Modelling take-up of Family Credit and Working Families' Tax Credit

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Executive Summary

Many people in the UK do not claim benefits to which they seem to be entitled. Amongst those of working-age, take-up rates for Family Credit – an in-work benefit available to those with children and working at least 16 hours a week – were the lowest of the main three means-tested benefits.

In 1999, the UK Government replaced Family Credit with Working Families' Tax Credit, which was more generous, and delivered in a different way from FC. As a prelude to further work (ongoing at the time of publication), we have analysed the decision to take up FC, and how take-up changed during the initial 6 month phase-in period of WFTC.

Although there are differences in how well each records receipt of FC, we find reassuring similarities in comparable econometric models of take-up estimated on three different micro-data-sets. Entitlement, earnings, non-labour income, and education attainment are the most important determinants of FC take-up.

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We investigated FC take-up in greater detail using only the Family Resources Survey. Social renters are more likely to claim FC than owner occupiers or those in the private rental market, and we find that housing benefit recipients seem to under-value the potential fall in HB when considering whether to claim FC. We find that the Family Credit childcare disregard had little impact on the likelihood of take-up.

Take-up of WFTC, conditional on entitlement, fell immediately after its introduction, compared to FC, but the majority of the effect is explained by the relatively low take-up rates of those families who were not previously entitled to FC. This is unsurprising, as we would not expect this group to have claimed WFTC on the first day of its existence. Work currently in progress is examining how take-up of WFTC, and the factors associated with take-up, changed between April 2000 and March 2003.

1. INTRODUCTION

As Moffitt (1983) points out, one of the basic assumptions of consumer theory is that income has a positive influence on an individual's welfare. However, many people in the UK eligible for certain benefits do not seem to claim them, and so are not on the boundary of their budget set.

In October 1999, the UK made a number of changes to in-work support for families with children, changing both average levels of entitlement and the way in which people apply and receive in-work payments. [2] In particular, Family Credit (FC), a means-tested in-work benefit for low-income parents, was replaced by Working Families' Tax Credit (WFTC). Since then, of course, WFTC has itself been replaced by the Working Tax Credit and the Child Tax Credit.[3]

The main difference between FC and WFTC was that WFTC was more generous: it had a higher maximum award, it was tapered away starting at a higher level of income than FC, it had a lower withdrawal rate, and made significant changes to the treatment of childcare costs (under FC, help with childcare was through an earnings disregard, whereas for WFTC, there was a payable credit equal to 70% of eligible childcare costs). These changes substantially increased the number of families entitled to receive in-work support. Moreover, the fact that WFTC was generally payable through the wage bill

[2] See, for example, HMT (1998). Blundell et al (2000) or Brewer (2001).
[3] See Brewer (2003a) for a brief description.

might have encouraged (or discouraged) more people to claim it. [4] It is clearly of interest whether the combination of these changes increased take-up overall.

This paper reports results from the first stage in evaluating WFTC by examining the take-up of its predecessor, Family Credit, and by giving an indication of the initial impact of WFTC on take-up. Our aim is not to model the impact of WFTC on labour supply: for that, see Gregg et al (1999) or Blundell et al (2000). Time has somewhat overtaken these results: work in progress at the time this paper was published is examining how take-up of WFTC changed between April 2000 and March 2003, and other papers funded by the Inland Revenue as part of the same project have examined the impact of WFTC on labour supply and on wage growth (see Brewer et al (2003) and Lydon and Walker (2003)). Estimates of WFTC take-up rate in 2000-01 made by the Inland Revenue can be found at Inland Revenue (2002), and estimates of WFTC take-up rates in 2001 based on FACS can be found in McKay (2003).

The paper is structured as follows: section 2 describes the WFTC reform, Moffitt's theory of optimal non-take-up, and previous, mostly UK, studies of benefit take-up. Section 3 compares comparable FC take-up models on three different data-sets: the Family Resources Survey (FRS), the data-set most frequently used to analyse non-take-up of means-tested benefits and tax credits in the UK; the first wave of a new panel survey of

[4] See, for example, HMT (1998) for the Government's view that this will increase take-up rates. However, Marsh et al (2001) finds that FC recipients and eligible non-recipients of FC did not differ significantly in their view that there is little stigma to receiving FC, and Wheatley (2001) reports that people receiving WFTC are more concerned about receiving the correct amount on time than who pays it to them.

families with children, the Families and Children Study (FACS), and the Labour Force Survey (LFS), which is not new, but is not often used to model non-take-up of benefits or tax credits. Section 4 uses the FRS – the richest of our data-sets – to focus in detail on the determinants on FC take-up, and to give some early indication as to the effects before and after the introduction of WFTC.

We find that econometric models of take-up for FC estimated on LFS, FRS and FACS give consistent results: take-up depends positively upon entitlement, and negatively upon education, earnings and non-labour income. A 10% increase in entitlement increases the estimated probability of take-up by around 2 percentage points. There is no evidence that support for childcare had an impact on FC take-up, and the loss of HB due to take-up of FC does not seem to be valued in full. We find no evidence of a seasonal pattern to take-up, nor of a change in this pattern in the months immediately before the introduction of WFTC. In the first 6 months of WFTC, take-up rates were lower than they would have been for otherwise-identical amounts of FC, and were particularly low for families that became newly-entitled to WFTC. This may have been a short-term transitional effect, which is something which we will seek to establish in future work.

2. BACKGROUND AND PREVIOUS UK WORK

2.1 Means-tested benefits and tax credits for families with children in the UK

Between October 1999 and March 2003, families with children working more than 16 hours, could receive support from Working Families' Tax Credit (WFTC).[5] The amount of credit depended upon weekly earnings, hours worked, the number of qualifying children (but not the number of adults), and savings (savings over £3,000 reduced the award; savings over £8,000 removed eligibility completely). Couples were assessed jointly. Beyond an after-tax income of £90 a week, the credit was tapered away at 55% of net income (equivalent to a withdrawal rate of 37.4% on gross income, and producing a combined tax and credit withdrawal rate of 69.4% for most claimants), with an small extra credit for families where someone works more than 30 hours a week.

WFTC was introduced in October 1999 as a replacement to Family Credit (FC), and was fully phased in by April 2000. [6] Although it owed much to its predecessor, two key differences were the generosity of WFTC and the payment mechanism. WFTC was more generous than FC in three ways: it had higher credits, particularly those for young children, families could earn more before the credit was phased out, and it had a lower

[5] For an outline of the entire transfer system affecting families with children in the UK, see Brewer et al (2001) or Brewer and Gregg (2003).
[6] See Blundell et al (2000) and Dilnot and McCrae (1999) for a more detailed comparison of WFTC and FC.

withdrawal (or taper) rate. [7] WFTC was administered by the Inland Revenue whereas Family Credit was administered by the old Department of Social Security, but there was no structural link with the income tax system – as is the case with the earned income tax credit (EITC) in the US, for example – and the vast majority of WFTC payments more than offset claimants' income tax liabilities. [8] Some commentators have stressed that WFTC should be seen as one of a set of reforms that collectively increased the generosity of government transfers for all families with children as the current Government attempts to reduce child poverty. [9]

WFTC also significantly changed the system of support for childcare costs. Under FC, childcare costs up to £60 (£100) a week for families with 1 (2) children could be disregarded before the credit was phased out. Under WFTC, there was a separate childcare tax credit element. This was more generous than the FC childcare disregard, providing a 70% subsidy to the parent on costs up to £100/£150 a week for families with one/two or more children. The credit was paid in addition to the rest of families' WFTC payments, rather than being an income disregard, making it worth more to those on the lowest incomes. This change led to a dramatic increase in the number of families benefiting from additional support for childcare costs, albeit from a low base. [10]

[7] These increase were part of a set of reforms that increased the generosity of government transfers for all families with children. See Brewer et al (2001) or Brewer and Gregg (2003) for more detail.
[8] See Appendix B of Dilnot et al (2001) for a longer discussion on how to classify tax credits.
[9] See Brewer and Gregg (2003) for more detail.
[10] See Inland Revenue (2003) for more details of WFTC recipients.

Apart from tax credits, Housing Benefit provided (and still provides) in-work support to low and moderate income working families. About four-fifths of lone parents and around two-thirds of couples on Income Support and income-based Jobseeker's Allowance were also on HB at the time corresponding to our data. Working families are less likely to be on HB: around 20% of families on WFTC were on Housing Benefit in May 2000, and 18% on council tax benefit. [11] Housing Benefit and Council Tax Benefit significantly reduced the financial incentive to work at low levels of earnings because they count WFTC awards as income. [12] Indeed, the interaction of these benefits and tax credits meant that couple families on Housing Benefit could only keep a fifth of gross earnings when moving into part-time minimum wage work, and less than a third of any further increases in earnings. Lone parents on Housing Benefit moving into work under WFTC faced an average withdrawal rate of over 50% on their total earnings: by comparison, a lone parent not on Housing Benefit never faced an average withdrawal rate above 51% on total earnings when taking a job.[13]

2.2 Estimating and modelling take-up

A study of take-up typically takes a household survey that both records receipt and enough information to allow entitlement to be estimated, usually using a micro-

[11] See DSS (2000a/b) for out-of-work families, and DWP (2001) for WFTC recipients.
[12] See Giles et al (1997) or Bingley and Walker (1998) for detailed studies of the (absence of) work incentives created by Housing Benefit. Blundell et al (2000) discuss how WFTC claimants on housing benefit will see almost no change in the financial gain to work.
[13] See Brewer (2000). An average tax rate measures 1 minus the increase in net income from moving into work as a fraction of gross earnings.

simulation model. The estimates of entitlement can then be compared to the data on recorded receipt. Modelled and actual entitlement may diverge for several reasons:

i. In order to assess if a family is entitled to any benefit or tax credit it is necessary to model the tax and benefit system. The use of data from a household survey, the simplifications adopted in modelling the tax and benefit system, the differences between the time period the agency uses to decide whether the individual is entitled to the benefit/tax credit and the time period in which the survey sample was interviewed, or the differences in the definitions of earnings and income variables used by the analyst and the agency are possible causes of discrepancies between the number of entitled and the number of recipients. We probably think of these collectively as representing "modelling errors", although that is not meant to imply that it is always the fault of the researcher.

ii. The agency may also use imperfect information or make mistakes when assessing whether a benefit unit which has applied for the benefit/tax credit can receive it.

iii. There may have been changes in personal circumstances since the individual applied for the benefit/tax credit, particularly if it takes time between a family applying for a benefit/tax credit until the agency replies.

iv. It may be optimal for certain families not to claim the benefit/tax credit due to the social stigma, or the time or money costs of finding out or applying for it.

The last case comes the closest to representing genuine non-take-up as most people think

of it: the challenge is to distinguish between these and the first three cases. The literature, though, usually ignores the first three cases, and assumes that non-participation is the result of an optimal decision. [14] In this framework, claiming a benefit or tax credit is thought to involve actual or psychological costs to the individual. [15] This means that there are two opposite effects of taking up a programme: the increase in income from the benefit or tax credit increases the welfare of the benefit unit, but these actual or psychological costs reduces it. Estimation proceeds by writing down an expression for the net utility gain from claiming a benefit, usually as a linear combination of household characteristics, benefit entitlement, and unobserved heterogeneity. [16]

UK studies which have taken this approach include: Blundell et al (1987), which models take-up of Housing Benefit; Fry and Stark (1993), which investigates take-up of the main means-tested benefits from 1984-1990; Dorsett and Heady (1992), which investigates take-up of Family Income Supplement; a series of reports using data from the Programme of Research into Low Income Families which model take-up of Family Credit (see Finlayson and Marsh (1998)), which model take-up for Family Credit during the 1990s; Marsh et al (2001) and McKay (2003), which examines take-up using the FACS survey, and Hancock and Barber (2003), which models take-up of IS amongst pensioners.

[14] Brewer (2003b) presents a framework for thinking about these modelling or measurement errors in measuring take-up, as outlined by Duclos (1995).
[15] Moffitt (1983) was the first paper to outline this theory.
[16] See Section 5 of Brewer (2003b).

Other approaches are possible, and are discussed in Brewer (2003b). These include allowing for measurement error when estimating entitlement to benefits and tax credits, and modelling the decision to take-up benefits and tax credits simultaneously with labour supply, as pursued in a companion paper to this based on work from the same project (Brewer et al, 2003).

Official estimates of the take-up rate of the main means-tested benefits in the UK are calculated annually by the Department of Work and Pensions and its predecessors. They show that the take-up rate of Family Credit rose throughout the 1990s, but may have fallen slightly in 1999 (although it is not clear whether the estimated fall is significant, and methodological changes confound the comparison – see

Table 1). Using broadly equivalent methodology, Inland Revenue have published take-up rates for 2000-01. [17] As discussed in Brewer (2003b), official estimates of aggregate take-up are based on both administrative and survey data, and so we would not expect the estimated take-up rates to correspond exactly with those presented in this paper.

[17] Inland Revenue (2002).

3. EMPIRICAL ANALYSIS

This section presents some descriptive statistics about take-up rates of FC and WFTC using three household surveys. We then estimate a model of take-up on the three surveys to investigate the determinants of the decision to take-up FC and WFTC.

3.1 Data

The key to any study of take-up is a data-set that both records receipt and allows entitlement to be calculated. We make use of three data-sets – the Labour Force Survey (LFS), the Family Resources Survey (FRS) and the first wave of the Families and Children Study (FACS) to investigate whether estimates are robust across different surveys. [18]

An initial question is to ask whether these data-sets capture receipt of FC/WFTC. This was investigated in detail for the FRS in Clark and McCrae (2001). They found that the FRS under-records FC recipients compared to administrative data. But they find that the estimated distribution of size of awards, and the split between lone parents and couples are consistent with administrative data. Their most likely explanation, then, is that the grossing regime for the FRS places too low a weight on families with children receiving Family Credit. In Table 5, we compare their analysis of the FRS with our analysis of

[18] The FRS and the LFS are household-based surveys drawn from postcode records across GB (FRS) and the UK (LFS). The FACS sample is drawn from Child Benefit records. An income-screening test is then applied to couples to screen out those with joint incomes more than 35% above the point at which FC

FACS. But lacking grossing factors for FACS, which have only become available from wave 3 onwards, we are not able to compare it to the other data-sets.

Table 5 and Table 6 show estimated eligibility and receipt of FC or WFTC in the different surveys.[19] According to LFS, 53.6% of eligible families received FC, whereas for FRS and FACS this percentage is 56.5 and 62.7% respectively. [20] The differences in the take-up rates between FACS and the other two surveys may be due to the different time periods - in the first 9 months of 1999-00, the FRS take-up rate (60.5%) is more similar to that of FACS. Take-up rates differ markedly between lone parents and couples.

Table 6 provides information about the take-up rates and Family Credit entitlement in the three surveys, focusing on the period April – September 1999, immediately before the WFTC reform. In all three samples, lone parents are, on average, more likely to take-up FC and are entitled to a greater amount than couples. Take-up and entitlement is slightly higher for the FACS sample. All three surveys identify benefit units who receive a positive amount of benefit but are modelled as not being entitled. Although, as discussed above, there may be several causes for this result, probably one of the most important

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entitlement (in 1999) ran out (see Woodland and Collins, 2001). Table 3 - Table 5 compare some sample means across the 3 datasets.

[19] LFS, FRS and FACS ask about the amount of FC or WFTC received by the benefit unit, but we need to estimate how much FC or WFTC a family would have received had they claimed: we therefore used a routine to compute this based on the information provided by the surveys.

[20] We have excluded families in which any adult is self-employed in his/her main job, due to the problems of income-misreporting on surveys, and the discrepancies between the income information provided by the surveys and that used by the Benefits Agency/Inland Revenue. The FACS figures are computed taking only into account the part of the sample coming from the Child Benefit sample.

reasons is that entitled families received the benefit for 26 weeks regardless of whether their personal or economic circumstances changed during this period. [21]

3.2 Estimates of an economic model of take-up

The next stage is to model take-up econometrically with all 3 data sets in order to compare the results. We specify the programme participation decision in a simple way. Following Moffitt (1983), we assume that there is an index I_p, which depends on a set of individual variables and on a random term. If this index is positive, the benefit unit claims the benefit, otherwise they decide not to: the index can therefore be thought of as the net utility from claiming. Assuming the random term – which reflects unobserved tastes for claiming FC or WFTC– is normally distributed allows us to estimate the probability of claiming using a Probit models (see Section 5 of Brewer (2003b) for more details).

We estimated models for lone parents and couples with children separately because the differences in the take-up rates between them suggest a different behaviour. The samples consist of those benefits units which are estimated as being entitled to FC, and so the estimates are conditional on our modelling entitlement correctly. Any characteristic which affects either the benefits of additional income or the costs of claiming and

[21] See Clark and McCrae (2001), who look at this for the FRS: a considerable number of people receiving but not eligible are eligible for large amounts of FC but are working zero hours, consistent with their having been eligible earlier but since stopped working. This is confirmed by our work: families receiving

receiving FC or WFTC is a candidate for an explanatory variable. In line with previous studies, and following some exploratory analysis, our preferred model includes as explanatory variables: age, education level of parents, number of dependent children, dummy for the presence of children under 5 years old, total earnings net of taxes and national insurance contributions, entitlement to FC/WFTC, and weekly non-labour income. [22] Entitlement is entered in logarithms: this forces the probability of claiming to fall to zero as entitlement falls to zero. In the model for lone parents we include a dummy for being a woman, and in the model for couples, we include a dummy for the woman's earnings being greater than the man's. We did not include housing tenure or region – both suggested by other studies to be important correlates of take-up – because of problems in deriving comparable measures across the three surveys.

Results which directly compare the three data-sets can be found in Table 7: this reports results from a model on LFS and FRS observations in the first 9 months of 1999, and from wave 1 of the FACS survey. The coefficient of the log of entitlement is around 0.2 and always significant: this coefficient is an elasticity, and implies that a 10% increase in entitlement increases the estimated probability of take-up by around 2 percentage points, on average.

FC but who appear ineligible are receiving very similar amounts to those receiving and who appear eligible.

[22] The measure of the latter variable is not exactly the same across data sets. For LFS and FACS, non-labour income refers to the amount of other regular income received apart from earnings and benefits. For FRS it consists of investment income and we also include another variable: the total income from other benefit units.

For lone parents, other variables are not generally statistically significant, and this is probably due to the small sample size. For couples, non-labour income reduces take-up, but the other parameters vary in significance across the surveys. According to the LFS and FACS, couples where the female is the main earner are less likely to take-up FC. In the FRS, male education has a negative impact on take-up, and results from FACS suggest that female age is an important explanatory factor, and that cohabiting couples have a greater probability of claiming FC than married couples. We experimented to see whether firm size might influence take-up. We could observe only whether the size of establishment (not firm) was smaller than 25 workers, and, on this definition, we found that workers in "small" establishments were more likely to take-up FC (see Table 14).

We estimated the models on post-1994 data using LFS and FRS only, adding year and month dummies to the list of independent variables (see Table 8 and Table 9). With this much larger sample, net earnings and non-labour income have significant negative impacts on lone parents' take-up, as does education, according to the FRS, with more educated lone parents being less likely to claim. The take-up model for couples also reveals more significant determinants of take-up, with education level and net earnings having negative impacts on take-up. The probability of FC take-up increases with the presence of children, and with the age of the father (FRS only).

To summarize: although there are differences in the effect of individual and family characteristics on the probability of taking up FC between the three datasets, we find consistent evidence that the likelihood of claiming FC increases with the amount of

entitlement, and that non-earned income and years of education have negative, though not always significant, influences.

4. MORE DETAILED DETERMINANTS OF TAKE-UP

The previous chapter investigated whether estimates of the determinants of FC were consistent across three data-sets. We focus now on the determinants of FC/WFTC take-up using just the FRS. The main advantages of this survey are that it seems to provide more reliable figures of FC entitlement than LFS, and it allows to check whether there has been a change in the individual behaviour due to the WFTC reform, as we have data since September 1999. As we stated earlier, this paper represents the output of preliminary work that looks only at data from the first six months of WFTC: ongoing work, also funded by the Inland Revenue, is investigating data from subsequent years.

The main objectives of the empirical work presented in this section are the following. First, we are interested in studying whether the individuals value Family Credit in the same way even when there are offsetting reductions in HB, and whether there is an additional impact on take-up from the assistance with childcare costs provided by FC. Second, we would like to know whether FC take-up behaviour changed before the introduction of WFTC. This is a relevant question because the first wave of FACS was conducted during the summer of 1999, just before this reform. If the individual behaviour had changed during that period, the estimates based on FACS could be biased. Third, we would like to know what the immediate impact of WFTC was on take-up behaviour.

In order to answer the previous questions we have estimated several take-up models. Table 10 presents the results of the "benchmark" model, which uses FRS data, and adds a number variables to the models presented earlier: the number of disabled adults,

dummies for house tenure, and regional dummies, all of which have a significant influence on take-up. The presence of disabled adults reduces the probability of take-up, perhaps because these benefit units may claim other types of benefits, and renters have a greater probability of claiming FC or WFTC than homeowners. There are also significant differences in the take-up rates among regions.[23] However, we do not find evidence of a seasonal pattern or trend to take-up: neither year nor month dummies are jointly significant. [24]

4.1 Housing Benefit and Family Credit

One of the possible reasons why Housing Benefit recipients might not claim FC or WFTC is that FC and WFTC act to reduce entitlements to Housing Benefit. For HB recipients, the net financial gain to claiming FC or WFTC will usually be smaller than their calculated entitlement to FC/WFTC. To account for this, we should really use the change in the net income (given by the FC amount less the change in HB) rather than the amount of FC as a determinant of take-up of FC. [25] Taking into account that this variable is included in logarithms, we can substitute it by: [26]

[23] Rents and council tax both reduce the income change from a given WFTC award, and the significance of the regional variables in our regressions may be proxying these effects rather than capturing area-specific stigma effects.
[24] We have also tried to include two dummies for Christmas (December and January) and Easter (March and April) instead of month variables, and our conclusions did not change.
[25] We should also include the loss of Council Tax Benefit, but this is typically much smaller than the loss of HB.
[26] We assume that the ratio ($\Delta HB/FC$) is small, allowing us to substitute $\log [1 + (\Delta HB/FC)]$ by $(\Delta HB/FC)$.

$$\log (FC + \Delta HB) = \log \left(\frac{(FC + \Delta HB)\, FC}{FC} \right) \simeq \log FC + \delta \left(\frac{\Delta HB}{FC} \right)$$

where FC is FC entitlement, ΔHB is the change in Housing Benefit when claiming FC, and δ is a parameter introduced to allow us to check whether the benefit units perceive the change in Housing Benefit and take it into account when applying for FC: If families take the HB change fully into account δ should be equal to -1. If δ is zero, families do not realize about the variation in this benefit.[27]

The dummies for tenure suggest that renters are more likely to claim FC/WFTC than non-renters, but results in Table 11 suggests that δ is significantly different from zero for lone parents and couples, although greater than –1, so we can conclude that families receiving Housing Benefit do not take the fall in HB into full account when claiming for FC/WFTC.

4.2 Support for childcare

As we have previously mentioned, one of the most important changes of the WFTC reform was the treatment of childcare costs. To identify the impact of the support for childcare provided through FC/WFTC, we separated the basic FC/WFTC entitlement from that due to eligible childcare costs (assuming full take-up), and making the same kind of transformations that we made for Housing Benefit. According to our results in

Table 11, the childcare costs component has no effect on the probability of taking up FC/WFTC: we fail to reject the hypothesis that the coefficient of the ratio is equal to zero for both samples. [28]

4.3 Was there a pre-WFTC dip?

Administrative data on the caseload shows a pre-WFTC dip in the number of families receiving FC. [29] This dip might reflect families deciding to wait until October 1999 to renew their benefit in order to get the more generous WFTC. [30] The estimates shown in Table 12 allow take-up behaviour to change in the run-up to WFTC by introducing monthly controls from April 1999 to September 1999. We do not find any evidence of a change in take-up behaviour during these months: the coefficients of these month dummies are not jointly significant for either lone parents or couples; the only coefficient that is individually significant is that for July 1999 for lone parents, and its sign is positive rather than negative. This suggests that the fall in the caseload is due to a fall in the entitled population, although there are only 60-100 entitled families in each month of the FRS, so it is plausible that the data is insufficiently rich to identify any fall in take-up probability in a given month.

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[27] This analysis is assuming that there is full take-up of HB. An exact approach would be to model joint take-up of FC and HB simultaneously.

[28] This does not include those families who are entitled to FC/WFTC solely because of childcare costs: obviously if these people take-up FC/WFTC, it is because of the childcare component!

[29] See "Family Credit QSE", DSS, various editions.

[30] Our sub-sample of families interviewed from April to September 1999 and eligible for FC are estimated as being entitled to an average increase of £27 in WFTC payments over FC, at a time when the average FC

4.4 What happened to take-up after October 1999

Finally, we analysed whether there was any change in take-up behaviour in the six months following the reform. The FRS does not allow us to distinguish between families receiving FC and WFTC: clearly the proportion receiving WFTC will have steadily increased between October 1999 and March 2000. Our approach consists of assigning WFTC entitlement to those not receiving FC or WFTC, and, for those receiving the benefit and entitled to both FC and WFTC, we choose the one which is closest to the amount received. [31] Our sample size is limited: there are 295 lone parents and 378 couple families entitled to FC/WFTC post-October 99 in the 1999-00 FRS. Of these, 77 and 180 respectively are newly-entitled. [32]

Our new specification is shown in Table 13, where we add the following explanatory variables to the benchmark model: a dummy for "family interviewed after 1 October 1999", a dummy for "family entitled to WFTC but not to FC", and an interaction between the first of these and entitlement. The first dummy tests for a "pure" WFTC effect on take-up, the second dummy tests whether families newly-entitled to (presumably small amounts of) WFTC behave like families entitled to identical amounts of FC, and the third

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award was £63. This suggests that it would be rational for the average family to delay their renewal if their FC award ran out up to 8 weeks before the introduction of WFTC (ie in August and September 1999), depending on their discount rate.

[31] Although FRS includes questions about the number of weeks that the benefit unit has been receiving the benefit, we cannot use this information in all cases: we need to know the number of weeks since the last time they claimed or renewed the benefit. Our approach gives an unbiased estimate of entitlement, although it may be inaccurate in some cases.

dummy tests whether the marginal effect of a pound of WFTC has the same impact on take-up as a pound of FC.

These new variables interact, making the results tricky to interpret. For most families, there are two offsetting effects: our model suggests that families were more likely to take up WFTC than FC, controlling for other factors, but that the marginal effect of a pound of WFTC is less than it was under FC. For most families, the latter effect dominates, implying that take-up of WFTC is lower than take-up of similar amounts of FC. However, for newly-entitled families, there is another negative impact, which suggests that these families are much less likely to claim WFTC than families entitled to similar amounts of FC.

This is not surprising: it would is unrealistic to think that families would have immediately claimed WFTC on the day that it was introduced. Instead, it is likely that there has been a transition, where the take-up rates of the newly entitled rise towards (and perhaps beyond?) the take-up rates of otherwise-identical families under FC. It will be an important part of our work in progress to examine how take-up of WFTC changed between April 2000 and March 2003.

[32] We only observe families once in the FRS, so when we speak of families being "newly entitled" to WFTC, we mean that they would not have been entitled to FC had it existed after October 1999 and had the family's circumstances not changed.

5. CONCLUSIONS

This paper reports results from the first stage in evaluating WFTC by examining the take-up of its predecessor, Family Credit, and by giving an indication of the initial impact of WFTC on take-up. Ongoing work is examining how take-up of WFTC changed as the policy continued, and companion work has examined what was the impact of WFTC on labour supply and on wage growth.

We estimate entitlement to FC/WFTC with a tax and benefit model that operates on three different data-sets. Estimated take-up rates are higher for lone parents, employees, and in more recent years. Econometric models of take-up for FC estimated on LFS, FRS and FACS give consistent results: take-up depends positively upon entitlement, and negatively upon education, earnings and non-labour income. A 10% increase in entitlement increases the estimated probability of take-up by around 2 percentage points. Age and family characteristics play a role. In FRS models, region and housing tenure are strongly associated with take-up. There is no evidence that support for childcare had an impact on FC take-up, and the loss of HB due to take-up of FC does not seem to be valued in full. We find no evidence of a seasonal pattern to take-up, nor of a change in this pattern in the months immediately before the introduction of WFTC. In the first 6 months of WFTC, take-up rates were lower than they would have been for otherwise-identical amounts of FC, and were particularly low for families that became newly-entitled to WFTC.

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Table 1. Official FC and WFTC take-up rates

	Lone parents		Couples	
	As % caseload	As % expenditure	As % caseload	As % expenditure
2000/1	80	85	51	65
1998/9	81	88	58	66
1997/8	77	84	62	74
1996/7	81	88	68	82
1995/6	80	91	62	76
1994/5	80	90	61	75
1993/4	77	86	66	76
1992	73	66		
1990-1991	68	62		

Notes: estimates were not broken down by family type before 1992: figures are averaged across lone parents and couples. About half of FC claims were by lone parents throughout the period under consideration. Figures shown are mid-points of stated range in some years; DSS estimate 95% error bands to be about +/- 4 percentage points.
Source: Department of Social Security (various years), and Inland Revenue (2002).

Table 2. FRS, 1994-99 (excl self-employed)

Subsample:	**Better-off couples**	**FACS filtered**			
		Lone Father	**Lone Mother**	**Fathers in couples**	**Mothers in couples**
Age	39.4	41.2	33.7	37.9	35.1
Age left FT education	17.5	16.3	16.4	16.3	16.4
% working	Father=98.3 Mother=80.0	49.3	39.3	61.5	34.3
Real wage £/hr	Father=12.06 Mother=7.63	9.05	5.94	5.10	4.45
WFTC/FC receipt %	-	6.9	10.4	13.7	
N	21571	834	9913	10418	

Table 3. LFS, 1993-99 (excl self-employed)

Subsample:	**Better-off couples**	**FACS filtered**			
		Lone Father	**Lone Mother**	**Fathers in couples**	**Mothers in couples**
Age	36.2	40.6	33.0	36.7	34.4
Age left FT education	17.6	16.3	16.4	16.2	16.3
% working	Father=98.1 Mother=77.2	40.4	34.7	47.2	28.4
Real wage £/hr	Father=12.26 Mother=7.96	9.55	6.45	6.00	4.79
WFTC/FC receipt %	-	8.6	15.4	15.7	
N	14208	673	10078	8717	

Table 4. FACS (excl self-employed, child benefit sample only)

Subsample:	Better-off couples	FACS CB Samples			
		Lone Father	Lone Mother	Fathers in couples	Mothers in couples
Age	-	42.8	34.4	38.7	35.5
Age left FT education	-	16.7	16.4	16.5	16.5
% working	-	47.9	40.8	40.6	39.9
Real wage £/hr	-	8.83	5.95	6.47	5.28
WFTC/FC receipt %	-	6.8	21.1	21.2	
N	-	117	2211	1738	

Table 5. Eligibility and receipt of FC or WFTC (benefit units with dependent children)

	LFS (03/1995-09/1999)	FRS (04/1994-03/2000)	FACS (06/1999-09/1999)
Eligible:	4307	4971	961
- Recipients	2310	2809	603
- Non recipients	1997	2162	358
Non eligible:	29134	35663	3189
- Recipients	723	747	242
- Non recipients	28411	34916	2947
Total sample size	33441	40634	4150

Table 6. Eligibility and receipt of FC or WFTC

	LFS (01/1999-09/1999)		FRS (01/1999-09/1999)		FACS (06/1999-09/1999)	
	Take-up rate	Mean entitlement	Take-up rate	Mean entitlement	Take-up rate	Mean Entitlement
Lone parents	63.07%	£55.81	71.27%	£55.42	74.53%	£60.97
Couples	41.60%	£46.60	48.43%	£49.18	48.01%	£53.63

Note: The monetary amounts are in nominal terms.

Table 7. Take-up probits for lone parents and couples

Lone parents	LFS (01/1999-09/1999)		FRS (01/1999-09/1999)		FACS (06/1999-09/1999)	
Independent variables	Marg. effect	t-statistic	Marg. effect	t-statistic	Marg. Effect	t-statistic
Age	-0.0214	-0.60	-0.0014	-0.05	-0.0426	-1.78
Age^2	0.0001	0.25	-0.0001	-0.36	0.0005	1.52
D. finishing education >18	-0.0503	-0.40	-0.0883	-0.87	-0.0890	-1.08
Female head	-0.0823	-0.49	0.0110	0.08	-0.0198	-0.16
D. children 0-4	0.0550	0.72	-0.0320	-0.41	0.0628	1.17
No. of dependent children	-0.0382	-0.82	-0.0133	-0.35	-0.0030	-0.10
Nonlabour income	-0.0052	-4.73	-0.0277	-1.16	-0.0008	-0.61
Income from other bu	-------	-----	-0.0007	-2.22	-------	-----
Family Net Earnings	0.0014	1.08	-0.0014	-1.75	-0.0010	-1.49
Log (entitlement)	0.3230	3.92	0.1747	3.73	0.1998	4.55
Sample size	387		355		532	
Log L	-205.1207		-170.1416		-238.1795	
Likelihood ratio	98.51 (9)		85.53 (10)		124.15 (9)	

Omitted categories: left school <18, is a lone father, no pre-school children.

Couples	LFS (01/1999-09/1999)		FRS (01/1999-09/1999)		FACS (06/1999-09/1999)	
Independent variables	Marg. Effect	t-statistic	Marg. Effect	t-statistic	Marg. Effect	t-statistic
Male Age	0.0299	0.91	0.0335	1.10	0.0264	0.91
Male Age^2	-0.0004	-0.88	-0.0005	-1.38	-0.0003	-0.99
Female Age	-0.0511	-1.43	-0.0102	-0.32	-0.0632	-2.06
Female Age^2	0.0005	1.07	0.0002	0.49	0.0008	2.01
Male finish educ. >18	-0.0445	-0.41	-0.3291	-2.56	-0.0198	-0.19
Female finish educ. >18	-0.0883	-0.81	0.2044	1.13	0.0034	0.03
Cohabiting couple	0.0800	1.03	0.0768	0.92	0.1907	2.75
D. children 0-4	-0.0322	-0.46	0.1107	1.33	-0.0187	-0.27
No. of dependent children	0.0324	0.84	0.0292	0.76	-0.0409	-1.24
D. Female main earner	-0.3139	-4.55	-0.1077	-1.21	-0.3556	-5.87
Nonlabour income	-0.0165	-1.91	-0.2328	-2.72	-0.0100	-1.79
Income from other bu	-------	-----	-0.0003	-0.53	-------	----
Net Earnings	-0.0013	-1.12	-0.0012	-0.95	-0.0006	-0.59
Log (entitlement)	0.1698	2.75	0.2150	3.05	0.2073	3.62
Sample size	356		318		423	
Log L	-192.5612		-172.4489		-239.68114	
Likelihood ratio	98.91 (13)		95.63 (14)		106.36 (13)	

Omitted categories: left school <18, married, man is mean earner, no pre-school children.

Table 8. Take-up probits for lone parents

Independent variables	LFS (03/95-09/1999)		FRS (04/1994-09/1999)	
	Marg. Effect	t-statistic	Marg. Effect	t-statistic
Age	-0.0082	-0.60	0.0106	0.89
Age^2	-0.0000	-0.24	-0.0002	-1.37
Finish education >18	-0.0546	-1.15	-0.1389	-3.16
Female head	-0.0458	-0.81	0.0279	0.56
D. children 0-4	0.0252	0.75	-0.0225	-0.72
No. of dependent children	-0.0194	-1.01	-0.0051	-0.32
Nonlabour income	-0.0039	-8.88	-0.0311	-2.67
Income from other bu	-----	----	-0.0001	-2.20
Net Earnings	-0.0017	-3.30	-0.0014	-3.70
Log (entitlement)	0.1580	5.40	0.1639	8.06
Fiscal year 1994	-----	----	-0.0724	-1.60
Fiscal year 1995	0.0049	0.12	-0.0023	-0.05
Fiscal year 1996	0.0113	0.27	-0.0876	-1.99
Fiscal year 1997	0.0411	1.00	-0.0395	-0.91
Fiscal year 1998	-0.0387	-0.93	-0.0059	-0.14
January	0.0827	1.41	0.0256	0.48
February	0.0576	1.00	0.0616	1.14
March	0.0677	1.24	-0.0164	-0.31
May	-0.0176	-0.33	0.0271	0.54
June	0.0793	1.51	-0.0487	-0.95
July	0.0121	0.22	-0.0029	-0.06
August	0.0318	0.58	-0.0149	-0.29
September	0.0256	0.48	-0.0003	-0.01
October	-0.0395	-0.65	-0.0428	-0.79
November	0.0025	0.05	-0.0820	-1.52
December	0.0988	1.74	0.0266	0.50
Sample size	1983		2058	
Log L	-1033.6827		-1100.9983	
Likelihood ratio (D.F.)	495.36 (24)		386.33 (26)	

Omitted categories: left school <18, is a lone father, no pre-school children, 1999, April.

Table 9. Take-up probits for couples

Independent variables	LFS 03/95-09/1999)		FRS (04/1994-09/1999)	
	Marg. Effect	t-statistic	Marg. Effect	t-statistic
Male Age	0.0127	0.99	0.0194	1.71
Male Age^2	-0.0002	-1.07	-0.0003	-2.12
Female Age	-0.0254	-1.62	0.0003	0.02
Female Age^2	0.0002	0.93	-0.0000	-0.14
Male finish educ. >18	-0.1168	-2.63	-0.0746	-1.62
Female finish educ. >18	-0.1322	-2.66	-0.1322	-2.47
Cohabiting couple	0.0433	1.24	0.0845	2.51
D. children 0-4	-0.0026	-0.09	0.0767	2.47
No. of dependent children	0.0575	3.97	0.0297	2.12
D. Female main earner	-0.2992	-10.24	-0.1681	-5.37
Nonlabour income	-0.0051	-3.29	-0.0260	-2.96
Income from other bu	-------	-----	-0.0001	-0.53
Net Earnings	-0.0022	-4.62	-0.0016	-3.71
Log (entitlement)	0.1441	6.39	0.1566	7.14
Fiscal year 1994	-------	-----	0.0275	0.57
Fiscal year 1995	0.0193	0.41	-0.0013	-0.03
Fiscal year 1996	0.1076	2.41	0.0000	0.00
Fiscal year 1997	0.0904	2.03	0.0427	0.92
Fiscal year 1998	0.0236	0.53	0.0782	1.65
January	-0.0707	-1.17	-0.1068	-1.98
February	0.0082	0.14	-0.0242	-0.44
March	-0.0916	-1.63	-0.0305	-0.52
May	0.0068	0.12	-0.0047	-0.09
June	-0.0489	-0.90	-0.0327	-0.61
July	0.0701	1.23	0.0334	0.58
August	0.0120	0.21	-0.0748	-1.41
September	-0.0726	-1.28	0.0068	0.13
October	-0.0094	-0.15	0.0186	0.33
November	-0.0184	-0.32	0.0076	0.13
December	0.0392	0.62	-0.0002	-0.00
Sample size	2192		2240	
Log L	-1225.5182		-1288.9025	
Likelihood ratio (D.F.)	565.20 (28)		525.67 (30)	

Omitted categories: both left school <18, married couple, man is mean earner, no pre-school children, 1999, April.

Table 10. Take-up probits: Benchmark estimates using FRS (04/1994-03/2000)

Independent variables	Lone Parents		Couples	
	Marg. effect	t-statistic	Marg. Effect	t-statistic
Head Age	0.0159	1.42	0.0333	3.12
Head Age^2	-0.0003	-1.71	-0.0004	-3.35
Spouse Age	-------	-----	0.0031	0.25
Spouse Age^2	-------	-----	-0.0000	-0.22
Head finish educ. >18	-0.0838	-2.06	-0.0315	-0.73
Spouse finish educ. >18	-------	-----	-0.1051	-2.17
Female head	0.0173	0.38	-------	-----
Cohabiting couple	-------	-----	0.0357	1.12
D. children 0-4	-0.0032	-0.11	0.0889	3.05
No. of dependent children	0.0142	0.92	0.0291	2.23
No. of disabled adults	-0.2883	-4.17	-0.2648	-8.79
Social renter	-------	-----	0.1760	7.15
Private renter	-0.0218	-0.62	0.1612	3.97
No renter	-0.0986	-4.10	-------	-----
D. Female main earner	-------	-----	-0.1068	-3.42
Nonlabour income	-0.0314	-2.91	-0.0240	-2.94
Income from other bu	-0.0001	-1.76	-0.0002	-0.77
Net Earnings	-0.0016	-4.91	-0.0021	-5.81
Log (entitlement)	0.1314	7.12	0.1301	6.68
Fiscal year 1994	-0.0510	-1.39	0.0426	1.05
Fiscal year 1995	0.0144	0.42	-0.0120	-0.32
Fiscal year 1996	-0.0657	-1.88	0.0191	0.53
Fiscal year 1997	-0.0198	-0.56	0.0409	1.09
Fiscal year 1998	0.0167	0.50	0.0730	1.89
January	0.0081	0.16	-0.0764	-1.48
February	0.0564	1.12	-0.0090	-0.17
March	0.0173	0.35	0.0009	0.02
May	0.0281	0.55	-0.0006	-0.01
June	-0.0400	-0.77	-0.0433	-0.79
July	0.0053	0.10	0.0393	0.67
August	-0.0054	-0.10	-0.0910	-1.70
September	-0.0084	-0.16	-0.0008	-0.02
October	-0.0560	-1.09	-0.0242	-0.45
November	-0.0796	-1.54	-0.0115	-0.21
December	0.0119	0.24	-0.0273	-0.51
North	-0.0176	-0.35	0.1397	2.52
YorkHumb	0.0327	0.72	0.1631	3.25
NorthWest	0.0005	0.01	0.2600	5.38
EastMiddle	-0.0584	-1.13	0.1004	1.90
WestMiddle	0.0032	0.07	0.1116	2.21
EastAnglia	-0.0833	-1.22	0.0857	1.25
Gt. London	-0.2087	-4.14	0.0283	0.53
South East	-0.1049	-2.41	0.0530	1.10
South West	-0.0699	-1.35	0.1969	3.77
Wales	0.0686	1.24	0.1004	1.77
Sample size	2353		2618	
Log L	-1234.1473		-1406.0261	
Likelihood ratio (D.F.)	511.18 (39)		807.48 (43)	

Table 11. Take-up probits: interactions with HB and help with childcare (FRS 04/1994-03/2000)

	Housing Benefit Issues				Childcare costs component			
	Lone parents		Couples		Lone parents		Couples	
Independent variables	Marg. effect	t-stat.	Marg. effect	t-stat	Marg. effect	t-stat	Marg. effect	t-stat
Head Age	0.016	1.41	0.033	3.05	0.015	1.37	0.033	3.03
Head Age^2	-0.000	-1.70	-0.000	-3.29	-0.000	-1.72	-0.000	-3.28
Spouse Age	-----	-----	0.003	0.28	-----	-----	0.006	0.52
Spouse Age^2	-----	-----	-0.000	-0.23	-----	-----	-0.000	-0.46
Head finish ed. >18	-0.085	-2.09	-0.034	-0.79	-0.099	-2.35	-0.038	-0.87
Spouse finish ed. >18	-----	-----	-0.105	-2.18	-----	-----	-0.113	-2.27
Female head	0.015	0.32	-----	-----	0.023	0.51	-----	-----
Cohabiting couple	-----	-----	0.030	0.95	-----	-----	0.037	1.14
D. children 0-4	-0.001	-0.04	0.082	2.81	0.006	0.20	0.087	2.97
No. dependent children	0.016	1.06	0.038	2.87	0.017	1.07	0.030	2.30
No. disabled adults	-0.289	-4.16	-0.267	-8.84	-0.276	-4.02	-0.266	-8.80
Social renter	-----	-----	0.100	3.02	-----	-----	0.179	7.22
Private renter	-0.029	-0.81	0.069	1.41	-0.012	-0.33	0.171	4.19
No renter	-0.054	-1.57	-----	-----	-0.103	-4.32	-----	-----
D. Female main earner	-----	-----	-0.103	-3.31	-----	-----	-0.106	-3.35
Nonlabour income	-0.031	-2.90	-0.024	-2.91	-0.031	-2.86	-0.024	-2.88
Income from other bu	-0.000	-1.79	-0.000	-0.78	-0.000	-1.76	-0.000	-0.70
Net Earnings	-0.002	-5.22	-0.002	-6.30	-0.001	-3.26	-0.002	-5.62
Log (entitlement)	0.128	6.87	0.114	5.76	-----	-----	-----	-----
ΔHB/Entitlement	-0.112	-1.81	-0.224	-3.53	-----	-----	-----	-----
Log [ent(ccc=0)]	-----	-----	-----	-----	0.127	6.46	0.130	6.52
Ent(ccc) / Ent(ccc=0)	-----	-----	-----	-----	0.004	0.58	-0.276	-1.29
Sample size	2353		2618		2289		2585	
Log L	-1232.5069		-1399.7404		-1198.2022		-1384.7820	
Likelihood ratio (D.F.)	514.46 (40)		820.05 (44)		463.55 (40)		806.09 (44)	

Notes: The vector of explanatory variables also includes regional, month and year dummies which are omitted in the table. Omitted categories: left school <18, no pre-school children, 1999, April, Scotland.

Table 12. Take-up probits: before introduction of WFTC, FRS (04/1994-09/1999)

Independent variables (regional, month and year dummies omitted).	Lone Parents		Couples	
	Marg. Effect	t-statistic	Marg. Effect	t-statistic
Head Age	0.0158	1.41	0.0332	3.11
Head Age^2	-0.0003	-1.70	-0.0004	-3.33
Spouse Age	-------	-----	0.0037	0.30
Spouse Age^2	-------	-----	-0.0000	-0.27
Head finish educ. >18	-0.0872	-2.13	-0.0328	-0.75
Spouse finish educ. >18	-------	-----	-0.1072	-2.22
Female head	0.0140	0.31	-------	-----
Cohabiting couple	-------	-----	0.0363	1.14
D. children 0-4	-0.0018	-0.06	0.0886	3.04
No. of dependent children	0.0135	0.87	0.0296	2.23
No. of disabled adults	-0.2930	-4.24	-0.2644	-8.77
Social renter	-------	-----	0.1774	7.17
Private renter	-0.0199	-0.57	0.1621	3.98
No renter	-0.0971	-4.03	-------	-----
D. Female main earner	-------	-----	-0.1077	-3.44
Nonlabour income	-0.0314	-2.90	-0.0242	-2.95
Income from other bu	-0.0001	-1.69	-0.0002	-0.80
Net Earnings	-0.0015	-4.58	-0.0022	-5.65
Log (entitlement)	0.1348	7.16	0.1282	6.38
Fiscal year 1994	-0.0262	-0.60	0.0317	0.65
Fiscal year 1995	0.0379	0.92	-0.0232	-0.51
Fiscal year 1996	-0.0409	-0.97	0.0074	0.17
Fiscal year 1997	0.0039	0.09	0.0290	0.63
Fiscal year 1998	0.0404	0.98	0.0611	1.30
January	0.0177	0.33	-0.0772	-1.40
February	0.0657	1.23	-0.0101	-0.18
March	0.0274	0.52	-0.0007	-0.01
May	0.0303	0.53	0.0188	0.31
June	-0.0507	-0.87	-0.0358	-0.59
July	-0.0296	-0.50	0.0349	0.54
August	0.0126	0.22	-0.0869	-1.45
September	0.0095	0.16	-0.0074	-0.13
October	-0.0452	-0.83	-0.0253	-0.44
November	-0.0697	-1.27	-0.0130	-0.22
December	0.0220	0.41	-0.0288	-0.50
April 99	0.0450	0.47	-0.0069	-0.07
May 99	0.0328	0.35	-0.0969	-1.00
June 99	0.0858	1.00	-0.0527	-0.46
July 99	0.1813	2.11	0.0210	0.17
August 99	-0.0306	-0.33	-0.0287	-0.27
September 99	-0.0355	-0.37	0.0368	0.35
Sample size	2353		2618	
Log L	-1231.003		-1405.278	
Likelihood ratio (D.F.)	517.47 (45)		808.98 (49)	

Table 13. Take-up probits: first 6 months of WFTC. FRS (4/1994-03/2000)

Independent variables (regional, month and year dummies omitted).	Lone Parents		Couples	
	Marg. effect	t-statistic	Marg. Effect	t-statistic
Head Age	0.0167	1.49	0.0341	3.18
Head Age^2	-0.0003	-1.79	-0.0004	-3.41
Spouse Age	-------	-----	0.0041	0.33
Spouse Age^2	-------	-----	-0.0001	-0.30
Head finish educ. >18	-0.0823	-2.02	-0.0397	-0.91
Spouse finish educ. >18	-------	-----	-0.1033	-2.14
Female head	0.0204	0.44	-------	-----
Cohabiting couple	-------	-----	0.0338	1.06
D. children 0-4	0.0010	0.03	0.0919	3.14
No. of dependent children	0.0130	0.84	0.0260	1.95
No. of disabled adults	-0.2820	-4.09	-0.2684	-8.88
Social renter	-------	-----	0.1753	7.07
Private renter	-0.0214	-0.61	0.1639	4.02
No renter	-0.0919	-3.80	-------	-----
D. Female main earner	-------	-----	-0.1036	-3.30
Nonlabour income	-0.0303	-2.77	-0.0243	-2.96
Income from other bu	-0.0001	-1.83	-0.0002	-0.85
Net Earnings	-0.0012	-3.67	-0.0018	-4.57
Log (entitlement)	0.1545	7.88	0.1428	6.92
Fiscal year 1994	-0.0748	-1.63	0.0595	1.19
Fiscal year 1995	-0.0090	-0.21	0.0026	0.05
Fiscal year 1996	-0.0931	-2.07	0.0332	0.71
Fiscal year 1997	-0.0433	-0.98	0.0555	1.16
Fiscal year 1998	-0.0058	-0.14	0.0880	1.80
January	0.0221	0.43	-0.0831	-1.59
February	0.0695	1.36	-0.0087	-0.16
March	0.0245	0.49	-0.0086	-0.15
May	0.0278	0.55	-0.0019	-0.03
June	-0.0412	-0.80	-0.0457	-0.83
July	0.0067	0.13	0.0370	0.63
August	-0.0052	-0.10	-0.0921	-1.72
September	-0.0094	-0.18	-0.0020	-0.04
October	-0.0458	-0.87	-0.0331	-0.60
November	-0.0683	-1.30	-0.0174	-0.31
December	0.0241	0.47	-0.0350	-0.64
Post September 99	0.3597	3.27	0.4693	2.80
New entitled	-0.3206	-3.87	-0.2571	-3.33
Log (entitl.)*Post Sept. 99	-0.1500	-3.46	-0.1130	-2.55
Sample size	2353		2618	
Log L	-1223.9316		-1400.1509	
Likelihood ratio (D.F.)	531.61 (42)		819.23 (46)	

Table 14. Take-up probits including firm size

Lone parents	LFS (03/1995-09/1999)		FRS (04/1994-09/1999)		FACS (06/1999-09/1999)	
Independent variables	Marg. effect	t-statistic	Marg. effect	t-statistic	Marg. Effect	t-statistic
Age	-0.0081	-0.59	0.0104	0.88	-0.0427	-1.78
Age^2	-0.0000	-0.24	-0.0002	-1.35	0.0005	1.50
D. finishing education >18	-0.0543	-1.14	-0.1403	-3.19	-0.1137	-1.33
Female head	-0.0499	-0.88	0.0321	0.65	-0.0185	-0.15
D. children 0-4	0.0281	0.83	-0.0208	-0.67	0.0655	1.21
No. of dependent children	-0.0202	-1.05	-0.0052	-0.32	-0.0030	-0.10
Nonlabour income	-0.0039	-8.91	-0.0313	-2.68	-0.0009	-0.55
Income from other bu	-------	-----	-0.0001	-2.22	-------	-----
Family Net Earnings	-0.0017	-3.35	-0.0013	-3.47	-0.0008	-1.14
Log (entitlement)	0.1590	5.42	0.1636	8.05	0.2044	4.59
Firm size ≥ 25	0.0234	0.97	-0.0195	-0.86	-0.0673	-1.68
Sample size	1981		2055		530	
Log L	-1031.6896		-1098.5453		-235.7729	
Likelihood ratio	496.38 (25)		385.93 (27)		127.80 (10)	

Note: FRS and LFS estimates also include year and month dummies.

Couples	LFS (03/1995-09/1999)		FRS (04/1994-09/1999)		FACS (06/1999-09/1999)	
Independent variables	Marg. Effect	t-statistic	Marg. Effect	t-statistic	Marg. Effect	t-statistic
Male Age	0.0143	1.11	0.0182	1.60	0.0324	1.10
Male Age^2	-0.0002	-1.23	-0.0003	-2.04	-0.0004	-1.17
Female Age	-0.0262	-1.66	0.0009	0.07	-0.0686	-2.20
Female Age^2	0.0002	1.01	-0.0000	-0.18	0.0009	2.15
Male finish educ. >18	-0.1233	-2.75	-0.0756	-1.64	-0.0322	-0.31
Female finish educ. >18	-0.1293	-2.59	-0.1288	-2.40	0.0030	0.03
Cohabiting couple	0.0463	1.32	0.0853	2.53	0.1859	2.67
D. children 0-4	-0.0024	-0.08	0.0767	2.47	-0.0258	-0.37
No. of dependent children	0.0546	3.74	0.0276	1.97	-0.0387	-1.16
D. Female main earner	-0.2929	-9.83	-0.1609	-5.11	-0.3448	-5.57
Nonlabour income	-0.0051	-3.30	-0.0251	-2.89	-0.0103	-1.80
Income from other bu	-------	-----	-0.0001	-0.60	-------	----
Net Earnings	-0.0020	-4.13	-0.0014	-3.18	-0.0008	-0.74
Log (entitlement)	0.1444	6.37	0.1596	7.26	0.1956	3.41
Firm size ≥ 25	-0.0677	-2.78	-0.0611	-2.54	-0.0790	-1.39
Sample size	2174		2239		418	
Log L	-1212.103		-1285.2226		-234.9720	
Likelihood ratio	567.70 (29)		531.69 (31)		109.06 (14)	

Note: FRS and LFS estimates also include year and month dummies.