July 2008 version), http://www.hm-treasury.gov.uk/economic_data_and_tools/finance_spending_statistics/pubsec_finance/psf_statistics.cfm

Figure 2 places this increase in tax revenue in an international context. Between 1978 and 2005, most OECD countries experienced an increase in their tax-to-GDP ratios, and the UK's increase was smaller than most. In 1978, the UK's tax-to-GDP ratio was about two percentage points higher than the OECD (unweighted) average but in 2005 was almost equal to it. The share of national income taken in tax in the UK is now significantly below the EU15 (unweighted) average, but higher than in most of the new EU countries of eastern Europe and higher than in the USA, Japan and Australia.³

³ All international averages in this chapter are unweighted. The EU15 countries are members of the EU prior to the 2004 expansion, namely Austria (abbreviated as Aut), Belgium (Bel), Denmark (Den), Finland (Fin), France (Fra), Germany (Ger), Greece (Gre), Ireland (Ire), Italy (Ita), Luxembourg (Lux), the Netherlands (Neth), Portugal (Por), Spain (Spa), Sweden (Swe) and the UK. The OECD countries included vary over time because OECD membership changed and figures are not always available for all countries. Other country abbreviations used are for Australia (Aus), New Zealand (NZ), Japan (Jap), the United States of America (USA) and Canada (Can).

Figure 2. Tax revenues as a share of GDP



Note: All taxes and compulsory social security contributions.
Source: OECD (2007).

Table 1 shows the composition of UK government revenue. Income tax, National Insurance contributions and VAT are easily the largest sources of revenue for the government, together accounting for almost two thirds of total tax revenue. Figure 3 summarises how the composition of tax revenue has changed over the last thirty years. The biggest change has been a doubling of the share of tax revenue provided by VAT, with a reduction of similar size in the share of other indirect taxes (mainly excise duties). This follows a worldwide trend of moving from taxes on specific goods to general consumption taxes. Corporation tax revenues are highly cyclical but have increased overall as a proportion of the total, as have revenues from other capital taxes (principally stamp duties). Reliance on personal income taxes fell sharply in the late 1970s and early 1980s but they have since recovered their share. The replacement of domestic rates by the community charge (poll tax) dramatically reduced revenues from property taxes, but then the replacement in turn of the poll tax by council tax restored property's share.

Table 1: Sources of government revenue, 2008–09 forecasts

Source of revenue	Forecast 2008–09 (£bn)	Proportion of tax revenue (%)
Income tax (gross of tax credits)	160.2	29.6
Tax credits counted as negative income tax by HM Treasury ^a	(–5.2)	(–1.0)
National Insurance contributions	104.6	19.3
Value added tax ^b	83.8	15.5
Other indirect taxes		
Fuel duties	25.7	4.8
Tobacco duties	7.6	1.4
Alcohol duties	8.6	1.6
Betting and gaming duties	1.5	0.3
Vehicle excise duty	6.1	1.1
Air passenger duty	2.1	0.4
Insurance premium tax	2.4	0.4
Landfill tax	1.1	0.2
Climate change levy	0.7	0.1
Aggregates levy	0.4	0.1
Customs duties and levies	2.5	0.5
Capital taxes		
Capital gains tax	5.0	0.9
Inheritance tax	3.2	0.6
Stamp duties	13.5	2.5
Company taxes		
Corporation tax	51.9	9.5
Petroleum revenue tax	1.7	0.3
Business rates	23.7	4.4
Council tax (net of council tax benefit)	24.9	4.6
Other taxes and royalties	15.7	2.9
Net taxes and National Insurance contributions	541.0	100.0
Interest and dividends	7.0	n/a
Gross operating surplus, rent, other receipts and adjustments	21.4	n/a
Current receipts	575.2	n/a

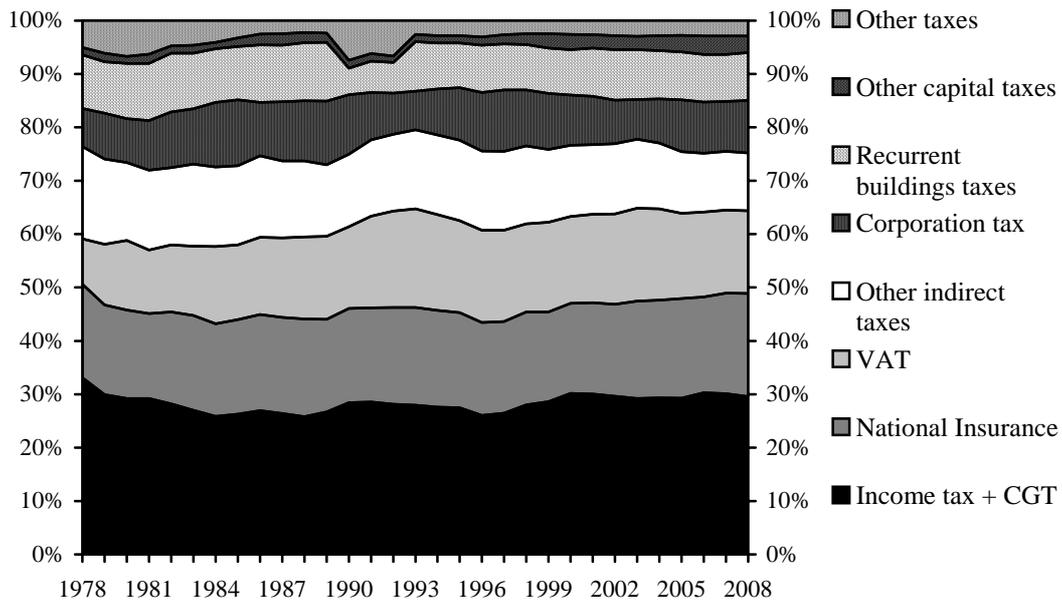
^aMost of the cost of tax credits is counted as government spending rather than a reduction in income tax revenue. See Appendix for details.

^bNet of (i.e. after deducting) VAT refunds paid to other parts of central and local government: these are included in ‘Other taxes and royalties’.

Note: Figures may not sum exactly to totals because of rounding.

Source: HM Treasury, *Financial Statement and Budget Report, 2008* (http://www.hm-treasury.gov.uk/media/7/3/bud08_chapterc.pdf).

Figure 3. The composition of UK tax revenues, 1978–79 to 2008–09

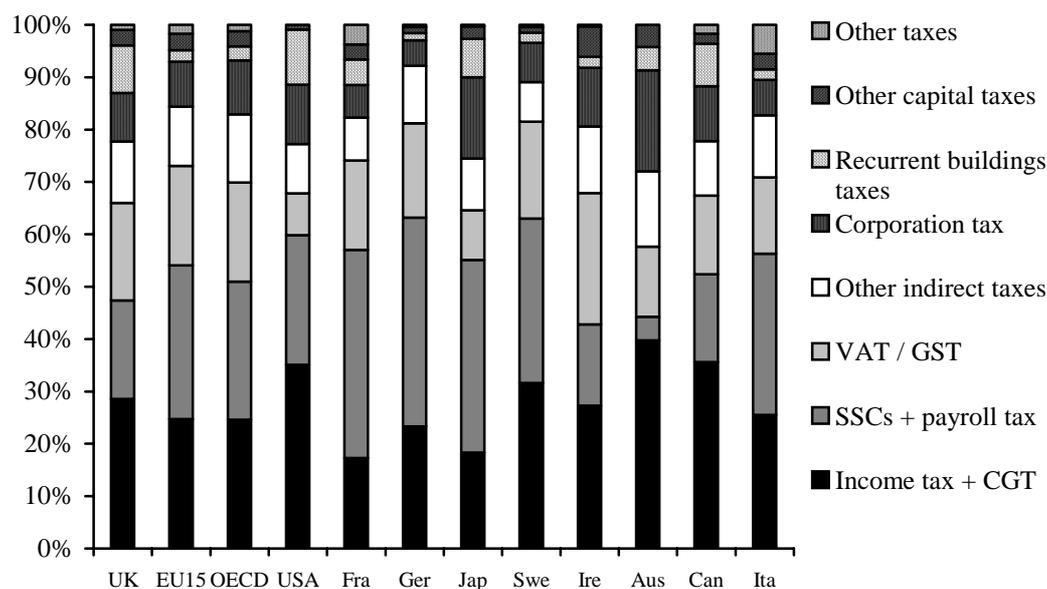


Notes: Net taxes and National Insurance contributions. Years are fiscal years, so 2008 means 2008–09. CGT = capital gains tax. ‘National Insurance’ excludes NI surcharge when it existed, and ‘VAT’ is net of refunds paid to other parts of central and local government: these are both included in ‘other taxes’. ‘Other indirect taxes’ are excise duties, environmental taxes and customs duties. ‘Corporation tax’ includes petroleum revenue tax, supplementary petroleum duty and the 1997–98 windfall tax. ‘Other capital taxes’ are inheritance tax (and its predecessors) and stamp duties. Recurrent buildings taxes are council tax and (business and domestic) rates; the community charge is included in ‘other taxes’. Source: HM Treasury: see http://www.ifs.org.uk/ff/revenue_composition.xls.

Figure 4 compares the structure of tax revenues in the UK with that in other OECD countries. The UK particularly stands out with its relatively low (but not lowest) share of social security contributions⁴ and its relatively high share of recurrent taxes on buildings (although these are also relatively high in the USA, Japan and Canada). It is also somewhat above average in the share of personal income tax, but several countries have even higher shares.

⁴ This category also includes payroll taxes (which do not give entitlement to contributory benefits) for those few countries that have them. The most significant example in this set of countries is Australia, which does not have social security contributions but does levy payroll taxes.

Figure 4. The composition of tax revenues, 2005

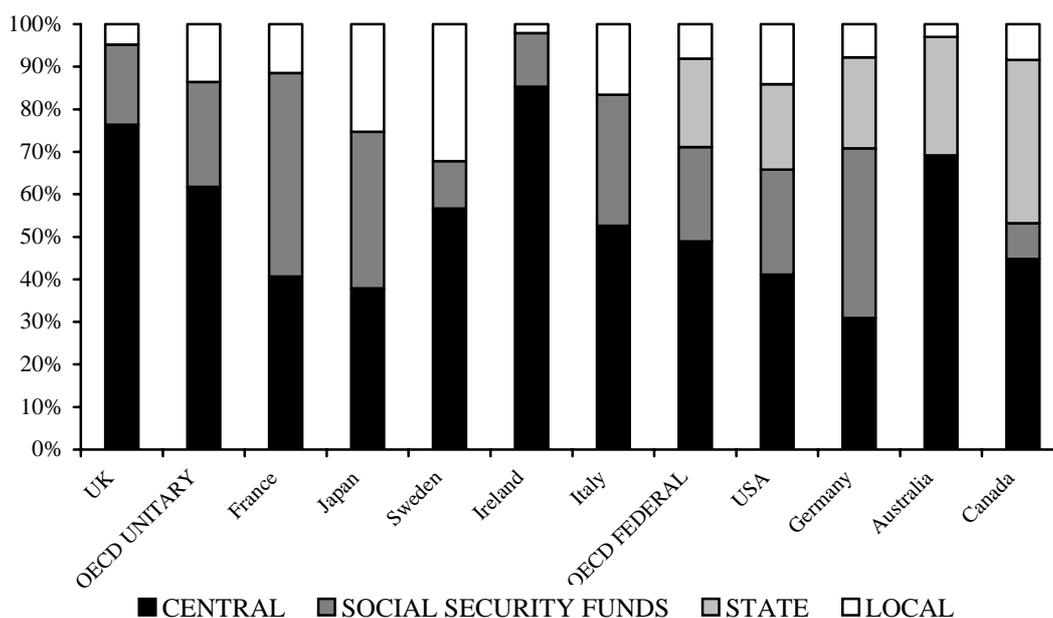


Notes: All taxes and social security contributions (SSCs). GST = General Sales Tax.
Source: OECD (2007)

Figure 5 compares the distribution of revenues by levels of government in the UK to the averages of OECD unitary countries and OECD federal countries, and a selection of individual unitary and federal countries.⁵ This comparison shows that the UK has a particularly large share of revenue going to central government, a share that is exceeded only by Ireland. This is reflected in the fact that UK local authorities are particularly dependent on grants from central government rather than tax revenues of their own.

⁵ This Figure attributes revenue to levels of government on the basis of their legal entitlement to the revenue rather than their control over the tax rate (or base). Thus the state level of government in both Germany and Australia receive a substantial part of their revenues from taxes whose rates are set at national level (although in consultation with state governments). In contrast, the UK business rates are not classed as local because central government has complete discretion as to how the revenue is allocated.

Figure 5. Tax revenues by level of government, 2005



Source: OECD (2007)

3. Development of the major taxes since 1978

Table 2 lists some of the most important changes in the UK tax system seen since 1978.⁶ It is clear that the tax system is now very different from the one that existed then. The income tax rate structure has been transformed, the taxation of saving has been repeatedly adjusted, the National Insurance contributions system has been overhauled, the main VAT rate has more than doubled, some excise duty rates have risen sharply while others have fallen, the corporate income tax system has been subject to two wholesale reforms and many smaller changes, and local taxation is unrecognisable. Figure 3 and the associated discussion in section 2 show how these changes have been reflected in the composition of aggregate government revenue (although there have been other factors that play a part, such as the effect of property and stock markets on stamp duty revenues).

⁶For a timeline of the main tax changes announced in each Budget and Pre-Budget Report since 1979, see www.ifs.org.uk/ff/budget_measures.xls.

Table 2: Summary of main reforms, 1978–2008

Income tax	Basic rate cut from 33% to 20% Top rate 98% (unearned income), 83% (earnings) down to 40% Starting rate abolished, re-introduced and abolished again Independent taxation introduced Married couple's allowance abolished Children's tax credit and working families' tax credit introduced, then abolished Child tax credit and working tax credit introduced Mortgage interest tax relief abolished Life assurance premium relief abolished PEP, TESSA and ISA introduced
National Insurance	Employee contribution rate increased from 6.5% to 11% Ceiling abolished for employer contributions Ceiling for employees raised and contributions extended beyond it 'Entry rate' abolished and floor aligned with income tax allowance Imposition of NI on benefits in kind
VAT	Higher rate of 12.5% abolished Standard rate increased from 8% to 17.5% Reduced rate introduced for domestic fuel and a few other goods
Other indirect taxes	Large real rise in duties on road fuels and tobacco Real decrease in duties on wine and spirits, little change for beer Air passenger duty, landfill tax, climate change levy and aggregates levy introduced
Capital taxes	Introduction and abolition of indexation allowance and then taper relief for capital gains Capital gains tax rates aligned with income tax rates then returned to flat rate Capital transfer tax replaced by inheritance tax Graduated rates of stamp duty on properties abolished then reintroduced Stamp duty on shares and bonds cut from 2% to 0.5%
Corporation tax	Main rate cut from 52% to 28% Small companies' rate cut from 42% to 21% Lower rate introduced, cut to 0%, then abolished R&D tax credits introduced 100% first-year allowance replaced by 20% writing-down allowance Advance corporation tax and refundable dividend tax credit abolished
Local taxes	Domestic rates replaced by council tax (via poll tax) Locally varying business rates replaced by national business rates

PEP = Personal Equity Plan; TESSA = Tax-Exempt Special Savings Account; ISA = Individual Savings Account.

3.1 Personal income taxes

There are two principal personal income taxes in the UK: income tax and National Insurance contributions. Capital gains tax, which has existed as a tax separate from income tax since 1965, can also be thought of as a tax on personal income, but it supplies very little revenue compared with income tax or National Insurance.

Income tax rate structure

The most dramatic change to income tax has been the reform of the rate structure, as illustrated in Table 3. In 1978–79, there was a starting rate of 25%, a basic rate of 33% and higher rates ranging from 40% to 83%. In addition, an investment income surcharge of 15% was applied to those with very high investment income, resulting in a maximum income tax rate of 98%. In its first Budget, in 1979, the Conservative government reduced the basic rate of income tax to 30% and the top rate on earnings to 60%. In 1980, the starting rate was abolished; in 1984, the investment income surcharge was abolished; and through the mid-1980s, the basic rate of tax was reduced. In 1988, the top rate of tax was cut to 40% and the basic rate to 25%, producing a very simple regime with three effective rates – zero up to the personal allowance, 25% over a range that covered almost 95% of taxpayers and 40% for a small group of those with high incomes. The sharp reduction in top rates in 1979 was the start of an international trend, while the continued reductions in the basic rate are also part of an international trend.

Table 3: Income tax rates on earned income, 1978–79 to 2008–09

Year	Starting rate	Basic rate	Higher rates
1978–79	25	33	40–83
1979–80	25	30	40–60
1980–81 to 1985–86	—	30	40–60
1986–87	—	29	40–60
1987–88	—	27	40–60
1988–89 to 1991–92	—	25	40
1992–93 to 1995–96	20	25	40
1996–97	20	24	40
1997–98 to 1998–99	20	23	40
1999–2000	10	23	40
2000–01 to 2007–08	10	22	40
2008–09	—	20	40

Notes: Prior to 1984–85, an investment income surcharge of 15% applied to unearned income over £2,250 (1978–79), £5,000 (1979–80), £5,500 (1980–82), £6,250 (1982–83) and £7,100 (1983–84). Different tax rates have applied to dividends since 1993–94 and to savings income since 1996–97. The basic rate of tax on savings income has been 20% since 1996–97, and the 10% starting rate which was largely abolished in 2008–09 continues to apply to savings income that falls into the first £2,320 of taxable income. The basic rate of tax on dividends was 20% from 1993–94 to 1998–99 and has been 10% since 1999–2000, when the higher rate of tax on dividends became 32.5%. However, an offsetting dividend tax credit means that the effective tax rates on dividends have been constant at zero (basic rate) and 25% (higher rate) since 1993–94. When calculating which tax band different income sources fall into, dividend income is treated as the top slice of income, followed by savings income, followed by other income.

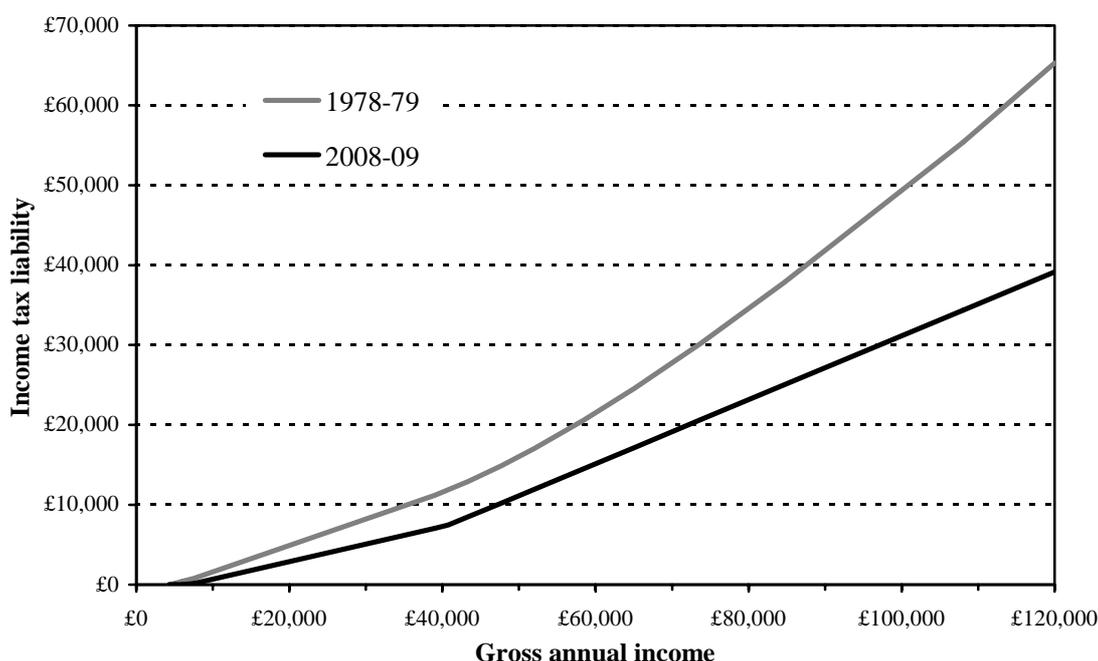
Sources: *Tolley's Income Tax*, various years.

This very simple rate structure was complicated by the reintroduction of a 20% starting rate of tax in 1992 (in a pre-election Budget), cut to 10% in 1999 (fulfilling a pre-election promise made by the Labour Party). Budget 2007 announced the abolition again of the starting rate from 2008–09 to pay for a cut in the basic rate, though as a simplification this was limited by the decision to keep the starting rate in place for savings income. The abolition of the starting rate proved highly controversial because many low-income families lost out (although many more

potential losers were protected by other reforms announced at the same time). As a result, the Government announced in May 2008 that it would increase the tax-free personal allowance for 2008–09 by £600, compensating most of those losing from the reform.⁷

The income levels to which the various tax rates apply have changed significantly over the period as a whole. The basic-rate limit, beyond which higher-rate tax becomes due, has failed to keep pace with price inflation, while the personal allowance has risen in real terms. The overall effect of rate, allowance and threshold changes on the shape of the income tax schedule is shown in Figure 6, with 1978–79 values expressed in 2008 prices for ease of comparison.

Figure 6. Income tax schedule for earned income, 1978–79 and 2008–09



Notes: 1978–79 thresholds have been uprated to April 2008 prices using the Retail Prices Index. Assumes individual is aged under 65, unmarried and without children. Sources: HM Treasury, *Financial Statement and Budget Report*, various years; *Tolley's Income Tax*, various years; National Statistics, www.statistics.gov.uk.

Table 4 gives the numbers of people affected by the different tax rates. In 2008–09, out of an adult population in the UK of almost 50 million, an estimated 31 million individuals are liable for income tax. This is a reminder that attempts to use income tax reductions to help the poorest in the country are likely to fail, since less than two thirds of the adult population have high enough incomes to pay income tax at all.⁸ The

⁷ The basic-rate limit was correspondingly reduced to eliminate any gain from the increased personal allowance for higher-rate taxpayers. The personal allowance was increased only for under-65s: an increase in the allowances for those aged 65 and over was part of the original package announced in Budget 2007. For analysis of these reforms, see Adam et al (2008).

⁸We might be more interested in the proportion of adults that live in a family containing a taxpayer. Authors' calculations using the IFS tax and benefit model, TAXBEN, run on data from the Family Resources Survey, suggest that this figure stood at 76% for the UK in 2006–07 (the latest year for which data are available): most non-taxpaying adults do not have a taxpayer in the family..

total number of income taxpayers has increased slowly over the years, while the number of higher-rate taxpayers has grown much more quickly, from barely one in 40 taxpayers in 1979–80 to more than one in eight in 2008–09. Some of this growth reflects periods when the threshold above which higher-rate tax is due has not been raised in line with price inflation, some reflects the fact that incomes on average have grown more quickly than prices, and some the fact that the dispersion of incomes has grown, with especially rapid increases in the incomes of those already towards the top of the income distribution, pushing more of them into higher-rate income tax liability.

Table 4: Numbers liable for income tax (thousands)

Year	Number of individuals paying tax	Number of starting-rate taxpayers	Number of basic-rate taxpayers ^a	Number of higher-rate taxpayers
1978–79	25,900	— ^b	25,137 ^b	763
1990–91	26,100	—	24,400	1,700
2000–01	29,300	2,820	23,610	2,880
2007–08 ^c	31,900	3,250	24,850	3,820
2008–09 ^c	31,000	323 ^d	26,780	3,960

^aIncludes those whose only income above the starting-rate limit is from either savings or dividends.

^bBasic-rate figure for 1979–80 covers both starting-rate and basic-rate taxpayers.

^cProjected.

^dFrom 2008–09 the starting rate applies only to savings income that is below the starting-rate limit when counted as the top slice of taxable income (except dividends).

Sources: HM Revenue and Customs, http://www.hmrc.gov.uk/stats/income_tax/table2-1.pdf and table 2.1 of *Inland Revenue Statistics 1994*.

Although only 13% of income taxpayers face the higher rate, that group is expected to contribute 57% of total income tax revenue in 2008–09.⁹ Table 5 shows that the top 10% of income taxpayers now pay over half of all the income tax paid, and the top 1% pay 23% of all that is paid. These shares have risen substantially since 1978–79, despite reductions in the higher rates.

Table 5: Shares of total income tax liability (%)

Year	Top 1% of income taxpayers	Top 10% of income taxpayers	Top 50% of income taxpayers
1978–79	11	35	82
1990–91	15	42	85
2000–01	22	52	89
2007–08 ^a	23	53	90
2008–09 ^a	23	53	89

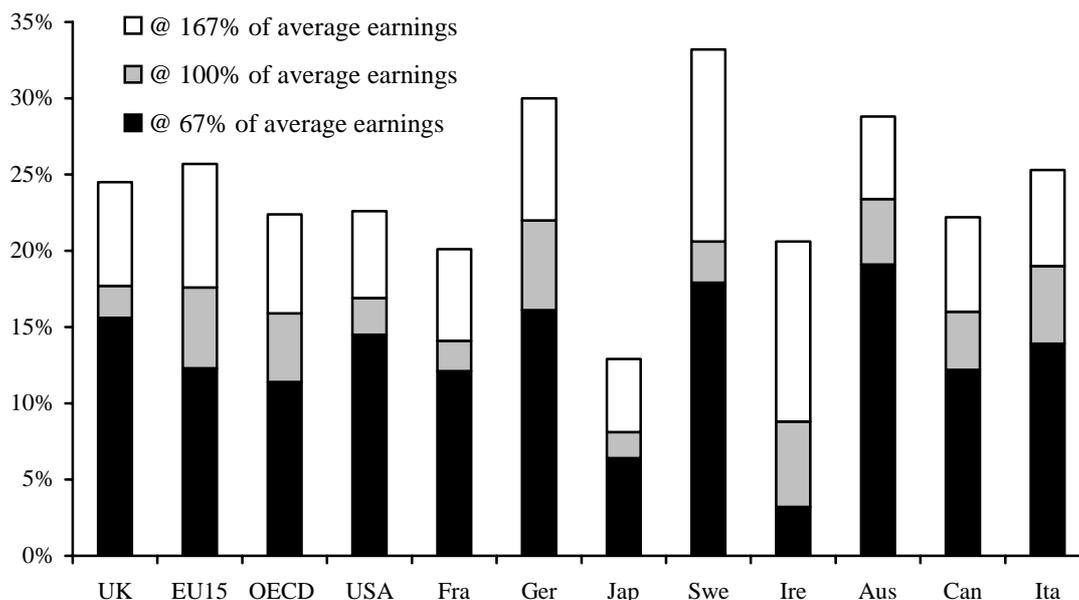
^aProjected.

Sources: HMRC Statistics (http://www.hmrc.gov.uk/stats/income_tax/table2-4.pdf) and Table 2.3 of *Inland Revenue Statistics 1994*.

⁹ Source: HM Revenue and Customs Statistics Table 2.5 (http://www.hmrc.gov.uk/stats/income_tax/table2_5.pdf)

Figure 7 shows the 2007 income tax burden on single workers at 67%, 100% and 167% of average full-time earnings in the UK in comparison with other OECD countries. This shows that the UK applied relatively high income tax to low-paid workers, substantially higher than both the EU15 and OECD averages. The progressivity of the income tax system – as shown by the extra burden on average and above-average earners – was less than average for the OECD and, especially, for the EU15.

Figure 7. The income tax burden for a single worker, 2007



Notes: Income tax due is calculated for a single worker without dependents and expressed as a percentage of earnings. “Average earnings” are the mean earnings of full time workers in industries C to K of the International Standard Industrial Classification. For more detail, see OECD (2008a). Source: OECD (2008a)

The treatment of families

Prior to 1990, married couples were treated as a single unit for income tax purposes. The 1970 Income and Corporation Taxes Act (in)famously announced that, for the purposes of income tax, ‘a woman’s income chargeable to tax shall ... be deemed to be her husband’s income and not her income’. Reflecting the ‘responsibilities’ taken on at marriage, the tax system also included a married man’s allowance (MMA). The system was widely felt to be unpalatable and a consensus emerged that a new system, neutral in its treatment of men and women, should be introduced. The new system introduced in 1990 was based on the principle of independent taxation of husbands and wives, but included a married couple’s allowance (MCA), which was available to either husband or wife. This established equal treatment of men and women, but not of married and unmarried people. In fact, married and unmarried people with children had been treated equally since 1973 through the additional personal allowance (APA), an allowance for unmarried people with children which was set equal to the MMA and then the MCA; but unequal treatment persisted for those without children.

Between 1993 and 2000, the MCA and APA were reduced in value, and they were eventually abolished in April 2000 (except the MCA for people aged 65 or over at that date). A year later, children's tax credit was introduced, reducing the tax liability of those with children by a flat-rate amount (gradually withdrawn from higher-rate taxpayers) but making no distinction between married and unmarried people. Meanwhile, in-work support for low-paid families with children was brought within the tax system when working families' tax credit (WFTC) replaced family credit from October 1999.¹⁰ Children's tax credit and WFTC (along with parts of some state benefits) were replaced in April 2003 by child tax credit and working tax credit. Child tax credit provides support for low-income families with children irrespective of work status, while working tax credit provides support for low-income families in work whether or not they have children; but neither depends on marriage. In short, over the past 20 years, the UK income tax has moved away from providing support for marriage and towards providing support for children.

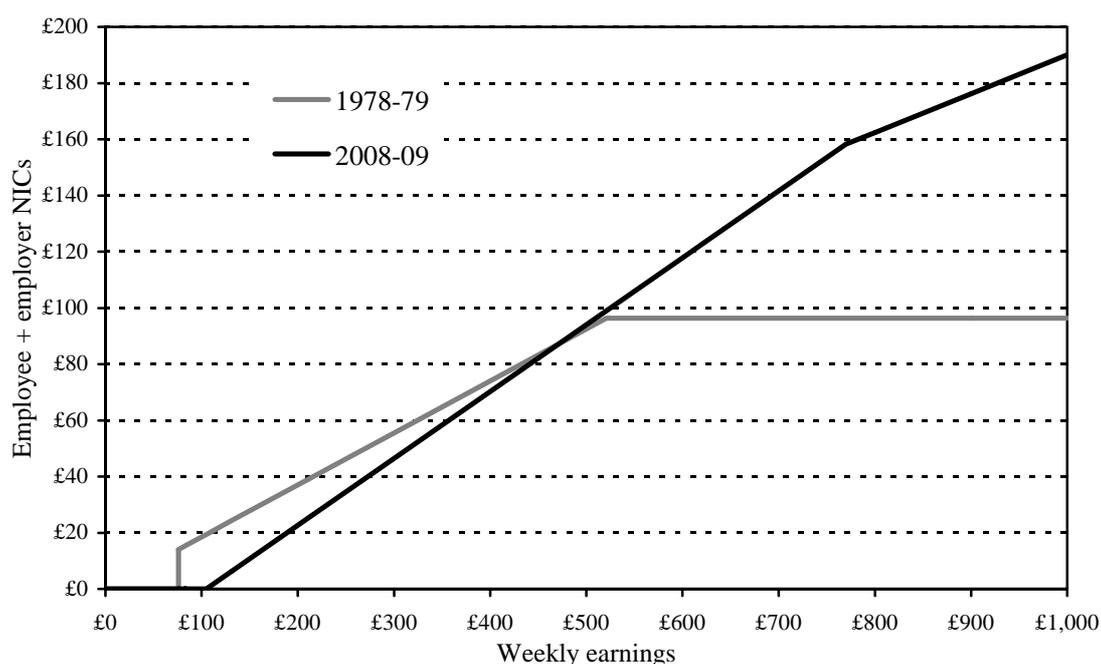
National Insurance contributions

National Insurance (social security) contributions (NICs) originated as (typically) weekly lump-sum payments by employers and employees to cover the cost of certain social security benefits – in particular, the flat-rate pension, unemployment benefits and sickness benefits. Since 1961, however, National Insurance has steadily moved towards being simply another income tax. The link between the amount contributed and benefit entitlement, which was once close, has now almost entirely gone, and substantial progress has been made in aligning the NICs rate structure and tax base with those of income tax. Most of this has occurred in the last 25 years.

Figure 8 shows the structure of combined employee and employer NICs in 1978–79 and 2008–09, all expressed in 2008 prices.

¹⁰For more information on these two programmes, see Dilnot and McCrae (1999).

Figure 8. National Insurance contributions schedule, 1978–79 and 2008–09



Notes: 1978–79 thresholds have been updated to April 2008 prices using the Retail Prices Index. Assumes employee contracted into State Earnings-Related Pension Scheme (SERPS) or State Second Pension (S2P). The 1978–79 schedule includes National Insurance surcharge at a rate of 2%, the rate that applied from April to October 1978..

Sources: *Tolley's National Insurance Contributions*, 1989–90 and 2008–09; National Statistics, www.statistics.gov.uk.

In 1978–79, no NICs were due for those earning less than the lower earnings limit (LEL). For those earning at least this amount, employees paid contributions of 6.5% and employers 12% of total employee earnings, including earnings below the LEL. This meant a jump in contributions at the LEL (the ‘entry rate’), and it is not surprising that this discontinuity led to significant bunching of earnings just below the LEL. No NICs were payable on earnings above the upper earnings limit (UEL).

This rate schedule was substantially changed in 1985: the UEL was abolished for employers, and the single large jump in NICs at the LEL was replaced with a number of graduated steps instead. Subsequent reforms have continued in the same direction. The UEL is still in place for employees, but no longer acts as a complete cap on contributions: a one percentage point rise in NIC rates in April 2003 extended employee NICs to earnings above the UEL. The entry rate was phased out altogether and the graduated steps removed, so that since April 1999 the earnings threshold in NICs has operated in a similar way to the income tax personal allowance, essentially being discounted from taxable income. Furthermore, the earnings threshold for employers (from 1999) and employees (from 2001) were aligned with the income tax personal allowance, and the 2007 Budget announced that the UEL would be aligned with the higher-rate income tax threshold from April 2009.¹¹

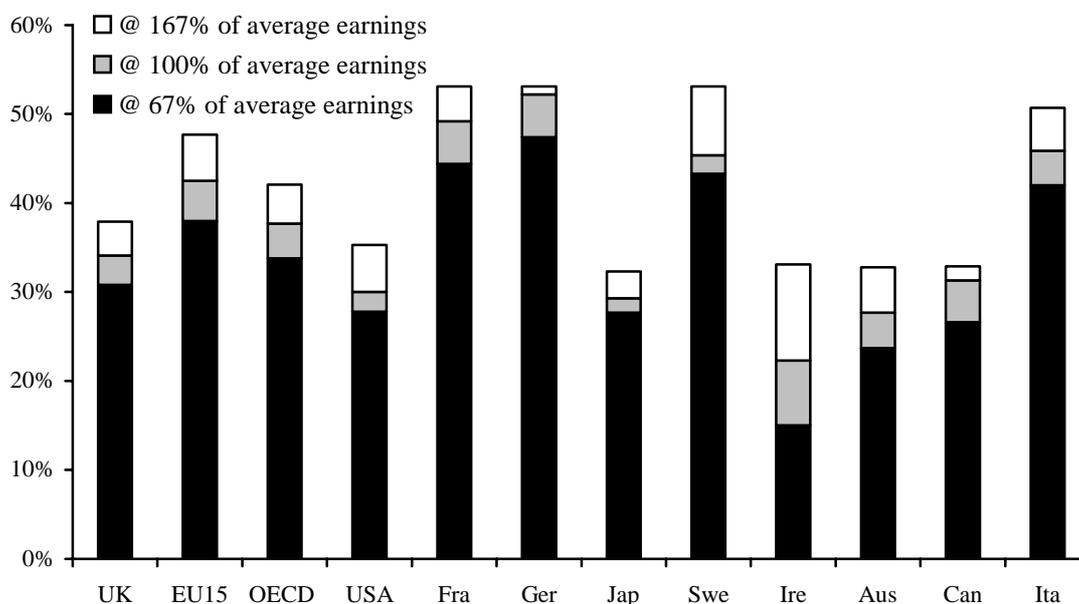
¹¹ The increase in the personal allowance announced in June 2008 (see p.13) decoupled it from the NI earnings threshold for 2008–09. At the time of writing it remains unclear whether and how this alignment will be restored in future years, and whether alignment of the higher-rate income tax threshold (which was changed at the same time) with the UEL will go ahead as planned.

The abolition of the entry rate, the alignment of thresholds with those for income tax and the abolition of the cap on contributions have made NI look more like income tax. Important differences remain: in particular, the self-employed face a very different, and much less onerous, National Insurance system (see the Appendix). NICs are also charged on a different base: it is a tax on earnings only, whereas income tax is levied on a broader definition of income. However, the NICs base has expanded to match the income tax base more closely; this can be seen, for example, in the extension of NICs to cover benefits in kind.

Economically, there is little rationale for having separate income tax and NI systems in the UK given how weak the link is between the amount contributed and the benefits received. There is a strong argument for either merging income tax and National Insurance into a single system (as in Australia and New Zealand) or strengthening the link between contributions and benefits.

Figure 9 shows that the addition of employee and employer social security contributions to income taxes has a considerable effect on the UK's relative tax burden on labour. In contrast to Figure 7, which showed income tax alone, the UK now appears as a relatively low tax country for all three levels of earnings. However, the progressivity of income tax and NICs combined is still unusually low, especially in terms of the comparison between workers on 100% and 167% of average earnings. These comparisons should be treated with caution, however, as the link between social security contributions and benefit entitlements varies widely across countries (Disney, 2004): the distributional and work incentive effects of social insurance can look rather different if such links are taken into account. In addition, work incentives and progressivity need to be assessed in the context of the tax and benefit system as a whole: this is done in Section 4, below.

Figure 9. The burden of income tax and SSCs for a single worker, 2007



Notes: Income tax plus employee and employer social security contributions due are calculated for a single worker without dependents and expressed as a percentage of earnings plus employer social security contributions. "Average earnings" are the mean earnings of full time workers in industries C to K of the International Standard Industrial Classification. For more detail, see OECD (2008a).
Source: OECD (2008a).

3.2 Taxation of saving and wealth

The income tax treatment of saving has changed significantly over the last 30 years. The radical reforms to the rate structure of income tax, reducing the top marginal rate on savings income from 98% to 40%, are discussed above. But there have also been major changes to the tax treatment of different savings vehicles, with some forms of savings becoming more generously treated and some less so.

The two most significant changes widening the base of income tax have been the abolition of life assurance premium relief in 1984, which had given income tax relief on saving in the form of life assurance, and the steady reduction and final abolition of mortgage interest tax relief (MITR). Until 1974, MITR had been available on any size of loan, but in that year a ceiling of £25,000 was imposed. In 1983, this ceiling was increased to £30,000, which was not enough to account for general price inflation and much too little to account for house price inflation. From 1983, the ceiling remained constant, steadily reducing its real value. From 1991, this erosion of the real value of MITR was accelerated by restricting the tax rate at which relief could be claimed, to the basic rate of tax in 1991 (25%), 20% in 1994, 15% in 1995 and 10% in 1998, with the eventual abolition of the relief in April 2000.

The main extension of relatively tax-favoured saving came in 1988 with the introduction of personal pensions, which allowed the same tax treatment for individual-based pensions as had been available for employer-based occupational pensions (tax relief on contributions, no tax on fund income, tax on withdrawals apart from a lump sum not exceeding 25% of the accumulated fund). The other main extensions were the Personal Equity Plan (PEP) and the Tax-Exempt Special Savings Account (TESSA), introduced in 1987 and 1991 respectively. The PEP was originally a vehicle for direct holding of equities, but it was reformed to allow holdings of pooled investments such as unit trusts. The TESSA was a vehicle for holding interest-bearing savings accounts. Both PEP and TESSA benefited from almost the reverse tax treatment to that of pensions: saving into a PEP or TESSA was not given any tax relief, there was no tax on income or gains within the fund and there was no tax on withdrawals. The PEP and TESSA have now been superseded by the Individual Savings Account (ISA), which is similar in most important respects.

For those (very few) who can and wish to save more than £7,200 per annum (the current ISA limit) in addition to any housing or pension saving, capital gains tax (CGT) is potentially relevant. Prior to 1982, CGT was charged at a flat rate of 30% on capital gains taking no account of inflation. Indexation for inflation was introduced in 1982 and amended in 1985, and then in 1988 the flat rate of tax of 30% was replaced by the individual's marginal income tax rate. The 1998 Budget reformed the CGT system, removing indexation for future years and introducing a taper system which reduced the taxable gain for longer-held assets by up to 75%, depending on the type of asset. The taper system created predictable distortions and complexity, and the 2007 Pre-Budget Report announced the abolition of both tapering and indexation from April 2008 and a return to a system like that before 1982, in which gains are taxed at a flat rate, now 18%, with no allowance for inflation.¹²

¹² The announcement in the 2007 Pre-Budget Report met with an angry reaction from business

Capital is taxed not only directly by taxes levied on investment income and capital gains, but also by stamp duty on transactions of securities and properties, and by inheritance tax on bequests.¹³ The current form of inheritance tax was introduced in 1986 to replace capital transfer tax. When capital transfer tax had replaced estate duty eleven years earlier, gifts made during the donor's lifetime had become taxable in the same way as bequests. But differences in treatment were soon introduced and then widened, until finally the new inheritance tax once again exempted lifetime gifts except in the seven years before death, for which a sliding scale was introduced (see Appendix) in an attempt to prevent people avoiding the tax by giving away their assets shortly before death.

With all of these capital taxes, the 1980s saw moves to reduce the number of rates and/or align them with income tax rates. Thus in 1978 capital transfer tax had no fewer than 14 separate rates; since 1988 its successor, inheritance tax, has been charged (above a tax-free threshold) at a single 40% rate, equal to the higher rate of income tax. As mentioned above, capital gains tax was charged at the individual's marginal income tax rate from 1988. Four rates of stamp duty on properties were replaced by a single 1% rate in 1984. Stamp duty on shares and bonds was almost abolished entirely: the rate fell from 2% to 0.5% during the 1980s, and in 1990 the then Chancellor John Major announced that stamp duty on shares and bonds would be abolished in 1991–92 when the London Stock Exchange introduced a paperless dealing system known as TAURUS. However, this system was never introduced and stamp duty on shares and bonds remained.

Labour's first Budget following their election in 1997 announced the re-introduction of graduated rates of stamp duty on properties, and these rates were increased in the next three Budgets so that the rates of stamp duty land tax (as it has been known since 2003) are now 1%, 3% and 4%. However, what did most to bring stamp duty land tax, along with inheritance tax, to public attention was rapid growth in house prices. From 1997 to 2005, house price inflation averaged more than 10 per cent a year, far outstripping both the inheritance tax threshold (which has typically increased in line with general price inflation) and the stamp duty zero-rate threshold (which has typically been frozen in cash terms).

Table 6 illustrates the implications of this. When Labour came to power in 1997, around half of property transactions attracted stamp duty; over the following six years this rose to almost three-quarters as house prices doubled while the stamp duty threshold was unchanged. The link between house prices and inheritance tax is less direct, but since housing makes up about half of total household wealth, house prices are clearly an important determinant of how many estates are affected by inheritance tax. A widely reported concern was that rising house prices were making inheritance tax into a tax on 'ordinary people' instead of only on the very wealthy. However, although the proportion of death estates liable for inheritance tax doubled in the 10 years after Labour came to power, at 5.8 per cent of the total it remained small. And recently two factors have counteracted the spread of stamp duty and inheritance tax. One is policy reforms: in April 2005 the stamp duty land tax threshold was doubled

organisations, and entrepreneurs' relief (described in the Appendix) was introduced as a concession. These reforms are discussed in Adam (2008).

¹³ Corporation tax is also relevant for capital invested in companies, and council tax or business rates for capital invested in property. These taxes are discussed in sections 3.3 and 3.5 respectively.

(then increased by a further £50,000 for one year only from 3 September 2008), and in October 2007 unused inheritance tax nil-rate bands became transferable to a surviving spouse or civil partner, reducing the number of estates liable to tax by a third and removing the threat of future inheritance tax for many couples. The other is that property prices have (at the time of writing) stopped soaring and started falling.

Table 6: Stamp duty, inheritance tax and house prices

Year ^a	Average house price ^b	Inheritance tax threshold	Stamp duty (land tax) zero-rate threshold ^c	Death estates liable for inheritance tax	Property transactions liable for stamp duty ^d
1993	£62,333	£140,000	£60,000	2.9%	42%
1994	£64,787	£150,000	£60,000	3.3%	43%
1995	£65,644	£154,000	£60,000	3.4%	43%
1996	£70,626	£200,000	£60,000	2.8%	45%
1997	£76,103	£215,000	£60,000	2.9%	49%
1998	£81,774	£223,000	£60,000	2.8%	53%
1999	£92,521	£231,000	£60,000	3.3%	58%
2000	£101,550	£234,000	£60,000	3.7%	62%
2001	£112,835	£242,000	£60,000	3.8%	69%
2002	£128,265	£250,000	£60,000	4.1%	73%
2003	£155,627	£255,000	£60,000	4.8%	73%
2004	£180,248	£263,000	£60,000	5.4%	71%
2005	£190,760	£275,000	£120,000	5.5%	55%
2006	£204,813	£285,000	£125,000	5.8%	59%
2007	£223,405	£300,000	£125,000	5.9%	61%

^aYears are fiscal years (so 1993 means 1993–94) except average house prices, which are for calendar years, and the 2007 figure for the proportion of estates paying inheritance tax, which takes the number of taxpayers in financial year 2007–08 but as a proportion of 2007 (calendar year) deaths, the latest available.

^bSimple average, not mix-adjusted, so changes reflect changes in the types of property bought as well as changes in the price of a given type of property.

^cThreshold for residential properties not in disadvantaged areas.

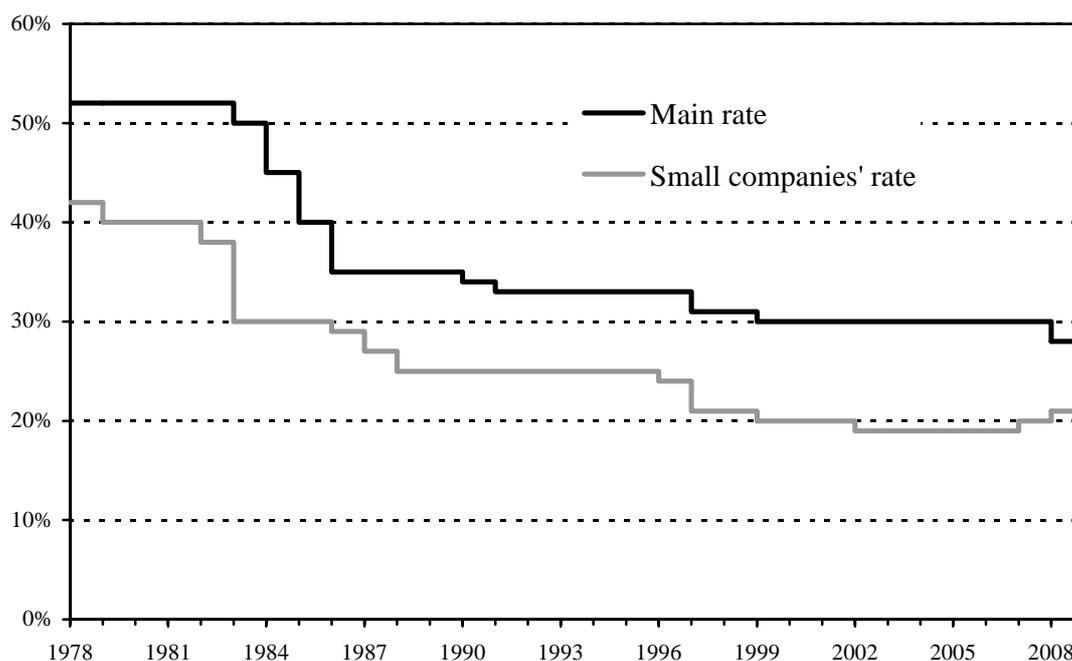
^dExcludes Scotland. Other columns are UK-wide.

Sources: Average house prices from Communities and Local Government Housing Statistics Table 503 (<http://www.communities.gov.uk/housing/housingresearch/housingstatistics/housingstatisticsby/housingmarket/livetables/>); thresholds and numbers of taxpayers from HMRC Statistics Tables A.8, A.9, 1.4 and 16.5 (<http://www.hmrc.gov.uk/stats/>); total number of registered deaths from Monthly Digest of Statistics Table 2.4 (www.statistics.gov.uk) except the 2007 figure, which is calculated using figures from Office for National Statistics (<http://www.statistics.gov.uk/cci/nugget.asp?ID=952>), the General Register Office for Scotland (<http://www.gro-scotland.gov.uk/files1/stats/death-table1.xls>) and the Northern Ireland Statistics and Research Agency (http://www.nisra.gov.uk/archive/demography/publications/births_deaths/deaths_2007.pdf).

3.3 Taxation of company profits

Figure 10 charts the evolution of statutory rates of corporation tax in the UK, showing a pattern of decline that is common amongst OECD countries.

Figure 10. Corporation tax rates



Notes: Years are fiscal years, so 2008 means 2008–09. Small companies' rate applies to companies with profits below a certain threshold, currently £300,000, with a system of relief (described in the Appendix) between that and a higher threshold, currently £1,500,000, above which the main rate applies. From 2000–01 to 2005–06 a lower rate applied to companies with profits below £10,000, as described in the text.

Source: HMRC, http://www.hmrc.gov.uk/stats/corporate_tax/rates-of-tax.pdf.

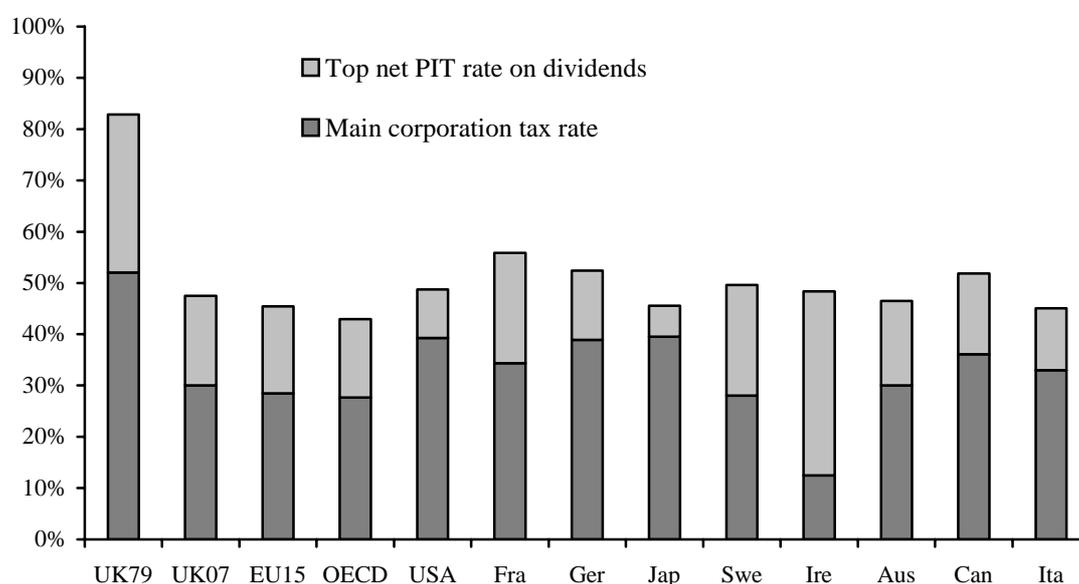
In the 18 years of Conservative government prior to 1997, the biggest reform to corporation tax was the 1984 Budget. This announced a series of cuts in the main corporation tax rate, taking it from 52% to 35% (further reduced to 33% by 1991–92), and a very generous system of deductions for capital investment (100% of investment in plant and machinery could be deducted from taxable profits in the year the investment was made) was replaced by a less generous one (25% of the remaining value each year for plant and machinery). The 1984 reform was intended to be broadly revenue-neutral.

The taxation of company profits changed significantly after 1997. The incoming Labour government changed the way that dividend income was taxed: dividend tax credits, a deduction from income tax given to reflect the corporation tax already paid on the profits being distributed, ceased to be payable to certain shareholders (notably pension funds) that were already exempt from income tax. This was followed in 1999 with a reform of the payments system for corporation tax (see Appendix). In its first five years in office, the Labour government also cut the main corporation tax rate from 33% to 30% and the small companies' rate from 24% to 19%.¹⁴ The 2007 Budget cut the main rate further to 28% and reduced capital allowances for most plant and machinery from 25% to 20%; but at the same time it departed from the previous

¹⁴ Despite its name, the small companies' rate applies not to companies that are small in a conventional sense, but to those with profits below a particular threshold. The threshold has been set at £300,000 since 1994–95, up from £60,000 in 1978–79 level.

trend by announcing that the small companies' rate would rise in stages from 19% to 22% by 2009–10 and that the first £50,000 per year of investment in plant and machinery would be immediately deductible from profits. Figure 11 provides a comparison of the rates of corporate and shareholder taxes in the UK (before the Budget 2007 reforms) with those in other OECD countries, as well as showing the cuts in the UK since 1979. The bottom part of each bar shows the main corporation tax rate, while the top part shows the additional tax (net of dividend tax credit or equivalent relief) paid by a shareholder resident in the same country who pays the top rate of personal income tax. The UK reduction since 1979 is dramatic, reflecting both the cut in corporation tax rates and the very substantial cuts in the top rate of personal income tax.¹⁵ The UK corporation tax rate is slightly above the OECD and EU 15 averages but below the rates in the other G7 countries. This comparison remains true when shareholder taxes are added, except that the UK's rate is then higher than Italy's and Japan's.

Figure 11. Taxation of companies and shareholders, 2007



Notes: The calculation is made for dividends paid by a resident company to a resident personal shareholder who is subject to the top marginal income tax rate. It includes the corporation tax paid on the underlying profits and the personal income tax on the dividends, taking account of dividend tax credits or equivalent relief.

Source: OECD Tax Database: <http://www.oecd.org/ctp/taxdatabase>

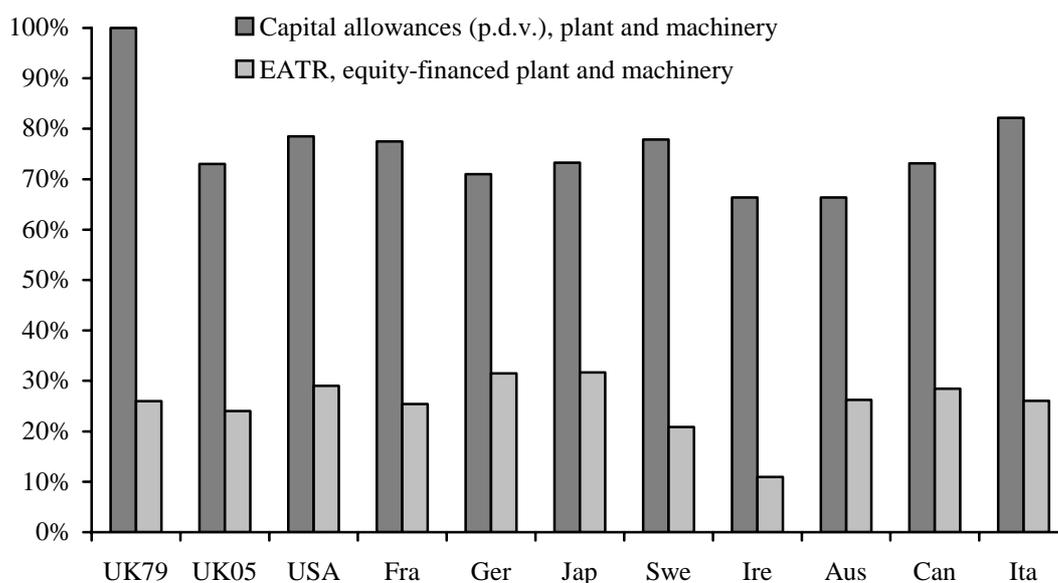
Of course, corporation tax revenue depends on the base as well as the rate. Figure 12 shows the present discounted value¹⁶ of capital allowances for depreciation, the principal deduction from the corporate tax base. It also reports the effective average tax rate (EATR), which combines statutory rates of corporation tax with the deductions from the tax base to estimate (under certain assumptions) the proportion of

¹⁵ The fall would be even more dramatic if the comparison were made with 1978, as the personal income tax on dividends was even higher than in 1979.

¹⁶ This is the sum of future amounts, but reduced to take account of the fact that income in future years is less valuable than current income, as reflected in the interest rate that saved income earns.

profits (net of assumed true economic depreciation) that a company can expect to pay in corporate taxes. This shows the substantial cut in UK capital allowances from 1979 to 2005, but also shows that the cut in the headline rate was sufficient to outweigh this and reduce the EATR. Looking across countries, it is clear that the UK's capital allowances are fairly similar to those in the other countries shown, and so it is not surprising that its EATR is (like its statutory corporate tax rate) lower than in the other G7 countries.¹⁷

Figure 12. Capital allowances and effective average tax rates, 2005



Notes: Corporation tax only. Assumes economic depreciation rate of 12.25%, inflation of 3.5%, real interest rate of 10% and expected rate of economic profit of 10% (implying a financial return of 20%).
 Source: Tables A2 and A9 of IFS corporate tax rate data
 (http://www.ifs.org.uk/publications.php?publication_id=3210)

In April 2000, a tax credit for R&D was introduced (see Appendix for details). At the same time, a 10% lower rate was introduced for companies with less than £10,000 of taxable profits, and this lower rate was cut to zero in April 2002. This last tax cut came as a surprise, with potentially large costs if self-employed individuals registered as companies to reduce their tax liabilities.¹⁸ Having apparently failed to anticipate the scale of this effect, the government swiftly reversed the reform. In April 2004, the zero rate was abolished for distributed profits, removing much of the tax advantage but at a cost of greater complexity; and so in December 2005, the zero rate was abolished for retained profits as well. This takes us back to where we were before April 2000, with the standard small companies' rate applying to all firms with profits up to £300,000, regardless of whether the profits are paid out as dividends or retained by the firm. In the mean time, there has been unnecessary upheaval in the tax system, and thousands of individuals have incurred effort and expense to establish legally

¹⁷ Data for OECD and EU15 averages are not available for the measures used in Figure 12.

¹⁸ See [Blow et al. \(2002\)](#) for a view at the time.

incorporated businesses that they would not otherwise have set up. This episode provides a clear illustration of how not to make tax policy.¹⁹

3.4 Indirect taxes

Value added tax

As noted earlier, the most dramatic shift in revenue-raising over the last 30 years has been the growth in VAT, which has doubled its share of total tax revenue. The bulk of this change occurred in 1979 when the incoming Conservative government raised the standard rate of VAT from 8% to 15% to pay for reductions in the basic rate and higher rates of income tax. The rate was further increased from 15% to 17.5% in 1991, to pay for a reduction in the community charge (poll tax).

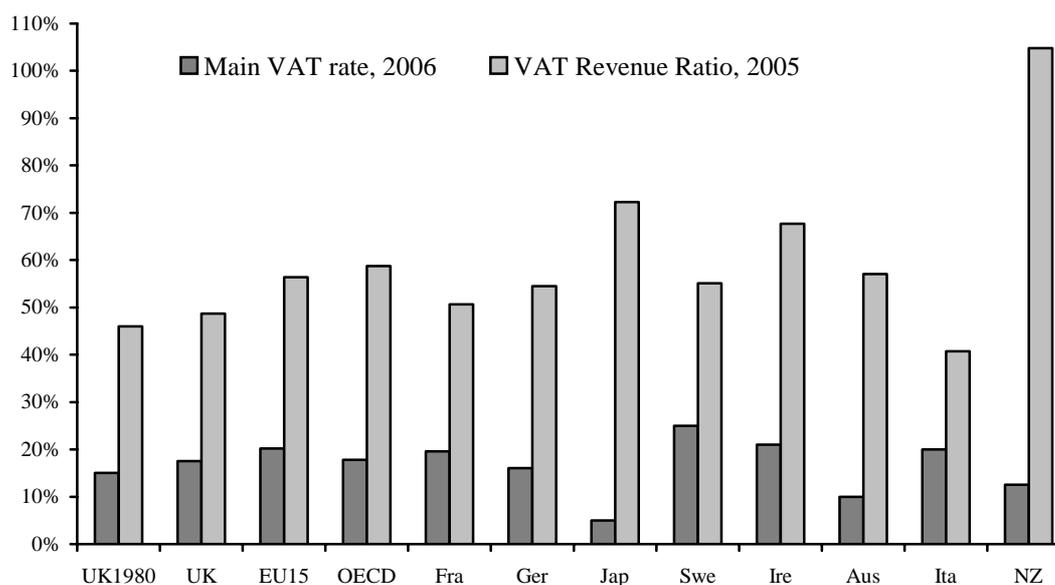
There have been a number of (mostly minor) extensions to the base of VAT over the years. Perhaps the most significant was the extension of VAT to cover domestic fuel and power from April 1994, then at a reduced rate of 8%. The original intention was to increase this to the full 17.5% rate a year later, but this second stage of reform was abandoned in the face of fierce political opposition, and in fact the reduced rate was cut from 8% to 5% in 1997, fulfilling a pre-election promise by the Labour Party. The reduced rate has since been extended to cover a few other goods which were previously subject to VAT at the standard rate.

The EU is a major player in VAT policy – indeed, the UK adopted a VAT in 1973 largely because it was a precondition for entry to what was then the European Economic Community. As well as setting out standardised definitions and rules, the EU mandates a minimum standard rate of 15%, restricts the use of reduced rates, forbids the extension of zero-rating to new items, and insists on various exemptions (where, in contrast to zero-rating, VAT paid on inputs is not refunded).

The UK in fact makes less use of reduced VAT rates than many other EU countries, while generally conforming to EU norms on exemptions. However, far more goods are subject to no VAT at all in the UK than in almost any other country: for example, the UK and Ireland are the only EU countries to apply a zero rate to most food, water, books or children's clothes. Cost estimates of the various VAT reliefs are provided in the Appendix. Figure 13 provides an international comparison of VAT rates and bases. It shows the increase in both the VAT rate and the base (measured by VAT revenue as a percentage of what it would be if the main rate were applied to all consumption) since 1980, but also shows that many countries – and especially New Zealand – have found it possible to apply their standard rate of VAT to a much wider range of goods and services.

¹⁹ See Crawford and Freedman (this volume) and Bond (2006) for more discussion.

Figure 13. VAT rates and bases



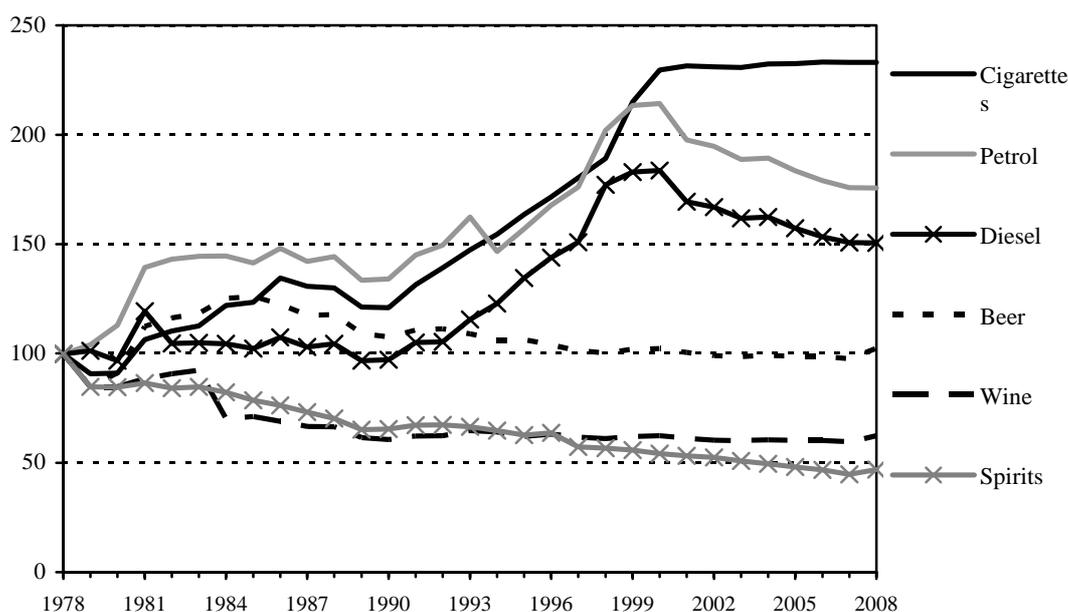
Notes: VAT Revenue Ratio is revenue / (main rate x national consumption), where national consumption is final consumption expenditure as measured in national accounts less VAT revenue. The United States does not have a VAT and is excluded from the data. It is possible for the VAT Revenue Ratio to exceed 100% when VAT is levied on items that are not recorded as consumption in the national accounts, such as new houses in New Zealand.

Source: OECD (2008b)

Excisable goods

Alcohol, tobacco and road fuels are subject to significant excise duties as well as VAT. Figure 14 shows how the levels of these excise duties have evolved relative to general price inflation, while Table 7 shows how much of the price of these commodities is made up of indirect tax (VAT and excise duty). Between 1978 and 2000, taxes on cigarettes and road fuels increased rapidly, especially during the 1990s, when both these commodity groups were covered by government commitments to substantial annual real increases in excise duty. Since 2000, however, duty on cigarettes has increased only in line with inflation, while fuel duties have fallen by more than a fifth in real terms. Nevertheless, real duty rates on cigarettes and fuel remain substantially higher than 30 years ago, in addition to the increase in VAT from 8% to 17.5% – although the pre-tax price of cigarettes has also increased sharply, so tax as a percentage of price has not increased as much as might be expected.

Figure 14. Real levels of excise duties (1978=100)



Note: Assumes beer at 3.9% abv, wine not exceeding 15% abv, and spirits at 40% abv; petrol is leaded (4*) up to 1993, premium unleaded from 1994 to 2000, and ultra-low sulphur from 2001 onwards; diesel is ultra-low sulphur from 1999 onwards. Calculations are for April of each year, except that wine and spirits are for January from 1995 to 1999.

Sources: Duty rates from HMRC website (<http://www.hmrc.gov.uk/>), HM Treasury (2002) and various HMRC / HM Customs and Excise *Annual Reports*; Retail Prices Index from National Statistics (<http://www.statistics.gov.uk>)

Table 7. Total tax as a percentage of retail price

Year ^a	Cigarettes ^b	Beer ^c	Wine ^d	Spirits ^e	Petrol ^f	Diesel ^g
1978	72	30	45	78	47	49
1988	77	35	48	69	68	63
1998	81	30	50	63	82	82
2008	79	29	55	60	62	58

^aFigures are for April of each year, except that wine and spirits figures for 1998 are for January.

^bPacket of 20.

^cPint of bitter (3.9% abv) in licensed premises.

^d75cl bottle of table wine (not exceeding 15% abv) in a retail outlet.

^e70cl bottle of whisky (40% abv) in a retail outlet.

^fLitre of fuel: leaded (4*) in 1978 and 1988, premium unleaded in 1998 and ultra-low sulphur in 2008.

^gLitre of fuel: ultra-low sulphur in 2008.

Sources: Duty (and VAT rates) as for Figure 14. Prices: cigarettes and beer from National Statistics, *Consumer Price Indices* (<http://www.statistics.gov.uk>), except that the 1978 prices are estimated by downrating the *Consumer Price Indices* prices for 1987 using the relevant sub-indices of the Retail Prices Index (RPI); wine and spirits from UKTradeInfo 2008 Factsheet (<http://www.uktradeinfo.co.uk/index.cfm?task=factualcohol>), except that 1978 prices come from HM Treasury (2002), with the wine price downrated from the 1979 price by the wine & spirits sub-index of the RPI; petrol and diesel from HM Treasury (2002) for 1978 and 1988 and Table 4.1 of Department for Business, Enterprise and Regulatory Reform Quarterly Energy Prices (<http://stats.berr.gov.uk/energystats/qep411.xls>) for 1998 and 2008.

The pattern for alcoholic drink is very different. The tax rate on beer has changed little, while the real level of duty on spirits has fallen steadily and is now only half what it was in 1978. Duty on wine fell in real terms through the 1980s and has changed little since; but since the pre-tax price of wine has fallen sharply over time and VAT has risen, tax makes up more of the price of a bottle now than it did 30 years ago. As shown in Table 8, implied duty rates per litre of pure alcohol are now much closer together than they were in 1978, but substantial variation persists. This may seem puzzling since a natural starting point for a tax regime for alcoholic drink would be to impose the same level of tax per unit of alcohol, regardless of the form in which it is consumed. Variation in tax rates might be justified if one form of alcohol were more likely to lead to anti-social behaviour, for example, but such arguments are rarely made. The truth appears to be that the current system is more a product of history than of a coherent rationale, and there is obvious merit in reviewing it. Budget 2008 increased all alcohol duties by 6 per cent above inflation and announced further real increases of 2 per cent a year until 2013, but did not change the relativities between different forms of alcohol.

Table 8. Implied duty rates per litre of pure alcohol (April 2008 prices)

Item	1978	1988	1998	2008
Beer	£14.61	£17.25	£14.66	£14.96
Wine ^a	£25.85	£17.26	£15.86	£16.19
Spirits	£45.29	£31.90	£25.74	£21.35

^aWine of strength 12% abv.

Source: Authors' calculations from duty rates sourced as for Figure 14.

The EU mandates minimum levels of excise duties for its members, but in fact UK duties on cigarettes and petrol are the highest in the EU, and those on alcohol among the highest.²⁰ The existence of relatively high tax rates in the UK on some easily portable commodities could lead to loss of revenue through cross-border shopping. While it is possible that the UK tax rates are so high that reductions in those rates would encourage enough additional UK purchases to produce a net increase in revenue, the available evidence for alcohol suggests that this is unlikely.²¹ Only in the case of spirits is it likely that the current tax rate is high enough for a reduction to have little or no revenue cost, which might help explain why duty on spirits has been consistently cut in real terms until recently.

Environmental taxes

Environmental taxes are difficult to define precisely, since all taxes affect economic activity and almost all economic activity has some environmental impact. However, a classification is attempted in the ONS's *Environmental Accounts*; on that basis environmental taxes are forecast to raise £40.6 billion in 2008–09, some 7.5% of total tax revenue or 2.8% of GDP. This is somewhat reduced from a peak in the late 1990s, and (as most recently measured) similar to the EU average but above the OECD

²⁰ See UKTradeInfo Factsheets (<http://www.uktradeinfo.co.uk/index.cfm?task=factsheets>) and European Commission Excise Duty Tables (http://ec.europa.eu/taxation_customs/taxation/excise_duties/gen_overview/index_en.htm).

²¹ See Crawford et al. (1999) and Walker and Huang (2003).

average.²² More than three quarters of this revenue is accounted for by fuel tax (duty plus VAT on the duty), and the other sizeable chunk is vehicle excise duty, a license fee for road vehicles. Thus taxes on motoring account for more than 90% of environmental tax revenues. Since 1994, several new environmental taxes have been introduced, including air passenger duty (1994), landfill tax (1996), climate change levy (2001) and aggregates levy (2002). These are described in the Appendix, but even air passenger duty, by far the largest of them, is forecast to raise only £2.1 billion in 2008–09.

The amount of revenue raised is rather limited as an indicator of the environmental impact of a tax. The more successful the tax is in changing behaviour, the less it will raise. It also matters how well the tax targets environmentally damaging behaviour rather than some broader activity. For example, differential fuel duty rates have been used extensively to encourage a switch to cleaner fuels. Similarly, vehicle excise duty changed in 1999 from a flat rate charge to one dependent on engine size, and then in 2001 to one based on vehicle emissions; since then the differential between high-emission and low-emission vehicles has repeatedly been widened. Air passenger duty is being reformed from a per-passenger tax to a per-plane flight tax in order to target environmental damage more accurately. Such reforms can be designed either to increase or to reduce revenues while encouraging less environmentally harmful activities. Nevertheless, it remains fair to say that environmental taxation in the UK is dominated by taxes on motoring.

3.5 Local taxation

Thirty years ago, local taxes in the UK consisted of domestic rates (on residential property) and business rates (on business property). However, this was changed dramatically in 1990 when business rates (described in the Appendix) were taken from local to national control and domestic rates were replaced by the community charge (poll tax), a flat-rate per-person levy.²³ The poll tax was introduced in April 1990 in England and Wales after a one-year trial in Scotland, but was so unpopular that the government quickly announced that it would be replaced. The tax was based on the fact that an individual lived in a particular local authority, rather than on the value of the property occupied or the individual's ability to pay (subject to some exemptions and reliefs). In the 1991 Budget, the government increased VAT from 15% to 17.5% to pay for a large reduction in the burden of the poll tax, which resulted in a corresponding rise in the level of central government grant to local authorities. The poll tax was abolished in 1993 to be replaced by the council tax, which is based mainly upon the value of the property occupied, with some exemptions and reliefs (outlined in the Appendix).

²² As a share of GDP, environmental taxes in the UK were marginally below both the EU27 and EU15 weighted averages in 2006 (authors' calculations using data from Eurostat, *Environmental Accounts*, http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/data/envir/env/env_acc&language=en&product=EU_MAIN_TREE&rot=EU_MAIN_TREE&scrollto=0). In contrast, it was substantially above the OECD weighted average and slightly above the unweighted average in 2004 (data from the OECD/EEA database on instruments used for environmental policy and natural resources management, <http://www2.oecd.org/ecoinst/queries/index.htm>)

²³ These reforms were not introduced in Northern Ireland, which retained a system of locally varying business and domestic rates.

The result of these changes, and particularly the centralization of business rates, is that local services are now largely financed by central government, with the only significant local tax left – the council tax – financing only around one sixth of total local spending (although councils also raise a larger amount from non-tax sources such as user charges). As shown in Figure 5, this leaves UK taxation unusually centralised, with only 5% of tax revenues raised locally. At the margin, spending an extra pound locally requires the raising of an extra pound locally, giving local authorities appropriate incentives overall. But this extra money must come entirely from council tax, which bears particularly heavily on those groups (such as pensioners) with high property values relative to their incomes and hence limits local authorities' willingness to increase expenditure. Furthermore, while universal capping of local authority spending ended in 1999–2000, strengthened selective capping powers were retained, and have been used in a few cases since 2004–05. The threat and practice of capping are another limitation on local authorities' financial autonomy.

4. Economic aspects of the UK tax and benefit system

This section assesses some key features of the UK tax system as a whole and how these have changed over the last 30 years. Tax systems can be assessed in terms of their revenue raising power, their effects on efficiency and equity, and their complexity and compliance costs. Section 2 described the revenue effects of the tax system and this is not pursued further here. Also, despite its undoubted importance, the complexity of the tax system and the compliance burden that it places on taxpayers is not examined here because of the lack of robust statistical measures that allow comparisons across time and countries.²⁴ The focus of this section will, therefore, be on the traditional economic analysis of the tax system on efficiency and equity, examining its effects on the income distribution and on incentives to work, save and invest.

The division between taxes and benefits seems rather artificial in this context: it is the overall distributional and incentive effects created by all different taxes and benefits together that matters, and we would not wish to change our analysis according to whether tax credits were counted as deductions from tax or additions to benefits, for example. In this section we therefore consider the tax and benefit system as a whole.²⁵

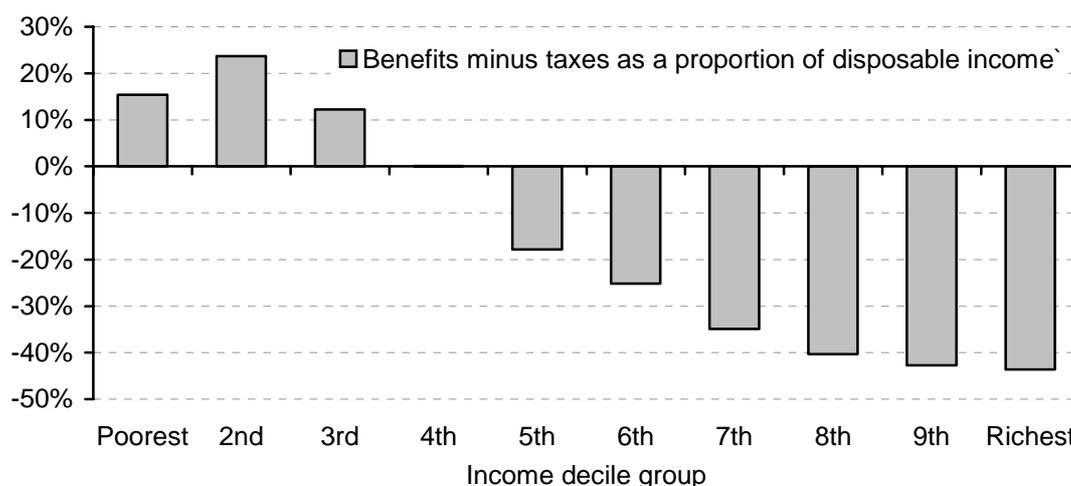
4.1. The distribution of income

The UK tax and benefit system transfers money from high-income to low-income households. Figure 15 shows that the tax and benefit system overall increases the average incomes of the poorest three-tenths of households, while the richest three-fifths make a net contribution on average.

²⁴ But see Shaw, Slemrod and Whiting (this volume) and Evans (this volume) for discussion.

²⁵ Laws passed and public services provided can also have distributional and incentive effects. Ideally these too would be taken into account, but in this chapter we restrict our scope to financial transfers. We treat National Insurance contributions purely as a tax, ignoring any link to future benefit entitlements that might change their distributional and incentive effects. We do not believe that this materially affects the analysis for the UK.

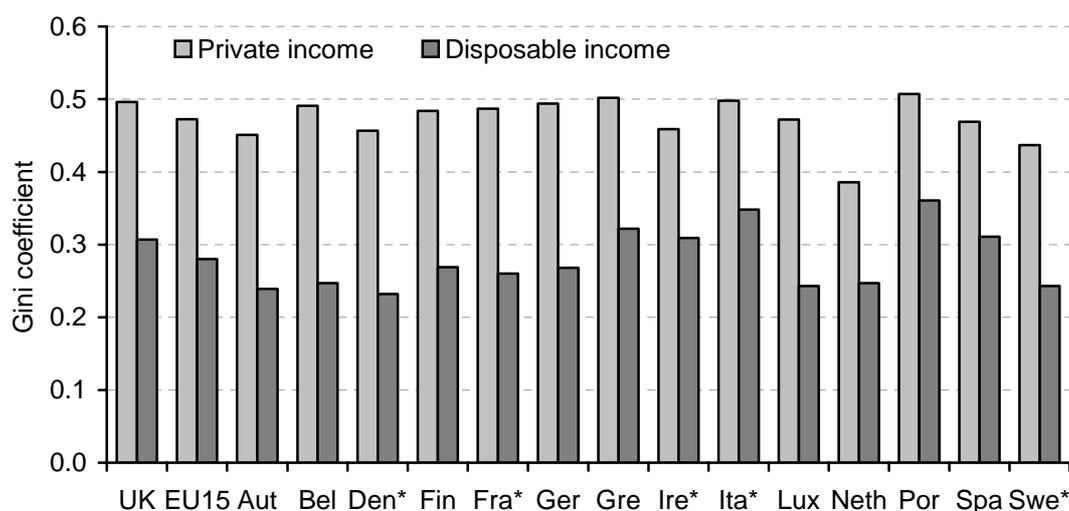
Figure 15. Distributional impact of the UK tax and benefit system in 2006–07



Notes: Excludes corporation tax, inheritance tax, stamp duty on securities and some smaller taxes. Income decile groups are derived by dividing all households into 10 equal-sized groups according to disposable income (ie after direct taxes and benefits but before indirect taxes) adjusted for family size using the McClements equivalence scale. Source: Authors' calculations from Jones (2008).

Income inequality is therefore clearly lower after taxes and benefits than before. Figure 16 shows the Gini coefficient, a standard measure of inequality that can take values between zero (everyone has equal income) and one (one person has all the income in the economy), before and after personal direct taxes and benefits in the UK and the other EU15 countries in 2003, the latest year available.²⁶ In that year, personal direct taxes and benefits reduced the Gini coefficient by 0.19 in the UK, very similar to the EU15 average, but this reduction was from a slightly higher starting level of private income inequality.

Figure 16. Effect of tax and benefit system on inequality in the EU15, 2003



²⁶ The Gini coefficient is half of the average income gap between all pairs of individuals as a fraction of average income. See, for example, Barr (2004) for an introduction and Sen (1973, 1992) for fuller discussion.

Notes: Difference between 'private' and 'disposable' income represents direct personal taxes and benefits: the calculations exclude indirect taxes, most 'business taxes' (notably corporation tax and business rates, though not employer National Insurance contributions) and most capital taxes (notably inheritance tax, stamp duties and capital gains tax).. Countries indicated with * use figures for 2001, the latest available. The EU15 (unweighted) average uses the most recent figure available for each country.

Source: EUROMOD statistics on Distribution and Decomposition of Disposable Income, accessed at <http://www.iser.essex.ac.uk/msu/emod/statistics/> using EUROMOD version no. D1 (June 2007).

The UK has seen an exceptionally large rise in income inequality since 1978. Figure 17 shows how the Gini coefficient for different measures of income, corresponding to different stages of the redistributive process, has changed since 1978.

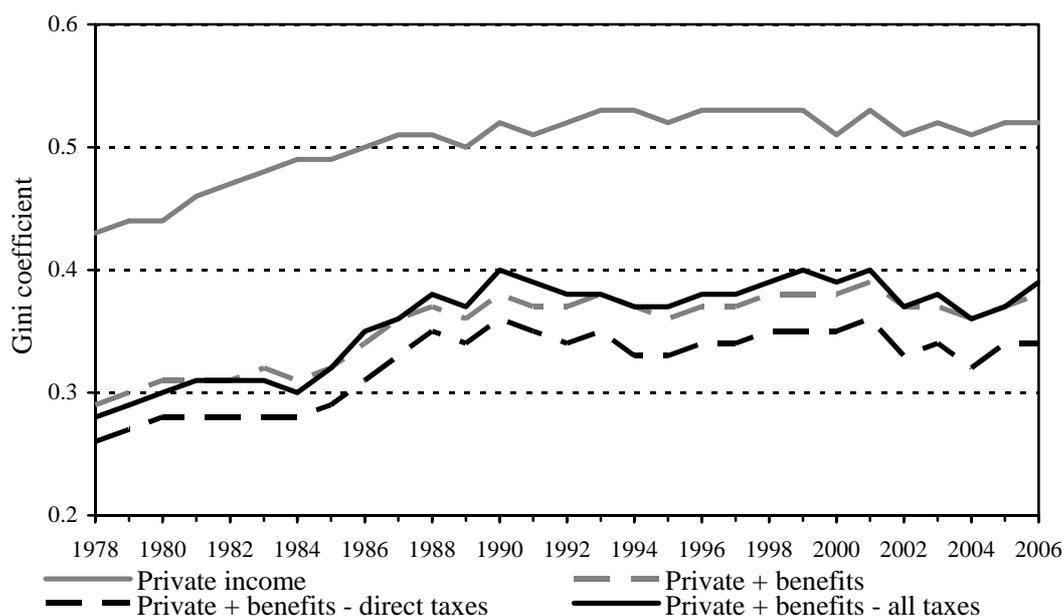
The Gini coefficient is around 0.13 higher for private incomes than for incomes after all taxes and benefits.²⁷ It is clear from the Figure that the benefit system is responsible for the bulk of this reduction in inequality, with direct taxes also reducing inequality slightly and indirect taxes appearing to increase inequality slightly. This last point requires some qualification, however.

Indirect taxes bear heavily on those with high expenditures, and will clearly target those with high incomes in any particular year less precisely than, say, an income tax does. But much low income observed at a point in time is temporary and need not reflect low lifetime living standards: while some people are persistently poor, many have volatile earnings, are temporarily unemployed, are studying, are taking a break from the labour market to raise children, are retired with hefty savings, etc. People's ability to borrow and save means that those with low current incomes will typically have high expenditure relative to their income, and many of those who in a particular year have low income but pay a lot in indirect taxes are people we would not ordinarily think of as 'poor'. Over a lifetime, income and expenditure must be equal (apart from inheritances), and indeed annual expenditure is arguably better than annual income as a guide to lifetime living standards.²⁸ If we were to look at the effect of the tax and benefit system on lifetime income inequality, the contrast between 'progressive' direct taxes and 'regressive' indirect taxes would appear much less stark. This is not to say that indirect taxes are progressive relative to lifetime income – that depends on whether goods consumed disproportionately by the lifetime-poor are taxed more heavily (via tobacco duty, for example) or less heavily (as with VAT zero-rating of most food) than other goods – but certainly their effect on the distribution of annual income gives only a partial, and arguably misleading, impression of their overall effect.

²⁷ This is a smaller reduction than that shown in the UK bars of Figure 15, largely because Figure 15 excludes indirect taxes, which increase the measured Gini coefficient. The effect of including indirect taxes is shown in Figure 16.

²⁸ Studies that have examined the use of expenditure rather than income for looking at distributional outcomes include Goodman et al (1997), Blundell and Preston (1998), Meyer and Sullivan (2003, 2004), Goodman and Oldfield (2004) and Brewer et al (2006).

Figure 17. Inequality of incomes at different stages of the redistributive process



Notes: Excludes corporation tax, inheritance tax, stamp duty on securities and some smaller taxes. Years are fiscal years, so 2006 means 2006–07. Sources: Lakin (2002) and Jones (2008).

If we look at the changes over time shown in Figure 17, the amount by which taxes and benefits reduce the Gini coefficient (for annual income) has fluctuated around an average of 0.15, and is little different at the end of the period from in 1997 or indeed 1978. This does not mean, however, that the tax and benefit systems in place at the start and end of the period were equally progressive. The amount of redistribution that a given tax and benefit system achieves depends on the economy to which it is applied, and there have been major changes in the UK economy since 1978 – not least the sharp increase in private income inequality shown in the Figure. Other things being equal, a progressive tax and benefit system will redistribute more if applied to a more unequal income distribution, so the fact that the 1978–79 and 2006–07 tax and benefit systems reduce the Gini coefficient by the same amount suggests that reforms to the tax and benefit system may have been regressive, offsetting the tendency for the tax and benefit system to redistribute more as inequality rose.

To measure the effect of policy reforms on inequality more precisely, we use a tax and benefit micro-simulation model to look at how different the Gini coefficient would have been if previous years’ tax and benefit systems had been kept unreformed.²⁹ However, doing this raises the question of exactly what is meant by “unreformed”: would ‘no change’ mean tax thresholds and benefit rates keeping pace with price inflation, or with growth in average earnings, GDP, or something else? We consider three scenarios for a ‘no change’ baseline: one in which all taxes and benefits are uprated in line with the Retail Prices Index (RPI) so that there is no real-terms change in rates and thresholds, a second in which they are increased in line with

²⁹ The methodology here follows Clark and Leicester (2004): the analysis here updates that work, incorporates local taxes and adds a third baseline. More information on the methodology and results can be found in Adam and Browne (forthcoming).

growth in GDP per capita, and a third in which tax thresholds (and rates of excise duties and council tax) are uprated in line with the RPI and benefits (and tax credits) in line with per-capita GDP growth.³⁰ The rationale for this third scenario is two-fold: first, it corresponds reasonably closely to the government's standard uprating practice prior to 1978; and second, reforms since 1978 have had relatively little impact on the overall budgetary position if measured relative to this baseline (much less than relative to universal price-uprating or universal GDP-uprating), which seems like a relatively 'neutral' counterfactual to choose.³¹

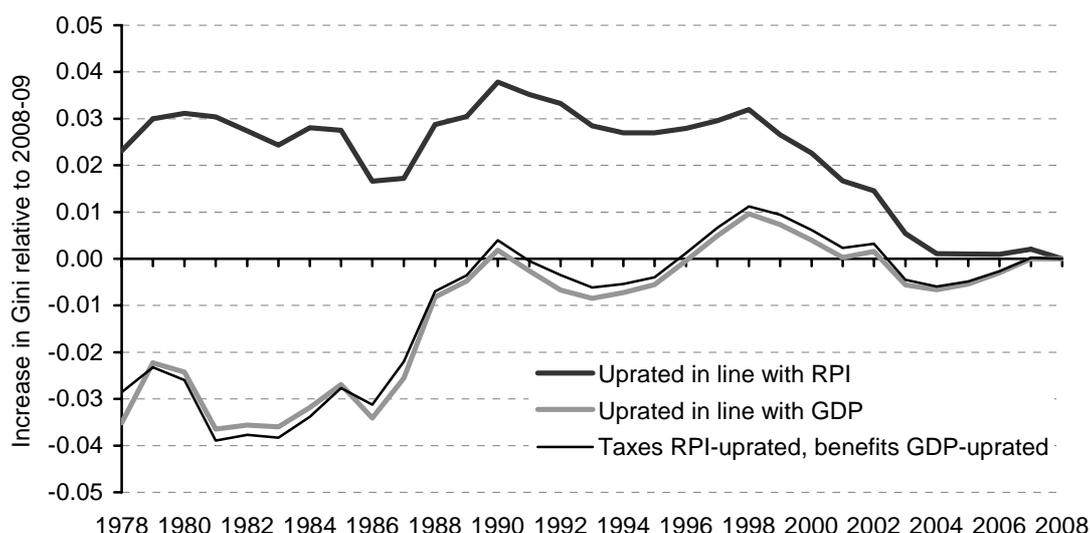
Figure 18 shows how different the Gini coefficient in 2008 would be if previous tax and benefit systems had been left in place and uprated according to these three baseline scenarios. It shows, for example, that the Gini coefficient would be about 0.03 higher if an RPI-indexed 1998 tax and benefit system were now in place and therefore that reforms relative to RPI-indexation since 1998 acted to reduce the Gini coefficient by 0.03.³² It is clear that the choice of baseline is of crucial importance. The 2008 tax and benefit system reduces inequality considerably more than the 1978 system would have done if it had been price-indexed, but by much less than if benefits had been GDP-indexed after 1978. (Whether tax thresholds are increased in line with prices or GDP does not significantly alter this conclusion.) Indeed, relative to a GDP-uprated baseline, tax and benefit reforms from 1978 to 2008 acted to increase the Gini coefficient by about 0.035, and accounted for around a third of the total increase in disposable income inequality up to 2006. What is clear, however, is that Labour's reforms have been more progressive than the Conservatives'. Labour's reforms since 1997 have had a similar effect on overall inequality as increasing benefit rates in line with GDP, while the Conservatives' reforms were roughly equivalent to increasing them in line with inflation.

³⁰ For brevity, the rest of this section refers to uprating in line with GDP rather than GDP per capita.

³¹ Government borrowing in 2008–09 would be £47.3bn lower if a price-uprated 1978 tax and benefit system were in place and £39.7bn higher under a GDP-uprated system, but only £10.2bn higher in our third scenario. Note again that these estimates, like Figure 18, ignore changes to most 'business taxes' (notably corporation tax and business rates) and capital taxes (notably inheritance tax, stamp duties and capital gains tax).

³² All the tax and benefit systems are applied to a simulated 2008 population (actually a surveyed 2005–06 population with monetary values appropriately adjusted: earnings uprated in line with average earnings, rents with average rents, etc). Clark and Leicester (2004) show that the effect of reforms looks very similar whichever year's population is used.

Figure 18. Effect on the Gini coefficient of replacing the 2008–09 tax and benefit system with those from previous years



Notes: Gini coefficients are for post-tax income, after direct and indirect personal taxes and benefits: excludes most ‘business taxes’ (notably corporation tax and business rates, though not employer National Insurance contributions) and capital taxes (notably inheritance tax, stamp duties and capital gains tax). Taxes and benefits are those applying in April of the year shown.
Source: Authors’ calculations using the IFS tax and benefit micro-simulation model, TAXBEN, run on uprated data from the 2005–06 Expenditure and Food Survey.

One caveat to these findings is needed. When looking at what would have happened to inequality as the economy evolved if the tax and benefit system had not changed, we assume that tax and benefit reforms did not themselves affect the evolution of the economy. But individuals and firms respond to the incentives created by the tax and benefit system, so this assumption is unlikely to be accurate in practice. The true effect of tax and benefit reforms on inequality, therefore, depends not only on their direct redistributive effects, but also on how they affected people’s decisions to work, save, and so on. These indirect effects depend partly on how far individuals respond to such incentives, which is difficult to estimate; but we can more easily estimate how the incentives themselves have been changed by tax and benefit reforms, and it is to this question that we now turn.

4.2. Work incentives

Commentators often express concern about the effect of high income tax rates on work incentives, although such complaints faded somewhat as rates were reduced during the 1980s. But means-tested benefits and tax credits, which have expanded significantly in recent years, can be just as important: the prospect of losing such support as income rises can be a crucial factor in the work decisions of low-income families. And indirect taxes can be as important as direct taxes: if the attractiveness of working is determined by the amount of goods and services that can be bought with the wage earned, a tax that reduces all earnings and a tax that increases all prices will clearly have very similar effects.³³ Looking at financial work incentives is not just a

³³ In what follows, we incorporate indirect taxes by estimating, for each individual, the average tax rate paid on their household’s spending. We can therefore allow for how large the ‘wedge’ between income

matter of inspecting the income tax schedule: the whole tax and benefit system must be taken into account.

We should also distinguish between the incentive to be in work at all as opposed to not working – which can be measured by the participation tax rate (PTR), the proportion of total earnings taken in tax and withdrawn benefits – and the incentive for those already in work to increase their earnings slightly, whether by working more hours, seeking promotion or getting a better-paid job – which can be measured by the effective marginal tax rate (EMTR), the proportion of a small increase in earnings taken in tax and withdrawn benefits. High PTRs among non-workers are often referred to as the unemployment trap; high EMTRs among low-income families are known as the poverty trap.³⁴

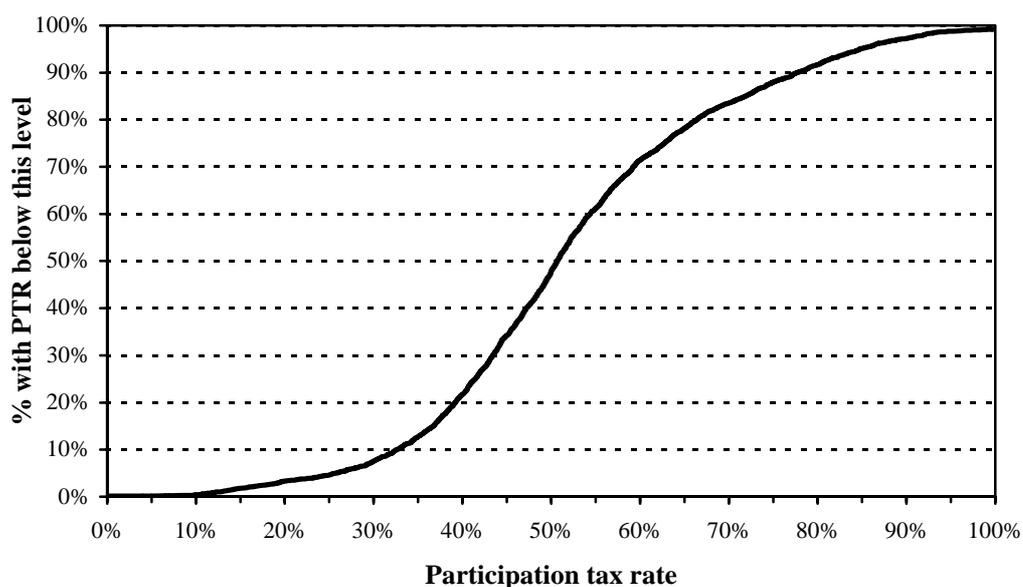
Figure 19 shows the distribution of PTRs among working-age people in 2008–09.³⁵ Reading across, we can see that around 20% of people have a PTR below 40% (a strong incentive to be in work), and around 30% have a PTR above 60% (a weak incentive to be in work). The remaining half of the working-age population have PTRs between these values, with the steepest part of the curve representing the highest concentration of people. The median PTR is 50.7%, and the mean 52.5%. However, almost a tenth of the working-age population – nearly 3 million individuals – have a PTR above 80%, meaning that what they earn (or would earn if they worked) is worth to them less than a fifth of what it costs (or would cost) to employ them. Faced with losing such a large proportion of their earnings, working is clearly a less attractive proposition, and indeed only a million of this group are actually in work. Most of those facing such high PTRs are people who earn (or would earn) little: although they (would) lose little in tax, the loss of benefits is extremely important relative to these low earnings.

and the value of consumption is for that person's household; but this will not quite be an accurate measure of how indirect taxes affect work incentives unless the average tax rate on what additional income is spent on is the same as that on existing purchases.

³⁴ The analysis that follows updates that in Adam et al (2006a,b) and incorporates employer NICs and indirect taxes. Adam (2005) incorporated these taxes but did not separate out the effect of tax and benefit reforms from other changes in the economy. See Adam and Browne (forthcoming) for more detail on methodology and results. Brewer et al (this volume) shows how average PTRs and EMTRs vary with earnings for different family types in 2008–09 but excluding indirect taxes.

³⁵ In order to calculate participation tax rates for non-workers, we must estimate what they would earn if they worked. To do this, we use their observed characteristics (age, sex, years of education, marriage and cohabitation status, number of children, age of youngest child, ethnicity and housing tenure) to predict their earnings conditional on being in each of four different hours bands (1–15, 16–23, 24–29 and 30+) using an ordinary least squares regression. We then use the same characteristics to estimate (using a multinomial logit model) the likelihood of each individual being in each of these hours bands were they to work, and weight the participation tax rates associated with each earnings / hours band combination accordingly. Non-workers tend to have characteristics associated with low earnings, and we therefore estimate that they face relatively high participation tax rates as the loss of out-of-work benefits is large relative to what they could earn.

Figure 19: Cumulative distribution of participation tax rates 2008–09

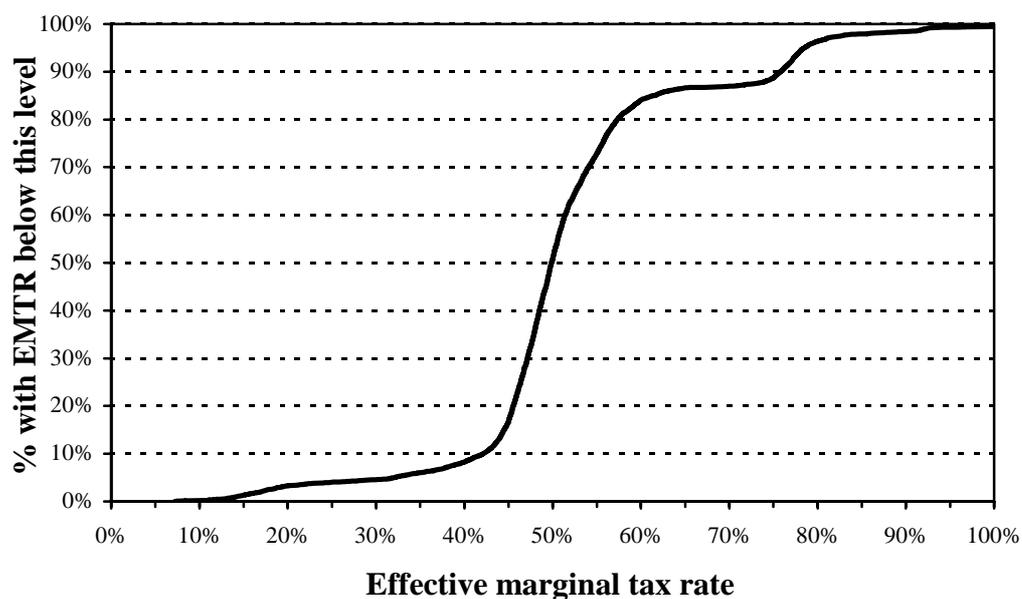


Notes: Calculations for direct and indirect personal taxes and benefits only: excludes most ‘business taxes’ (notably corporation tax and business rates, though not employer National Insurance contributions) and capital taxes (notably inheritance tax, stamp duties and capital gains tax). In-work income for non-workers estimated as described in footnote 35. Excludes those over state pension age. Taxes and benefits are those applying in April of the year shown.

Source: Authors’ calculations using the IFS tax and benefit micro-simulation model, TAXBEN, run on updated data from the 2005–06 Expenditure and Food Survey.

The distribution of EMTRs for those in work, shown in Figure 20, is much more concentrated: three-quarters of workers face an EMTR of between 40% and 60%, so that a small increase in their earnings is worth to them around half of what it costs their employer. The median EMTR amongst workers is 49.9%, and the mean is 52.1%. But Figure 20 shows that there is also a substantial group of people – around 8% of workers, a little under 2 million individuals – with EMTRs of between 75% and 80%. These people have such high EMTRs because they face steep withdrawal of tax credits or housing benefit if they increase their earnings a little.

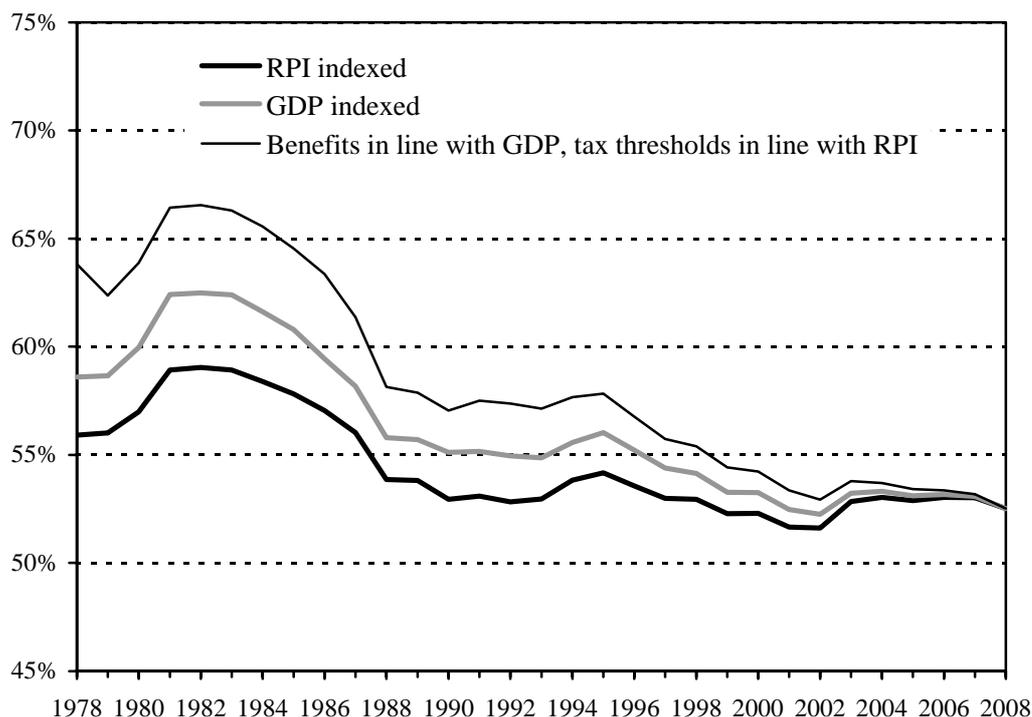
Figure 20: Cumulative distribution of effective marginal tax rates among workers, 2008–09



Notes: Calculations for direct and indirect personal taxes and benefits only: excludes most ‘business taxes’ (notably corporation tax and business rates, though not employer National Insurance contributions) and capital taxes (notably inheritance tax, stamp duties and capital gains tax). Excludes those over state pension age. Taxes and benefits are those applying in April of the year shown. Source: Authors’ calculations using the IFS tax and benefit micro-simulation model, TAXBEN, run on uprated data from the 2005–06 Expenditure and Food Survey.

Figure 21 shows what the average (mean) PTR would be if other tax and benefit systems from the past 30 years were now in place – uprated, as in the previous subsection, in one of three different ways. It therefore shows the impact of tax and benefit reforms since 1978 on financial incentives to be in work, abstracting from other changes (such as demographic shifts and changes in wages, rent levels and working patterns) which also affect work incentives.

Figure 21. Average participation tax rates that would be created by tax and benefit systems from 1978 to 2008



Notes: Calculations for direct and indirect personal taxes and benefits only: excludes most ‘business taxes’ (notably corporation tax and business rates, though not employer National Insurance contributions) and capital taxes (notably inheritance tax, stamp duties and capital gains tax). In-work incomes for non workers estimated as described in footnote 35. Excludes those over state pension age. Taxes and benefits are those applying in April of the year shown.
 Source: Authors’ calculations using the IFS tax and benefit micro-simulation model, TAXBEN, run on updated data from the 2005–06 Expenditure and Food Survey.

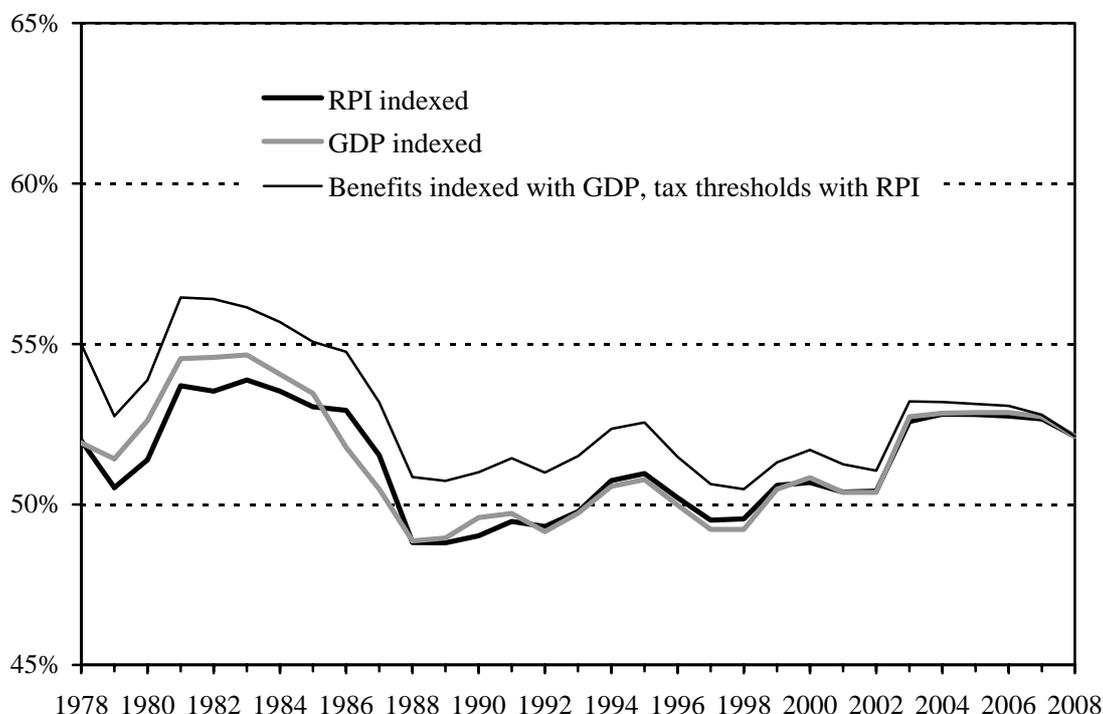
After initially increasing the average PTR (weakening financial incentives to be in work), reforms under the Conservative governments up to 1997 considerably strengthened incentives to be in work. Labour’s reforms have had much less impact: on average, financial incentives to be in work are slightly stronger than they would have been if the benefit rates Labour inherited had simply been increased in line with growth in the economy, and much the same as they would have been if benefit rates had increased in line with inflation.³⁶

A similar analysis for the average EMTR amongst workers is presented in Figure 22. Reforms under the Conservatives acted to reduce the average EMTR (strengthen financial incentives to increase earnings) overall, while those under Labour have acted

³⁶ It might seem surprising that increasing tax thresholds in line with the RPI but benefits in line with GDP leads to weaker work incentives than either increasing both in line with the RPI or increasing both in line with GDP. This pattern is evident for both PTRs and EMTRs. It arises because more rapid indexation of benefit rates tends to weaken work incentives, raising out-of-work incomes relative to in-work incomes and increasing the number of people facing benefit withdrawal, whereas more rapid indexation of tax thresholds tends to strengthen them, applying higher rates of income tax to fewer people.

to increase it. But perhaps what is most striking is how stable the average EMTR has been: for all the myriad reforms that have happened over the past 30 years, none of the tax and benefit systems seen would leave the average EMTR more than 5 percentage points different from its current level of 52.1%.

Figure 22. Average effective marginal tax rates amongst workers that would be created by tax and benefit systems from 1978 to 2008



Notes: Calculations for direct and indirect personal taxes and benefits only: excludes most ‘business taxes’ (notably corporation tax and business rates, though not employer National Insurance contributions) and capital taxes (notably inheritance tax, stamp duties and capital gains tax). Excludes those over state pension age. Taxes and benefits are those applying in April of the year shown.
Source: Authors’ calculations using the IFS tax and benefit micro-simulation model, TAXBEN, run on uprated data from the 2005–06 Expenditure and Food Survey.

Trends in the average PTR and EMTR hide variations across the population, of course: the trends shown have not been universal. For example, Labour’s reforms have strengthened financial work incentives for some of those previously facing the weakest incentives (and particularly lone parents), and have weakened work incentives for many others who have been brought into means-testing.

Recent data for international comparisons are not available, but in 2003 the UK’s average EMTR was slightly lower than the EU15 average, while in 1998 the UK’s average PTR was considerably lower than the EU15 average, and indeed lower than that of any other EU15 country except Greece.³⁷

³⁷ 1998 PTR data from Immervol et al. (2005). 2003 EMTR data from EUROMOD statistics on Distribution and Decomposition of Disposable Income, accessed at <http://www.iser.essex.ac.uk/msu/emod/statistics/> using EUROMOD version no. D1 (June 2007). For a few countries where 2003 estimates are not available, 2001 estimates are used in constructing the EU15 average.

4.3. Incentives to save and invest

The UK imposes a number of taxes on capital: income tax on savings and dividend income, corporation tax, capital gains tax, stamp duties on properties and securities, council tax, business rates and inheritance tax. The significance of the revenues from these taxes can be gauged to some extent by looking at Table 1 and Figures 3 and 4. Corporation tax and stamp duties have grown as a proportion of total tax revenue since 1978; but it is the substantial revenue raised from council tax and business rates that stands out internationally.

Unfortunately, income tax data do not separate savings income from wage income, so it is not possible to come to clear conclusions on how overall revenues from capital taxes have changed over time or compare to other countries. But it is not only the overall revenue from capital taxation that is of interest. Not all capital taxes have the same effect on incentives to save and invest, and differential treatment of different forms of saving and investment, distorting the form that such activities take, can be equally important. In the rest of this subsection we focus on quantifying how different taxes on capital affect incentives for individuals to save and for businesses to invest.

We can distinguish between taxes that discourage UK residents from saving and taxes that discourage businesses from investing in the UK. To see this distinction, think of the UK as a small country in a vast, liquid international capital market. Savers (in the UK and elsewhere) can invest anywhere in the world, so in order to raise funds, businesses investing in the UK must offer an after-tax return as high as that available on investments elsewhere. A tax on UK investments will therefore not reduce the return that savers receive; but to provide this same after-tax return, UK investments must yield a higher pre-tax return, and less profitable investments will not be undertaken.

Conversely, UK residents subject to a tax on the return to their saving cannot demand a higher pre-tax return to compensate, because businesses can raise capital from savers anywhere in the world (or indeed from tax-exempt institutions such as pension funds in the UK) that are not subject to the tax. Thus the yield required on investments (in the UK and elsewhere) will be unaffected and investment will not be deterred; but UK residents will receive a lower rate of return after tax, discouraging them from saving.³⁸

This is, of course, a highly simplified representation of the world. Capital cannot really flow costlessly across borders. Small companies in particular are often reliant on equity capital provided by a single owner-manager (or a small number of closely linked people), which means that personal taxes on those individuals' returns might discourage investment in the company.

Nevertheless, we can broadly characterise income tax, capital gains tax and inheritance tax as taxing saving by UK residents, and corporation tax as taxing investment in the UK. Stamp duty on shares is also primarily a tax on UK investment rather than on residents' saving. It must be paid on transactions of shares in UK companies, regardless of who buys or sells them, so people will be willing to pay less

³⁸ This analysis is for changes to UK taxes in isolation, assuming other countries' tax systems do not change. A change to UK taxes as part of an internationally co-ordinated move would have different effects, since a co-ordinated move would affect the return available to residents of all countries for investment in all countries.

for shares in UK companies: specifically, the price of shares will be reduced by the value of the expected stream of stamp duty on all transactions in those shares. A saver buying a share will find that the lower share price offsets the stamp duty that must be paid, making saving in equities as attractive as it would be in the absence of a tax,³⁹ but a company seeking to issue new equity to raise capital for investment will find that the share issue raises less money than it would in the absence of the tax, so investment will be discouraged.⁴⁰

The distinction between taxes on UK saving and on UK investment is most difficult for property. To some extent similar arguments can be made – stamp duty land tax applies to all UK property whoever buys it, whereas UK income tax on rental income, as on other savings income, applies only to UK taxpayers wherever the property is located – but the notion of a large liquid market in UK property amongst non-UK taxpayers is clearly less plausible than for many financial assets. More importantly, property taxes such as council tax and business rates might affect the rental price of occupation as well as the capital value of the property: they could potentially discourage not only saving in property or investment in property development, but also use of property. However, it is usually argued that the demand for property is more responsive to property prices than the supply of property: as property becomes more expensive, businesses can occupy smaller premises and people live in smaller houses (or, for example, leave the family home at an older age), whereas land is in fixed supply and new construction is severely constrained by planning regulations.⁴¹ Insofar as that is the case, the need to pay council tax or business rates simply makes the same properties worth less to those occupying them, reducing rents and property prices.⁴² This is more complicated in the case of income tax on rental income, which applies only to the rental sector (the size of which might be responsive to taxation) and only to UK-taxpaying landlords.⁴³ In this chapter, we assume that income tax on rental income has no effect on rents or property prices, simply reducing the incentive to buy and let out property, but that council tax, business rates and stamp duty land tax are reflected in lower property prices, so that the incentive to buy (and occupy) property is little affected by the taxes, but property development is discouraged because the taxes mean that the property will sell for less.

We now look in turn at incentives to save and to invest.

³⁹ Whether the reduced share price more or less than exactly offsets the stamp duty liability for any individual saver depends on how long the saver holds the share. The reduced share price means that a given sum can be used to buy more shares and thus a larger stream of dividends; the longer the shares are held, the more likely it is that this larger dividend stream will outweigh the stamp duty paid on purchase. The two effects will balance for savers holding a share for the average holding period expected by the market.

⁴⁰ See Hawkins and McCrae (2002) and Bond, Klemm and Hawkins (2005) for further discussion and empirical evidence that stamp duty on shares is indeed reflected in share prices.

⁴¹ Evidence on the extremely low responsiveness of housing supply to house prices in the UK is reviewed in Chapter 2 of Barker (2003), for example.

⁴² Bond et al (1996) provide empirical evidence that business rates are reflected in lower rents.

⁴³ Council tax is not entirely uniform either: council tax benefit covers the bills of those on low incomes, so that rises in council tax do not increase recipients' net liability. In such cases, council tax might not be reflected in lower property prices to the extent that a property can be sold to a council tax benefit recipient who would pay as much for it as in the absence of the tax.

Incentives to save

Table 9 summarises the treatment of different assets for income tax, NICs and capital gains tax. For owner-occupied housing and for cash and shares held in ISAs, saving is out of taxed income and there is no tax on returns and no tax on withdrawals (the proceeds of sale in the case of housing). Tax exemption is provided in a different way for pensions: saving is out of untaxed income, fund income is untaxed but withdrawals are taxed. This regime for pensions would produce the same effective tax rate of zero on the normal return to saving;⁴⁴ but the 25% lump sum that can be withdrawn from pension funds as a tax-free lump sum means that pension saving is in effect subsidised. In addition, employers' pension contributions are particularly tax-favoured since they are not subject to employer or employee National Insurance either at the point of contribution or at the point of withdrawal.

Pensions, ISAs and housing cover the significant saving activity of the bulk of the population. But saving in other forms is discouraged by the tax system. The returns to second or let properties and to cash or shares held outside ISAs are all subject to the combination of income tax and CGT in slightly different ways.

⁴⁴ Assuming that the individual faces the same marginal tax rate in retirement as when making the contribution. The implications of relaxing this assumption are discussed below. Taxing withdrawals from funds instead of the income paid into funds does have significantly different implications, however: by forgoing the up-front revenue on the income saved and taking a share of the returns instead, the government is implicitly investing in the same assets as the individual, changing its investment portfolio as well as the timing of revenue. This is particularly important if the government would not otherwise have access to these assets, or if the investment cannot easily be scaled up to accommodate the government's share without reducing the individual's share by the same amount.

Table 9. Tax treatment of different assets

Asset	Income tax and NICs on contributions	Returns		Income tax and NICs on withdrawals
		Income tax on interest/dividends ^a	Capital gains tax	
Pension (employee contribution)	Exempt from income tax, not exempt from employer and employee NICs	Exempt	Exempt	Taxed except for a 25% lump sum, no NICs
Pension (employer contribution)	Exempt from income tax, employer and employee NICs	Exempt	Exempt	Taxed except for a 25% lump sum, no NICs
ISA	Taxed	Exempt	Exempt	Exempt
Interest-bearing account	Taxed	Taxed at 10%, 20% or 40%	n/a	Exempt
Direct equity holdings	Taxed	Taxed at 10% or 32.5%, but offsetting dividend tax credit means effective rates are 0% and 25%	Taxed	Exempt
Housing (main or only house)	Taxed	Exempt ^a	Exempt	Exempt
Housing (second or subsequent house)	Taxed	Rental income taxed	Taxed	Exempt

(a) Dividends are effectively the imputed value of income from owner-occupation – this was taxed on the basis of the notional rental value of the property until 1963. Note that income tax is payable on income received from letting out part of a main residence while the owner resides there, although the first £4,250 per year is tax-free.

Under certain assumptions, we can calculate the effective tax rate (ETR) on saving in each of the different asset types: the percentage reduction in the annual real rate of return caused by tax.⁴⁵ Table 10 illustrates ETRs for basic- and higher-rate taxpayers if all assets earn a 3% real rate of return before tax and inflation is 2%.

⁴⁵ The calculation of ETRs here broadly follows that of IFS Capital Taxes Group (1989). For more detail of methodology and results, see Wakefield (forthcoming).

Table 10. Effective tax rates on saving in different assets

Asset	Effective tax rate (%) for:		
	Basic-rate taxpayer	Higher-rate taxpayer	
ISA	0	0	
Interest-bearing account	33	67	
Pension (employee contribution)	(invested 10 years)	-21	-53
	(invested 25 years)	-8	-21
Pension (employer contribution)	(invested 10 years)	-114	-102
	(invested 25 years)	-46	-40
Housing (main or only house)	0	0	
Rental housing	(invested 10 years)	30	50
	(invested 25 years)	28	48
Direct equity holdings	(invested 10 years)	10	35
	(invested 25 years)	7	33

Notes Assumes 3% annual real rate of return and 2% inflation. Calculations for rental housing and direct equity holdings assume that real returns accrue as rental income or dividends while capital gains match price inflation and are realised at the end of the period in question. Calculations for employer pension contribution assume that the employee is contracted into the state second pension. Saver is assumed to be a basic- or higher- rate taxpayer throughout the period in question, to have exhausted the CGT exempt amount where appropriate, and to have no entitlement to means-tested benefits or tax credits.

Source: Matthew Wakefield.

Note that the ETR on an interest-bearing account is 33% for a basic-rate taxpayer, not the statutory income tax rate of 20%, because tax is charged on the nominal return, not the real return. With a 3% real return and 2% inflation, £100 of saving yields nominal interest of about £5; 20% tax on this, £1, represents 33% of the £3 increase in the real purchasing power of the deposit. Inflation does not, however, affect ETRs on pensions, ISAs and owner-occupied housing, where the return is tax-exempt.

ISAs and owner-occupied housing have ETRs of zero: they are the archetypal tax-free saving vehicles against which we measure ETRs on other assets. Pension saving has a negative ETR because of the tax-free lump sum and because of the NICs exemption for employer contributions. Both of these subsidies are a percentage of total contributions or final fund size; since investment returns make up a larger proportion of the fund the longer it is held, the ETR (which is measured as a percentage of the real return) is therefore less negative for longer investment periods.

The ETRs on direct equity holdings and on rental housing represent a combination of income tax and capital gains tax: for simplicity, we assume that asset price inflation matches general inflation and real returns are received as dividends or rental income. The ETRs are lower for longer holding periods because CGT is levied when an asset is sold rather than when the rise in value occurs: this interest-free deferral of the latent tax liability is worth more the longer the asset is held, reducing the ETR over time and creating an incentive (known as the 'lock-in effect') for people to hold onto assets for longer than they would in the absence of the tax.

The ETRs in Table 10 illustrate the effect of tax on annual rates of return, but the phenomenon of compound interest complicates the calculation of how these translate

into the final wealth generated by saving. Table 11 shows, under the same assumptions, how tax affects the final worth of the assets. Taxes on the return to saving compound over time: thus a basic rate taxpayer putting money into a bank account would find that, after 10 years, she had 91% of what she would have had if the interest was untaxed (or if she had put the money into an ISA instead), but after 25 years her savings would be worth only 79% of what they would have been worth untaxed.⁴⁶ Taxes on initial contributions or final withdrawals do not have this property, so the net tax subsidies for pensions imply the same percentage increase in the value of the fund (relative to ISA-style treatment) regardless of the duration of saving.

Table 11. Final wealth generated by saving in different assets as a percentage of that generated by an untaxed asset

Asset	% of tax-free final wealth generated for:	
	Basic-rate taxpayer	Higher-rate taxpayer
ISA	100	100
Interest-bearing account (invested 10 years)	91	82
(invested 25 years)	79	61
Pension (employee contribution)	106	117
Pension (employer contribution)	139	134
Owner-occupied housing	100	100
Rented housing ^(a) (invested 10 years)	92	86
(invested 25 years)	82	70
Stocks and shares ^(b) (invested 10 years)	97	90
(invested 25 years)	95	79

Notes and sources: As for Table 10.

The tax implications of saving in different forms might seem to be radically different. But the last 30 years have in fact seen a significant reduction both in the extent to which the tax system penalises saving overall and in the extent to which it distorts the return on different savings vehicles. There are three reasons for this. First, inflation rates have declined. As shown above, even modest inflation rates can significantly increase ETRs on assets where the returns are taxed. But at the levels of inflation prevalent in the 1970s and 1980s, this effect can be immense. With the same 3% real return assumed above but inflation at 10% rather than 2%, a basic-rate taxpayer would face an ETR on an interest-bearing account of 89%, while for a higher-rate taxpayer the ETR would be 177%, implying a negative real return: after tax, the savings would be worth less than when they were deposited. Inflation at the rates seen in the last 15 years is a far less severe problem.

Second, the dispersion of income tax rates has narrowed. If a particular form of saving attracted tax relief at, say, 83%, its underlying performance could be quite poor and

⁴⁶ This measure is equivalent to looking at how much would have to be saved in a taxed asset to yield the same final wealth as saving £1 in an untaxed asset: the latter can be calculated as 100 divided by the number in Table 11.

yet it could still provide an attractive return. As the number of tax bands has fallen and the highest rates have come down, the distortion caused by the taxation of different forms of saving has also fallen.

Third, there has been a series of reforms that have reduced the tax advantage of previously highly tax-privileged saving, and others that have removed tax disadvantages of other forms of saving, leading to a general levelling of the tax treatment of saving. Tax relief on life assurance and on mortgage interest provided significant net subsidies to saving in these forms, but have now been abolished; meanwhile, the introduction of personal pensions, PEPs, TESSAs and ISAs greatly extended the range of tax-free saving vehicles available. Over the last three decades we have moved from an incoherent tax regime for saving to one that seems more satisfactory. It has rarely been the case that a clear strategy has been evident, but the power of the practical arguments for similar tax treatment of all saving seems to have been great. There is still some way to go to reach a tax system that is neutral in its effects, but we are far closer to it now than we were 30 years ago.

Income tax, NICs and CGT are not the only parts of the tax and benefit system that might affect people's saving decisions. Individuals who expect their estates to be worth more than £312,000 (or twice that for married couples) might be discouraged from further saving by the prospect of inheritance tax on their bequests if they are not foresighted or lucky enough to dispose of their assets more than seven years before they die – although inheritance tax does at least treat all major assets equally.

At the other end of the wealth scale, analysis of saving incentives must take account of benefits as well as taxes: if savings reduce entitlement to means-tested benefits and tax credits then this adds to the effective tax on saving. Tax credit entitlement is assessed on the same measure of income as income tax; so saving in ISAs, pensions and owner-occupied housing is not discouraged by tax credit withdrawal, while other forms of savings income are counted for the means test and reduce tax credit entitlement. Means-tested benefits treat assets in a completely different way. Owner-occupied housing is disregarded, as for income tax and tax credits; pension income is counted, but unlike for income tax and tax credits, only half of pension contributions are deducted from income. For other savings – ISAs receive no special treatment – the actual income generated is disregarded; however, if the total value of these assets is above £6,000, every £250 (£500 for those aged 60 or over) of savings above this level is assumed to give an income of £1 per week for the purposes of the means test, and those with assets of more than £16,000 are not eligible for means-tested benefits at all.⁴⁷ These rules, combined with the high withdrawal rates of means-tested benefits, create a very strong disincentive for those who are on means-tested benefits, or consider themselves likely to be eligible for them in the future, to build up financial assets worth more than £6,000.

Finally, it should be noted that means-testing magnifies what was already a significant complication in the taxation of pensions. Putting earnings into a pension fund in effect defers the tax on those earnings until they are withdrawn from the fund. The ETR calculations above assume that an individual faces the same marginal tax rate at these times; but in practice, the tax rate at which an individual receives relief on their pension contributions may be very different from the rate they face in retirement, so the deferral of tax on the earnings saved can make a dramatic difference to the amount

⁴⁷ This upper limit does not apply to those aged 60 or over.

of tax actually paid. The possibility of facing withdrawal of means-tested support at either time (or both) increases the spread of possible outcomes.

Table 12 shows the ETRs on 25-year pension saving for some common combinations of marginal rates. A basic rate taxpayer receiving 20% tax relief on their contributions may be eligible for pension credit in retirement and see their pension income effectively taxed at 40%, giving an ETR of 18%: the tax and benefit system discourages rather than encourages pension saving for such a person. Conversely, someone contributing to a pension while facing tax credit withdrawal at 39% along with 20% basic rate income tax receives 59% relief on their contributions; if in retirement they are still a basic rate taxpayer but no longer face withdrawal of tax credits, they will pay only 20% tax on the proceeds, giving an ETR of -102%: the tax and benefit system more than doubles the rate of return on their pension saving. The ETR can easily be outside the range shown in Table 12 for individuals who face withdrawal of housing benefit or council tax benefit.⁴⁸

Table 12. Effective tax rates on 25-year pension saving, for different tax and benefit positions in work and in retirement

Tax rate in work	Tax rate in retirement	Effective tax rate (%) for:	
		Employee contribution	Employer contribution
Basic rate (20%)	Basic rate (20%)	-8	-45
Higher rate (40%)	Higher rate (40%)	-21	-40
Higher rate (40%)	Basic rate (20%)	-48	-67
Basic rate (20%)	Pension Credit taper (40%)	18	-19
Tax credit taper (59%)	Basic rate (20%)	-102	-163
Tax credit taper (59%)	Pension Credit taper (40%)	-74	-136

Note: Assumes 3% annual real rate of return and 2% inflation. “Tax credit taper” calculations assume that the person is also paying basic-rate income tax. “Pension credit taper” calculations assume that the person is not liable for income tax. Calculations for employer pension contribution assume that the employee is contracted into the state second pension.

Source: As for Table 10.

Such differentials can make saving in a pension appear hugely attractive or unattractive according to how individuals expect their tax and benefit position to evolve over their life-cycle, and also provides large incentives for people to concentrate their pension contributions at times when their marginal rate is highest: to make contributions at times in their life when they are either higher-rate taxpayers or facing tax credit withdrawal, rather than when they are simply paying basic rate tax. The reduced dispersion of income tax rates has reduced the magnitude of these effects to some degree: the difference between the basic and top rates of income tax is now much less than in 1978, when contributions relieved at 83% could finance pensions taxed at 33%. On the other hand, recent years have seen significant increases in both the number of people paying higher-rate income tax and the number of people subject

⁴⁸ The marginal tax rate faced by an individual can also vary over time simply because of policy changes: a pensioner currently pays basic rate tax at 20% on their pension income, but contributions he made in 1979 – when also a basic rate taxpayer – received relief at 33%.

to means tests, meaning that such considerations now affect many more people than in the past. Furthermore, annual limits on tax-relieved pension contributions were made much more generous from April 2006, increasing the scope for people to manipulate the timing of their contributions.

Incentives to invest

Income tax, capital gains tax, inheritance tax and withdrawal of means-tested benefits and tax credits affect UK residents' incentives to save, with the (dis)incentive depending on the individual's tax position and the tax treatment of the savings vehicle in question. Insofar as businesses can raise funds from non-UK taxpayers such as pension funds and foreigners, these taxes have little effect on incentives for businesses to invest in the UK. As discussed above, the other main capital taxes – corporation tax, council tax, business rates, and stamp duties on property and securities – can be thought of as primarily taxing investment rather than saving: the stream of taxes to be paid is likely to be reflected largely in lower share or property prices, so that savers do no worse investing in these assets than elsewhere.

The tax system does not discourage all investment to the same degree. House-building, for example, is particularly discouraged by council tax and stamp duty land tax insofar as they reduce the amount that people will pay for the houses built – although other aspects of the tax system (such as the VAT zero-rating of new build) and the planning system are also important in determining the level of house-building in the UK.

We focus here on corporation tax, much the biggest tax on UK investment. Even if we restrict attention to corporation tax, the effective rate at which investments are taxed is not merely the statutory rate, but varies according to a wide range of factors: the form of the company's investment (plant and machinery, industrial buildings, R&D, etc), whether it is financed by equity or by taking on debt,⁴⁹ the depreciation rate of the asset, interest rates, the rate of inflation, and so on.

Figure 12 showed the effective average corporation tax rate (EATR) that a firm might expect to pay on all its profits from equity-financed investment in plant and machinery, combining statutory rates and capital allowances, while making assumptions about the profitability of investment, real interest rates, depreciation rates and inflation. This is a measure of firms' incentive to undertake such investment at all, and so is useful for comparing the relative tax-attractiveness of different countries for inbound foreign direct investment.

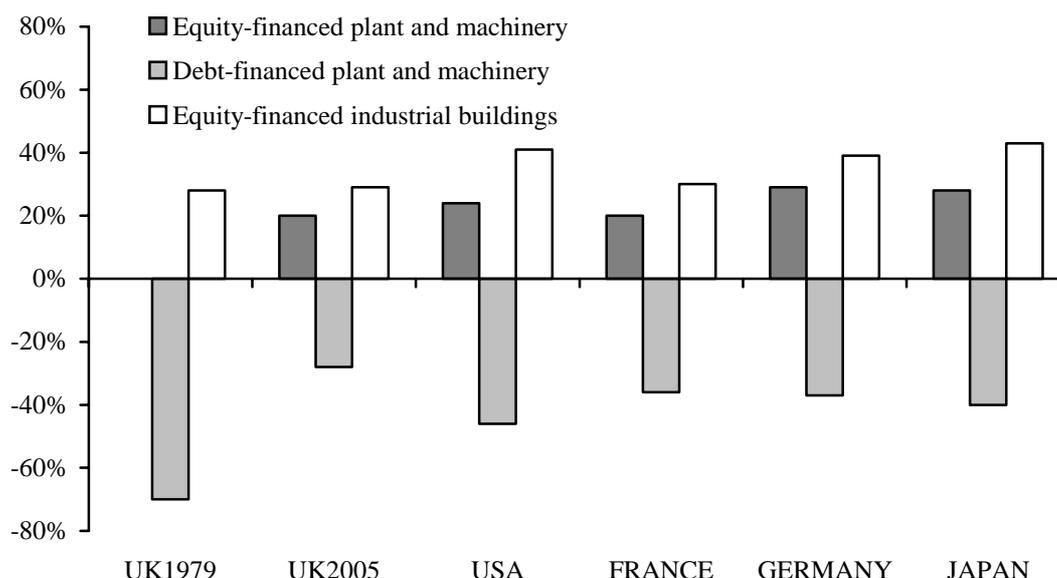
For firms already operating in a particular country and deciding whether or not to invest a little more, a more relevant measure is the effective marginal tax rate (EMTR). This looks at a small (marginal) investment that is only just worthwhile for the firm to make and estimates the proportion of the additional profits it generates that would be paid in corporation tax.

EMTRs (and indeed EATRs) vary widely according to the type of asset invested in and how the investment is financed. Figure 23 shows the EMTRs created by corporation tax for three different investments: equity-financed plant and machinery,

⁴⁹ By equity finance we mean either issuing new shares or retaining profits (paying out lower dividends than the company otherwise would). These two sources of finance have the same treatment for corporation tax, although the personal tax implications are different.

debt-financed plant and machinery, and equity-financed industrial buildings. All the countries shown treat investment in plant and machinery more favourably than investment in industrial buildings, and all countries treat debt-financed investment more favourably than equity-financed investment.⁵⁰ Both of these distortions have been reduced in the UK since 1979, although the removal of 100% capital allowances for plant and machinery (see Figure 12) has meant that equity-financed plant and machinery – easily the biggest form of investment – has seen an increase in its EMTR.

Figure 23. Effective marginal corporation tax rates on different investments



Notes: Assumes economic depreciation rates of 12.25% for plant and machinery and 3.61% for industrial buildings, inflation of 3.5% and a real interest rate of 10%.

Source: Tables A5, A6 and A7 of IFS corporate tax rate data (http://www.ifs.org.uk/publications.php?publication_id=3210)

5. Conclusion

Over the period since 1978, the tax system in the UK has undergone very large changes. In common with most other OECD countries, the UK has cut top and other rates of personal income tax; shifted from excise duties towards VAT; cut corporate tax rates, broadened the corporate tax base and reformed shareholder taxation; and shifted from family to individual taxation. It has also been part of two smaller groups of countries: one that has introduced in-work support through the tax system and another that has developed new environmental taxes. However, the UK has also moved against the international trends by removing mortgage interest relief and increasing centralisation of tax revenues.

⁵⁰ Indeed, corporation tax regimes generally give substantial net subsidies to debt-financed investment. This arises because nominal (rather than real) debt interest payments are deductible from taxable profits, and because investment expenditure may often be deducted more quickly than the assets really depreciate.

It is difficult to reach a definitive assessment of the economic effects of these changes, in part because of the difficulty of establishing what a 'no change' scenario would have involved. However, it is clear that Labour's tax and benefit reforms since 1997 have done more to reduce inequality directly than the Conservatives' earlier reforms, while the Conservatives' reforms did more to strengthen work incentives. There is now less distortion than 30 years ago between different savings vehicles and between different methods of financing investment.

Appendix: The UK tax system in 2008–09

A.1. Income tax

The tax base

Although 31 million individuals pay income tax in the UK, not all income is subject to tax. The primary forms of taxable income are earnings from employment, income from self-employment and non incorporated businesses, jobseeker's allowance, retirement pensions, income from property, bank and building society interest and dividends on shares. Incomes from most means-tested social security benefits are not liable to income tax. Many non-means-tested benefits are taxable (e.g. the basic state pension), but some (notably child benefit) are not. Gifts to registered charities can be deducted from income for tax purposes, as can employer and employee pension contributions, although employee social security (National Insurance) contributions are not deducted. Income tax is also not paid on income from certain savings products, such as National Savings Certificates and Individual Savings Accounts.

Allowances, bands and rates

Income tax in the UK operates through a system of allowances and bands of income. Each individual has a personal allowance, which is deducted from total income before tax to give *taxable* income. Taxpayers under 65 years old receive a personal allowance of £6,035, while older people are entitled to higher personal allowances (see Table A1).

Table A1: Personal allowances, 2008–09

Type of allowance	Allowance (£ per year)
Aged under 65	6,035
Aged 65–74	9,030 ^a
Aged 75 or over	9,180 ^a

^aFor higher-income individuals, these are gradually reduced to the level of the under-65s' allowance, as described in the text.

Source: HM Revenue and Customs, www.hmrc.gov.uk/rates/it.htm.

In the past, married couples were also entitled to a married couple's allowance (MCA). This was abolished in April 2000, except for those already aged 65 or over at that date (i.e. born before April 1935). For these remaining claimants, the MCA no longer acts to increase the personal allowance; instead, it simply reduces final tax liability, by £653.50 in 2008–09 (£662.50 for those aged 75 or over). Couples may choose which of them claims the MCA, or they can claim half each.

If income for those aged 65 or over exceeds a certain limit (£21,800 in 2008–09), then first the higher personal allowance and then (where appropriate) the MCA are gradually reduced. The personal allowance is reduced by 50 pence for every pound of income above the £21,800 threshold, gradually reducing it to a minimum level equal to the allowance for the under-65s for those with incomes above £27,790 (£28,090 for those aged 75 or over). Above this latter threshold, those entitled to MCA have it reduced by five pence for every additional pound of income until it reaches a

minimum level of £254.00 for those with incomes above £35,780 (£36,260 for those aged 75 or over).

Taxable income is subject to different tax rates depending upon the band within which it falls. The first £34,800 of taxable income (i.e. income above the personal allowance) is subject to the basic rate of 20%. Taxable income above the basic-rate limit of £34,800 is subject to the higher rate of 40%. Higher-rate tax is therefore payable on income above £40,835.

Savings and dividend income are subject to slightly different rates of tax. Savings income is taxed at 20% in the basic rate band and 40% in the higher rate band, like other income, except that savings income that falls into the first £2,320 of taxable income is subject to a lower tax rate of 10%. Dividend income is taxed at 10% up to the basic-rate limit and 32.5% above that. However, this is offset by a dividend tax credit, which reduces the effective rates to 0% and 25% respectively. This means that, for basic-rate taxpayers, company profits paid out as dividends are taxed once (via corporation tax on the company profits) rather than twice (via both corporation tax and income tax). When calculating which tax band different income sources fall into, dividend income is treated as the top slice of income, followed by savings income, followed by other income.

Bands and allowances are increased at the start (in April) of every tax year in line with statutory indexation provisions, unless Parliament intervenes. Their increase is announced at the time of the annual Budget, and is in line with the percentage increase in the Retail Prices Index (RPI) in the year to the previous September. Increases in personal allowances are rounded up to the next multiple of £10. The increase in the basic-rate limit is rounded up to the next multiple of £100.

At the time of the March 2008 Budget, the Government forecast that income tax would raise £160.2 billion in 2008–09. However, as discussed on p.13, the Government announced in May 2008 that the personal allowance for under-65s would be higher (and the basic-rate limit lower) than originally announced: the levels reported above are not those expected at the time of the Budget. The Government forecast the cost of this change at £2.7 billion.⁵¹ At the time of writing it remains unclear whether the increase in the personal allowance will be sustained beyond 2008–09.

Payments system

Most income tax is deducted at source: by employers through the Pay-As-You-Earn (PAYE) system, or by banks etc. for any interest payments. The UK income tax system is cumulative in the sense that total tax payable for a particular financial year depends upon total income in that year. Thus, when calculating tax due each week or month, the employer considers income not simply for the period in question but for the whole of the tax year to date. Tax due on total cumulative income is calculated and tax paid thus far is deducted, giving a figure for tax due this week or month. For those with stable incomes, this system will be little different from a non-cumulative system (in which only income in the current period is considered). For those with volatile incomes, however, the cumulative system means that, at the end of the tax

⁵¹ £2.7 billion was the forecast overall cost of the change. Revenue from income tax would be expected to fall by more than this, since some of the cost of the income tax cut is recouped in lower payments of means-tested benefits, which are assessed on after-tax income.

year, the correct amount of tax should have been deducted, whereas under a non-cumulative system, an end-of-year adjustment might be necessary. To enable employers to deduct the right amount of tax, HM Revenue and Customs supplies them with a 'tax code' for each employee, which describes the allowances to which the employee is entitled. If individual circumstances change (starting to receive a pension, for example), the Revenue issues a new tax code for that individual.

Most people need do nothing more: for those with relatively simple affairs, the cumulative system means that no end-of-year adjustment to the amount of tax paid is necessary. Those with more complicated affairs, however, such as the self-employed, those with very high incomes, company directors and landlords, must fill in a self-assessment tax return, setting down their incomes from different sources and any tax-privileged spending such as pension contributions or gifts to charity; HM Revenue and Customs will calculate the tax owed, given this information. Tax returns must be filed by 31 October if completed on paper, or 31 January if completed online; 31 January is also the deadline for payment of the tax. Fixed penalties and surcharges operate for those failing to make their returns by the deadlines and for underpayment of tax.

Tax credits

The last ten years have seen a move towards the use of tax credits to provide support that would previously have been delivered through the benefit system. Since April 2003, there have been two tax credits in operation: child tax credit and working tax credit. Both are based on family circumstances (apart from the married couple's allowance, the rest of the income tax system operates at the individual level) and both are refundable tax credits, meaning that a family's entitlement is payable even if it exceeds the family's tax liabilities.

Child tax credit (CTC) provides means-tested support for families with children as a single integrated credit paid on top of universal child benefit. Families are eligible for CTC if they have at least one child aged under 16, or aged 16–18 and in full-time education. CTC is made up of a number of elements: a family element of £545 per year (doubled for families with a child under the age of 1), a child element of £2,085 per child per year, a disabled child element worth £2,540 per child per year and a severely disabled child element worth £1,020 per child per year. Entitlement to CTC does not depend on employment status – both out-of-work families and lower-paid working parents are eligible for it – and it is paid directly to the main carer in the family (nominated by the family itself).

Working tax credit (WTC) provides in-work support for low-paid working adults with or without children. It consists of a basic element worth £1,800 per year, with an extra £1,770 for couples and lone parents (i.e. everyone except single people without children) and an extra £735 for those working at least 30 hours a week (30 hours in total for couples). Families with children and workers with a disability are eligible for WTC provided at least one adult works 16 or more hours per week; for those without children or a disability, at least one adult must be aged 25 or over and working at least 30 hours per week to be eligible. All childless claimants without a disability will therefore be entitled to the 30-hour premium. There are supplementary payments for disability and for those over 50 returning to work. In addition, for families in which all adults work 16 hours or more per week, there is a childcare credit, worth 80% of eligible childcare expenditure of up to £175 for families with one child, or £300 for families with two or more children (i.e. worth up to £140 or £240). The childcare

credit is paid directly to the main carer in the family. The rest of WTC is paid to a full-time worker (two-earner couples can choose who receives it); originally this was done through the pay packet where possible, but this proved rather burdensome for employers, and so since April 2006 all WTC has been paid directly to claimants.

A means test applies to child tax credit and working tax credit together. Families with pre-tax family income below £6,420 per year (£15,575 for families eligible only for child tax credit) are entitled to the full CTC and WTC payments appropriate for their circumstances. Once family income exceeds this level, the tax credit award is reduced by 39p for every £1 of family income above this level. The main WTC entitlement is withdrawn first, then the childcare element of WTC and finally the child elements of the child tax credit. The family element of the child tax credit, however, is not withdrawn unless family income exceeds £50,000 per year; above that level, it is reduced by £1 for every additional £15 of income.

HM Revenue and Customs estimates that the total entitlement of claimants in 2006–07 was £20.3 billion, of which £14.9 billion was CTC and £5.4 billion WTC. These figures include £2.1 billion that is technically paid as out-of-work benefits rather than tax credits, so the amount formally classified as tax credits was £18.2 billion.⁵² However, many families are paid more (and some less) than their true entitlement over the year, mostly because of administrative errors or because family circumstances changed to reduce their entitlement (eg spending on childcare fell) and HM Revenue and Customs did not find out early enough (or did not respond quickly enough) to make the necessary reduction in payments for the rest of the year. The scale of this problem has been reduced since the first two years of operation of CTC and WTC, but HMRC still overpaid £1 billion (and underpaid £0.5 billion) in 2006–07.⁵³ Primarily because of this, the total amount of tax credits actually paid out in 2006–07 was higher than entitlements, at £18.7 billion, of which £4.6 billion is counted as negative taxation in the National Accounts, with the remaining £14.1 billion classified as public expenditure. As at April 2008, 6.0 million families were receiving tax credits (or the equivalent amount in out-of-work benefits): 4.0 million receiving just child tax credit, 0.4 million receiving just working tax credit, and 1.7 million receiving both.

A.2. National Insurance contributions

National Insurance contributions (NICs) act like a tax on earnings, but their payment entitles individuals to certain ('contributory') social security benefits.⁵⁴ In practice, however, contributions paid and benefits received bear little relation to each other for any individual contributor, and the link has weakened over time.

In 2008–09, National Insurance contributions are forecast to raise £104.6 billion, the vast majority of which will be Class 1 contributions. Two groups pay Class 1

⁵² Families that have been claiming income support or jobseeker's allowance with these child additions since before April 2004 still receive these additions unless they apply for child tax credit instead. This is purely for administrative reasons: the amount received is the same whether paid through child tax credit or additions to out-of-work benefits.

⁵³ For more on the operational problems with tax credits and attempts to solve them, see Brewer (2006).

⁵⁴ For details of contributory benefits, see [O'Dea et al. \(2007\)](#).

contributions: employees as a tax on their earnings and employers as a tax on those they employ. Employees pay NICs at a rate of 11% on any earnings (including employee, but not employer, pension contributions) between the earnings threshold (ET, £105 per week in 2008–09) and the upper earnings limit (UEL, £770 in 2008–09), and at 1% on earnings above the UEL. Employers pay NICs for each employee who earns over the ET, at a rate of 12.8% of all earnings above this level.

NICs are lower for those who have contracted out of the State Second Pension (formerly the State Earnings-Related Pension Scheme, SERPS) and instead belong to a recognised private pension scheme. The reduction depends on the type of pension scheme that an individual has joined. For defined benefit pensions, the percentage levied on earnings between the ET and the UEL is currently reduced by 1.6 percentage points for employee contributions and by 3.7 percentage points for employer contributions. The equivalent rebates for those who have opted out into a defined contribution pension scheme depend on age. Table A2 summarises the Class 1 contribution structure for 2008–09.

Table A2: National Insurance contribution (NIC) rates, 2008–09 (%)

Band of weekly earnings (£)	Employee NICs		Employer NICs	
	Standard rate	Contracted-out rate	Standard rate	Contracted-out rate
0–105 (ET)	0	0	0	0
105–770 (UEL)	11	9.4	12.8	9.1
Above 770	1	1	12.8	12.8

Notes: Rates shown are marginal rates, and thus apply to the amount of weekly earnings within each band. Contracted-out rate applies to defined benefit pension schemes, i.e. contracted-out salary-related schemes (COSRSs). The rates applying to defined contribution pension schemes – i.e. contracted-out money-purchase schemes (COMPSs) – vary according to age.

Source: HM Revenue and Customs, www.hmrc.gov.uk/rates/nic.htm.

Class 1 contributions are remitted to HMRC by employers along with income tax. But unlike for income tax, NICs liabilities are calculated for each pay period (typically a week, fortnight or month) separately, without reference to earnings in the rest of the year.

The self-employed pay two different classes of NI contributions – Class 2 and Class 4. Class 2 contributions are paid at a flat rate (£2.30 per week for 2008–09) by those whose earnings (i.e. profits, since these people are self-employed) exceed the small earnings exception, currently £4,825 per year. Class 4 contributions are paid at 8% on any profits between the lower profits limit (£5,435 per year for 2008–09) and the upper profits limit (£40,040 per year for 2008–09), and at 1% on profits above the upper profits limit. This regime for the self-employed is much more generous than the Class 1 regime, and the self-employed typically pay far less than would be paid by employee and employer combined.

Class 3 NI contributions are voluntary and are usually made by UK citizens living abroad in order to maintain their entitlement to benefits when they return. Class 3 contributions are £8.10 per week for 2008–09.

A.3 Value added tax (VAT)

VAT is a proportional tax paid on all sales to UK purchasers. Before passing the revenue on to HM Revenue and Customs, however, firms may deduct any VAT they paid on inputs into their products; hence it is a tax on the *value added* at each stage of the production process, not simply on all expenditure. The standard rate of VAT is 17.5%; domestic fuel and power and a few other goods are taxed at a reduced rate of 5%. A number of major items are either zero-rated or exempt. Zero-rated goods have no VAT levied upon the final sale, and firms can reclaim any VAT paid on inputs as usual. Exempt goods have no VAT levied on the final good sold to the consumer, but firms cannot reclaim VAT paid on inputs; thus exempt goods are effectively liable to lower rates of VAT (typically between about 4% and 7%, depending upon the firm's cost structure and suppliers). Table A3 lists the main categories of goods that are zero-rated, reduced-rated and exempt, together with estimates of the revenue forgone by not taxing them at the standard rate.

Table A3: Estimated costs of zero-rating, reduced-rating and exempting goods and services for VAT revenues, 2007–08

	Estimated cost (£m)
Zero-rated:	
Food	11,300
Construction of new dwellings ^a	8,200
Domestic passenger transport	2,500
International passenger transport ^a	150
Books, newspapers and magazines	1,700
Children's clothing	1,350
Water and sewerage services	1,300
Drugs and medicines on prescription	1,350
Supplies to charities ^a	200
Ships and aircraft above a certain size	700
Vehicles and other supplies to people with disabilities	350
Cycle helmets ^a	10
Reduced-rated:	
Domestic fuel and power	2,950
Women's sanitary products	50
Contraceptives	10
Children's car seats	5
Smoking cessation products	10
Energy saving materials	50
Residential conversions and renovations	150
VAT-exempt:	
Rent on domestic dwellings ^a	3,500
Rent on commercial properties ^a	200
Private education ^a	300
Health services ^a	900
Postal services ^a	200
Burial and cremation	100
Finance and insurance ^a	4,500
Betting, gaming and lottery ^a	1,350
Cultural admissions charges ^a	30
Businesses below registration threshold ^a	1,150
Total	44,565

^a Figures for these categories are subject to a wide margin of error.

Sources: HMRC Statistics Tables 1.5 and B.1

(http://www.hmrc.gov.uk/stats/tax_expenditures/menu.htm).

Only firms whose sales of non-exempt goods and services exceed the VAT registration threshold (£67,000 in 2008–09) need to pay VAT. Since April 2002, small firms (defined as those with total sales below £187,500 and non-exempt sales below £150,000 in 2008–09, excluding VAT) have had the option of using a simplified flat-rate VAT scheme. Under the flat-rate scheme, firms pay VAT at a single rate on their total sales and give up the right to reclaim VAT on inputs. The flat rate, which varies between 2% and 13.5% depending on the industry, is intended to reflect the average VAT rate in each industry, taking into account recovery of VAT on inputs, zero-rating and so on.

VAT is expected to raise £83.8 billion in 2008–09.

A.4 Other indirect taxes

Excise duties

Excise duties are levied on three major categories of goods: alcoholic drinks, tobacco and road fuels. They are levied at a flat rate (per pint, per litre, per packet etc.); tobacco products are subject to an additional *ad valorem* tax of 22% of the total retail price (including the flat-rate duty, VAT and the *ad valorem* duty itself). Since flat-rate duties are expressed in cash terms, they must be revalorised (i.e. increased in line with inflation) each year in order to maintain their real value. Table A4 shows the rates of duties levied in 2008–09. Budget 2008 forecast that these excise duties would raise £41.9 billion in 2008–09; but a scheduled above-inflation fuel duty increase that was postponed for six months in the Budget was later postponed for a further six months, at a cost of £550 million. Budget 2008 also announced that alcohol duties, as well as increasing by 6% above inflation immediately, would also increase by a further 2% above inflation every year until 2013.

Table A4: Excise duties, 2008–09

Good	Duty (pence)	Total duty as a percentage of price (%)	Total tax as a percentage of price (%) ^a
Packet of 20 cigarettes: specific duty	224.1	} 63.9	} 78.8
<i>ad valorem</i> (22% of retail price)	117.7		
Pint of beer	33.2	13.8	28.7
Wine (75cl bottle)	145.7	40.3	55.2
Spirits (70cl bottle)	597.8	47.3	62.2
Ultra-low sulphur petrol (litre)	50.4	46.8	61.7
Ultra-low sulphur diesel (litre)	50.4	43.2	58.1

^aIncludes VAT.

Notes: Assumes beer (bitter) at 3.9% abv, still wine not exceeding 15% abv and spirits (whisky) at 40% abv. Percentages are calculated for April 2008 prices.

Sources: Duty and VAT rates from HMRC website (<http://www.hmrc.gov.uk>). Prices: cigarettes and beer from National Statistics, *Consumer Price Indices* (<http://www.statistics.gov.uk>); wine and spirits from UKTradeInfo 2008 Factsheet (<http://www.uktradeinfo.co.uk/index.cfm?task=factalcohol>); petrol and diesel from Table 4.1 of Department for Business, Enterprise and Regulatory Reform Quarterly Energy Prices (<http://stats.berr.gov.uk/energystats/qep411.xls>).

Vehicle excise duty

In addition to VAT and excise duties, revenue is raised through a system of licences. The main licence is vehicle excise duty (VED), levied annually on road vehicles. For cars and vans registered before 1 March 2001, there are two bands. VED is £120 per vehicle for vehicles with engines smaller than 1,550cc; above this size, VED is £185. Cars and vans registered on or after 1 March 2001 are subject to a different VED system based primarily on carbon dioxide emissions. For petrol cars or vans, VED ranges from zero for vehicles emitting less than 100g of carbon dioxide per kilometre to £210 for vehicles emitting more than 186g of carbon dioxide per kilometre. Vehicles registered since March 2006 that emit more than 223g of carbon dioxide per

kilometre are liable for an even higher rate, £400. Budget 2008 announced changes to the VED regime for cars registered on or after 1 March 2001, with finer gradations of emissions bands to be introduced from 1 April 2009 and different VED rates for the first year of ownership to be introduced from 1 April 2010. Both of these reforms will further increase VED rates for high-emission cars and reduce them for low-emission cars. Different rates apply for alternative fuel vehicles and for other types of vehicles, such as motorbikes, caravans and heavy goods vehicles. In 2008–09, VED is forecast to raise £6.1 billion.

Insurance premium tax

Insurance premium tax (IPT) came into effect in October 1994 as a tax on general insurance premiums. It is designed to act as a proxy for VAT, which is not levied on financial services because of difficulties in implementation. IPT is payable on most types of insurance where the risk insured is located in the UK (e.g. motor, household, medical and income replacement insurance) and on foreign travel insurance if the policy lasts for less than four months. Long-term insurance (such as life insurance) is exempt. Since 1 July 1999, IPT has been levied at a standard rate of 5% of the gross premium. If, however, the policy is sold as an add-on to another product (e.g. travel insurance sold with a holiday, or breakdown insurance sold with vehicles or domestic appliances), then IPT is charged at a higher rate of 17.5%. This prevents insurance providers from being able to reduce their tax liability by increasing the price of the insurance (which would otherwise be subject to insurance premium tax at 5%) and reducing, by an equal amount, the price of the good or service (subject to VAT at 17.5%). Insurance premium tax is forecast to raise £2.4 billion in 2008–09.

Air passenger duty

On 1 November 1994, an excise duty on air travel from UK airports came into effect (flights from the Scottish Highlands and Islands are exempt). Currently, the air passenger duty rate on economy flights is £10 for destinations in the EU and £40 for other destinations. The rates for those travelling first or club class are £20 within the EU and £80 elsewhere. In 2008–09, air passenger duty is forecast to raise £2.1 billion. In order to make tax liability more closely related to the carbon dioxide emissions of the aircraft, the government has announced that from November 2009 the current per-passenger tax will be replaced by a per-plane flight tax, possibly varying with the distance travelled and type of aircraft used.

Landfill tax

Landfill tax was introduced on 1 October 1996. It is currently levied at two rates: a lower rate of £2.50 per tonne for disposal to landfill of inactive waste (waste that does not decay or contaminate land) and a standard rate of £32 per tonne for all other waste. The government has announced that the standard rate will increase by £8 per tonne every year until at least 2010–11.⁵⁵ The tax is forecast to raise £1.1 billion in 2008–09.

⁵⁵HM Treasury, *Financial Statement and Budget Report*, 2007 (http://www.hm-treasury.gov.uk/media/D/0/bud07_chaptera_235.pdf).

Climate change levy

The climate change levy came into effect on 1 April 2001. It is charged on industrial and commercial use of electricity, coal, natural gas and liquefied petroleum gas, with the tax rate varying according to the type of fuel used. The levy is designed to help the UK move towards the government's domestic goal of a 20% reduction in carbon dioxide emissions between 1990 and 2010. In 2008–09, the rates are 0.456 pence per kilowatt-hour for electricity, 0.159 pence per kilowatt-hour for natural gas, 1.018 pence per kilogram for liquefied petroleum gas and 1.242 pence per kilogram for coal. The tax does not apply to fuels used in the transport sector or for electricity generation. Energy-intensive sectors that have concluded climate change agreements that meet the government's criteria are charged a reduced rate equal to 20% of the standard climate change levy. The levy is forecast to raise £0.7 billion in 2008–09.

Aggregates levy

Aggregates levy is a tax on the commercial exploitation of rock, sand and gravel (e.g. their removal from the originating site or their use in construction). The levy was introduced in April 2002 to reduce the environmental costs associated with quarrying. In 2008–09 it is charged at a rate of £1.95 per tonne and is forecast to raise £0.4 billion.

Betting and gaming duties

Until relatively recently, most gambling was taxed as a percentage of the stakes laid. Since October 2001, however, general betting duty (and pool betting duty for pool betting) has been charged at 15% of gross profits for all bookmakers and the Horserace Totalisator Board (the Tote), except for spread betting, where a rate of 3% for financial bets and 10% for other bets is applied. Pool betting duty (since April 2002) and bingo duty (since October 2003) are also charged at 15% of gross profits on those activities. In all cases, 'gross profits' means total stakes (and any participation fees for bingo) minus winnings paid.

Gaming duty, which replaced gaming licence (premises) duty on 1 October 1997, is based on the 'gross gaming yield' for each establishment where dutiable gaming takes place. The gross gaming yield is money gambled minus winnings paid: this consists of the total value of the stakes, minus players' winnings, on games in which the house is the banker, and participation charges, or 'table money', exclusive of VAT, on games in which the bank is shared by players. Gaming duty is levied at marginal rates of between 15% and 50% according to the amount of gross gaming yield.

Duties on betting and gaming are forecast to raise £1.5 billion in 2008–09.

A.5. Capital taxes

Capital gains tax

Capital gains tax (CGT) was introduced in 1965 and is levied on gains arising from the disposal of assets by individuals and trustees. Capital gains made by companies are subject to corporation tax. The total capital gain is defined as the value of the asset when it is sold (or given away etc.) minus its value when originally bought (or inherited etc.). As with income tax, there is an annual threshold below which capital gains tax does not have to be paid. In 2008–09, this 'exempt amount' is £9,600 for individuals and £4,800 for trusts. This is subtracted from total capital gains to give

taxable capital gains. Taxable capital gains are subject to a flat rate of 18%, subject to certain exemptions and reliefs outlined below.

The key exemption from CGT is gains arising from the sale of a main home. Private cars and certain types of investment (notably those within pension funds or Individual Savings Accounts) are also exempt. Transfers to a spouse or civil partner and gifts to charity do not trigger a CGT liability: in effect, the recipient is treated as having acquired the asset at the original purchase price. Gains made by charities themselves are generally exempt. CGT is 'forgiven' completely at death: the deceased's estate is not liable for tax on any increase in the value of assets prior to death, and those inheriting the assets are deemed to acquire them at their market value at the date of death. This is partly because estates may instead be subject to inheritance tax (see below).

Entrepreneurs' relief reduces the rate of CGT to 10% on the first £1m of otherwise taxable gains realised over an individual's lifetime on the sale after April 2008 of certain eligible assets. These eligible assets are shares owned by employees or directors of firms who have at least 5% of the shares and voting rights, unincorporated businesses and business assets sold after the closure of a business.

It is estimated that in 2008–09, capital gains tax will raise £5.0 billion. Although this represents only a small proportion of total government receipts, capital gains tax is potentially important as an anti-avoidance measure, as it discourages wealthier individuals from converting a large part of their income into capital gains in order to reduce their tax liability. In 2008–09, approximately 350,000 individuals and trusts will pay capital gains tax.

Inheritance tax

Inheritance tax was introduced in 1986 as a replacement for capital transfer tax. The tax is applied to transfers of wealth on or shortly before death that exceed a minimum threshold. The threshold is set at £312,000 in 2008–09, and the Government has announced that it will increase to £325,000 in 2009–10 and £350,000 in 2010–11. Inheritance tax is charged on the part of the transfers above this threshold at a single rate of 40% for transfers made on death or during the previous three years, and is normally payable out of estate funds. Transfers made between three and seven years before death attract a reduced tax rate, while transfers made seven or more years before death are not normally subject to inheritance tax. This is set out in Table A5. Gifts to companies or discretionary trusts that exceed the threshold attract inheritance tax immediately at a rate of 20%, for which the donor is liable; if the donor then dies within seven years, these gifts are taxed again as usual but any inheritance tax already paid is deducted.

Table A5: Inheritance tax reductions for transfers before death, 2008–09

Years between transfer and death	Reduction in tax rate (%)	Actual tax rate (%)
0–3	0	40
3–4	20	32
4–5	40	24
5–6	60	16
6–7	80	8
7+	100	0

Sources: HM Revenue and Customs, <http://www.hmrc.gov.uk/cto/customerguide/page13-1.htm>.

Some types of assets, particularly those associated with farms and small businesses, are eligible for relief, which reduces the value of the asset for tax purposes by 50% or 100% depending on the type of property transferred. All gifts and bequests to charities and to political parties are exempt from inheritance tax. Most importantly, transfers of wealth between spouses and civil partners are also exempt. In addition to this, since October 2007 the inheritance tax threshold is increased by any unused proportion of a deceased spouse or civil partner's nil-rate band (even if the first partner died before October 2007). This means that married couples and civil partners can collectively bequeath double the inheritance threshold tax-free even if the first to die leaves their entire estate to the surviving partner.

The number of taxpaying death estates is forecast to be 23,000 in 2008–09, equivalent to around 4% of all deaths. The estimated yield from inheritance tax in 2008–09 is £3.2 billion.

Stamp duties

The main stamp duties are levied on security (share and bond) transactions and on conveyances and transfers of land and property. They are so named because, historically, stamps on documents, following their presentation to the Stamp Office, indicated their payment. Nowadays, most transactions do not require a document to be stamped and are not technically subject to stamp duty: since 1986, securities transactions for which there is no deed of transfer (e.g. electronic transactions) have instead been subject to stamp duty reserve tax (SDRT), and since 2003, land and property transactions have been subject to stamp duty land tax (SDLT). This is essentially a matter of terminology, however: the rates are the same and the term 'stamp duty' is still widely used to encompass SDRT and SDLT as well. The buyer is responsible for paying the tax.

Table A6 gives stamp duty rates as they stand currently. For land and property transactions, there is a threshold below which no stamp duty is paid. The threshold is £150,000 for non-residential properties; for residential properties, the threshold started 2008–09 at £125,000 (or £150,000 in certain designated disadvantaged areas) but the government later announced an increase to £175,000 for one year only from 3 September 2008. For land and property above this exemption threshold, a range of duty rates applies, depending on the purchase price. The appropriate rate of duty applies to the whole purchase price, including the part below the relevant threshold. As a result, a small difference in the purchase price can lead to a large change in tax liability if it moves the transaction across a threshold; this structure creates

unnecessary distortions in the property market and is long overdue for reform. For shares and bonds, there is no threshold and stamp duty is levied at 0.5% of the purchase price.

Table A6: Rates of stamp duties, 2008–09

Transaction	Rate (%)
Land and buildings:	
Up to and including £175,000 ^a	0
Above £175,000 but not exceeding £250,000 ^a	1
Above £250,000 but not exceeding £500,000	3
Above £500,000	4
Shares and bonds	0.5

^aThe £175,000 threshold applies only to residential properties from 3 September 2008 to 2 September 2009; outside this window it is £125,000, or £150,000 for residential properties in certain designated disadvantaged areas. The threshold for non-residential properties is £150,000 throughout.

Source: HM Revenue and Customs, <http://www.hmrc.gov.uk/so/rates/index.htm>, <http://www.hmrc.gov.uk/so/rates/sdrtrates.htm>.

Total stamp duties were forecast in Budget 2008 to raise £13.5 billion in 2008–09, though this was before the temporary increase in the SDLT threshold for residential property was announced. Approximately 70% of stamp duty revenue comes from sales of land and property, and the remainder from sales of securities.

A.6. Corporation tax

Corporation tax is charged on the global profits of UK-resident companies, public corporations and unincorporated associations. Firms not resident in the UK pay corporation tax only on their UK profits. The profit on which corporation tax is charged comprises income from trading, investment and capital gains, less various deductions described below. Trading losses may be carried back for one year to be set against profits earned in that period or carried forward indefinitely.⁵⁶

The standard rate of corporation tax in 2008–09 is 28%, with a reduced rate of 21% on profits under £300,000. For firms with profits between £300,000 and £1,500,000, a system of relief operates, such that an effective marginal rate of 29.75% is levied on profits in excess of £300,000. This acts to increase the average tax rate gradually until it reaches 28%. The tax rate on the first £300,000 of profits is due to rise to 22% in 2009–10, with corresponding changes to the system of marginal relief.

⁵⁶The rules for offsetting trading losses, investment losses and capital losses are complicated. More information can be found in [Klemm](#) and McCrae (2002) and full details in *Tolley's Corporation Tax*.

Table A7: Rates of corporation tax, 2008–09

Profits (£ p.a.)	Marginal tax rate (%)	Average tax rate (%)
0–300,000	21	21
300,001–1,500,000	29.75	21–28
1,500,000 or more	28	28

Sources: HM Revenue and Customs, <http://www.hmrc.gov.uk/rates/corp.htm>.

In broad terms, current expenditure (such as wages, raw materials and interest payments) is deductible from taxable profits, while capital expenditure (such as buildings and machinery) is not. To allow for the depreciation of capital assets, however, firms can claim capital allowances, which reduce taxable profits over several years by a proportion of capital expenditure. Capital allowances may be claimed in the year that they accrue, set against future profits, or carried back for up to three years. Different classes of capital expenditure attract different capital allowances:

- Expenditure on plant and machinery is ‘written down’ on a 20% declining-balance basis.⁵⁷ But from 2008–09, the first £50,000 per year of plant and machinery investment can be written off against taxable profits immediately.
- Expenditure on commercial buildings may not be written down at all. Capital allowances for industrial buildings and hotels are being phased out between 2008–09 and 2010–11. In 2008–09, expenditure is written down on a 3% straight-line basis; this will fall to 2% in 2009–10 and 1% in 2010–11 before the allowance is abolished in 2011–12. However, fixtures that are integral to a building are now separately identified and can be written down on a 10% straight-line basis.
- Intangible assets expenditure is written down on a straight-line basis at either the accounting depreciation rate or a rate of 4%, whichever the company prefers.
- Capital expenditure on plant, machinery and buildings for research and development (R&D) is treated more generously: under the R&D allowance, it can all be written off against taxable profits immediately.

Current expenditure on R&D, like current expenditure generally, is fully deductible from taxable profits. However, there is now additional tax relief available for current R&D expenditure. For small and medium-sized companies, there is a two-part tax credit, introduced in April 2000. The first part is called R&D tax relief and applies at a rate of 75% (allowing companies to deduct a total of 175% of qualifying expenditure from taxable profits, since R&D expenditure is already fully deductible). The second part is a refundable tax credit that is only available to loss-making firms. Firms can give up the right to offset losses equivalent to 175% of their R&D

⁵⁷The declining-balance method means that for each £100 of investment, taxable profits are reduced by £20 in the first year (20% of £100), £16 in the second year (20% of the remaining balance of £80) and so on. The straight-line method with a 3% rate simply reduces profits by £3 per year for 33 years for each £100 of investment.

expenditure (or to offset their total losses, if these are smaller) against future profits, in return for a cash payment of 16% of the losses given up (up to a certain limit). An R&D tax credit for large companies was introduced in April 2002. This credit applies at a rate of 30%, allowing 130% of qualifying expenditure to be deducted from taxable profits.

In all cases, to claim R&D tax credit, companies must incur eligible current R&D expenditure of at least £10,000 in a 12-month accounting period; but the tax credit is then payable on all eligible expenditure, not just the amount above the £10,000 threshold.

Before April 1999, all companies paid their total tax bill nine months after the end of the accounting year unless profits had been distributed to shareholders in the form of dividends. In that case, firms had to pay advance corporation tax (ACT), which could then, in most cases, be deducted from the total due nine months after the end of the accounting year. In April 1999, ACT was abolished apart from certain transitional arrangements. Large companies are now required to pay corporation tax in four equal quarterly instalments on the basis of their anticipated liabilities for the accounting year, making the first payment six months into the accounting year. Small and medium-sized companies still pay their total tax bill nine months after the end of the accounting year.

Corporation tax will raise approximately £51.9 billion in 2008–09.

A.7. Taxation of North Sea production

The current North Sea tax regime has three layers of tax: petroleum revenue tax (PRT), corporation tax and a supplementary charge.⁵⁸ All of these taxes are levied on measures of profit, but there are some differences in allowances and permissible deductions.

Corporation tax on North Sea production is ring-fenced, so that losses on the mainland cannot be offset against profits from continental-shelf fields. Until recently, corporation tax was otherwise the same as on the mainland, but important corporation tax reforms announced in the 2007 Budget do not apply to ring-fenced activities: the rate of corporation tax on these activities remains at 30% (or 19% if profits are below £300,000) while capital allowances are more generous than on the mainland.

The supplementary charge is levied on broadly the same base as corporation tax, except that certain financing expenditure is disallowed. It was introduced in the 2002 Budget, and is currently set at a rate of 20%

PRT is only payable on oil fields approved before March 1993. It is assessed every six months for each separate oil and gas field and then charged at a rate of 50% on the profits (less various allowances) arising in each chargeable period. PRT is forecast to raise £1.7 billion in 2008–09. It is treated as a deductible expense for both the corporation tax and the additional charge.

⁵⁸Until January 2003, some oil fields were also subject to licence royalties, a revenue-based tax.

A.8. Council tax

On 1 April 1993, the community charge system of local taxation (the ‘poll tax’, levied per individual) was replaced by council tax, a largely property-based tax. Domestic residences are banded according to an assessment of their market value; individual local authorities determine the overall level of council tax, while the ratio between rates for different bands is set by central government (and has not changed since council tax was introduced).⁵⁹

Table A8 shows the eight value bands and the proportion of dwellings in England in each band. The council tax rates set by local authorities are usually expressed as rates for a Band D property, with rates for properties in other bands calculated as a proportion of this as shown in the Table. But since most properties are below Band D, most households pay less than the Band D rate: thus in England and Wales the average Band D rate for 2008–09 is £1,354, but the average rate for all households is only £1,132.

Property bandings in England and Scotland are currently based on assessed market values as at 1 April 1991. In Wales, a revaluation took effect in April 2005 based on April 2003 property values, and a ninth band paying $2\frac{1}{3}$ times the Band D rate was introduced. A revaluation was also due to take effect in England in April 2007, but in September 2005 the Government postponed the revaluation pending the outcome of a broader inquiry into local government finance led by Sir Michael Lyons. The Lyons Inquiry reported in March 2007 and recommended that revaluation should occur and more bands be introduced, but the Government has stated that no revaluation will take place in this Parliament. A similar review of local government finance in Scotland, chaired by Sir Peter Burt, reported in November 2006 and recommended abolishing the council tax banding system and simply taxing a percentage of the value of each property (similar to the system in Northern Ireland). The Scottish Government, however, wishes to replace council tax with a 3p addition to income tax, and at the time of writing is consulting on the details of such a reform.

⁵⁹Northern Ireland operates a different system: the community charge was never introduced there, and the system of domestic rates that preceded it in the rest of the UK remained largely unchanged – still based on 1976 rental values assessed using evidence from the late 1960s – until April 2007, when a major reform took effect. Domestic rates are now levied as a percentage of the estimated capital value of properties (up to a £500,000 cap) as on 1st January 2005, with the Northern Ireland Executive levying a ‘regional rate’ (0.36% in 2008–09) across the whole province and each district council levying a ‘district rate’ (ranging from 0.19% to 0.36% in 2008–09). Reliefs are available for those with low incomes, those with disabilities, those aged 70 or over living alone, and full-time students, among others.

Table A8: Value bands for England, September 2007

Band	Tax rate relative to band D	Property valuation as of 1 April 1991	Distribution of dwellings by band (%)
A	$\frac{2}{3}$	Up to £40,000	25.1
B	$\frac{7}{9}$	£40,001 to £52,000	19.4
C	$\frac{8}{9}$	£52,001 to £68,000	21.7
D	1	£68,001 to £88,000	15.2
E	$1\frac{2}{9}$	£88,001 to £120,000	9.5
F	$1\frac{4}{9}$	£120,001 to £160,000	5.0
G	$1\frac{2}{3}$	£160,001 to £320,000	3.5
H	2	Above £320,000	0.6

Note: Percentages may not sum exactly because of rounding.

Source: Table 2.2c of Communities and Local Government, *Local Government Finance Statistics No.18* (<http://www.local.communities.gov.uk/finance/stats/lgfs/2008/lgfs18/index.html>).

There is a range of exemptions and reliefs from council tax, including a 25% reduction for properties with only one resident adult and a 50% reduction if the property is empty or a second home.⁶⁰ Properties that are exempt from council tax include student halls of residence and armed forces barracks. Low-income families can have their council tax bill reduced or eliminated by claiming council tax benefit.⁶¹ Council tax, net of council tax benefit, is expected to raise £24.9 billion in 2008–09.

A.9. Business rates

National non-domestic rates, or business rates, are a tax levied on non-residential properties, including shops, offices, warehouses and factories. Firms pay a proportion of the officially estimated market rent (“rateable value”) of properties they occupy. In 2008–09, this proportion is set at 46.2% in England and Scotland and 44.6% in Wales,⁶² with reduced rates for businesses with a low rateable value:

- In England, businesses with a rateable value below £15,000 (£21,500 in London) are charged a reduced rate of 45.8%. This is further reduced on a sliding scale for rateable values below £10,000, with the liability halved for businesses with a rateable value below £5,000.
- In Scotland, a reduced rate of 45.8% applies to businesses with a rateable value below £29,000. This is reduced by a further 20% for businesses with a rateable value between £10,000 and £15,000, 40% for rateable values between £8,000 and £10,000, and 80% for rateable values of £8,000 or less.

⁶⁰Since 2003, however, councils have had the power to charge second homes up to 90% of council tax and empty homes 100%. Some empty properties are entirely exempt from council tax, e.g. those left empty by patients in hospitals and care homes.

⁶¹For details of council tax benefit, see [O’Dea et al. \(2007\)](#).

⁶²Northern Ireland operates a slightly different system of regional rates (set at 29.9% in 2008–09) and locally varying district rates (ranging from 15.7% to 28.8% in 2008–09).

- In Wales, business rates are reduced by 25% for businesses with a rateable value between £2,000 and £5,000 and by 50% for businesses with a rateable value of £2,000 or less.

Various other reductions and exemptions exist, including for charities, small rural shops, agricultural land and buildings, and unoccupied buildings (for an initial three month period, longer in some cases).

Properties are revalued every five years. The latest revaluation took effect in April 2005, based on April 2003 rental values. Major changes in business rates bills caused by revaluation are phased in through a transitional relief scheme.

Business rates were transferred from local to national control in 1990. Rates are set by central government (or devolved administrations in Scotland and Wales), with local authorities collecting the revenue and paying it into a central pool. Formally, this revenue is then redistributed back to local authorities; but since this amount is simply deducted from the grant that central government makes to local authorities, local authorities' income need not bear any relation to the amount that business rates bring in. However, from 2010–11 the Government proposes to allow English local authorities to levy (subject to certain restrictions) a supplementary business rate of up to 2% on properties with a rateable value above £50,000 to pay for economic development projects.

Business rates are expected to raise £23.7 billion in 2008–09.

References

- Adam, S. (2005), *Measuring the Marginal Efficiency Cost of Redistribution in the UK*, IFS Working Paper W05/14, <http://www.ifs.org.uk/wps/wp0514.pdf>.
- Adam, S. (2008), 'Capital Gains Tax' in Chote, R., Emmerson, C., Miles, D. and Shaw, J. (eds.), *The IFS Green Budget: January 2008*, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/budgets/gb2008/08chap10.pdf>.
- Adam, S., Brewer, M. and Chote, R. (2008), *The 10% Tax Rate: Where Next?*, Briefing Note 77, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/bns/bn77.pdf>.
- Adam, S., Brewer, M. and Shephard, A. (2006a) *The Poverty Trade-Off: Work Incentives and Income Redistribution in Britain*, Bristol: The Policy Press.
- Adam, S., Brewer, M. and Shephard, A. (2006b) *Financial Work Incentives in Britain: Comparisons Over Time and Between Family Types*, IFS Working Paper W06/20, <http://www.ifs.org.uk/wps/wp0620.pdf>.
- Adam, S. and Browne, J. (2009), *Redistribution, Work Incentives and Thirty Years of UK Tax and Benefit Reform*, forthcoming.
- Barker, K. (2003), *Review of Housing Supply: Interim Report – Analysis*, London: HMSO, http://www.hm-treasury.gov.uk/consultations_and_legislation/barker/consult_barker_background.cfm
- Barr, N. (2004), *Economics of the Welfare State*, 4th edition, Oxford: Oxford University Press.
- Blow, L., Hawkins, M., Klemm, A. and McCrae, J. (2002), *Budget 2002: Business Tax Changes*, Briefing Note 24, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/bns/bn24.pdf>.
- Blundell, R. and Preston, I. (1998), 'Consumption Inequality and Income Uncertainty', *The Quarterly Journal of Economics*, vol. 113, no. 2, pp. 603–640.
- Bond, S. (2006), 'Company taxation' in Chote, R., Emmerson, C., Harrison, R. and Miles, D. (eds.), *The IFS Green Budget: January 2006*, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/budgets/gb2006/06chap9.pdf>.
- Bond, S., Denny, K., Hall, J. and McClusky, W. (1996), 'Who pays business rates?', *Fiscal Studies*, vol.17 no.1 pp. 19–35, London: Institute for Fiscal Studies.
- Bond, S., Klemm, A. and Hawkins, M. (2005), 'Stamp duty on Shares and its Effect on Share Prices', *Finanzarchiv*, vol. 61 no. 3, pp. 275–297, Tübingen: Mohr Siebeck.
- Brewer, M. (2006), 'Tax credits: fixed or beyond repair?' in Chote, R., Emmerson, C., Harrison, R. and Miles, D. (eds.), *The IFS Green Budget: January 2006*, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/budgets/gb2006/06chap7.pdf>.
- Brewer, M., Goodman, A. and Leicester, A. (2006), *Household Spending in Britain: What Can It Teach Us About Poverty?*, Bristol: The Policy Press.
- Brewer, M., Saez, E. and Shephard, A. (this volume), 'Means testing and tax rates on earnings'.

Clark, T. and Leicester, A. (2004), 'Inequality and Two Decades of British Tax and Benefit Reform', *Fiscal Studies*, vol.25 no.2, pp.129-158, London: Institute for Fiscal Studies.

Crawford, C. and Freedman, J. (this volume), 'Small business taxation'.

Crawford, I., Smith, Z. and Tanner, S. (1999), 'Alcohol taxes, tax revenues and the Single European Market', *Fiscal Studies*, vol.20 no.3, pp.287-304, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/fs/articles/0009a.pdf>.

Dilnot, A. and McCrae, J. (1999), 'Family Credit and the Working Families' Tax Credit', Briefing Note 3, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/bns/bn3.pdf>.

Disney, R. (2004), 'Are Contributions to Public Pension Programmes a Tax on Employment?', *Economic Policy*, July 2004, pp. 267-311.

Etheridge, B. and Leicester, A. (2007), 'Environmental taxation' in Chote, R., Emmerson, C., Leicester, A. and Miles, D. (eds.) *The IFS Green Budget: January 2007*, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/budgets/gb2007/07chap11.pdf>.

Evans, C. (this volume) 'Commentary on "Taxation in the UK"'

Goodman, A., Johnson, P. and Webb, S. (1997), *Inequality in the UK*, Oxford: Oxford University Press.

Goodman, A. and Oldfield, Z. (2004), *Permanent Differences? Income and Expenditure Inequality in the 1990s and 2000s*, Report Series 66, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/comms/r66.pdf>.

Hawkins, M. and McCrae, J. (2002), *Stamp duty on share transactions: is there a case for change?*, Commentary 89, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/comms/comm89.pdf>.

HM Treasury (2002), *Tax Benefit Reference Manual 2002-03 Edition*, unpublished manual.

IFS Capital Taxes Group (1989), *Neutrality in the taxation of savings: An extended role for PEPs*, Commentary 17, London: Institute for Fiscal Studies.

Immervol, H., Kleven, H.J., Kreiner, C.T. and Saez, E. (2005), 'Welfare Reform in European Countries', *OECD Social Employment and Migration Working Papers*, No.28, OECD publishing.

Jones, F. (2008), 'The effects of taxes and benefits on household income, 2006/07', *Economic and Labour Market Review*, vol.2 no.7, pp.37-47, London: Office for National Statistics, http://www.statistics.gov.uk/elmr/07_08/downloads/ELMR_Jul08_Jones.pdf.

Klemm, A. and McCrae, J. (2002), 'Reform of corporation tax: a response to the government's consultation document', Briefing Note 30, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/bns/bn30.pdf>.

Lakin, C. (2002), 'The Effects of Taxes and Benefits on Household Income, 2000-01', *Economic Trends* no.582, London: Office for National Statistics, http://www.statistics.gov.uk/articles/economic_trends/effects_taxes_and_benefits_household_income_00-01.pdf.

Meyer, B. and Sullivan, J. (2003), 'Measuring the Well-Being of the Poor Using Income and Consumption', *Journal of Human Resources*, vol. 38 (Supplement), pp. 1180–1220.

Meyer, B. and Sullivan, J. (2004), 'The Effects of Welfare and Tax Reform: The Material Well-Being of Single Mothers in the 1980s and 1990s', *Journal of Public Economics*, vol. 88, nos. 7–8, pp.1387–1420.

O'Dea, C., Phillips, D. and Vink, A. (2007), *A Survey of the UK Benefit System*, Briefing Note 13, London: Institute for Fiscal Studies, <http://www.ifs.org.uk/bns/bn13.pdf>.

OECD (2007), *Revenue Statistics 1965-2006*, Paris: OECD.

OECD (2008a), *Taxing Wages 2006-2007*, Paris: OECD.

OECD (2008b), *Consumption Tax Trends*, Paris: OECD.

Sen (1973), *On Economic Inequality*, Oxford: Oxford University Press.

Sen (1992), *Inequality Reexamined*, Oxford: Oxford University Press.

Shaw, Slemrod and Whiting (this volume), 'Administration and compliance'.

Wakefield, M. (2008), *How Much Do We Tax the Return to Saving?*, IFS Briefing Note, forthcoming.

Walker, C. and Huang, C-D. (2003), *Alcohol Taxation and Revenue Maximisation: The Case of Spirits Duty*, HM Customs and Excise Forecasting Team Technical Note Series A no. 10, http://customs.hmrc.gov.uk/channelsPortalWebApp/downloadFile?contentID=HMCE_PROD_008438