



The progressivity of UK taxes and transfers

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SUMMARY

- The UK tax and transfers system (including state spending on benefits in kind, such as the NHS and state education) is highly progressive.
- However, the past 30 years has seen an increasing proportion of the population of total households becoming overall net recipients of the state. This has been particularly marked in the past ten years: in 2010/11, 53.4 per cent of total households received more in benefits than they paid in taxes – compared to 43.1 per cent in 1979 and 43.8 per cent in 2000/01. Around three million more households were net recipients of the state in 2010/11 than just ten years earlier.
- Over this period, middle-income households have moved from being significant net contributors to the state to significant net recipients. Twenty years ago, in 1990, the middle quintile of households faced an effective tax rate of 8.2 per cent. But by 2010/11 this had reversed: their effective tax rate was -20.4 per cent. In other words, the average household in the middle quintile used to pay £1,673 more in tax than it received in benefits and benefits in kind; but in 2010/11 received £4,589 more in benefits than it paid in taxation. If the average household in the middle income group faced the same net effective tax rate in 2010/11 as in 1990, then they would be making a net contribution £6,425 higher today.
- In 2010/11, households in the highest quintile effectively financed the great majority of net transfer to all other households.

Lowest quintile	received £10,153 more in benefits than paid in taxes
Second quintile	received £9,655 more in benefits than paid in taxes
Middle quintile	received £4,589 more in benefits than paid in taxes
Fourth quintile	paid £4,113 more in taxes than received in benefits
Highest quintile	paid £20,125 more in taxes than received in benefits

- At least part of this change in effective tax rates is down to changing demographics, with an increasing proportion of retired households in the middle three quintiles.
- But similar trends are also observed when purely examining non-retired households. 39.6 per cent of these households received more in benefits than they paid in taxes in 2010/11 compared to 31.7 per cent in 1979 and 29.0 per cent in 2000/01.
- In addition, the proportion of non-retired households receiving a cash benefit other than child benefit rose from 40.3 per cent in 2000/01 to 44.6 per cent in 2010/11 – an increase of over a million households.

SOME QUESTIONS FOR POLICY MAKERS

- This data raises important questions for policy makers:
 - To what degree is the expansion of state spending since 2000/01 (in particular on the NHS and state education) the cause of this change?
 - To what degree is this level of transfer affordable in either the short or the medium term, particularly given the current deficit? Note that a large part of the rise in the proportion of those dependant on the state occurred at a time when the government was running a deficit even while the economy appeared to be growing steadily.
 - What is the relationship between the increasing number of households who have become net recipients of the state over the last ten years and the deterioration in the national finances?
 - Who should bear the burden of any new taxation required to maintain these levels of social expenditure? Or should government aim to reduce these expenditures?
 - Do individuals realise that they are net contributors, or net recipients to the state? This, of course, will depend on the value they attach to the state provided services included in these calculations.
 - In the absence of significant policy reforms, the ageing UK population will reinforce the trend to greater dependency on the state. If today's level of transfers are largely deficit-financed, is this affordable?
 - Does this mean that the state pension age will have to rise more quickly than currently planned?
 - Has the 'safety net' provided by the welfare state extended too far up the income scale?
 - Is there too much "churn" – taxing people and then returning many of the same funds to them in benefits?
 - What are the democratic implications of the majority of the population being net recipients of the state? Is a "client state" being created in which the majority of the population have entitlements larger than their fiscal responsibilities? Will this majority ever support proposals for reducing the size and role of the state?
 - What are the implications for individual responsibility and freedom of such high levels of dependency on the state – particularly for those on lower original incomes?

Introduction

- This Factsheet examines the taxes paid minus the benefits received as a proportion of “original income” (income from work and savings) for UK households. This establishes an effective tax rate for households, measuring the degree to which households are net beneficiaries of the state.¹
- The ONS splits households into “quintiles” (or fifths) according to “equivalised disposable income”.² The taxes paid include the average direct, indirect and intermediate tax liabilities for each quintile.³ The benefits received include both average cash benefits and benefits in kind (including education, housing subsidy, school meals etc).⁴ They do not, however, include other public goods such as national defence or the police. As such the figures presented here are most instructive when looking across time than a precise measure of the degree of net contribution in any given year.

Whole population

- In 2010/11, the taxes less transfers as a proportion of original income were:

Table 1 – The effective tax rate of quintile groups for all households in 2010/11

	Effective tax rate	Original average annual income	Final average annual income
Lowest quintile	<i>minus 200%</i>	£5,089	£15,242
Second quintile	<i>minus 82%</i>	£11,764	£21,419
Middle quintile	<i>minus 20%</i>	£22,482	£27,071
Fourth quintile	plus 10%	£39,642	£35,529
Highest quintile	plus 25%	£81,501	£61,376

Source: ONS, *The effects of tax and benefit on household income, 2010/11, 2012*

- This means that, on average, for every £1 of income earned by a household in the middle quintile, it received an additional 20p in net government transfers (benefits minus taxes). Similarly, for every £1 earned by those in the lowest quintile an additional £2 was received in net transfers. This includes benefits in kind, such as education and expenditure on the National Health Service.

¹ All data in this Factsheet comes from the current and historic ‘The effects of taxes and benefits on household income’, produced annually by the Office for National Statistics.

² Equivalisation adjusts incomes according to differences in household size and composition to account for the fact that different size households require different incomes to achieve the same standard of living. This analysis has used the modified-OECD equivalisation scale since 2009/10. Previously the McClements Scale was used.

³ **Direct taxes:** Income tax less tax credits, employees’ NI contributions, Council Tax less Council Tax Benefit. **Indirect taxes:** VAT, Duty on tobacco, Duty on beer and cider, Duty on wines & spirits, Duty on hydrocarbon oils, Vehicle excise duty, Television licences, Stamp duty on house purchase, Customs duties, Betting taxes, Insurance premium tax, Air passenger duty, Camelot National Lottery Fund and ‘Other’. **Intermediate taxes:** Commercial and industrial rates, Employers’ NI contributions, Duty on hydrocarbon oils, Vehicle excise duty, ‘Other’.

⁴ **Contributory cash benefits:** State pension, Job seeker’s allowance (Contribution based), Incapacity benefit, Widows’ benefits, Statutory Maternity Pay/Allowance Benefits. **Non-contributory cash benefits:** Income support and pension credit, Child benefit, Housing benefit, Job seeker’s allowance (Income based), Carer’s allowance, Attendance allowance, Disability living allowance, War pensions/War widows’ pensions, Severe disablement allowance, Industrial injury disablement benefit, Student support, Government training schemes, Tax credits, Other non-contributory benefits. **Benefits in kind:** Education, National Health Service, Housing subsidy, Rail travel subsidy, Bus travel subsidy, School meals and Healthy Start Vouchers.

- The bottom 60 per cent of households are, on average, net recipients of the state while the top two quintiles are net contributors. The households in the highest quintile are the significant net contributors.
- The tax and benefits system is therefore, unsurprisingly, very progressive, and to a large degree, this is what we would expect. After all, those in the bottom quintiles are likely to be those on low incomes, the unemployed or retired households. So the raw results here do not do much except confirm what we might have suspected. What is more interesting is to examine how this has changed over time.
- Table 2 below shows how these effective tax rates have changed since 1979. The clear conclusion is that, with the exception of the bottom quintile, the average net effective tax rate faced by households has fallen. This has been particularly marked over the past ten years.
- Most noticeable is that middle-income households have moved from being significant net contributors to significant net recipients. Twenty years ago, in 1990, the middle quintile of households had a net effective tax rate of 8.2 per cent. But in 2010/11 this was -20.4 per cent. This means today, the average household in the middle quintile receives £4,589 more in benefits and benefits in kind than it pays in taxation.⁵ In fact, if the average household in the middle income group faced the same net effective tax rate in 2010/11 as in 1990, then they would be making a net contribution £6,425 higher today.
- Even the fourth quintile has undergone a significant reduction in its average effective tax rate over this period, from 23.1 per cent to 10.4 per cent. In money terms, the average household in this quintile has gone from making a net contribution of £7,392 in 1990/91 to £4,113 today. In fact, if the effective net tax rate for this quintile had remained the same between 1990/91 and 2010/11, the average household in this group would now face a net contribution £5,030 higher. Most of the change has occurred in the last five years, however, so it is unclear how much of this is cyclical and a result of the downturn.

⁵ All monetary values presented in this Factsheet are presented in 2010/11 prices using the implied expenditure deflator for household sector – based on latest (28 June 2012) National Accounts data.

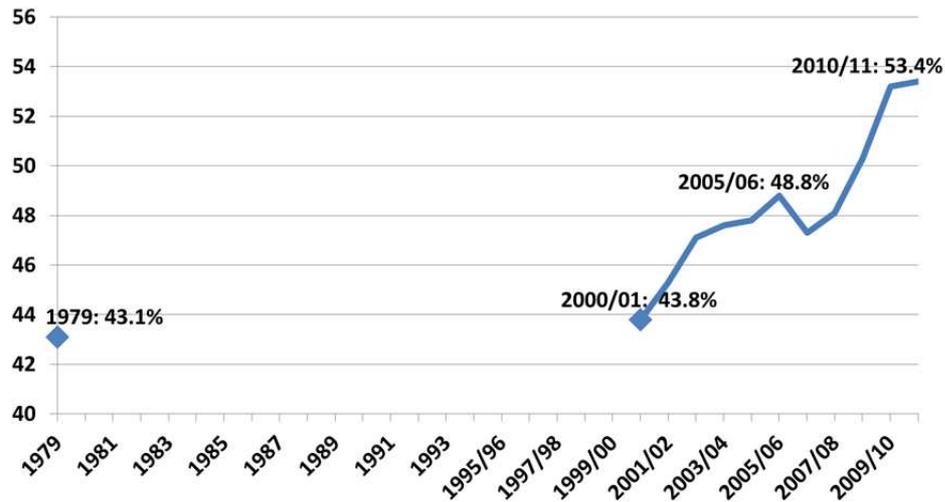
Table 2 – The effective tax rate of quintile groups for all households 1979-2010/11⁶

	Bottom	2nd	Middle	4th	Top
1979	-259.2%	-33.2%	8.4%	22.9%	29.8%
1980	-252.3%	-32.5%	9.8%	22.7%	30.0%
1981	-209.2%	-38.8%	8.9%	23.4%	31.3%
1982	-217.8%	-49.8%	7.1%	24.1%	31.0%
1983	-216.2%	-56.5%	6.5%	23.0%	31.0%
1984	-241.7%	-62.6%	4.5%	23.6%	32.3%
1985	-271.9%	-61.9%	6.7%	24.5%	31.1%
1986	-249.3%	-63.1%	5.6%	24.6%	30.9%
1987	-294.0%	-57.8%	6.4%	23.7%	30.7%
1988	-296.6%	-47.9%	9.7%	23.9%	29.0%
1989	-305.0%	-51.4%	10.6%	23.1%	28.8%
1990	-261.9%	-44.6%	8.2%	23.1%	28.4%
1991	-296.2%	-49.3%	6.1%	22.4%	27.7%
1992	-296.3%	-68.9%	2.9%	20.2%	27.4%
1993	-289.0%	-83.6%	-2.5%	21.1%	28.2%
1994/95	-278.1%	-75.6%	-2.3%	19.3%	29.0%
1995/96	-239.2%	-67.4%	-1.4%	19.9%	29.2%
1996/97	-259.2%	-64.3%	1.5%	21.4%	29.0%
1997/98	-233.8%	-62.7%	1.3%	22.5%	29.5%
1998/99	-200.4%	-58.0%	4.4%	23.7%	30.8%
1999/00	-211.7%	-55.6%	3.3%	22.7%	29.5%
2000/01	-212.5%	-49.6%	5.9%	23.6%	29.9%
2001/02	-204.7%	-56.7%	1.3%	20.7%	29.1%
2002/03	-190.3%	-61.7%	-2.3%	18.6%	28.5%
2003/04	-213.5%	-57.4%	-2.7%	18.1%	28.8%
2004/05	-209.9%	-56.4%	-4.5%	17.8%	28.5%
2005/06	-218.6%	-68.0%	-5.7%	16.6%	28.2%
2006/07	-194.6%	-63.3%	-3.5%	19.0%	28.1%
2007/08	-207.4%	-58.0%	-6.4%	15.4%	27.8%
2008/09	-173.3%	-65.7%	-10.3%	15.1%	27.0%
2009/10	-212.1%	-90.9%	-17.0%	9.7%	25.5%
2010/11	-199.5%	-82.1%	-20.4%	10.4%	24.7%

- This data is, of course, in the form of averages for each income quintile. But, at our request, the Office for National Statistics has also calculated how the total proportion of households who are net recipients of the state has changed since 1979.
- The ONS analysis shows that in 1979, 43.1 per cent of households were net recipients of the state. This had risen only slightly to 43.8 per cent by 2000/01. However, over the past ten years to 2010/11, the proportion of households who are net recipients of the state has now increased to 53.4 per cent. This means that by 2010/11 around 3 million more households were net recipients of the state than seen just ten years earlier.

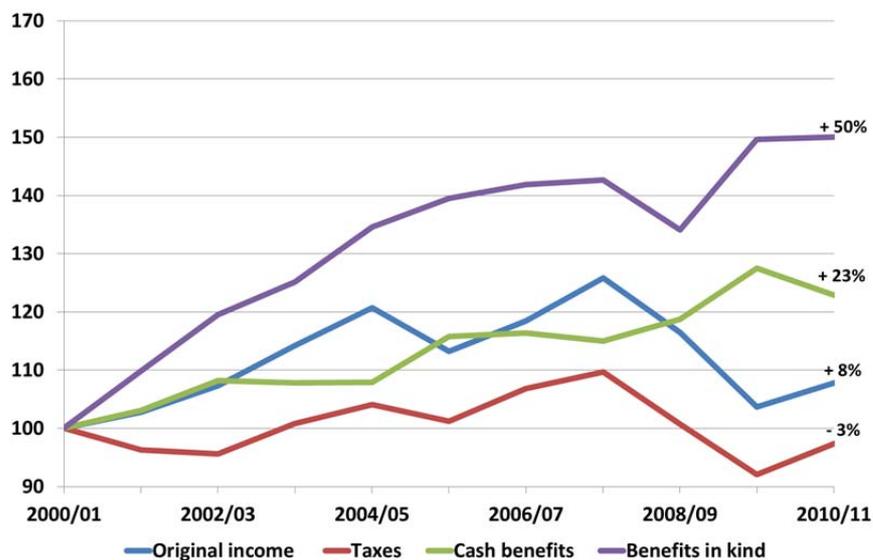
⁶ Note that it is possible for effective tax rates to fall for all quintiles. This can occur if original income rises more quickly than net receipts; if government borrows more to spend more on benefit increases; or if government re-orientates spending from non-transfer spending to transfer spending (eg if defence spending was cut while benefits were increased).

Proportion of total households receiving more in benefits than paid in taxes



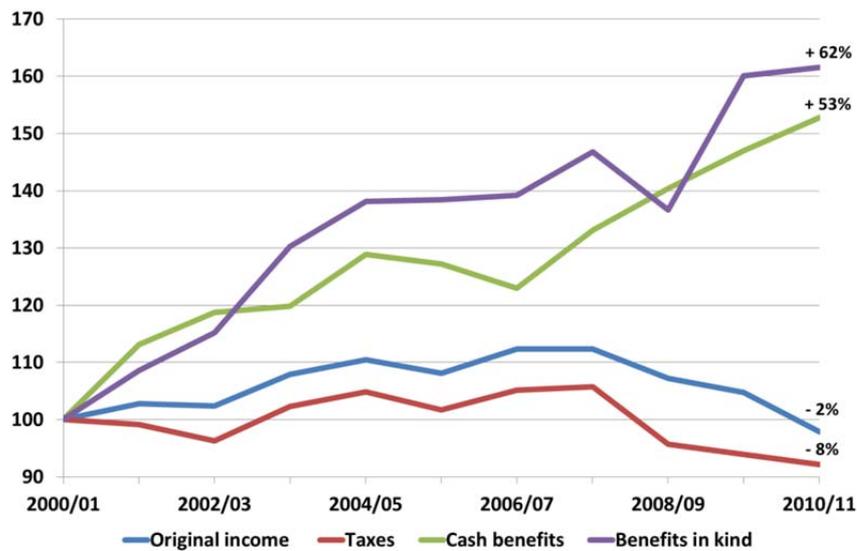
- The charts below show indices of the four things which contribute to the calculation of the effective tax rate. For the middle three quintiles, taxes paid and original income earned across the period have remained fairly constant. But both cash benefits and benefits in kind have grown substantially more quickly.

2nd quintile

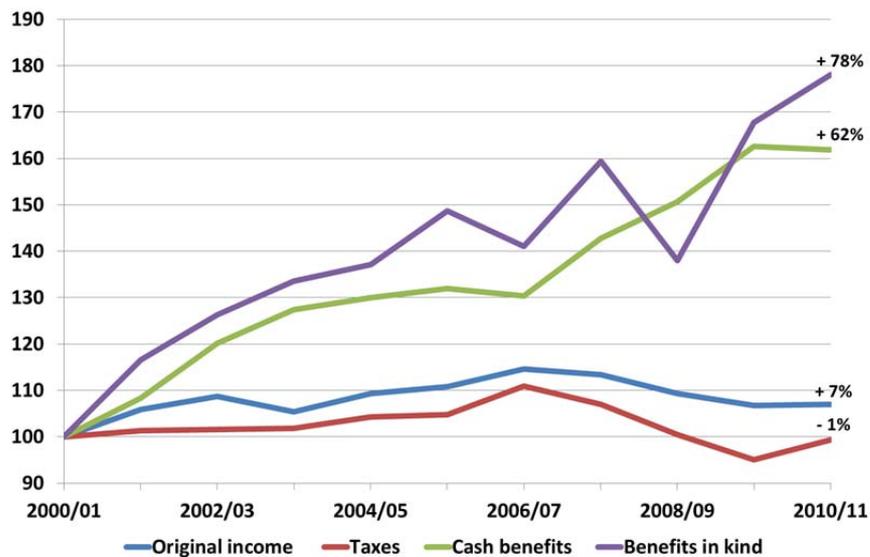


Note: this chart shows the real-terms growth of each determinant of final household income for households in the second quintile between 2000/01 and 2010/11. Therefore, for this quintile, the real value of benefits in kind increased by 50%, cash benefits by 23% and original income by 8% while total taxes paid fell by 3%.

3rd quintile



4th quintile



- The table below summarises the overall money (in real terms) and percentage changes for the past ten years. It's worth noting here that we would not expect the same households to find themselves in the same quintiles over time. What is clear is that there has been a large rise in benefits in kind and cash benefits across the board, with particularly large proportional rises in the benefits received by top three quintiles.

Table 3 – Changes in the determinants of effective tax rates of all households 2000/01-2010/11⁷

<i>Bottom quintile</i>					
	Original income	Total taxes	Cash benefits	Benefits in kind	Final income
2000/01	£3,831	£4,272	£6,597	£5,817	£11,971
2010/11	£5,089	£4,636	£7,040	£7,749	£15,242
Change	£1,258	£364	£443	£1,932	£3,271
% change	33%	9%	7%	33%	27%

<i>2nd quintile</i>					
	Original income	Total taxes	Cash benefits	Benefits in kind	Final income
2000/01	£10,912	£6,416	£6,770	£5,054	£16,320
2010/11	£11,764	£6,251	£8,322	£7,584	£21,419
Change	£852	-£165	£1,552	£2,530	£5,099
% change	8%	-3%	23%	50%	31%

<i>3rd quintile</i>					
	Original income	Total taxes	Cash benefits	Benefits in kind	Final income
2000/01	£22,979	£10,336	£4,356	£4,617	£21,616
2010/11	£22,482	£9,525	£6,655	£7,459	£27,071
Change	-£497	-£811	£2,299	£2,842	£5,455
% change	-2%	-8%	53%	62%	25%

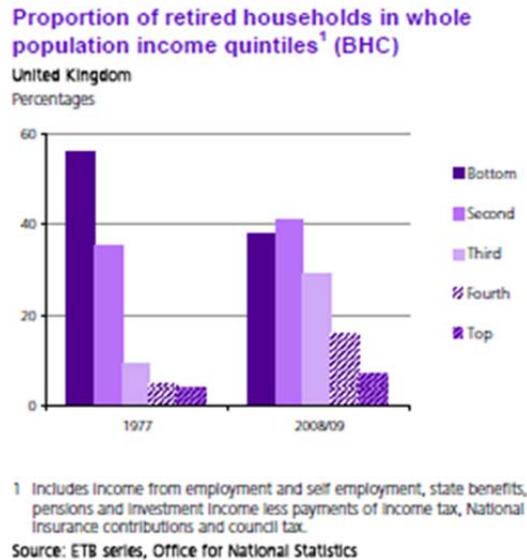
<i>4th quintile</i>					
	Original income	Total taxes	Cash benefits	Benefits in kind	Final income
2000/01	£37,072	£15,128	£2,532	£3,831	£28,306
2010/11	£39,642	£15,035	£4,098	£6,825	£35,529
Change	£2,570	-£93	£1,566	£2,994	£7,223
% change	7%	-1%	62%	78%	26%

<i>Top quintile</i>					
	Original income	Total taxes	Cash benefits	Benefits in kind	Final income
2000/01	£68,995	£24,949	£1,369	£2,963	£48,377
2010/11	£81,501	£28,066	£2,115	£5,826	£61,376
Change	£12,506	£3,117	£746	£2,863	£12,999
% change	18%	12%	54%	97%	27%

⁷ Note that “Total taxes” can be higher than “Original income” (particularly in the lowest quintiles), as for example some spending of cash benefits will incur indirect and intermediate taxation.

Non-retired population

- One possible explanation of the above trends is that the effective tax rates calculated above are reflective of demographic trends. Retired households, for example, are more likely to be net recipients than net contributors. Given that we have an ageing population, is it not possible that an increasing number of pensioners are therefore providing a downward pull on the net contribution rates in certain quintiles? Consider the chart below from the ONS's Pension Trends publication.



- This shows that in 1977 the proportion of retired households in the whole population was around 56 per cent for the bottom income quintile, circa 36 per cent for the second quintile and much lower for the top three quintiles. Since then, however, there has been a structural shift such that the proportion of pensioners in the bottom quintiles has fallen, whilst all of the other quintiles have seen the proportion of pensioners increase. This would therefore appear to explain, at least in part, the increasing average household effective tax rate in the bottom quintile, and the falling effective tax rate for the top four quintiles, and would seem indicative of the sorts of challenges the UK will face due to the effects of an ageing population.
- The ONS also provides the data broken down between non-retired and retired households. Table 4 below provides a summary of the effective tax rates of different quintile groups for non-retired households in 2010/11.
- It shows that, on average, for every £1 of income earned by each household in the middle quintile, it paid a net contribution of 3p (taxes – benefits). For every £1 earned by those in the bottom quintile an additional £1.36 was received in net transfers.

Table 4 – The effective tax rate of quintile groups for non-retired households in 2010/11

	Effective tax rate	Original average annual income	Final average annual income
Lowest quintile	minus 136%	£7,442	£17,566
Second quintile	minus 31%	£19,305	£25,274
Middle quintile	plus 3%	£33,186	£32,305
Fourth quintile	plus 19%	£48,914	£39,466
Highest quintile	plus 26%	£92,675	£68,407

- Table 5 below shows how these effective tax rates have changed since 1979. As with the data for all households, there is a clear trend for the effective tax rate to fall across all quintiles (this time, including the bottom quintile). For the top three quintiles, this has been particularly marked over the past ten years.

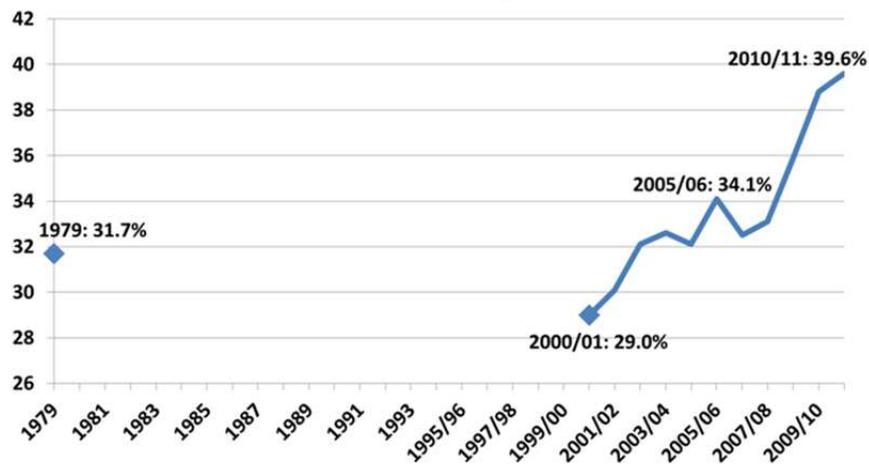
Table 5 – The effective tax rate of quintile groups for non-retired households 1979-2010/11

	Bottom	2nd	Middle	4th	Top
1979	-43.9%	6.5%	16.9%	26.3%	30.6%
1980	-44.0%	5.4%	18.9%	25.5%	30.9%
1981	-57.5%	4.1%	18.6%	27.2%	32.3%
1982	-79.6%	0.8%	19.8%	27.2%	31.8%
1983	-95.1%	1.3%	17.3%	28.5%	31.9%
1984	-109.4%	-0.4%	17.9%	28.1%	33.5%
1985	-121.0%	1.8%	19.1%	28.2%	32.3%
1986	-112.3%	-0.4%	19.3%	28.2%	31.9%
1987	-126.3%	1.5%	18.4%	27.5%	31.5%
1988	-97.9%	3.9%	20.4%	28.3%	29.5%
1989	-110.6%	5.5%	19.0%	27.5%	29.3%
1990	-91.9%	4.9%	20.3%	26.4%	29.1%
1991	-119.3%	1.7%	19.1%	26.1%	28.5%
1992	-163.1%	-7.5%	17.0%	24.4%	28.6%
1993	-189.8%	-15.0%	14.6%	23.8%	29.6%
1994/95	-168.8%	-13.0%	15.2%	25.2%	30.9%
1995/96	-156.9%	-12.0%	16.9%	24.8%	30.7%
1996/97	-149.0%	-10.4%	19.4%	26.0%	30.4%
1997/98	-154.2%	-9.9%	17.8%	27.6%	30.6%
1998/99	-124.0%	-3.1%	20.7%	28.9%	32.2%
1999/00	-136.2%	-3.0%	19.5%	28.4%	30.3%
2000/01	-113.0%	-3.6%	22.3%	28.3%	30.7%
2001/02	-119.4%	-4.4%	17.0%	26.1%	30.2%
2002/03	-116.0%	-9.3%	15.7%	24.8%	30.1%
2003/04	-117.2%	-9.9%	15.5%	24.8%	29.9%
2004/05	-104.6%	-6.5%	14.3%	24.7%	29.7%
2005/06	-133.1%	-12.5%	14.4%	23.3%	29.7%
2006/07	-113.8%	-11.3%	14.8%	25.1%	29.4%
2007/08	-121.4%	-12.7%	13.8%	22.6%	29.1%
2008/09	-117.9%	-18.3%	9.4%	23.0%	28.2%
2009/10	-154.2%	-26.6%	5.8%	18.6%	26.8%
2010/11	-136.0%	-30.9%	2.7%	19.3%	26.2%

- The effective tax rate of middle-income households has declined from 22.3 per cent to just 2.7 per cent in the past ten years. This means today, the average household in the middle quintile pays £881 more in tax than it receives in benefits – compared to £7,048 ten years ago. In fact, if the average household in the middle income group faced the same net effective tax rate in 2010/11 as in 2000/01, then they would be making a net contribution £6,519 higher today.

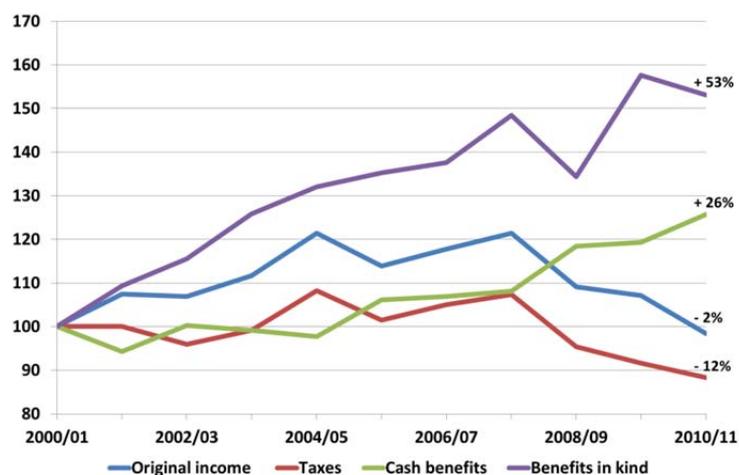
- The most significant change in these statistics comes for the second quintile, where the average effective tax rate has fallen from -3.6 per cent in 2000/01 to -30.9 per cent today. In real money terms, the average household in this quintile has gone from being a net recipient of £712 in 2000/01 to £5,969 today. In fact, if the effective net tax rate for this quintile had remained the same between 2000/01 and 2010/11, the average household in this group would now face a net contribution £5,274 higher. There is no doubt that some of this effect is cyclical due to the financial crisis and subsequent downturn, but even prior to that there was a clear trend towards the second poorest fifth of household enjoying higher net receipts.
- As with the previous analysis, this data is averaged for each quintile. The Office for National Statistics has also calculated how the total proportion of non-retired households who are net recipients of the state has changed since 1979. In 1979, 31.7 per cent of non-retired households were net recipients of the state, and this had fallen to as low as 29.0 per cent by 2000/01. However, over the past ten years to 2010/11, the proportion of households who are now net recipients of the state has increased to 39.6 per cent. This means that by 2010/11 around 2.2 million more non-retired households were net recipients of the state than seen just ten years earlier.

Proportion of non-retired households receiving more in benefits than paid in taxes

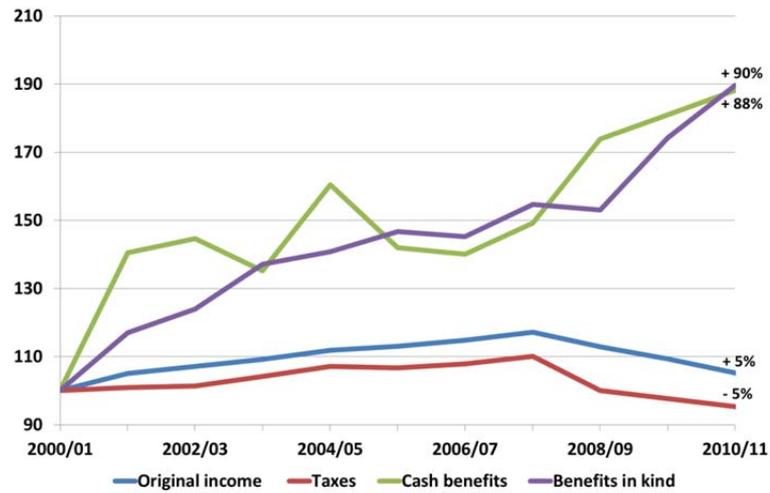


- The charts below show indices of the four things which contribute to the calculation of the effective tax rate. For the middle three quintiles, they show that both cash benefits and benefits in kind have grown much more quickly than original income or the amount paid in taxation.

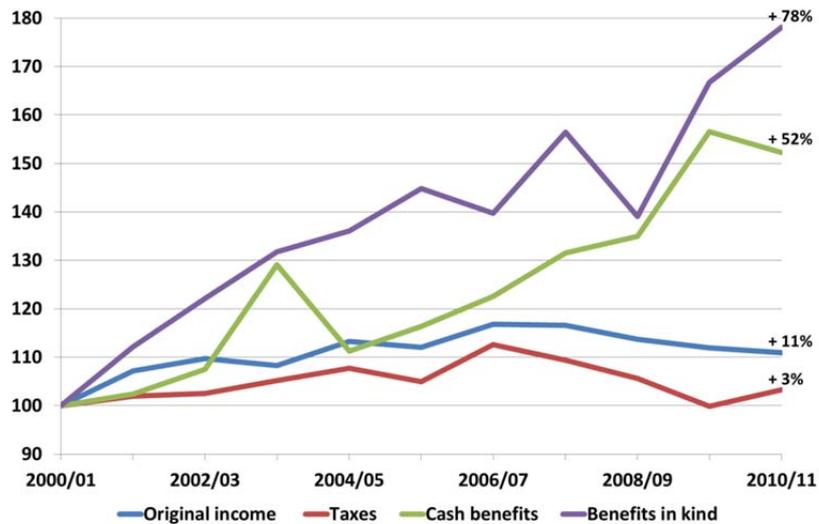
2nd quintile



3rd quintile



4th quintile



- The table below summarises the overall percentage changes in the past ten years. What is clear (again) is that there has been a large rise in benefits in kind and cash benefits across the board over the past ten years, which appears often to make up for fairly stagnant original incomes. There have been particularly large proportional rises in the benefits received by the top three quintiles.

Table 6 – Changes in the determinants of the effective tax rates of non-retired households 2000/01-2010/11

Bottom quintile

	Original income	Total taxes	Cash benefits	Benefits in kind	Final income
2000/01	£6,617	£5,522	£6,440	£6,564	£14,098
2010/11	£7,442	£5,473	£6,586	£9,012	£17,566
Change	£825	-£49	£146	£2,448	£3,468
% change	12%	-1%	2%	37%	25%

2nd quintile

	Original income	Total taxes	Cash benefits	Benefits in kind	Final income
2000/01	£19,621	£9,588	£4,862	£5,437	£20,331
2010/11	£19,305	£8,467	£6,112	£8,323	£25,274
Change	-£316	-£1,121	£1,250	£2,886	£4,943
% change	-2%	-12%	26%	53%	24%

3rd quintile

	Original income	Total taxes	Cash benefits	Benefits in kind	Final income
2000/01	£31,556	£13,268	£2,019	£4,202	£24,507
2010/11	£33,186	£12,649	£3,798	£7,969	£32,305
Change	£1,630	-£619	£1,779	£3,767	£7,798
% change	5%	-5%	88%	90%	32%

4th quintile

	Original income	Total taxes	Cash benefits	Benefits in kind	Final income
2000/01	£44,096	£17,601	£1,468	£3,646	£31,609
2010/11	£48,914	£18,178	£2,235	£6,495	£39,466
Change	£4,818	£577	£767	£2,849	£7,857
% change	11%	3%	52%	78%	25%

Top quintile

	Original income	Total taxes	Cash benefits	Benefits in kind	Final income
2000/01	£76,429	£27,199	£912	£2,829	£52,972
2010/11	£92,675	£31,538	£1,396	£5,874	£68,407
Change	£16,246	£4,339	£484	£3,045	£15,435
% change	21%	16%	53%	108%	29%

- Separate analysis by the ONS for this report also indicates that the proportion of non-retired households receiving a cash benefit other than child benefit has increased from 40.3 per cent in 2000/01 to 44.6 per cent in 2010/11 – an increase of over a million households.