Has "In-Work" Benefit Reform Helped the Labour Market?

by

Richard Blundell
University College London and Institute for Fiscal Studies
r.blundell@ucl.ac.uk.

and

Hilary Hoynes
University of California, Davis and NBER
hoynes@ssds.ucdavis.edu

January 2003

Abstract

The aim of this paper is to examine the labour market impact of in-work benefit reform in the UK. Evidence is drawn from the impact of earlier reforms in the UK and similar reforms in the US. We focus on the impact on labour supply – employment and hours of work. In the US a large proportion of the dramatic increase in participation among low educated single parents in the 1990s has been attributed to the increased generosity of the EITC. The impact of apparently similar reforms in the UK appears to have been smaller. We argue that these differences can be attributed to four factors: the impact of interactions with other means tested benefits in the UK; the importance of workless couples with children in the UK, who make up nearly 50% of the recipients in the UK; the level of income support given to non-working parents in the UK; and the strength of the economic upturn in the US during the mid 1990s.

Acknowledgements: We have benefited from the comments and advice of participants at the conference meetings, two anonymous referees and especially Mike Brewer, David Card, Alan Duncan, Costas Meghir and Michal Myck. We are also very grateful to Mike Brewer, Darren Lubotsky and Zoe Smith for generous help in preparing and interpreting the figures and tables. The research is part of the programme of the ESRC Centre for the Microeconomic Analysis of Fiscal Policy at IFS.

1 Introduction

Welfare policy toward low-income families in the UK experienced a significant shift toward "in-work" benefits in the late 1980s and 1990s. Although a work requirement for some forms of benefit receipt has existed in the UK since the late 1970s, the shift in policy began in earnest with the introduction of the Family Credit (FC) in 1988 - a minimum working hours based credit for families with children. After a number of reforms during the early 1990s, Family Credit was replaced by the Working Families Tax Credit (WFTC) in 1999. Over this period the generosity of these "in-work" benefit schemes also increased, enhancing the emphasis that has been placed in welfare reform in the UK on supplementing low incomes in work for adults with dependent children (see Blundell (2002). As of 2000, there are over one million recipients contrasting with less than 250,000 when Family Credit was introduced. Expenditure per recipient has also increased dramatically over this period, rising fourfold in real terms.

But what of the impact on the labour market? There have been two main target groups for "in-work" benefit policy reform in the UK. These target groups reflect a rise in the proportion of families with no parent working in the 1980s and early 1990s. For single parents and low skilled couples with children, labour market attachment steadfastly refused to rise after the sharp fall in the early 1980s recession – quite against the overall trend. Single parent employment rates fell by twenty percentage points in the early 1980s and have remained well below that experienced by many of the UK's European neighbours. For women with unemployed husbands, the fall in employment was even more marked, remaining at little over 20%. Over the same period the overall trend for married mothers saw a continuing growth and employment among single women without children remained around the 80% level. For the US the picture is quite different. The early 1980s decline in employment was short lived and was followed by a 14 percentage point increase in the 1990s. For couples with children in the US, there was a steady increase in employment for both parents. The behaviour of these different groups in the UK and the differences in employment trends with similar groups in the US presents us with a puzzle. This is the focus of this study.

The comparison with the US system of "in-work" benefits is particularly useful. Like the system in the UK, the Earned Income Tax Credit in the US has grown significantly in terms of coverage and generosity over the past two decades. As of 1999, it has seen a four-fold increase in caseload and expenditure per recipient has tripled in real terms. It is now the largest cash programme directed toward working families in the US with nearly 20 million recipients. Not only are the US and the UK at the forefront of the use of in-work benefits but also the other socio economic profiles bear interesting similarities. The proportion of single parents in the US and the UK more than doubled over the past two decades – one reason why this group featured so centrally in the policy agenda. Moreover, single parents in both countries began the period, the late 1970s, with very similar employment rates and close to those of married women with children. Both countries experienced a similar rise in employment rates of married women with children. The real contrast is the gain in employment for single parents in the US and the higher employment rates among low skilled couples with children.

Although the administration of the system in the US is somewhat different to that in the UK, we do not attribute the apparent differences in impact on labour supply to these. Instead, we highlight certain distinct features of the UK system. First, unlike the EITC, income from in-work benefits is counted as income in the computation of other benefits – in particular, housing benefits. This is shown to significantly dampen the labour supply incentives created by the in-work benefit system. The importance of housing benefits has increased strongly since the early 1980s in the UK. Second, over the same period much of the increase in the generosity of in-work benefits has been matched by increases in the generosity of income support – available to all low-income non-working families with children. In particular, increases in child credits in the in-work benefit system have been matched by similar increases in the generosity in the child component of income support. There has also been a substantive increase in the real value of the universal child benefit. If anything these increases act as an income effect and against increased employment in the target groups. Again this contrasts importantly with the US where there has been a relative decline in the value of out of work income supports.

The remainder of the paper is organised as follows. In the next section, the underlying labour market trends are presented. Section 3 describes the reforms in the

UK and their impact on work incentives. Section 4 draws a direct comparison with the impact of EITC reforms in the US. In section 5 we evaluate the recent Working Families Tax Credit reform in the UK. Section 6 concludes.

2 Trends in Labour Supply over the 1980s and 1990s

Although differences in the pattern of working behaviour across different groups at any point in time can be suggestive of important impacts of financial incentives, it is the time series behaviour of labour supply for groups of individuals who have been subject to changing incentives that is of direct policy interest. This is precisely the way the puzzle in the introduction was posed between the employment behaviour of single mothers in the UK and the US.

In this section we focus on trends in the UK over the last two decades but also draw on evidence from the US where comparisons are particularly informative. One well-documented trend that occurred in both countries over this period is the shift in returns to education and skill. We do not reproduce them here but they have certainly reinforced the arguments for increasing the generosity of in-work benefits for low-income workers families.

Macroeconomic conditions over the past two decades differed somewhat in the US and UK. There are two large recessions in the UK, one in 1980-1981 and one in 1991-93. The recession in the US in the early 1990s was shorter and less severe. Since 1992 the US experienced an unprecedented expansion with unemployment rates lower than they have been in three decades. The expansion in the UK occurred much later and at a lower pace. It is likely that the differences in the strength of the labour markets across the two counties explain some of the difference in the employment trends discussed here. This may be especially important for low education groups, who are typically found to be more sensitive to business cycles (Hoynes 2000).

2.1 Overall Employment Trends for Women

To describe these trends we draw on a number of data sets from the UK and the US. These are briefly described in the data appendix. Figure 2.1 shows the fraction of women working in the UK by marital status and presence of children from 1978 to 1999. Figure 2.2 shows a similar contrast for the US. We have selected women aged between 20 and 55 for this comparison.

There are many similarities in employment for women in UK and US over this time period. First, single parents have very similar employment rates at the beginning of the period, at about 55 to 60 percent. These are close to those for married women with children. Second, the labor market attachment for married women, especially those with children, saw a steady rise over the period in both countries. For example, in the US somewhat less than half of married women with children worked at all in 1979 compared to almost 70 percent in 2000. Third, single women without children experienced a rather more stable and higher level of employment at around 80 percent over these two decades in both countries.

- *Figures 2.1 and 2.2 –*

The differences between the UK and US, however, are striking. First, the employment for all groups was more severely reduced in the UK during the recession in the early 1980s. Second, single mothers in the UK saw little recovery from the initial decline in employment in the early 1980s. In the US, beginning in the early 1990s, employment in this group increased dramatically from 60 to 73 percent.[1] Married women saw steady increases in work over this period. The increase in employment among single women with children in the US is not due to a cohort effect. When the employment trends are presented by cohort the increase in employment is shared by all but the oldest age groups. In fact, among less educated women the gains are largest for the youngest cohort.

2.2 A Focus on Single Mothers

In-work benefit reform will provide the greatest incentives for those individuals who can only attract a low market wage. One way to focus on this "incentivised" group is to consider those with lower levels of schooling. Figures 2.3 and 2.4 consider the pattern of employment by education for single mothers in the UK and US respectively. In both the UK and the US single women were an increasing share of all women over this period. In contrast, the fraction of women who are married with children is declining steadily over this period. Single women with children represent an increasing fraction of all women, especially among less

[1] The US definition of work is "working at all last week". This is a somewhat weak definition of work but is used to compare with the UK definition which relates to employment in the last two weeks. An additional measure that may capture better the intensity of work is the average number of weeks worked last year. In figures not shown here, the trends for average weeks work show much the same pattern as those for worked at all last week.

educated women. By the end of the 1990s this group represented nearly one fifth of all low educated working age women in the UK, up from around 6% at the turn of the 1980s.

These trends for low educated single parents are presented for the period since 1984. This period is primarily chosen so that the larger Labour Force Survey can be utilised for the UK, but it also coincides with the period over which most of the action on in-work benefit reforms has taken place.

- Figures 2.3 and 2.4 -

The differences between the employment patterns for women in UK vs. US presented above are also evident here. In the UK the employment pattern for the lower educated single mothers, those who left school at age 16 (the minimum school leaving age), is very similar to the picture for all single mothers. The employment rate for lower education single mothers remained quite low throughout the period. In contrast, in the US the employment rate of lower educated single women with children in the US increased from 50 percent in 1994 to almost 67 percent in 2000, a gain of more than 16 percentage points. Indeed in the US, by the end of the period, low educated single women with children were working more than married women with children, and almost as much as single women without children. This increase has received tremendous attention in the US and is the subject of some debate as to how much of this can be attributed to policy versus the strong economy.

- Figure 2.5 -

One additional feature of the UK data for single women that will be important for the discussion of in-work benefit reform is the distribution of hours of work. As will be discussed below, since 1992 the UK system has provided a strong incentive for single mothers to work at least 16 hours per week. The frequency histogram for low education single women with and without children in the UK over three recent years is presented in Figure 2.5. The peak at 16 hours for single mothers is clear.

2.3 Workless Couples with Children

The in-work benefit reforms in the UK have targeted both single parents and workless couples. Figure 2.6 shows the growing importance of this latter group in the

UK towards the end of the 1980s and the early 1990s. In the 1980s recession, the percent of married couples with children without an earner increased substantially.

- *Figure 2.6 –*

Figure 2.6 shows that, similar to the pattern for single mothers, this rate has not declined much in the post-recession period. This pattern is not found in the US, however. Like the increase in employment among single women with children, the fraction of married couples without any work has been in decline. In fact, even among low educated couples, the later period shows declines in the workless rate down to less than 5 percent by 2000.

3 History and Reforms to In-Work Benefits

In the UK, in-work benefit reform has been motivated as a method of poverty relief that does not create adverse work incentives. This is achieved by targeting low-income families with an income supplement that is contingent on work. Eligibility has typically been based on family income and requires the presence of children, reflecting in part the higher welfare benefits for families with children, partly a desire to help low income working families and partly the costs of childcare etc. Consequently these benefits are most heavily targeted toward single parents and low income couples with children. Increasingly, they are also being extended to low-income workers without children.[2] The family income based eligibility rules and the interaction with other aspects of the tax and benefit system make the analysis of incentives for in-work benefits more complex than they may first appear.

Table 3.1 provides a "timeline" of the evolution of in-work benefits in the UK and the US since their introduction in the 1970s. In the UK, Family Income Supplement (FIS) which provided an earnings supplement for those families with at least one full-time worker, was introduced in 1971. Like FIS in the UK, the EITC in the US was also introduced in the 1970s as a way of offsetting the payroll tax for low income US working families. The change in the composition of low income households and the fall in labour market attachment in certain family types, further re-focused the policy debate in both countries and highlighted the implicit tax on income faced by such low income families in the tax and benefit system. In the UK FIS was reformed and renamed Family Credit in 1988 which finally mutated into the current

[2] See the proposed Employment Tax Credit, HM Treasury, March 2000.

Working Families Tax Credit (WFTC) in 1999. At each step increasing the generosity of the credit and mirroring, to some extent, the increase in generosity that occurred in the reforms to EITC in the US.

3.1 The UK System of In-Work Benefits and Comparison to US In-Work Benefits

The current system of in-work benefits in the UK is the Working Families Tax Credit. Introduced in October 1999, it increased the generosity of in-work support relative to the previous Family Credit system through a larger adult and child credit, a less severe benefit reduction rate and a new childcare credit. The main provisions of the WFTC are outlined in Table 3.2. Eligibility for the WFTC requires having dependent children, working at least 16 hours per week, and having income and assets below the limit. The basic weekly credit is £53.15 and it is phased out at a rate of 55 percent. Both single and married couples are eligible. A useful way of viewing the characteristics of the British system is in comparison with the US EITC. Eligibility for the EITC, also outlined in Table 3.2, requires dependent children, positive earned income, and having income below the limit. The credit is phased in at a 34 (40) percent rate, phased out at a rate of 15.98 (21.06) percent for families with one child (two or more children).

A picture of the two systems in terms of their gross transfers is given in Figure 3.1. These are evaluated for a minimum wage single parent with one and with two eligible children in both systems. Assuming that eligibility and receipt continued for a complete year. The broad similarities in the programs include larger credits for two child families and the phasing out of the benefits. The differences are also clear from the figure. The vertical rise in eligibility in the UK system corresponds to the minimum hours eligibility at 16 hours. At 16 hours the UK recipient receives the maximum she is eligible to. This contrasts with the US proportionate tax credit up to the maximum amount. The UK system also displays a much steeper withdrawal reflecting a higher benefit reduction rate. This provides for a greater degree of targeting in the UK system but the potential for higher implicit tax rates. There are many additional specific idiosyncrasies to each of these systems (see Brewer (2000) for an in depth recent comparison).

Overall for low earning families the UK system can be quite generous and significantly more so than the US system. This is also clear from Figure 3.2, which

presents per recipient expenditures in both countries since the 1970s. Notice also the four-fold increase in spending per recipient in the UK between 1970 and 2000. However, as Figure 3.3 documents, the caseloads for these two systems are quite different. By 2000, in the US there are nearly 20m recipients where as in the UK there are approaching 1m, even though the working age population is around 1/5 of that in the US. The rapid growth of the caseload in the UK is also significant especially given the slower population growth in the UK - from 216m to 273m from 1975 to 1999 representing 26.4% growth in the US in contrast to 56.2m to 59.5m representing just 5.3% growth in the UK over the same period.

So on the face of it; the UK system looks generous, well targeted with a caseload that is growing rapidly. So why does it appear to have had less impact on labour supply? For this we take a look back over the last two decades at the whole tax and benefit system in the UK as it effects work incentives.

3.2 The Earlier In-work Benefits in the UK

In-work benefits have a long history in the UK. The first, Family Income Supplement (FIS), was introduced in 1971. This was a non-contributory benefit payable to low-income families with children, provided the head of the family was in full-time paid work (defined as 30 hours per week, or 24 if the individual concerned was a single parent). Entitlement depended on the family's income falling below a certain limit. The amount payable was half the difference between the family's income and the relevant limit.[3] In addition to receipt of FIS, entitlement to FIS automatically conferred a number of "passport" benefits available to those on supplementary benefit – the income assistance programme for those not in full time work, including free school milk and meals, free prescriptions and dental treatment (see Dilnot, Kay and Morris (1985), for further detail).

Although FIS clearly provided some financial incentive to work, the combined effect of the 50% FIS benefit reduction rate together with the impact of housing benefit, tax and national insurance contributions often resulted in implicit tax rates in excess of 100%. For example, under the FIS system an eligible worker with housing costs would pay a 25% basic tax rate, plus a national insurance contribution of 7%, a 50% benefit reduction rate on FIS and a effective Housing Benefit reduction rate of

23%, resulting in an implicit tax rate of 105%. After the Family Credit reform this would reduce to 97%. Still high, but below 100% (see Dilnot and Webb (1989)).

Family Credit

Introduced in 1988, Family Credit was an extension of FIS and was designed to increase generosity and remove tax rates in excess of 100%. It achieved the later objective by fully integrating the in-work credit with the rest of the tax and benefit system. An unusual feature of the Family Credit system, retained from the FIS, was the minimum weekly hours eligibility criterion. At its introduction this was set at 24 hours but then reduced to 16 in April 1992 to encourage part-time work by lone parents with young children. FIS had a minimum hours criteria set at 30 hours for workers in couples and 24 hours for single parents. To partially offset any adverse incentive effects for full time work from these lower hours eligibility levels, a further supplementary credit at 30 hours per week was introduced in April 1995.

In the FC system each eligible family was paid a credit up to a maximum amount that depends on the number of children. Eligibility depended on family net income being lower than some threshold (£79.00 per week in 1998-99). As incomes rose the credit was withdrawn at a rate of 70%. In 1996 average payments were around £57 a week and take-up rates stood at 69% of eligible individuals and 82% of the potential expenditure.

The 16-hour reform proposed in the 1988 review of the UK benefit system, only became effective in April 1992 and moved the hours eligibility rule from 24 hours per week to 16 (see Duncan and Dilnot (1994) for a detailed description of this reform). Figures 3.4(a) – (b) show the impact on the budget constraint of a typical single parent.[4] Family Credit is treated as income in calculating other benefits incomes – this is *not* the case for the US system. In the UK, this has the effect of dampening down the incentives in the underlying in-work benefit system. The impact of Housing Benefit (Rent Rebate), which is withdrawn at 65%, is particularly notable. In the UK once family income falls below a specific level all rental payments are

[3] The limits in 1983 were £85.50 per week for a one-child family with £9.50 for each subsequent child with a maximum payment of £22 per week.
[4] These are constructed using the IFS tax and benefit simulation model TAXBEN (see www.ifs.org.uk) designed to utilise the Family Expenditure Survey and the Family Resources Survey used in this paper (see the Data Appendix).

covered through the benefit system. For example, in Figure 3.4(b), when the FC becomes available at 16 hours, the housing benefit decreases substantially leading to a minimal increase in income.

- Figures 3.4(a) – (b) -

Similar budget constraints with very similar effects can be drawn for a low wage couple with children (see Blundell (2001)). These figures show our first central point - the importance of allowing for the interaction with other benefits and taxes. Especially where means tested programmes, such as housing benefit in the UK, extend up the income distribution to such an extent that the overlap extensively with in-work benefits.

Although these budget constraint pictures show a high replacement rate they do nevertheless suggest some financial incentive to take a 16 hour job after the 1992 reform. Does the data confirm this? Recall the picture of hours of work for low education single parents in the UK in Section 2. This showed a strong peak at the 16 hours point. Blundell (2000) presents a picture of the hours changes before and after the 1992 reform. It is notable that for single mothers a spike at 24 hours tends to disappear in 1992 and 1992 as a spike at 16 hours becomes more pronounced. This 16 hour eligibility rule has been maintained throughout all the subsequent changes to in-work benefits in the UK. Interestingly as we saw in Figure 2.5, the spike at this point in the hours distribution has also remained a predominant feature of the data for those most likely to be eligible for in-work benefits in the UK.[5]

Figures 3.4(a) and (b) also highlight our second central point – the out of work benefit system over this period was relatively generous and implied a fairly high replacement rate for a low wage working parent. For example, income support and housing benefits amount to about £100 per week comparing to a minimum wage in 1999 of £3.60 per hour.

In the discussion below we will show that increases in the value of in-work benefits in the UK have typically been matched by similar increases in the value of out of work benefits. Consequently replacement rates have remained quite high

[5] As mentioned above further 30-hour supplement to Family Credit in the UK was introduced in 1995 (see Duncan and Giles (1996) for a detailed description). This has also been maintained throughout all subsequent reforms and is what gives rise to the second peak in the in-work benefit payments in Figure 3.1.

contrasting quite dramatically with the recent experience in the US. We return to this theme below but first complete our brief discussion of the history of UK in-work benefit reforms.

The Working Families Tax Credit

The replacement of FC – the WFTC – was substantially more generous and was fully phased in from April 2000. It increased the level of in-work support relative to the FC system in four ways: by enhancing the credit for families with younger children; by increasing the threshold; by reducing the benefit reduction rate from 70% to 55%; and by incorporating a new childcare credit of 70% of actual childcare costs up to a quite generous limit. The effects of these changes relative to FC are shown in Figure 3.5.

- *Figure 3.5* -

The largest cash gains go to those people who are just at the end of the FC benefit reduction taper. The impact on the budget constraint of a single parent is presented in Figures 3.6(a)-(b). Again a similar constraint can be calculated for couples with children (see Blundell (2001)). Indeed, since couples typically have higher housing costs and are eligible to higher levels of in-work credit the replacement rate for lower hours is even higher. If anything this reform increases the incentives for full time jobs. As we find in section 5, this is born out in the simulation model.

This discussion once again highlights the importance of interactions between benefits. WFTC payments are counted as income in computing the entitlement to other benefits such as housing benefits. The budget constraints show the importance of these interactions in reducing the impact of the increased generosity in the WFTC.

- *Figures 3.6(a) – (d)* -

Childcare credit increases the maximum amount of WFTC by 70% of childcare costs up to a maximum of £100 per week for those with one child or £150 per week for those with two or more children. The childcare credit component is available to all working lone parents and to couples where *both* partners work more than 16 hours per week.[6] The requirement that both parents work helps to offset the negative incentive

[6] This is not included in the calculation of the budget constraint figures because the take-up of childcare credits has been rather low. As we point out in section 5, recent figures of take-up under WFTC show it to have remained low but increasing quite rapidly.

to work on the second worker in a couple implicit in the family based calculation of the level of the credit in both the WFTC. We return to the importance of this adverse effect on couples in our detailed discussion of the WFTC reform in section 5. It is also important for the EITC and reoccurs in our discussion of the EITC reforms in section 4.

3.3 The Impact on Work Incentives

In the previous discussion the importance of interactions of in-work benefits with other benefits in the UK and the level of those other benefits has been highlighted. It is central to our understanding of the financial incentives to work for low wage parents in the UK. We have seen the impact of these interactions is to dampen, often quite dramatically, the financial incentives to work. To evaluate the likely effect of these reforms to the financial incentives to work facing the target groups in the UK population over the 1980s and 1990s we consider an overall view of changes to the UK income support and benefit system.

We first consider the impact of all reforms on the maximum amount of out of work income support and the maximum amount of in-work benefit over this period since the late 1970s. These figures are presented in Figures 3.7(a) and 3.7(b) for a single mother in the UK. These maximum amounts simply depend on the hours worked and the number of children. They underscore the second important feature of the UK system that is in direct contrast to the US experience. The real value of the maximum amount of income support in and out of work has remained almost constant over these two decades. Where in-work credits have increased, especially with regard to the recent very large increases in the real value of child credits (see Figure 3.7(b)) they have been matched by very similar rises in the child component of out of work income support for low-income families. The only slight divergence from this rule came in the 1995 introduction of a supplementary adult credit at 30 hours of work.

Interesting as these figures are, they clearly miss the differences that have occurred due to changes in the minimum hours requirement and to interactions with taxes and other benefits in calculating actual receipts rather than maximum eligible amounts. Figures 3.8(a) and 3.8(b) attempt to capture this. We first ignore Housing Benefit and consider the financial incentives for a single parent with two children (one aged less than 5 and one aged between 5 and 10). They assume that if she works

she is paid at the real value of the minimum wage in 1999 (£3.60 per hour). Three possible weekly hours of work are considered; 16, 24 and 35. Figure 3.8(a) presents the replacement rate computed as the ratio of total benefit income if out of work and total disposable income if in work. Figure 3.8(b) shows corresponding average tax rate calculated as the proportionate loss in earnings in taking a minimum wage job at these hours of work.

At the beginning of the period the replacement rates for 24 and 35 hour jobs were around 60% and relatively stable over the early and mid 1980s falling with the introduction of FIS in 1988 especially for 24 hour jobs. The replacement rate fell back a little in the 1995 for higher hours workers after the 30 hour supplement in 1995.[7] For 16-hour jobs the replacement rate is very high indeed. The biggest changes in these figures come from the reform in the late 1980s that reduced eligibility for in-work benefits to 16 hours from 24 hours.

Figures 3.9 (a) and (b) present the replacement rate and average tax rates including Housing Benefit. The overall pattern is very similar but the dampening effect of HB is clearly visible. For example, the replacement rates are in general higher for the 24 and 35 hour jobs than in Figure 3.8(a). The drop in the rates for 16 hour jobs with the 1992 reform is still important but less dramatic.

These figures serve to underscore our two key points with regard to the benefit and tax credit system in the UK. First, that the interaction of work based credits with the tax and benefit system has the effect of dampening the financial incentives. This is not a feature of the US EITC. Second, where generosity in the work-based credits has increased, it has been typically matched by increases in out of work income support for families with children. This has left the replacement rate and effect tax rates rather stable over time. Again this contrasts importantly with the US system where there has been a relative decline in the value of out of work income support. The generosity of Housing Benefit and child additions to income support in the UK has left the level of out of work income for families with children at an increasingly higher rate than that in the US. Four fifths of all single parents on Income Support in 1999 were also in receipt of Housing Benefit.

[7] The rise in the replacement rate in 1999 reflects the removal of one parent benefit. This is reversed by the introduction of WTFC in the final year of our Figure.

Two other features of the UK experience are probably worth highlighting at this juncture. First, the UK welfare system provides benefits not only to lone parents but also so couples with children. This is in contrast to the US where couples with children are provided substantially more limited benefits. In fact, in the UK, Housing Benefit and Income Support are generally higher for couples due to higher housing costs and larger families. The upshot of this is that the budget constraint and replacement rate figures for couples on low incomes look very similar to those for single parents, indeed the replacement rates can be quite a bit higher. This certainly has some bearing on the much larger incidence of workless couples with children in the UK.

The second factor, which adds to the findings so far, is the growing importance of housing costs for low-income families over the last two decades. This reflected a strong increase in the real level of rents paid in both private and public housing over the 1980s. Even though the rules of the housing benefit system were left relatively unchanged, the eligible amounts and receipts increased dramatically over this period. This was one of the main factors behind the rise in out of work incomes received by low-income families in rented accommodation over the 1980s (see Giles, Johnson and McCrae (1997) and Dickens and Ellwood (2001), for example). In Figures 3.9(a) and (b) the housing benefit is kept at the same 2000 real value throughout so that the true picture for someone in the rented sector would have an increasing the financial disincentive to work, counteracting increases in in-work benefits.

4 Evidence from the US Reforms

4.1 Programs for the Low Income Population in the US

Out of work benefit programs through the welfare system have been the backbone of assistance to low income persons in the US. Since 1935, the Aid to Families with Dependent Children (AFDC) has provided cash transfers to needy single parents with children. Since the 1960s and 1970s, the social safety net expanded to provide in kind benefits to needy individuals. The primary in-kind benefit programs include Food Stamps, Medicaid (health insurance), and housing subsidies. Eligibility for these welfare programs requires satisfying resource restrictions in the form of limits on current income and assets. In general, these welfare programs have primarily been limited to single parents with children, largely

excluding married couples and non-elderly persons without children. While some working families receive welfare benefits, they are not "in work" programmes. Like most welfare programs, families receive the maximum benefit if they are not working, and face high benefit reduction rates with increases in family earnings. As is well recognized, the programs provide adverse work incentives.

The Earned Income Tax Credit began in 1975 as a modest program aimed at offsetting the social security payroll tax for low-income families with children. As discussed more below, the generosity of the EITC increased in tax acts of 1986, 1990, and 1993. The contrasts between the EITC and traditional welfare benefits are many. First, the EITC is provided through the tax system rather than the welfare system. Second, eligibility for the EITC is available to all low-income families with children, independent of marital status. Third, receipt of the credit requires positive family earnings. Consequently, the EITC creates positive incentives to work for single parent families. Because the credit is based on family earnings, however, the credit can create adverse incentives to work among married couples (Eissa and Hoynes, 1998).

Reforms to the Earned Income Tax Credit

The basic structure of the EITC has not changed substantially in the 25 years since its introduction. Eligibility for the EITC depends on the taxpayer's earned income (or in some cases adjusted gross income), and the number of qualifying children who meet certain age, relationship and residency tests. Several features of the credit are different from the UK in-work programs. First, the credit is within the tax system and is a refundable credit so that a taxpayer with no federal tax liability, for example, would receive a tax refund from the government for the full amount of the credit. Second, the credit amount depends on *annual* income and earnings and virtually all recipients receive the credit in one lump sum at the end of the year. Last, the EITC *does not* count as income in welfare benefit formulas. As we will see below, this difference turns out to be very important.

The amount of the credit to which a taxpayer is entitled depends on the taxpayer's earned income, adjusted gross income, and, since 1991, the number of EITC-eligible children in the household. There are three regions in the credit schedule. The initial phase-in region transfers an amount equal to the subsidy rate

times their earnings. In the flat region, the family receives the maximum credit. In the phase-out region, the credit is phased out at some phase-out rate.

Table 4.1 summarizes the parameters of the EITC over the history of the program. The real value of the credit increased only modestly in the early years and was mostly due to inflation[8]. The 1987 expansion of the EITC, passed as part of the Tax Reform Act of 1986 (TRA86), represents the first major expansion of the EITC. TRA86 increased the subsidy rate for the phase-in of the credit from 11 percent to 14 percent and increased the maximum credit from $550 to $851 ($788 in 1986 dollars). The phase-out rate was reduced from 12.22 percent to 10 percent.

The 1991 expansion, contained in the Omnibus Reconciliation Act of 1990 (OBRA90), increased the maximum credit, and introduced separate credit rates for families with two or more children. By 1993, a family with two or more children could receive a maximum credit of $1,511, $77 more than a family with one child.

The largest single expansion over this period was contained in the Omnibus Reconciliation Act of 1993 (OBRA93) legislation. The 1993 expansion of the EITC, phased in between 1994 and 1996, led to an increase in the subsidy rate from 19.5 percent to 40 percent (18.5 to 34 percent) and an increase in the maximum credit from $1,511 to $3,556 ($1,434 to $2,152) for taxpayers with two or more children (taxpayers with one child). This expansion was substantially larger for those with two or more children. The phase-out rate was also raised, from 14 percent to 21 percent (13 to 16 percent) for taxpayers with two or more children (taxpayers with one child). Overall, the range of the phase-out was expanded dramatically, such that by 1996 a couple with two children would still be eligible with income levels of almost $30,000.

- Table 4.1 -

To summarize the changes in the EITC, Figure 4.1 presents the credit schedule in 1984, 1990, 1993, and 1996. This shows that 1986 and 1993 expansions were the most substantial.

- Figure 4.1 here -

[8] The EITC was first indexed to inflation in 1987.

Reforms to the AFDC Program

This period saw not only expansions in the EITC but also important changes in AFDC, changes that are important for analysing the financial incentives to work. These changes generally take the form of making the out of work benefits less generous and creating greater work incentives. This is the opposite of the trend in the UK. This difference is critical to understanding the "puzzle" here. From the late 1970s to the early 1990s the only substantial change in the AFDC program was a gradual erosion in the real value of benefits. For example, between 1979 and 1993 real benefits for welfare recipients fell by over 30 percent. Even taking into account falling real wages for the low skilled population in this period, benefits relative to wages still fell by over 15 percent (Hoynes and MaCurdy 1994). Beginning in the early to mid 1990s some states made significant changes to their AFDC programs through the provision of federal waivers. These waivers, as discussed recently by Meyer and Rosenbaum (1999) and Schoeni and Blank (2000), largely created greater incentives to work by reducing the implicit tax on earned income or expanding the work requirements. This led up to major federal welfare reform legislation passed in 1996 (the Personal Responsibility and Work Opportunity Reconciliation Act or PRWORA) that ended the entitlement nature of the AFDC program. The AFDC program was abolished and replaced by Temporary Assistance for Needy Families (TANF).

The major provision of this act is the addition of lifetime time limits on welfare receipt, typically five years in length. In addition, states are required to increase the work effort of welfare recipients and have been given much more flexibility to redesign programs to achieve this goal. Overall, these changes have unambiguously led to an increase in the financial incentive to work.

As we discussed above, it is important whether the income from in-work programs is taken into account in the calculation of welfare benefits. Overtime, the rules surrounding the treatment of income from the EITC have changed (2000 Green Book). Between 1975 and 1978, the EITC did not count as income for the calculation of welfare benefits.[9] However, between 1979 and 1987, the credit was treated as

[9] While the EITC was counted as income for 1979-1987, WHEN it counted as income changed somewhat. For part of the period, the credit only counted as income in the month that it was received (remember that the vast majority of recipients receive it as a tax refund in one annual payment) while in another part of this period, the imputed value of the credit was spread out over the year.

income. Since 1988 (the main period of importance) the EITC once again is not counted as income.

4.2 The EITC Reforms

The trends presented in Section 2 show the quite dramatic increases in employment among single women with children. The explanations advanced in the literature include the expansion of the EITC, increases in the minimum wage, welfare reform and the sustained economic expansion. Of particular interest here is the role played by the EITC. An expansion in the EITC leads unambiguously to increases in employment rates for single women with children. The EITC policy reforms in 1986, 1990 and 1993 are useful in providing a "before and after" assessment of their effectiveness in changing labour market behaviour. Eissa and Liebman (1996) use repeated cross sections of the CPS to examine the effect of the 1986 reform on single mothers. They consider two comparisons, either the whole group of single women with children are used with single women without children as controls, or the group of low education single women with children are used with the low education single women without children as controls. The former control group can be criticized for not capturing the common macro effects. In particular, this control group is already working to a very high level of participation in the US labour market (around 95%) and therefore cannot be expected to increase its level of participation in response to the economy coming out of a recession. In this case all the expansion in labour market participation in the group of single women with children will be attributed to the reform itself. The later group is therefore more appropriate as it targets better those single parents who are likely to be eligible to EITC and the control group has a participation rate of about 70%.

With these caveats in mind, there remain some relatively strong results on participation effects that come from the Eissa and Liebman study. For single parents there is evidence of a reasonable movement in to work. The expansion of the EITC and other tax changes led to a reduction in the relative tax liability of single mothers of $1331 (1996 dollars) and their estimated impact of the expansion was to increase employment from 73.0 to 75.8 percent. There is also some evidence of negative effect on hours for those in work but this is rather small.

Liebman (1998) and Meyer and Rosenbaum (2000) use a similar approach to examine the impact of all three of the EITC reforms. The estimated behavioral responses are very similar in magnitude to those found by Eissa and Liebman (1996). The Liebman results are summarized in Figure 4.2. The figure plots the difference in employment rates of single women with and without children against the difference in the maximum EITC credit in 1996 dollars.[10] The figure shows that the relative increase in employment rates among single mothers tracks quite closely the expansion of the EITC. Meyer and Rosenbaum (2000) present similar calculations for several other comparison groups including comparing single women with one child to those with two or more children, single mothers to married mothers, single mothers to black men. Figure 4.3 summarizes the results comparing single women with one child to those with two or more children. The "treatment" here is that the 1993 EITC expansion was much more generous for families with two or more children. These results are somewhat less clear than above but show an increase in employment of single women with two or more children relative to those with only one child at the same time that the EITC is becoming more generous for larger families.[11]

Of course, the EITC reforms were not the only changes affecting the returns to work during this period. As recently discussed by Blank (2000), the mid 1990s simultaneously brought EITC expansions, minimum wage increases, welfare reform, and the very strong labor market.[12] Blank argues that our ability to determine the relative importance of these factors is limited by the fact that the changes were coincident. Despite these difficulties, Meyer and Rosenbaum (1999) examine the determinants of employment of single mothers between 1984 and 1996. This period ends before federal welfare reform but includes the period when states were experimenting with welfare waivers. They use a sample of single mothers with and without children and model the gains to entering work for the two groups taking into account a rich set of tax and transfer programs. They find that expansions in the EITC account for 60 percent of the sizeable increase in employment rates with smaller impacts due to welfare waivers and declining real welfare benefits. Ellwood (1999),

[10] In the early period, the difference in maximum credit is equal to the credit for families with children. The figure takes into account that there was a small EITC for childless families starting in 1994. It is not clear whether Liebman took this into account in his calculation.
[11] The employment figures in Liebman and Meyer and Rosenbaum are unconditional. The authors state that the general conclusions do not change when adding controls.
[12] The federal minimum wage increased in nominal terms from $3.35 in 1990 to $5.15 in 1997.

comparing employment across skill groups, also finds changes to welfare and the EITC to have stimulated labor supply of single mothers with children. However, in contrast to Meyer and Rosenbaum, his work finds that welfare program changes were slightly more important than the EITC expansions.

Overall, the literature suggests that the EITC has played an important role in the large increases in employment among single women with children. Eissa and Hoynes (1998) is one of the few papers that have considered the impact of the EITC on married couples. They use two estimation approaches. In the first they compare the labor market outcomes of married couples with children to married couples without children. In the second, they limit the sample of married couples with children and model changes in the returns to work including tax and transfer policy changes. Using both methods, they find that an expansion in the EITC leads to modest increases in labor force participation for married men and somewhat larger decreases in labor supply for married women. That is, they find evidence of a negative "income" effect reducing the labour supply of married women. This is precisely the adverse effect that can be expected when a work contingent tax credit is based on a family income and will also be found in our evaluation of the likely impact of the WFTC in the UK.[13]

5 Evaluating the WFTC Reform

As was described in section 3, the Working Families Tax Credit introduced in October 1999 is substantially more generous than the prior in-work benefit in the UK – Family Credit. It increases the generosity of in-work support relative to the FC system in four ways: by enhancing the credit for younger children; by increasing the threshold; by reducing the benefit reduction rate from 70% to 55%; and by incorporating a new childcare credit of 70% of actual childcare costs up to a quite generous limit. As we have argued there are two important aspects of the UK benefit and credit system that have to be accounted for when assessing any in-work benefit reform. First, any increase in generosity will be dampened by interactions with means tested income maintenance schemes. In particular the Housing Benefit scheme. As we noted above, four fifths of single parents who do not work and who claim Income Support are in receipt of Housing Benefit. Second, increases in the credit for children

[13] This negative labor supply result for married couples can also be found in Dickert et al (1995) and Neumark and Wascher (2000).

and in the threshold level have typically been matched by increases to income support for non-working parents. As our discussion in section 3 stressed, this has also been a feature of the WFTC reform.

5.1 Simulating the Reform

To provide an ex-ante simulation of the impact of new reforms like the WFTC a model is required that separates preferences from constraints. Such a model is developed in Blundell, Duncan, McCrae and Meghir (2000). This work develops earlier structural labour supply simulation models[14] by Hoynes (1996), for example, and provides a similar framework to Bingley and Walker (1997) who considered earlier reforms to the UK benefit system. In particular, it allows for child care demands to vary with hours worked and it allows for fixed costs of work. It also accounts for take-up by incorporating welfare stigma following on from Keane and Moffitt (1998).[15] This model was estimated and the simulations reported here computed *before* the WFTC was fully implemented.

The simulations focus on the two target groups for the WFTC reform: single parents and married couples with children. Two samples from the 1994-95 and 1995-96 British Family Resources Surveys (FRS) are selected; single parent households and married or de facto married couples. Excluding self-employed and retired households, together with students and those in HM forces, leaves samples of 1807 single parents and 4694 two-person households for use in estimation. Nearly 50% of currently working single parents were found to be in receipt of some Family Credit. For married couples with children this proportion is smaller, at around 16%. However, the latter group is more than two and half times the size of the former.

As we have seen, the WFTC reform is designed to influence the work incentives of those with low potential returns in the labour market. It does this via the increased generosity of in-work means-tested benefits. For single parents the WFTC does unambiguously increase the incentive to work. For couples, however, the incentives created by the WFTC can lead to a *lower* participation in the labour

[14] Blundell and MaCurdy (1999) provide a detailed overview of such models.
[15] Introducing a stigma costs to participation in WFTC allows the simulation model to predict a low probability of take-up among those with low eligibility. Something found in earlier studies of welfare programme take-up in the UK (Blundell and Fry (1986)). Moreover, its suggests a higher take–up of WFTC (in contrast to FC) for those whose eligible amount of credit has increased as a result of the WFTC reform.

market. This offsetting effect on employment for secondary workers in couples has also been highlighted in the context of the EITC reforms, see Eissa and Hoynes (1998) and the discussion above.

- Figures 5.1(a)-(e)-

Figure 5.1 (a) shows the effect of the WFTC reform on the net income and hours schedule for a typical eligible single parent. This accounts for all the interactions in the tax and benefit system and concurrent reforms to the income support system. Provided, fixed costs of work are not too high, the financial incentive to move into work for a non-participant is clear. There is also an incentive to reduce hours of work among those single parents working full time. The balance between these is purely an empirical matter although the EITC analysis, discussed in the previous section, suggested that the adverse hours effect would not dominate the positive participation effect.

Figure 5.1 (c) presents a similar example of the financial incentives facing a male in a married couple where the partner does not work. For such couples where neither parent is working the incentives are unambiguously to move into work. Indeed the gains are far larger than for our lone parent example, as the largest cash gains from the WFTC reform accrue to those at the end of the current taper. The incentives to change hours of work are ambiguous. But one interesting point is the marked increase in the effective marginal tax rate for those who become eligible to WFTC as a result of the reform. This group faces an increase in their marginal tax rates from 33%, produced by income tax and National Insurance, to just under 70%, produced by the interaction of the 55% WFTC taper on post-tax income. In the example the marginal tax rate rises from 33% to just under 70% above 40 hours of work.

One final point, highlighted in our discussion of the EITC reforms in the US, is the likely incentive for some workers in married couples to move out of work altogether. Figure 5.1 (d) shows the budget constraint for the partner of the man in Figure 5.1 (c). The figure is conditional on the man working 40 hours a week. Thus the family income of the woman when she does not work is that shown at 40 hours point. This means that the income at zero hours has increased through the WFTC reform. In the example, anyone working more than 10 hours has an increased incentive to reduce their hours or move out of work altogether. The situation changes

slightly when we allow for childcare costs at 16 hours as shown in Figure 5.1 (e). Here there is an additional incentive to work just over 16 hours to take advantage of the childcare credit. Thus the impact on partners in eligible families where there is already one worker is again ambiguous.

5.1.1 WFTC Simulations: Lone parents

In Table 5.2 (a) the simulated work responses to the WFTC among the sample of single parents are reported. The simulated transition takes around 2.2% of the sample from no work to either part-time or full-time work, with no offsetting movements out of the labour market. This represents nearly a 5% impact on employment for this group which has employment rates around 40%. To take account of sampling variability, a standard error of 0.42% is placed around the 2.2% figure.

To provide the population counterparts to these changes, Table 5.1 provides the total size of the population and the grossed up equivalent from the FRS sample. One can clearly see the reason for this shift in the earlier graphs of the potential impact of the WFTC on single parents' budget constraints. At or above 16 hours per week the single parent becomes eligible for WFTC (with any childcare credit addition to which she may be entitled). For some women this extra income makes a transition to part-time employment attractive.

Tables 5.1 and 5.2 (a)-(d) about here

We see a minor offsetting reduction in labour supply through a simulated shift from full-time to part-time employment among 0.2% of the sample. This is consistent with a small (negative) income effect among some full-time single women, for whom the increase in income through the WFTC encourages a reduction in labour supply. Nevertheless, the predominant incentive effect among single parents is a positive effect on participation.

5.1.2 WFTC Simulations: Women with employed partners

For married women the simulated incentive effect is quite different. Table 5.2 (b) reports estimates of the transitions following WFTC among a sub-sample of women with employed partners. There is a significant overall *reduction* in the number of women in work of around 0.57%. This overall reduction comprises around 0.2% who move into the labour market following the reform, and 0.8% who move from

work to non-participation. The number of hours worked by women with employed partners is predicted to fall slightly.

The predominant negative response is clearly not one that is intended, but from the earlier budget constraint analysis one can easily see why. There will be a proportion of non-working women whose low earning partners will be eligible for the WFTC. The greater generosity of the tax credit relative to the current system of Family Credit increases household income. This increase in income would be lost if the woman in the household were to work. And for those women currently in the labour market, the WFTC increases the income available to the household if she were to stop working.

5.1.3 WFTC Simulations: Women with unemployed partners

In Table 5.2 (c) the incentives for a sub-sample of women whose partners do not work are presented. For this group there is a significant overall increase of 1.32% in the number of women who work. The reason for this shift is more straightforward, and stems from the increased generosity of the basic WFTC relative to the current Family Credit system for those women who choose to move into work. Note that for this group the generosity of the childcare credit component of the WFTC is not an issue, since households only qualify for the childcare credit if both household members work 16 hours or more. There is of course potential for both members of an unemployed household to move into work in order to qualify for the WFTC including the childcare credit, but a joint simulation (not reported here) shows that such an outcome is virtually non-existent.

5.1.4 WFTC Simulations: A summary

Table 5.2 (d) provides an overall summary of the employment effects that could be expected from this reform. This table also provides the impact on male employment. The impact on single parents is quite significant. This is also the case for workless couples with children. These are the two target groups we mentioned at the outset. However, “adverse” effects on couples in which one spouse is working somewhat offset these effects. Overall the effects on participation across the two groups of men roughly cancel out leaving the major impact operating through the effects on women, mainly single parents. However, if we consider the impact on

workless households alone, then the overall impact of the WFTC is predicted to be much more substantial.

5.2 The WFTC Reform – Some Ex-Post Evidence

The WFTC was introduced for all new recipients in October 1999 and fully phased in by April 2000. From recent administrative caseload data[16], the introduction of the WFTC, and the substantial increase in generosity, appears to have had a marked effect on the number of people claiming in-work benefits. Figure 5.2 shows that caseload has risen by 30% in the 12 months since May 1999. Table 5.2 shows that the average award has risen from £63 to £76 a week over the same period. Average gross weekly income of claimants is now £153, and average weekly hours worked 30.5. 52% of recipients are lone parents.

There has also been a large increase in take-up of the Childcare Tax Credit compared to the childcare disregard under Family Credit. 111,000 families were receiving help with childcare costs in May 2000, a 156% increase over 12 months. The average amount of costs claimed was £32 a week. But although a large increase, this is still only 10% of the total WFTC caseload (Table 5.1).

Obviously some of the change in WFTC caseload is due to the increased numbers of already working parents who qualify for WFTC due to its increased generosity. This alone cannot be taken as a measure of success in increasing employment. We can learn a little more by looking at administrative data on cross-benefit flows. Figure 5.3 breaks down the WFTC/FC caseload by their situation 12 months ago. It shows that a large component of the caseload increase (around 75%, taking the last 4 quarters of FC as a baseline) since October 1999 has come from people who were not claiming any means-tested benefits or tax credits 12 months before. Both these two facts are consistent with the increased entitlement of the WFTC compared with FC.

It is informative to compare the predicted labour supply effects discussed earlier with the available administrative data. The simulations reported in Table 5.2 above[17] estimate that around 30,000 currently-workless lone parents with children

[16] Department of Social Security, Client Group Analysis.
[17] Similar percentage effects on single parents can be found in the Gregg et al (2000) study.

will enter work as a result of WFTC[18]. The Government's equivalent (and unpublished) estimate for the package of tax and benefit reforms is around 40,000 lone parents with children. Although we cannot make accurate inferences from this high-level analysis of administrative data, we cannot yet see a change in the behaviour of lone parents of this magnitude. Comparing February 2000 with August 1999, only 5% (10,000 families) of the increase in the WFTC/FC caseload is due to lone parents moving from Income Support to WFTC.

There are several important reasons that could explain the discrepancy. First, responses to reforms take time. It took two years for the strong peak at 16 hours to appear after the 1992 reform to Family Credit in the UK. Second, we have presented an extremely crude analysis that does not, for example, control for any underlying changes in the number of lone parents moving from IS to WFTC/FC (for example, the number of lone parents moving from Income Support to WFTC/FC fell by 7,000 in the 12 months to August 1999). Third, we also cannot identify lone parents on other out-of-work benefits.

Nonetheless taken together with our simulation results these administrative statistics suggest that the impact of the WFTC reform on employment among low income families in the UK is positive but modest. This supports our overall view that the workings of the tax and benefit system in the UK together with the increased generosity to workless families with children, mean that changes to financial work incentives from in-work benefit reforms are relatively small.

One caveat to this is the possible impact of childcare credit. Under WFTC this is a generous scheme available only to those in work (requiring both parents in a couples to work at least 16 hours) but, as we have indicated, it is currently taken up by only a small fraction of WFTC recipients. If participation in this part of the WFTC program was to expand significantly it could further encourage labour supply among those low income parents currently who are currently out of work and claiming Income Support.

[18] We cannot analyse couples who move into work because of the difficulties in classifying couples who change claimants when they change benefits/tax credits.

6 Summary and Conclusions

The late 1980s and 1990s saw substantial expansions to the UK system of in-work benefits. Most recently, in 1999 the Family Credit was expanded and replaced by the Working Families Tax Credit. The goal of these policy reforms was clear: to significantly increase the employment of the targeted groups of lone parents and workless couples. However, employment rates of single women with children, which declined dramatically with the recession of the early 1980s, have remained low relative to other groups. The US also expanded its main in-work benefit program, the Earned Income Tax Credit (EITC), during the late 1980s and 1990s. But the US expansions were accompanied by much larger increases in the employment rates of single mothers and heralded as a great policy success. The goal of our paper has been to explore this "puzzle" and determine why the results were different in the UK.

Our analysis leads to two key explanations. First, in-work benefits incentives in the UK are dulled by integration with the rest of the tax and benefit system. Second, in the US, the expansions to the in-work benefits occurred at a time when the out-of-work benefits were being reduced. There was no corresponding reduction in the UK.

In relation to the first explanation we point to the significant benefit reduction rate in the Housing Benefit (HB) program, inducing only small gains to working for those with large HB entitlements. Many non-working low-income families in the UK are in this position. In the US, by contrast, the EITC is not counted as income for the calculation of any other transfer program so the household sees the full gain of the in-work benefit. The interaction between in-work benefits and other means tested benefits is of central importance in understanding the precise change in incentives that reforms to the in-work benefit system have delivered.

In terms of the second explanation, welfare programs in the US underwent major reforms leading to a decline in the value of staying out of the labor force for single mothers. Thus the increase in incentives to work through the EITC was strengthened by the decline in the generosity of out-of-work benefits. In the UK, by contrast, the out-of-work programs either maintained levels of generosity or in some cases actually increased generosity in step with the increases in the in-work programs. The combination of these two forces meant that the expansions of the UK in-work programs generated rather modest increases in the incentives to work.

It is not that we find no positive employment responses to the reforms in the UK. Indeed, there is strong evidence that certain targeted groups responded to the incentives in their labour supply behaviour. For example, our simulations point to an important impact on single parents drawing more than 30,000 into work and off income support from the recent WFTC reform. Also we find a significant percentage of men and women in workless couples move into employment. However, these positive increases in employment for workless couples with children are offset somewhat by a decrease in the level of employment in couples with children where both spouses are working, reflecting the income effect. The reduction in workless families is therefore much more substantial than the increase in employment.

This can only be a partial assessment of the recent reforms to the structure of in-work benefits in the UK. There are several additional issues that have been raised. The first relates to childcare. The recent reform in the UK contains a generous childcare component. If taken up it could significantly improve the labour supply of the target groups. Also it mitigates the offsetting effect on working married couples since there is a requirement that both parents work in a couple for eligibility. On face value, childcare should be important. The data show that the low attachment rates are concentrated among women whose youngest child is below formal school age. Indeed, one interpretation of the experimental findings in Card and Robins (1998) is that in-work benefits speed up the entry into work of mothers with young children. However, to date, the take-up among couples is less than 2% and among single parents it is also less than 12%. These low take-up rates are somewhat of a puzzle and may reflect the time taken for the childcare market to adapt.

Finally, there is the issue of earnings progression. Will the earnings of the recipients who are brought into work due to the increase generosity of in-work benefit programmes see any significant growth in real wages? Will they eventually be able to earn their way out of the in-work benefit system? How does a tax-credit affect incentives for wage progression? Unlike the Canadian SSP experiment the UK and US systems are not time limited. At first sight this looks to set up the wrong incentives for wage progression. Certainly the incentives for individuals to seek out wage progression are likely reduced. But, as pointed out by Heckman, Lochner and Cossa (1999), distinguishing between the method of skill formation is key. Evidence on wage progression for these types of workers is sparse but there are three important and relevant studies – Card and Robins (1999) study of the wages of the control and

treatment groups in the Canadian experiment, the Heckman, Heckman, Lochner and Cossa (2002) study of the impact of EITC on skill formation and the Gladden and Taber (1999) study of true experience effects across education and gender groups in the US. All of these studies point to modest wage growth. The first study suggests those drawn in to the programme do not experience significantly lower wage growth although the level of wage growth is low. The second study highlights the importance of distinguishing between the method of skill formation – that is whether it is dominated by on-the-job learning or learning-by-doing. The third study shows that although growth is slow it is rather similar across skill and gender groups. Positive news? Yes, but the rates of wage progression are small and the wage levels of these individuals in the UK are very low. In Blundell (2002) it is argued that given the large impact on incomes – and implicitly on hourly wages – that is brought about through in-work benefits, it is doubtful that wage progression alone will lead to any significant movement out of in-work benefit receipt.

REFERENCES

Bingley, Paul and Ian Walker (1997), "The Labour Supply, Unemployment and Participation of Lone Mothers in In-Work Transfer Programs"', *Economic Journal*, 107, 1375-1390.

Blank, Rebecca (2000), "Declining Caseloads / Increased Work: What Can We Conclude about the Effects of Welfare Reform," prepared for conference *Welfare Reform Four Years Later*, Federal Reserve Bank of New York.

Blank, R.M., Card, D.E., and Robins, P.K. (2000), "Financial Incentives for Increasing Work and Income Among Low-Income Families" in *Finding Jobs: Work and Welfare Reform*, David Card and Rebecca M. Blank (eds), New York: Russell Sage Foundation.

Blundell, Richard, Alan Duncan and Costas Meghir (1998), "Estimating Labour Supply Responses using Tax Policy Reforms", *Econometrica,* 66, 827-861.

Blundell, R. W, Duncan, A.S., McCrae, J. and Meghir, C. (2000), "The Labour Market Impact of the Working Families Tax Credit", *Fiscal Studies,* 21, 65-74.

Blundell, R. W. (2000), "Work Incentives and In-Work Benefit Reforms: A Review", *Oxford Review of Economic Policy,* 16(1).

Blundell, R. W. (2001), "Welfare Reform for Low Income Workers", *Oxford Economic Papers,* 53, 189-214.

Blundell, R. W. (2002), "Welfare to Work: Which Policies Work and Why", Keynes Lecture in Economics 2001, *British Academy Proceedings*, November.

Blundell, R and V. Fry (1986), "Modeling the Take-Up of Means Tested Benefits: The Case of Housing Benefits in the UK", *Economic Journal*, 83, 18-34.

Blundell, R. and Reed, H. (2000), "The Employment Effects of the Working Families Tax Credit", http://www.ifs.org.uk/labmarket/wftc_bn.pdf.

Blundell, R.W. and MaCurdy, T. (1999), "Labor Supply: A Review of Alternative Approaches", in O. Ashenfelter and D. Card (eds), *Handbook of Labor Economics Vol III*, Elsevier North-Holland.

Blundell, R.W. and Meghir, C. (2002), "Active Labour Market Policy vs Employment Tax Credits: Lessons from Recent UK Reforms", *Swedish Economic Policy Review*, 8, January 2002, 13-37. www.ifau.se

Brewer, M. (2000), "Comparing In-Work Benefits and Financial Work Incentives for Low-Income Families in the US and the UK", Institute for Fiscal Studies Working Paper W00/16, forthcoming *Fiscal Studies*

Brewer, M, M. Myck and H. Reed, (2001), "Financial Support for Families with Children", Institute for Fiscal Studies, Commentary 82, January.

Card, David and Philip K. Robins (1998), "Do Financial Incentives Encourage Welfare Recipients To Work?", *Research in Labor Economics*, 17, pp 1-56.

Card, David and Philip K. Robins (1999), "Measuring "Wage Progression" Among Former Welfare Recipients", *Center for Labor Economic*, Discussion Paper, Berkeley, September.

Cossa, R., Heckman, J.L. and Lochner, L. (1999), "Wage Subsidies and Skill Formation: A Study of the Earned Income Tax Credit", mimeo.

Council of Economic Advisers (1999), *The Effect of Welfare Policy and the Economic Expansion on Welfare Caseloads: An Update*, Washington DC: Executive Office of the President.

Department of Social Security (various years c), *Client Group Analysis – Working Age*, London: Government Statistical Service.

Dickens, Richard, and David Ellwood (2001), "Whither Poverty in Great Britain and the United States? The Determinants of Changing Poverty and Whether Work will Work", mimeo, Centre for Economic Performance, London; prepared for the NBER Premier League volume.

Dickert, Stacy, Scott Houser and John Karl Scholtz (1995), "The Earned Income Tax Credit and Transfer program: A Study of Labor market and Program Participation", in *Tax Policy and the Economy*, vol 9, James Poterba, ed. Cambridge MIT press.

Dickert, Stacy, and Scott Houser (1998), "Taxes and Transfers: A New Look at the Marriage Penalty", *National Tax Journal*, 51, 175-217..

Dilnot, Andrew and Alan Duncan (1992), "Lone Mothers, Family Credit and Paid Work", *Fiscal Studies*, 13, pp.1-21.

Dilnot, Andrew, John Kay and Chris Morris (1984), *The Reform of Social Security*, Oxford: Oxford University Press.

Dilnot, A. and Webb, S. (1989), "The 1988 Social Security Reforms" in Dilnot and Walker (eds), The Economics of Social Security, Oxford University Press, Oxford and New York.

Eissa, Nada and Hilary Hoynes (1998), "The Earned Income Tax Credit and the Labor Supply of Married Couples", National Bureau of Economic Research, Working paper 6856, December.

Eissa, Nada and Jeffrey Liebman (1996), "Labor Supply Response to the Earned Income Tax Credit", *Quarterly Journal of Economics*, CXI, 605-637.

Ellwood, David, T. (1999), "The Impact of EITC and other Social Programs on Work and Marriage in the United States", mimeo John F. Kennedy School of Government, Harvard University.

Giles, C., Johnson, P. and McCrae, J. (1997), "Housing Benefit and the Financial Returns to Employment for Tenants in the Social Sector", *Fiscal Studies*, 18, 49-72.

Gladden, T. and Christopher Taber, (2000) "Wage Progression among Less Skilled Workers" in *Finding Jobs: Work and Welfare Reform*, David Card and Rebecca M. Blank (eds), New York: Russell Sage Foundation.

Gregg, Paul, Paul Johnson and Howard Reed (1999), "Entering Work and the British tax and benefit System", IFS Monograph, London.

Heckman, James J., (1974), "Effects of Child-Care Programs on Women's Work Effort", *Journal of Political Economy*, 82(2), S136-S163.

Heckman, James J., Lance Lochner and Ricardo Cossa, (2002), "Learning-by-Doing vs On-the-Job Training: Using Variation Induced by the Earned Income Tax Credit to Distinguish Between Models of Skill Formation", Working Paper, University of Chicago, June.

HM Treasury (1999b), *Supporting Children Through the Tax and Benefit System*, The Modernisation of Britain's Tax and Benefit System 5.

HM Treasury (2000), *Tackling Poverty and Making Work Pay: Tax Credits for the 21st Century*, The Modernisation of Britain's Tax and Benefit System 6.

Holtzblatt, Janet and Jeffrey Liebman. (1998), "The EITC Abroad: Implications of the British Working Families tax Credit for Pay-As-You-Earn Administration of the EITC", prepared for the 91st Annual Conference on Taxation, National Tax Association.

Hoynes, Hilary Williamson (1996). "Welfare Transfers in Two-Parent Families: Labor Supply and Welfare Participation Under the AFDC-UP Program", *Econometrica*, Volume 64 No. 2, 295-332, March 1996.

Hoynes, Hilary Williamson (2000). "The Employment and Earnings of Less Skilled Workers Over the Business Cycle", in *Finding Jobs: Work and Welfare Reform*, edited by Rebecca Blank and David Card. Russell Sage Foundation: New York, pp 23-71.

Hoynes, Hilary Williamson and Thomas MaCurdy (1994). "Has the Decline in Benefits Shortened Welfare Spells?", *American Economic Review*, Volume 84 No. 2, 43-48.

Inland Revenue (various years), *Working Families' Tax Credit Quarterly Enquiry*, London: Government Statistical Service.

Institute for Fiscal Studies, (2000), "Distributional Consequences of Fiscal Reform Since 1997", http://www.ifs.org.uk/taxben/fiscalreform.pdf.

Keane, M.P. and Moffitt, R. (1998), "A Structural Model of Multiple Welfare Program Participation and Labor Supply", *International Economic Review* 39 553-589.

Liebman, Jeffrey B. (1998). "The Impact of the Earned Income Tax Credit on Incentives and Income Distribution" in James M. Poterba, ed. *Tax Policy and the Economy*, vol 12.

Meyer, Bruce and Dan T. Rosenbaum (1999) "Welfare, the Earned Income Tax Credit, and the Labor Supply of Single Mothers." National Bureau of Economic Research Working Paper 7363, September 1999.

Meyer, Bruce and Dan T. Rosenbaum (2000) "Making Single Mothers Work: Recent Tax and Welfare Policy and its Effects." National Bureau of Economic Research Working Paper 7491, January 2000.

Moffitt, Robert and Kenneth Kehrer (1981), "The Effect of Tax and Transfer programs on Labor Supply: the Evidence from the Income Maintenance Experiments". In R.G. Ehrenberg, ed. *Research in Labor Economics*, Volume 4: 103-150. Greenwich, Connecticut: JAI Press.

Moffitt, Robert (1998),"The Effect of Welfare on Marriage and Fertility", in Robert Moffitt, editor, *Welfare, The Family and Reproductive Behavior*. National Research Council, National Academy of Sciences, Washington, D.C. NA Press.

Neumark, D. and Wascher, W. (2000), Using the EITC to Help Poor Families: New Evidence and a Comparison with the Minimum Wage, NBER Working Paper 7599.

Paull, G, Walker, I. and Zhu, Y. (2000), *Child Support Reform: Some Analysis of the 1999 White Paper, Fiscal Studies*, 21, 105-140.

Scholz, J. Karl. (1994), ``The Earned Income Tax Credit: Participation, Compliance, and Anti-Poverty Effectiveness. '', *National Tax Journal*, 48, 63-85.

Scholz, J.K. (1996), ``In-Work Benefits in the United States: The Earned Income Tax Credit'', *Economic Journal*, 106, 156-169.

Schoeni, Robert and Rebecca Blank (2000), "What Has Welfare Reform Accomplished? Impacts on Welfare Participation, Employment, Income, Poverty, and Family Structure." National Bureau of Economic Research Working Paper 7627, March 2000.

U.S. House of Representatives (2000). Background Materials and Data on Programs Within the Jurisdiction of the Committee on Ways and Means. Washington D.C.: Government Printing Office.

Walker, R. and Wiseman, I. (1997), "The Possibility of a British Earned Income Tax Credit", *Fiscal Studies*, 18(4).

Data Appendix

1. UK Labour Market sources and definitions

Family Expenditure Data (FES): The FES is a repeated continuous cross-sectional survey of households which provides consistent data on wages, hours of work, employment status in last 2 weeks and education for each year since 1978. FES years correspond to the financial year. Consequently 1998, for example, covers the twelve months up to April 1999. It therefore corresponds to 1999 in the March CPS data used in the US comparisons. Prior to 1978 the FES contains no information on educational attainment. In particular, the survey contains information on usual labor market status.

Low Education: We show trends for all women and trends in a low education sample classified as those who left full-time education at age 16 or lower. An alternative to our method for constructing the education dummy would use those who left education at the statutory minimum age as the base group. This method is equivalent to ours from 1973 onwards in the UK; before this date the minimum school leaving age was a year lower, at 15. Nonetheless, interactions between date-of-birth cohort effects and the education dummy will capture any effects of the change in minimum leaving age on the relative returns to education enjoyed by the 17+ group. See Gosling et. al (1996). We use this criteria to better select women affected by the in-work benefit reforms under consideration.

Labour Force Survey (LFS): The LFS is a quarterly survey of some 60,000 working age individuals in the UK.

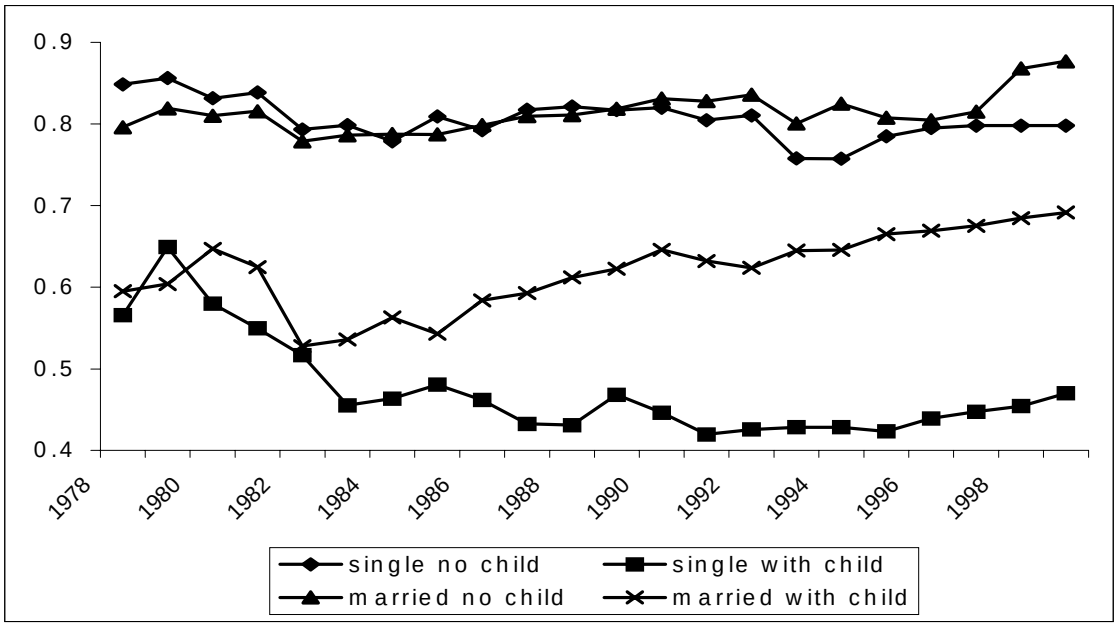
Family Resources Survey (FES): The FRS

2. US Labour Market sources and definitions

The March Current Population Surveys (CPS): The March CPS is an annual demographic file of between 50,000 and 62,000 households. For each individual in the household the survey provides detailed information on labor market, income, and demographic characteristics. In particular, the survey contains information on labor market status *last week* as well as detailed labor market information for the *previous calendar year*. Our main labor market measure from the CPS is *work status last week*, but as an alternative measure we consider weeks worked last year. As for the UK, we calculate trends in these labor market variables using women between the ages of 20 and 54. We also restrict the sample in this way because we do not want to address issues of early retirement and exit from the labor market. We present trends in labor market variables by marital status and presence of children.

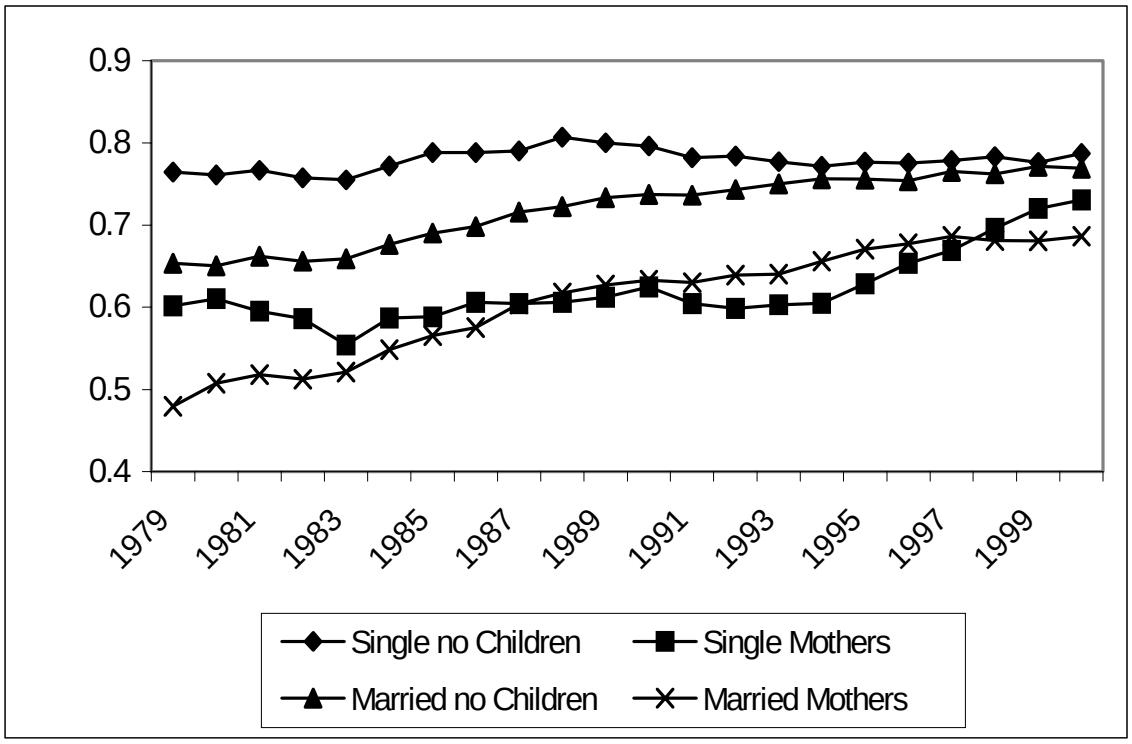
Low Education: The low education sample consists of women with no more than a high school education (less than or equal to 12 years of education). Again we use this criteria to better select women affected by the EITC.

Figure 2.1: Employment Trends for Women in the UK



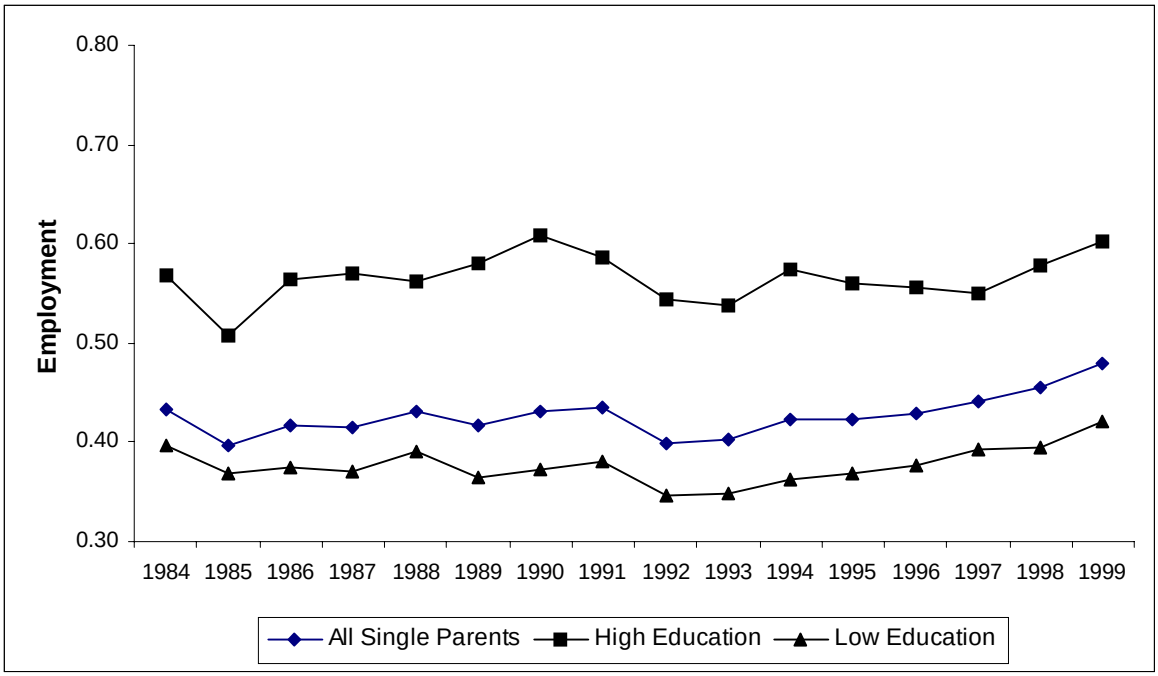
Notes: UK FES data.

Figure 2.2: Employment Trends for Women in the US



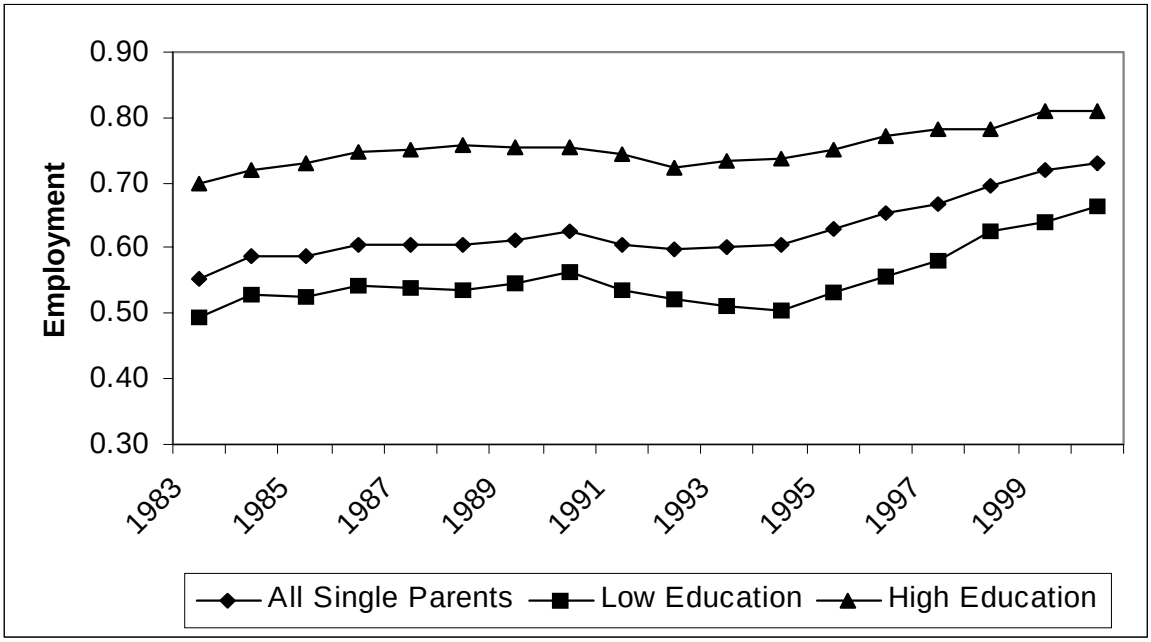
Notes: US March CPS data.

Figure 2.3: Employment Trends for Single Mothers by Education in the UK



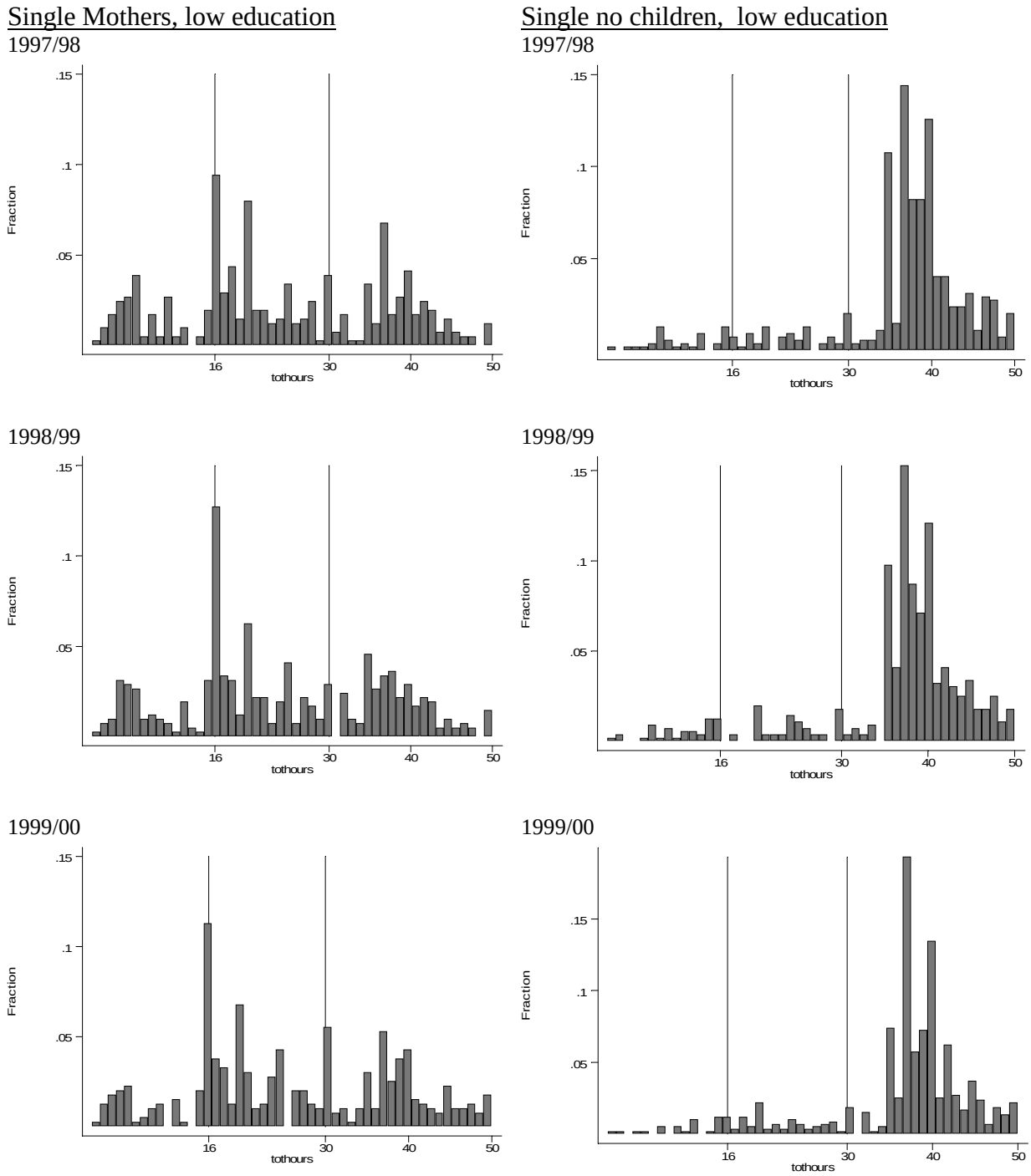
Notes: UK LFS data: low education "left school at age 16 or below".

Figure 2.4: Employment Trends for Single Mothers by Education in the US



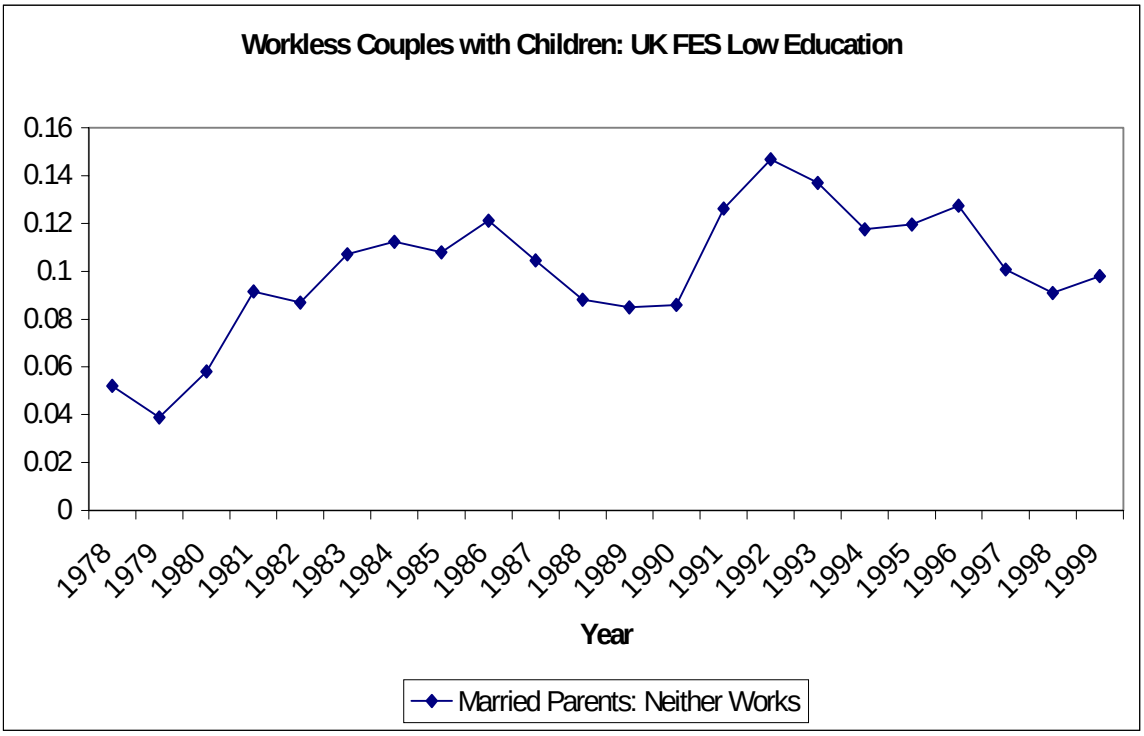
Notes: US March CPS data: low education "left school at 12 grade or below".

Figure 2.5: Weekly hours of work, single low-education women with and without children



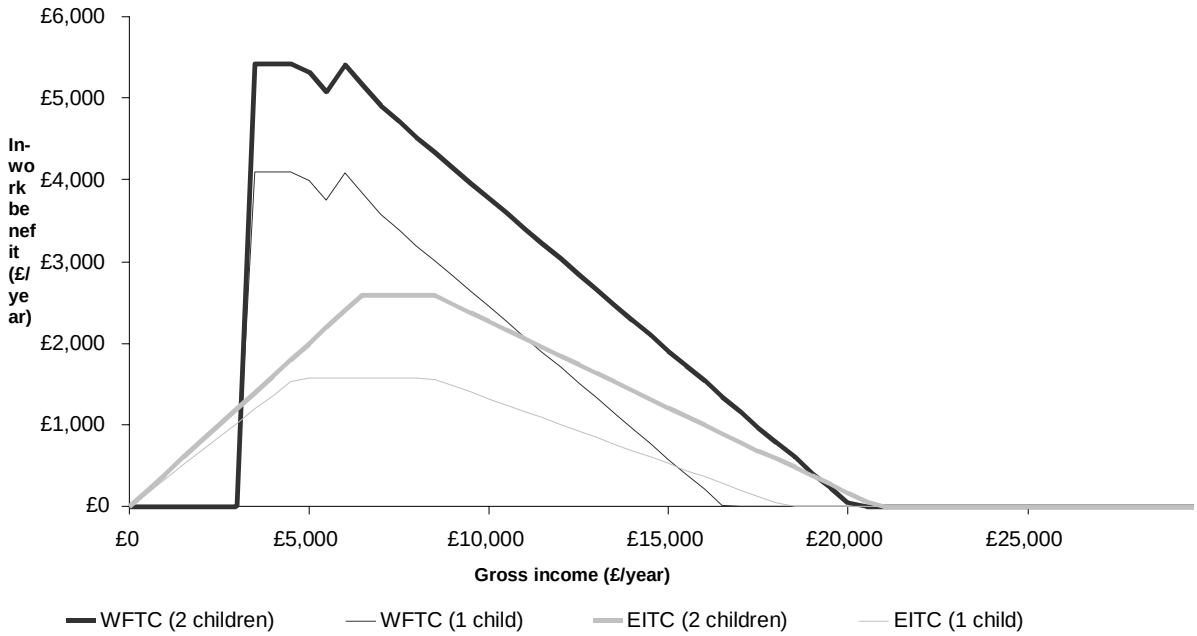
Notes: UK Family Resources Survey: Low Education is “left school at age 16 or before”.

Figure 2.6: Workless Couples with Children in the UK



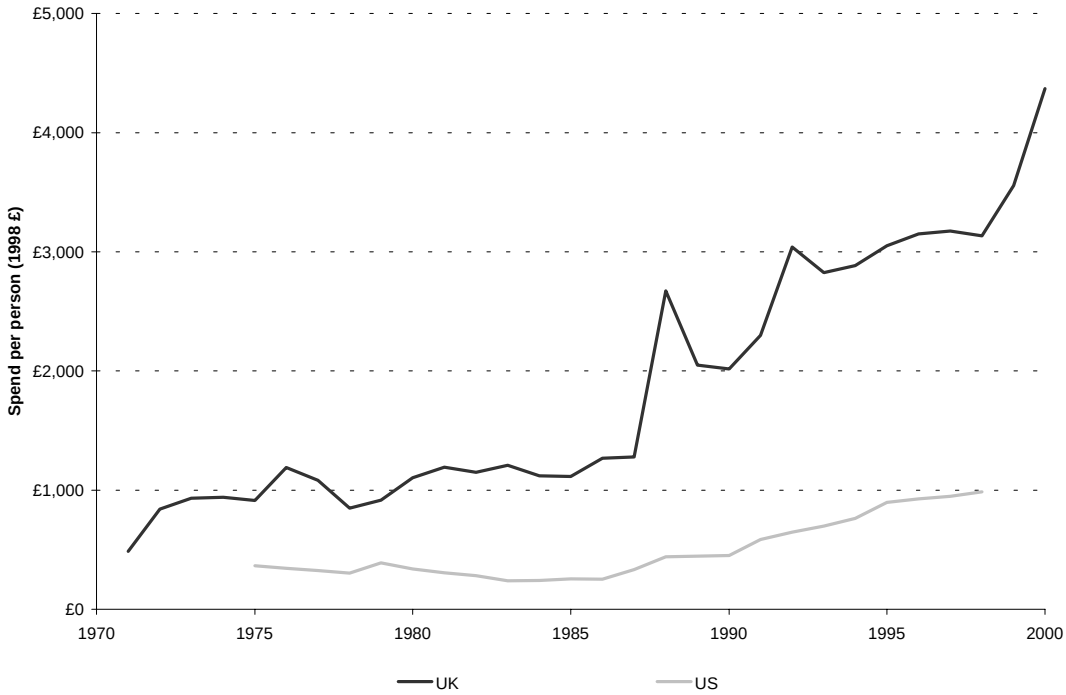
Notes: UK FES data. Low education is head “left school at age 16 or before”.

Figure 3.1 EITC schedule and WFTC weekly award, 2000



Source: Brewer (2000), Notes: £1 = $1.50. Assumes 2000 tax system in US, and 2000 tax system in UK

Figure 3.2. Expenditure per claimant on in-work benefits in UK and US



Source: Brewer (2000)

Figure 3.3. In-work benefit caseloads

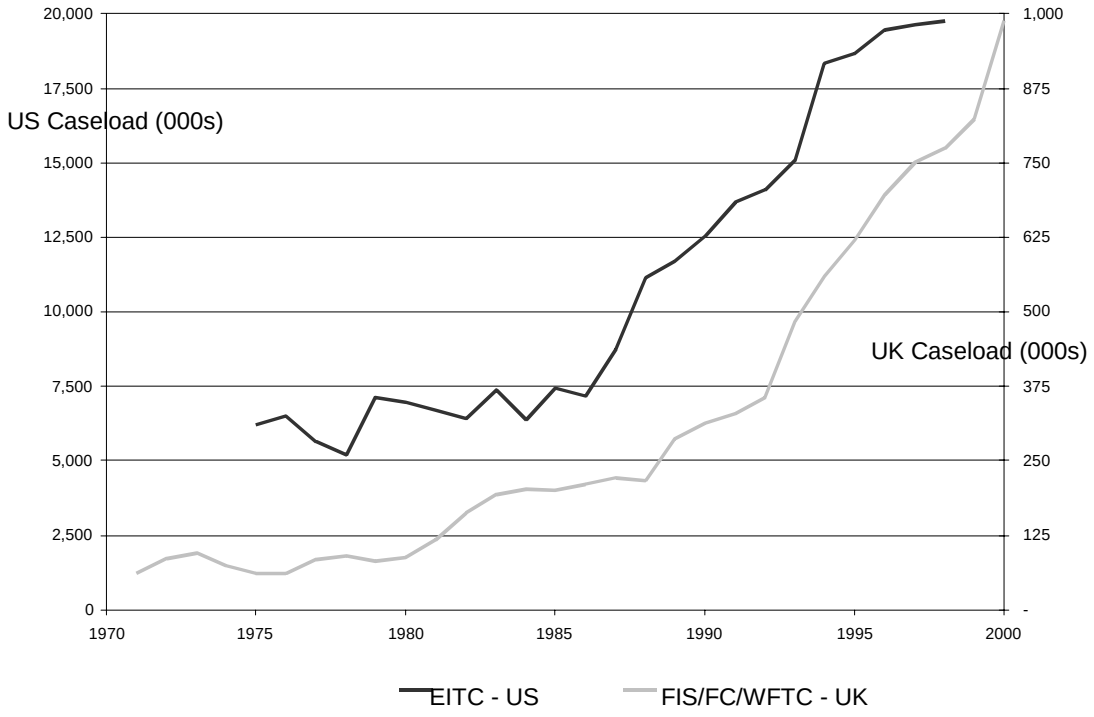
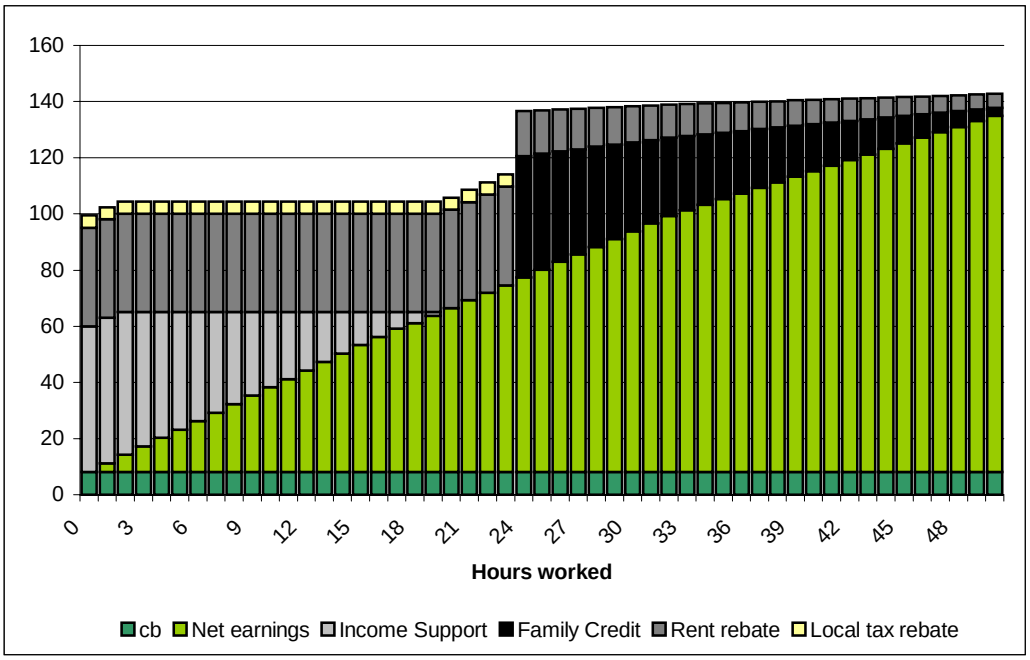


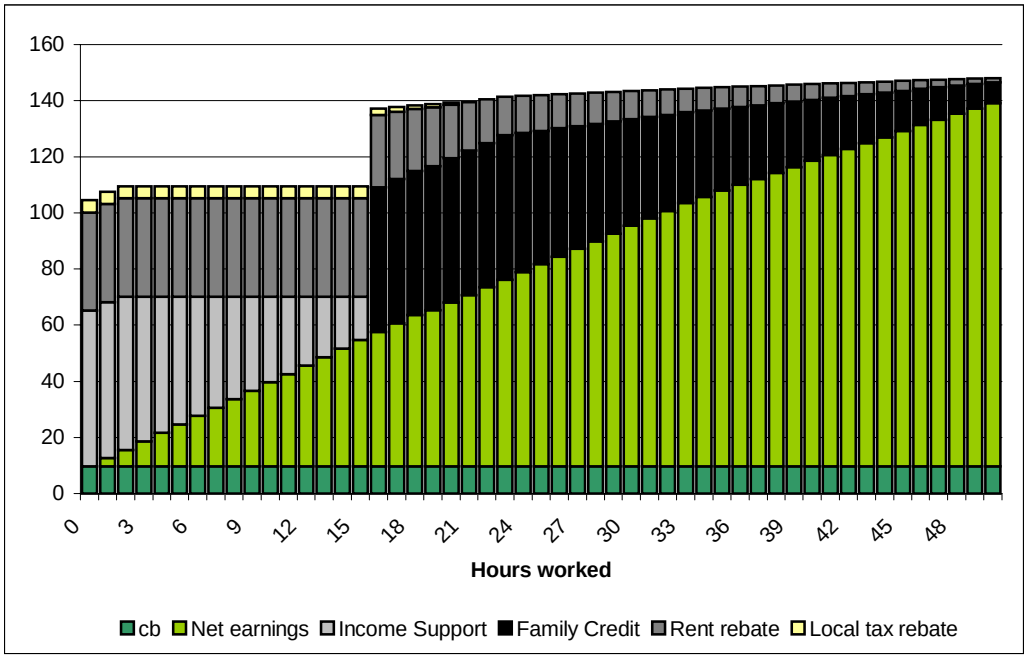
Figure 3.4: The 1992 Hours Reform to FC and Other Taxes and Benefits

(a) Single Parent in 1991



Notes: Single parent, April 1991, earning £3.00 per hour.

(b) Single Parent 1992



Notes: Single parent, April 1992, earning £3.00 per hour

Figure 3.5: WFTC and Family Credit

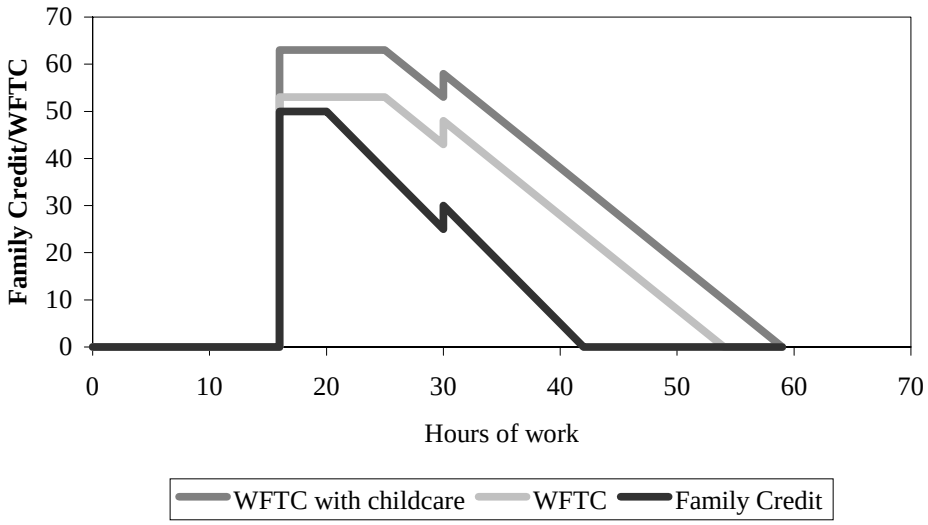
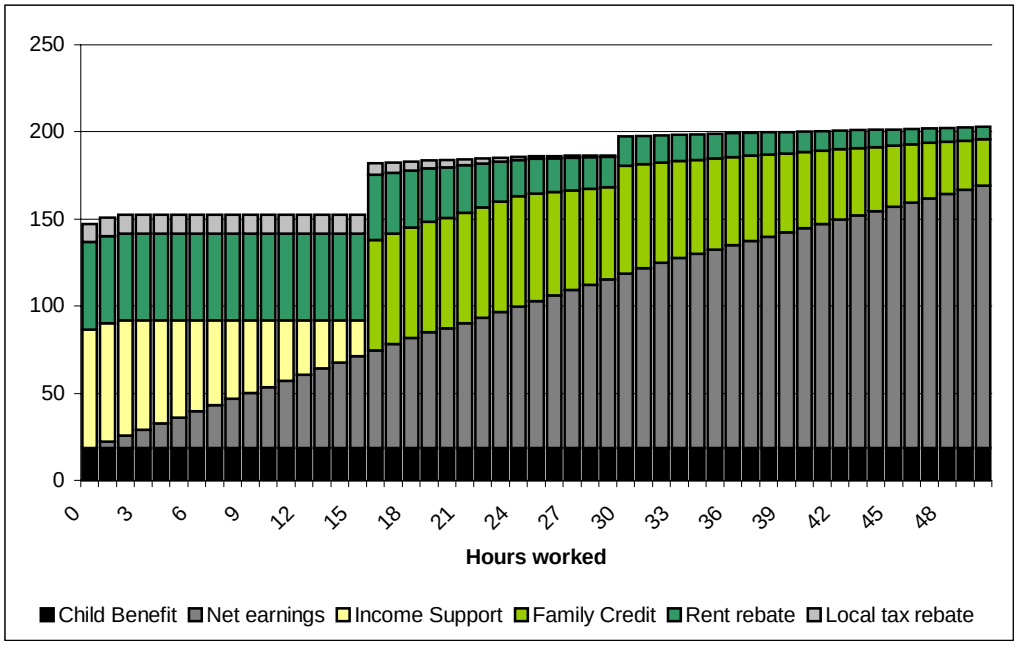
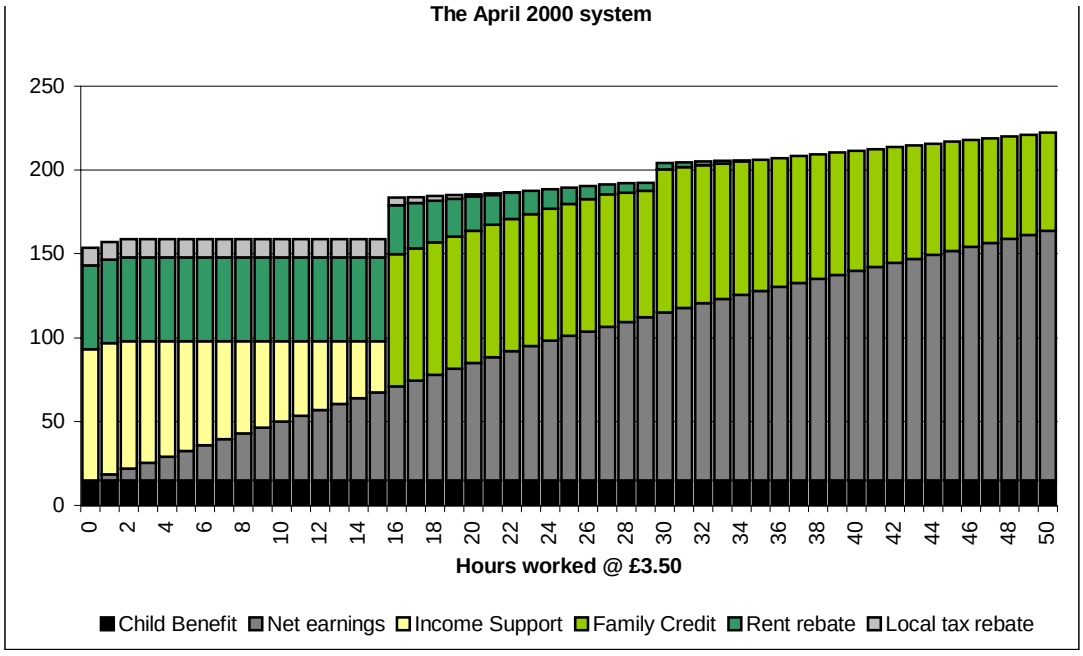


Figure 3.6(a): Single Mother before WFTC



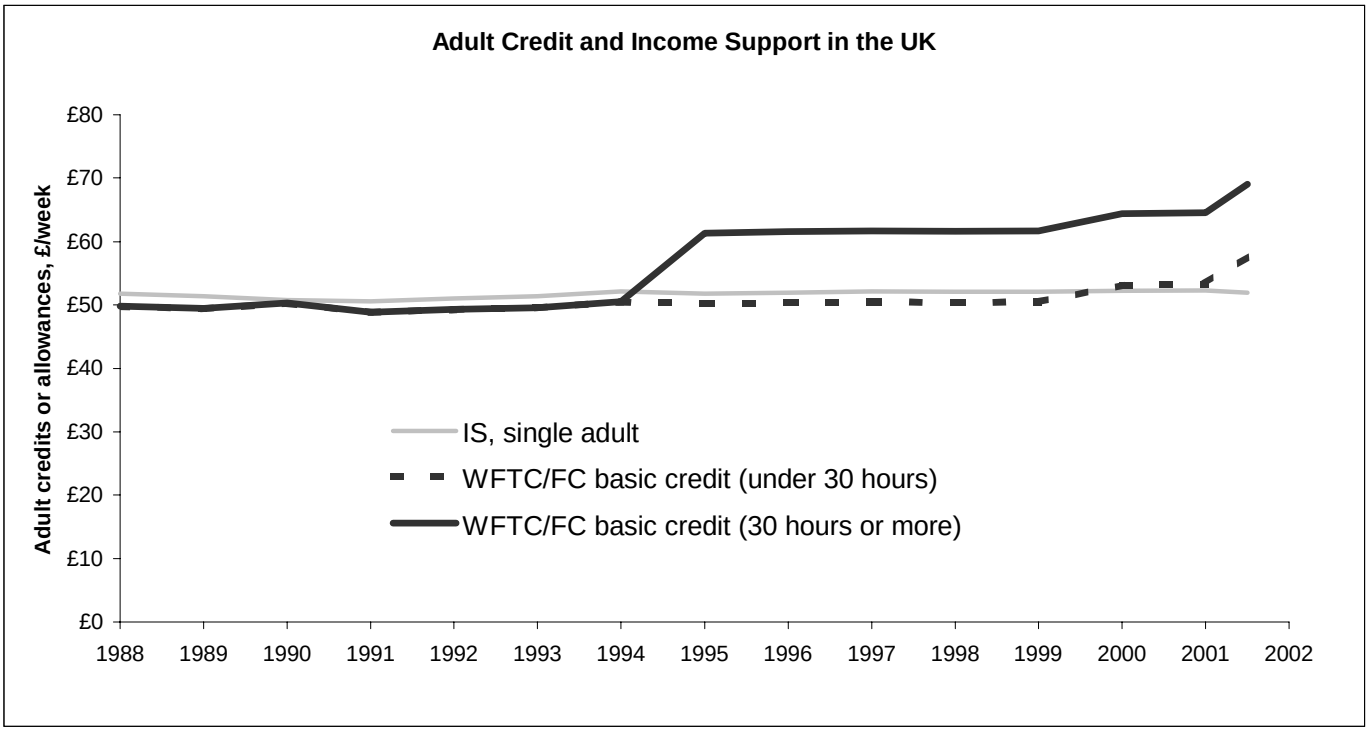
Notes: Single parent, April 1997, earning £3.50 per hour (2000 prices).

Figure 3.6(b): Single Mother after WFTC



Notes: Single parent, April 2000, earning £3.50 per hour (2000 prices).

Figure 3.7(a): Adult Credit and Income Support: Single Mother in UK



Source: Brewer, Myck and Reed (2001)

Figure 3.7(b): Child Credit and Income Support: Single Mother in UK

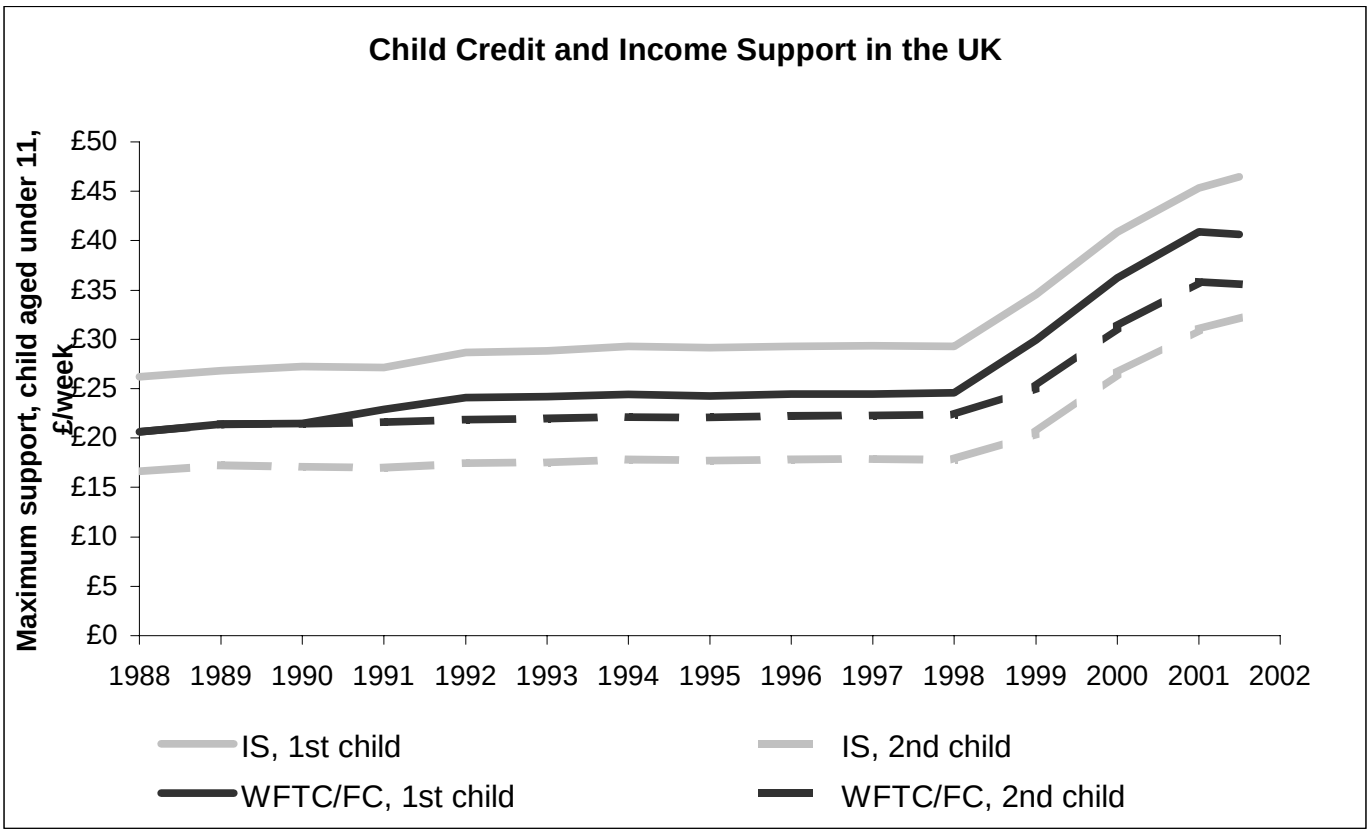


Figure 3.8(a): Replacement Rate by Hours of Work for Single Mother in UK: without Housing Costs

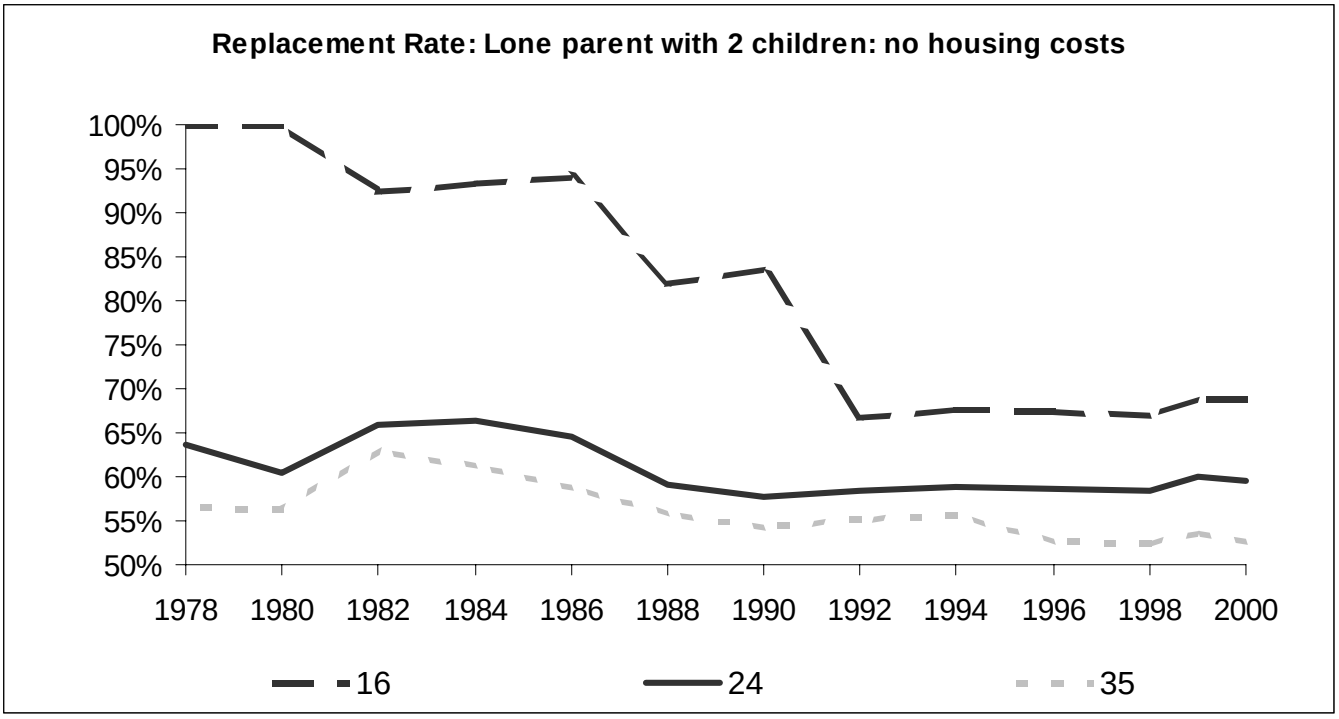


Figure 3.8(b): Average Tax Rate for Single Mother in UK: without Housing Costs Single Mother in UK

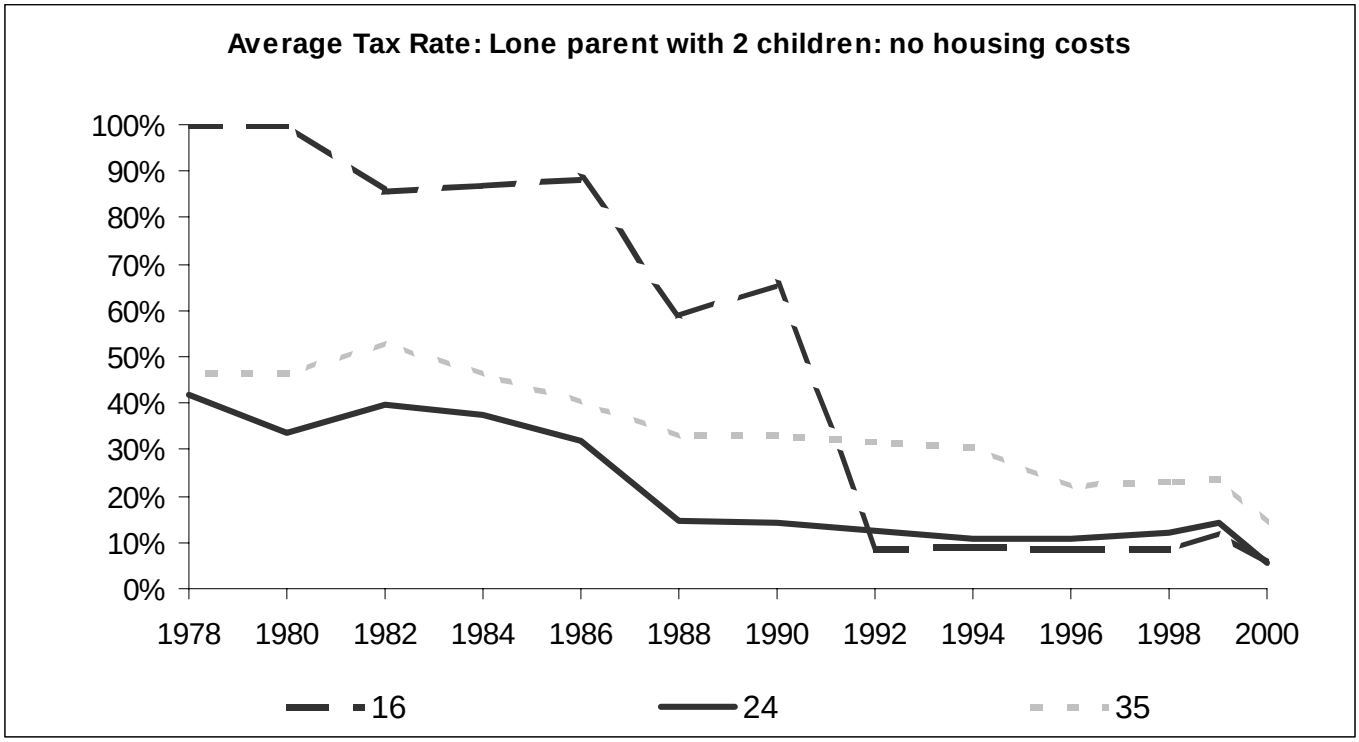


Figure 3.9(a): Replacement Rate by Hours of Work for Single Mother in UK: with Housing Costs

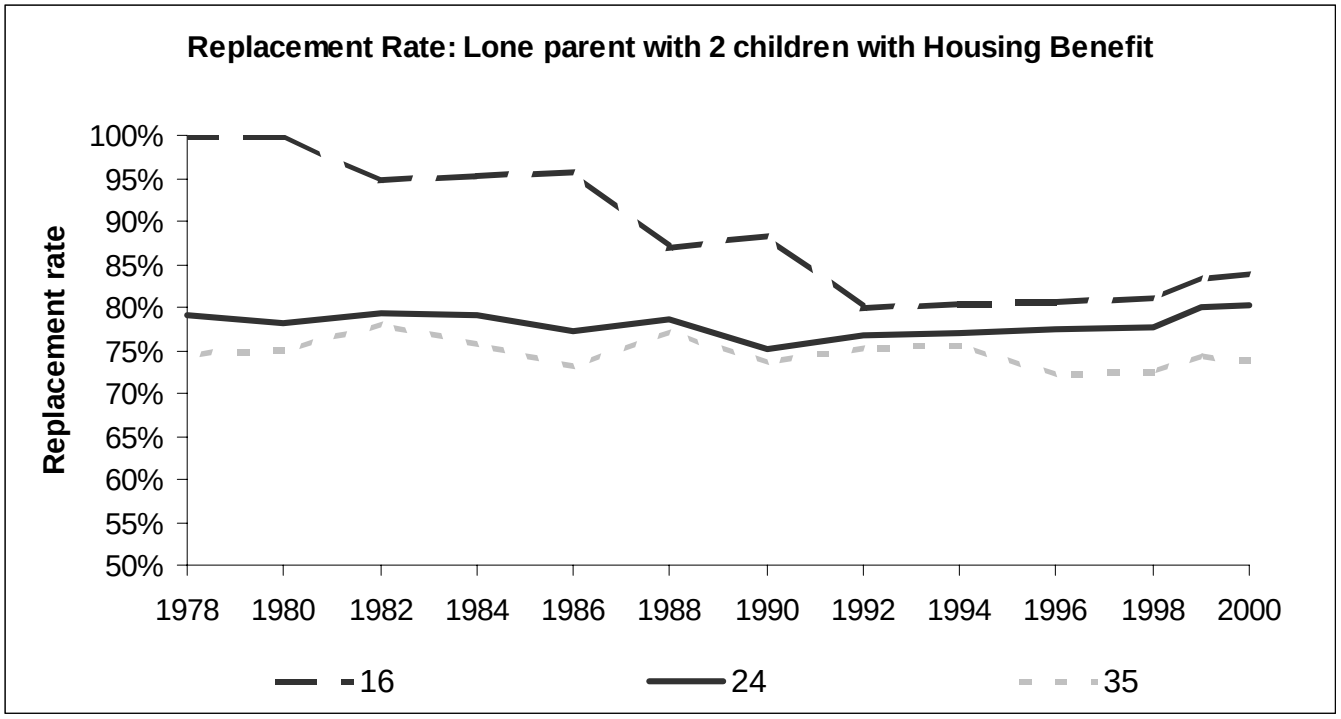


Figure 3.9(b): Average Tax Rate for Single Mother in UK: with Housing Costs
Single Mother in UK

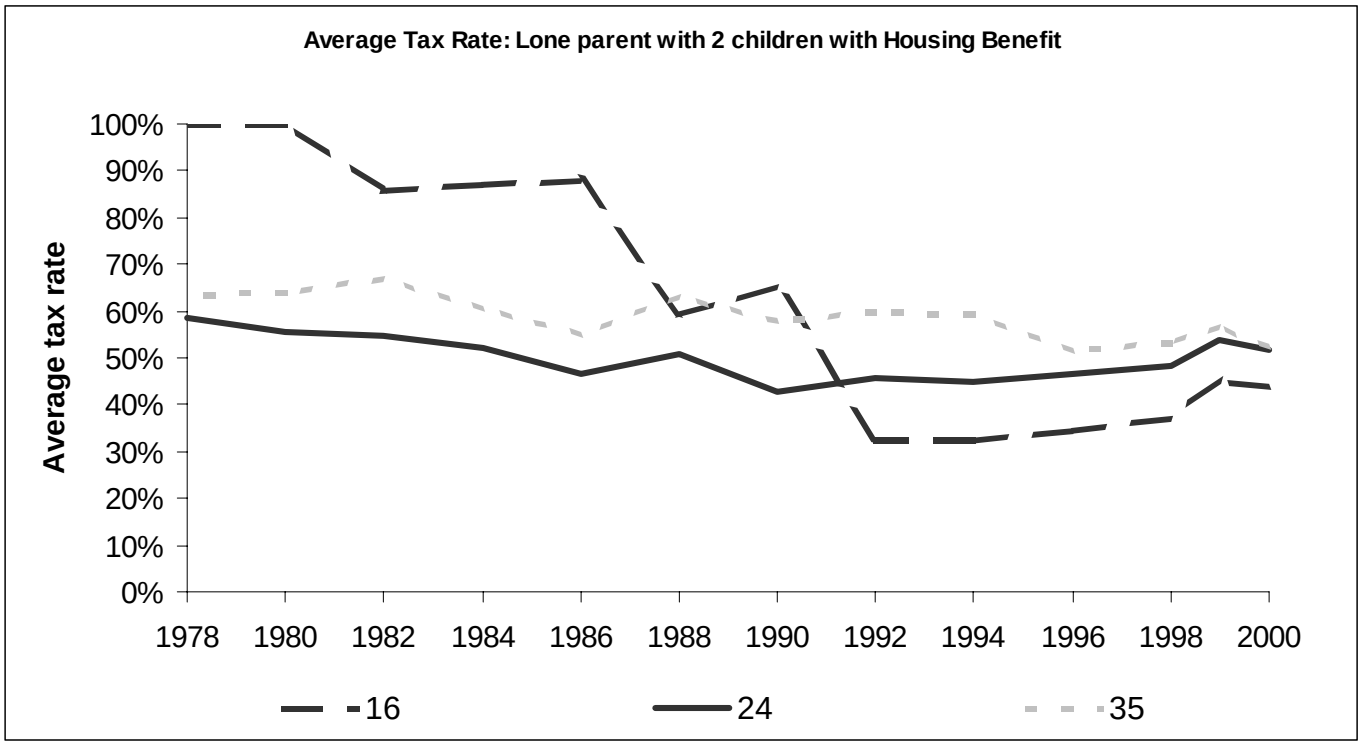


Figure 4.1: The EITC Reforms (1996 Dollars)

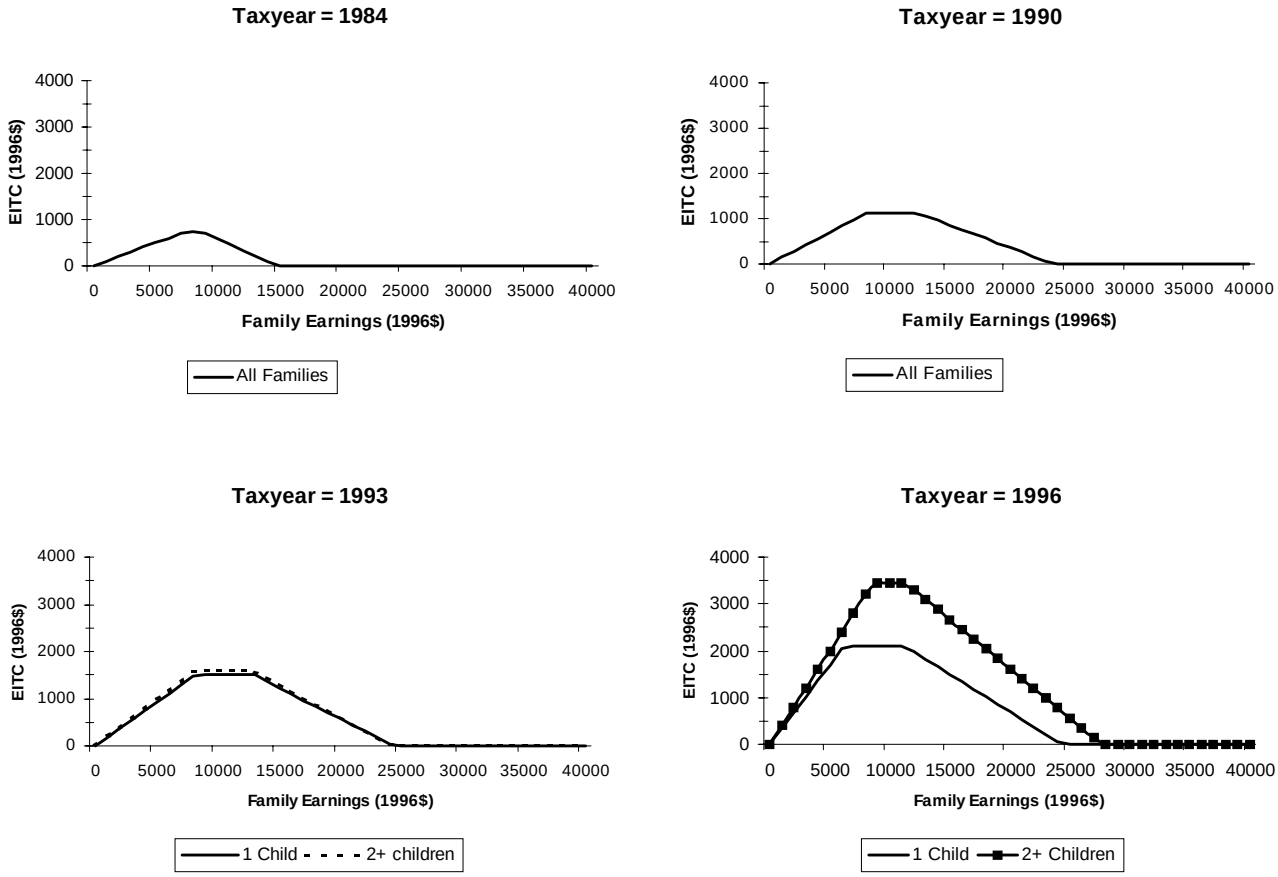
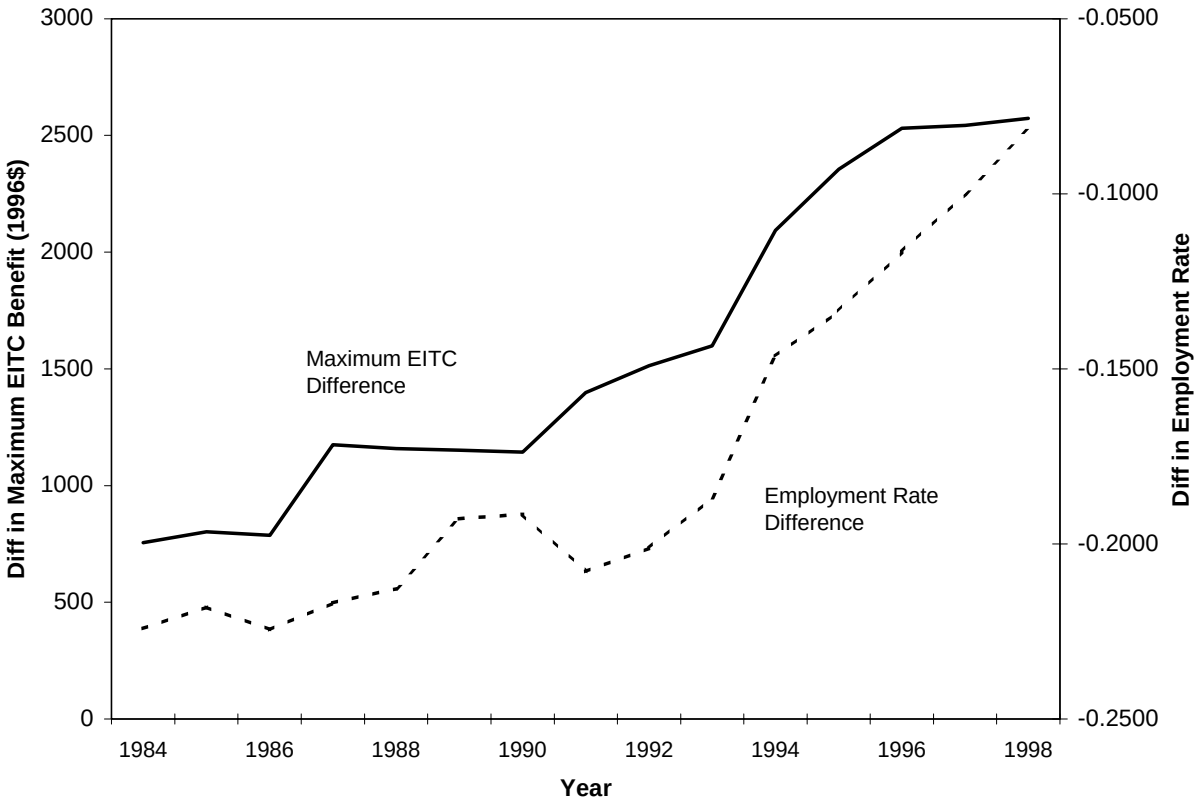


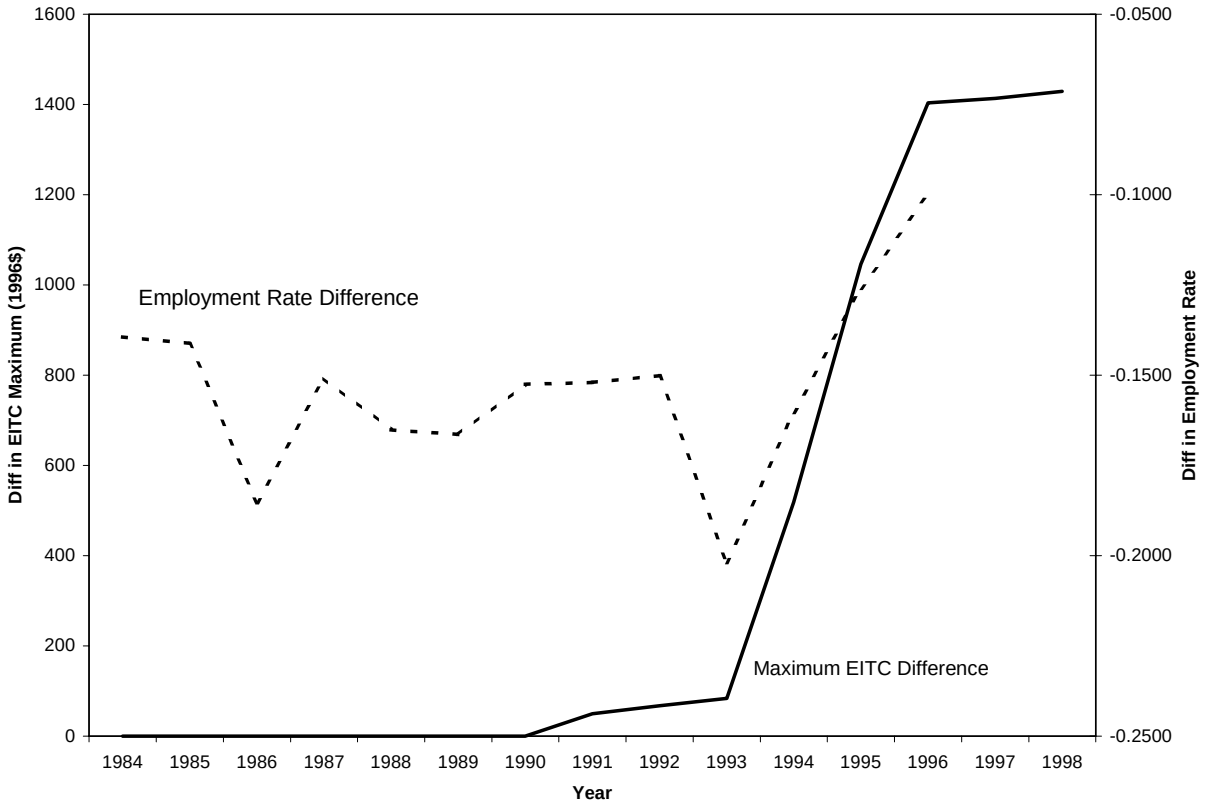
Figure 4.2: Maximum EITC and Difference in Annual Employment Rates



Comparison: Single Women with Children to Single Women without Children

Source: Liebman (1998) Figure 6. Updated through 1998 using unpublished data from Liebman. The employment rate figure is based on a CPS sample of single women ages 16-45 who are not disabled or in school. Employment rate difference is the difference between the annual employment rate of single women with children and the annual employment rate of single women without children.

Figure 4.3: Maximum EITC and Difference in Annual Employment Rates

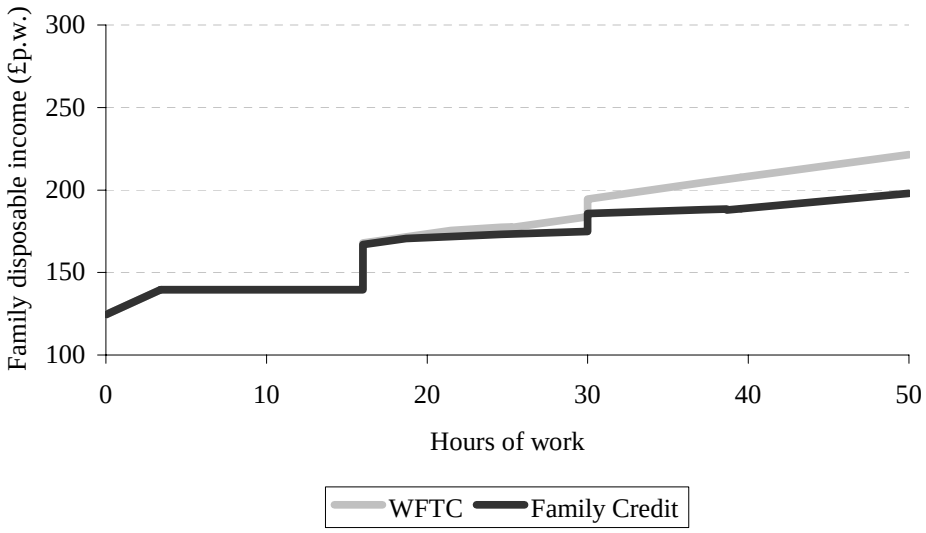


Comparison: Single Women with 1Child to Single Women with 2+ Children

Source: Employment rate differences come from Table 6 in Meyer and Rosenbaum (2000) and use a CPS sample of single women ages 19-44 who are not disabled or in school. Employment rate difference is the difference between the annual employment rate of single women with two or more children and the annual employment rate of single women with one child.

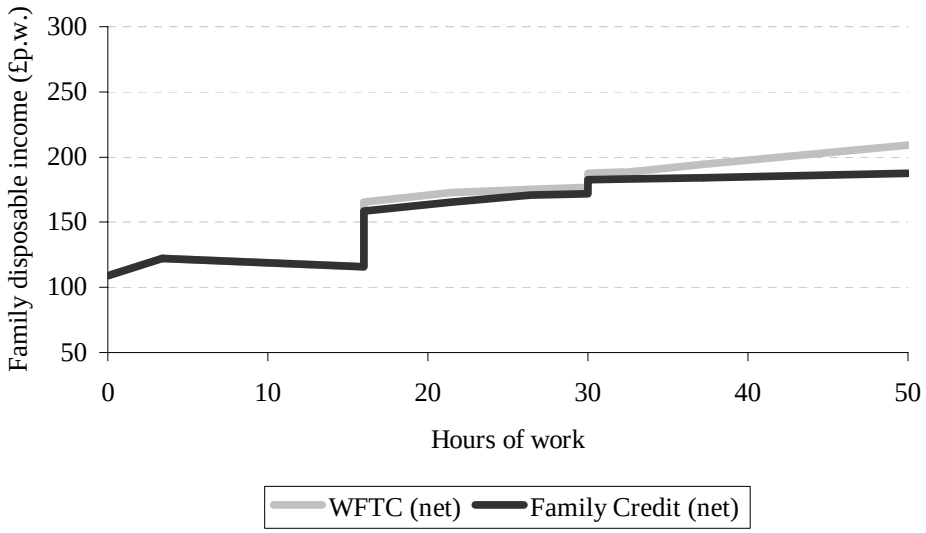
Figure 5.1: WFTC Reform budget constraints

Figure 5.1 (a): Lone parent without childcare



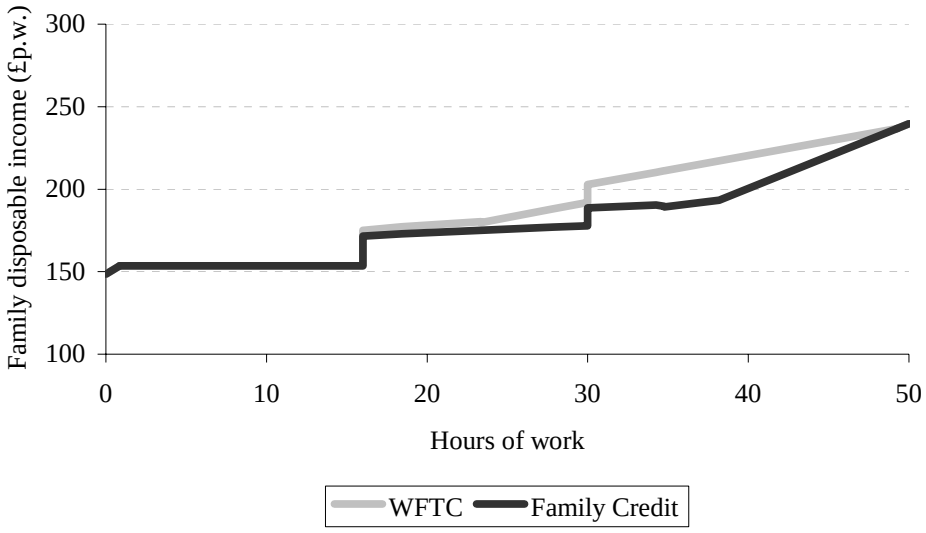
Notes: 1 child aged under 11
Hourly wage £4.39 (median for lone parents)
Rent £41.10p.w. (median for social renters with children)
No childcare costs

Figure 5.1 (b): Lone parent with childcare



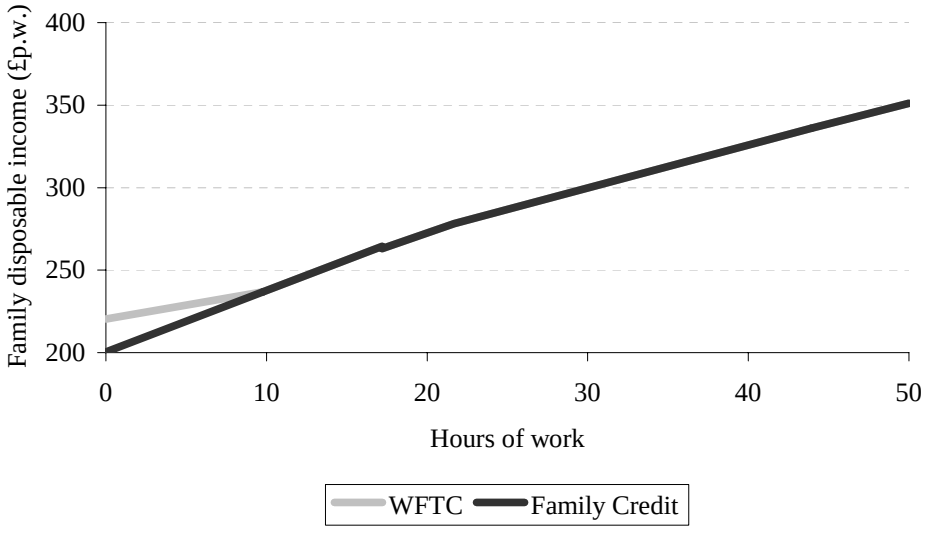
Notes: 1 child aged under 11
Hourly wage £4.39 (median for lone parents)
Rent £41.10p.w. (median for social renters with children)
Childcare at £1.96 per hour

Figure 5.1 (c): Man in couple without childcare



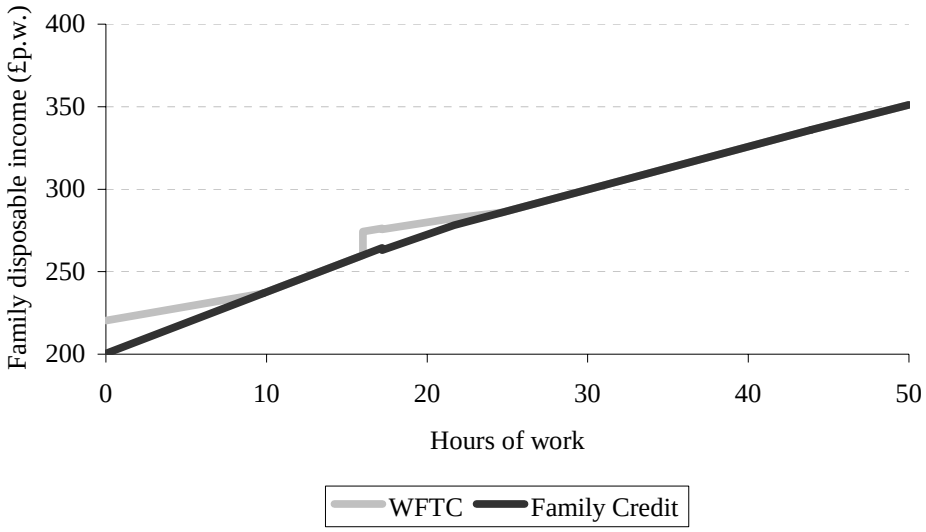
Notes: Spouse not working
1 child aged under 11
Hourly wage £5.87 (25th percentile for men in couples with children)
Rent £41.10p.w. (median for social renters with children)

Figure 5.1 (d): Woman in couple – no childcare



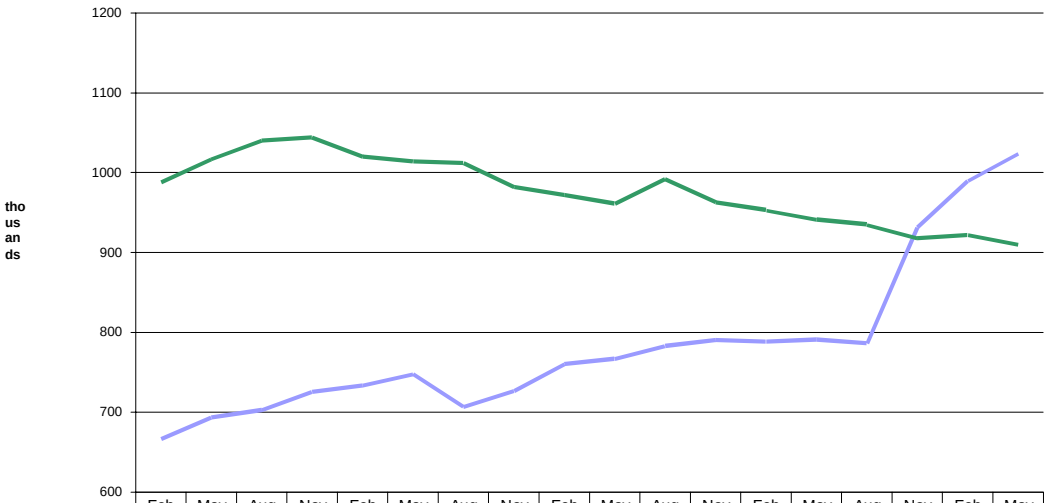
Notes: Spouse working 40 hours at £5.87 per hour
1 child aged under 11
Hourly wage £3.72 (25th percentile for women in couples with children)
Rent £41.10p.w. (median for social renters with children)
No childcare costs

Figure 5.1 (e): Woman in couple – with childcare



Notes: Spouse working 40 hours at £5.87 per hour
1 child aged under 11
Hourly wage £3.72 (25th percentile for women in couples with children)
Rent £41.10p.w. (median for social renters with children)

Figure 5.2: Caseload of lone parents on Income Support and all families on FC/WFTC, 1996-2000.

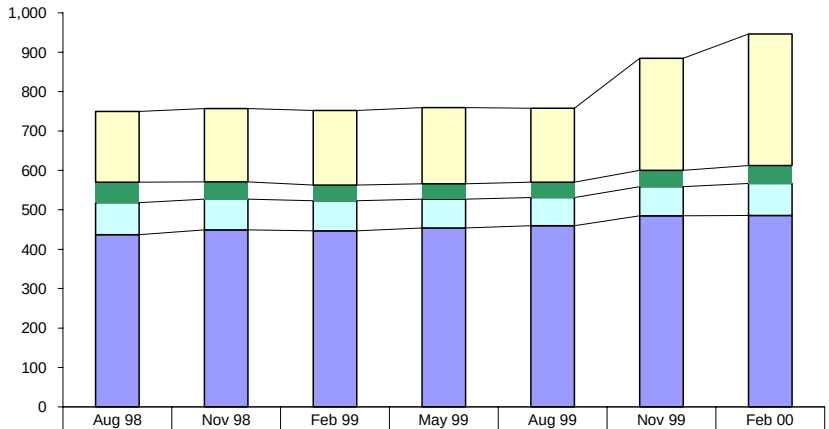


	Feb 96	May 96	Aug 96	Nov 96	Feb 97	May 97	Aug 97	Nov 97	Feb 98	May 98	Aug 98	Nov 98	Feb 99	May 99	Aug 99	Nov 99	Feb 00	May 00
WFTC	667	693	703	726	734	748	707	727	760	767	783	790	788	791	786	931	989	1023
LPs on IS	988	1,017	1,040	1,044	1,020	1,014	1,012	982	972	961	992	963	953	941	935	918	922	910

Notes: GB only.

*Source*s: Blundell and Brewer (2000), DSS (Income Support QSE) and IR (WFTC QSE).

Figure 5.3: Families on WFTC: where were they 12 months ago ?



	Aug 98	Nov 98	Feb 99	May 99	Aug 99	Nov 99	Feb 00
New claimer (in own right)	180	186	189	193	188	285	334
From other MTBs	52	44	40	39	39	41	45
Lone parents from IS	81	78	76	73	71	74	81
On WFTC already	437	449	447	454	460	485	486

Source: Blundell and Brewer (2000), DSS (Client Group Analysis – Working Age).

Table 3.1: Timeline of developments in in-work benefits in the UK and US.

	US	UK
1971		Family Income Supplement (FIS) introduced as a means-tested in-work benefit.
1975	Earned Income Tax Credit introduced with maximum credit of $400	
1987	Increase in EITC generosity and credit rate.	
1988		FIS replaced by Family Credit (FC) with increased generosity and lower MWRs (most instances of MWRs > 100% were removed). 24 hours work a week needed to qualify.
1991	Increase in EITC generosity. Separate rate for two or more children. Requirement for applicants to earn more than received in welfare removed. EITC no longer counted in means-tested programs' income calculations.	
1992		Qualifying conditions reduced to 16 hours a week.
1994	Substantial increase in EITC generosity particularly for families with 2 or more children. (phased in over 1994-1996). EITC for workers without children introduced.	
1995		Extra credit introduced for working more than 30 hours a week
1996	PRWORA reformed AFDC/TANF.	
1999		Working Families' Tax Credit replaces FC with increased generosity, longer phase-out portion and more generous support for childcare.
2000		Increase in generosity. Credit paid through the wage packet.

Source: Brewer (2000)

Table 3.2 Detail of WFTC and EITC operation

	Working Families Tax Credit (from June 2000)	**Earned Income Tax Credit (2000)**
Eligibility		
Eligibility	Must work more than 16 hours a week, have dependent children (under 16 or under 19 and in full-time education), have less than £8,000 capital. Couples need to claim jointly; need not be married. Extension to those without dependent children proposed alongside an integrated child credit.	Must have positive earnings in past year and annual investment income under $2,350. Married couples need to file a joint tax return, unmarried couples file separately. Parents need to have a "qualifying" child (either theirs or their spouse's, or any other child that was cared for all year). "Children" are under 19 or under 24 and a student, or permanently and totally disabled. Where a child potentially qualifies two unmarried adults for EITC, only the adult with the highest income can apply (this includes multiple tax unit-households).
Structure		
Value of basic credit	Credit is weekly. Basic credit of £53.15 plus possible 30 hour credit of £11.25 plus credits for each child at £25.60 or £26.35 for 16-18s. Childcare tax credit is supplementary to this.	Credit is annual and is a fraction of annual income up to a maximum level of $353/$2,353/$3,888 for families with no, 1 or more than 1 children.
Tapering	Beyond threshold of £91.45, tapered at 55%.	Phase-in threshold applies a 7.65% /34%/40% credit (for no, 1, more than 1 children) to income until maximum credit reached. Beyond threshold of $12,690 ($5,770 for no children), tapered at 7.65%/15.98%/21.06% so that runs out at $10,380/$27,413/$31,152.
Interaction with other parts of tax and benefit system		
Definition of income	Net income (i.e. income after income tax and national insurance). Self-employed: same definition of "income" as for other tax liabilities.	Gross earnings or "modified adjusted gross income" if "modified adjusted gross income" is higher and claimant is on the taper ("modified adjusted gross income" is income minus standard deductions for tax purposes). Self-employed: same definition of "income" as for other tax liabilities.
Exclusions from the definition of income	Child Benefit, Statutory Maternity Pay, Attendance Allowance, maintenance payments, Housing Benefit and Council Tax Benefit awards	TANF & Food Stamps are not taxable.

Awards count as income for	Housing Benefit and Council Tax Benefit awards	Federal law prohibits EITC to be treated as income for purpose of Medicaid, SSI, Food Stamps and low-income housing. Since 1991, EITC did not count for AFDC assessment; States can now count EITC when determining TANF awards.
Assessment and payment mechanism		
Assessment	Assessed on average weekly income in "assessment period" prior to claim. Length of "assessment period" depends on frequency of claimant's earnings: 7 weeks for weekly payments, 8 weeks for fortnightly, 16 weeks for 4-weekly, 4 months for monthly payments. Estimated earnings used for new workers.	Assessed at year-end on past year's income.
Payable	Weekly award fixed for 26 weeks (unless family status changes). Paid through wage packet unless non-earner in couple elects to receive it or if self-employed. Timing of payments aligned with timing of wages, so if worker paid monthly in arrears, credit will be paid monthly in arrears. Non-earners paid fortnightly.	Annual award is a refund on annual tax liability with any excess paid as a lump-sum. Families have to file by April 15 each year. Up to $1,418 can be paid in advance through the wage packet for claimants that have federal income tax withheld from wages. Few elect for this option.
Paid to	Couples decide who receives it. If couple cannot agree, then Inland Revenue will probably pay to the main carer (CPAG, 2000).	Married couples who claim the EITC have to file a joint tax return. Their EITC credit reduces the joint tax liability. They nominate who receives the payable part of the credit. See "eligibility" for other rules on who can claim in non-married couples.

Sources: Brewer (2000). For WFTC: CPAG (2000), IR (2000a&b). For EITC: IRS (1999a&b&c), Committee on Ways and Means (1998).

Table 4.1: US Earned Income Tax Credit Parameters

Year	Group	Phase-In Rate	Phase-In Range	Maximum Credit	Phase-Out Rate	Phase-Out Range
1975-1978	1+ children	10.0%	$0-$4,000	$400	10.0%	$4,000-$8,000
1979-1984	1+ children	10.0%	$0-$5,000	$500	12.5%	$6,000-$10,000
1985-1986	1+ children	11.0%	$0-$5,000	$550	12.22%	$6,500-$11,000
TRA86						
1987	1+ children	14.0%	$0-$6,080	$851	10.0%	$6,920-$15,432
1988	1+ children	14.0%	$0-$6,240	$874	10.0%	$9,840-$18,576
1989	1+ children	14.0%	$0-$6,500	$910	10.0%	$10,240-$19,340
1990	1+ children	14.0%	$0-$6,810	$953	10.0%	$10,730-$20,264
OBRA90						
1991	1 child	16.7%	$0-$7,140	$1,192	11.93%	$11,250-$21,250
	2+ children	17.3%		$1,235	12.36%	
1992	1 child	17.6%	$0-$7,520	$1,324	12.57%	$11,840-$22,370
	2+ children	18.4%		$1,384	13.14%	
1993	1 child	18.5%	$0-$7,750	$1,434	13.21%	$12,200-$23,050
	2+ children	19.5%		$1,511	13.93%	
OBRA93						
1994	1 child	26.3%	$0-$7,750	$2,038	15.98%	$11,000-$23,755
	2+ children	30.0%	$0-$8,425	$2,528	17.68%	$11,000-$25,296
	No children	7.65%	$0-$4,000	$306	7.65%	$5,000-$9,000
1995	1 child	34.0%	$0-$6,160	$2,094	15.98%	$11,290-$24,396
	2+ children	36.0%	$0-$8,640	$3,110	20.22%	$11,290-$26,673
	No children	7.65%	$0-$4,100	$314	7.65%	$5,130-$9,230
1996	1 child	34.0%	$0-$6,330	$2,152	15.98%	$11,650-$25,078
	2+ children	40.0%	$0-$8,890	$3,556	21.06%	$11,650-$28,495
	No children	7.65%	$0-$4,220	$323	7.65%	$5,280-$9,500
2000	1 child	34.0%	$0-$6,900	$2,353	15.98%	$12,700-$27,413
	2+ children	40.0%	$0-$9,700	$3,888	21.06%	$12,700-$31,152
	No children	7.65%	$0-$4,600	$353	7.65%	$5,800-$10,380

[1]Source: The Green Book and authors' calculations from OBRA93.

Table 5.1 Numbers of families with children

Group	*Number in population (thousands)*
Lone parents	
Total population	1,600
Modelled population	1,550
Couples – man works	
Total population	4,550
Modelled population	3,500
Couples – man not working	
Total population	850
Modelled population	820

Source: Family Resources Survey, 1994/5

Table 5.2: WFTC Reforms, Simulations

(a) Single Parents

pre-reform	*post-reform* out of work	part-time	Full-time	Pre-reform %
Out of work	58.0	0.7	1.5	60.2
Part-time	0.0	18.6	0.5	19.1
Full-time	0.0	0.2	20.6	20.7
Post-reform %	58.0	19.4	22.6	100
Change (%)	-2.2	0.3	1.9	

(b) Married women with employed partners

pre-reform	*post-reform* Out of work	part-time	Full-time	pre-reform %
Out of work	32.2	0.1	0.1	32.4
Part-time	0.3	31.6	0.0	32.0
Full-time	0.4	0.1	35.0	35.6
Post-reform %	33.0	31.8	35.2	100
Change (%)	0.6	-0.1	-0.4	

(c) Married Women with partners out of work

pre-reform	*post-reform* out of work	part-time	Full-time	pre-reform %
Out of work	56.8	0.4	0.9	58.1
Part-time	0.0	22.2	0.4	22.6
Full-time	0.0	0.1	19.2	19.3
Post-reform %	56.8	22.8	20.5	100
Change (%)	-1.3	0.2	1.1	

(d) Summary Table

Group	Number	%
Single Parents	34,000	2.20
Married Women (Partner not working)	11,000	1.32
Married Women (Partner working)	-20,000	-0.57
Married men, partner not working	13,000	0.37
Married men, partner working	-10,500	0.30
Total Effect	27,500	
Decrease in Workerless Families	57,000	

Source: Blundell, Duncan, McCrae and Meghir (2000) and Blundell and Reed (2000)