Human Capital, Inequality and Tax Reform: Recent Past and Future Prospects

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Abstract

Even before the financial crisis many developed economies were facing growing inequality and struggling to maintain employment and earnings. As a consequence, extending employment opportunities and enhancing earnings over the working life has become a central aim of much of recent economic policy. This paper addresses two key questions: What has happened to living standards and inequality? Where will tax and welfare reforms have most impact? It uses the recent history of the UK as a running example. The analysis suggests that, since the recession, younger families are behaving as if they expect a long-run fall in relative living standards. The pattern of sluggish real wages at the bottom looks set to continue and longer-term earnings growth will come mostly from high-skilled occupations. The resulting growing earnings inequality will bring increasing pressure on the tax and welfare system. The key to extending employment and earnings is to focus policy on improving the flows into work for people leaving school and for mothers with young children, and on expanding work among people in their 50s and 60s. Human capital policy is shown to play a complementary role, improving both productivity and the payoff to work, while ensuring stronger earnings growth over a lifetime. The evidence points to a blueprint for a coherent and effective tax policy that takes a life-cycle view of work and human capital accumulation.

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1. Introduction

Even before the recent crisis, many economies and their governments around the developed world faced growing inequality and pressure to increase employment and earnings. The depth and duration of the recession added to this pressure and brought further strains on government revenues. These problems have become even more severe in economies with ageing populations. As a result, extending employment opportunities and enhancing earnings over the working life has become a central aim of much of recent economic policy.

The ideas developed in this paper aim to address these concerns and argue for policies that focus on improving the flows into work for people leaving school and for mothers with young children, and on expanding work among people in their 50s and 60s. Human capital policy is shown to have a key role by improving both productivity and the payoff to work, ensuring stronger earnings growth over a lifetime. The evidence points to a blueprint for a coherent and effective policy that takes a life-cycle view of work and human capital accumulation.

Using the experience of the UK economy as a running example, the paper addresses two central questions: What has happened to living standards and inequality? Where will tax and welfare reform have most impact? The emphasis will be on the labour market and on the personal tax and welfare system. As in a majority of developed economies, many of the key determinants of trends in income inequality and in overall living standards in the UK over the past 25 years have been driven by changes in the labour market and to human capital. These include the changes in education, changes in earnings inequality and changes in labour productivity.

Recent research on the linkages between the behaviour of earnings, labour supply, savings and household consumption, see Blundell (2014), bring a new understanding to the relationship between human capital, inequality and tax reform. To dig a little deeper into this relationship, we examine three measures of economic well-being: *Earnings*: made up of employment, wages, human capital and labour productivity; *Family Incomes*: including the impact of the tax and benefit system, family labour supply and capital incomes; and, finally, *Consumption*: highlighting the differences between durables and non-durable expenditures.

After discussing these underlying trends, the paper examines the prospects for living standards, inequality and policy reform. Without dramatic changes in overall labour

productivity, the pattern of low and sluggish real wages at the bottom looks set to continue. As a consequence, low-skilled workers will increasingly rely on the benefit/tax credit system, gifts and family labour supply. Longer-term earnings growth will mostly come from high-skilled occupations. The resulting growing earnings inequality will bring increasing demands on the tax and welfare system. This comes at a time when there is an increased pressure on government revenue.

In terms of policy reform, there is much to be done. As argued in the *Mirrlees Review* [IFS, 2011], current tax and welfare systems raise revenue inefficiently and redistribute resources unfairly. Instead of a focus on piecemeal reforms, tax and welfare policy should be re-designed to operate more effectively in enhancing lifetime earnings through three key policy elements: improving labour market entry for those leaving school and for women with young children; keeping older workers in the labour force; increasing human capital investments.

The analysis reviewed in this paper points to some potentially big gains. It suggests a path to improving long-term trends in employment and earnings that recognizes the role of early human capital investments in enhancing the incentive to work and, at the same time, enhances the accumulation of human capital while in work. In turn, the prospect of higher net income earned later in working life provides an important incentive for human capital investments. The financial crisis and the long recession that followed have not changed the agenda for reform; they have simply highlighted the urgency for a coherent reform to the tax and welfare system that aims to enhance lifetime earnings and address growing earnings inequality.

2. What has happened to living standards and inequality?

In many countries, including the UK and the US, the inequality of earnings over the last three or four decades has increased considerably. Figure 1 presents some key inequality trends for the UK since the early 1960s and shows the strong increase in inequality for all measures during the 1979 to 1991 period. The increase in income inequality in the 1980s and early 1990s was widespread in the UK: inequality increased within and across education groups, occupations, cohorts.

{Figure 1. UK Income Inequality: 50/10, 90/50 and 99/90 ratios}

[Note to editor: Figures are gathered at end of the document]

In the UK, for the period since the mid-1990s, there has been more stability in overall income inequality over much of the income distribution. As we will see, this has been driven, at least in part, by redistributive reforms to the tax-credit system and masks growing inequality in earnings, especially for younger cohorts. In line with evidence from many developed economies, Figure 1 shows that the incomes of the top percentile in the UK have grown at a significantly higher rate.

2.1 Employment, Earnings and Human Capital

Sluggish growth in labour productivity has been a defining characteristic of the post-recession period in many developed economies, and notably slow to recover in the UK. Figure 2 charts the pattern of output per worker and output per hour in the UK since 2008. Previous recessions have shown much stronger growth in productivity.

Real earnings too fell back sharply after the recession and have scarcely recovered. This decline occurred even though the composition of workers shifted towards the more educated and older, typically more productive types.[3] The fall in real earnings is particularly striking after very strong increases in weekly earnings since the mid-1990s. Figure 3 documents this strong real earnings growth followed by a significant fall after 2009.

{Figure 2: Changes to productivity since 2008 (2008Q2=100)}

{Figure 3: Mean weekly earnings since 2001 adjusted for RPI(J)}

The real earnings series displayed in Figure 3 use the RPI(J) price deflator which accounts for the fall in mortgage costs as real interest rates adjusted downwards. The figure also shows that the overall pattern of real earnings growth in the UK is robust to alternative measures of weekly earnings. However, the rise in real earnings in the year following the onset of the recession is sensitive to the price index used.

Although there has been some fall in working hours among younger workers, for the most part, the fall in weekly earnings is reproduced in hourly earnings. Indeed, Figure 4 shows that it is the real hourly earnings of the young that have fallen back the most. A 9% fall for the youngest group with a small rise for the 60+ group. As Figure 5 documents, in contrast to

[3] See Cribb and Joyce (2015) updated calculations of Blundell, Crawford and Jin (2014).

earlier recessions, unprecedentedly high proportions of employees in the UK experienced little in the way of even nominal growth in the 2008-2011 period.

{Figure 4: Median hourly earnings in UK since 2008}

'Effective' labour supply, particularly female labour supply, has been higher in the UK recently than following previous recessions, due partly to welfare policy changes and long-run changes in the labour market participation of women, but also partly to long-run real wage declines and the fall in the real value of wealth. Some increase of employment can be attributed to policy changes; e.g. labour supply has increased among lone parents as a result of job search conditions attached to benefit claims, and older workers are retiring later as a result of increased State Pension Age (SPA) for women.

The contrast of employment by age is even more dramatic when viewed across the whole of Europe. For example, even in Spain, Figure 6 shows there has been strong growth in employment among women aged over 60 despite the severity of unemployment among younger age groups. The systematic growth in German employment for this older group of women - more than doubling over this period, even outstripped the growth in the UK.

{Figure 5: Some history of the distribution of real hourly earnings in the UK}

The impressive growth in real hourly earnings in the UK in the 10 years prior to the recession also coincided with a strong growth in education levels. Figure 7(a) shows the dramatic rise across birth cohorts in individuals with university degrees. There is an especially large difference in education levels between those born in the late 1960s and those born in the late 1970s. Naturally, higher education levels can be expected to generate higher earnings. That is what gives rise to the education premium, the gap in earnings between those with a degree and those without. What is more surprising is that the education premium shows little sign of decline *despite* the strong increase in education levels across these birth cohorts. This stability in the education premium can be seen from Figure 7(b), which plots the average university premium by age. The figure also shows the expected strong growth in early career earnings experienced by those with university degrees but shows little noticeable impact on this premium of the large increases in degree among particular entry cohorts. Blundell, Green and Jin (2015) show that this stability in the premium cannot be explained by composition

differences. Indeed, the premium goes a long way to explain the average real wage growth and growth in labour productivity, experienced before the recession. Although all real wages have fallen back in the UK since the recession, the education premium has been maintained throughout the post-recession period.

{Figure 6: Employment Rates for European Women Aged 60-64.}

The key role of human capital investments in maintaining earnings and enhancing growth during the life-cycle cannot be understated. Skill differences matter enormously for earnings. Blundell, Costa-Dias, Meghir and Shaw (2013) find a strong complementarity between education levels and wage growth during the working life. The hourly wages of those with more skills grow faster and for longer over their working lives. Early investments beget later investments as noted by Carneiro and Heckman (2003). Figure 8 charts the average hourly wages (in log units) for UK women by age according to their education level. It shows the remarkably strong growth in real hourly wages early in the career of the educated women. The higher the education level, the longer the wages grow and the later in working life is the point at which they peak. This *complementarity* between early human capital investments and career wages is found to be robust to corrections for selection and endogeneity. It points to the huge potential from human capital investments. Equally, it points to the depressing lack of wage growth in work for those workers who leave school with basic levels of education.

{Figure 7 (a): Growth in proportion with degrees or above by age: all workers in UK}
{Figure 7 (b): Ratio of BA median wage to that of High School (A-level)}
{Figure 8: Life-Cycle Wage Profiles by Education}

In line with these observations, the descriptive evidence suggests that the number of routine jobs near the middle of the earnings distribution has declined steadily. As Figure 9 shows, more jobs in the UK are now classified as professional or managerial.

{Figure 9: Employment shares by occupation group in the UK}

2.2 Family Income and Income Inequality Since the Recession

During the recession, and immediately after, saw a fall in real earnings for those in work in the UK. Employment rates also fell for low-skilled young adults but not for older workers.

Figure 10 shows the starkly different evolution of net and private market incomes over the post-recession period, with private earned incomes falling much more at the bottom of the distribution.

Over this period, the welfare benefit and tax credit system in the UK was working increasingly hard to maintain the incomes of low earners and, despite the rise in earnings inequality among workers, income inequality fell. By 2012, average incomes stabilised, but the significant falls in previous years left average real incomes some 8.5% below peak, reflecting a sharp drop in real earnings driven by large falls in pre-tax earned income of households, despite buoyant employment.

{Figure 10: Real private and net income growth, 2007–08 to 2012–13}

2.3 The Pattern of Consumption

Consumer behaviour is the third and final piece of evidence. Consumption growth reflects expectations about the future incomes and future income uncertainty. It is noticeable that falls in real consumer expenditure since 2008 were deeper in the UK than in previous recessions. Unusually, expenditure on consumer non-durables fell the most, especially among the young and, to some extent, among the middle-aged, less for the old. Some of this may well have been due to the temporary VAT reduction but it is unlikely to be the main driver of the sustained fall in non-durable expenditures.

{Figure 11: Non-durable spending per capita across UK recessions}

Figure 11 shows that per capita consumption was still 4% below pre-recession levels at the end of 2014. It is also worth noting that the start of the fall is coincident with the fall in GDP (not income). Saving ratios have risen since 2008 although they are lower than during the early 1980s and early 1990s. The data points to a permanent fall in expected living standards, especially among the young and middle-aged. The persistent fall of real labour market earnings, together with the announced changes to the value of family benefits and tax credits, confirm this and suggest the picture for lower income families will deteriorate rapidly. Recent consumption growth is dominated by durable expenditure increases, which suggests families are replacing older durables rather than a long-term rise in consumer expenditure levels.

The recent consumption data from the Understanding Society panel for the UK documents an even starker picture. Figure 12 shows a fall in real food expenditure, especially among

families with children. This suggests quite a severe cut to the real standard of living of younger families. Older households do not display this fall, reflecting the relatively better position of older cohorts during this recession.

{Figure 12: Change in Food Expenditure Distribution and Household type}

As a final reflection on the pattern of consumer behaviour, it is worth highlighting the growth of consumption inequality among younger cohorts. Figure 13 shows a measure of consumption inequality plotted against age across different birth cohorts. More recent birth cohorts have experienced increasing inequality in their real consumer expenditure, perhaps reflecting the changes in long-term inequality of both earned income documented above and increasing evidence of the contribution to inequality played by wealth transfers. As Cribb, Hood and Joyce (2015) have shown, wealth transfers across generations in the UK accentuate inequality. They note that a growing proportion of younger individuals think they will receive inheritances, and are also those who already have the highest net wealth.

{Figure 13: Consumption Inequality by age and birth cohort in the UK}

2.4 What do these trends tell us?

The story behind these trends in employment, earnings and consumption is revealing and somewhat disturbing. At a broad level, the evidence suggests younger workers and families in the UK expect a long-run, persistent fall in relative living standards, as evidenced from the sustained fall in real per-capita non-durables consumption. Real wages, productivity and investment have been slow to pick up, and this suggests that the pattern of lower real wages at the bottom is set to continue. The strong complementarity between education investments and wage growth suggests that future earnings growth will be concentrated among skilled workers. In terms of reform, growing earnings inequality will place increasing pressure on the redistributive parts of the tax and benefit system.

This means that getting the tax system to raise revenue efficiently and to redistribute effectively is a growing priority. But to deliver a coherent policy reform agenda, it is important to understand whether, and to what extent, individuals and families respond to the underlying incentives in the tax and benefit system.

3. Understanding Behaviour: A Life-cycle View

Empirical research on work incentives has emphasized the need to distinguish between the intensive and extensive margins of labour supply - that is between the decision of whether to work or not and how much to work. Especially for low earners, responses to tax and welfare incentives are larger at the extensive margin—employment—than at the intensive margin—hours of work. There is an enormous empirical literature on this subject, see Blundell and MaCurdy (1999) and Meghir and Phillips (2010), for surveys. This research has also shown clear differences in responses over the life-cycle with strong variation by age, gender and family composition. Larger responses are found among those leaving education, among mothers with young children, and among older workers, especially those in their late 50s and 60s.

There has also recently been a flurry of important contributions that build on this life-cycle view, noting that, although responses may appear small at certain points in the life-cycle, there are other points where they are not. Blundell, Bozio and Laroque (2011) develop this argument using data from the UK, US and France. Figure 14 is an example of their findings, showing strong similarities in average employment among prime-aged men across all three countries but stark differences at labour market entry and around retirement. The argument is that labour supply viewed over the whole life-cycle can be quite responsive to taxes, even for those who appear not to respond to changes in incentives early in the working career, see Ljundqvist and Sargent (2011) and references therein. In this analysis, tax reforms can substantively alter total hours and effort over the lifetime.

{ Figure 14: Male Employment by Age in the UK, US and France, 2007}

Added to this is a greater focus on the interaction between human capital investments and labour supply. In a lifetime framework it is natural to account for responses in educational and on-the-job investments alongside labour supply. Human capital investments increase the pay-off to work and enhance earnings over the working life. Drawing on a long line of research relating experience capital and future wages, Keane and Rogerson (2012) argue convincingly that allowing for human capital increases the responsiveness of labour supply to tax changes, and that these effects differ over the life-cycle.

The life-cycle human-capital setting for the analysis of labour supply responses is hardly new, see Heckman (1976) for a key early exposition, however it does seem deserving of further integration with the general analysis of supply-side reforms to tax, welfare and social

insurance. As we noted earlier, the pay-off to human capital investments may be greater among workers with already higher initial educational investments - early human capital investments beget future skill development, see Heckman and Cairnero (2003).

Before moving to a more detailed examination of the evidence on life-cycle behaviour, it is worth noting that the focus here on hours, employment and human capital responses to reform should not detract from other key ways that earnings respond to tax policy. For example, when it comes to the taxation of top incomes and the self-employed, concerns about the tax base come back into play. Indeed, Feldstein (1995, 1999) makes a convincing case for looking directly at taxable income. The more opportunities for exemptions and deductions and the possibility to pass income through other lower tax jurisdictions, the more difficult it is to raise revenue from the top income earners. As Slemrod and Kopczuk (2002) note, a higher tax rate on a smaller base will raise less revenue and will probably be harder to sustain. In general, taxes on earnings should always be viewed as part of the whole 'tax system' acknowledging, in particular, interactions with capital and consumption taxation.

3.1 Younger workers and families

Empirical evidence suggests that younger workers with little formal education are likely to experience a low pay-off from 'on the job' human capital investments. This appears to be the case whether these investments are passive 'learning by doing' or active training investments. This simply reflects the complementarity between human capital investments of the kind explored in Heckman and Cairnero (2003). Consequently, in buoyant economic times at least, young *low-educated* workers have little 'dynamic work incentive' to stay in work over and above the current period work incentives. Typically though, we see that they face important nonlinearities and disincentives in the tax and welfare benefit system, brought about through the interaction and overlap of the tax, tax credit and welfare systems, especially if they have children. These key interactions have been documented extensively for the UK in the Mirrlees Review (2012), but they are equally important in many countries. Figure 15 is an example of a budget set facing a single mother in the US.

{Figure 15: Universally Available Tax and Transfer Benefits in US}

The complexity of the tax system may not always be apparent from the income tax schedule itself, but note that what really matters for work incentives is the total amount of earnings taken in tax and withdrawn benefits—the *effective* tax rate. As Figure 15 exemplifies for the

US, the schedule of effective tax rates can be highly complicated by the many interactions between income taxes, earnings-related social security contributions by employers, welfare benefits, and tax credits. What is really important in designing tax rate schedules is to take account of empirical evidence on the impact of the effective tax schedule, implicit in the whole budget constraint, on the behavior of different groups of people. Of course, it is also important to account for take-up/awareness of welfare and tax credit entitlements, as in Keane and Moffitt (1998), for example.

It is likely that younger *low-educated* workers will be closer to the participation margin, than for their more educated counterparts, making them particularly sensitive to incentives at the extensive margin. The literature on labour supply responses for low education workers suggests moderately high extensive margin elasticities, especially for women with younger children, and rather lower intensive margin elasticities (often also pointing to important income effects for such groups), see Blundell and MaCurdy (1999). This combination of intensive and extensive elasticities can then be used to argue for the introduction and/or expansion of EITC style subsidy programmes for certain groups of low wage workers, see Brewer, Saez and Shephard (2010) and references therein. Perhaps the most responsive at the extensive margin are low-educated mothers returning to work after having a child. This has been well documented in the empirical literature and remains a key point in the design of work incentives for low-wage workers. Noting this, Blundell and Shephard (2012) suggest 'tagging' implicit tax rates in tax credits and in the taper rate of means-tested benefits according to the age of children.

Children play a key role in this discussion. Even though fertility decisions are assumed exogenous to the tax system in the work discussed so far (which may be an assumption worth relaxing, see Keane and Wolpin, 2010), the reforms that follow from these 'Mirrlees' style arguments often argue for targeted wage subsidies that encourage work among young low-educated women. Of course, there are other arguments made to justify these policies, see Moffitt (2005) for a discussion.

If early childhood investments by parents are a key to future child development, subsidising work for low-educated mothers with younger children, might seem counter-productive. However, if human capital begets human capital from one generation to the next, then this concern may be less forceful, see Heckman (2011). Instead, the early child human capital investment argument might suggest targeted subsidies or targeted loans for good quality

childcare to complement earnings incentives for low wage parents and enhance human capital investments for their children.

3.2 Human capital investments and the higher educated

Human capital investment decisions have often been left to one side in arguments about labour supply incentives. But progressive taxes reduce the incentives to acquire education, and to invest in human capital over the working life. They do so in two ways. First, by reducing the expected return to education. Second, by insuring against very low wage outcomes that might otherwise occur for workers with low education levels. Blundell et al. (2013) show both of these aspects to be potentially important considerations in incentives for high school and university enrolment. On the flip-side, targeted financial incentives to remain in education for those with low-income parents have been met with some success, see Dearden, Emmerson and Meghir (2009), for example. The degree to which progressive taxes do reduce education investments should be a key component in tax policy design.

Human capital investments take two forms – formal education and on-the-job investments. As we saw for the UK women in Figure 9, the hourly wages of those with more education grow for longer into their working lives. The higher the education level, the longer the wages grow and the higher they peak. What recent research has also found (Imae and Keane, 2004, and Blundell, Costa-Dias, Meghir and Shaw, 2013, for example), is that on-the-job investments tend to be 'complementary' to formal educational investments. Education complements experience capital, increasing earnings and extending the life-cycle profile, thereby making early retirement less advantageous.[4]

The complementarity in human capital investments implies that for those younger workers who have acquired higher levels of formal education before entering the labour market, there is an enhanced dynamic incentive for work. This adds to the static current period incentives for work, a point that has been highlighted by Keane (2009).[5] The idea that human capital investments enhance incentives to work, and to work for longer, is perhaps no surprise, see Heckman, Lochner and Taber (1998) and references therein. For educated workers, employment generates valuable experience, which more than likely depreciates with time out

[4] There is also some evidence that this complementarity extends to workplace qualification training too, see Blundell, Dearden and Meghir (1996).

[5] Added to this, Blundell et al. (2013) find that part-time work produces little in the way of experience pay-off, at least for the UK women in their sample. This part-time experience penalty adds to the other arguments as to why part-time work is often found to be less financially rewarding.

of the labour market. Consequently, few educated younger workers will be near the participation margin and are unlikely to respond very much to employment incentives or disincentives in the tax system while they are young. But seen from a lifetime labour supply perspective, the overall impact of taxation on the career length and earnings profile of higher educated workers will be significant. Incentives for early retirement then act to reduce the incentive to acquire human capital.

3.3 Older workers

Even those with high human capital investments are likely to become more responsive to incentives at the extensive margin as they approach retirement. The differences in employment at older ages have already been highlighted in Figure 14. This pattern of responsiveness over the lifetime is confirmed in French and Jones (2012), who develop a micro-data based model of retirement choices, allowing for the disincentives in social security and medical insurance at the individual level. They find substantially higher labour supply responses at the extensive margin among older workers in the US. Reductions in work disincentives have much larger impacts for older workers than for younger workers.. The fact that work decisions among older workers are more responsive to incentives has been documented in many studies. These include the cross-country studies of Gruber and Wise (1999) which focus on the post 55 age group and the more macro-based studies, see Rogerson and Wallenius (2009).

A dominant characteristic of the evidence on older workers is the strong variation in labour supply for men and for women in their late 50s and 60s. In the UK, for example, Banks and Casanova (2003) show that individuals who are at the extremes of the wealth distribution – the relatively poor and wealthy - are more likely to leave employment early than those in the middle of the wealth distribution. Broadly speaking, the poor are more likely to move onto disability benefits, while those with higher levels of pension and financial wealth are more likely to retire early and live on private pension income. Those in the middle are more likely to remain in paid work. Chandler and Tetlow (2014) show that these differences, especially among the low wealth, have largely survived through the recession.

This literature on older workers suggests a greater focus on lifetime careers, e.g. Ljundqvist and Sargent (2011), and on the lifetime pay-off to human capital investment, e.g. Keane and Rogerson (2012).

4 Prospects for Reform

This paper began with two questions: What has happened to living standards and inequality? Where will tax and welfare reform have most impact? The evidence reported here shows that the great recession resulted in long-run declines in real earnings, much more so than in previous recessions. Although the real earnings of most occupations and most age groups have experienced declines over this period, the largest declines in the UK have been experienced among the young and lower educated. The wage premium for those with university degrees in the UK was maintained during the education expansion prior to the recession and, reassuringly, has shown little sign of falling back since the recession even though educated workers continue to form an increasing proportion of the working age population. Moreover, the education premium has been to shown to grow strongly over the working life.

The trends in earnings add to underlying inequality and put additional strain on the welfare benefit and tax credit system. They point to a key role for human capital in maintaining earnings over ever extending working lives. Overall, the analysis suggests a focus on human capital investment with longer-term earnings growth most likely coming from high-skilled occupations.

Younger families have reacted to these long-run declines in their earnings potential by reducing their real consumption levels. For those at the bottom of the earnings distribution with little wealth, incomes can only be maintained in the immediate future through a combination of increases in family labour supply and an increased reliance on the welfare benefit and tax-credit system. Any reduction in the real value of family benefits can only make things worse.

How then should we best design policy to increase overall employment and earnings over the working life and address growing underlying inequality? The empirical evidence reviewed here[6] suggests that work incentives, especially at the extensive margin, are strongest for parents with early school age children, and for older workers. For the young, the policy design issue is to avoid young individuals leaving education too early and experiencing spells neither in work nor education. We have seen that financial incentives to stay in high school for those with poor family backgrounds can play a role in this regard too. In general, work decisions for the young lower educated do appear sensitive to incentives in the tax and

[6] See Blundell (2012), for more detail.

benefit system, see Meghir and Philips (2010). Encouraging investment in human capital improves the pay-off to work and ensures earnings grow, and hold up longer, throughout the working life.

For older workers, work decisions are particularly responsive to taxes. Reducing disincentives to work for people in their late 50s and 60s, implicit in social security retirement ages, earnings tests, disability insurance and medical insurance provisions, can strongly improve incentives to stay in work for longer and improve incentives to invest in human capital too. The more welfare benefits can be linked to contributions, the less distortionary they become.

This research suggests that the key to improving the trends in employment, hours and earnings in the longer-run will be to focus tax and welfare policy reform on labour market entry, on retirement and on human capital. The arguments point toward a blueprint for a policy reform agenda that takes a life-cycle view of work and human capital accumulation. Tax and welfare policy should be re-designed to acknowledge that work incentives operate most effectively at certain key points in the life-cycle, enhancing the flow into work for those leaving education and for returning mothers after childbirth, while maintaining work among those in their late 50s and 60s. These margins are precisely where labour supply has been shown to be responsive to tax policy incentives and, consequently, where it may also be best to focus policies aimed at reducing distortions. Human capital policy plays a complementary role, improving both productivity and the payoff to work, while ensuring stronger earnings growth over a lifetime.

With growing underlying inequality and increased pressure on government revenues, the required reforms, although increasingly necessary, are also increasingly likely to face short-term political barriers. To quote Besley (2015), ‘high levels of inequality can skew the priorities of the state by limiting its capacity to act effectively’. The great recession has not changed this reform agenda, instead it has highlighted the urgency for coherent tax and welfare reform.

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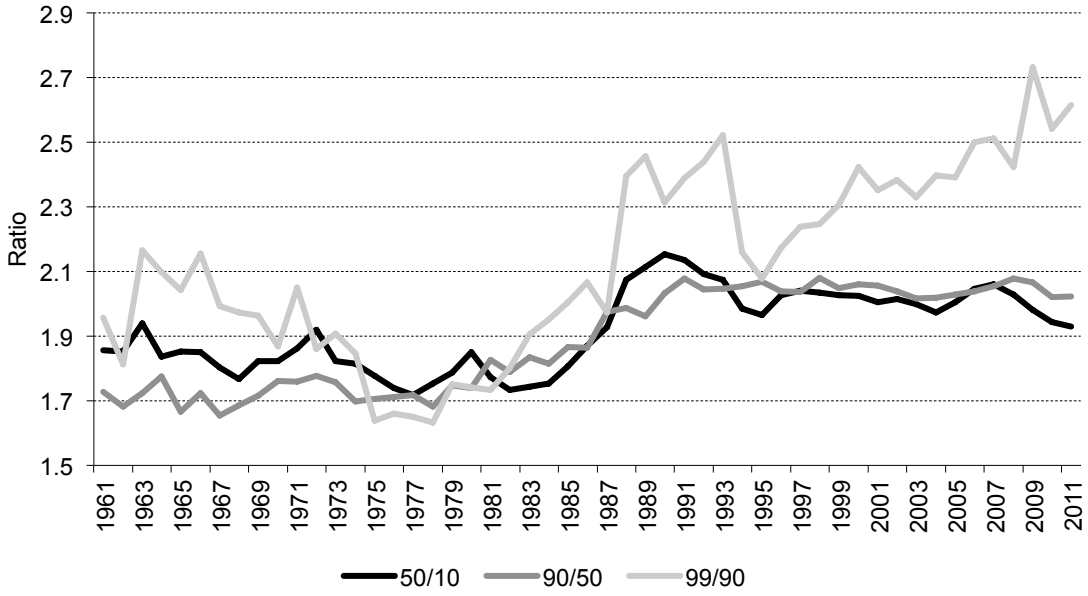
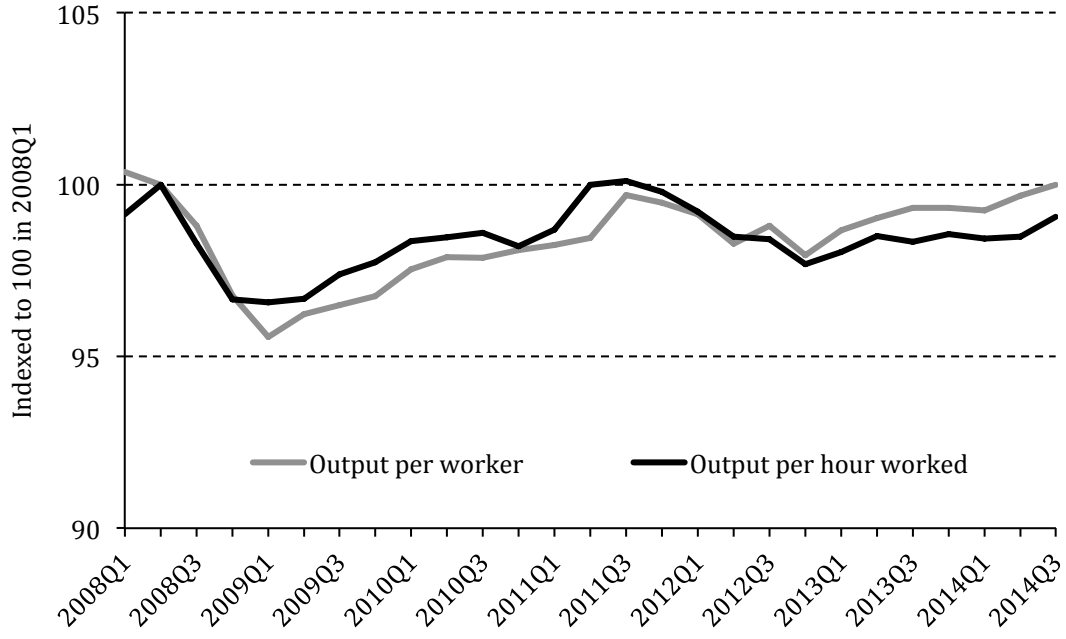
Figure 1. UK Income Inequality: 50/10, 90/50 and 99/90 ratios



Notes: Income has been measured before housing costs have been deducted. Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

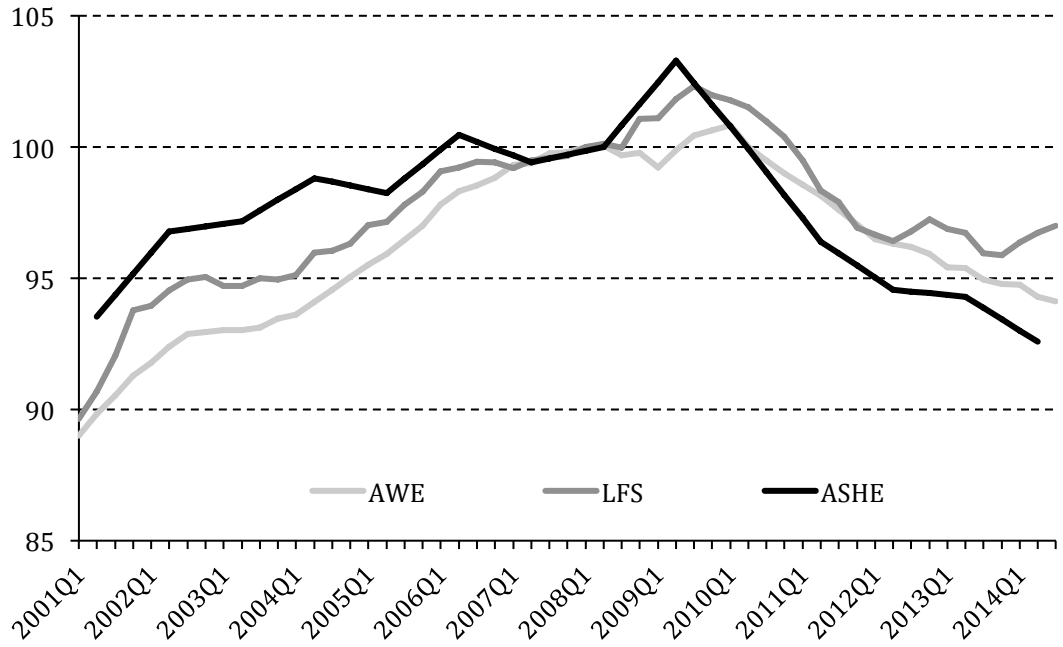
Source: Cribb et al., 2013; Family Resources Survey and Family Expenditure Survey, various years; supplemented by the administrative tax return data from the Survey of Personal Incomes for the 1%.

Figure 2: Changes to productivity since 2008 (2008Q2=100)



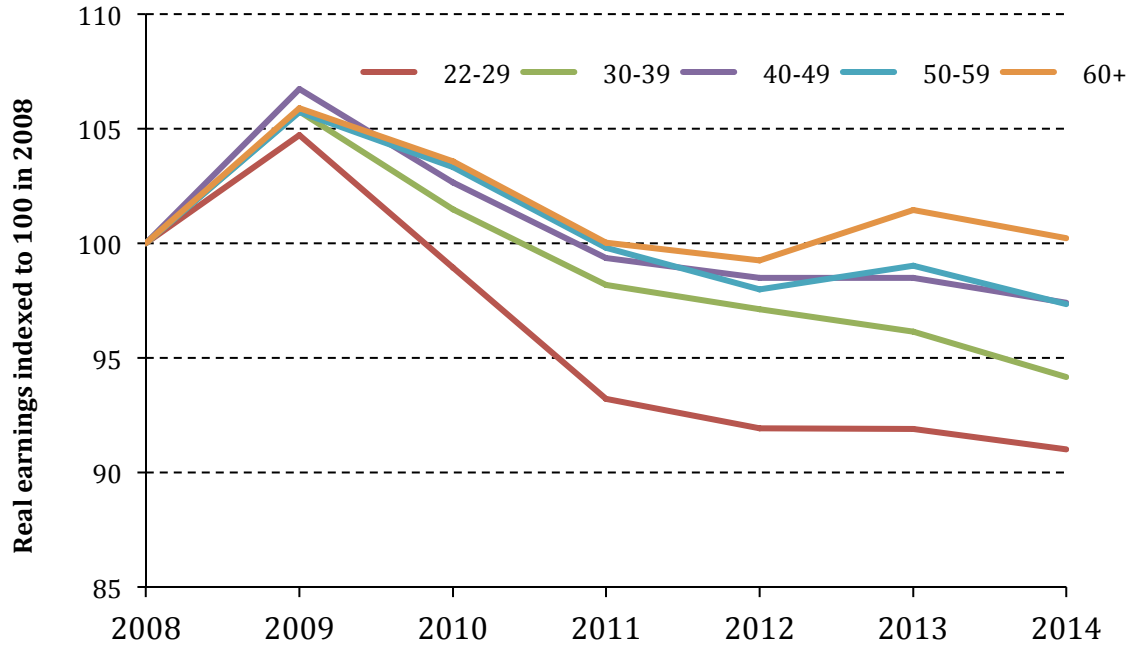
Source: Cribb and Joyce (2015).

Figure 3: Mean weekly earnings since 2001 adjusted for RPI(J) inflation (indexed to 100 in 2008Q1)



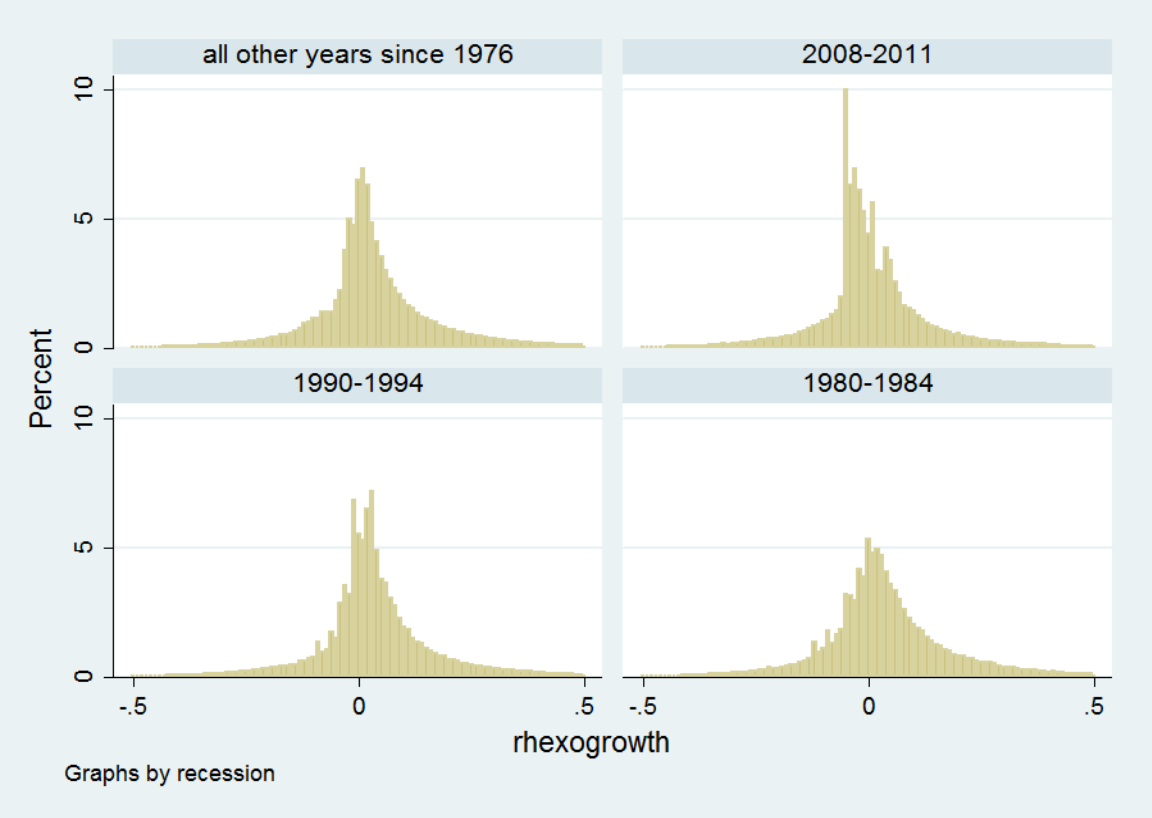
Source: Cribb and Joyce (2015).

Figure 4: Median hourly earnings in UK since 2008 (indexed to 100 in 2008Q1)



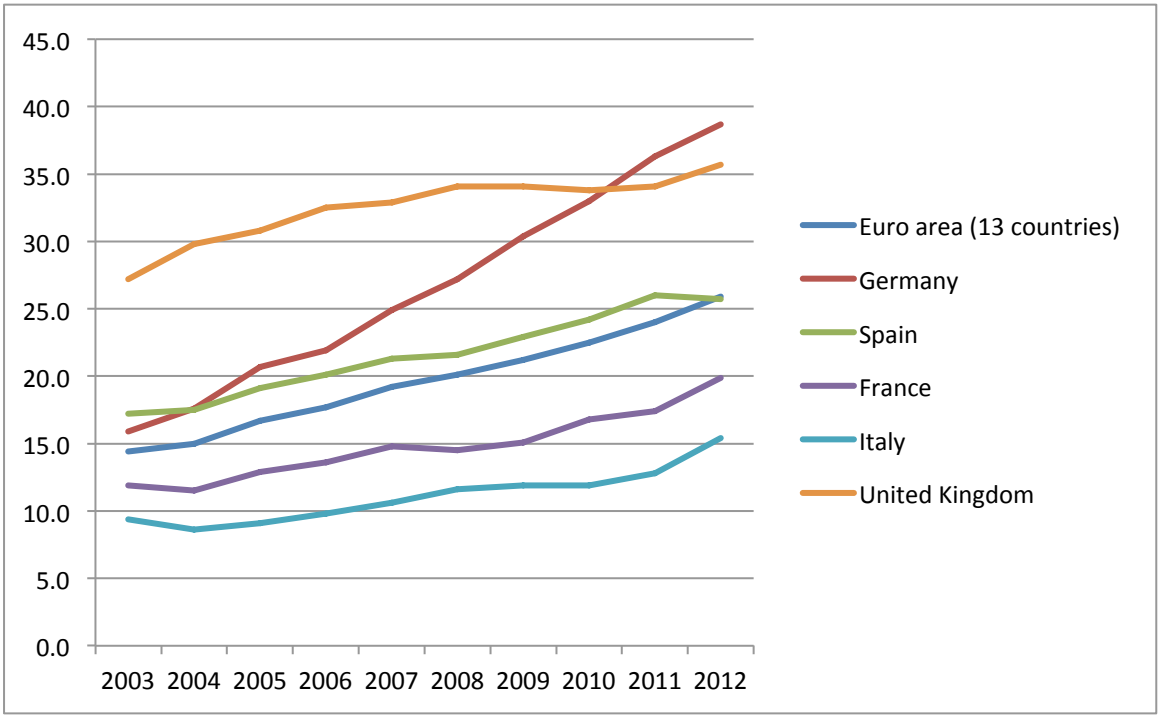
Source: Cribb and Joyce (2015). Calculations using ASHE.

Figure 5: Some history of the distribution of real hourly earnings in the UK



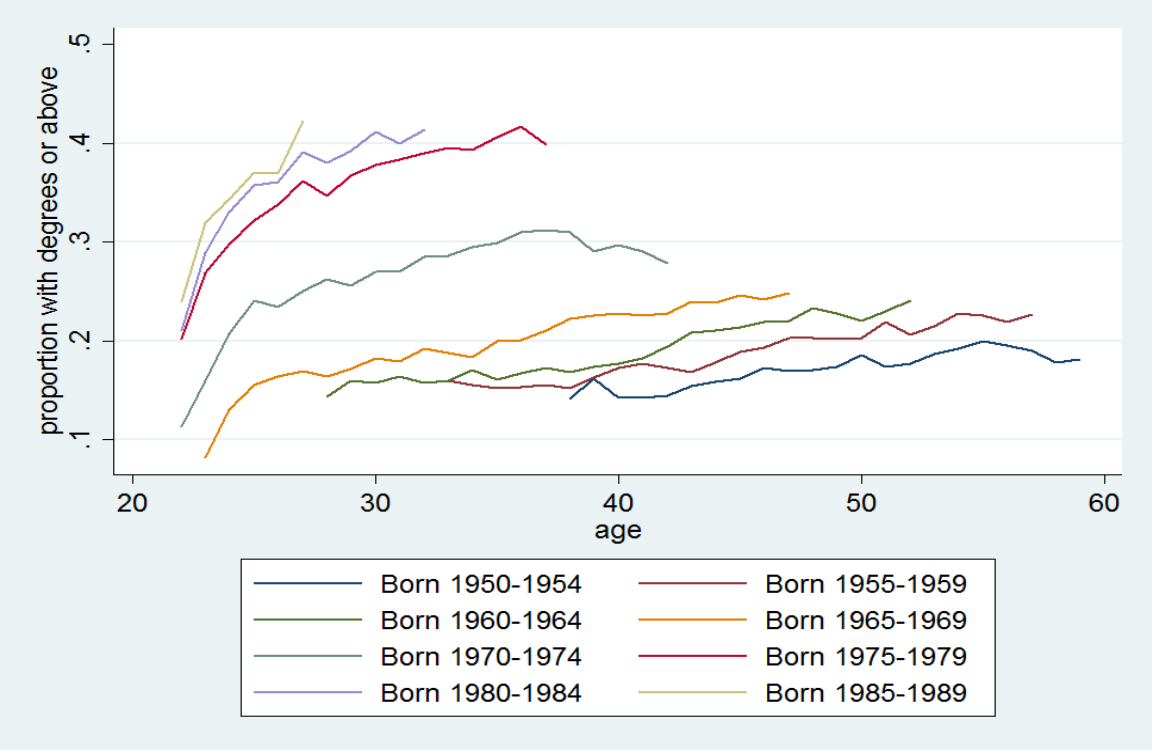
Source: Blundell, Crawford and Jin (2014). Calculations using ASHE.

Figure 6: Employment Rates for European Women Aged 60-64.



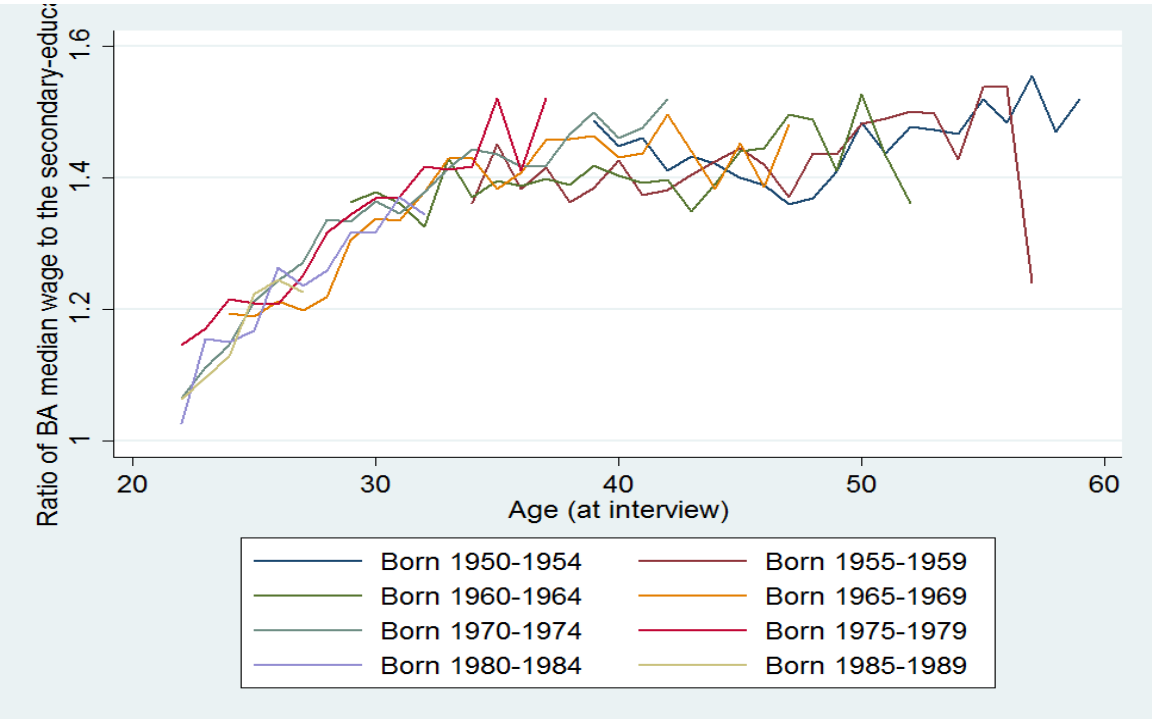
Source: Blundell, Crawford and Jin (2014).

Figure 7 (a): Growth in proportion with degrees or above by age: all workers in UK.



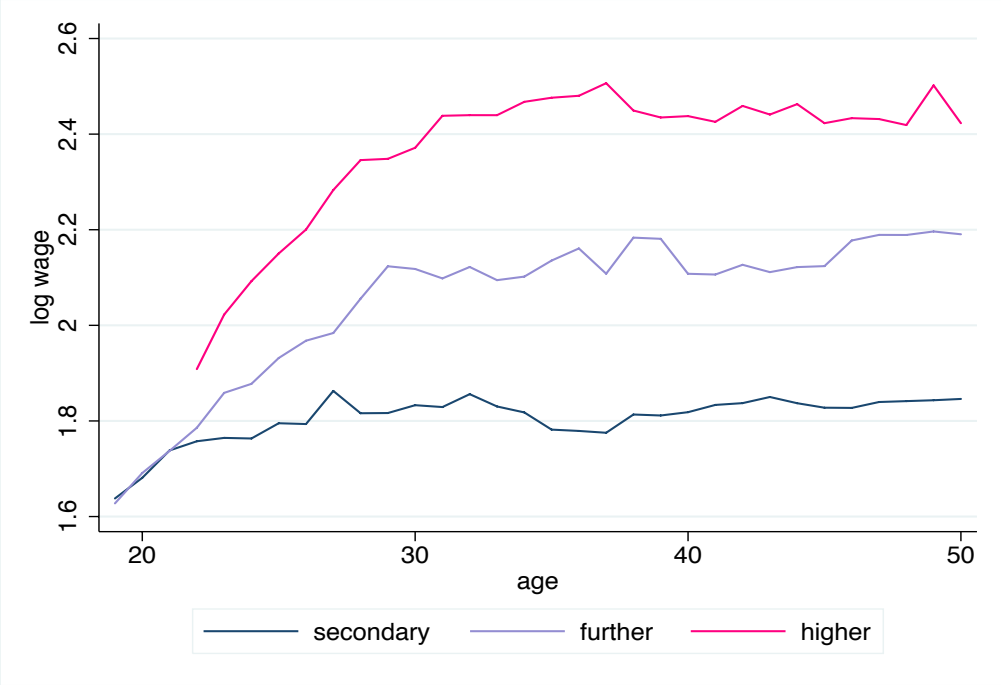
Source: Blundell, Green and Jin (2015).

Figure 7 (b): Ratio of BA median wage to that of High School (A-level)



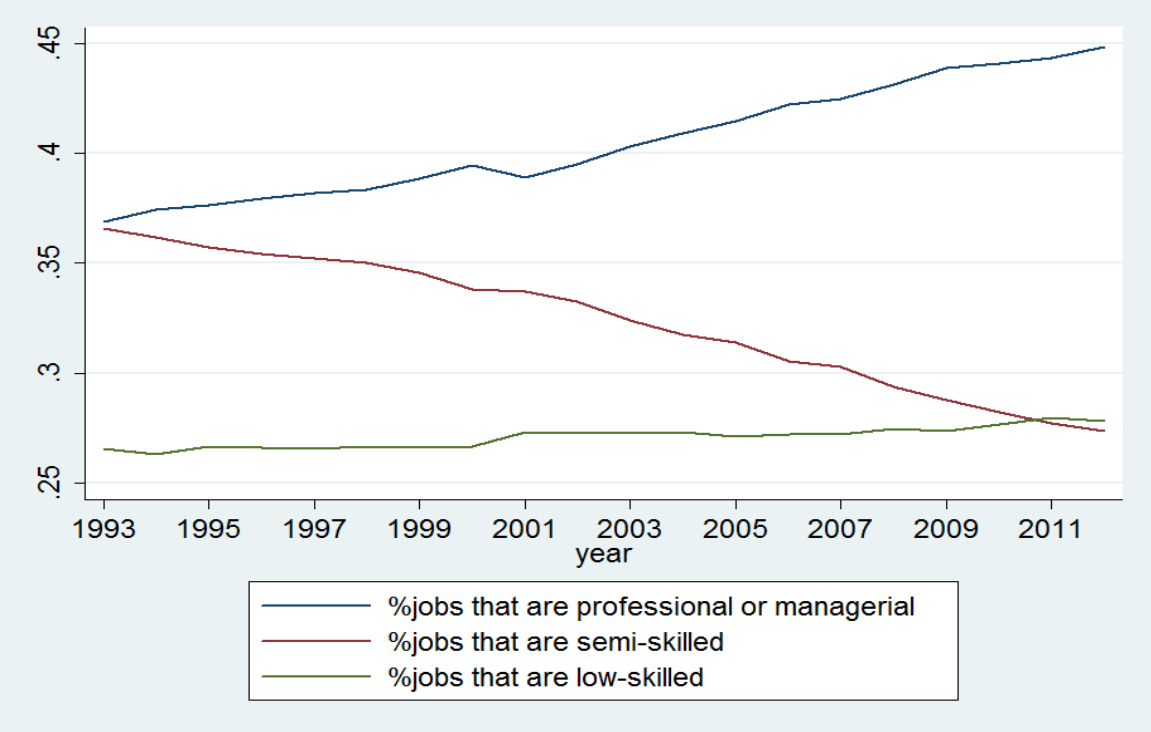
Source: Blundell, Green and Jin (2015).

Figure 8: Life-Cycle Wage Profiles by Education



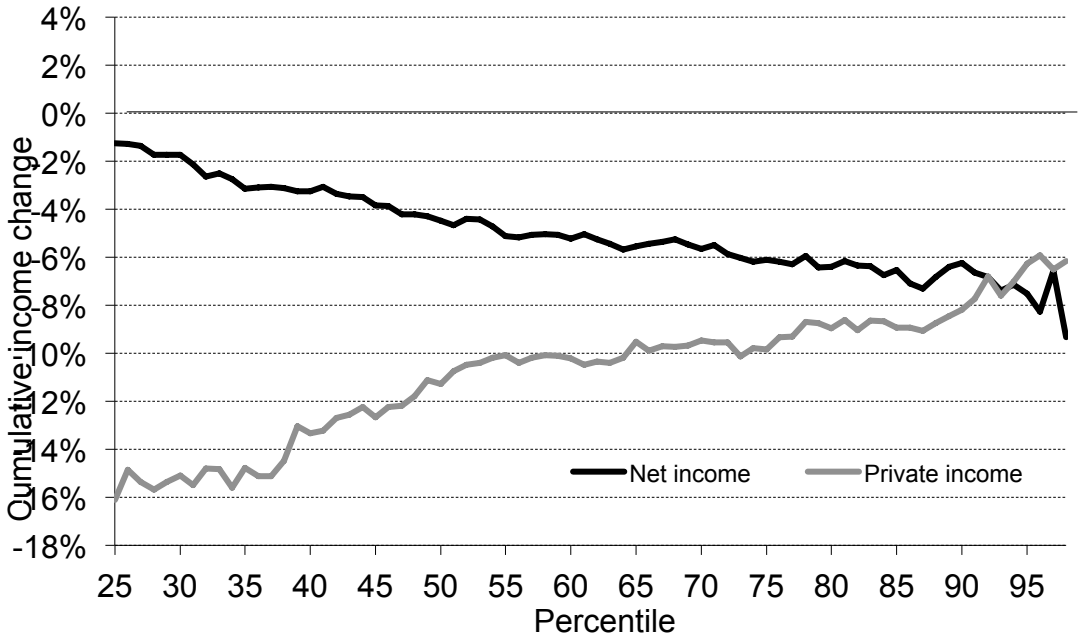
Notes: Log average hourly wages by age for UK women workers across education levels.
Source: BHPS and Blundell, Costa-Dias, Meghir and Shaw (2013).

Figure 9: Employment shares by occupation group in the UK



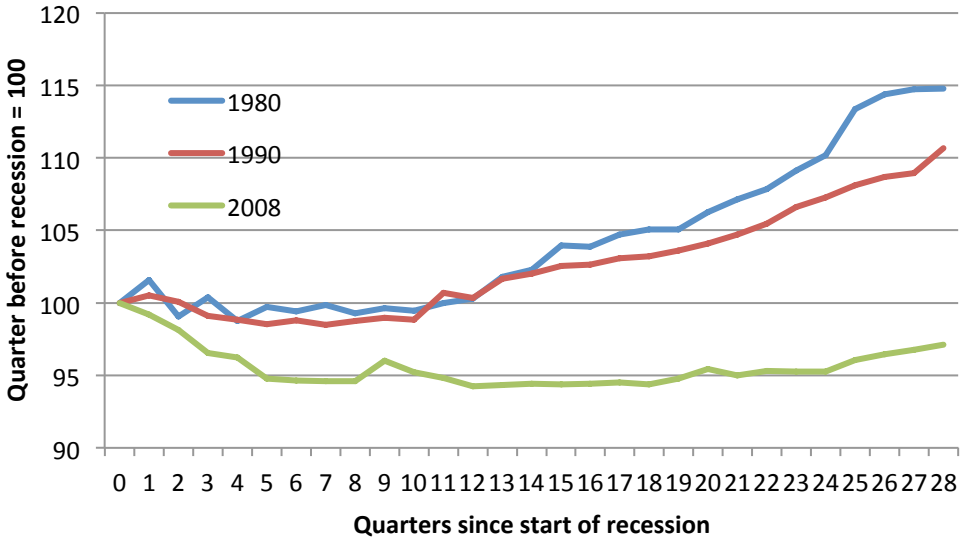
Source: Blundell, Green and Jin (2015).

Figure 10: Real private and net income growth, 2007–08 to 2012–13



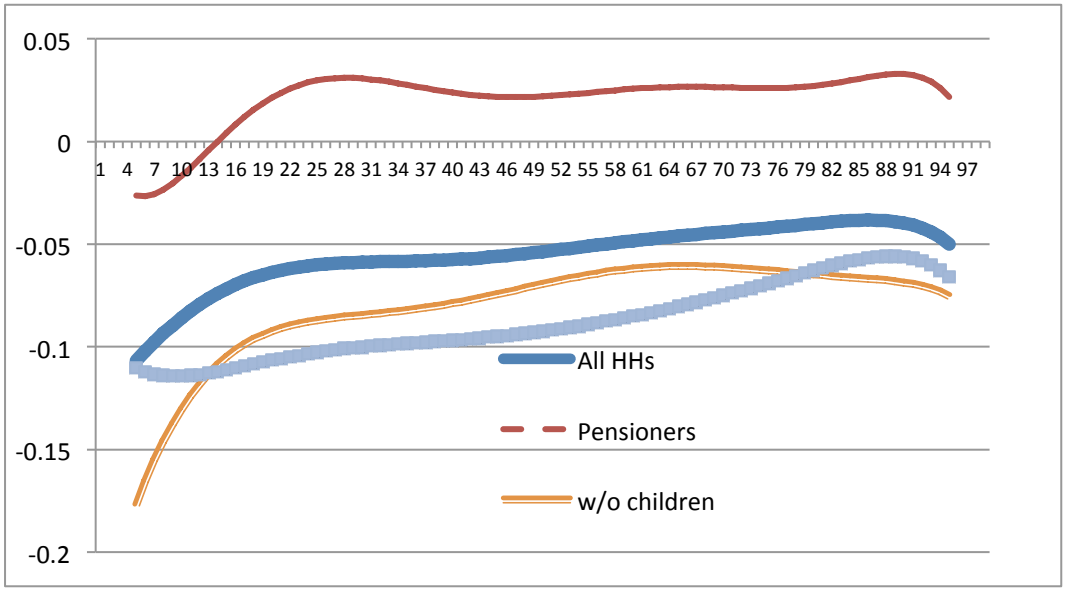
Source: Belfield, Cribb, Hood and Joyce (2014).

Figure 11: Non-durable spending per capita across UK recessions



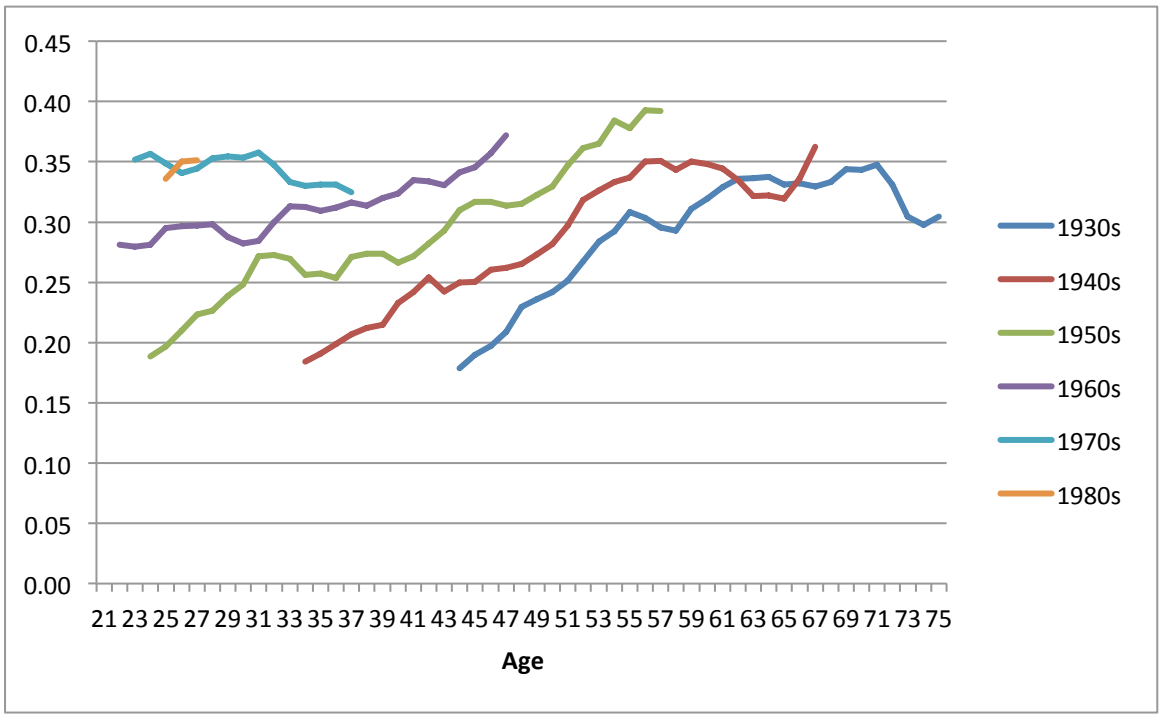
Source: Calculations by O'Dea, 2015.

Figure 12: Change in Food Expenditure Distribution and Household type: 2010 to 2013



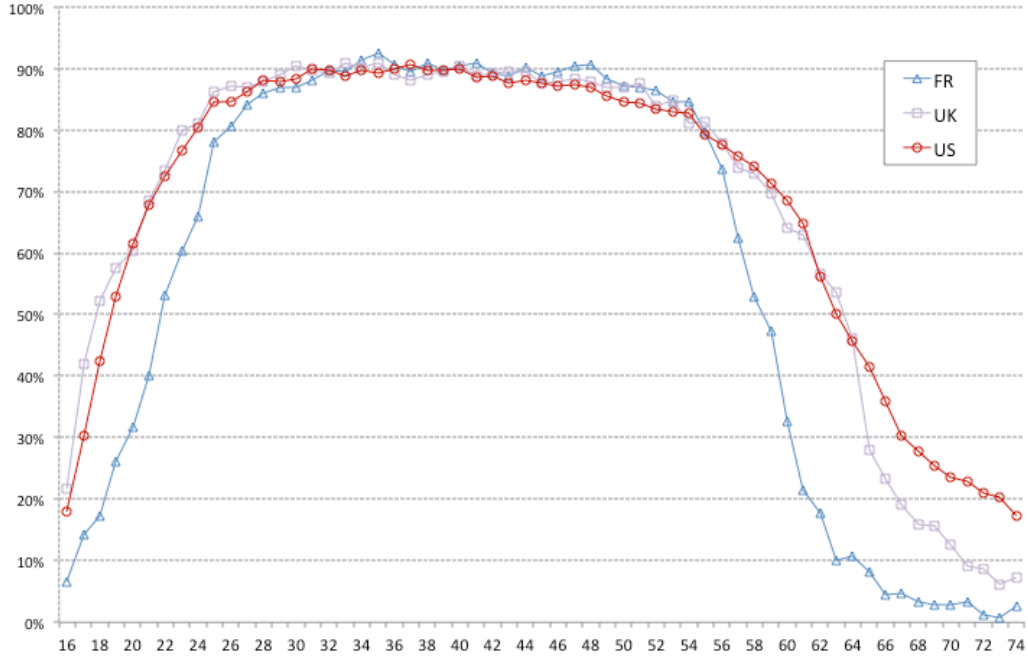
Source: Understanding Society. Calculations by Etheridge, 2015.

Figure 13: Consumption Inequality (variance of log consumption) by age and birth cohort in the UK.



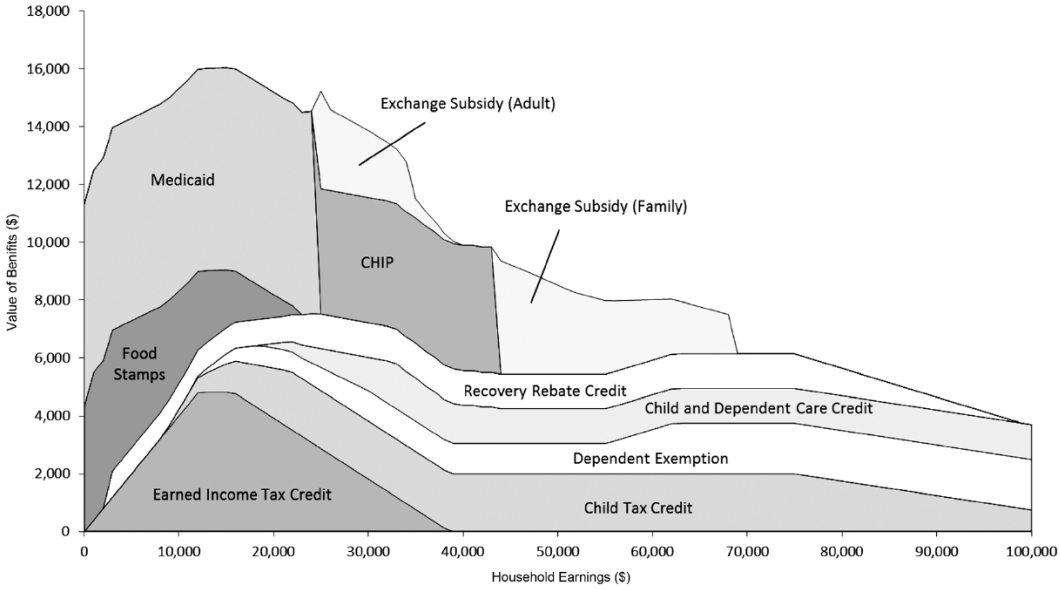
Source: Adams, Brewer and O'Dea C. (2015).

Figure 14: Male Employment by Age in the UK, US and France, 2007



Source: Blundell, Bozio and Laroque (2011).

Figure 15: Universally Available Tax and Transfer Benefits in US (Single Parent with Two Children, 2008)



Source: Urban Institute (NTJ, Dec 2012).

Notes: Value of tax and value transfer benefits for a single parent with two children.