

Work-Based Training and Job Prospects for the Unemployed: An Evaluation of Training for Work

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Disclaimer

The views expressed in this report are those of the authors, and do not necessarily reflect the views of the Department for Education and Employment.

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List of Acronyms

DfEE	Department for Education and Employment
EA	Employment Action
ET	Employment Training
JUVOS	Joint Unemployment and Vacancies Operating System
NVQ	National Vocational Qualification
OLS	Ordinary Least Squares
SOC	Standard Occupational Classification
TEC	Training and Enterprise Council
TfW	Training for Work
TOPS	Training Opportunities Programme

Executive Summary

Training for Work (TfW) was a major DfEE programme aimed at helping people who had been claimant unemployed for over six months to find jobs and improve their skills, by providing appropriate training and work experience. After initial assessment and guidance, entrants took one of three main routes: employer placements (with either trainee or employed status), full-time off-the-job training, or project placements. At the time the present study was carried out, placement providers were funded on a 'starts and outcomes' basis, where successful outcomes included both jobs and gaining qualifications. Although now no longer in existence, many of the elements of TfW have been retained in current government programmes of work-based training for unemployed adults.

A nationally representative sample of TfW participants in England and Wales who left TfW during the autumn of 1995 was interviewed in spring 1996 and a second time in summer 1997. The present analysis excluded those who had been unemployed for less than six months at the point of entry to the programme (the 'special needs' group). Those who had been unemployed for six or more months were matched with non-participants in the same areas of the country who had been claimant unemployed for a similar length of time, producing analysis samples of 822 participants and 815 non-participants. The analysis does not rely on that matching, but uses statistical modelling to control for further differences between participants and non-participants that were relevant to their subsequent progress.

Note that our study only deals with the impact of TfW on the individuals taking part. It says nothing about the contribution of the programme to the level of employment in the economy as a whole.

Though our analysis underestimates the extent of selectivity in entry to TfW, it was clear that participants were more likely than non-participants to have prior characteristics that were attractive to potential employers and improved their chances of getting a job. Within the programme, trainees on employer placements were more likely to have advantageous prior characteristics than trainees either in full-time off-the-job training or on project placements. Selectivity was encouraged by the funding structure of TfW and by its dependence on the co-operation of employers.

After allowing for differences between participants and non-participants, there was firm evidence that unemployed people improved their chances of getting a job by going on TfW. We estimate that, over a 17 month period after leaving TfW, participants spent on average an extra one month in seven in work, compared to what would have been expected if they had not gone on the programme. An alternative way of estimating the gains attributable to TfW suggests that, three years after the beginning of the unemployment spell that made them eligible for the programme, 49 per cent of participants had started a job, whereas if they had not gone on TfW, 37 per cent would have done so.

Over the follow-up period there was no sign of any decay in the advantage that participants had over non-participants, indicating that TfW did not achieve its gains at the cost of encouraging people to take short-term jobs. Further evidence that the impact of the programme was not merely short-term came from the fact that participation increased the rate of entry to full-time jobs as an employee by more than it increased the rate of entry to part-time or self-employed jobs.

The study gave little evidence of any impact of TfW on hourly wage rates in subsequent jobs, though of course, by increasing the chances of a full-time rather than a part-time job, participation improved weekly take-home pay.

Within TfW, trainees on employer placements had a much better chance of getting a job than those in full-time off-the-job training or on project placements, even after allowing for their prior characteristics. This was largely because they had a reasonable chance of being kept on by their TfW employer after their training under TfW had come to an end. Full-time off-the-job training led to improved job prospects relative to non-participants in both the short and longer terms, but the gains were modest compared to the gains associated with employer placements. Project placements had no clear impact on job chances in the short-term, but in the longer term some small gains did emerge.

The impact of qualifications gained on TfW on subsequent job chances was disappointing. This may have been because, when faced with a choice between accepting a job offer or completing their qualifications under TfW, most participants opted for the job. We have no direct evidence that this was so, but it would have been encouraged by the 'starts and outcomes' funding structure for TfW. In our view, it would be very useful to conduct a critical study of the labour market value of vocational qualifications gained by unemployed people on government programmes.

Having controlled for placement type, qualifications gained and personal characteristics, longer stays on TfW were associated with better chances of getting a job.

Other things being equal, people who trained as plant and machine operatives on TfW had better chances of getting a job than people who trained in other occupations.

In our study we found no association between assessment and guidance on entry to TfW and the probability of getting a job. Nor could we find any evidence that job search training or practical help with job search while on TfW improved job chances, with the exception that participants were more likely to get a job if they had been told by their placement provider about jobs that they could apply for.

1 Introduction

Aims

Subsidised skills training has an important and long-standing place among the battery of measures that comprise the government's policies to help long-term unemployed adults to find jobs. The purpose of this study is to evaluate the effectiveness of such training for the individual who receives it. Does it help unemployed people to find jobs more quickly, and if so, what kinds of jobs does it lead to? Which elements in training programmes are the most effective? How long-lasting are the benefits that training gives unemployed people, and does it increase their potential earnings?

We do not look at the implications of subsidised training for the wider economy. It is notoriously difficult to assess whether its net impact on the total number of people in work in the economy is positive, neutral or even negative. However, the first step in the often highly theoretical debates on this issue is to establish whether such training programmes achieve their own immediate aims; if they fail to improve the job chances of participants, then their impact on the wider economy is likely to be minimal.

The present evaluation focuses on the programme formerly known as Training for Work (TfW). This programme no longer exists under that name, having been re-badged and re-launched. However, most of the features of TfW have been retained in what is now termed 'work-based learning for unemployed adults', and such training is one of the options available to unemployed people under the New Deal. Thus the findings of the evaluation study remain highly relevant to current policy.

Historical background

The government has funded skills training for adults throughout most of the twentieth century.¹ During both World Wars training centres were set up to supply the skills needed for wartime production following the enlistment of much of the male workforce into active service. After the wars ended, these centres were used to re-train demobilised soldiers and they gradually broadened their role to embrace other groups, including unemployed people. In the early 1970s when there was more concern about skills shortages than about unemployment, the Training Opportunities Programme (TOPS) was launched. This brought several different types of government-funded off-the-job training for adults under a single umbrella, and was open equally to people who were prepared to give up their job in order to train as to the unemployed. The emergence in the 1980s of levels of unemployment not previously known in post-World War II Britain and the growth of Thatcherite free

¹ See Sheldrake and Vickerstaffe (1987) for the history of public training policy in Britain.

market values led to the decline of TOPS. Thereafter, government-funded training was concentrated more and more exclusively on long-term unemployed people.

Another aspect of government-funded skills training for adults that was questioned during the 1980s was its location off-the-job, in special training centres or colleges. It was increasingly recognised that prospective employers of unemployed people valued work experience in a real working environment. Thus the decade saw the growth of the Community Programme, which offered temporary part-time jobs at market rates on non-commercial projects or with voluntary organisations. It also saw the introduction of adult placements with commercial employers - an important component of youth training strategy since the 1970s, but a relative latecomer in adult training because of trade union opposition and the risks of distorting the market and paying employers to do what they might well have done anyway.

In 1988, several different kinds of provision for unemployed adults were brought together as the Employment Training programme (ET) and its sister programme, Employment Action (EA). ET was focused on skills training and had three main elements: employer placements on employers' premises, project placements with voluntary organisations or on work of benefit to the community, and off-the-job training, termed 'directed training', in colleges and training centres. The main aim of EA was to provide work experience, although it tended to offer project placements rather than employer placements. In 1993, ET and EA were in turn replaced by TfW, which combined characteristics of both its parents with some distinctive features of its own.

The Training for Work programme

The objective of TfW was 'to help long-term unemployed people to find jobs and to improve their work-related skills, through the provision of appropriate training and structured work activity in line with assessed needs'.² It was funded by the Department for Education and Employment (DfEE) and delivered, with a considerable degree of flexibility, by local Training and Enterprise Councils (TECs) in England and Wales. The programme was open to all people aged 18-60, provided they had been claimant unemployed for six months or more. This condition was waived for certain groups who were deemed to have special needs; these included people with disabilities, people with literacy or numeracy needs, and people whose first language was neither English nor Welsh.

By the time that the people who form the subject of the present study were on TfW, budget cuts had reduced the number of starts on the programme to well below the level in the year that the programme was launched, but it still remained a very large programme. During the year from July 1995 to June 1996, 235,900 people started training on TfW (DfEE 1997), and the planned budget for that year was £578 million. In principle it was possible to stay for up to 12 months on the programme (and even

² Some of the information in this section is taken from a DfEE memo, *Training for Work*, dated November 1992.

longer in special circumstances), but the average length of stay declined over time (DfEE 1997). Amongst the survey sample of autumn 1995 leavers that form the subject of the present evaluation, the mean stay was 4.5 months (Sproston and Smith 1999).³ Together, the decline in the number of starts and the fall in average stay meant that the number of people on TfW at any one time declined from 133,100 in March 1994, the end of the first full year of operation, to 51,000 at the end of June 1997.

Before entry to TfW, the approved practice was for clients to be offered initial assessment and guidance, as a result of which an individual Action Plan or Participation Plan was drawn up. Entrants could then take one or a combination of three main routes: off-the-job training (most usually in a private training centre although sometimes also in an College of Further Education), an employer placement, or a project placement. As Sproston and Smith (1999) report, the most common activity for autumn 1995 leavers was off-the-job training, experienced by over three in five. More than a third had been on employer placements, while only one in eight had done a project placement.

When ET was transformed into TfW, the requirement was dropped that each participant had to be following a course leading to a National Vocational Qualification (NVQ) or equivalent, or credits towards one. The purpose of this change was to allow TECs greater flexibility in the length and type of training that they offered. Nevertheless the majority of participants still undertook study for qualifications - around two thirds of autumn 1995 TfW leavers did so, almost all of whom were seeking vocational qualifications (Sproston and Smith 1999).

A further difference between ET and TfW was that TfW permitted participants to hold employed status while in training. This meant that some trainees on employer placements had a contract of employment with their employer and received regular wages rather than the state-funded training allowance (equivalent to their social security benefit entitlement plus £10). In turn, the employer was offered help with recruitment and a weekly subsidy for the costs of training. It was also possible to have self-employed status while on TfW, although this was rare. Sproston and Smith report that 12 per cent of autumn 1995 TfW leavers had held employed status while on the programme, of whom three in four had employed status for the whole of their stay on TfW and one in four moved between trainee and employed status. Many of these people continued in the same job after leaving TfW.

Initially, TECs were funded for TfW on the basis of the number of trainee weeks they provided plus the number of NVQ and equivalent qualifications gained by trainees (weighted according to NVQ level) and the number of 'positive outcomes' at 13 weeks after leaving TfW. Positive outcomes were defined as full-time or part-time employment, self-employment and full-time education. In 1995 the funding basis was changed with the aim of increasing the proportion of trainees getting jobs. Following pilot studies (Coopers and Lybrand 1995), a 'starts and outcomes' regime was

³ This may have been an over-estimate: some sample members could not be interviewed as they did not recall going on TfW at all. It is likely that many of these had stayed on TfW for very short periods.

adopted, trainee weeks were dropped from the funding formula, and the proportion of funding dependent on positive outcomes was increased. An enquiry in the autumn of 1995 into the effects of these changes reported an increase in positive outcomes, a fall in the average length of stay on the programme, an increase in the degree of selectivity exercised by placement providers over who they would accept onto TfW, and more frequent use of pre-programme assessment (Russell and Mitchell 1996). Most of the TfW trainees who took part in the present study would have been affected by these changes.

The matched comparison group methodology

Obviously some TfW participants would have got jobs regardless of whether they had gone on TfW or not. In order to assess the impact of TfW on participants' employment chances, we need to find a way of estimating how many more people got jobs following TfW than would have been expected if they had not taken part in the programme. To do this, we use a matched comparison group design, which compares participants with people who had been unemployed for the same length of time, but did not go on TfW. This design is probably the best available substitute for a random allocation experiment where the latter, for whatever reason, cannot be undertaken.

The potential of the matched comparison group design has grown considerably since one of the present authors first used it nearly a decade ago (Payne 1990 and 1991). The computerisation of administrative records, together with increased computing power and more sophisticated software, has made it feasible to identify individuals with unemployment histories that match those of programme participants very closely, in order to construct a comparison sample. We successfully used similar methods to those adopted here in an evaluation of ET and EA (Payne, Lissenburgh, White and Payne 1996), and in the present study we have been able to refine these methods still further.

Nevertheless the matched comparison group design has limitations. It is generally only practical to match the participant and comparison samples on information that is held on administrative records. If there is any degree of selectivity in entry to the programme on the basis of other characteristics on which information is not held, then the matched samples will differ in respects that are likely to affect outcomes. In the case of TfW, as Russell and Mitchell (1996) report, not all eligible clients who are referred to TfW placement providers are offered a place. Thus we cannot rely solely on the matching design to answer counterfactual questions about job outcomes for participants. We need in addition to examine the factors involved in the selection process, to collect as much information as we can on other factors that are related to job chances, and to control for all these factors through statistical modelling.

Why, then, bother with matching at all? The answer is that by minimising differences between the two samples and so reducing the between-sample variance, we substantially increase our chances of detecting a significant difference in outcomes that can be attributed to programme participation. We also make the evaluation exercise intuitively more plausible, because we are comparing like with like. The matched comparison group design does not eliminate the problem of unobserved

differences between participants and non-participants, but reduces its impact on the results.⁴

Study design

The evaluation study of TfW involved a follow up survey of participants plus a survey of a matched comparison group of non-participants. SCPR designed the participant sample, constructed the participant and comparison sample questionnaires, carried out all fieldwork, coding and data cleaning, and produced a descriptive report on the participants and their experiences on TfW (Sproston and Smith 1999). Full details of the survey methodology can be found in that report. In summary, the participant sample consisted of a nationally representative sample of people in England and Wales who left TfW in September or October 1995. A first wave of face-to-face interviews (termed 'Wave 1') was carried out in March and April 1996. Wave 2 interviews with people who had responded at Wave 1 were scheduled to be conducted a year later, but had to be postponed until June and July because of the 1997 General Election. Response rates for both waves are shown in Table 1.1.

Table 1.1
Response rates in the survey of TfW participants

	<i>Wave 1</i>	<i>Wave 2</i>	<i>Overall*</i>
<i>Successful interviews as a percentage of:</i>			
All selected from administrative records	60	-	43
All eligible	66	75	47
All possible (<i>ie</i> without serious address problems)	84	87	59
<i>Number of interviews achieved</i>	<i>1498</i>	<i>1060</i>	<i>1060</i>

*Wave 2 respondents as a percentage (respectively) of sample originally selected, sample eligible at Wave 1 and sample without serious address problems at Wave 1.

The biggest single source of non-response at Wave 1 arose from problems with the addresses kept on administrative records: in total, 19 per cent of the sample originally selected could not be contacted because of problems with the addresses supplied. A further nine per cent proved ineligible as they claimed, despite probing by the interviewer, that they had never been on TfW. It is possible that this group includes some people who had stayed on TfW for a very short time and had forgotten about it or confused it with some other scheme. It is certain that it included others who did not realise that they were on the programme because they had held employed status and had thought that they had an ordinary job. Interviews were only attempted at Wave 2 if there had been a successful interview at Wave 1 and the respondent agreed to be contacted.

⁴ See Firth, Payne and Payne forthcoming 1999 for a discussion of these issues.

Using data held on administrative records, SCPR was able to compare the achieved participant sample with the sample originally selected on certain key characteristics. As Table 1.2 shows, the two samples had similar gender profiles, but the achieved sample was slightly older. In addition, members of the achieved sample were much less likely than members of the original sample to have employed status (for the reason suggested in the previous paragraph), and were less likely to be black.

Table 1.2
Comparison between the issued TfW participant sample and the sample achieved at Wave 1

	<i>Issued sample</i>	<i>Wave 1 achieved sample</i>
Percentage male	69	69
Mean age	32.7	35.0
Percentage with employed or self-employed status	17	9
Percentage black	4	3

Source: Sproston and Smith 1999, Table A3.

SCPR constructed a weighting matrix to correct for these biases, so that the estimates presented in their report are representative of the full population of TfW participants. However, the present report is based on unweighted data. This is because the matching procedure described below made the weights irrelevant, and because the statistical models we present include the variables on which biases were found as predictor variables wherever they proved statistically significant.

Constructing the matched comparison sample

The matched comparison sample was designed and selected by PSI, but again SCPR conducted all the fieldwork. Members were interviewed once only in June and July 1997, the same date as the fieldwork for Wave 2 of the TfW participant sample.

The matching design gave special prominence to matching on the length of the spell of unemployment that preceded entry to TfW (we term this spell the ‘qualifying spell’). This was because unemployment duration can act as a proxy for many other factors that affect a person’s chances of getting a job, but are inherently hard to measure through social survey techniques - for example, motivation and interview technique.

Because the DfEE needed descriptive statistics that were representative of all TfW participants, the TfW survey covered all leavers during a specified period, regardless of whether or not they had completed their time on the programme and regardless of how long they had been unemployed before entering. However, for the purposes of constructing the comparison sample, TfW sample members who had been unemployed for less than six months were dropped. The reason for this was, as we saw above, that the TfW eligibility requirement of a minimum of six months claimant unemployment was waived for certain ‘special needs’ groups. As a result, TfW participants who had been unemployed for less than six months included a much

higher proportion of people with special needs than the general population of people unemployed for less than six months. The administrative data base that we used to select the comparison sample, the Joint Unemployment and Vacancies Operating System (JUVOS), contained no information on special needs, and so it was impossible to match on this basis.

Full technical details of how the sample was constructed are given in the Appendix.⁵ In brief, the procedure involved the following steps.

1. Key characteristics of TfW participants were established from the Wave 1 (unweighted) interviews, having excluded those who had been unemployed for less than six months.
2. Full JUVOS records (back to January 1985) were supplied by the DfEE for people whose most recent postcode fell within the 80 sampling points (clusters of adjacent postcode districts) used to construct the TfW sample.
3. Matches were chosen on a one-to-one basis for members of the TfW sample from the JUVOS file according to three inviolable criteria and two flexible criteria. On the inviolable matching criteria, an exact match was required. These were gender, sampling point and unemployment at a specific time point - we sought people who were claimant unemployed in the month that their TfW 'partner' entered TfW. It is this spell of unemployment that we refer to when we apply the term 'qualifying spell' to the comparison sample. On the flexible matching criteria we sought the closest match possible. These were the calendar date at which the qualifying spell of unemployment began, and age. Following these criteria, three JUVOS matches were selected for each TfW sample member to allow for sample attrition. These were ranked in order of closeness on the flexible matching criteria.
4. The next stage was to trace addresses for the selected comparison sample (these were held on a separate data base), to screen the selected sample for participation in TfW (again, requiring reference to a separate data base), and to send out letters giving sample members the opportunity to opt out of the study before the interviewer called at their home. These steps were carried out by the DfEE.
5. Addresses for comparison sample members still remaining after step four were then issued to the field force for interview. In total, 1060 interviews were achieved. At the same time the Wave 2 interviews with the TfW sample were conducted.
6. Because of non-response of various types, the achieved Wave 2 TfW sample and the achieved comparison sample were different from the samples that were originally matched. In addition, the original matching had been done on the basis of interview data for participants and JUVOS data for the comparison sample. We

⁵ The construction used a suite of very complex SPSS and SAS computer programs specially written for the purpose by Martin Range of the Social Studies Faculty, Oxford University.

now had to ensure that the comparison sample was well matched on the basis of the interview data that were to be used in the analysis. Thus a re-matching process was carried out based solely on interview data, and members of the comparison sample were dropped if no satisfactory match survived for them in the TfW sample. The criteria for re-matching were less rigorous than the initial matching criteria as the pool from which matches could be chosen was much smaller. It remained an inviolable criterion that the match should be claimant unemployed in the month that their TfW 'partner' entered TfW, but gender and sampling point were treated as flexible rather than inviolable criteria.

The samples used throughout the present report are thus the re-matched TfW sample (822 respondents) and the re-matched comparison sample (815 respondents). The match between these two samples is quite good. As Chart A1.5 in the Appendix shows, apart from a 'blip' in one particular quarter, they have a very similar profile on the start date of the qualifying spell of unemployment. Chart A1.7 in the Appendix also shows a reasonably close match on age, and the two samples were also quite well matched on gender (73 per cent male in the TfW sample and 74 per cent in the comparison sample). Nevertheless, we do not rely entirely on the closeness of the match between the two samples, but include variables for duration of unemployment, age and sex in our statistical models whenever they are significant.

Plan of the report

The following chapter examines selectivity in TfW. This has two aspects, namely differences between TfW participants and other unemployed people who did not enter the programme, and differences between participants on different types of provision within the programme - employer placements with either employed status or trainee status, project placements, and full-time off-the-job training. Chapter 3 looks at the overall impact of TfW on job entry rates, and Chapter 4 tackles the question of whether any gains in job chances associated with TfW proved to be long-term, or were soon dissipated. Here also we compare the impact on job chances of the four main strands within TfW. Chapter 5 turns to the issue of whether TfW affected the type of job that unemployed people took, and Chapter 6 investigates whether TfW had any impact on wages in subsequent jobs. Chapter 7 focuses solely on TfW participants in order to establish the impact of different types of provision within the programme. Finally Chapter 8 summarises our main findings and considers their implications.

2 Selection into and within Training for Work

Introduction

For every three referrals to TfW, there was on average one start (Russell and Mitchell 1996). As we saw in the last chapter, the funding arrangements for TfW that were put in place in 1995 encouraged placement providers to be more selective in their offers of places, because they increased the proportion of funding that was dependent on successful outcomes. The fact that providers were given target quotas or 'profiles' stating the specific number of starts that was required for different categories of participant did not prevent selectivity. On the basis of their in-depth study of staff involved with TfW in 11 TEC areas, Russell and Mitchell describe how providers 'looked at those most able to complete the programme with a successful outcome and were far less likely now to take risks on those within profile groups who appeared to need more help or be less able' (page 7).

According to Russell and Mitchell, this increased selectivity was partly achieved through more rigorous pre-assessment procedures which scrutinised the potential recruit's motivation. In addition, 'providers paid greater attention to the ability of potential clients, to see if they would succeed on the programmes' (page 8). They illustrate this creaming with respect to the length of the qualifying spell of unemployment: 'Providers admitted that those who were just over two years unemployed were more likely to be picked than those who had been unemployed for four or five years' (page 8). In addition, more weight appeared to be given than previously to relevant previous experience and to qualifications in the particular field that the applicant wished to enter.

Of course, providers were not the only ones to exercise selectivity. Participation in TfW was not compulsory in any sense, and it is likely that the programme attracted a disproportionate share of unemployed people with high work motivation.

We cannot explore all aspects of selectivity with our data, as some of the variables involved are hard to measure in a social survey and we have no information on them, but we can look at a number of relevant factors. We do this through a statistical model of participation in TfW. In interpreting the results, we must bear in mind that all members of the comparison sample were eligible for TfW, that the comparison sample was broadly matched with the sample of TfW participants in terms of length of unemployment, age, gender and geographical location, and that these factors are likely to be correlated with other factors that discriminate between participants and non-participants. Our model therefore underestimates the extent of the differences that were likely in reality to exist between participants and eligible non-participants.

As we will see, the model results demonstrate selection into TfW on a range of factors that were not part of the matching design. They also show selection on some factors that were included the matching design. This result occurs because the achieved

match, although good, is not perfect, and because the model controls for many variables that are correlated with the matching variables.

Interpreting the logistic regression model

The model results are shown as Model 1 in Table 2.1. The following paragraphs explaining how these should be interpreted are included for the benefit of readers who are not familiar with the logistic regression model or with modelling terminology more generally. Others are advised to skip on to the next section.

With a logistic regression model, the dependent variable (the variable to be explained or predicted) is binary, that is, it has two categories only. In the present case, the dependent variable is whether or not the respondent went on TfW, and we model the odds of entering TfW rather than not entering TfW.

When the predictor variable is categorical (that is, when it does not represent a scale of any kind, such as sex or ethnic group), the effect of each category of the predictor variable on the odds of entering TfW is assessed relative to a base or reference category which we nominate. The coefficient for this reference category is constrained by the model to take the value 1.00.¹ The coefficient for any other category of the predictor variable represents the multiplicative effect of being in that category, rather than being in the reference category, on the odds of entering TfW. Coefficients greater than 1.00 indicate that the odds are increased, relative to the odds for someone in the reference category of the predictor variable (for example, a coefficient of 2.00 would indicate that the odds of going on TfW were doubled). Coefficients smaller than 1.00 indicate that the odds are decreased, relative to the odds for someone in the reference category of the predictor variable (for example, a coefficient of 0.50 would indicate that the odds of going on TfW were halved).²

When the predictor variable is continuous (that is, when there is an equal distance between each point on the scale, as with months in time or wages in pounds sterling), the model coefficient represents the multiplicative effect of a unit increase in the value of the predictor variable on the odds of the outcome being modelled. In the present case, if the predictor variable is the number of months spent previously in unemployment, then the coefficient represents the marginal impact of each extra month spent unemployed on the odds of entering TfW. Thus, the coefficients for

¹ This explanation applies when the model coefficients are presented in their exponentiated form, which is the form adopted throughout this report.

² If the predictor variable has three or more categories, we can also look at the ratio of the coefficients for any two of them to see how the odds of the outcome being modelled are affected by being in one category rather than another. For example, if the reference category of the variable is A (with coefficient set to 1.00), and the coefficients for categories B and C of the variable are 2.50 and 1.25 respectively, then the odds of the outcome being modelled are estimated to be increased by a factor of $2.50/1.25 = 2$ (in other words, doubled) by being in category B rather than category C.

continuous predictor variables can be much smaller than the coefficients for categorical predictor variables, depending on the scale used.³

Note that it is the odds of the outcome in question that are modelled, not the probability. Odds are an alternative way of expressing probabilities; thus

$$\begin{aligned} \text{odds} &= \text{probability}/(1-\text{probability}), \text{ and} \\ \text{probability} &= \text{odds}/(1+\text{odds}). \end{aligned}$$

For example, if 25 out of 100 eligible unemployed people enter TfW, then their odds of entering are three to one against, also expressed as 25/75, or 1/3, or 0.33, while their probability of entering is 0.25 (or 25 per cent). If 75 out of 100 eligible people enter TfW, then their odds of entering TfW are three to one on, otherwise expressed as 75/25, or 3/1, or 3.00, while their probability of entering TfW is 0.75.

The most common misconception in interpreting the results of the logistic model is to confuse a multiplicative effect on odds with a multiplicative effect on probabilities. The two are not the same, as the following example illustrates. If the odds of entering TfW of 3.00 are doubled by a particular factor, they become six to one on (or 6.00), while the probability increases to $6/(1+6) = 0.86$, according to the formula above. Thus, the probability of entering is not doubled, but increased by a factor of only 1.15. Thus a large effect on the odds can sometimes represent a fairly small effect on probabilities, depending on the particular values involved.

Significance testing in the logistic regression model is carried out by adding new terms (predictor variables or interactions between them) one at a time and testing whether the term as a whole significantly improves the model fit, conditional on the terms already included. The models presented in this report were developed in this way. However, the significance levels reported in the tables are based on a different test, the t-test, which approximates to this procedure. With categorical predictor variables, the t-test enables us to see which particular contrasts between categories are responsible for the overall significance of the term. For example, ethnic group is significantly related to the odds of entering TfW. However, as we see in Table 2.1, this is because people of Indian Subcontinent origin are significantly less likely to enter TfW than people belonging to the white majority; there is no significant difference between the entry probabilities of black people and white people.

Model results

Our model for participation (Model 1 in Table 2.1) is based on the combined re-matched TfW and comparison samples, and the dependent variable is whether or not the respondent went on TfW. The model is parsimonious, in that predictor variables are included only if they are significant. In developing the model, a wide range of potential predictor variables were tested. However, we found no association in our data between entry to TfW and the following variables: marital status, partner's employment status, whether English was a second language, literacy and numeracy

³ For example, the effect of each extra week spent previously in unemployment would be much smaller than the effect of each extra year. This explanation of how to interpret the coefficients for continuous predictor variables is simplified, in that it assumes that the effects of the variable are linear.

problems, and the amount of work experience before the start of the qualifying spell of unemployment.

Table 2.1
Logistic regression model for participation in Training for Work (Model 1)

	<i>estimate</i>
Constant	1.62
CATEGORICAL PREDICTOR VARIABLES	
<i>Age group:</i>	
18-24	1.00
25-34	0.75*
35-44	0.63**
45-54	0.67*
55+	0.31****
Missing information	0.53
<i>Sex with number & age of children:</i>	
Male	1.00
Female with no children	0.81
Female with one child under 5	0.41**
Female with one child over 5	3.65**
Female with 2+ children, youngest under 5	0.46*
Female with 2+children, youngest over 5	2.14
<i>Ethnic group:</i>	
White	1.00
Black	0.87
Indian Subcontinent	0.55**
Other or missing information	0.48*
<i>Health & disability:</i>	
No long-term problems	1.00
Long-term problem but not registered as disabled	0.74**
Registered as disabled	1.45
<i>Housing tenure:</i>	
Owner-occupier	1.00
Social tenant	0.67***
Private tenant	0.64**
Other or missing information	0.83
<i>Highest academic qualification:</i>	
None	1.00
GCSE/GCE O Level low grades or equivalent	1.28
GCSE/GCE O Level high grades or equivalent	1.86****
GCE A Level or equivalent and above	1.56**
<i>Highest vocational qualification:</i>	
None	1.00
NVQ Level 1 or equivalent or level unspecified	1.15
NVQ Level 2 or equivalent	0.67**
NVQ Level 3 or equivalent and above	0.83
<i>Driving licence & regular access to vehicle:</i>	
Neither driving licence nor vehicle	1.00
Has vehicle but no driving licence	1.95***
Has driving licence but no vehicle	1.03
Has both driving licence & vehicle	0.75**

Table 2.1 continued over...

Table 2.1 continued...

	<i>estimate</i>
<i>SOC of last job:</i>	
Managerial, administrative, professional, associate prof., technical	1.00
Clerical & secretarial	1.57*
Craft & related	0.83
Personal & protective service	0.92
Sales	0.99
Plant & machine operatives	0.87
Other (low skilled)	0.83
No previous job	0.29****
CONTINUOUS PREDICTOR VARIABLES	
Month in which qualifying spell of unemployment began	0.99***
Number of months unemployed from Jan 85 to start of qualifying spell	0.99****
Number of months on government schemes from Jan 85 to start of qualifying spell	1.02***
<i>Sample size: persons</i>	
	1637
<i>Scaled deviance</i>	
	2269
<i>Residual df</i>	
	1599

Significance levels: * 10% ** 5% *** 1% **** 0.1%

Despite the fact that the matching process produced broadly similar age profiles for the TfW and comparison sample, the model results show that the likelihood of participation fell with increasing age. The group most likely to enter TfW were those aged 18-24, although 25-34 year olds were also more likely to take part than older people, and there was a marked drop in the likelihood of participation for people aged 55 or more. These results are of course based on samples of participants and non-participants that are broadly matched on age. It is a reasonable inference that if TfW participants were compared with a random sample of eligible non-participants, then the youth bias in entry to TfW would be much stronger.

There was no overall selection in favour of men in our data. This was an artificial result that reflected the fact that the TfW and comparison samples were well matched on gender: across the programme as a whole, women formed only 31 per cent of participants (Sproston and Smith 1999). However, the model revealed a significant interaction between gender and family composition on participation. For men, the number and age of children did not affect the likelihood of entering TfW, and women's entry probabilities were not significantly different from men's if they had no children. However, women whose youngest child was under five were less likely to go on TfW than men, and this was true regardless of how many children they had. In contrast, women whose youngest child was over five were more likely to enter TfW than men - this effect was significant if there was only one child, and quite large although not quite significant if there was more than one. These results suggest that TfW may have been used by women as a route by which to return to work after their children reached school age.

In any nationally representative random sample, sample numbers for members of ethnic minorities tend to be too small to reveal a great deal of interest. Nevertheless the model indicated that people of Indian Subcontinent origin were less likely to enter TfW than members of the white ethnic majority, although there was no significant effect for black people. The developmental stages of the modelling showed that non-native English speakers had a lower entry probability than people whose mother tongue was English, but this effect lost its significance when ethnicity was included as a predictor variable.

Unemployed people who reported a long-term health problem or disability but were not registered as disabled were less likely to enter TfW than people who did not report such problems. However, this effect was not observed for people who were registered as disabled: on the contrary they appeared more likely to enter TfW than people who did not report any long-term health problem or disability, although the coefficient did not quite reach significance. This was presumably partly due to financial incentives to placement providers to recruit registered disabled people, and some potential entrants who had disabilities may have been encouraged to register as disabled before enrolling on TfW.

Both social tenants and private tenants were less likely to enter TfW than owner-occupiers. This may be because owner-occupiers tended to have other characteristics which providers considered gave them a good chance of a successful outcome on TfW. Alternatively, owner-occupiers may have had greater financial incentives to find work than tenants because of the different ways in which the social security system supports rent and mortgage payments for unemployed people.

Academic qualifications tended to increase the likelihood of entering TfW. Participation peaked amongst those with high (A-C) grades in GCSE or GCE O Level, and this may have been connected with the availability of clerical and secretarial training under TfW, for which this level of qualification is appropriate. In contrast, vocational qualifications other than at a very low level tended to *reduce* the likelihood of entering the programme, despite the evidence that such qualifications gave to providers of the capacity to complete a training course successfully. We might speculate that some people who already had vocational qualifications thought it unnecessary to seek more qualifications through TfW.

Generally speaking, the occupation that people had followed before the start of their qualifying spell of unemployment made little difference to the probability of entering TfW. However, people who had done clerical or secretarial work had above average participation rates, which may explain the link with academic qualifications. It may also explain the link with women returners noted earlier.

People who had not worked at all before the start of their qualifying spell of unemployment were much less likely to enter TfW than others.⁴ Selection on the basis of a favourable previous work history was also apparent in that, the more

⁴ In Table 2.1, the category 'No previous job' includes three people who gave insufficient details of their last job for an occupational code to be allocated - a number too small to invalidate this interpretation.

unemployment that someone had experienced before the start of their qualifying spell, the lower their likelihood of going on the programme. Some people appeared to be generally more inclined than others to go on government schemes for unemployed people, for the greater the amount of time spent previously on such schemes, the greater the probability of entering TfW.⁵ We know from Russell and Mitchell (1996) that placement providers tended to give preference to TfW applicants with shorter qualifying spells of unemployment, but the fact that our TfW and comparison samples were closely matched on the start date of the qualifying spell of unemployment meant that this was not observable in the present study - in fact, the association in the matched samples went in the opposite direction, which was probably an artefact of the matching process.

The effects of possessing a driving licence and having regular access to a car, van or motorcycle were complex. People who had both a driving licence and regular access to a vehicle were less likely than those with neither licence nor vehicle to enter TfW, possibly because they were in a relatively good position to pursue an active job search without entering the scheme. In contrast, people who had regular access to a vehicle but did not hold a driving licence were more likely than those with neither vehicle nor licence to enter TfW. This may simply have been because they were able to travel to their placement, as Russell and Mitchell (1996) report that some placement providers considered that people with high travel expenses were disadvantaged by the switch in 1995 to starts and outcomes funding (see Chapter 1).

Modelling selection within TfW

As we saw in Chapter 1, entrants to TfW could take one of three main routes: off-the-job training, an employer placement or a project placement. In addition, some people on employer placements had employed rather than trainee status. As will be shown in the following chapters, these routes were not equally likely to lead to a job. It is thus likely that there was selectivity not only in entry to the TfW programme as a whole, but also between its different elements.

To examine this issue, we needed to classify TfW participants according to their placement type. As some had more than one placement type during their time on the programme, our classification was hierarchical: on employer placements, employed status took precedence over trainee status, which in turn took precedence over project placements. Many participants on employer or project placements also got off-the-job training, so we treated off-the-job training as a separate category only if it was not done in conjunction with an employer or project placement. Finally, some survey respondents said they had not done any of these activities while on TfW, and these were classed in a residual 'other' category.

Table 2.2 shows the proportion of participants in the re-matched TfW sample on each of these routes. Note that the distribution of placement types was not representative

⁵ Previous unemployment and participation in government schemes were measured from January 1985 (the surveys collected retrospective a monthly economic activity diary back to this date).

of the TfW programme as a whole. This was because the re-matched sample excluded people who were unemployed for less than six months before TfW, and because TfW participants with employed status were under-represented in the sample (see Chapter 1).

Table 2.2
Type of TfW placement: re-matched TfW sample

	%
Employed or self-employed* status	7
Employer placement trainee status	32
	<i>(Total on employer placements) (39)</i>
Project placement	12
Full-time off-the-job training	40
None of these/no information	9
	Total 100
	<i>Base N 822</i>

* Only five respondents in the re-matched TfW sample had self-employed status.

Some of the groups distinguished in Table 2.2 were quite small, so in order to model selection into type of placement, we needed to simplify still further. The ‘other’ category was omitted, and the categories ‘employed or self-employed status’ and ‘employer placement trainee status’ were combined to give a single category of ‘employer placement’, giving just three placement types. This simplification made our model results much easier to interpret. Because there is some interest in the characteristics of TfW participants who obtained employed status, we tried to fit a separate logistic regression model contrasting participants with employed status with all other TfW participants. Unfortunately sample numbers for employed status proved too small for this to yield meaningful results.

To investigate selection within TfW we fitted a multinomial logistic regression model to the TfW participant sample. The dependent variable had the three categories described above: employer placement, project placement, and full-time off-the-job training. The coefficients for the predictor variables show how they affected the chances of taking one of these routes rather than another. The model is shown as Model 2 in Table 2.3.

As in Model 1, the coefficients are presented in their exponentiated form, and show multiplicative effects on odds. However, because the dependent variable has three unordered categories rather than just two, interpretation is more complicated. Again, readers who are familiar with this type of model are advised to skip ahead at this point to the section on ‘Model results’.

Let us label the three categories of the dependent variable A, B and C. There are three possible comparisons that can be made: A with B, B with C, and A with C. Only two of these three comparisons are usually modelled (it does not matter which), because the third is a simple mathematical function of the other two. However, in the present

case, in order to help the reader to understand the model results, we have also shown the coefficients for the third (redundant) comparison. Thus, column A of Model 2 relates to the odds of getting a project placement rather than an employer placement, column B relates to the odds of getting full-time off-the-job training rather than an employer placement, and column C relates to the odds of getting full-time off-the-job training rather than a project placement. Note that the coefficients in column C can be obtained by dividing column B by column A.

Table 2.3
Multinomial model for type of TFW placement: re-matched TFW sample (Model 2)

	A	B	C	
	Project placement rather than employer placement	Full-time off-the-job training rather than employer placement	Full-time off-the-job training rather than project placement	
	<i>estimate</i>	<i>estimate</i>	<i>estimate</i>	
<i>Age group:</i>	Constant	0.10	1.02	>10.00
	18-24	1.00	1.00	1.00
	25-34	1.63	1.62**	0.99
	35-44	3.58***	2.22***	0.62
	45-54	2.73**	2.38***	0.87
	55+	6.21***	2.25*	0.36*
	Missing information	>10.00***	2.38	0.03**
<i>Sex with age of children:</i>	Male	1.00	1.00	1.00
	Female with no children	0.34***	0.57**	1.69
	Female with at least one child under 5	0.39	0.42*	1.09
	Female with youngest child aged 5-17	0.09**	0.31***	3.52
<i>Ethnic group:</i>	White	1.00	1.00	1.00
	Black	3.21	5.18**	1.61
	Indian Subcontinent	0.66	0.74	1.12
	Other or missing information	3.18	3.41	1.07
<i>Highest vocational qualification:</i>	None	1.00	1.00	1.00
	NVQ Level 1 or equivalent or level unspecified	0.99	0.85	0.86
	NVQ Level 2 or equivalent	0.58	0.93	1.59
	NVQ Level 3 or equivalent and above	0.22**	0.62*	2.76
<i>Driving licence:</i>	No driving licence	1.00	1.00	1.00
	Has driving licence	0.41***	0.73*	1.77**

Table 2.3 continued over...

Table 2.3 continued...

<i>SOC of last job:</i>			
Managerial, admin., prof., associate prof., technical	1.00	1.00	1.00
Clerical & secretarial	0.70	0.91	1.31
Craft & related	6.35***	0.95	0.15***
Personal & protective service	2.33	0.78	0.33
Sales	1.89	1.12	0.60
Plant & machine operatives	9.75****	1.33	0.14***
Other (low skilled)	4.46**	0.62	0.14***
No previous job	6.25***	1.12	0.18***
<i>Partner's employment:</i>			
No spouse/partner or spouse/partner not in paid work	1.00	1.00	1.00
spouse/partner in full-time paid work	0.34*	1.17	3.39*
spouse/partner in part-time paid work	0.58	0.39**	0.67
<i>Sample size: persons</i>		752	
<i>Scaled deviance</i>		1347	

Significance levels: * 10% ** 5% *** 1% **** 0.1%

Note: People who could not be allocated to one of the three placement types identified are excluded.

For an example of how to interpret the model results, look at the coefficients for the 'other (low skilled)' category of the predictor variable 'SOC of last job'. The significant coefficient of 4.46 in column A for 'other (low skilled) jobs' shows that the odds of getting a project placement rather than an employer placement were increased more than fourfold by having last worked in this type of job rather than in a job in the reference category (here managerial, administrative, professional, associate professional and technical jobs). Similarly, the significant coefficient of 0.14 in column C shows that having last worked in 'other (low skilled) jobs' reduced the odds of getting full-time off-the-job training rather than a project placement to one seventh of the odds for someone who had last worked in a reference category job. However, the coefficient in column B is non-significant, showing that in this data set we cannot detect any difference between low skill workers and people in the reference category in the relative odds of full-time off-the-job training rather than an employer placement.⁶

Model results

Like Model 1, Model 2 is parsimonious in the sense that, although a wide range of variables were tested during its development, only those which were significant were included in the final version. In fact a number of variables that were significant predictors of selection *into* TfW were not significant predictors of placement type

⁶ Note that these effects are on *relative* rather than absolute odds. To illustrate, imagine that there are two bags each containing 10 balls. In bag A, one ball is blue, three are red and six are green, and the absolute odds of drawing a red ball out of the bag are $3/7 = 0.42$. In bag B, two balls are blue, four are red and four are green, and the absolute odds of drawing a red ball out of the bag are $4/6 = 0.67$. However, the relative odds of drawing a red rather than a blue ball out of bag A are $3/1=3$, while the relative odds of drawing a red rather than a blue ball out of bag B are $4/2=2$. Thus, the relative odds of drawing a red rather than a blue ball are reduced by taking bag B rather than bag A. Nevertheless the absolute odds of drawing a red ball are still greater with bag B than with bag A.

within TfW. These included health and disability, housing tenure, academic qualifications, access to a vehicle, previous unemployment and previous participation in government schemes for the unemployed.

For some of these factors, it is easy to understand how they could have influenced the individual's decision to participate but made no difference to placement type. For example, some people without access to a vehicle may have had problems in getting to any placement, whatever it was, while people who had already been on a government programme may have been more inclined than others to take up a place on TfW, regardless of what they were offered. In other cases, the lack of an apparent relationship with placement type is harder to explain: For example, we would expect people with health problems or disabilities to be less likely than others to secure an employer placement. In such cases, sample numbers may simply be too small for any effect to show up. Model 1 was based on 1637 people while Model 2 is based on just 752, and people with health problems or disabilities form a smaller proportion of these 752 than they did of the original 1637. In addition, the dependent variable in Model 2 has three categories rather than two, so the number of parameters that the model has to estimate is doubled, making it harder to achieve statistical significance.

With this in mind, column A of Table 2.3 shows how the odds of a project placement rather than an employer placement were changed by the characteristics of the participant (remembering that people were counted as having an employer placement if they spent any part of their time on TfW in this way, with either trainee or employed status). Age was clearly an important factor here: 18-24 year olds had the smallest relative odds of a project placement rather than an employer placement, and in general, the older the person, the greater these relative odds. The effect was particularly marked over the age of 35, and people aged 55 or more had very little chance indeed of being placed with an employer. In general, the relative odds of an employer placement rather than a project placement were better for women than for men, and this was particularly true for women whose youngest child was of school age. Differences between ethnic groups did not reach statistical significance, sample numbers for minority groups being small, but the size of the coefficient for black people suggests that they were relatively concentrated on project rather than employer placements. Other factors that increased the odds of an employer placement rather than a project placement included good vocational qualifications (equivalent to NVQ Level 3 or above) and a driving licence.

Although previous occupation made relatively little difference to the likelihood of entering TfW, it did affect type of placement within the programme. The odds of having a project placement rather than an employer placement were substantially greater for people who had last worked in a manual occupation than for people who had held managerial, administrative, professional, associate professional or technical jobs. This was particularly true of craft and related workers, plant and machine operatives and low skilled manual workers. People who had never had a job before their qualifying spell of unemployment also had high relative odds of a project placement rather than an employer placement. We found one other factor that reduced the relative odds of a project placement rather than an employer placement, namely having a spouse or partner in full-time paid work. It is well established that the

partners of people who are unemployed are less likely to be in work than the partners of people in work, and the explanation for this appears to lie in shared household and community disadvantages, the level of demand in the local labour market, and in the regulations governing social security benefits. Some of these factors may be involved in the association between partner's employment status and placement type on TfW.

We turn now to column B of Table 2.3, which shows how these factors affected the relative odds of getting full-time off-the-job training on TfW rather than an employer placement. Just as older people had higher relative odds than under-25s of a project placement rather than an employer placement, so also they had higher relative odds of full-time off-the-job training rather than an employer placement, although in this case the effect of age was not quite as great. The pattern for women was also similar: they had lower relative odds than men of full-time off-the-job training rather than an employer placement, and the effect was particularly marked for women whose youngest child had reached school age. Black people were heavily over-represented in full-time off-the-job training, and the relative odds of full-time off-the-job training rather than an employer placement were also decreased by high vocational qualifications and having a driving licence. There were no significant associations with previous occupation, but there was again a link with partner's employment status: having a partner in part-time work reduced the relative odds of full-time off-the-job training rather than an employer placement.

Finally, Column C of Table 2.3 shows effects on the relative odds of full-time off-the-job training rather than a project placement. Age had less impact here, although the relative odds of full-time off-the-job training were reduced for people aged 55 or more compared to under-25s. Neither gender nor vocational qualifications had any significant effect, but possession of a driving licence increased the relative odds of full-time off-the-job training. The relative odds of full-time off-the-job training rather than a project placement were greatest for people who had last worked in a clerical or secretarial occupation, and lowest for people who had previously worked in manual occupations or had never worked at all. Finally, having a partner in full-time paid work substantially increased these relative odds. Because of the complexity of these results, Box 1 provides a simplified summary of the main differences between the three placement types.

Conclusion

Despite the matching between the sample of TfW participants and the comparison sample, there were significant differences between them on characteristics which were likely to affect their future job prospects. These need to be taken into account when assessing the net impact of participation on job chances. There were also marked differences between the characteristics of people following the three main strands within TfW, suggesting that, in addition to estimates of the overall impact of the programme, separate estimates relating to employer placements, project placements and full-time off-the-job training are also important.

BOX 1: SUMMARY OF FACTORS RELATED TO TYPE OF PLACEMENT WITHIN TFW

LESS likely to have project placement rather than employer placement if:

- Female – especially if youngest child is aged 5-17
- Has vocational qualifications of NVQ 3 standard
- Has driving licence
- Has spouse/partner in full-time work

MORE likely to have project placement rather than employer placement if:

- Aged 25+ - especially if aged 35 or more
- Last job was craft & related, plant & machine operative, or unskilled
- Has never had a proper job before

LESS likely to have full-time off-the-job training rather than employer placement if:

- Female – especially if youngest child is aged 5-17
- Has vocational qualifications of NVQ 3 standard
- Has driving licence
- Has spouse/partner in part-time work

MORE likely to have full-time off-the-job training rather than employer placement if:

- Aged 25+ - especially if aged 35 or more
- Black

LESS likely to have full-time off-the-job training rather than project placement if:

- Aged 55+
- Last job was craft & related, plant & machine operative, or unskilled
- Has never had a proper job before

MORE likely to have full-time off-the-job training rather than project placement if:

- Has driving licence
- Has spouse/partner in full-time work

3 Impact of TfW on job entry rates

Introduction

In this chapter we estimate the overall impact of participation in TfW on the chances of getting a job. As we saw in Chapter 2, members of our sample of participants were more likely than members of the comparison sample to have characteristics that were attractive to potential employers, despite the fact that the two samples were matched in key respects. For this reason alone we would expect participants to be more likely than non-participants to secure work: the question at issue is whether TfW gave them any further advantage that could not be accounted for by their initial characteristics.

We approach this question in two different ways, first by examining unemployment rates in the two samples over time, and second by using statistical modelling to control for the impact of a wide range of factors on job entry probabilities.

Unemployment rates over time

Chart 3.1 plots the proportions in the re-matched TfW and comparison samples who were unemployed and available for work in each month from January 1985 (the earliest date for which retrospective work histories were collected) up until June 1997.¹ This plot, of course, bears no resemblance to the national unemployment rates during this period, but reflects the fact that all the TfW sample were unemployed for at least six months before entering the programme and that members of the comparison sample were included by virtue of a matched spell of unemployment.

As the chart shows, up until 1993, the risk of unemployment was clearly lower for future TfW participants than for members of the comparison sample, as would be expected from the differences in the characteristics of the two samples. Nevertheless, the two samples followed a similar upward trend. In 1993 and 1994 the matching process brings the unemployment rates in the two samples very close together.² Towards the end of 1994 the unemployment rate in the TfW sample started to level off, as people began entering TfW in greater numbers, and in 1995, when all sample members spent some time on the programme, it dropped dramatically. However, their unemployment rate never reached zero as there was no one month in which all members of the TfW sample were on the programme at the same time. At the end of 1995 the unemployment rate in the TfW sample rose sharply again, as more and more

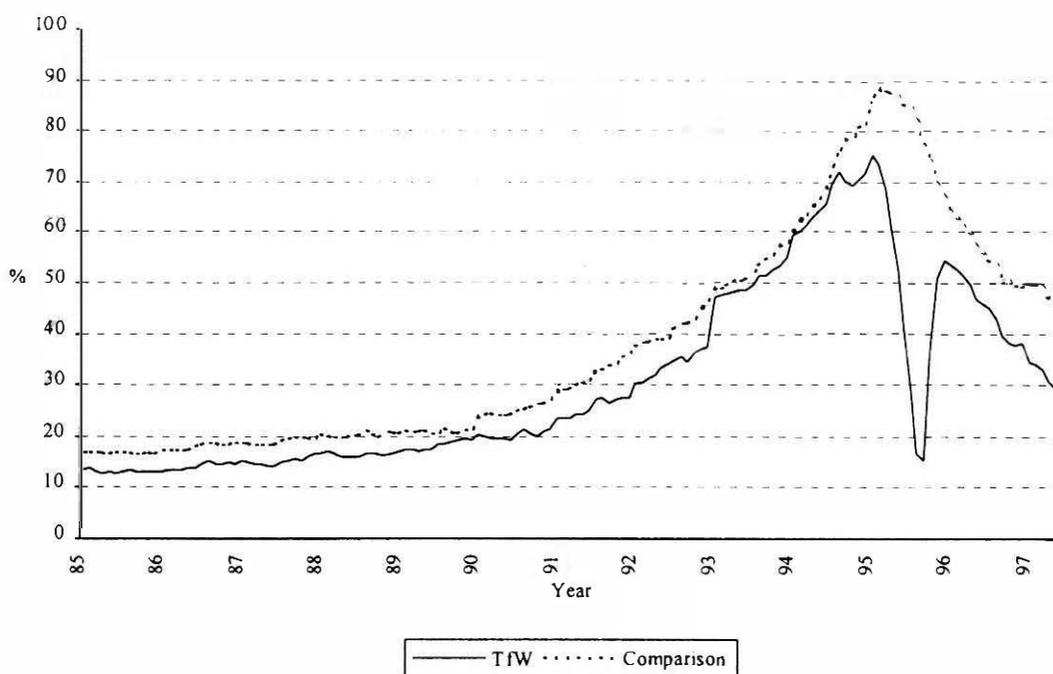
¹ See Chapter 1 for an account of the matching and re-matching procedures.

² The work history data for the TfW sample shows clear evidence of rounding effects, in that respondents were more likely to report unemployment spells beginning in January than in any other month. This is particularly noticeable in January 1993, and to a lesser extent in January 1994 and January 1995. The comparison sample appears to be relatively free of this problem, and the reason for the difference between the two samples is not clear. As far as we can see, the problem does not undermine the inferences that we draw from the data.

people left the programme. By December 1995 it stood again at 54 per cent, but it fell rapidly thereafter. In the comparison sample the unemployment rate continued to rise into 1995, peaking in February at nearly 90 per cent, and thereafter it too fell rapidly. However, the rate of fall in 1996 and 1997 was clearly slower than the rate of fall in the TfW sample, so that by the end of the follow-up period the gap between the two samples was wider than it had been at any time before the TfW sample entered their programme.

These trends clearly suggest that TfW widened the advantage that participants already had over non-participants. Any differences in the observed or unobserved characteristics of the two samples that might generate a differential unemployment rate were equally present in the period before participation as in the period after, and should have a constant effect on unemployment rates.³ The simplest and most plausible explanation for the increase in the gap between them is that participation in TfW boosted job chances.

Chart 3.1
Proportions of the re-matched TfW and comparison samples unemployed and available for work in each month from January 1985 to June 1997



³ It is theoretically possible that the labour market changed in such a way as to make the TfW sample much more employable in 1997, relative to the comparison sample, than in 1993. This, however, is neither a simple nor a plausible hypothesis.

A statistical model of job entry

Our second approach to the question of whether TfW gave participants a further advantage that could not be accounted for by their initial characteristics involves a statistical model that controls for as many characteristics relevant to employment chances as we were able to collect information on in the survey interviews. By the end of the survey follow-up period, 66 per cent of our re-matched sample of TfW participants and 47 per cent of the re-matched comparison sample had entered a job of some kind, whether full-time or part-time, and whether as an employee or self-employed. This higher job entry rate was undoubtedly due at least in part to the selection into TfW described in the last chapter. The question at issue is whether any difference in job entry rates remains after the differences in the characteristics of participants and non-participants have been taken into account.

The type of model we use is a discrete-time logistic duration model, often referred to as a 'survival' model. Readers conversant with this type of model are advised to skip over the next three paragraphs, which are offered for the benefit of those to whom it is less familiar.

The coefficients in our model (Model 3 in Table 3.1) are presented in their exponentiated form, and so are interpreted, as explained in Chapter 2, as multiplicative effects on the odds of the event of interest occurring. However, in this case we model the odds of the event occurring (conditional on it having not occurred so far) in any one of the specified discrete time intervals (for example, weeks, months or years) from a given starting point. In the present case, the discrete time intervals are months, and we model the odds that someone will enter a job in any given month, given that they have not entered a job so far.

A duration model of this type has three important advantages for analysing the type of problem we are presented with in this chapter, compared to the alternative of fitting a simple logistic model with a dependent variable indicating whether or not the respondent entered a job at all over the follow-up period. First, it deals appropriately with 'censored' cases, which are cases where the event of interest has not occurred by the end of the follow-up period. If not handled correctly, censoring can introduce a bias into our results. Secondly, it allows us to include 'time-varying co-variables' among the predictor variables. These are variables whose values change over the period being modelled, and by fitting suitable time-varying co-variables we can explore time patterns in the occurrence of the event of interest. Thirdly, it makes use of more information - not just whether the event occurred at all during the follow-up period, but whether it occurred sooner or later - and so it gives us a better chance of uncovering significant associations between the event and other variables.

Of course, it is possible that someone who entered a job left it again before the end of the follow-up period. The discrete time duration model we fit here only enables us to test whether TfW participants got jobs more quickly than otherwise similar unemployed people who had not been on the programme; it does not tell us anything about how long they kept those jobs for and so whether they spent more time in total

in employment over the follow-up period. This question is the subject of the next chapter.

Modelling strategy

Starting at a point seven months into the qualifying spell of unemployment and moving forward one month at a time, we model the odds that someone entered a job in the next month, relative to the odds of not entering a job in the next month, given that the person had not entered a job up to that point.⁴ Participation in TfW is entered in the model as a time-varying co-variate which, for the TfW sample, distinguishes months before going on TfW from months spent on TfW and months after leaving TfW, all assessed relative to the reference category represented by the comparison sample (whose values on this variable, of course, do not change over time).⁵ Thus, we can compare the odds of getting a job while still on the programme with the odds of getting a job after leaving. People were counted as getting a job while on TfW if they went straight from the programme to a job without any break in between, regardless of whether or not they had completed their course of training. They were counted as getting a job after leaving TfW if there was a gap of at least one month between leaving TfW and starting work, again, regardless of whether or not they had completed their training.

This approach allows us to explore the possible opportunity cost of participation - whether job chances while actually on the programme were depressed, as could happen, for example, if the demands of participation meant that less effort was put into job search. It also gives us a better insight into how the programme achieved its impact. However, it has a slightly inconvenient consequence relating to the period spent by participants before entering TfW. It is an artefact of the evaluation design that it was impossible for any participant to get a job during this period, but the model algorithm does not know this and so produces an estimate of job entry chances during this period (an estimate which turns out to be effectively zero, as we would expect). In reporting the model results, we put estimates relating to the period spent by participants before entering TfW in brackets, and simply ignore them.

We also use time-varying co-variables to explore possible duration effects associated with participation in TfW. We test whether job chances improved with increasing time spent on TfW, as would be expected if work experience and skills acquired on the programme enhanced participants' stock of human capital. We also test whether, once participants had left the programme, the impact of TfW on job chances gradually decayed as time went by.

⁴ The seven month starting point was chosen because the qualifying spell of unemployment had to be at least six months long for the respondent to be included in the re-matched TfW and comparison samples (see Chapter 1), and then every member of the TfW sample had to have at least one month in which TfW participation was recorded.

⁵ This strategy was first suggested to us by Sir David Cox of Nuffield College in relation to our earlier evaluation of Employment Training and Employment Action (Payne, Lissenburgh, White and Payne 1996).

Like the models in Chapter 2, the final model that we present below is parsimonious, in that any variables that the development stages showed did not significantly improve the model fit have been dropped.

Programme effects

Our final duration model for job entry is shown as Model 3 in Table 3.1. The programme effects are grouped together at the beginning of the table. These turned out to be not entirely straightforward, as there was a significant interaction between participation in TfW and the respondent's past history of unemployment. This means that the effects of participation in TfW on job chances depended on whether the respondent had any previous unemployment (measured from January 1985 to the start of the qualifying spell of unemployment).

Let us start with the effects of TfW for people with no previous unemployment, as shown by the 'main effects' of participation. Among participants, 47 per cent were in this position, compared to 45 per cent of the comparison sample. The model shows that, for people with no previous unemployment, participation had a strong positive effect on job chances. While participants were still on the programme, their odds of entering a job in any given month were more than triple the odds for an otherwise similar member of the comparison sample (coefficient 3.52), and after participants had left TfW, their odds of job entry in any given month were nearly double the odds for members of the comparison sample (coefficient 1.93). Thus, TfW improved participants' job chances both while they were on the programme and after they had left it, but the advantage it gave while they were on the programme was bigger than the advantage it gave after they had left. This suggests that there were no opportunity costs to TfW; on the contrary, TfW improved job chances in the short-term even more than it improved longer-term job chances.

Before discussing the impact of TfW on people who had been unemployed before their qualifying spell, we need to look at the 'main effects' of previous unemployment, which represent its effects on the job chances of members of the comparison group. In total, 49 per cent of the TfW sample and 52 per cent of the comparison sample had experienced previous unemployment. The model shows that members of the comparison group with some previous unemployment had significantly better job chances than members of the comparison group who had not been unemployed before (coefficient 1.48). Though this is perhaps at first sight a surprising result, it accords with previous research. People who have experienced several spells of unemployment tend to be more willing than people who lose a job that they have held for a very long time to accept a wide range of jobs, regardless of how long the job is likely to last or how desirable it is.⁶ Thus, previous unemployment can be interpreted as a measure of flexibility.

⁶ For example, Gallie and Vogler (1994) found that, in a sample of unemployed people, those who had been unemployed once before or twice before in the previous five years had a significantly higher probability of starting a job than otherwise similar people who had not previously been unemployed during that five year period.

Table 3.1
Discrete-time logistic duration model for the time from the start of the qualifying spell of unemployment to the start of any paid work (Model 3)

	<i>estimate</i>
Constant	0.01
<u>PROGRAMME EFFECTS</u> (time-varying)	
<i>Main effects of participation</i> (if no previous unemployment):	
Comparison group	1.00
(Period before TfW)	(0.00***)
Period on TfW	3.52****
Period after TfW	1.93****
<i>Main effects of previous unemployment</i> (if in comparison group):	
None before qualifying spell	1.00
Some before qualifying spell	1.48****
Qualifying spell began before 1985	0.17**
<i>Interaction between participation and previous unemployment:</i>	
(Period before TfW with some previous unemployment)	(0.80)
(Period before TfW with qualifying spell began before 1985)	(14.42)
Period on TfW with some previous unemployment	0.70**
Period on TfW with qualifying spell began before 1985	5.76**
Period after TfW with some previous unemployment	1.09
Period after TfW with qualifying spell began before 1985	11.45***
Total number of months spent on TfW (continuous)	1.02**
<u>CONTROL VARIABLES</u>	
<i>Categorical control variables</i>	
<i>Age group:</i>	
18-24	1.00
25-34	0.51****
35-54	0.36****
55 and older	0.17****
No information	0.27**
<i>Sex and age of youngest child:</i>	
Male (regardless of children)	1.00
Female, no children under 18	1.34***
Female, at least one child under 5	0.80
Female, youngest child aged 5-17	1.46*
<i>Health and disability:</i>	
No long-term health problem or disability	1.00
Has long-term health problem or disability	0.62****
Registered as disabled	0.50****
<i>Housing tenure:</i>	
Owner-occupier	1.00
Social tenant	0.78**
Other	0.91
<i>Partner's employment:</i>	
No spouse/partner or spouse/partner not in paid work	1.00
spouse/partner in full-time paid work	1.31**
spouse/partner in part-time paid work	1.67****

Table 3.1 continued over...

Table 3.1 continued...

	<i>estimate</i>
<i>Binary control variables</i>	
Member of minority ethnic group	1.34*
English is second language	0.67*
Has full current driving licence	1.19*
Has regular access to car, van or motorcycle	1.48****
<i>Continuous control variables</i>	
Months in full-time work from Jan 1985 to start of current unemployment spell	1.01****
Months in part-time work from Jan 1985 to start of current unemployment spell	1.01****
<i>Sample size: persons</i>	
	1637
<i>Sample size: person months</i>	
	54479
<i>Scaled deviance</i>	
	8090

Significance levels: * 10% ** 5% *** 1% **** 0.1%

There were also a few people – three per cent of the TfW sample and two per cent of the comparison sample – whose qualifying spell of unemployment began before January 1985, the earliest date for the retrospective work histories collected in the survey questionnaires. The ‘main effects’ of previous unemployment show that, not surprisingly, the job chances of members of the comparison sample who had been unemployed for this length of time were significantly and substantially lower than the job chances of comparison sample members with no previous unemployment.

Let us turn now to the interaction between TfW participation and previous unemployment. To calculate the effect of being on TfW for people with some previous unemployment, relative to the effect for the reference category, namely members of the comparison group who had no previous unemployment, we need to multiply the main effect of the period on TfW (3.52) first by the main effect of having some previous unemployment (1.48), and then by the effect for the interaction between these two factors (0.70). This yields an estimate of 3.65. Table 3.2 sets out the results of similar calculations for all combinations of the values of these two variables.⁷

Leaving people who had been continuously unemployed since 1985 out of the discussion for the moment, these calculations show that the interaction between participation and previous unemployment wipes out the impact of previous unemployment on job chances for TfW participants while they are on the programme. During the period on TfW, the odds that participants with no previous unemployment will get a job in any given month are 3.52 times the corresponding odds for members of the comparison group with no previous unemployment (the reference group). For

⁷ Excluding the period before TfW, which, as we saw above, is not of interest.

participants with some previous unemployment, these odds are very similar, namely 3.65 times the odds for members of the reference group. Another way of expressing this is that the ratio of their relative odds is very close to 1.00 ($3.65/3.52=1.04$). In contrast, in the period after leaving TfW, the ratio of the relative odds of getting a job for participants with and without previous unemployment shows those with some previous unemployment to be at an advantage ($3.11/1.93=1.61$). This ratio is similar to the corresponding ratio for members of the comparison sample ($1.48/1.00=1.48$), and indeed Table 3.1 shows that the estimate for the interaction of the period after TfW with some previous unemployment is non-significant and close to 1.00 (1.09).

Table 3.2
Estimated multiplicative effects of TfW participation on job chances, by previous unemployment (derived from Model 3)

	Comparison group	<i>Participation:</i> Period on TfW	Period after TfW
<i>Previous unemployment:</i>			
None before qualifying spell	1.00	3.52	1.93
Some before qualifying spell	1.48	3.65	3.11
Qualifying spell began before 1985	0.17	3.45	3.76

To summarise: TfW improved participants' job chances both while they were on the programme and after leaving, but had a bigger effect in the former case.⁸ While they were still on the programme, the job chances of participants with no previous unemployment (who may be less flexible in the jobs they are prepared to accept) were as good as the job chances of participants who had previously been unemployed. Once they had left the programme, the differential between these two groups re-emerged.

Let us return now to the very small group of people who had been continuously unemployed since 1985. We should not place too great weight on the actual numerical values of the coefficients for this group, as sample numbers are very small. Nevertheless Table 3.2 suggests that, for them, the impact of TfW on job chances was as positive as for people with no previous unemployment. This result demands some explanation, as extremely long spells of unemployment are often accompanied by very low motivation and other difficulties which lower the probability of getting a job (as is witnessed by the 'main effect' of being unemployed for this length of time). We can only assume that some change in these people's circumstances triggered their entry to TfW and led to their gaining particular benefit from their time on the scheme. Indeed, their decision to go on TfW may itself have arisen from a new determination

⁸ In the raw data, before any adjustment has been made for other differences between the two samples, 66 per cent of the TfW sample had got a job by the time they were last interviewed, compared to 47 per cent of the comparison sample. Amongst the members of the TfW sample who got jobs (again, before adjusting for other differences between sample members) 55 per cent moved straight from TfW to a job and 45 per cent got a job later on.

to get back to work. It would be rash therefore to conclude too much from the results for this small group of participants without knowing more about them.

We also tested for programme effects using a time-varying co-variate measuring the total time spent on TfW so far.⁹ This had a positive effect on job entry chances, showing that the advantage of TfW participants relative to the comparison sample increased as the length of time they stayed on the programme increased. This is an important result, because it suggests that the relationship between TfW and job chances cannot be wholly explained by prior unobserved differences between the participant and comparison samples, as the impact of such unobserved differences should be constant over time. On the contrary, the fact that job chances improved with increasing time spent on TfW suggests that the programme gave participants skills and experience that enhanced their employability.

A second time-varying co-variate indicating the total time elapsed since leaving TfW proved non-significant in exploratory modelling, and was not included in the final model.¹⁰ This suggests that the positive effects of TfW on job chances did not decay over time, at least during the 18 months or so that sample members were followed up during the present study.

Control variables

The programme effects described above were found after allowing for the effects of a wide range of control variables. It was important to include as many relevant factors in the model as possible, as this helped to reduce the impact of unobserved differences between the TfW and comparison samples. Thus, extensive exploratory modelling was carried out to ensure that no factor potentially related to job chances was overlooked if we had data on it.

These control variables generally had the expected effects, given the type of labour market in which people who had been unemployed for a minimum of six months were likely to be seeking work. Job chances declined steeply with age, while women had better job chances than men, provided that they did not have a child under school age. People with long-term health problems or disabilities and people who were registered as disabled were less likely to get work than people without such handicaps. Social tenants had poorer job chances than owner-occupiers, while the likelihood of entering a job was increased by having a partner in full-time or part-time employment, relative to having no partner or having a partner who did not work. Possession of a driving licence and regular access to a vehicle both gave an advantage, and previous work experience in either a full-time or part-time capacity also increased the likelihood of

⁹ For members of the TfW sample this variable took the value zero in months preceding entry to TfW, and then incremented by one with each succeeding month on the programme; in months after leaving TfW it was frozen at the value it had reached at the point of leaving. For members of the comparison sample, it took the value zero in every month.

¹⁰ For members of the TfW sample, this variable took the value zero until they left TfW, and then incremented by one in each succeeding month until they got a job or were censored. For members of the comparison sample it took the value zero in all months.

getting a job. Contrary to expectation, membership of a minority ethnic group increased job chances, though at a marginal level of significance, but not having English as the mother tongue reduced job chances, as predicted.

Some of the factors that were significantly related to the probability of entering TfW (see Model 1 in Chapter 2) did not affect job chances. Most notable amongst these were academic and vocational qualifications. This result may be explained by the fact that the kinds of jobs that long-term unemployed people are most likely to be able to secure do not generally demand good qualifications. More light is shed on this issue in Chapter 5, which examines the relationship between TfW and type of job entered, and Chapter 6, which tests whether TfW had any impact on wages.

Also conspicuous by their absence were duration effects, whereby the chances of getting a job decrease with increasing length of unemployment. These have been observed in other studies of unemployment, particularly for men (for example, Payne, Casey, Payne and Connolly 1996). A time-varying co-variate measuring the number of months elapsed since the start of the qualifying spell of unemployment was included in exploratory versions of the model, but it proved non-significant. This may have been because many sample members started their qualifying spell of unemployment at a time when the country was coming out of the recession of the early 1990s and national unemployment rates were falling.

Illustrating the model results

So far we have shown the separate effects of each of the programme variables on the odds of job entry. We now illustrate their combined impact in a way that is perhaps more readily understandable to the non-statistician.

Chart 3.1 shows the cumulative percentages of the re-matched TfW and comparison samples who had started a job in each month from the eighth month after the start of the qualifying spell of unemployment up until the 48th month.¹¹ The chart is based on the observed data, before any adjustment has been made for the differences between the two samples. Note that it simply shows cumulative job starts and takes no account of the fact that some jobs might have been held for only a short time, so it does not represent the total proportion of each sample who were in work in any given month. Though there is some sampling fluctuation, the steeper slope of the curve for the TfW sample suggests that, throughout this period, TfW participants had a better chance than non-participants of entering a job.

¹¹ See footnote 4 earlier in the chapter for the choice of starting point. We curtailed the chart at month 48 because after that point the number 'at risk' of job entry (ie those who have neither already entered a job nor been censored) falls low enough to produce instability in the underlying 'hazard rate' (the probability that the event will occur in any given month, given that it has not occurred so far). In month 8, the number 'at risk' is 1433; in month 48 it is 330; in month 60 it is 215.

Chart 3.2
Observed cumulative percentages of the TFW and comparison samples entering a job over time

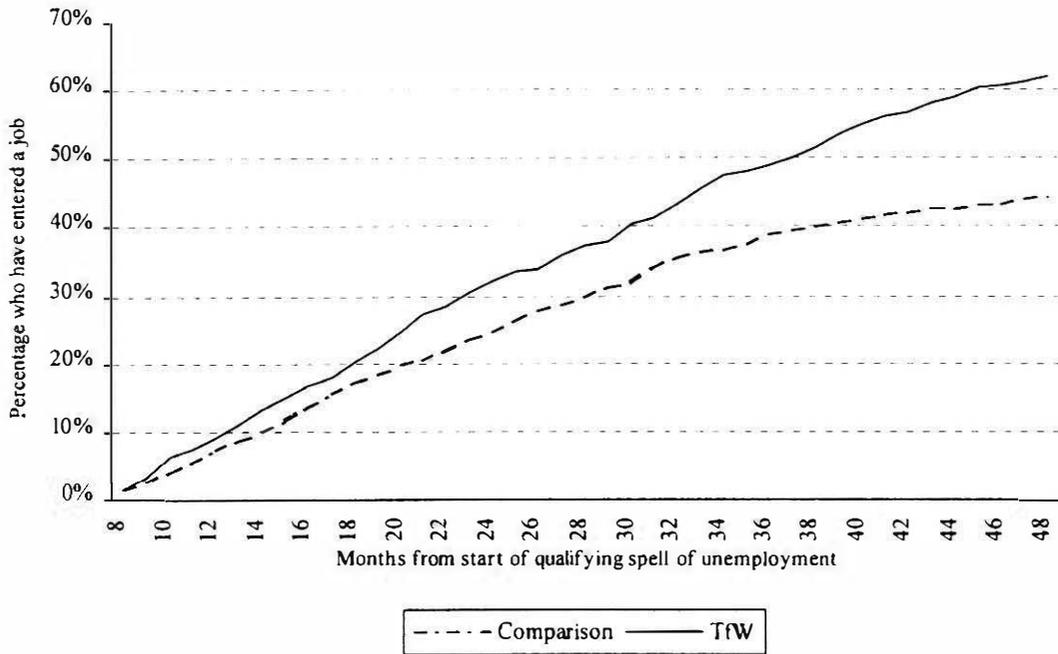


Chart 3.3
Fitted cumulative percentages of the TFW and comparison samples entering a job over time

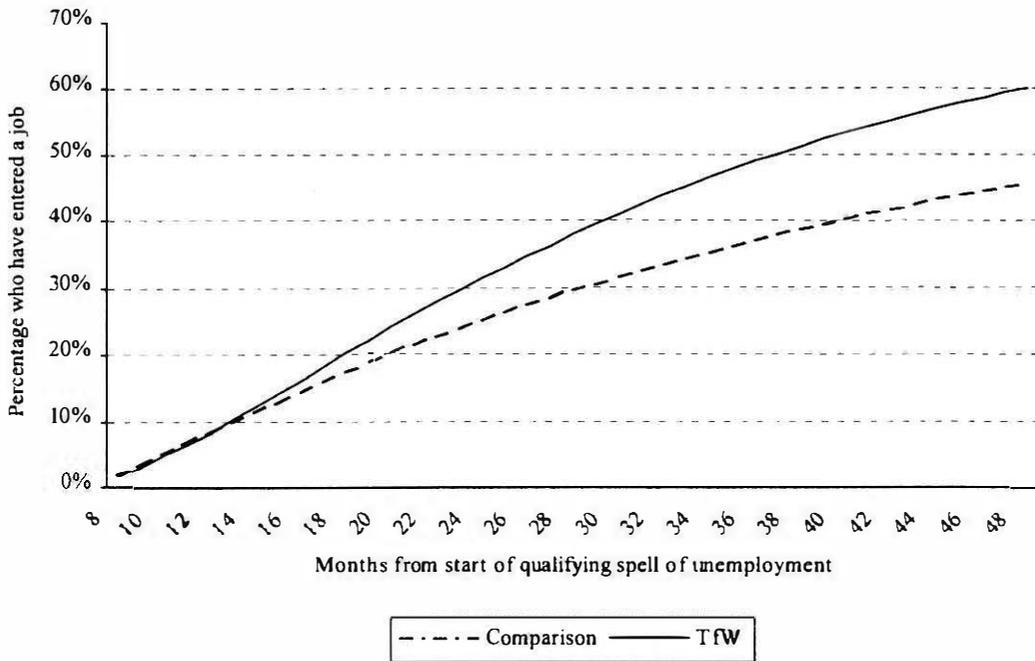


Chart 3.2 shows these same cumulative percentages, not as observed in the data, but as estimated by Model 3. The modelling process has smoothed out sampling fluctuation, and the figures have been adjusted to correct for differences between the two samples, as captured by the control variables. The effect of this adjustment is to eliminate any difference between the two samples in job entry rates up to the 14th month after the start of the qualifying spell of unemployment. This suggests that the matching process together with the large number and wide range of control variables included in the model have largely succeeded in eliminating any differences between the two samples on factors relevant to job entry chances. However, from 14 months onwards a gap starts to open out between the two samples and TfW participants are clearly at an advantage.

By reading off from Chart 3.2 the difference between the TfW and comparison samples in any given month, we can illustrate the estimated size of the impact of TfW on the chances of getting a job. Table 3.3 shows that, at 12 months after the start of the qualifying spell of unemployment, there was no difference between the two samples. Six months later, the TfW sample had an advantage of three percentage points, and thereafter their better job entry chances in any given month cumulated to produce a widening lead over the comparison sample. By 48 months after the start of the qualifying spell of unemployment, the latest date for which sample numbers permit us to be reasonably confident about our estimates, 60 per cent of TfW participants were estimated to have entered a job compared to 46 per cent of non-participants.

Table 3.3
Fitted cumulative percentage of the re-matched TfW and comparison
samples who had entered a job at specified intervals from the start of
the qualifying spell of unemployment

	TfW	Comparison
9 months	3	4
12 months	8	8
18 months	20	17
24 months	31	25
30 months	41	32
36 months	49	37
42 months	55	42
48 months	60	46

Note that the estimates in Table 3.3 incorporate the impact of any residual relevant differences between the two samples that is not controlled for by the matching process or by the control variables included in Model 3. As such differences were likely to favour TfW participants (see Chapter 2), the estimates show the maximum impact that we could expect TfW to have on job chances. However, as we argued above, any remaining differences seem to be slight and are unlikely to affect the estimates very much.

Conclusion

The analyses in this chapter provide clear evidence that TfW had a positive impact on participants' job chances. This conclusion is supported both by an analysis of unemployment rates in the TfW and comparison samples over time, and by statistical modelling of job entry chances. Although part of the advantage that participants had over non-participants was undoubtedly due to the fact that entry to the programme was selective, there is good evidence of several different kinds that prior differences between the two samples cannot account for all the advantage that participants enjoyed. Substantial benefits can reasonably be attributed to participation.

Though the analysis of unemployment rates covered the whole follow up period, our statistical modelling has so far been limited to entry to the first job after the qualifying spell of unemployment. The apparent benefits of participation in TfW may be less than we suppose if these jobs were only kept for a short time (if, for example, they included a high proportion of temporary jobs or jobs with low wages, poor conditions of employment and high staff turnover). We need therefore to examine the impact of TfW on the chances of being in work over a period of time, and this is the subject of the next chapter.

4 Impact of TfW on the proportion of time spent in work

Introduction

The last chapter gave evidence that participation in TfW enabled unemployed people to get work more quickly than they would have done if they had not gone on the programme. However, we need to enquire whether this immediate benefit was maintained in the long term: in other words, whether over a longer period participants spent more time in work than they would otherwise have done. If we can estimate the total net gain in time spent in employment that was attributable to participation in TfW, then it becomes possible to compare the financial benefits of the programme with its costs.

For these reasons, we developed a model for the total number of months spent in paid work of any kind over the 17 months from February 1996 to June 1997. This period was chosen because the latest date at which any member of the re-matched TfW sample left the programme was January 1996, and June 1997 was the latest month for which we had work history data for most people.¹

The observed mean time (before adjusting for any other differences between the two samples) spent in work over this period is reported in Table 4.1. Note that this includes all work, full-time and part-time, and both as an employee and self-employed. Across the full 17 months, the TfW sample spent on average 7.8 months in work (46 per cent of the time) while the comparison sample spent on average three months less in work (28 per cent of the time). Dividing the 17 months into three component periods, February - June 1996, July - December 1996 and January - June 1997, we see that the difference between the two samples remained fairly constant over time.²

The type of model we fitted was a logistic regression model in which the dependent variable was not a simple binary, but the number of months out of the total in which the respondent was in work. The exponentiated coefficients for this model are interpreted in the way explained in Chapter 2, except that they represent a multiplicative effect on the odds of being in work in any single month among all the months for which we have information.

¹ The January 1996 date is derived from respondents' own retrospective reports in the survey questionnaires; the administrative data used to select the sample tell a slightly different story.

² Over this same 17 months, 45 per cent of the combined TfW and comparison samples spent no time at all in paid work and 20 per cent were in paid work the whole time, with the remaining 35 per cent fairly evenly spread across the intervening values. This distribution suggests that an ordered multinomial model might better capture the underlying relationships in the data, but the approach we have chosen relates more directly to the DfEE's interests.

Table 4.1
Observed mean time spent in work by the re-matched TFW and comparison samples,
February 1996 – June 1997

		<i>Period:</i>				Base <i>N</i> ^a
		A Feb 96 – June 97	B Feb 96 – June 96	C July 96 – Dec 96	D Jan 97 – June 97	
<i>TfW sample</i>	months	7.8	2.0	2.7	3.1	822
	proportion	46%	40%	45%	51%	
<i>Comparison sample</i>	months	4.8	1.2	1.7	1.9	815
	proportion	28%	23%	29%	32%	

^aVaries very slightly between periods A-D.

Model for the period February 1996 to June 1997

Our model for the proportion of time in work over the 17 months from February 1996 to June 1997 is shown as Model 4A in column A of Table 4.2. Like the models presented earlier, the model is parsimonious in that predictor variables were retained only if they significantly improved the fit of the model.

Like the duration model for time taken to enter paid work presented in the last chapter (Model 3), Model 4A shows a highly significant positive effect for participation in TFW. Members of the TFW sample had approximately double the odds of being in work in any given month over the 17 month period across which work probabilities were measured.

However, unlike Model 3, there is no evidence of an interaction between participation and unemployment before the start of the qualifying spell. In exploratory modelling, interaction terms specified in various ways were fitted to test for this, but none was significant. Indeed, while in Model 3 previous unemployment increased the chances of getting a job except during the period on TFW, we see in Model 4A that the total time spent unemployed before the start of the qualifying spell was *inversely* related to the total proportion of time spent in paid work over the period February 1996 to June 1997 - in other words, the more unemployment respondents had previously, the less time they spent in work. This result is explicable if, as was suggested in the last chapter, previous unemployment is an indicator of a willingness to accept jobs that people who have held one job for a long time tend to reject. People with previous unemployment are more likely to get a job, but may not keep that job for very long.

Model 4A also shows that, as would be expected, the later the date that the qualifying spell of unemployment started (in other words, the shorter the spell), the greater the proportion of time spent in work.

Table 4.2
Logistic regression models for the proportion of months spent in any paid work between
February 1996 and June 1997 (Models 4A - 4D)

	<i>Estimate</i>			
	4A Feb 96 - June 97	4B Feb 96 - June 96	4C July 96 - Dec 96	4D Jan 97 - June 97
Constant	0.16	0.12	0.17	0.17
<u>PROGRAMME EFFECTS</u> (binary)				
Went on Tfw	2.06****	2.19****	1.93****	2.15****
<u>CONTROL VARIABLES</u>				
<i>Categorical control variables</i>				
<i>Age group:</i>				
18-24	1.00	1.00	1.00	1.00
25-34	0.88	0.86	0.85	0.93
35-44	0.75*	0.75	0.73*	0.77
45-54	0.58***	0.53***	0.56***	0.62**
55 and older	0.32****	0.31****	0.31****	0.33****
No information	0.88	1.28	0.92	0.62
<i>Sex and family composition:</i>				
Male, no children under 18	1.00	1.00	1.00	1.00
Male, 1 child under 18	1.32	1.73**	1.20	1.19
Male, 2 children under 18	1.54**	1.55**	1.56**	1.54**
Male, 3+ children under 18	1.57**	1.58**	1.70**	1.48*
Female, no children under 18	1.55****	1.68****	1.60***	1.44**
Female, at least one child under 5	0.55**	0.64	0.46**	0.56*
Female, youngest child aged 5-17	1.48	1.51	1.59	1.37
<i>Health and disability:</i>				
No long-term health problem or disability	1.00	1.00	1.00	1.00
Has long-term health problem or disability	0.56****	0.58****	0.54****	0.56****
Registered as disabled	0.38****	0.43***	0.40****	0.32****
<i>Housing tenure:</i>				
Owner-occupier	1.00	1.00	1.00	1.00
Social tenant	0.71**	0.58***	0.73**	0.79
Other	1.04	0.97	1.08	1.06
<i>Partner's employment:</i>				
No spouse/partner in paid work	1.00	1.00	1.00	1.00
spouse/partner in full-time paid work	1.83****	2.11****	1.84****	1.63***
spouse/partner in part-time paid work	2.69****	2.74****	2.85****	2.56****
<i>Binary control variables</i>				
Academic qualifications of GCSE/GCE O				
Level grades A-C or higher	1.24**	1.17	1.27**	1.27**
Minority ethnic group	1.56*	1.15	1.62*	1.92**
English second language	0.44****	0.54*	0.38****	0.43****
Full current driving licence	1.30**	1.20	1.41**	1.29*
Regular access to car, van or motorcycle	1.82****	1.87****	1.73****	1.91****

Table 4.2 continued over...

Table 4.2 continued...

	<i>Estimate</i>			
	4A Feb 96 - June 97	4B Feb 96 - June 96	4C July 96 - Dec 96	4D Jan 97 - June 97
<i>Continuous control variables</i>				
Start date of the qualifying spell of unemployment	1.01***	1.01***	1.01**	1.01****
Months spent unemployed from Jan 1985 to start of current unemployment spell	0.99****	0.99***	0.99****	0.99****
<i>Sample size: persons</i>	1637	1634	1634	1636
<i>Scaled deviance</i>	1804	1691	1801	1837
<i>Degrees of freedom</i>	1611	1608	1608	1610
<i>Scaling factor</i>	12.03	4.50	5.34	5.24

Significance levels: * 10% ** 5% *** 1% **** 0.1%

Technical note

Models 4A to 4D are logistic models for the number of months spent in work out of the total number of months in the period. A basic assumption of the standard logistic model is that the variance of the proportion P is constant and approximately equal to $P \times (1-P)$. An examination of the variance of the residuals for different values of P in the models showed that the variance satisfied the assumption of constancy, but was much too big (in other words, the model suffered from over-dispersion, which was due to the correlation between employment status in different months). The recommended procedure in this case is to use a scale parameter to inflate the standard errors. To estimate this scale parameter we fitted the 'maximal' model – the model that included all the predictor variables that could reasonably be supposed to have an impact on the dependent variable – and used the chi square value from this model divided by its degrees of freedom. The scale parameters are reported as the last row of the table.

If there was missing information for a single month embedded in a sequence of months for which information was available, then that month was given the same activity code as the month that preceded it. If there was missing information for two or more consecutive months, then the relevant proportion was calculated as the number of months in work out of the total number of months for which there was information.

In the impact of the other control variables, Model 4A closely resembles the duration model (Model 3). The proportion of time spent in work decreased with age, people with health problems or disabilities were severely disadvantaged, and social tenants spent less time in paid work than owner-occupiers. Members of minority ethnic groups spent more time in work than members of the white majority, but those for whom English was a second language spent less. Having a driving licence was an advantage, as was regular access to a vehicle. The proportion of time in work was also greater if the respondent had a spouse or partner in full-time or part-time work.

The effects of sex and family composition are explored in more detail in Model 4A than in the earlier models. For men, the proportion of time in work increased with the number of children they had aged under 18. For women, the more important factor was the age of the youngest child. Women who had no children under 18 spent a greater proportion of time in work than men in a similar position, but women who had

at least one child aged under five spent significantly less time in work than men with or without children under 18. The coefficient for women whose youngest child was aged between 5 and 17 was positive and quite large, suggesting an improvement in job chances once children reached school age, but it did not reach significance.

It is interesting to note that, although having academic qualifications of GCSE or GCE O Level grades A-C or higher was not a significant predictor of the chances of getting any job in Model 3, it was significantly related in Model 4 to the total proportion of time spent in work over the 17 month follow-up period. This suggests that people who got jobs tended to keep their jobs for longer if they had qualifications of this standard.

The following variables had no significant association with the proportion of time spent in work in our data: occupation in last job, vocational qualifications, marital status when the partner's employment status was not taken into account, literacy and numeracy problems, and time from January 1985 to the start of the qualifying spell of unemployment spent on government special schemes, in full-time work and in part-time work.

Models for component periods of time

Though Model 4A shows that TfW produced net gains in the probability of work over a 17 month period following participation, nevertheless it is possible that the gains associated with TfW diminished as time went by. To test this, we split the 17 months from February 1996 to June 1997 into three periods: February to June 1996, July to December 1996 and January to June 1997. By the start of the third period, the last respondent to leave TfW had done so nearly a year previously, so any decay in the TfW effect should have been apparent. Model 4A was then re-fitted for these three component periods, giving us Models 4B, 4C and 4D in Table 4.2.

The results gave no evidence that the advantage that TfW participants had over non-participants declined over time. The coefficient for TfW participation was slightly smaller in the middle period than in the first period (1.93 compared to 2.19), but the effect in the last period (2.15) was almost as big as in the first. This accords with the results of the duration model (Model 3): it will be recalled from Chapter 3 that a time-varying co-variate measuring time since leaving TfW proved non-significant, suggesting that the advantage that participants had over non-participants did not decay with time.

Estimated gains in time in work

A useful way of illustrating the results of Model 4A is to estimate how much more time in work members of the comparison sample would have gained if they had gone on TfW. To do this, we calculate the fitted proportion of time in work for each member of the comparison sample, as estimated by Model 4A and given their values on the predictor variables. We then add on to this the TfW bonus as estimated by the

model, and sum the result over all members of the group. The results of this exercise are shown in Table 4.3. However, a number of warnings should be noted.

Table 4.3
Estimated mean increase for non-participants in time spent in work February 1996 – June 1997
if they had gone on TfW (under Models 4A - 4D)

	<i>Period:</i>			
	A Feb 96 – June 97	B Feb 96 – June 96	C July 96 – Dec 96	D Jan 97 – June 97
<i>Total number of months in the period</i>	17	5	6	6
<i>Observed time in work</i>				
months	4.8	1.2	1.7	1.9
proportion	28%	23%	29%	32%
<i>Estimated time in work if went on TfW</i>				
months	7.1	1.8	2.5	2.8
proportion	42%	37%	41%	47%
<i>Maximum gain attributable to TfW</i>				
months	+2.3	+0.6	+0.8	+0.9
proportion	+14%	+14%	+12%	+15%

The first caveat is that these estimates relate only to the re-matched comparison sample, which is in no sense a random sample of unemployed people, but has specific proportions of people with specific job-relevant characteristics. They cannot be used to extrapolate to the population of unemployed people as a whole. What they tell us is how much more time a group of unemployed people who were broadly similar to TfW participants in terms of length of unemployment, gender and age might expect to spend in work if they had gone on TfW.

The second caveat is that the estimates are maximal estimates. This is because they incorporate the effects not only of participation, but also of any residual unobserved differences between the TfW and comparison samples after matching and after controlling for all relevant factors on which we have information, and any such differences are likely to favour TfW participants, as Chapter 2 showed that entry to TfW was strongly selective. However, we argued in the previous chapter that the impact of any such residual differences on the estimates is likely to be small.

The third caveat is that the estimates show what non-participants might expect to gain from going on TfW if the programme remained otherwise unchanged. However, to widen access to the programme would inevitably mean changing it: wider access would mean less selectivity, leading perhaps to less respect for the programme on the part of employers, and more graduates of the programme entering the labour market, producing more competition between them. It does not follow of course that there would be no net benefits from wider access; merely that it cannot be assumed that the gains experienced by current participants would be experienced in full by future participants if the programme were enlarged.

The final caveat is merely a reminder that our evaluation only covers TfW participants who were unemployed for at least six months before entering the programme. We can only guess at how the benefits that they experienced might compare with the benefits gained by people who had been unemployed for less time than this.

With these points in mind, we return to Table 4.3. Members of the comparison sample actually spent on average 4.8 months in work over the 17 months from February 1996 to June 1997. According to the programme effect estimated by Model 4, if they had kept all their other characteristics but had gone on TfW, they would have spent 7.1 months in work, an estimated gain of 2.3 months out of 17. Scaled to a period of 12 months, this would be equivalent to an extra 1.7 months in work.

The table also shows separate calculations for the three component periods. As follows from the similarity of the programme effects in Models 4A - 4D, the gains to be expected from TfW participation are relatively constant over time.

Table 4.4
Estimated number of months between February 1996 and June 1997 spent in employment under Model 4A for hypothetical TfW participants and non-participants with specific combinations of characteristics

	TfW Participants	Comparison sample	Difference
<i>Example 1:</i> Male aged 18-24, unmarried and no children; lives with parents; white; has GCSE grades A-C & driving licence but no vehicle; qualifying spell of unemployment started in January 1995 & previously had a 6 month spell of unemployment.	9.3	6.3	3.0
<i>Example 2:</i> Woman aged 35-44 with youngest child aged 5-17; owner-occupier and husband in full-time paid work; white; no academic qualifications; has driving licence & a car; qualifying spell of unemployment started in June 1994, but no unemployment before this.	13.2	10.7	2.5
<i>Example 3:</i> Man aged 45-54 speaking English as a second language; 3 children; owner-occupier; Asian; no academic qualifications; has driving licence but no car; qualifying spell of unemployment started in January 1994, but no unemployment before this.	1.5	0.8	0.7

Table 4.4 continued over...

Table 4.4 continued...

Example 4:

Man aged over 55 with no children under 18 but has a wife working part-time; long-term health problem; council tenant; white; no academic qualifications; no driving licence or vehicle; qualifying spell of unemployment began in October 1990 and before then had been unemployed from February 1985 to February 1990.	6.2	3.7	2.5
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Table 4.4 uses another way of illustrating the results of Model 4. The table shows the estimated number of months in work (under the model) over the 17 months from February 1996 to June 1997 for four notional people with different combinations of the values of the predictor variables, according to whether they were assumed to be participants or non-participants. Obviously the number of possible combinations of the values of the predictor variables is very large and the choice of our four examples is arbitrary; nevertheless they represent plausible combinations of characteristics and suggest the range of people who might be found on TfW (always remembering that we can say nothing about participants who were unemployed less than six months)³. Thus, the hypothetical young man chosen for the first example gains three months in work by going on the programme; the mother who forms example two gains two and a half months; while the older men who provide the last two examples gain 0.7 and 2.5 months respectively.

Impact of placement type on proportion of time in work

Participants in TfW who had an employer placement had a flying start in the job market compared to other participants, as they had a chance of being kept on by that employer. Those with employed status were in the strongest position of all: in the re-matched TfW sample nearly three in four continued working for the same employer after their time on TfW came to an end, compared to one in three of those with trainee status.⁴

We saw in Table 4.1 that TfW participants spent on average 46 per cent of the time from February 1996 to June 1997 in paid work (without adjusting for the impact of their other characteristics). Table 4.5 breaks this figure down by placement type. It shows that employed status TfW participants spent more time in employment over these 17 months - an average of 69 per cent - than participants on any other type of placement. However, participants with trainee status on employer placements were

³ With a logistic regression model like Model 3A, the parameter estimates, when exponentiated, show the multiplicative effect of each predictor variable on the odds that the outcome being modelled will occur. This effect is constant over all values of the other predictor variables (unless there is an interaction term fitted). However, the effect on the fitted probability of the outcome occurring is not constant, but varies with the initial fitted probability. This is because the underlying mathematical structure is non-linear.

⁴ Remember that these figures exclude participants who had been unemployed for less than six months before entering TfW, an even higher proportion of whom may have been kept on.

not far behind, spending on average 58 per cent of the period in work. People on other types of placement did less well, with those on projects bringing up the rear at 30 per cent, only marginally above members of the re-matched comparison sample who were in work on average for 28 per cent of the time.

Dividing the period from February 1996 to June 1997 into our three component periods, we also see in Table 4.5 that TfW participants on most placement types tended to spend a greater proportion of time in work as time went by, as also did the comparison sample. However, this was not true of participants with employed status: their mean proportion of time in work was a little lower in the period January - June 1997 than in the period February - June 1996.

Table 4.5
Observed mean proportion of time spent in work February 1996 – June 1997, by type of TfW placement

	<i>Period:</i>				<i>Change Period B to Period D</i>	<i>Base N</i>
	A Feb 96 – June 97	B Feb 96 – June 96	C July 96 – Dec 96	D Jan 97 – June 97		
<i>Type of TfW placement:</i>						
Employed status	0.69	0.72	0.65	0.69	-3%	55
Employer placement trainee status	0.58	0.52	0.58	0.63	+11%	267
Project placement	0.30	0.23	0.30	0.36	+13%	100
Full-time off-the-job training	0.39	0.32	0.38	0.46	+14%	330
Other	0.34	0.29	0.35	0.37	+8%	70
<i>Full re-matched TfW sample</i>	0.46	0.40	0.45	0.51	+11%	822
<i>Comparison sample</i>	0.28	0.23	0.29	0.32	+9%	815

However, some of the means in Table 4.5 are based on small sample numbers, and they incorporate no adjustment for other differences between TfW participants on different types of placements. Thus, to test whether these observed differences were statistically significant, we replaced the binary programme variable in Model 4 (indicating whether the respondent belonged to the TfW or comparison sample) with a variable distinguishing type of TfW placement. The results are shown as Models 5A - 5D in Table 4.6. The control variables in these models have very similar values to their values in the corresponding Models 4A - 4D (Table 4.2), and so the table reports only the programme effects.

Looking first at the whole period from February 1996 to June 1997 (Model 5A), we see that, even after controlling for a range of factors that tend to put them in a relatively strong position in the labour market, TfW participants who had an employer placement did very well relative to the comparison sample. This was particularly true

of those with employed status. Participants who got full-time off-the-job training also spent significantly more time in work than the comparison sample, though the advantage in their case was much smaller. In the case of participants on project placements, the advantage over the comparison sample was smaller still and reached only a marginal level of significance.

Trends in relative employment chances over time differed markedly between placement types. The relative advantage of participants with employed status over the comparison sample dropped a good deal between February - June 1996 (Model 5B) and January - June 1997 (Model 5D), though it remained substantial. Those with trainee status on employer placements maintained a roughly constant advantage over the comparison group across the three component periods. In contrast, for those on project placements, employment chances relative to the comparison group improved with time. Although in the first few months after TfW they had no significant

Table 4.6
Programme effects from the logistic regression models 5A - 5D for the proportion of months spent in any paid work between February 1996 and June 1997, distinguishing different placement types

	<i>Estimate</i>			
	5A Feb 96 – June 97	5B Feb 96 – June 96	5C July 96 – Dec 96	5D Jan 97 – June 97
Constant	0.17	0.13	0.18	0.18
PROGRAMME EFFECTS				
<i>Type of participation:</i>				
Comparison sample	1.00	1.00	1.00	1.00
Employed status	4.48****	8.05****	3.67****	3.53****
Employer placement trainee status	3.24****	3.41****	3.08****	3.41****
Project placement	1.42*	1.32	1.37	1.57**
Full-time off-the-job training	1.53****	1.49***	1.42**	1.71****
Other	1.36	1.49	1.36	1.27
<i>Sample size: persons</i>	1637	1634	1634	1636
<i>Scaled deviance</i>	1788	1673	1790	1811
<i>Degrees of freedom</i>	1607	1604	1604	1606
<i>Scaling factor</i>	11.86	4.41	5.28	5.24

Significance levels: * 10% ** 5% *** 1% **** 0.1%

advantage, by January - June 1997 this group had a significantly better chance of being in work than non-participants. People who had been given full-time off-the-job training on TfW also improved their position relative to the comparison group as time went by. However, for both project placements and full-time off-the-job training, the advantage even in this last period remained modest compared to the advantage conferred by an employer placement.

This pattern of results suggests that the main benefit of employer placements for TfW participants was to give them better access to labour markets, compared to both participants on other types of placement and other unemployed people. Employed status participants had a big boost to their job chances immediately after their training under TfW came to an end, largely because so many of them were kept on by the same employer. Though this initial boost faded somewhat with time, employed status participants were still experiencing substantial benefits over a year later. Far fewer people with trainee status on employer placements were kept on by their TfW employer, so their job chances in the first few months after TfW were lower than those of employed status participants, but the improvement that TfW made in their position relative to non-participants seemed to be long-lasting. Presumably even if they were not kept on, they were still able to make use of the contacts they had made during their placements, as well as having acquired up-to-date experience in a real workplace.

The role of employer placements in improving unemployed people's immediate access to labour markets is emphasised by the fact that the contrast between the job chances of participants on different types of placement was much more marked during the first few months after TfW than a year to a year and a half later. Participants getting full-time off-the-job training and participants on project placements both lacked the initial boost to job chances that an employer placement gave, but both these groups improved their position as time went by. For those with full-time off-the-job training, this meant a consolidation of the modest advantage they had already shown over non-participants in the early months. Particularly interesting, however, are the results for those on project placements: for this group, the benefits of TfW did not emerge until around a year after leaving, but nevertheless some small benefit did accrue to them in the long term.

Conclusion

This chapter has shown that not only did TfW participants get jobs more quickly than would have been expected if they had not gone on the programme, but also that, as a group, their improved work chances were maintained for at least a year and a half after leaving. However, this group effect was the outcome of differential trends among the different strands of TfW. Those with employed status did best overall, but their advantage was far greater in the short term than in the longer term. Those with trainee status on employer placements also did very well, and maintained their superior job chances relative to non-participants over the follow-up period. Trainees who received full-time off-the-job training showed modest but significant gains in job chances compared to non-participants, which if anything increased with time. Finally, for people on project placements under TfW, the benefits of participation took longer to emerge, but proved significant, though modest, in the long term.

A different way to assess the likely permanence of any gains associated with TfW is to compare the types of jobs that participants took after leaving the programme with the types of jobs taken by non-participants with similar characteristics. We turn to this next.

5 Impact of TfW on the type of job taken

Introduction

In Chapter 3 we presented a duration model (Model 3) showing that, after controlling for a range of relevant factors, TfW participants got work more quickly than members of the matched comparison sample. This model treated all kinds of paid work as equivalent. In the present chapter we develop the model to distinguish between different kinds of jobs, and we do this for two reasons.

First, the distinction between types of job is relevant when assessing the benefits of TfW both to the individual and to the wider economy. Unemployed people moving into full-time jobs are less likely than those moving into part-time jobs to claim in-work social security benefits. Moreover, a permanent full-time job with an employer is likely to offer more long-term security than other types of job. If TfW's apparent success were due largely to its helping people into part-time, temporary or self-employed work, its long-term benefits would be less than if it mainly helped people into full-time work as an employee.¹

Second, distinguishing between different types of work enables us to give a more precise estimate of the TfW effect. This is because different types of work have different correlates: for example, women are much more likely to enter part-time work than men. Thus, distinguishing between different types of work allows us to control more appropriately for the impact of other factors on job chances.

Observed differences between the samples

We already know that, by the end of the follow-up period and before adjusting for the effects of other differences between the two samples, 66 per cent of our TfW sample had entered a job compared to 47 per cent of the comparison sample. As Table 5.1 shows, this difference was largely due to the difference in the proportions entering full-time work as an employee: 47 per cent of the TfW sample, compared to 29 per cent of the comparison sample. Full-time jobs as an employee formed 69 per cent of all first jobs of TfW participants, and 62 per cent of all first jobs of non-participants.

Ideally we would also make a distinction between permanent and temporary work in the first job entered, but it was not possible to collect this information in the monthly work history diaries as it would have made them too cumbersome. However, respondents were asked about the job they held (if any) when they were interviewed in the summer of 1997. As Table 5.2 shows, a higher proportion of the TfW sample

¹ Obviously self-employment can be very beneficial to the economy, especially if it leads to the creation of new jobs through the growth of new businesses. However, very few people indeed who move into self-employment after a spell of unemployment have either employees or capital assets.

than the comparison sample was in fixed-term or temporary work as an employee, but when calculated as a proportion of those in work as an employee, former TfW participants were less likely to have a fixed term or temporary job than non-participants.

Table 5.1
Observed proportions of the re-matched TfW and comparison samples entering different types of work as their first job after the qualifying spell of unemployment

	TfW sample	Comparison sample
	%	%
First job was:		
full-time as an employee	47	29
part-time as an employee	14	12
full-time self-employed	5	4
part-time self-employed	1	2
Did not enter a job	34	53
Total	100	100
<i>Base N</i>	822	815

Table 5.2
Observed proportions of the re-matched TfW and comparison samples in fixed term or temporary work as an employee when interviewed in summer 1997

	TfW sample	Comparison sample
	%	%
As a proportion of the full sample	10	7
<i>Base N</i>	822	815
As a proportion of those in full-time or part-time work as an employee	23	25
<i>Base N</i>	388	227

The competing risks model

Though there is quite a large difference between the TfW and comparison samples in the nature of the first job entered after the qualifying spell of unemployment, we need to test whether this remains when we control for other relevant differences between the two samples.² To do this, we have to simplify, otherwise sample numbers for the different outcomes become too small. Thus, we contrast full-time jobs as an employee with all other types of job, including both part-time and self-employed jobs, on the grounds that full-time jobs as an employee generally offer the most security

² For TfW participants, the qualifying spell of unemployment is the spell that immediately preceded their entry to TfW. For members of the comparison sample it is the matched spell in virtue of which they were included in the study (see Chapter 1).

and the biggest wages. As explained above, it was not possible to incorporate the temporary/permanent dimension into this classification directly.³

The type of model that is appropriate for this purpose is called a ‘competing risks’ model. We fit a discrete-time logistic duration model very similar to Model 3, except that in this case we model two different outcomes simultaneously. These outcomes are competing in the sense that the one precluded the other: no-one could enter both a full-time job as an employee and a part-time or self-employed job in the same month.⁴ Because the two outcomes are modelled simultaneously, we can make direct comparisons between the factors associated with each. As with Model 3, the exponentiated estimates for the predictor variables show their multiplicative effects on the odds of the outcome in question occurring in any given month, relative to the likelihood of not entering a job in that month, and conditional on the respondent having not entered a job at all up to month.⁵

The competing risks model was not developed separately: we simply fitted the same predictor variables as in Model 3. This made comparisons between the two models easier.

Programme effects

The competing risks model is shown as Model 6 in Table 5.3. The variables capturing the effects of participation in TfW are entered as time-varying covariates: months spent by the TfW sample while on TfW and months spent by the TfW sample after leaving TfW are compared with all months spent by the comparison group since the start of their qualifying spell of unemployment. As before, people were counted as getting a job while on TfW if they went straight from the programme to a job without any break in between, regardless of whether or not they had completed their course of training. They were counted as getting a job after leaving TfW if there was a gap of at least one month between leaving TfW and starting work, again, regardless of whether or not they had completed their training.⁶

As with Model 3 in Chapter 3, the programme effects show an interaction with previous unemployment (measured from January 1985 to the start of the qualifying spell); in other words, the impact of TfW differed according to whether or not participants had been unemployed previously. The following account of what these interaction effects mean relies to some extent on the explanation that has already been given in Chapter 3.

³ Arguments can be made in favour of different dichotomies – for example, contrasting all full-time jobs including full-time self-employed jobs with all part-time jobs. However, the small numbers taking self-employed jobs suggests that this would not change the picture very much.

⁴ Obviously in real life this is possible, but the work history diaries collected in the survey interviews forced the respondent to choose one main activity for each month.

⁵ See Chapter 2 for more explanation of how to interpret the coefficients of the logistic model, and Chapter 3 for a fuller account of the discrete time logistic duration model.

⁶ See Chapter 3 for more explanation. As with Model 3, estimates for months spent by the TfW sample before entering TfW are put in brackets as the research design made it impossible for a participant to get a job during this period.

Table 5.3
Discrete-time competing risks logistic duration model for the time from the start of the qualifying spell of unemployment to the start of a full-time job as an employee and to other types of job (Model 6)

	OUTCOME	
	A Full-time job as an employee <i>estimate</i>	B Other type of job <i>estimate</i>
Constant	0.01	0.00
<u>PROGRAMME EFFECTS</u> (time-varying)		
<i>Main effects of participation (if no previous unemployment):</i>		
Comparison group (Period before TfW)	1.00 (0.00*)	1.00 (0.00)
Period on TfW	4.23****	2.10****
Period after TfW	1.94****	1.84****
<i>Main effects of previous unemployment (if in comparison group):</i>		
None before current spell	1.00	1.00
Some before current spell	1.53**	1.39*
Current spell began before 1985	0.16*	0.17*
<i>Interaction of participation with previous unemployment</i>		
(Period before TfW with some previous unemployment)	(0.75)	(0.88)
(Period before TfW with current spell began before 1985)	(16.72)	(11.80)
Period on TfW with some previous unemployment	0.65**	0.84
Period on TfW with current spell began before 1985	4.71	9.52*
Period after TfW with some previous unemployment	1.21	0.88
Period after TfW with current spell began before 1985	12.74**	10.25**
<i>Total number of months spent on TfW (continuous)</i>	1.01	1.03***
<u>CONTROL VARIABLES</u>		
<i>Categorical control variables</i>		
<i>Age group:</i>		
18-24	1.00	1.00
25-34	0.43****	0.80
35-54	0.28****	0.69*
55 and older	0.12****	0.39***
No information	0.20**	0.59
<i>Sex and age of youngest child:</i>		
Male (regardless of children)	1.00	1.00
Female, no children under 18	1.11	1.94****
Female, at least one child under 5	0.47**	1.74**
Female, youngest child aged 5-17	0.93	2.37***
<i>Health and disability:</i>		
No long-term health problem or disability	1.00	1.00
Has long-term health problem or disability	0.61****	0.66***
Registered as disabled	0.64**	0.25****
<i>Housing tenure:</i>		
Owner-occupier	1.00	1.00
Social tenant	0.84	0.68**
Other	1.01	0.76

Table 5.3 continued over...

The ‘main effects’ of previous unemployment, that is, its impact for members of the comparison sample, shows that people who had been unemployed at some point before the start of their qualifying spell were more likely to get a full-time job as an employee than people with no previous unemployment. As in Chapter 3, we interpret previous unemployment as an indicator of flexibility in the range of jobs that people are prepared to consider. However, members of the comparison sample who had been continuously unemployed since 1985 had very low odds of getting a full-time job as an employee relative to people with no previous unemployment.

To calculate the effect of being on TfW for people with some previous unemployment, relative to the effect for the reference category, namely members of the comparison group who had no previous unemployment, we need to multiply the main effect of the period on TfW (4.23) first by the main effect of having some previous unemployment (1.53), and then by the effect for the interaction between these two factors (0.65). This yields an estimate of 4.21. Table 5.4 sets out the results of similar calculations for all combinations of the values of participation and previous unemployment.⁷

Table 5.4
Estimated multiplicative effects of TfW participation on the chances of getting a full-time job as an employee and of getting another type of job, by previous unemployment (derived from Model 6)

	Comparison group	<i>Participation:</i> Period on TfW	Period after TfW
(a) Full-time job as an employee			
<i>Previous unemployment:</i>			
None before qualifying spell	1.00	4.23	1.94
Some before qualifying spell	1.53	4.21	3.59
Qualifying spell began before 1985	0.16	3.18	3.95
(b) Other type of job			
<i>Previous unemployment:</i>			
None before qualifying spell	1.00	2.10	1.84
Some before qualifying spell	1.39	2.45	2.25
Qualifying spell began before 1985	0.17	3.40	3.21

These calculations show that, during the period that participants are on the programme, TfW levels out the differences in the chances of getting a full-time job between people with and without some previous unemployment (see part (a) of Table 5.4). In the period after leaving TfW, however, these differences re-emerge. Participation also seems to bring particular benefits to people who have been continuously unemployed for a very long period (since 1985), though the small

⁷ Excluding the period before TfW, which is not of interest.

sample size for this group and their special circumstances urge that this result should be treated with caution.

We turn now to column B of Table 6, which shows how TfW affected the chances of entering a part-time or self-employed job. The main effects of participation again show a positive impact. However, in this case the impact on job entry rates was only slightly greater during the period on TfW than in the period after leaving, and indeed similar in size to the impact on entry to full-time jobs as an employee in the period after leaving the programme. This pattern of results suggests that, while TfW helped participants to get both full-time jobs as an employee and other kinds of jobs, it was particularly helpful in enabling participants to move directly from the programme into a full-time job as an employee. The analyses in Chapter 4 suggest that this was probably because of participants on employer placements who were kept on by their placement employer after their time on TfW had come to an end.

The pattern of interaction effects for getting other types of jobs (part (b) of Table 5.4) has similarities to the pattern for getting a full-time job as an employee. We see a narrowing of the gap in job chances between sample members with and without previous unemployment in the period on TfW, and a subsequent re-opening of the gap in the period after leaving. However, the effect is not as strong as for full-time jobs as an employee. Once again, people whose qualifying spell of unemployment began before 1985 appear to gain particular benefits from the programme.

Another dimension of participation in TfW is captured by a further time-varying covariate measuring the total number of months spent on TfW so far.⁸ In Model 3 this variable was significant, indicating that extra time spent on TfW increased the overall chances of getting a job. The present model shows that this effect occurred because extra time on TfW improved the chances of getting a part-time job or a self-employed job, while having no significant impact on the chances of getting a full-time job as an employee.

We interpreted the effect of extra time on TfW on overall job chances as indicating that the programme gave participants skills and work experience that made them more employable. As this additional human capital should be relevant to all kinds of jobs, we need to explain why extra time on TfW only improved the chances of getting a part-time or a self-employed job, and not a full-time job as an employee. The answer to this conundrum probably lies in the 'starts and outcomes' payment structure for TfW, by which the length of time spent on TfW was irrelevant to the payment that a placement provider received for a participant.⁹ This meant that providers made most profit if the participant was given a very short placement with an employer, who then kept him or her on as an ordinary employee (thus yielding a successful outcome which attracted an extra payment). Thus, the length of time spent on TfW had two opposing effects on job chances, one positive (via an effect on human capital) and one negative (via the incentives in the funding structure to shorten as much as possible the placements that gave the best chance of a full-time job). These effects would tend to

⁸ The precise way in which this variable is computed is explained in Chapter 3.

⁹ See Chapter 1 for a discussion of the funding structure of TfW.

cancel each other out, producing the neutral overall effect on the chances of a full-time job as an employee that is seen in Model 6.

Control variables

The control variables in Model 6 operated largely as expected. The chances of a full-time job as an employee and of a part-time or self-employed job both decreased with age, but the impact of age was greater in the former case. Women whose youngest child was under school age were less likely than men to get a full-time job as an employee, and all groups of women, regardless of family composition, were more likely than men to get a part-time or self-employed job (this was likely to be primarily an effect on part-time employment rather than self-employment). Long-term health problems or disabilities reduced the chances of all kinds of job. People were more likely to get a full-time job as an employee if their spouse or partner was in paid work (either part-time or full-time) than if they did not have a partner in work. The chances of getting all kinds of job were increased by access to private transport. Extra time spent in full-time work before the start of the qualifying spell of unemployment increased the chances of getting both a full-time job as an employee and other kinds of job, but the effect was greater in the former case than in the latter. In contrast, extra time spent in part-time work before the start of the qualifying spell increased the chances of getting a part-time or self-employed job, but had no impact on the chances of getting a full-time job.

Only two results have no immediately obvious explanation. The first is that social tenants had poorer chances than owner-occupiers of getting a part-time or self-employed job, but the effect of social tenancies on the chances of getting a full-time job as an employee did not reach significance. This may possibly be connected with the operation of the system of Housing Benefit, which may make it disadvantageous for unemployed rent-payers to take low-paying part-time jobs. The second is that speaking English as a second language appeared to be no barrier to securing a part-time or self-employed job, but substantially reduced the chances of getting a full-time job as an employee. This may reflect the segmented nature of the British labour market, in which people of Asian origin are concentrated in particular occupations and have very high rates of self-employment.

Illustrating the model results

Chart 5.1 illustrates the results of Model 6 by plotting the cumulative proportions of the TfW and comparison samples who were estimated by the model to have entered a full-time job as an employee or other kinds of jobs, at monthly intervals from the eighth month after the start of the qualifying spell of unemployment up until the 48th.¹⁰ Note that the chart only depicts the cumulative impact of the first job entry. As some

¹⁰ See Chapter 3 for an explanation of how to read this chart, and of why we chose these specific values for the time axis.

people later left this first job, it does not represent the proportions of the two samples who were actually in a job of a particular kind in any given month.

The chart shows that the cumulative advantage of TfW participants in getting a full-time job as an employee emerged very early on, and widened rapidly. In contrast, there was very little difference between participants and non-participants in the cumulative proportions entering other kinds of jobs. For the first two and a half years after the start of the qualifying spell of unemployment, members of the comparison sample were slightly more likely than TfW participants to have taken a part-time or a self-employed job. After this point they were overtaken by participants, but the gap between the two samples remained narrow.

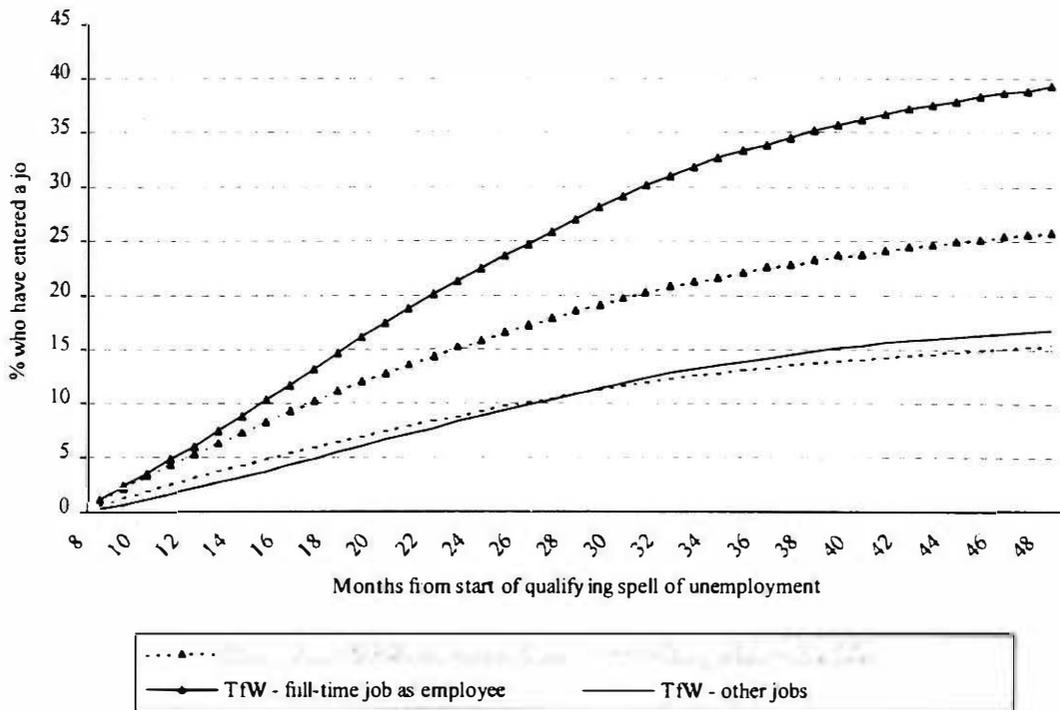
Table 5.5 gives the estimated cumulative proportions of the two samples who had entered the two types of job by specific points in time in tabular rather than graphic form. At nine months after the start of the qualifying spell of unemployment, very few of either group had started either a full-time job as an employee or another type of job. By 48 months after the start of the qualifying spell, 39 per cent of TfW participants were estimated to have entered a full-time job as an employee, compared to 26 per cent of non-participants. Meanwhile almost as many non-participants as participants had started a part-time or a self-employed job (16 per cent compared to 17 per cent of participants). Note, however, that these are maximal estimates of the impact of TfW, as they incorporate not only the advantage derived from the programme, but also any residual effect of selectivity into TfW not eliminated by the matching process or the control variables in Model 6.¹¹ However, as we argued in Chapter 3, any such residual effects are likely to be small.

Table 5.5:
Fitted cumulative percentages of the re-matched TfW and comparison samples who had entered a full-time job as an employee and other kinds of jobs at specified intervals from the start of the qualifying spell of unemployment

	<i>Full-time job as an employee</i>		<i>Part-time or self-employed job</i>	
	TfW	Comparison	TfW	Comparison
9 months	2	2	1	1
12 months	6	5	2	3
18 months	15	11	5	7
24 months	22	16	9	9
30 months	29	20	12	12
36 months	34	23	14	13
42 months	37	24	16	15
48 months	39	26	17	16

¹¹ Note that if we add together the separate estimates in Table 5.5 for full-time jobs as an employee and for part-time or self-employed jobs, then after about 36 months the total starts to differ slightly from the corresponding estimates for any kind of job shown in Table 3.3 (Chapter 3) derived from the simple duration model Model 3 fitted to the same data. This is because sample numbers start to fall at this point, leading to some instability in the underlying ‘hazard rate’ (the probability that the event will occur in any given month, given that it has not occurred so far).

Chart 5.1
Fitted cumulative percentages of the TfW and comparison samples entering a full-time job as an employee or other kinds of jobs over time



Conclusion

This chapter has shown that TfW had a stronger impact on the chances of starting a full-time job as an employee than on the chances of starting a part-time or a self-employed job. Our results suggests that employer placements within TfW, which gave participants a chance of being kept on after their time on the programme had come to an end, played a role in producing this pattern. However, there was also evidence that TfW led to gains in the longer term in the chances of securing both full-time jobs as an employee and other types of jobs, suggesting that the programme improved employability.

6 Impact of TfW on wages

Introduction

The analysis of wages is a very important part of the evaluation of a labour market programme because wages are the best indicator we have of a worker's productivity. Improvements in skill levels and work experience gained through participation should lead people to get better paid jobs than they would otherwise have obtained. If this effect is found, then we can assume that the programme's wider economic effects are beneficial.

In the present study, respondents were asked about their earnings in the job that they held when they were interviewed in the summer of 1997. If they were not in work at that time, then they were asked about their usual earnings in their most recent job, provided that this job was held after the qualifying spell of unemployment.¹ Of the 1637 respondents in the re-matched TfW and comparison samples, 714 had a job at interview and a further 224 had been in a job since the start of the qualifying spell of unemployment but were not in work at interview. This yields 938 respondents for analyses of current or non-current jobs. Of these, 759 had valid data on all of the variables used in the analyses. Most of the missing data was on the pay variable, and there was a particularly large number of missing values for non-current jobs because of the additional need to provide an end date for the job, so that wages in these jobs could be uprated to June 1997 values. Of the 714 respondents with current jobs, 615 had valid data on all variables.

Table 6.1
Sample numbers for wages analysis

	Current job		Current or non-current job	
	<i>N</i>	%	<i>N</i>	%
TfW sample	377	61	451	59
Comparison sample	238	39	308	41
Total	615	100	759	100
<i>Type of placement (TfW sample only):</i>				
Employer placement	189	50	222	49
Project placement	30	8	35	8
Full-time off-the-job training	138	37	167	37
Other	20	5	27	6
Total	377	100	451	100

¹ This is the spell which made them eligible for entry to TfW, or, in the case of the comparison sample, by virtue of which they were included in the matched comparison sample (see Chapter 1).

Table 6.1 summarises the numbers of respondents with valid data in each of the three main strands within TfW that are distinguished in the analysis: employer placements (with either employed or trainee status and with or without off-the-job training), project placements (with or without off-the-job training) and full-time off-the-job training.²

Observed mean pay

Table 6.2 gives the mean observed gross hourly wage rates for the categories identified above, uprated to June 1997 values where appropriate, but before any adjustments are made for the respondent's other characteristics.

Independent samples t-tests were carried out to test for any significant pay differences by category. The mean for the TfW sample as a whole was tested against the mean for the comparison sample, and the mean for each type of placement on TfW was tested individually against the comparison sample mean. Only one statistically reliable difference (significant at the five per cent level) was found, namely that people who had done project placements on TfW earned less in their current job than the comparison sample.

Table 6.2
Mean gross hourly wage rates by sample and type of placement on TfW

	Current job	Current or non-current job
TfW sample	£4.72	£4.75
Comparison sample	£4.85	£4.67
Total	£4.77	£4.72
<i>Type of placement (TfW sample only):</i>		
Employer placement	£4.71	£4.65
Project placement	£4.25	£4.90
Full-time off-the-job training	£4.82	£4.88
Other	£4.77	£4.72

Note: See Table 6.1 for the Ns on which these means are based.

Modelling strategy

The purpose of the wages analysis was to see whether participation in TfW, and type of placement within TfW, had any impact on pay. All the models were fitted both to the sample of those with wage data for current jobs and to the larger sample of those with wage data for either current or non-current jobs.

² Respondents were included in the employer placement group even if they had also been on a project placement for part of their time on TfW (see Chapter 4).

Two types of model were fitted. Firstly, reduced form models were constructed, which used only control variables which were almost certainly exogenous in the TfW process. Examples of such variables are age, gender, household characteristics, prior work experience, length of the qualifying spell of unemployment and prior academic qualifications. Secondly, comprehensive specifications were used, which included job and employer characteristics as well as the exogenous control variables. Examples of these are occupation, industry, size of establishment, and so on. These variables cannot really be considered exogenous, because one way in which TfW could have helped people into higher paid jobs was by increasing their access to high-paying occupations. Using job and employer characteristics as control variables may therefore lead us to underestimate the effect of TfW. Nevertheless it was considered important to develop these models, because it was only with the inclusion of job and employer characteristics that the models could explain sufficient wage variation to be considered in any way reliable. The reduced form variables typically explain about ten per cent of the pay variation, with the employer and job characteristics contributing a further 20 per cent. Unless otherwise stated, it is the comprehensive specifications that are referred to below.

As a prelude to the wages models, probit work participation models (not shown) were constructed in order to calculate the appropriate Heckman sample selection bias correction variables (Heckman 1979). These models had typical levels of explanatory power and most of the variables had the expected signs.

Wage models

Model 7A in Table 6.3 is a wage model for those in work at the time of interview. It measures the effect of TfW participation on wages through the use of a single binary variable indicating whether the respondent belonged to the TfW or to the comparison sample. Model 8A in Table 6.4 does likewise for those in current or non-current jobs.

These models have levels of explanatory power that are lower than would be expected for a nationally representative sample of employees. This is mainly because the sample members did not have the wide variation in levels of education and work experience which provides much of the explanatory power in this type of wage model. The level of explanatory power is similar to that found for the wages models in our earlier evaluation study of Employment Training and Employment Action, which was based on a research design very similar to that used in the present study (Payne, Lissenburgh, White and Payne, 1996).

In both Model 7A and Model 8A the variable capturing participation in TfW is non-significant, indicating that TfW had no impact on wages. Versions B - D of these models, also shown in Tables 6.3 and 6.4, adopt alternative ways of capturing participation, in an attempt to identify any programme effects.

Models 7B and 8B replace the single variable indicating whether respondents were in the TfW or comparison sample with three variables capturing the particular strand of TfW they were on on, namely whether it involved an employer placement, a project placement, or full-time off-the-job training. Again, there is no programme effect. Other

specifications were attempted, including combinations of employer placements and full-time off-the-job training, but no programme effects emerged.

Table 6.3
OLS regression models for the wages of those in work at the time of interview (Models 7A-7D)

	7A	7B	7C	7D
	<i>estimate</i>	<i>estimate</i>	<i>estimate</i>	<i>estimate</i>
Constant	1.33	1.33	1.31	1.30
TfW sample	-0.02	-	-	-
TfW employer placement	-	-0.03	-	-
TfW project placement	-	-0.04	-	-
TfW full-time off-the-job training	-	-0.00	-	-
Number of months on TfW	-	-	-0.00	-
Gained qualifications on TfW	-	-	-	0.02
Age 25-34	0.15****	0.15****	0.15****	0.15****
Age 35-44	0.16****	0.15****	0.15****	0.15****
Age 45-54	0.13***	0.13***	0.13***	0.13***
Age 55+	0.23***	0.23***	0.22***	0.22***
Vocational qualifications	0.07**	0.07**	0.07**	0.07**
Females working full-time	-0.11***	-0.11***	-0.11***	-0.11***
Females working part-time	-0.11**	-0.11**	-0.11**	-0.11**
Extractive or manufacturing industry	0.07**	0.07**	0.07**	0.07**
SOC 1 (Managers & administrators)	0.20***	0.20***	0.20***	0.20***
SOC 2 (Professional)	0.38****	0.38****	0.39****	0.39****
SOC 3 (Associate professional & technical)	0.30****	0.30****	0.30****	0.30****
SOC 8 & 9 (Plant & machine operatives & other)	-0.08**	-0.08**	-0.08**	-0.08**
Supervisory responsibilities	0.15****	0.15****	0.15****	0.15****
Self-employed	0.10*	0.10*	0.11*	0.11*
Workplace has under 10 employees	-0.14****	-0.14****	-0.14****	-0.14****
Workplace has 100 or more employees	0.09**	0.09**	0.09**	0.09**
Trade union at workplace	0.13***	0.13***	0.12***	0.12***
Has written contract of employment	0.13****	0.13****	0.13****	0.13****
Sample selection bias correction variable	-0.18****	-0.18****	-0.17****	-0.16***
	<i>Adjusted R²</i>	<i>Adjusted R²</i>	<i>Adjusted R²</i>	<i>Adjusted R²</i>
	0.28	0.28	0.28	0.28
	<i>Degrees of freedom</i>	<i>Degrees of freedom</i>	<i>Degrees of freedom</i>	<i>Degrees of freedom</i>
	594	592	594	594

Significance levels: * 10% ** 5% *** 1% **** 0.1%

Reference categories:

Models 7A and 7B: comparison sample

Model 7C: comparison sample or 'other' TfW

Model 7D: comparison sample or did not gain qualifications on TfW

All models: age 18-24; no vocational qualifications; male; industry not extractive or manufacturing;

SOC 4, 5, 6 or 7; no supervisory responsibility; workplace not self-employed and employs 10-99

employees; no union at workplace; no written contract of employment.

Models 7C and 8C try to capture the programme effect through a variable measuring the total number of months that participants spent on TfW (assuming a linear relationship between time spent on TfW and pay). This too was non-significant. An alternative programme variable measuring whether participants had spent one, two or more spells on TfW also had no predictive power (model not shown).

Table 6.4
OLS regression models for the wages of those with a current or non-current job (Models 8A-8D)

	8A	8B	8C	8D
	<i>estimate</i>	<i>estimate</i>	<i>estimate</i>	<i>estimate</i>
Constant	1.25	1.25	1.26	1.25
TfW sample	0.02	-	-	-
TfW employer placement	-	-0.01	-	-
TfW project placement	-	0.04	-	-
TfW full-time off-the-job training	-	0.04	-	-
Number of months on TfW	-	-	0.00	-
Gained qualifications on TfW	-	-	-	0.03
Age 25-34	0.14****	0.14****	0.14****	0.14****
Age 35-44	0.10**	0.10**	0.10**	0.10**
Age 45-54	0.10**	0.10**	0.11**	0.10**
Age 55+	0.18**	0.17**	0.18**	0.18**
Vocational qualifications	0.06**	0.06**	0.06**	0.06**
Driving licence	0.07**	0.07**	0.07**	0.07**
Long-standing health problem or disability	-0.10**	-0.10**	-0.10**	-0.10**
Females working full-time	-0.13****	-0.12***	-0.12****	-0.12****
Females working part-time	-0.11**	-0.10**	-0.11**	-0.11**
Extractive or manufacturing industry	0.08***	0.08***	0.08***	0.08***
SOC 1 (Managers & administrators)	0.21***	0.21***	0.21***	0.21***
SOC 2 (Professional)	0.41****	0.41****	0.40****	0.41****
SOC 3 (Associate professional & technical)	0.28****	0.28****	0.28****	0.27****
SOC 8 & 9 (Plant & machine operatives & other)	-0.08***	-0.08***	-0.08***	-0.08***
Supervisory responsibilities	0.15****	0.15****	0.15****	0.15****
Workplace has under 10 employees	-0.17****	-0.17****	-0.17****	-0.17****
Trade union at workplace	0.13****	0.13****	0.13****	0.13****
Has written contract of employment	0.13****	0.13****	0.13****	0.13****
Sample selection bias correction variable	-0.08	-0.08	-0.08	-0.08
	<i>Adjusted R²</i>	<i>0.26</i>	<i>0.26</i>	<i>0.26</i>
	<i>Degrees of freedom</i>	<i>738</i>	<i>736</i>	<i>738</i>

Significance levels: * 10% ** 5% *** 1% **** 0.1%

Reference categories:

Models 8A and 8B: comparison sample

Model 8C: comparison sample or 'other' TfW

Model 8D: comparison sample or did not gain qualifications on TfW

All models: age 18-24; no vocational qualifications; no driving licence; no long-term health problem or disability and not registered as disabled; male; industry not extractive or manufacturing; SOC 4, 5, 6 or 7; no supervisory responsibility; workplace self-employed or more than 9 employees; no union coverage; no written contract of employment

Models 7D and 8D measure participation in TfW by a variable indicating whether any qualifications were obtained through the programme. This variable was again non-significant. An alternative variable for whether the participant studied for any qualifications under TfW was also non-significant (model not shown).

Only in Model 9 (Table 6.5) was it possible to discern any impact of TfW on wages. Here the programme effect was captured by a variable indicating participants who both

had an employer placement on TfW and also got qualifications through the programme. This variable was marginally significant (at the 10 per cent level) in the reduced form version of the model for current or non-current jobs, but was not significant in either the comprehensive version or the equivalent reduced form model for current jobs (models not shown). Furthermore, the adjusted R² for the model is less than 0.10. The result is therefore not very robust.

Table 6.5
Reduced form OLS regression model for the wages of those with a
current or non-current job (Model 9)

	<i>estimate</i>
Constant	1.73
Employer placement & got qualifications on TfW	0.09*
Age 25-34	0.15****
Age 35-44	0.15***
Age 45-54	0.13***
Age 55+	0.20**
Vocational qualifications	0.09***
Driving licence	0.09***
Long-standing health problem or disability	-0.08*
Female	-0.12****
Sample selection bias correction variable	-0.17***
	<i>Adjusted R²</i> 0.09
	<i>Degrees of freedom</i> 748

Significance levels: * 10% ** 5% *** 1% **** 0.1%

Reference categories:

Comparison sample, or did not *both* have an employer placement *and also* gain qualifications on TfW; age 18-24; no vocational qualifications; no driving licence; no long-term health problem or disability and not registered as disabled; male.

Only about a fifth of participants both had an employer placement on TfW and also got qualifications through the programme, which, for 95 per cent of the group, were vocational qualifications. Table 6.6, which compares the employer and job characteristics of this group with those of other TfW participants and of the comparison sample, reveals the sources of their pay advantage. It shows that participants who both had employer placements and got qualifications were clustered in the higher-level occupations (SOCs 1, 2 and 3) which Models 7 and 8 show attract a pay premium. Likewise, they were under-represented in the lower grade occupations, which suffer a pay penalty, and to a lesser extent they were under-represented in the low-paying small workplaces. They were also more likely than the other groups to have a contract of employment, which is also associated with higher pay, probably because it is a proxy for a 'good' employer.

Table 6.6
Employer and job characteristics (in current or non-current job) of TfW participants who both had an employer placement and also gained qualifications through TfW, compared with other TfW participants and the comparison sample

	Employer placement + qualifications	Other TfW participants	Comparison sample
<i>Percentage of each group:</i>			
In SOC 1, 2 or 3	24%	10%	12%
In SOC 8 or 9	24%	38%	44%
With < 10 employees at workplace	16%	18%	24%
With a written contract of employment	68%	58%	45%
<i>Base N</i>	87	364	308

Base sample: those with current or non-current job

Conclusion

Overall, it is clear, both from the observed mean pay for participants and non-participants and from our statistical models, that TfW had relatively little impact on pay. There is not much evidence from this quarter therefore that the programme benefited the wider economy by improving levels of productivity.

Any evidence that there is of a pay effect is associated with a combination of employer placements and gaining qualifications, though it must be emphasised that this evidence was weak at best. From a human capital perspective, the positive effect of qualifications on pay results from the enhanced productivity which they confer, which should in turn lead to greater employability. The analysis in Chapter 4 led us to infer that the main benefit of employer placements for TfW participants was to give them better access to labour markets. The fact that qualifications only had an effect on pay if combined with employer placements therefore suggests that for long-term unemployed people, greater employability is only of benefit if combined with improved access to labour markets.

The issue of how qualifications gained on TfW affect job prospects is raised again in the next chapter, when we examine the factors that make some TfW participants more successful in the job market than others.

7 Which elements of TfW helped participants most?

Introduction

Previous chapters have presented fairly strong evidence that people who had been unemployed for six months or more improved their chances of getting a job by going on TfW. TfW, however, was a big programme which took a variety of different forms and involved a range of different elements. In this chapter we explore which aspects of the broad TfW programme were of most benefit to participants.

In Chapter 4 we evaluated the impact on job chances, relative to non-participation, of TfW's main strands - employed status, employer placements with trainee status, project placements, and full-time off-the-job training. These distinctions are re-visited here, but we also examine the role of other aspects of the programme, including whether participants received assessment and guidance on entry, the type of occupation for which they were trained, qualifications sought and gained, and help provided with job search.

Modelling strategy

We already know from Chapter 2 that allocation of TfW entrants to the main strands of the TfW was selective. Therefore, to explore the impact of different experiences on the programme, we need to fit a statistical model that controls for differences in the characteristics of people getting different experiences on the programme. Furthermore, in order to explore simultaneously the impact of several aspects of experiences on TfW, we need to restrict the model to the TfW sample. This is because there was by definition no variation among members of the comparison sample on any of the variables that capture different experiences on TfW.

We use a discrete time logistic duration model for the time taken to enter paid work, as, in addition to its other advantages,¹ this type of model allows us to test whether any benefits from different experiences on TfW occurred during the programme (helping people to move directly from TfW into a job), or after leaving the programme (helping people who had already left TfW and returned to the unemployment register to find a job). This distinction is very helpful in understanding how TfW achieved its impact. Note, however, that it takes no account of whether participants had completed their training or placement on TfW at the time that they left.

The model is similar to Model 3 in Chapter 3, and readers are referred to that chapter and to Chapter 2 for an explanation of what the model does and how to interpret the coefficients of its predictor variables. However, because the model is based only on

¹ See Chapter 3.

TfW participants, we can take the month in which respondents entered TfW as our starting point for modelling time to the start the first job, rather than taking the seventh month after the start of the qualifying spell of unemployment as we did in Models 3 and 6.

Table 7.1
Discrete-time logistic duration model for the time from the start of TfW to the start of any paid work: re-matched TfW sample only (Model 10)

	<i>estimate</i>
Constant	0.09
<u>PROGRAMME EFFECTS</u>	
<i>Main effects</i>	
(if on trainee status employer placement & gained no qualifications on TfW):	
Period on TfW	1.00
Period after TfW	0.64***
<i>Main effects</i>	
Employer placement trainee status	1.00
Employed status	2.99****
Project placement	0.47***
Full-time off-the-job training	0.85
Other	1.29
<i>Main effects</i>	
None	1.00
NVQ 1 equivalent and other qualifications	0.80
NVQ 2 equivalent	0.48****
NVQ 3 equivalent	0.37****
NVQ 4 equivalent and higher	0.36***
<i>Interaction of participation with placement type:</i>	
Period after TfW with employed status	0.29**
Period after TfW with project placement	1.17
Period after TfW with full-time off-the-job training	0.89
Period after TfW with other	0.41**
<i>Interaction of participation with qualifications gained on TfW:</i>	
Period after TfW with NVQ 1 equivalent and other qualifications	1.19
Period after TfW with NVQ 2 equivalent	1.79**
Period after TfW with NVQ 3 equivalent	2.63**
Period after TfW with NVQ 4 equivalent and higher	4.06***
<i>SOC of TfW occupation:</i>	
Plant & machine operatives	1.00
Managerial, administrative, professional, associate professional & technical	0.60**
Clerical & secretarial	0.72*
Craft & related	0.69*
Personal & protective service; sales	0.62**
Other (low skilled)	0.62*
‘No particular occupation’ & no information	0.70*
Total number of months spent on TfW (time-varying and continuous)	1.03***
TfW provider gave information on jobs could apply for (binary)	1.25**

Table 7.1 continued over...

Table 7.1 continued...

	<i>Estimate</i>
CONTROL VARIABLES	
<i>Categorical control variables</i>	
<i>Age group:</i>	
	18-24 1.00
	25-34 0.63***
	35-54 0.47****
	55 and older 0.25****
	No information 0.41
<i>Sex and age of youngest child:</i>	
	Male (regardless of children) 1.00
	Female, no children under 18 1.33**
	Female, at least one child under 5 1.20
	Female, youngest child aged 5-17 1.71**
<i>Health and disability:</i>	
	No long-term health problem or disability 1.00
	Has long-term health problem or disability 0.67***
	Registered as disabled 0.52***
<i>Housing tenure:</i>	
	Owner-occupier 1.00
	Social tenant 0.59****
	Other 0.82
<i>Partner's employment:</i>	
	No spouse/partner or spouse/partner not in paid work 1.00
	spouse/partner in full-time paid work 1.13
	spouse/partner in part-time paid work 1.45*
<i>Previous unemployment:</i>	
	None before current spell 1.00
	Some before current spell 1.25**
	Current spell began before 1985 1.22
<i>Binary control variables</i>	
	Has full current driving licence 1.23*
	Has regular access to car, van or motorcycle 1.37***
<i>Continuous control variables</i>	
	Months in full-time work from Jan 1985 to start of current unemployment spell 1.01****
<i>Sample size: persons</i> 822	
<i>Sample size: person months</i> 4218	
<i>Scaled deviance</i> 12559	

Significance levels: * 10% ** 5% *** 1% **** 0.1%

Our new model was developed independently of Model 3. This means that we did not automatically include all the control variables that were significant in Model 3, or exclude those that were non-significant. Instead each term that was potentially related to job chances was tested separately for whether it improved the fit of the current model. It should not surprise us, however, that many of the control variables proved

to have effects similar to their effects in Model 3. The final version of the model that we present is parsimonious, in that it only incorporates significant terms.

As in Model 3, we model the odds of entering any paid work, including both full-time and part-time work, and work both as an employee and as self-employed. We know from Chapter 5 that TfW had a much greater impact on the chances of getting a full-time job as an employee than on the chances of getting any other type of job, but given that sample size was already halved by restricting the model to the TfW sample, a competing risks model with a three-way rather than a two-way dependent variable was unlikely to produce useful results in this smaller sample. The model that we developed is shown as Model 10 in Table 7.1.

Placement type and qualifications

Model 10 includes some significant interactions whose interpretation needs care, but which shed a lot of light on how TfW achieved its effect. The first predictor variable, participation, is a time-varying co-variate that indicates whether participants were on TfW or had left the programme.² The main effects of this variable show the impact of being in a month after leaving TfW, relative to the impact of being in a month on TfW, for people in the reference categories of the two variables with which period is interacted, namely placement type and qualifications gained. Thus, the main effects of period show that, for people who had trainee status on employer placements under TfW and who gained no qualifications on the programme, the chances of getting work were greater while still on TfW than after having left TfW and returned to the unemployment register. In other words, their best chances of getting work lay in going straight from TfW to a job. This is by now a familiar idea, and it tells us that a number of people with trainee status on employer placements were kept on by their TfW employer after their time on the programme had come to an end.

The main effects of placement type show that, while on TfW (the reference category of period, the variable with which placement type is interacted), employed status participants had better chances of getting work than those in the reference category of trainee status on employer placements. Employed status participants were of course already in a job while they were on TfW. Their superior job chances while on TfW compared to other participants should be interpreted as showing that, after their TfW training came to an end, they had a good chance of either keeping their TfW job or moving immediately into another job. During the same period, participants on project placements had much worse chances of getting a job than people in the reference category, while the job chances of those getting full-time off-the-job training did not differ significantly from the job chances of people in the reference category.

² See Chapter 3 for an explanation of time-varying co-variables. It will be recalled from Table 2.1 in Chapter 2 that 7 per cent of the re-matched TfW sample had employed (or self-employed) status on the programme, 32 per cent had trainee status on an employer placement, 12 per cent had a project placement, 40 per cent received full-time off-the-job training, and 9 per cent said that they did none of these things while on TfW (the 'other' group).

However, of particular interest in Model 10 is the interaction between participation and placement type. This shows that the advantages of employed status only applied to the period while on TfW; if employed status participants left TfW and became unemployed again, then they had no better chance of getting a job than participants with trainee status on employer placements.³ In other words, employed status participants only did better than those with trainee status on employer placements because so many of them were kept on by the same employer after their training under TfW had come to an end.⁴

The second interaction in the model is between participation and qualifications gained on TfW. The main effects of qualifications show their association with job chances while on TfW. During this period, gaining anything other than the lowest level qualifications had a significant and negative association with job chances. This means that people who gained good qualifications on TfW were *less* likely to move straight from TfW to a job than people who gained no qualifications at all. However, the interaction between period and qualifications shows that, once participants had left TfW, this negative association was effectively cancelled out. Having left TfW and returned to the unemployment register, people who had gained qualifications equivalent to NVQ level 1 or NVQ level 3 were almost as likely to get jobs as those who had not gained any qualifications at all. Furthermore, in the months after leaving TfW, people who had gained qualifications of NVQ level 4 or higher gained some reward from their efforts, as they were more likely to get jobs than people who had gained no qualifications on TfW. Only participants who had gained qualifications equivalent to NVQ level 2 were possibly still at a slight disadvantage.⁵

Of course participants were unlikely to have completed their qualifications until they came to the end of their time on TfW, and so we would not expect them to reap the

³ The effect for participants with employed status in the period after TfW who gained no qualifications on TfW, relative to the base category (those with trainee status on employer placements in the period on TfW who gained no qualifications) is calculated as follows: the effect for the period after TfW (0.64) x the effect for having employed status (2.99) x the interaction between these two terms (0.29) = 0.55. This is slightly smaller than the effect of 0.64 for those with trainee status on employer placements in the period after TfW who gained no qualifications on TfW.

⁴ In the raw data, before any adjustment has been made for other differences between participants on different placement types, 93 per cent of employed status participants had started a job by the time they were last interviewed, compared to 79 per cent of those with trainee status on employer placements, 45 per cent of those on project placements and 62 per cent of those who received full-time off-the-job training. Among those who had started a job (again, before adjusting for other differences between sample members), 88 per cent of those with employed status moved straight from TfW to a job, compared to 62 per cent of those with trainee status on an employer placement, 42 per cent of those on project placements, and 43 per cent of those who received full-time off-the-job training.

⁵ Calculating the effects in the period after

footnote 4 above, we get the following coefficients, which show the effects of qualifications gained relative to the base category (period on TfW, gained no qualifications, trainee status employer placement): gained no qualifications = 0.64; gained NVQ1 or other qualifications = 0.61; gained NVQ2 = 0.55; gained NVQ 3 = 0.62; gained NVQ 4 or higher = 0.94. The ratios of these coefficients show their relative effects in the period after TfW (for those with trainee status on employer placements). For example, the odds of entering a job in any given month after TfW, given that the respondent had not entered a job so far, for someone who had gained qualifications of NVQ level 4 or higher on TfW were estimated to be $0.94/0.64 = 1.47$ times higher than the odds for someone who had gained no qualifications.

full benefit until they had left TFW. Nevertheless qualifications generally have a strong positive effect on job chances for unemployed people⁶, and so we need to ask why they did not have any overall strong positive effect for TFW participants. Several hypotheses present themselves.

Table 7.2
Whether looked for work while on TFW (re-matched TFW sample)

	<i>Highest qualifications gained on TFW</i>			<i>All</i>
	None %	NVQ 1 or other %	NVQ 2 or higher %	
Looked for work throughout TFW	48	49	45	47
Started looking quite early on TFW	12	5	17	12
Started looking towards end of time on TFW	6	14	19	11
Didn't look for work while on TFW	32	31	18	28
No information	2	1	1	2
Total	100	100	100	100
<i>Base N</i>	<i>460</i>	<i>147</i>	<i>215</i>	<i>822</i>

Note: The table is based on the survey question: 'Did you look for work while you were on TFW? Which of these comes closest?' Respondents who chose either of the following two answers are classed as starting looking quite early: 'I started looking soon after I started on the programme'; 'I started looking about half way through'.

First, it is possible that TFW participants who were concentrating on completing their qualifications neglected to search for work while still on TFW, preferring to defer their job search until after they had secured their qualifications. However, our data offer no support for this hypothesis. Table 7.2 shows that participants who gained qualifications of NVQ 2 standard or higher were more likely to look for work while still on TFW - and to start looking quite early - than participants who gained only low level qualifications or none at all.

A second hypothesis is that most participants preferred getting a job as soon as possible to completing their qualifications. If this was true, then people who were offered jobs while they were still on TFW would tend to abandon their qualifications in order to start work, while people who tried but failed to find work while still on TFW had time to complete their qualifications before leaving. It would follow from this that people who gained qualifications on TFW would have on average a higher risk of failing in job applications than people who did not complete their qualifications, and this would explain the very modest benefits, if any, that their qualifications brought them. This hypothesis has a good deal of plausibility, but we do not have any data in the present study to test it directly.

A third hypothesis is that the type of placements that were most likely to lead to qualifications were also the placements that were least likely to lead directly to jobs.

⁶ See, for example, Payne, Casey, Payne and Connolly 1996.

This, of course, is entirely compatible with the previous hypothesis, and it is possible that both mechanisms were at work. Some support for both is provided by Table 7.3, which shows that TfW participants with employed status were less likely to study for qualifications and less likely to gain qualifications than participants on any other type of placement. In addition, employed status participants who started studying for a qualification had the lowest rate of successful completion amongst all placement types. Qualifications were most likely to be gained by participants who had full-time off-the-job training. This group did not have the advantage of ready access to labour markets that employed status or employer placements gave, and we already know from Chapter 4 that their overall job chances were well below those of participants on either of these two strands.

Table 7.3
Percentage of TfW participants studying for and gaining qualifications, by type of placement (re-matched TfW sample)

	% of participants who studied for a qualification	% of participants who gained a qualification	% of those who studying for a qualification who gained one
<i>Type of TfW placement:</i>			
Employed or self-employed status (Base N)	34 (55)	16 (55)	47 (19)
Employer placement trainee status (Base N)	72 (267)	43 (267)	60 (193)
Project placement (Base N)	63 (100)	41 (100)	65 (63)
Full-time off-the-job training (Base N)	81 (330)	52 (330)	64 (267)
Other (Base N)	53 (70)	39 (70)	73 (37)

Other aspects of experiences on TfW

As Model 10 shows, another aspect of TfW that was related to job chances was the type of occupation for which participants were training. Plant and machine operatives tended to get jobs more quickly than any other occupational group. Differences between other occupational groups were not great, though clerical and secretarial workers and craft and related workers possibly got work a little faster than the rest. People training as plant and machine operatives were more likely to have employed status on TfW than any other occupational group - 29 per cent had employed status compared to an average for the re-matched TfW sample as a whole of only seven per cent. Though this was a factor in the overall relative success of this group in getting jobs, Model 10 controls for placement type, and so we need to look further to explain their advantage compared to participants in other training occupations. One possibility is that the limited length and level of training that was feasible under TfW

was better suited to preparing people for semi-skilled occupations than to preparing them for higher level jobs.⁷

Model 10 also shows that, after controlling for the other variables in the model, the chances of getting a job increased with increasing time spent on TfW. This is a reassuring result, as it suggests that the effectiveness of TfW did not lie solely in the access that it gave unemployed people to job markets through employer placements. Given that the model already controls for qualifications gained on TfW, it suggests that work experience of a reasonable length and the skills acquired thereby also helped participants to secure a job.

However, few other elements in TfW made any difference to participants' job chances. The survey collected information on a wide range of factors, including whether they were given advice or guidance about training, whether they were offered a choice of placement, whether they had an Action Plan, whether they were given practical help with job search such as access to telephones or photocopying, whether they were given training in job search techniques, whether they were given numeracy or literacy training, whether they discussed their plans with anyone, whether they were given time off to look for jobs, and whether they joined a Job Club. None of these was significantly related to job chances in our data set, though in the case of numeracy and literacy training this may have been because of small sample numbers and complex interactions with other factors that we were unable to detect. Whether participants had completed their placement or training by the time they left TfW also made no difference to job chances, though some of the impact of this variable would be taken up by the variable measuring qualifications acquired, which was already included in the model. As Model 10 shows, only one aspect of TfW provision appeared to improve job chances, namely giving participants information about jobs they could apply for. Roughly two in five participants on all placement types received such information, apart from those who already had employed status.

In theory, better guidance on entry to TfW should have led to a better match between participant and placement, and so ultimately to a more successful outcome. However, Taylor and Killeen (1995) have reported, on the basis of a large study of both professionals and participants in TfW, that assessment and guidance on the programme was usually brief. Although most participants seemed to be satisfied with the service provided, and although more comprehensive assessment and guidance was associated with more satisfaction among participants, Taylor and Killeen could find no clear relationship between the number and range of assessment and guidance activities provided and objective programme outcomes. They suggested that this may have been because participants who were most disadvantaged in labour market terms tended to be given most attention on entry to TfW. Of course, their study took place under the old funding regime for TfW, which placed less emphasis on successful outcomes than the 'starts and outcomes' regime that replaced it,⁸ so we cannot be entirely confident that what they found in 1993 and 1994 still held true at the time that the data for the present study were collected. However, the apparent lack of impact

⁷ An old but still relevant discussion of the problems encountered in trying to train people up to the level of skilled workers in a short period of time can be found in Berthoud, 1978.

⁸ See Chapter 1.

that initial advice and guidance under TfW had on eventual job entry suggests that some effort will be needed to achieve the current policy aim of setting up effective gateways for unemployed people that lead them on to the right kind of provision.

Job search training was also an integral element of TfW that placement providers were required to supply for all participants. However, Atkinson's (1994) study of TECs, TfW providers and TfW participants found a wide gap between what providers said they offered and what participants said they received. Though the author found that the proportion of participants getting a job after TfW was greater for those who had received job search training than for those who had not received job search training, he did not control for possible confounding factors such as age. We know that personal characteristics are associated with type of placement on TfW and hence are likely to be associated with other provision on TfW (see Chapter 2 above), and we also know that personal characteristics are associated with job entry after TfW (Chapter 3). Atkinson's study therefore does not offer any proof of the effectiveness of job search training.

It is interesting to note, however, that Atkinson found that one of the most common weaknesses in TfW participants' job search, assessed on the basis of their reported experiences before entering TfW, was vacancy finding. Although most had put considerable effort into job search, 40 per cent of his sample of participants said that they had few or no vacancies to apply for. As we noted above, the only aspect of job search provision on TfW that appeared to improve job chances was giving participants information about jobs they could apply for, and it seems as though this was remedying a specific difficulty that they faced.

Control variables

The control variables in Model 10 function in much the same way as in our other models of job chances, and much as would be expected. Job entry rates were better for people who had experienced some unemployment before the start of their qualifying spell than for people who had never been unemployed before, interpreted in Chapter 3 as a measure of flexibility. Job entry rates also fell with increasing age, and women were more likely to get jobs than men as long as they did not have a child under school age. People with long-term health problems or disabilities had poor job chances, and social tenants were less likely to get work than owner-occupiers. Having a partner in part-time paid work improved job chances, as did holding a driving licence, having regular access to a vehicle, and having spent more time in full-time work in the past.

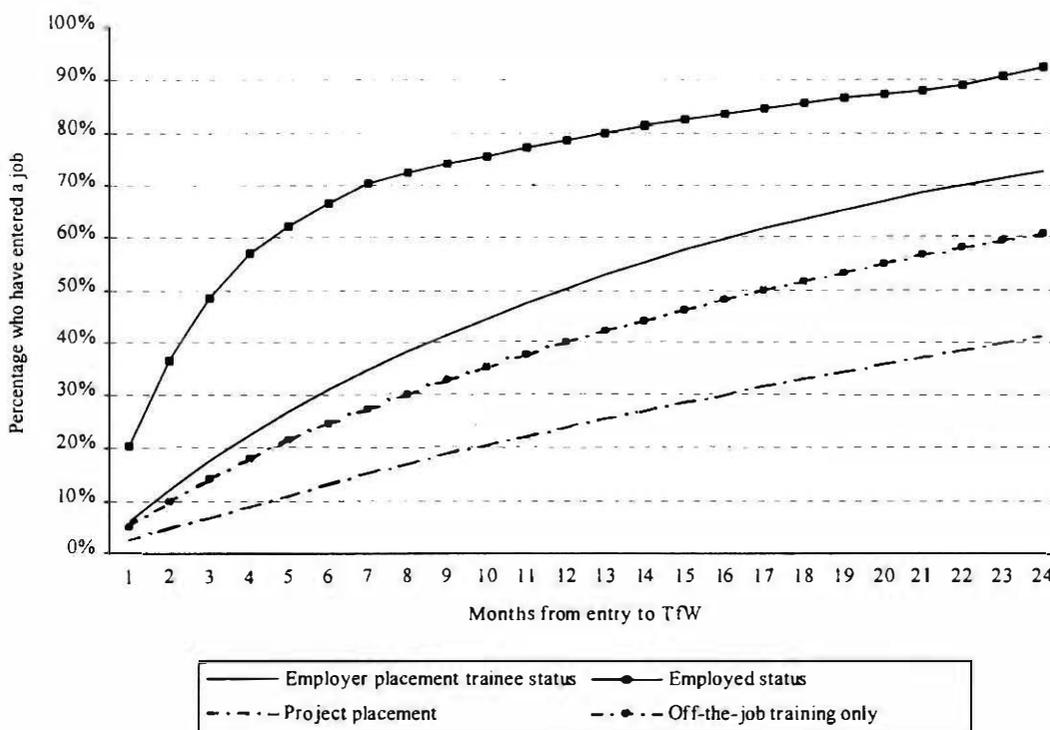
Illustrating the model results

Model 10 has pointed yet again to the impact that placement type on TfW had on subsequent job chances. To illustrate the strength of this association, Chart 7.1 plots the cumulative percentage of participants estimated by the model to have entered a job, by placement type, at monthly intervals from starting TfW up to a point 24

months later.⁹ Note that this does not exactly correspond to the percentage in work at any one point, as it does not take into account people who subsequently left this first post-TfW job.

The chart shows that, assuming the model is correct, participants with employed status moved into jobs much more quickly than others, rapidly gaining a clear lead over other groups. This initial surge in job entry rates levelled off after about six months, allowing other groups to narrow the gap to some extent, but employed status still gave a substantial advantage 24 months after starting TfW. For participants with trainee status on employer placements, job entry rates were also higher in the months immediately after starting TfW than later on, though the effect in their case was much weaker. Participants who got full-time off-the-job training on TfW did not do as well as those with trainee status on employer placements, though they also had slightly higher job entry rates in the early months after starting TfW than later on. Participants on project placements had considerably less success in getting work than any of the other three groups, and their job entry rates were constant over time.

Chart 7.1
Fitted cumulative percentage of the TfW sample entering a job over time, by placement type



⁹ We choose this cut-off point as it is about here that sample numbers for those still ‘at risk’ of entering a job (ie people who have not yet entered a job and for whom the data have not been censored) start to become too small to give reliable estimates of job entry rates. Sample size at month 1 is 822; by month 24 it has fallen to 191, and by month 30, to 59.

Table 7.4 presents these same estimates in tabular form. The rapid progress of employed status participants is very conspicuous. Just one month after enrolling on TfW, one in five had left the programme and become ordinary employees, in most cases with the same employer; by three months after enrolment nearly one in two had done so.¹⁰ This brief passage through TfW was clearly encouraged by the ‘starts and outcomes’ funding structure.¹¹ Differences between other TfW placement types are also marked. Twelve months after enrolling on the programme, half of those with trainee status on employer placements were estimated by the model to have found a job, compared to two-fifths of participants getting full-time off-the-job training and a quarter of those on project placements.

Table 7.4
Fitted cumulative percentage of participants who had entered a job at specified intervals from the date of entering TfW, by type of placement

	Employed status	Employer placement trainee status	Project placement	Full-time off-the-job training
<i>Time from starting TfW:</i>				
1 month	20	6	2	5
3 months	48	18	7	14
6 months	67	31	13	24
9 months	74	41	18	33
12 months	79	50	24	40
18 months	86	64	33	52
24 months	92	73	41	61

Conclusion

This chapter has shown that the crucial factor for unemployed people thinking of going on TfW was the type of placement they were given. If they could get employed status, then they had already crossed the main hurdle between unemployment and work. Their challenge was merely to keep their TfW job when their TfW training ended, a far easier task than persuading a new employer to take them on. Entrants given trainee status on employer placements also had a big advantage over other unemployed people, for they had the chance to prove to employers that they could do the job. Their challenge was to persuade their placement employers to keep them on after their training allowance had stopped and the employer became responsible for their wages. In contrast, entrants given full-time off-the-job training had to compete for jobs in the open labour market when their training had ended. They were more likely than other TfW participants to have gained qualifications during their training, which gave them some advantage once the qualification was secured, though the

¹⁰ Overall, three in four employed status participants stayed with the same employer after their time on TfW had ended (see Chapter 4).

¹¹ See Chapter 1.

overall impact of these qualifications on job chances is difficult to evaluate. Entrants put on project placements also had to compete for jobs in the open labour market after leaving TfW, and though nearly as many people on project placements as participants in full-time off-the-job training gained qualifications on the programme, their qualifications tended to be at a lower level.¹² These differences in the advantages offered by the different strands within TfW showed up as very marked differences in subsequent job prospects, in comparison with which other aspects of TfW provision had a very minor impact.

¹² In the re-matched TfW sample, 13 per cent of participants on project placements gained a vocational qualification equivalent to NVQ Level 2 or higher, compared to 24 per cent of participants getting only off-the-job training.

8 Discussion and Conclusions

Introduction

We have presented a large body of analysis in this report, much of it complex. In this last chapter we leave the tables and charts behind, and try to view the forest, rather than the trees.

Most of the chapter is devoted to recapping our main findings about TfW, to assessing how confident we can be of these, to comparing them with findings from research on similar programmes, and to considering their implications for policy. Finally, we consider whether the matched comparison group evaluation design has proved satisfactory, and whether any advantage might be gained from adopting alternative methodologies.

Throughout, we should remember that our study refers only to people who had been unemployed for at least six months when they entered TfW; we say nothing about the one in five entrants (the 'special needs' group) who had not been unemployed for as long as this.

Selectivity in TfW

Participation in TfW was voluntary, so not every eligible unemployed person who was offered a place chose to take it. It was also over-subscribed and selective, so not everyone who wanted a place got one. These two features meant that TfW participants were not representative of all people who had been unemployed for six months or more. Our study underestimates the extent of the differences between them, as the comparison sample of non-participants was chosen to resemble participants in certain key respects. However, even in these matched samples, TfW participants were more likely to have characteristics that were attractive to potential employers and which improved their chances of getting a job relative to non-participants.

Other things being equal, the probability of going on TfW fell with increasing age, with increasing length of the current spell of unemployment, and with increasing time spent unemployed in the past. In addition the following groups were less likely to go on TfW than others: women with children under school age, people who had long-term health problems or disabilities, tenants in both social and private housing, people who had no GCSE or GCE O Level passes at high grades, people with vocational qualifications equivalent to NVQ level 2 or higher, people of Indian Subcontinent origin, people who had both a driving licence and regular access to a vehicle, and people who had never held a job. Still holding other factors constant, the following groups were more likely to go on TfW than others: women with dependent children of school age, people without a driving licence but with regular access to a vehicle,

people who had last worked in clerical or secretarial occupations, and people who had previously been on government programmes for the unemployed.

The TfW framework provided an umbrella for a range of activities, including employer placements with either employed status (receiving wages paid by the employer) or trainee status (receiving a government training allowance), project placements, and full-time off-the-job training at a training centre or college. Just as there were differences between TfW participants and eligible non-participants, so also there were differences between participants on different types of placement. These suggest that a good deal of selectivity was exercised within TfW, whether by the employers who offered placements or by claimant advisors in local Employment Service offices acting in anticipation of employers' recruitment decisions and the preferences of other placement providers. The chances of getting an employer placement rather than a project placement or full-time off-the-job training were increased by being younger, female, having good vocational qualifications, possessing a driving licence and having a partner in work, and the chances of getting full-time off-the-job training rather than an employer placement were additionally increased by being black. The chances of getting a project placement rather than full-time off-the-job training were increased by being older, by having previously worked in a manual job or never having had a job before, by not having a driving licence and by not having a partner in full-time work.

Other studies give evidence of selectivity, particularly where programmes for unemployed people involve placing them with an employer. This was true of the twin programmes that TfW replaced, Employment Training (ET) and Employment Action (EA) (Payne, Lissenburgh, Payne and White 1996). Similarly Work Trials, which give unemployed people a three-week placement with an employer with no obligation on either side to continue the relationship, are offered only to a very highly selected client group (White, Lissenburgh and Bryson 1997).

Selectivity in TfW was encouraged by the 'starts and outcomes' funding structure and by the dependence of a major element in the programme on the goodwill of employers. Indeed it is hard to envisage how the system of employer placements (particularly with employed status) could work unless employers were permitted to be selective, and other types of placement are also likely to provide a more satisfactory experience for all trainees if entry is to some degree selective. However, placement providers need to be constantly alert to ensure that equal opportunities policies are adhered to.

Did TfW help people to get jobs?

Our study gives firm evidence that unemployed people improved their chances of getting a job by going on TfW, even after allowing for the fact that TfW participants were more likely than non-participants to have prior characteristics that were attractive to potential employers. We followed up participants for about a year and a half after leaving the programme, and over that period there was no sign of any falling-off in the advantage attributable to participation.

Although the evaluation design and analysis went a long way towards eliminating the effect of prior characteristics on job chances, it would be over-confident to claim that all such effects were disposed of. Unfortunately we have no way of estimating the impact of residual differences between members of the TfW and comparison samples though there is evidence that this was not large. Thus the real advantage conferred by TfW may have been a little smaller than our estimates; it is unlikely to have been bigger.

With this in mind, we estimate that over a period of 17 months after leaving the programme, members of the comparison sample could expect on average to have spent an extra 2.3 months in work if they had gone on TfW, compared to the 4.8 months that they actually spent in work. This is equivalent to an extra 1.7 months in work over a year, or roughly one extra month in seven in work. Counting from the beginning of the unemployment spell that made participants eligible for TfW, we estimate that, three years on, 49 per cent of participants would have taken a job, whereas if they had not gone on TfW, 37 per cent would have done so.

These figures give an estimate of around 67 per cent deadweight on the programme based on the estimated additional total time spent in work (4.8 months that would have been spent in work in the absence of TfW as a percentage of the estimated 7.1 months spent by participants in work). Based on the proportions taking a job regardless of how long they stayed in work), the estimate of deadweight is around 75 per cent (37 as a percentage of 49).

The boost that TfW gave to job entry chances was greatest immediately on leaving the programme. However, TfW also boosted the long-term job chances of people who did not enter work immediately on leaving the programme.

Among TfW's predecessors, ET also boosted job chances, and benefits persisted over a period of time. However, EA had no positive impact on job chances (Payne, Lissenburgh, Payne and White 1996).

These findings refer of course only to the impact that TfW had on the individuals who went on the programme; they say nothing about the contribution of the programme to the level of employment in the economy as a whole. Obviously any judgement about the value of the programme must also consider issues of substitution and displacement. However, the first and necessary condition that any government intervention on behalf of unemployed people must satisfy is to achieve results for the individuals taking part, and in this respect TfW brought measurable gains.

What kinds of jobs did TfW help people get?

The main effect of TfW was to help unemployed people into full-time jobs as an employee; it made less difference to their chances of getting part-time or self-employed jobs. Note that because of small sample numbers, part-time and self-

employed jobs were treated in the analysis as a single group, so we do not know whether TfW had a differential impact on these.

Counting from the beginning of the unemployment spell that made participants eligible for TfW, we estimate that, three years on, 34 per cent would have taken a full-time job as an employee, whereas if they had not gone on TfW, 23 per cent would have done so. This gives an estimate of deadweight of 68 per cent (very close to the estimate based on the total time spent in any paid work). By the same point in time, 14 per cent would have taken a part-time or self-employed job, whereas if they had not gone on TfW, 13 per cent would have done so.

The impact of TfW on the chances of getting a full-time job as an employee was felt immediately after leaving the programme. In contrast, TfW participants had initially a lower probability of getting part-time or self-employed jobs than members of the comparison sample; only after a period of time did the rate of entry of participants to part-time or self-employed jobs overtake that of non-participants.

Like TfW, the main impact of ET was to also to improve the chances of getting a full-time job as an employee, rather than to improve the chances of getting a part-time or a self-employed job (Payne, Lissenburgh, Payne and White 1996). These findings indicate savings for the public purse, as people in full-time work are less likely than people in part-time work to be eligible for in-work benefits.

Did TfW have any impact on pay?

There was very little indication in our data that TfW affected pay. As far as we could tell, the hourly wage rate of people who had been on TfW was on average neither higher nor lower in the jobs they subsequently took than they might have expected it to be if they had not gone on the programme (though their weekly take-home pay was greater as they improved their chances of getting a full-time rather than a part-time job). Note that this finding does not mean that hourly wage rates were as high in jobs taken after TfW as in jobs held before going on the programme -rather it is based on comparing the pay of people who had been on TfW with the pay of otherwise similar non-participants.

ET and EA also had no overall impact on pay, though participants who had received directed training on these programmes showed modest short-term gains. No link was found between going on an employer placement under ET or EA and pay in subsequent jobs (Payne, Lissenburgh, Payne and White 1996).

The implications of our finding that TfW did not affect pay are very important. First, it suggests that people who went on TfW were not thereby channelled into jobs that they would not otherwise have considered. Some former government programmes for the unemployed (for example, Project Work) have been accused of encouraging people to take lower-paid and lower skilled jobs than they would otherwise have been willing to accept. This was clearly not true of TfW.

However, our finding also suggests that TfW did not lift unemployed people into better jobs than they could otherwise have hoped for; it merely enabled more of them to get jobs. If pay is a good proxy measure for productivity, then TfW did not raise productivity. Yet one of the main aims of TfW was to improve the work-related skills and qualifications of long-term unemployed people. Thus it is important in assessing the appropriateness of government programmes for unemployed people to find out why these improved skills and qualifications did not lead to improved pay. We return to this issue later in the chapter when we discuss the impact of qualifications gained on TfW on job entry rates.

Employer placements versus project placements and full-time off-the-job training

It is impossible to understand how TfW worked without appreciating the difference made by the type of placements that entrants were given. In effect, TfW was not one programme, but two. One strand consisted of employer placements, selectively allocated to entrants with characteristics most likely to be attractive to employers, sometimes accompanied by off-the-job training, and offering a reasonable chance of continuing employment with the same employer. People on employer placements had a much better chance of getting a job after their time on TfW had ended than any other group on TfW, even after controlling for their prior advantages. The other strand consisted of full-time off-the-job training and project placements (the latter forming a fairly minor element in provision). These both took in people with characteristics that made them harder to place with employers. Full-time off-the-job training led to improved job prospects in both the short and longer terms, but the gains were relatively small compared to the gains associated with employer placements. People who had been on project placements received no clear benefit to their job chances in the short-term, but in the longer term some small gains did emerge.

These findings clearly indicate that by far the most effective way to get long-term unemployed people into jobs is to give them a chance to prove themselves to a potential employer through an employer placement. The problem is, as we have already seen, that a degree of selectivity in the offer of employer placements is inevitable if employers are to be willing to co-operate, so employer placements are unlikely to be a possibility for all.

Our findings on employer placements are very much in accord with other research. On ET and EA, people who were given an employer placement had much better chance of getting a job than other participants (Payne, Lissenburgh, Payne and White 1996), while Work Trials have an outstandingly successful record of helping unemployed people into jobs, even after allowing for the fact that they are very selective (White, Lissenburgh and Bryson 1997). The same message emerged from a very large evaluation study of California's *Greater Avenues for Independence* programme for mothers with dependent children, based on a random allocation design that eliminated any selectivity between types of placement. This concluded that the key to the most successful programme (the Riverside programme) was a strong and pervasive employment-focused message with the priority always on job placement

rather than on improving skills and qualifications (Riccio, Friedlander and Freedman 1994).

Qualifications gained on TfW

In comparison with the impact of employer placements, other elements of TfW had a fairly modest impact on job chances. However, one of the outcome measures on which funding for TfW depended was the successful completion of recognised qualifications. We need therefore to know whether these qualifications helped unemployed people to get jobs.

The answer that our study gives to this question is complicated. Participants who gained qualifications of NVQ 2 standard or higher took longer to get a job than those who gained Level 1 qualifications or none, and were less likely to move straight from TfW into a job. This was not because they chose to defer their job search until they had completed their qualifications: they were in fact *more* likely to look for work while they were still on TfW, and to start looking quite early on, than other participants. After they had completed their qualifications and left TfW, the negative association between qualifications and job chances was largely cancelled out, but it was only the handful of participants who had gained very high qualifications, equivalent to NVQ Level 4 or above, whose overall job chances across the full period of the study turned out to be better than those of participants who had gained only low-level qualifications or none at all.

Study for qualifications was of course more common in full-time off-the-job training than in employer placements, where participants had the chance to be kept on after TfW, but the negative association between gaining qualifications and job chances remained very strong when placement type was controlled.

Our findings on qualifications do not accord with the results of our earlier evaluation study of ET and EA, which showed gaining qualifications to have a positive effect on job chances after leaving the programmes (Payne, Lissenburgh, White and Payne 1996). However, there were differences between TfW and its predecessors that might account for this. With ET and EA, placement providers were paid more if participants stayed longer on the programme, and as a result, average length of stay on the programme was considerably longer. With TfW, payments for trainee weeks were dropped, the emphasis shifted more towards the primary aim of getting people into jobs, and the proportion of participants gaining qualifications fell (DfEE 1997). This suggests that under TfW there was an increasing tendency for people with relatively poor initial chances of getting a job to be over-represented amongst participants who stayed on the programme long enough to be able to complete their qualifications.

This line of argument suggests an explanation for the disappointing returns to qualifications on TfW which we could not test directly, but which has a good deal of plausibility. It is possible that, when faced with a choice between accepting a job offer or completing their TfW qualifications, most participants opted for the job. It would follow from this that people who went on to complete qualifications on TfW

included a disproportionately high number of people who had sought work while on the programme but who, because of characteristics or behaviour not measured in our study, had not received a job offer. This in turn would lead us to predict that these same characteristics or behaviour would cause them to continue to receive fewer than average job offers after leaving TfW, so that they failed to receive the benefits from their qualifications that might have been expected.

If this hypothesis is correct, then the disappointing returns to the kinds of vocational qualifications usually gained on TfW does not necessarily prove that these qualifications have a low labour market value, as the programme did not provide the conditions in which the value of these qualifications could be tested. However, we need to enquire why participants might have preferred to accept a current job offer rather than to continue studying for a qualification. Was it because they believed that the qualifications they were working towards would not help them very much, or because immediate financial needs forced their hand, or because they were unaccustomed to studying and were glad to stop when the opportunity arose, or because the 'starts and outcomes' funding structure of TfW led placement providers to put pressure on them to accept their first job offer? All these different possibilities have some plausibility, and knowing which are true and which are false would greatly assist the development of future programmes for unemployed people.

One can envisage initiatives designed to make unemployed people more aware of the value of qualifications, to make the process of studying more enjoyable, to encourage people to continue studying after getting a job, and to give more weight to qualifications in funding structures. However, if unemployed people do really believe that gaining qualifications will not help them very much, and if their perception is correct, then the underlying problem is much more difficult.

Though we stress that our ideas on this subject are speculative only, there are several possible reasons why vocational qualifications newly acquired on government schemes might not be of much use to unemployed people. It is possible that in some cases qualifications are awarded where they are not merited on the basis of increases in skills and knowledge, so that the qualifications are devalued. This would be a problem about standards, and indeed there has been much public debate about the standards set for NVQs. It is also possible that, even if qualifications are awarded on the basis of real improvements in skills and knowledge, there are other barriers to prevent unemployed people from entering the kinds of jobs where these skills can be used. This is a problem of equal opportunities and of labour market segmentation. Another possibility is that potential employers are unfamiliar with these relatively new qualifications and do not give them the recognition that they deserve. This is a problem that should diminish with time, and with better marketing. It may be, however, that qualifications gained on government programmes can never equal the value of qualifications that were acquired in initial education, because much of the labour market benefit associated with qualifications derives from what sociologists term their 'signalling' function rather than from the specific skills and knowledge needed in order to be awarded the qualifications. Put more simply, sometimes employers ask for qualifications because they show that the job applicant is the 'right sort of person', rather than because the job demands a certain level of training or

education in a specific field. If this is the case, then people who have acquired their qualifications on a scheme exclusively for long-term unemployed people may never reap a proper reward for their efforts.

All this suggests that the fact that in the population as a whole good qualifications greatly reduce the risk of unemployment does not necessarily mean that the way to help unemployed people to get jobs is to encourage them to gain more qualifications. A critical study of how they and how employers use these qualifications would be of great help in evaluating policy in this field, and may aid the development of more effective options for long-term unemployed people who are harder to help into jobs.

Length of stay on TfW

After controlling for other differences in experiences on the programme (notably placement type and qualifications gained), job chances increased with extra time spent on TfW. This finding reflects the result from earlier research that people who spent a long time on EA had better job chances than people who stayed only a short while, and that project placements under ET or EA improved job chances only if they lasted a significant length of time (Payne, Lissenburgh, Payne and White 1996). It suggests that there is some benefit to be gained from staying with a programme, whether through skills and experience acquired, regular work habits learned or reinforced, or by the evidence that this gives to potential employers of steadiness and motivation, and therefore the ability to hold down a job. The 'starts and outcomes' funding regime of TfW only attached weight to such factors if they led to getting a job or gaining qualifications.

Training occupation

Another aspect of experiences on TfW that affected job chances was the type of occupation that participants were training for. Other things being equal, people who trained as plant and machine operatives had a better chance of getting a job than people who trained in other occupations; otherwise the nature of the training occupation made little difference to job chances. This finding reminds us of much earlier work which explored the very real problems involved in using short training courses to try to bring people up to the level of skilled workers who have completed an apprenticeship (Berthoud 1978). Employers (and, in those days, trade unions) were unwilling to recognise such newly trained and relatively inexperienced people as fully skilled. These problems are avoided if the training programme aims only at semi-skilled status, and this might well explain why people who trained as plant or machine operatives found it easier to get work than others.

It is interesting to note that although (other things being equal) unemployed people who had last worked in clerical or secretarial occupations were more likely to go on TfW than people who had held other occupations, clerical and secretarial training under TfW did not improve job prospects more than other kinds of training.

Initial assessment and guidance

In our study there was no association between the receipt of assessment and guidance on entry to TfW and the probability of getting a job. In principle, initial assessment and guidance should result in the entrant being offered more appropriate training, which in turn should show up in improved job chances, and the 'Gateway' makes careful assessment and guidance an integral part of the New Deal. Thus the reason why this appeared to make no difference to TfW participants deserves attention.

One possibility is that we did not submit the effectiveness of initial assessment and guidance to a proper test. According to some theorists, the function of assessment and guidance is to remove what they term 'career indecision'; it is irrelevant to people who already have a clear idea of what they want to do. As our data contain no measure of career indecision on entry to TfW, we are not able to evaluate the role of assessment and guidance.¹

Another possibility is that assessment and guidance in the form offered on TfW did in reality have little value, and that some providers paid only lip service to their obligations in this respect. There may also be a tension between the aim of leading entrants towards the type of training most suitable to their needs and most in accord with their interests, and the reality that the placements most likely to lead to a job, namely employer placements, were oversubscribed with selection largely in the hands of the employer. In our re-matched TfW sample, only one in three participants claimed to have been given a choice of what to do on TfW. With limited options available, it would not be surprising if assessment and guidance sometimes became a mere formality.

Job search training and assistance

Our study was also unable to show that job search training and practical assistance with job search had any impact on participants' job chances, with the sole exception of being given information on jobs to apply for. This apparent lack of effectiveness is not incompatible with previous research, which suggests that the returns to extra effort spent on job search depend on the structure of the national labour market, and that in the United Kingdom, once a minimal threshold of job search activity has been crossed, the returns to further search effort are small (White and Bryson 1994).² As TfW entrants tended to have fewer labour market disadvantages than other unemployed people, we might suppose that they had already passed this threshold before going on the programme.

¹We are grateful to Michael White for this suggestion.

²We are grateful to Alex Bryson for alerting us to this.

The matched comparison group methodology

In our view, the matched comparison group evaluation design is shown by the present study to be capable of delivering reasonably clear answers to important questions about the effectiveness of government programmes for unemployed people.

However, these answers depend as much on the detail of the analysis and on the careful interpretation of results as on the inherent robustness of the design. Moreover, as long as entry to such programmes is selective (whether through the free choices of those eligible or the screening activities of client advisers and placement providers), then the matched comparison group methodology is unlikely to enable us to quantify precisely the effects of the programme, because we can never be wholly confident that we have taken into account all the relevant differences between participants and non-participants.

Given the persistence of long-term unemployment, the enormous cost of government programmes for unemployed people, and the fact that the range of options among which unemployed people are permitted to choose and still retain their social security benefits is no longer as wide as it once was, it is crucially important to be wholly confident that the programmes towards which unemployed people are directed do actually help them to get jobs, and that the benefits justify the costs. To this end the use of random allocation designs is now securely established in North America. Though they raise ethical issues and are not without problems of their own, they probably offer the best hope of achieving progress in this field.

APPENDIX: Selecting the matched comparison group

Matching criteria

Matching was done on a one-to-one basis, and was governed by five criteria. Three of these were inviolable, and two were flexible.

Inviolable matching criteria

(a) *Gender* - matching was carried out separately for men and women.

(b) *Geographical location* - matching was done separately within each of the 80 sampling points used by SCPR to draw the TfW sample (a sampling point being a group of adjacent postcode districts).

(c) *Being unemployed at the date when the matched TfW participant entered TfW* - we sought people who were unemployed and claiming benefit in the particular month that the TfW participant they were matched with (their 'TfW partner') entered TfW.

Flexible matching criteria

(d) *Start date of unemployment* - we sought people for whom the start date of the spell of unemployment defined at (c) above was as close as possible to the start date of the spell of unemployment that preceded their TfW partner's entry to TfW.

(e) *Age* - ages had to be as close as possible.

Criteria (a) to (c) always had to be satisfied. Criteria (d) and (e) are listed in order of precedence - in other words, criterion (e) was applied only if there were two or more people in the JUVOS sample who were equally well matched on criteria (a) to (d).

Size of selected comparison group

We hoped ultimately to obtain interviews with a matched comparison group which was as big as the TfW sample interviewed at Wave 2, but to achieve this, the number of people selected had to include an allowance for likely losses from several sources. Once selected, the comparison sample had to pass through a series of administrative processes before it could be issued to interviewers, and at each stage losses were likely. Names and addresses had to be traced from NUBS, sample members had to be screened for prior participation in TfW, and they had to be sent letters giving them the opportunity to opt out of the study in advance of the interviewer's call. Once in the field, response rates in the comparison sample were expected to be lower than in the TfW sample, as the survey would seem less relevant to them.

For this reason, we selected three JUVOS matches for each Wave 1 TfW respondent who was included in the matching process. This gave a generous safety margin, making it unlikely that we would need to use all those selected.

The matching process

An extract file of JUVOS records was prepared by Gary Sutton of the Office for National Statistics at Runcorn. This file contained data for claimants whose most recent postcode fell within the postcode districts comprising the 80 sampling points within which the TfW participants had been sampled, and who had experienced at least one spell of unemployment that had lasted at least five months. This spell of unemployment could have started at any time between January 1985 (the date of the earliest JUVOS records) and the end of November 1995 (all members of the TfW sample having entered TfW by December 1995), and could be still continuing at the time the data file was prepared. If the JUVOS member had made more than one claim of the required length, start and end dates were included for all these claims, though in the event sample numbers proved big enough for us to select matches on the basis of each member's most recent claim only. Data were also included on gender, date of birth and postcode district. To ensure confidentiality, the file was stripped of National Insurance numbers before being passed to PSI.

At the same time, SCPR provided a file from Wave 1 of the TfW survey, giving the starting date of participation in TfW, the start and end dates of the spell of unemployment, if any, that preceded TfW, sampling point, gender and age. The file also included the length of the unemployment spell before TfW as shown in the administrative records for TfW participants.

The comparison sample was then selected by a suite of specially written SPSS and SAS computer programs. These performed the following operations.

(a) Dealing with TfW Wave 1 data

The start date of participation in TfW was computed, together with the start and end dates of the spell of unemployment which preceded it. If respondents had spent more than one spell on TfW, we used the start date of the second most recent spell, unless the gap between the two spells was six months or more, in which case we used the start date of the most recent spell.¹ Where the questionnaire had missing information on the start date of the preceding spell of unemployment, we used information from administrative records. Where we had information on the year but not the month in which the preceding spell of unemployment had started, we used a randomly imputed month. Respondents were excluded from the matching process if they failed any one of the following conditions:

- participation in TfW was preceded by a spell of unemployment,
- this spell of unemployment had begun six months or more before joining TfW,
- this spell of unemployment had ended no more than three months before joining TfW,

¹ If we had always used the start date of the most recent spell, people with two spells separated by less than six months could never have met the criterion for inclusion in the matched comparison group design that their TfW spell was preceded by a spell of unemployment beginning six months or more before TfW.

- enough information was given for the required dates to be computed, and these dates were consistent with each other.

At the end of this process we were left with a sample of 1104 TfW participants, for each of whom we sought three matches from JUVOS.²

(b) Dealing with the JUVOS data

The age that JUVOS members would have been at the time that most of the Wave 1 TfW interviews were conducted (April 1996) was computed from date of birth. Sampling point was computed from postcode district. Two cases were excluded where there were inconsistencies in dates. We were left with very generous numbers from which to select matches. In the TfW sample, the largest cell of the crosstabulation of gender with sampling point contained 18 people. In contrast, in JUVOS, the smallest cell of the same crosstabulation contained more than 200 people, while the largest cell contained more than 2,000.

(c) Selecting the matches

Matches were selected according to the criteria set out in Section 2 above, following the order of priority given there. The algorithm involved an iterative procedure whereby on the first pass through the data the ‘best’ (i.e. closest) JUVOS match was found for each TfW participant. If there was more than one ‘best’ match for a given TfW participant, then the JUVOS match was chosen randomly from amongst them. If the same JUVOS member was matched to more than one TfW participant, then a random procedure was used to assign the JUVOS member to one TfW participant only. Matched TfW participants and matched JUVOS members were then withdrawn from the remaining pools awaiting matching, and the procedure repeated until all TfW participants had been matched. After all TfW participants had been assigned their best match, the procedure was repeated a second time to find the second best match for each, and then a third time to find the third best match for each. The information on whether the selected JUVOS member was a first, second or third best match was retained so that names could be issued to interviewers in that order, with third best matches being used only if necessary.

Closeness of match between Wave 1 TfW sample and selected comparison sample

Because the JUVOS sample was much bigger than the TfW sample, it proved relatively easy to find good matches for TfW participants. On the three inviolable matching criteria (gender, sampling point, and being unemployed when the TfW partner entered TfW) the match was perfect by definition. On the two flexible criteria (start date of unemployment and age) the match was very good.

² We later discovered that 66 of these had said that they did not want to be interviewed again, so only 1038 TfW participants were available for matching. The matches for these 66 were deleted from the comparison sample before it was issued to the field.

Table A1.1 shows, separately for men and women, the gap in months between the start date of the TfW participant's matched spell of unemployment and that of their three JUVOS partners. As the earliest JUVOS records date from January 1985, it was impossible to find a perfect match for any TfW participant whose unemployment spell began before then. Nevertheless amongst men's 'first best' matches, two-thirds were matched exactly on unemployment start date and a further fifth were matched within one month. Only 24 men in the TfW sample (three per cent) had a mismatch of more than a year. Nine of these were men whose unemployment spell had started before 1985, while a further 12 were men whose unemployment spell had started before 1990. Thus as a proportion of the total length of the unemployment spell, the mismatch was relatively small. Amongst men's 'second best' matches, 43 per cent were matched exactly, a further 28 per cent within one month, and five per cent had a mismatch of more than a year, while amongst men's 'third best' matches, 27 per cent were matched exactly, a further 27 per cent within one month, and nine per cent had a mismatch of more than a year. Here again, the biggest mismatches were most likely to occur if the TfW partner's spell of unemployment was very long.

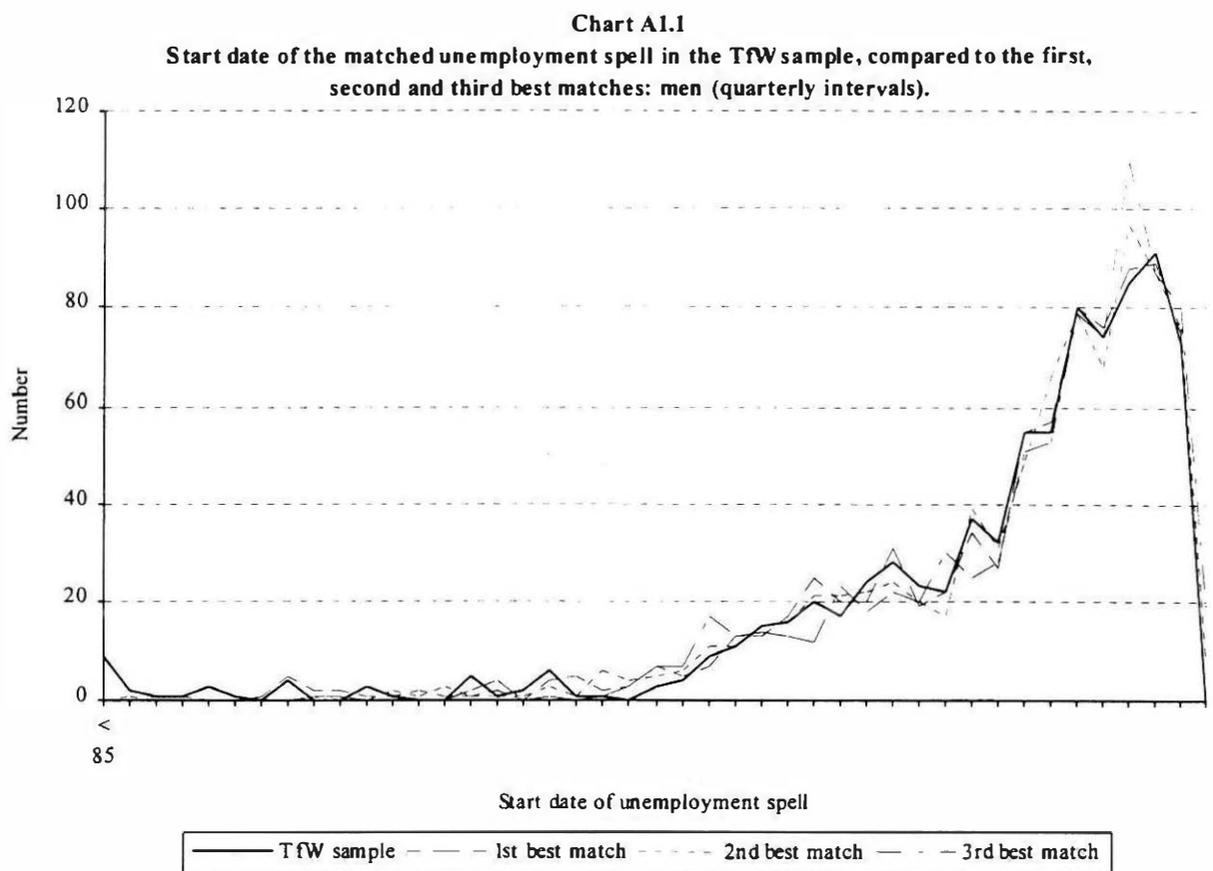
Table A1.1
Closeness of match on the start date of the matched spell of unemployment, by whether the match was first, second or third best and by gender (matches assessed on a one-to-one basis)

	<i>Men's matches</i>			<i>Women's matches</i>		
	1st best %	2nd best %	3rd best %	1st best %	2nd best %	3rd best %
<i>Closeness of match:</i>						
exact	66	43	27	45	19	9
within one month	20	28	27	24	26	21
within 2-3 months	8	13	19	15	19	22
within 4-6 months	3	7	11	5	14	15
within 7-12 months	1	4	7	5	10	12
more than 12 months	3	5	9	6	11	20
Total	100	100	100	100	100	100
<i>N</i>	815	815	815	289	289	289
<i>Mean unemployment start date:</i>						
Matched samples (TfW sample)	Jun 93	Jul 93 (May 93)	Sep 93	Aug 93	Nov 93 (May 93)	Feb 94

The last two rows of Table A1.1 give the mean start dates of the unemployment spell for the matched samples and the TfW sample. These dates are slightly later for the matched samples than for the TfW sample. This is because some TfW participants had been unemployed since before 1985, while in the matched samples unemployment spells could not begin until 1985.

Chart A1.1 plots the start date of the spell of unemployment for men in the TfW sample against the start date in the samples of first, second and third best matches. The correspondence is very close indeed.

Women formed a quarter of the TfW sample used for matching. Table A1.1 shows that for them, the match on the start date of the unemployment spell was not as good as for men. It was nevertheless satisfactory, with 69 per cent of ‘first best’ matches being within one month or better and just six per cent mismatching by more than a year. Although women’s second and third best matches were less close when assessed on a one-to-one basis, Chart A1.2 shows that even for these, across the sample as a whole the distribution of start dates was very similar to the distribution for the TfW sample. As with men, the mean start date of the unemployment spell was later in the matched samples than in the TfW sample.



The second flexible matching criterion, age, was given a lower priority than unemployment start date, and as a result, the match achieved was not particularly close when assessed on a one-to-one basis. Table A1.2 shows that only about a fifth of men’s ‘first best’ matches were within one year or better, while for second and third best matches the figure was half this. Despite this, the matched samples were on average only

slightly older than TfW participants. Overall age distributions in the TfW and matched samples were also very similar, as Chart A1.3 shows.

The match achieved for women on age was not as good as that achieved for men. However, both means (Table A1.2) and overall distributions (Chart A1.4) were similar in the TfW and matched samples, though women in the matched samples were on average a little older than TfW participants.

Chart A1.2
Start date of the matched unemployment spell in the TfW sample, compared to the first, second and third best matches: women (quarterly intervals).

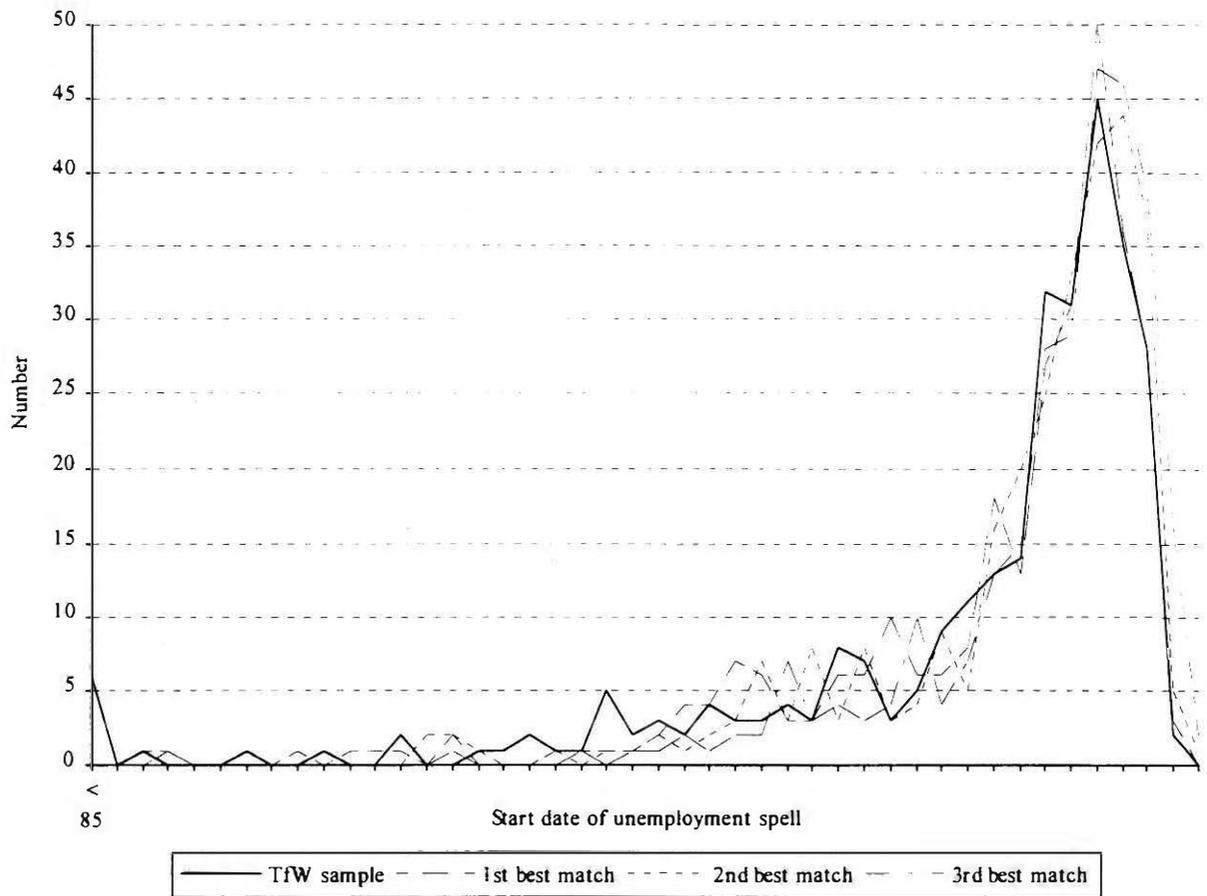
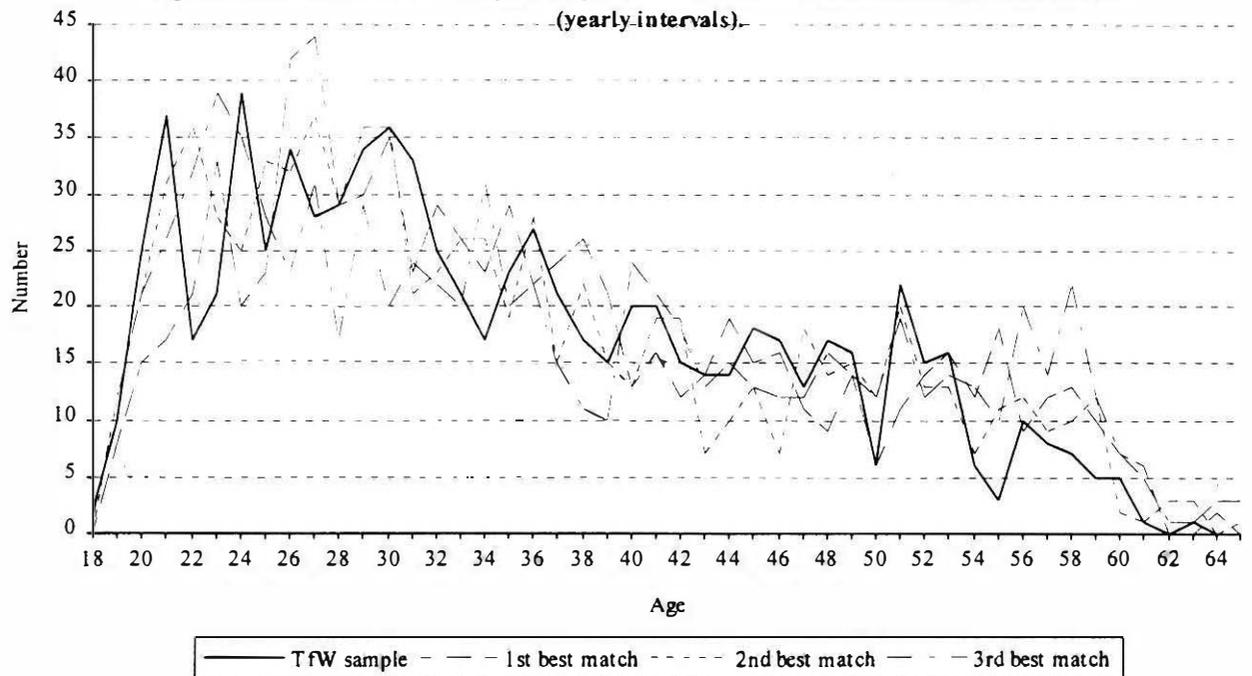


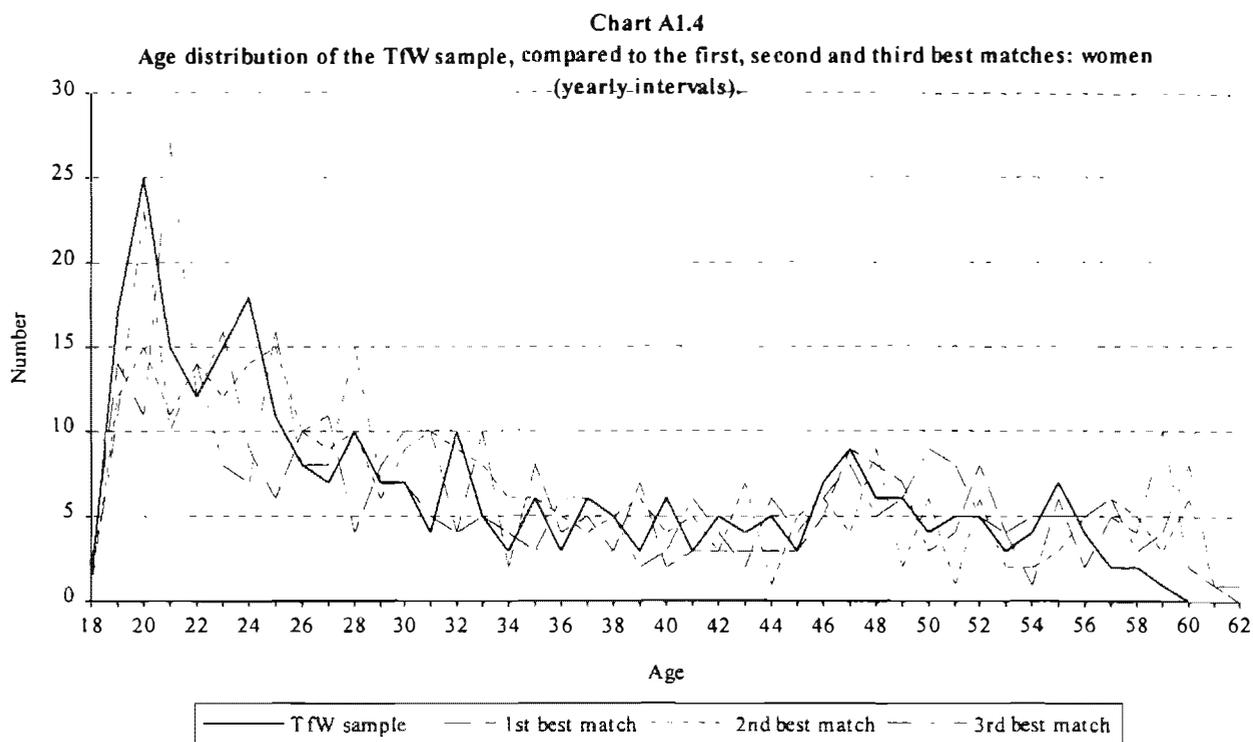
Table A1.2
Closeness of match on age, by whether the match was first, second or third best and by gender
(match assessed on a one-to-one basis)

	<i>Men's matches</i>			<i>Women's matches</i>		
	1st best %	2nd best %	3rd best %	1st best %	2nd best %	3rd best %
<i>Closeness of match:</i>						
exact	8	2	4	6	3	2
within one year	13	8	7	12	10	7
within 2-5 years	31	24	21	24	23	21
within 6-10 years	21	24	21	15	17	17
within 11-20 years	17	25	28	21	22	24
more than 20 years	11	18	19	23	25	28
Total	100	100	100	100	100	100
<i>N*</i>	805	805	805	289	289	289
<i>Mean age:</i>						
Matched samples (TfW sample)	36	35 (35)	37	35	34 (33)	36

*Ten male TfW participants had missing information on age.

Chart A1.3
Age distribution of the TfW sample, compared to the first, second and third best matches: men
(yearly intervals)





Loss of matching through attrition

Although the matching process was successful in that we were able to find very good matches for the respondents to Wave 1 of the TfW survey who were eligible for inclusion in the matched design, this was before sample attrition at Wave 2. In addition many members of the selected comparison sample were lost in the subsequent screening described in Chapter 1 (because their address could not be traced, because they had been on TfW or because they responded to the opt-out letter), and more were lost through the usual sources of non-response in the field. Thus the achieved comparison sample was not matched to the achieved Wave 2 TfW sample as closely as the comparison sample originally selected had been matched to the Wave 1 TfW sample. Table A1.3 shows that for 30 per cent of Wave 2 TfW respondents, none of the three people selected from JUVOS as their first, second or third best match was interviewed. For 50 per cent, one of their three selected matches was interviewed; for 20 per cent, two of their three selected matches were interviewed; while for a very small number of Wave 1 respondents, all three of their selected matches were interviewed.

Table A1.4 presents these same figures the other way around. It shows that 24 per cent of members of the achieved comparison sample lost their TfW partner in Wave 2. As the table shows, this figure was similar regardless of whether the comparison sample member was selected as a first, second or third first best match.

One reason for this imbalance between the TfW and comparison samples was that for a large proportion of JUVOS sample members it proved impossible to trace an up-to-date valid address. This meant that addresses could not be issued to interviewers in the staged manner originally planned.

Table A1.3
Wave 2 TfW respondents included in the initial matching process: number of their selected JUVOS matches who were interviewed in the comparison sample

	%	N
<i>Number of their three selected JUVOS matches who were interviewed:</i>		
none	30	227
one	50	384
two	20	153
three	0.5	4
Total	100	768

Table A1.4
Members of the achieved comparison sample: whether they were selected as a first, second or third best match by whether the Wave 1 TfW respondent they were matched to was also interviewed in Wave 2

	<i>Wave 2 TfW respondent matched to is:</i>				Total	
	interviewed in Wave 2	not interviewed in Wave 2	%	N	%	N
<i>Selected as:</i>						
first best match	76	370	24	114	100	484
second best match	76	282	24	91	100	373
third best match	69	50	31	22	100	72
Total	76	702	24	227	100	929

Purpose of re-matching

As we saw above, the main purpose of the original matching process was to reduce variation on key variables between the TfW and comparison samples. Despite the problems caused by sample attrition, this aim was met. In our statistical models for the effects of TfW on type of employment and earnings, departures from perfect matching could be dealt with by including a wide range of control variables. However, our duration models (for example, testing whether unemployed people found jobs more quickly if they went on TfW) required us to identify a spell of unemployment for comparison group members that matched the spell of unemployment experienced by TfW

participants before their entry to the programme. This requirement made it necessary to re-match the achieved TfW Wave 2 and comparison samples.

The first purpose of re-matching was thus to identify the ‘qualifying spell of unemployment’, that is, the spell in virtue of which the respondent was included in the comparison group. For TfW participants the qualifying spell had an obvious definition as the spell of unemployment that preceded their entry to TfW. However, for members of the comparison sample the qualifying spell could only be defined through their match with a TfW participant. It follows from this that, though each member of the comparison sample had to be matched with a member of the Wave 2 TfW sample, the converse was not necessary: members of the TfW Wave 2 sample could be included in the analysis even if no match was found for them in the achieved comparison sample. It also follows that a single member of the TfW sample could provide a match for more than one member of the achieved comparison sample.

Re-matching had a second purpose. The initial match had been based on the partial work history data collected at Wave 1 for the TfW sample and on administrative data from the JUVOS data base for the comparison sample. However, the analysis had to be based on the complete retrospective ten-year work histories collected in the Wave 2 TfW interviews and the comparison group interviews. This was because only these histories could provide a continuous and internally consistent record of activities from the start of the qualifying spell of unemployment up until the summer of 1997, and because only these histories were collected in the same way and at the same date for both the TfW and comparison samples.³ It is very common in social science data for there to be discrepancies between information collected at two different times. In addition, there are a number of differences between the administrative definition of unemployment used in the JUVOS data base and the concept of unemployment used by respondents when asked to report their spells of unemployment.⁴ For these reasons also it was necessary to re-match the samples using the data that were going to be analysed, rather than the data on which the initial matching was based.

Procedure for re-matching

The re-matching was done by means of a second suite of specially written SPSS and SAS programs. They performed the following operations:

³ Complete work histories were collected at Wave 2 rather than Wave 1 of the TfW survey partly for cost reasons (they are expensive to collect, and it was expected that there would be fewer respondents at Wave 2 than at Wave 1), and partly for consistency between the TfW and comparison samples (Wave 2 of the TfW survey took place at the same time as the comparison group interviews).

⁴ JUVOS records spells of claimant unemployment. However, it is quite common for people to regard themselves as unemployed even though they are not eligible for or claiming benefit (for example, if they have been unemployed for more than six months and their partner is in work, or if they do not have the required National Insurance contributions, or if their benefit has been suspended for some reason). Similarly, not all people who are claiming unemployment benefit describe themselves as unemployed.

(a) Deriving the TFW and comparison sample variables

The first step was to compute variables that were equivalent to the variables used in the initial matching process, but derived this time from the Wave 2 TFW survey retrospective work histories and from the comparison interview retrospective work histories. These variables included (in addition to gender and age), for the TFW sample, the start date of the spell on TFW and of the spell of unemployment that preceded TFW, and for the comparison sample, the start and end dates of the spell of unemployment whose start date corresponded most closely with that of the spell of unemployment identified from JUVOS records.

Deriving these variables necessitated a number of checks on the consistency of the information provided at the two waves of the TFW survey. Where serious inconsistencies were detected, SCPR checked the original questionnaires and used all the available information in order to reconcile the two sets of data wherever possible. This editing process was very labour intensive and proved quite lengthy.

(b) Selecting the members of the TFW sample to be included in the re-matched sample

Members of the Wave 2 TFW sample were retained in the re-matched sample if (on the basis of the variables computed at (a) above) they satisfied the following conditions: (1) they reported a spell on TFW that ended between January 1995 and January 1996; (2) this spell was preceded by a spell of unemployment that began at least six months and ended no more than three months before the start of TFW.

822 people satisfied these criteria, representing 78 per cent of all 1060 Wave 2 TFW respondents (including those who had been excluded from the initial matching process, mostly because their qualifying spell of unemployment was too short). Three per cent of Wave 2 respondents failed condition (1), and 19 per cent failed condition (2).⁵ The 822 who satisfied these two criteria form the *re-matched TFW sample*.

(c) Selecting members of the achieved comparison sample to be included in the re-matching process

Members of the comparison sample were included in the re-matching process if (on the basis of the variables computed at (a) above) they had experienced a spell of unemployment that began before January 1996 and that lasted at least six months.

(d) Selecting matches for members of the comparison sample

A match was then sought for each member of the comparison sample on the basis of the following rules.

1. Their TFW partner entered TFW in a month in which the comparison sample member was unemployed. This condition had always to be satisfied.

⁵ The Wave 1 TFW questionnaire probed much more carefully for participation in TFW than the Wave 2 questionnaire, so it is not surprising that some people who reported participation at Wave 1 failed to report it at Wave 2. The proportion of Wave 2 TFW respondents who did not have a qualifying spell of unemployment of the right length is identical to the proportion amongst Wave 1 respondents.

2. If more than one TfW sample member met this condition, we then chose the one whose spell of unemployment before TfW started closest in time to the start of the comparison sample member's unemployment spell.
3. If more than one TfW sample member met this condition, we then chose the one who was of the same gender as the comparison sample member. If no-one was of the same gender, we kept all the selected TfW members in the pool and moved on to rule 4.
4. If more than one TfW sample member met this condition, we then chose the one who was closest in age to the comparison sample member.
5. If more than one TfW sample member met this condition, we then chose the one who had been chosen least often before.
6. If more than one TfW sample member met this condition, we then chose one person randomly.

TfW sample members who had been selected as matched partners were put back into the pool so that they could if necessary be chosen as partners for other members of the comparison sample. However, once a member of the comparison sample had been allocated a matched partner, he or she was withdrawn from the re-matching process and could not be allocated a second partner.

It will be observed that the rules for the re-matching process were less rigorous than the rules for the initial matching process: gender was treated as a flexible rather than an inviolable criterion and geographical location was not used at all. This was because in re-matching we only had respondents to the comparison group survey to work with, whereas for the initial matching process we had the whole of the JUVOS data base.

Evaluation of the re-matched samples

Matches were found for 815 of the 929 members of the achieved comparison sample, and these 815 form the *re-matched comparison sample* on which all our analyses involving the comparison sample are based. The 114 people for whom a match was not found broke down as follows:

significant missing information in the 10-year diary	16
no spell of unemployment at all recorded in the diary	15
no spell of unemployment recorded in the diary that began before January 1996	6
the spell of unemployment recorded in the diary that began before January 1996 lasted less than 6 months	53
failed the inviolable matching criterion (1) listed at 8(d) above	24

These 114 people were dropped from the analysis.

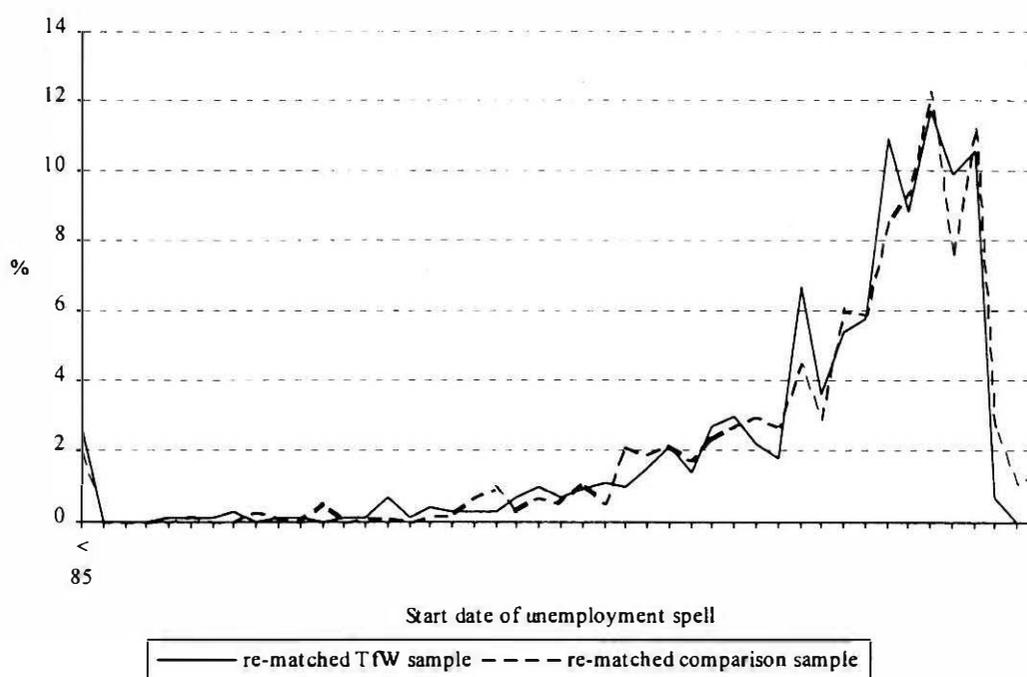
For the 815 for whom matches were found, the match with their TfW partners was very close. Ninety per cent had an exact match on the start date of the qualifying spell of unemployment, a further five per cent matched to within one month, and all but 0.5 per cent matched to within six months. However, these figures are good because we allowed

a single TfW sample member to act as partner for more than one member of the comparison sample. Some members of the re-matched TfW sample were partnered several times, and some were not partnered at all. A more realistic assessment of the comparability of the re-matched samples is obtained from the overall distributions of relevant variables in the two samples. In these comparisons, members of the re-matched TfW sample appear once only, regardless of how many comparison sample partners they have, and indeed, regardless of whether they have any partners at all.

Chart A1.5 shows that the two re-matched samples have very similar distributions for the start date of the qualifying spell of unemployment. The only significant discrepancy is that the re-matched TfW sample had a higher proportion of spells starting in the first quarter of 1993. In terms of their gender balance, the two samples are very well matched (Chart A1.6). Finally, Chart A1.7 shows that the age match is also most satisfactory.

As stated earlier, geographical location was not used as a criterion in the re-matching process. Despite this, the re-matched samples were both well distributed across the 80 sampling points, there being only one empty sampling point in the re-matched comparison sample and none in the re-matched TfW sample.⁶

Chart A1.5
Start date of the qualifying unemployment spell: re-matched TfW sample and comparison samples compared (quarterly intervals)



⁶ Of the eleven biggest sampling points in the matched comparison sample, seven were also found in the top eleven sampling points in the re-matched TfW sample.

Chart A1.6
Gender: re-matched TFW and comparison samples compared

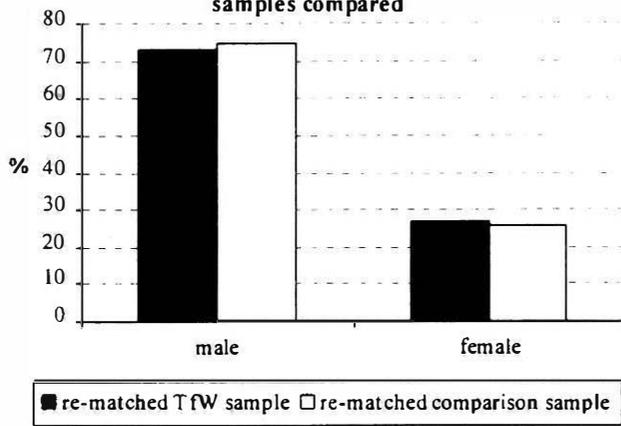
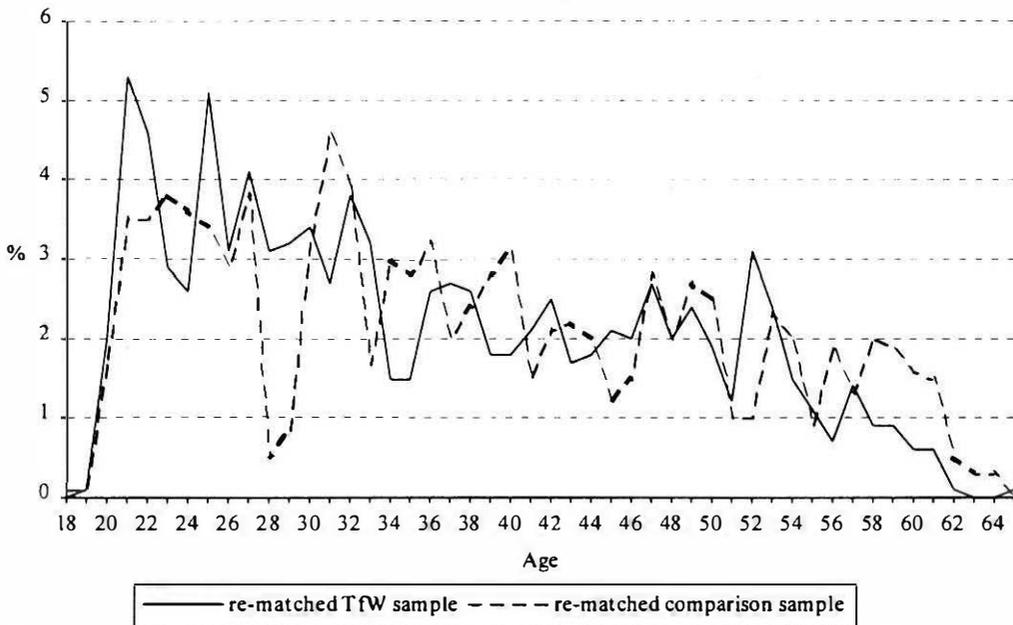


Chart A1.7
Age: re-matched TFW sample and comparison samples compared



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