

In-work benefits and labour supply¹

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1 Introduction

The make work pay policy agenda describes a series of reforms introduced by the UK Labour Government since 1997 with the twin aims of making work pay more than not working, and making work pay enough to help families avoid poverty. In common with governments in other countries, Labour's ultimate goals were to reduce the proportion of households where no adult works, increase employment rates, and reduce poverty, particularly amongst children.

This paper will begin by describing the main reforms to in-work financial support in Section 2. Section 3 will then explain what impact these changes have had on financial work incentives. Section 4 shows how the employment rates of key groups affected by these reforms – namely families with children – have changed, while Section 5 reviews some studies that have estimated the extent to which these changing employment rates can be explained by changes to the tax and benefit system. Section 6 concludes.

2 Reforms to in-work support

The Government's make work pay policies have undoubtedly been dominated by tax credits. First the replacement of Family Credit with Working Families' Tax Credit, which was then in turn replaced by the Child and Working Tax Credits. This section briefly describes the reforms.

2.1 Working Families' Tax Credit

In October 1999 the UK Government replace Family Credit – the main form of in work support for lower income working families with children – with the Working Families' Tax Credit (WFTC). The WFTC was very much an evolutionary reform, in the sense that it retained essentially the same structure as the Family Credit system that it replaced. In particular:

- awards were weekly, and eligibility required that an adult worked at least 16 hours per week.

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- The size of the award depended upon weekly hours of work, earnings of the claimant and, if applicable, their partner, capital, family structure and expenditure on formal, registered childcare

However, there were a number of important differences that make WFTC a distinct reform:

- it had a lower withdrawal rate, so the value of support was withdrawn at a lower rate as earnings increased.
- It was substantially more generous, and offered a substantial childcare subsidy.
- There was a change in administration so that rather than being paid through the benefits agency, it was paid as an in-work tax credit through their employer, who was reimbursed by the Inland Revenue.

Further details of the reform are discussed in details in Dilnot and McCrae, 1999 and Brewer *et al.*, 2003. During the lifetime of WFTC, incremental reforms were made to further increase the generosity of the tax credit, focusing mainly on increased payments for children of certain ages. The government had very clear stated aims about what the WFTC reform should achieve: it should relieve poverty, encourage work, and reduce stigma (see Brewer and Shephard, 2004).

2.2 The New Tax Credits

In April 2003 the Working Families' Tax Credit was replaced by the Working Tax Credit and the Child Tax Credit – referred to collectively as the New Tax Credits. These tax credits combine WFTC with other existing elements of the tax and benefit system, whilst also making some new innovations. Brewer, Clark and Myck (2001) explore the rationale behind the New Tax Credits in detail, while Brewer (2003) provides an overview of the finalised system. The Child Tax Credit effectively replaces:

- the Children's Tax Credit, which was introduced in April 2001 and reduced the income tax bills of around 5 million income-tax-paying families with children.
- The per-child elements of WFTC.
- The per-child elements of the Income Support system and income related Jobseekers Allowance (which provide extra money to about 1.2 million families with dependent children who are not in work). These elements of Income Support and Jobseekers Allowance were only replaced by the Child Tax Credit one year later than the rest of the reforms (*i.e.* in April 2004).

The Working Tax Credit (WTC) comprises:

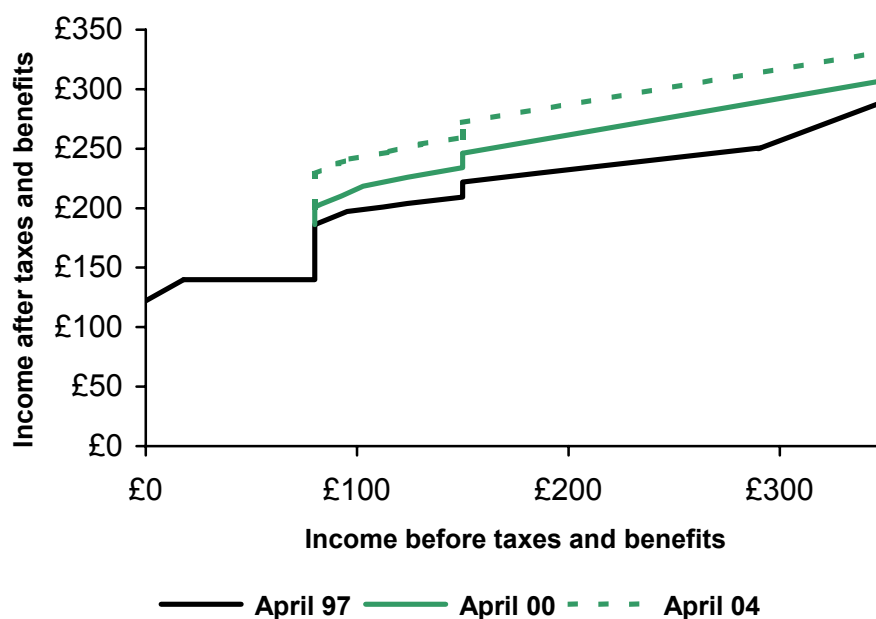
- the adult component of WFTC for families with children.
- The childcare support element of WFTC.
- Support for low-income working families without children. This is an entirely new feature of the UK tax and benefit system. The Working Tax Credit for childless single people and couples will not be as generous as for families with children, and the eligibility conditions are tougher; only people aged 25 and over are eligible, and they have to be working 30 hours or more per week to qualify.

2.3 The impact on the budget constraint

If only in-work support had changed, then it would have represented a significant boost to the work incentives of many families. A convenient way of showing this is to consider how the budget constraints of different families change following these reforms. The budget constraint simply shows the relationship between income before taxes are paid and benefits received, and income after taxes and benefits. It is this latter income type which individuals are able to consume goods and services from, and so presumably the income type which influences any labour supply decisions.

Figure 2.1 shows a budget constraint for an example low wage lone parent with two young children. It shows the budget constraint that this lone parent would be faced with under the April 1997 tax and benefit system, and also under two hypothetical systems where we just allow for the real changes to in-work support in both April 2000 and April 2004. In all systems, the discontinuities represent the hours-based eligibility rule for in-work support, and also the full time premium that they offer.

Figure 2.1 Budget constraints for a lone parent (changes to in-work support only)



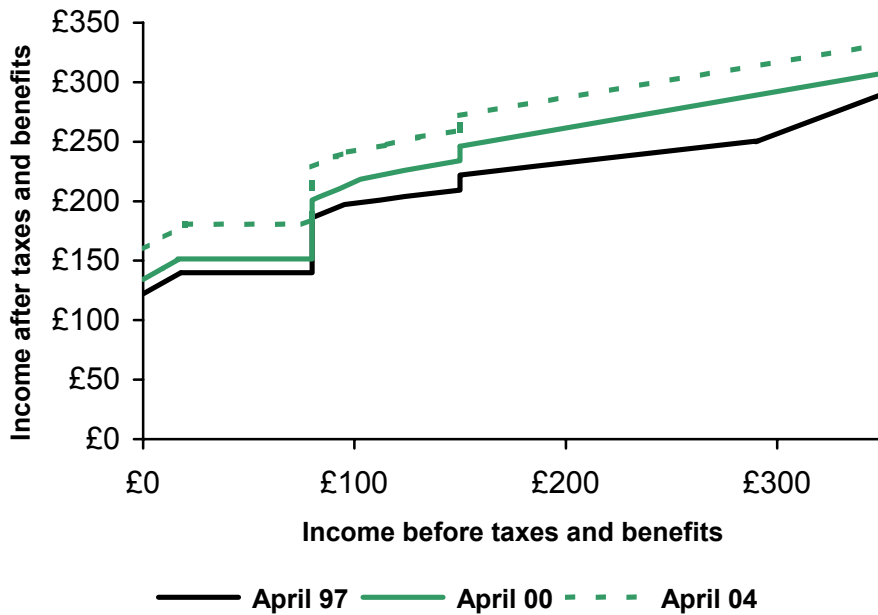
Notes: Assumes 2 children < 11, hourly wage of £5/hour, no childcare costs, no rent, no child support

The figure shows that if only in-work support had changed as we moved from April 1997 to 2000 and on to 2004, then the incomes of individuals in work would have been raised significantly. This would represent a large improvement in work incentives and we would expect that this would be reflected in the labour supply decisions of lone parents.

However, “making work pay” is only one objective of the UK government. In particular, it has an explicit target for child poverty by 2004/05. By this time, the government wishes to have reduced child poverty – measured by the number of children who live in households with incomes less than 60% of the national average - by a quarter of its 1998/99 level.

Perhaps as a result of this, the government has raised support to non-working families also, which has the direct effect of worsening work incentives. This can be seen in Figure 2.2, which is analogous to Figure 2.1 earlier, but shows the actual system that an individual would be faced with in each of the years.

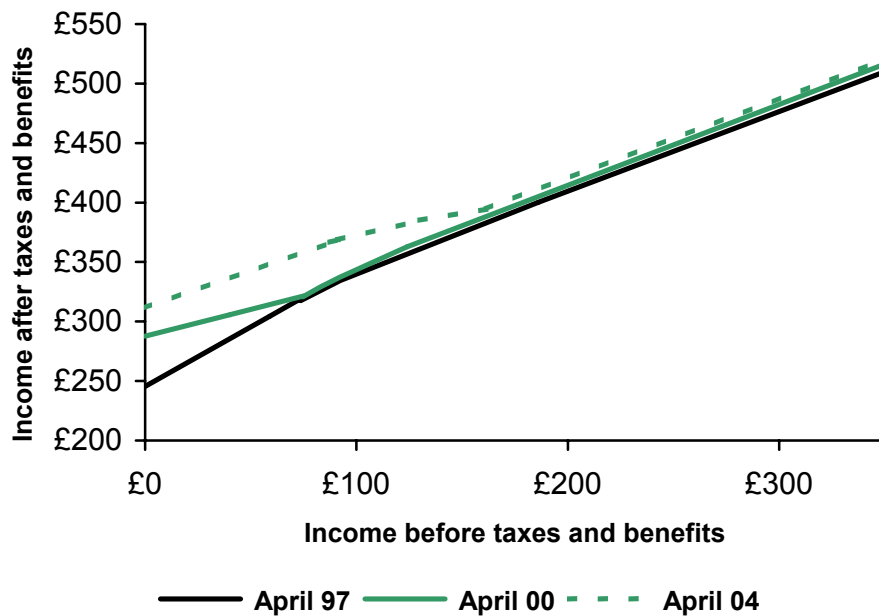
Figure 2.2 Budget constraints for a lone parent



Notes: Assumes 2 children < 11, hourly wage of £5/hour, no childcare costs, no rent, no child support

The same set of tax and benefit changes can have very different effects for lone parents and individuals in couples. This is illustrated in Figure 2.3, which shows how the budget constraint of a second earner in a couple with two young children has changed between 1997 and 2004.

Figure 2.3 Budget constraints for a second earner in a couple with children



Notes: Assumes 2 children < 11, hourly wage of £5/hour, no childcare costs, no rent, no child support, partner earns £300/wk

3 The impact of in-work support changes on financial work incentives

A direct goal of the UK Labour government’s “make-work pay” policies is to improve financial work incentives. This section will present some evidence on how work incentives have changed between 1997 and 2004. As has already been noted, an individual’s incentive to work depends, in general, on the shape of their budget constraint for a given hourly wage. While both Figure 2.2 and Figure 2.3 in Section 2 showed how the budget constraints of synthetic household types have changed between 1997 and 2004, these do not necessarily correspond to the changes faced by the population as a whole.

3.1 Measurement of work incentives

In this section we seek to summarise and quantify two important dimensions of the budget constraint for all workers. We are interested in:

- the financial reward to doing any work, measured by some function of incomes in and out of work.
- The incentive to for those already in work to work harder, or the incentive to progress in the labour market.

We summarise what has happened to the financial incentive to work at all by the replacement rate. This measures the incentive to work by calculating the ratio of net income when not working to net income in work; it is the inverse of the proportional increase in income that an individual achieves by working. A lower replacement rate is associated with a greater incentive to work.

The incentive to increase work effort is measured by the marginal effective tax rate. This measures the incentive for individuals to increase their earnings slightly, whether through working more hours, or through promotion, qualifying for bonus payments or getting a better-paid job. We use the term “incentives to progress” to capture all of these concepts, with a lower marginal effective tax rate associated with a greater incentive to progress.

Both of these work incentive measures are discussed in much greater detail in Brewer and Shephard (2004), which also provides a much more detailed assessment of how work incentives for parents have changed between 1997 and 2004. Section 3.2 now looks at how incentives have changed for parents, who have been the main target group of the government’s changes to in work support.

3.2 Changes to financial work incentives

The discussion in Section 2 illustrated how the budget constraint of two synthetic household types had changed between 1997 and 2004. While this does provide us with a useful understanding of how incentives have been changing, it is insufficient if we wish to appreciate how the incentives of the entire population of workers has been changing. In this section we use data from a representative household survey of Great Britain, in conjunction with a detailed microsimulation model, to summarise what has been happening to both the replacement rate and effective marginal tax rate (or incentive to progress).

In Table 3.1 we show the impact of tax and benefit changes from 1997 – 2004 on the replacement rates of working parents, summarising some of the features of the changing distributions. Similarly, Table 3.2 shows how the distribution of marginal effective tax rates has changed. Both sets of statistics have been calculated by holding constant the characteristics of the population, and considering the real impact of tax and benefit changes on these work incentive measures.

Table 3.1 The impact of tax and benefit changes from 1997 – 2004 on the replacement rates of working parents

	Replacement rates (%)		
	April 1997	April 2004	Change
Lone parents			
Mean	67.9	65.0	-2.9
Median	71.9	65.9	-6.0
25 th centile	55.8	52.3	-3.5
75 th centile	81.9	80.4	-1.5
<i>Proportion whose rate rises</i>	21.3%		
<i>Proportion whose rate falls</i>	56.7%		
Individuals in couples with children whose partner does not work			
Mean	59.3	61.1	+1.8
Median	62.6	65.5	+2.9
25 th centile	41.3	45.3	+4.0

75 th centile	80.6	79.5	-1.1
<i>Proportion whose rate rises</i>	52.7%		
<i>Proportion whose rate falls</i>	26.6%		
Individuals in couples with children whose partner does work			
Mean	59.2	62.5	+3.3
Median	58.5	62.7	+4.2
25 th centile	45.6	50.4	+4.8
75 th centile	74.3	76.0	+1.7
<i>Proportion whose rate rises</i>	53.8%		
<i>Proportion whose rate falls</i>	6.6%		

Source: authors' calculations from FRS 2002/03 and TAXBEN.

Notes: Excludes parents aged over 55 and self-employed. The row marked "25th centile" reports the replacement rate which is higher than 25% of all replacement rates faced by that family type. The row marked "75th centile" reports the replacement rate which is higher than 75% of all replacement rates faced by that family type.

Table 3.2 The impact of tax and benefit changes from 1997 – 2004 effective marginal rate faced by working parents

	Effective marginal tax rates (%)		
	April 1997	April 2004	Change
Lone parents			
Mean	58.0	58.3	+0.3
Median	72.5	69.0	-3.5
<i>Proportion whose rate rises</i>	31.2%		
<i>Proportion whose rate falls</i>	46.9%		
Individuals in couples with children whose partner does not work			
Mean	43.0	48.2	+5.2
Median	35.7	42.1	+4.4
<i>Proportion whose rate rises</i>	45.4%		
<i>Proportion whose rate falls</i>	21.0%		
Individuals in couples with children whose partner does work			
Mean	32.5	36.8	+6.1
Median	33.0	34.9	+1.9
<i>Proportion whose rate rises</i>	39.4%		
<i>Proportion whose rate falls</i>	10.0%		

Source: authors' calculations from FRS 2002/03 and TAXBEN.

Notes: Excludes parents aged over 55 and self-employed. The row marked "25th centile" reports the marginal tax rate which is higher than 25% of all marginal tax rate faced by that family type. The row marked "75th centile" reports the marginal tax rate which is higher than 75% of all marginal tax rates faced by that family type.

The changes to the tax and benefit system between April 1997 and April 2004 imply that:

- Lone parents face relatively weak incentives to work, with a mean replacement rate of 67.9% under the April 1997 tax and benefit system. The majority of lone parents now face a larger financial reward to work than in 1997.
- Labour's tax and benefit reforms have hardly changed the mean effective marginal tax rate faced by working lone parents, while the median effective marginal tax rate has fallen. More lone parents have experienced a strengthening of their incentive to progress, than have experienced a worsening.
- Low-earning lone parents face stronger financial incentives to progress in the labour market, whilst medium- and high-earning lone parents face smaller financial incentives to progress (not shown in tables – see Brewer and Shephard, 2004).
- A small number of couples with children face an increased financial reward for having one adult in work, but many more face a smaller financial reward. The same set of reforms since 1997 has weakened the financial reward to having a second earner. Together with the first effect, this means that a couple with children now faces a relatively stronger incentive, on average, to be a single earner couple, rather than to have two earners or none, than in 1997.

The financial incentives to progress for the majority of workers in couples with children have worsened, with the mean effective marginal tax rate faced by individuals in couples with children 5 percentage points higher, thanks to Labour's tax and benefit reforms. The increases in the median effective marginal tax rate have not been as large, however.

4 Employment and worklessness

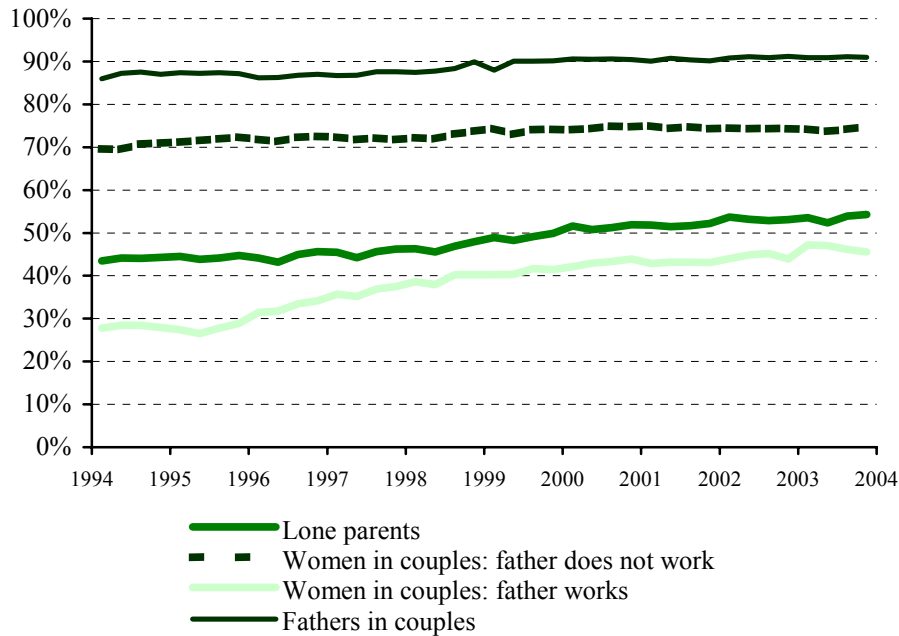
As has been noted, a direct effect of the UK government's tax and benefit reforms has been to change financial work incentives. However, these changes are only of interest insofar as individuals respond to them, and so impact upon rates of both employment and worklessness. This section will discuss how employment rates for key groups – namely families with children – have been changing in recent years. It should be thought of as providing a useful background to the following section, which asks to what extent can government policy explain the changing rates.

4.1 Employment rates

Figure 4.1 shows employment rates for lone parents and individuals in couples with children. More parents of dependent children are in paid employment now than in 1994, and than in 1997: 71.5% of parents were in employment in 1994, 73.1% in 1997, and 76.7% in 2004. As is well known, there has been an increase of a quarter in the proportion of lone parents working, from 43% to 54% over the period shown. There has been a smaller rise – both in absolute and proportional terms – in the proportion of mothers in couples who work, and this has been concentrated amongst mothers whose partner is not working. Employment rate for fathers in couples also showed a small rise during the period.

The rise in the employment rates for lone parents, and for mothers whose partner is not working, begin before 1997, although the rate of increase in the employment rate of lone parents appears to have begun to rise in 1998.²

Figure 4.1. Employment rates of parents, 1994 -2004



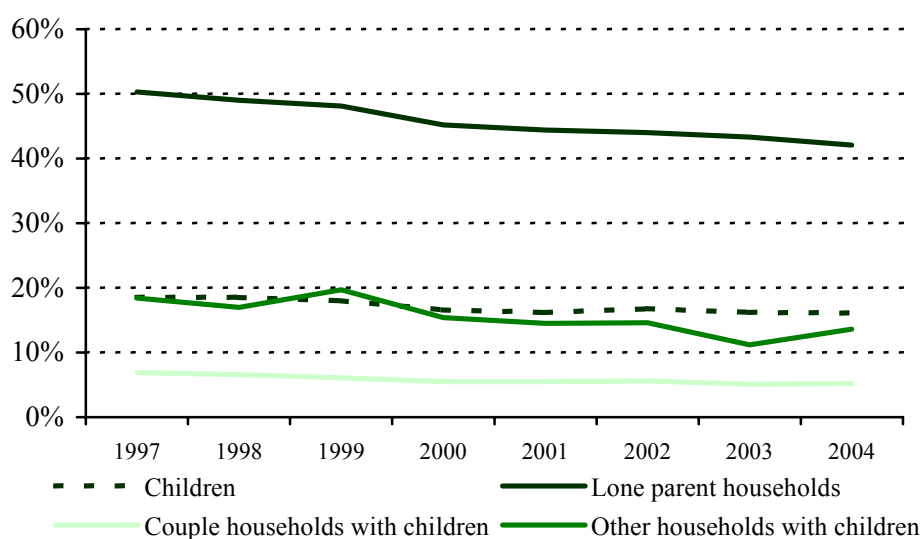
Source: Authors' calculations based on quarterly LFS data, various years.

4.2 Worklessness rates

The rise in employment of parents, and particularly of lone parents, has led to a steady decline in the proportion of children who live in a workless household. Figure 4.2 shows the worklessness rates amongst various types of households with children, and the proportion of all children under 16 who live in workless household since 1997: all show a decline, with the number of children under 16 in workless households falling by 350,000 since 1997.

² Employment trends amongst lone parents over a three decade period are analysed in some detail in Gregg and Harkness (2003).

Figure 4.2. Worklessness rates households with dependent children, and the proportion of children living in workless households, 1997 - 2004



Source: from Tables 1(ii) and 3(ii) of ONS (2004), based on LFS data. The series are not consistent: base for “Lone parents”, “couples with children” and “other households with children” is all households of that type with dependent children; the base for “Children” series is children under 16 only. A workless household is a working-age household where no one aged 16 or over is in employment.

5 The labour market impact of changes to the tax and benefit system

In the previous section, both Figures 4.1 and 4.2 shows that the employment rate of parents has risen, and the proportion of children living in a workless household has fallen, since 1997. But it does not tell us whether this was due to the policies of the UK government, or whether it would have happened anyway.

Several studies have attempted to address this by estimating the impact of Labour’s make work pay policies on the employment rates and labour market behaviour of parents. The results from these studies are summarised in Table 5.1. The papers each use one of two methodologies – “difference-in-differences” or a “structural model” approach. These different methods are briefly discussed, followed by a summary of the results obtained from these papers.

5.1 Difference-in-differences

The more common method is the “difference-in-differences” approach. This relies on the assumption that, in the absence of the Labour Government’s policies, the labour market behaviour of parents would have followed the same trend as otherwise-identical individuals of the same gender without children (more details can be found in any of the studies referred to). By their design, these studies cannot focus just on Labour’s make work pay policies, or even the impact of all personal tax and benefit changes: strictly speaking, they estimate the

impact of all of Labour's policies that have influenced parents' propensity to work differently from adults who are not parents, which might include the New Deals, and policies affecting childcare.

5.2 Structural model approach

The two studies that do not use the difference-in-differences approach (Brewer *et al.*, 2003 and Blundell *et al.*, 2004b) use an economic model of parents' labour supply behaviour to predict how parents would respond to particular tax and benefit changes. In brief, this "structural model" involves using a tax and benefit micro-simulation model to calculate an individual's net income at a number of different choices of weekly hours of work, given an hourly wage. We are then able to make inferences about the individual's preferences by assuming that they actually chose the number of hours that best suits them. Using the estimates of their preferences, we can then predict how individuals will respond to changes in the tax and benefit system that alter the trade-off between hours of work and income after taxes and benefits.

5.3 Summary of results

There is general agreement on the qualitative impact of the policies, regardless of the methodology used. In particular, it is estimated that Labour's policies increased the proportion of lone parents in employment, and increased the hours worked, on average, of those who do work. Estimates of the size of the employment impact vary considerably, though, from +1 percentage point (ppt) to +7 ppt. Some of this variation is explained by the time period investigated by the different studies: the paper with the smallest estimate examined the employment rates just before and just after the introduction of the WFTC. Interestingly, almost all studies find that the impacts were greater on lone parents who have pre-school children than those with older children: this could either be because this group gained more from the WFTC than lone parents with older children, or because lone parents with pre-school children are a group who are particularly sensitive to financial incentives to work. Not all of the studies estimate the impact of Labour's policies on individuals in couples, but those that do suggest that the effect is small, overall. Two studies find the effect on mothers in couples to be negative, and one finds it to be positive.

It should also be noted that all of the studies that use difference-in-differences use data from 2002 or earlier: we do not yet have a good idea of how the new tax credits, introduced in April 2003, actually affected employment amongst parents, although Blundell *et al.* (2004b) predicts the impact of all tax and benefit changes between April 2000 and April 2003. Interestingly, this paper predicts that the impact of this complete set of tax and benefit reforms was as important in raising employment as the original WFTC reforms.

Appendix 5.1. Estimates of the impact of Labour's make work pay policies on the labour market outcomes of parents

Study	Data	Reforms Analysed	Estimated Impact on	Estimated impact on	Other Notes
			Lone Parents	Couples	
<i>Difference-in-differences approach</i>					
Gregg and Harkness (2003)	LFS and GHS, 1979 - 2002	Changes affecting lone parents between 1998 and 2002	Increased employment by 5 ppts	N/a	Estimated that reforms also increased hours worked and weekly earnings
Francesconi and van der Klauw (2004)	BHPS, 1991 - 2001	Policies affecting lone mothers between 1998 and 2001	Increased employment by 4 ppts in 1998, and 7 ppts by 2001 (lone mothers only)	N/a	Uses longitudinal data. Estimated that lone mothers' fertility and propensity to cohabit or marry declined after 1998
Leigh (2004)	LFS, 1999 - 2000	All changes affecting parents between September and November 1999	Increased employment by around 1 ppts	Increased employment by around 1 ppts	Estimated that reforms also increased hours worked and earnings by parents
Blundell et al. (2004a)	LFS, 1996 - 2002	All changes affecting parents between 1999 and 2002	Increased employment by 3.6 ppts (lone mothers) and 4.6 ppts (lone fathers)	No statistically significant impact for mothers. Reduced employment by around 0.5 ppts for fathers.	
<i>Structural model approach</i>					
Brewer et al. (2003)	FRS, 1995 - 2002	All changes to taxes and benefits made in October 1999 and April 2000	Increased employment by 3.4 ppts (lone mothers only)	Reduced employment by - 0.4 ppts (men and women)	Estimated that reforms also increased hours worked by lone mothers
Blundell et al. (2004b)	FRS, 1995 - 2002	All changes to taxes and benefits made in April 2000 and April 2003	Increased employment by 3.4 ppts (lone mothers only)	Reduced employment by - 0.3 ppts (women); increased employment by 0.9 ppts (men)	Uses same model of behaviour as Brewer et al (2003).

Note: LFS is Labour Force Survey, FRS is Family Resources Survey, BHPS is British Household Panel Study, GHS is General Household Survey. For more details, see individual papers. Ppts = percentage points.

6 Conclusion

The aims of Labour's make work pay policy agenda were to make work pay more than not working and to make work pay a decent wage, especially for parents. Ultimately, though, the policies were intended to reduce the number of workless households with children, increase the proportion of parents in work and reduce child poverty. Examining these outcomes would lead one to conclude that the policies have been a success: employment rates for lone parents have risen by 10 percentage points since 1997; there are 350,000 fewer children under 16 in households where no adult works; and child poverty in 2004 is on track to be at a level last seen in the early 1990s. Academic studies agree that the Government's policies were partially responsible for these changes.

But Labour's changes to personal taxes and benefits have had a mixed impact on financial work incentives for parents. For lone parents, the story is relative positive: on average, lone parents now face a larger financial reward to work than in 1997, and more lone parents will see stronger financial incentives to progress in the labour market than will see weaker incentives, with the former group likely to be those with low earnings.

Amongst couples with children, the impression is much less positive. Labour's reforms have increased the financial reward to having one adult in work for a few, but reduced it for many, and they have also reduced the financial reward to having a second earner for the majority of couples. Incentives to progress in the labour market have been dulled: the majority of individuals in couples with children face a higher effective marginal tax rate, with the mean change in tax rates being a rise of over 5 percentage points. Overall, the impact of Labour's changes on couples mean that a couple with children now faces, on average, an increased incentive to be a single earner couple, rather than have two earners or none, than in 1997. Academic studies suggest Labour has been successful in reducing the proportion of couples with children where no adult works, but employment rates amongst parents in couples have changed by very little.

This mixed impact on work incentives has arisen for two reasons. First, Labour has increased the support available to low-earning parents. This support, though, has been means-tested and, in couples, it has depended on family income. This means that more parents now face some sort of benefit or tax credit withdrawal, with Labour's changes increasing the number facing an effective marginal tax rate of over 50% by almost 900,000. Second, Labour's drive to reduce child poverty has led it to increase the state support available to non-working families with children, and this has reduced the financial reward to work. We presume, though, that the Government views these drawbacks as a price worth paying.

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