THE WIDER LABOUR MARKET IMPACT OF EMPLOYMENT ZONES

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Disclaimer

The views expressed in this report are the authors' own and do not necessarily reflect those of the Department for Work and Pensions.

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EXECUTIVE SUMMARY

This report sets out findings from a research project undertaken as part of the evaluation of the Employment Zones (EZs). The project examines the wider labour market impacts of the EZ programme. It sought to establish the extent of any positive impact on the EZ client group and whether such positive effects were offset by adverse effects on other jobseekers that were not the target of the programme.

The first stage of analysis looked at the flows from unemployment over time, while the second stage looked in greater detail at the impact of EZs on the unemployment duration of individual spells of unemployment.

The Programme

Employment Zones (EZs) were introduced in April 2000 as a means of tackling the relatively high levels of long-term unemployment that persisted in some localities despite the general fall in the number of claimant unemployed in Great Britain. A total of 15 areas were designated as EZs and within these areas the main programme for long-term unemployed adults – New Deal 25plus – was replaced by the EZ programme. EZs represented a radical approach to tackling the problem of long-term unemployment. The new approach was characterised by a 'client centred' approach (emphasising personal choice and client responsibility), flexible delivery of services funded through a Personal Job Account and a focus on progression into sustainable employment (reinforced by a regime of output related payments to zone contractors).

The Counterfactual

This report sets out an overview of the comparison area approach that has been used in the evaluation of EZs both here and in Hales et al (2003). It presents the way in which EZs and comparison areas were chosen and details the extent to which they are similar. It concludes that while the EZs and comparison areas were fairly well matched, the EZs were consistently more deprived than comparison areas.

Analytical Techniques

The analytical approach took a variety of forms and used a wide range of analysis techniques. These are set out below along with their key findings:

Unemployment Outflows in EZs

Firstly unemployment outflows in the EZs were modelled over a time period both before and after the introduction of the programme. The underlying model suggested that variations in unemployment outflows would be related to variations in local labour demand (and other exogenous factors). In this model, evidence of an EZ impact would take the form of shifts in the outflow relationships. The programme would be expected, *a priori*, to raise outflow rates for EZ client groups and, if there were any adverse effects, to reduce outflow rates for non-target groups.

Unemployment outflow equations were estimated for a range of age-duration categories using pooled time series data for groups of EZs and time series analysis

for individual EZ areas. This analysis covered up to the first year on the programme and the main findings were:

- The Employment Zone programme raised unemployment outflows from the EZ client group by a little over 1 percentage point. This positive impact was evident in both 12-month and 18-month zones.

- Examination of changes in the outflow rates of people aged 18-24 and the outflow rates of unemployed adults who were outside the EZ client group provided no evidence of adverse impacts, or substitution effects, on these non-target groups. There were no detectable adverse or substitution effects to offset against the positive gains from the EZ programme.

- The results suggest that the New Deal for Young People (NDYP) had a significant impact on unemployment outflow rates of both young people and adults. Strong positive affects on the outflow rates of 18-24 year olds who had been unemployed more than six months were found. Of more concern to the evaluation of the EZ programme, negative NDYP impacts were found in relation to adult unemployment outflows, especially in the long duration categories.

Difference in Differences

A 'difference in differences' method was used to examine variations in relative outflow rates. If EZs had the expected impact, it would be expected that the 'difference between outflow rates from EZ target groups and the non-target group would diminish.

This method examined the changes in the relative outflow rates of different EZ target groups (relative to adult short-term unemployed). The method rests on a number of assumptions, but within these limits, a number of key findings emerged. These were as follow:

- The gap between non-target and target outflow rates decreased, as would be predicted if EZs had the expected effect on participants. This effect was probably maintained during the second year of the programme. This general conclusion was reinforced by evidence of a narrowing of outflow differential for 12-18 month unemployed clients in 12-month zones that was not evident in 18-month zones (where such a client group was ineligible).

- The impact of the EZ programme appeared to have been most marked for eligible clients with shorter durations (that is, less than 24 months). Partly for this reason, the impact on differential outflow rates appeared more marked in the 12-month zones than the 18-month zones.

- The analysis points to a widening of the gap between non-target and target group outflow rates during the third year of EZ operation.

JSA inflow/outflow

Analysis was carried out on the JSA inflow/outflow relationship across Zone and comparison areas. This enabled the pattern of changes in long-term unemployment in Employment Zone areas to be viewed in relation to that of the comparison areas.

This analysis covered the first 15 months of the programme. Findings from this approach were:

- Unemployment levels were falling consistently across the Zone and comparison areas since the first observation in 1998.

- Before April 2000, unemployment generally fell faster in the comparison areas than in the Zone areas.

- A few months after the programme started, long-term unemployment in Zones started falling at a faster rate than the comparison areas.

Analysis of unemployment duration
The duration of spells of unemployment were analysed by way of a hazard function. This was a way of modelling the difference that an EZ made to a person's chances of leaving unemployment once all observable characteristics had been taken into account. It found that:

- Employment Zones were associated with having a positive impact on the rate at which long-term unemployed claimants left the count.

- The effect was stronger for those claimants that became eligible for the programme after April 2000.

- When positive outcomes were limited to those recorded as leaving into work (rather than simply leaving JSA), the Zone effect was more strongly positive for all clients.

Returns to unemployment
Finally, the chance that a person returned to unemployment was modelled, also using a hazard function. The analysis compared Zone and comparison areas and controlled for individual differences and found that:

- There was no difference between areas for a person who was already eligible for an Employment Zone in April 2000.

- Participants that became eligible after April 2000 and subsequently found work were less likely to re-enter unemployment if they lived in an Employment Zone area.

Conclusion
The results from modelling unemployment outflows, the analysis of differences in differences, the inflow/outflow analysis and the two hazard models appear consistent. They point to a small but significant programme impact on exits from unemployment during the first year of EZs. This programme effect is not associated with any negative impact on other client groups. The difference in difference analysis for subsequent years is weaker but points to the impacts possibly remaining evident in the second year but being eroded to a considerable extent in the third year of EZ operation.

Employment Zones had a positive impact on the programme target group relative to the comparison areas and previous performance. There is no evidence to support the view that Employment Zones had negative 'spillover effects'.

1 INTRODUCTION

1.1 The evaluation of Employment Zones

This report presents the findings from three projects undertaken as part of a programme of evaluation of Employment Zones (EZs). The projects were commissioned by the Department for Work and Pensions and the Department for Skills and Education and undertaken by the Warwick Institute for Employment Research. Two of the projects were concerned with assessing the wider labour market impacts of Employment Zones while the third provided essential contextual information about the labour market areas covered by the evaluation. Because of the common focus of the projects, their findings have been collated into a single report. This allows the findings of each to be seen in the light of the others.

1.2 The wider labour market impacts of active labour market policy

Any labour market programme targeted on a particular group of unemployed people carries the risk of having undesirable effects in the wider labour market. The extent of any adverse effects will reflect the level of demand for labour in the local labour market and the extent to which employers regard the target group as potential substitutes for other job seekers. The extent to which any impact is actually observed also depends of the scale of the intervention, with the likelihood of impacts being observed being greatest when a programme is fully implemented.

In order to attribute observed changes to programme measures it is necessary to discount any changes that would have taken place in the absence of intervention (the counterfactual situation). It is important, for instance, to account for differences in labour market conditions across time or across localities. Similarly, it is important to take into account the fact that long-term unemployed adults would have received support from JobCentre Plus even in the absence of EZ measures. Such support would have included mainstream Jobcentre Plus services and (since 1998) New Deal 25Plus. Thus, assessment of the counterfactual situation of an EZ participant not only needs to identify the effect of underlying labour market mechanisms and conditions but also take into account the changing level of support available to long-term unemployed people. Finally, it may be necessary to take account of variations in the implementation and operation of EZ measures. Such differences could occur over time as the programme is implemented and may be compounded by differences in implementation and operational practice in difference local areas.

Three complementary approaches were taken to the analysis of the impact of EZs. These were:

- the creation of local labour market profiles for EZs and comparison areas;
- an analysis of aggregate unemployment outflows and inflows within EZs;
- an analysis of unemployment flows and durations at the individual level in EZ and comparison areas.

The first approach sought to collate and synthesise information on EZs and comparison areas in order to provide a better understanding of the relative conditions in each area as a context for the evaluation as a whole. The second approach examined whether EZs had any measurable impact on outflows from unemployment for the target group (long-term unemployed adults) and whether any such (hopefully, positive) impact on the target group was offset by changes in the outflow rates of other jobseekers. Any reduction in the outflow rates amongst non-target jobseekers (such as young people in general, or adult short-term unemployed) could be seen as evidence of the wider labour market impacts of EZs. Finally, the third approach involved examination of data relating to individual jobseekers. Administrative data that recorded the incidence and duration of all spells of claimant unemployment in both EZs and comparison areas was examined. The analysis compared the unemployment spells of EZ participants and non-participants (both within EZ areas and the set of comparison areas). This approach investigated whether any measurable reduction in long-term unemployment attributable to the operation of EZs was offset by increases in the incidence or duration of unemployment among non-eligible persons.

Reference has already been made to comparison areas. To determine the impact of EZs, use was been made of a comparison group method. Essentially, this method assumes that a group of individuals can be identified, who are in every respect similar to those who are eligible for programme participation, apart from their eligibility. Random assignment of individuals to a mandatory programme or to a 'non-treatment' group is often regarded as the best way of creating a comparison group. In the case of Employment Zones, the programme was mandatory for those who became eligible and random assignment was not performed. Comparison groups were formed by selecting areas of the country which were similar to Employment Zones, but in which the EZ measures were not operating, then to identify groups of individuals within these areas who would have been eligible for the EZ measures in terms of the duration of their claims for Job Seeker's Allowance. The characteristics of EZs and their respective comparison areas are discussed in greater detail in the next chapter.

1.3 Structure of the report

The report begins with Chapter 2 that briefly describes the EZ programme, the target group at which it was aimed and participation in it. Chapter 3 presents profiles of the zones and considers the question of how well matched were the zones and the comparison areas. Chapter 4 examines aggregate unemployment flows within EZ areas (before and after the introduction of the programme) to see if there is any evidence that EZs had any impact upon the target group or other job seekers. Chapter 5 considers the same issues using micro-data about individuals in the zones and comparison areas. Chapter 6 draws out the broad conclusions from the three studies.

2 ASSESSING THE WIDER LABOUR MARKET IMPACTS OF EMPLOYMENT ZONES

2.1 The Employment Zone programme

As part of its 1997 election manifesto, the government undertook to reduce long-term unemployment in those parts of Great Britain where 'pockets' of long duration unemployment were apparent. As a part of this commitment, Employment Zone policy represented a new approach to the problems faced by persons who were without work and had been in receipt of Job Seeker's Allowance (JSA) for a significant and continuous period of time[1].

Employment Zones (EZ) were initiated in April 2000 (although a number of EZ pilots had operated before that date). Fifteen areas were defined which included some of the highest concentrations of persons experiencing long-term unemployment[2]. Residents within the zones were eligible to participate in the programme if they had been in receipt of Job Seeker's Allowance for at least 12 months in eight areas: (Nottingham, Birmingham, Haringey, Southwark, Newham, Doncaster, Plymouth and Heads of the Valleys in Wales); or for at least 18 months in seven areas (Liverpool, North West Wales, Glasgow, Brighton and Hove, Tower Hamlets, Middlesborough/ Redcar/ Cleveland, Brent).

For the first three months of their operation only those people who had reached the 12 or 18-month threshold in each month were referred to the programme. From July 2000 onwards most persons who were over the threshold were referred as they reached their Restart interview[3].

The programme differed in some respects from typical active labour market interventions. Each participant received support on a one-to-one basis from a dedicated personal adviser. The personal adviser and programme participant identified barriers to work and prepared a costed action plan, termed a Personal Job Account. During this phase, which may have lasted up to 13 weeks, the client remained in receipt of JSA. In the second stage, which may have lasted up to 26 weeks, the client received an equivalent 'EZ subsistence payment', plus a nominal JSA payment – thereby remaining on the administrative count of the unemployed. The third phase began when the client entered employment.

This progression was facilitated via a number of mechanisms that made the operation of Employment Zone policy interesting and innovative. The zones were operated variously by public sector, public-private partnership and private contractors. The emphasis was upon flexible delivery mechanisms facilitated via the pooling of funding associated with the client into their Personal Job Account. The focus was upon movements into employment, with a significant part of the funding available to each zone being dependent upon clients' progress in this respect. When a client started work there was a small outcome payment of £400 made to the zone

1 The 'continuous' receipt of Job Seeker's Allowance was not strictly adhered to and the length of a spell in receipt of the allowance provided for any number of breaks up to 28 days in total.

2 For details of the zones, their spatial definition and economic geography see Green (2002).

3 A regular assessment made after each six-month continuous period in receipt of JSA.

contractor, followed by a much larger payment of £2,500 after the client had remained in employment for 13 weeks. Premium payments were made for clients with unemployment durations of more than three years.

The programme was mandatory, in that all persons who were eligible (that is, they lived in an Employment Zone and had accumulated the relevant duration of a claim or claims for Job Seekers Allowance) were required to participate. In fact, as will be shown later, not all persons who appeared to be eligible were recorded as participating in the programme. Some people in special categories could start on the EZ programme immediately on first claiming JSA.

2.2 The Employment Zone target group

Employment Zone areas were originally selected because they were areas with high and persistent numbers of long-term unemployed residents. In April 2000, at the time when EZs were introduced, the number of claimant unemployed in Employment Zones numbered 189,000. This represented an unemployment rate of 6.5 per cent and compared to an unemployment rate of 3.7 per cent for Great Britain.

The number of unemployed people and the rates of unemployment in Great Britain have been falling sharply in recent years and these trends were reflected in the EZs. The fall in unemployment in EZs has not, however, matched that of Great Britain as a whole. Green (2002) has shown that unemployment in EZs declined between January 1996 and April 2000 at a slower rate than the national average. The result of this was that the relative gap between unemployment in EZs areas and Great Britain as a whole widened. In January 1996, the rate of unemployment across EZ areas was 50 per cent higher than the national rate. By April 2000 the difference had widened to 75 per cent of the national average rate. This upward trend in the ratio of EZ to national average unemployment rates is clearly discernible in Figure 2.1.

Unemployment rates in EZs continued to be high relative to the national average after the introduction of the EZ programme. Nonetheless, the widening of the gap between EZ and GB rates was reversed from around the time when the EZ programme was introduced (as indicated by the first-order polynomial trend line in Figure 3). This coincidence of timing need not necessarily indicate that the EZ programme was the cause of the trend reversal, not least because the rate at which the gap was widening started to decline before April 2000.

Accompanying the decline in number of unemployed people in EZ areas has been a fall in the number of adults (25 or above) unemployed for 12 months or longer (as can be seen from Figure 2.2). It is evident from Figure 2.2 that the number of unemployed people in the EZ client groups declined over most of the period covered and pre-dated the introduction of the EZ programme. The fall in number of long-term unemployed adults in EZ areas following the introduction of the EZ programme does not therefore provide strong prima facie evidence of an EZ effect since it was merely a continuation of a previous trend.

Figure 2.1:
Ratio of unemployment rates in EZs to the GB average, 1996-2002

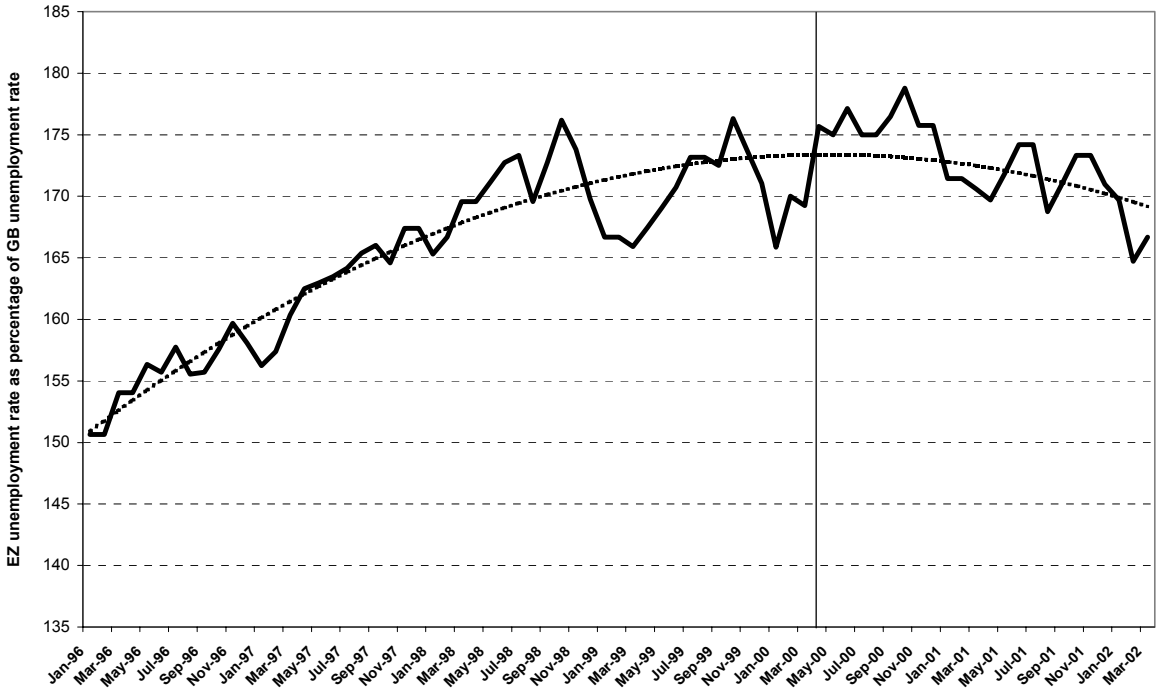
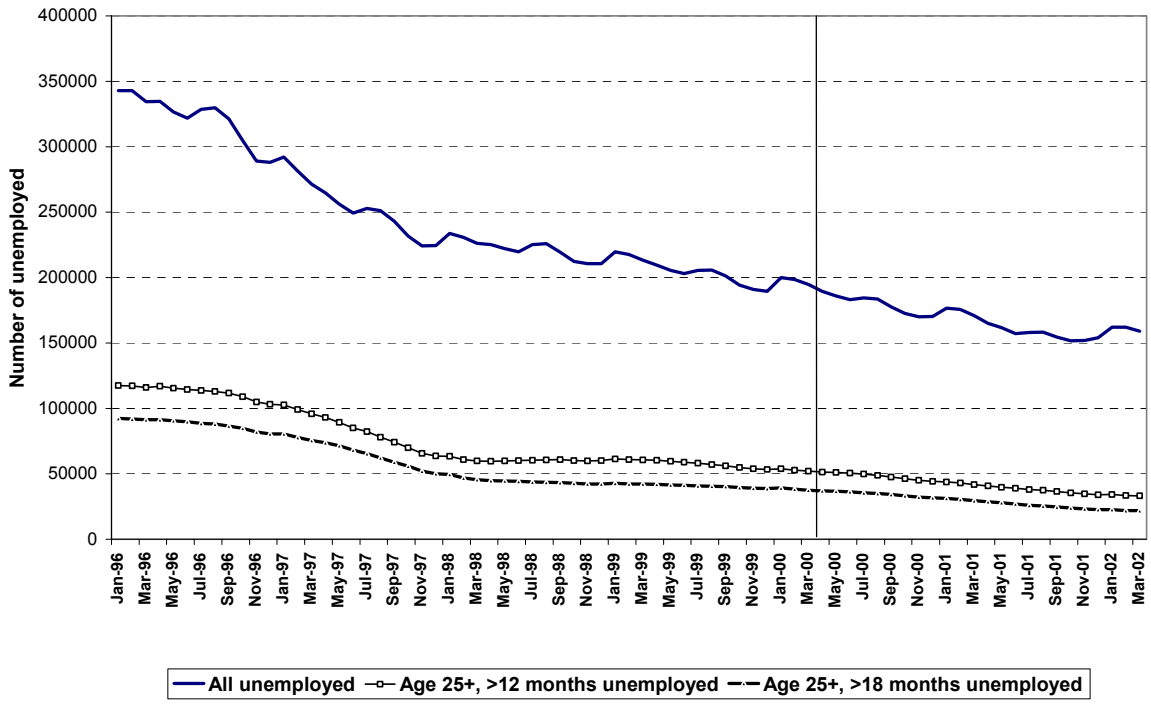


Figure 2.2:
Unemployment stocks by age and duration, all EZs, 1996-2002



A programme such as the EZ programme that is targeted at a specific group of unemployed people might be expected to change the composition of the unemployment stock, as members of the target group exit unemployment more

quickly than would otherwise be the case. Figure 2.3 shows that the proportion of unemployment accounted for by adult long-term unemployment fell in the period after April 2000 and this was somewhat different to the trend over the period from mid-1998 to early 2000 when the proportion was either static or even increasing slightly. It should be noted that sharp falls in the share of adult long-term unemployment have occurred before, notably in the period before 1998 when there were no large scale interventions such as New Deal 25 plus or Employment Zones. Moreover, comparison with GB unemployment stocks indicates that adult long-term unemployment did not fall as quickly in EZ areas as in GB as a whole. Figure 2.4 shows the ratio of the share of adult long-term unemployment in EZs to that of the GB average increasing, not only prior to the introduction of the EZ programme, but thereafter.

This initial examination of recent changes in unemployment in Employment Zone areas confirms that EZs were areas of relatively high levels of adult long-term unemployment and, if anything, this situation has worsened in the past two years despite the fall in the level of unemployment. This does not rule out the possibility that the EZ programme has had an impact on the adult long-term unemployed client group. The pertinent question for evaluation is whether as the result of the EZ programme the unemployment level of the target group (and the non-target group) was different to what it would have been had the EZ intervention not been made. This question cannot be answered simply by inspection of unemployment trends but requires the modelling of labour market behaviour.

Figure 2.3:
Adult long-term unemployment as a proportion of all unemployment, Employment Zones, 1996-2002

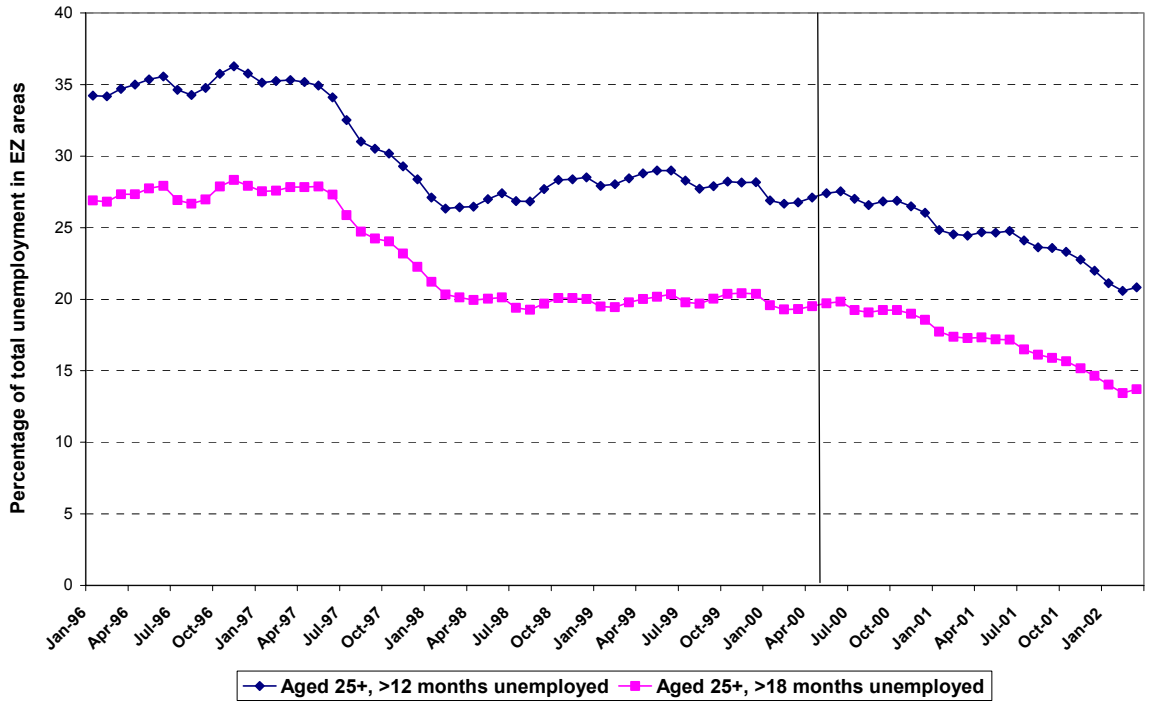
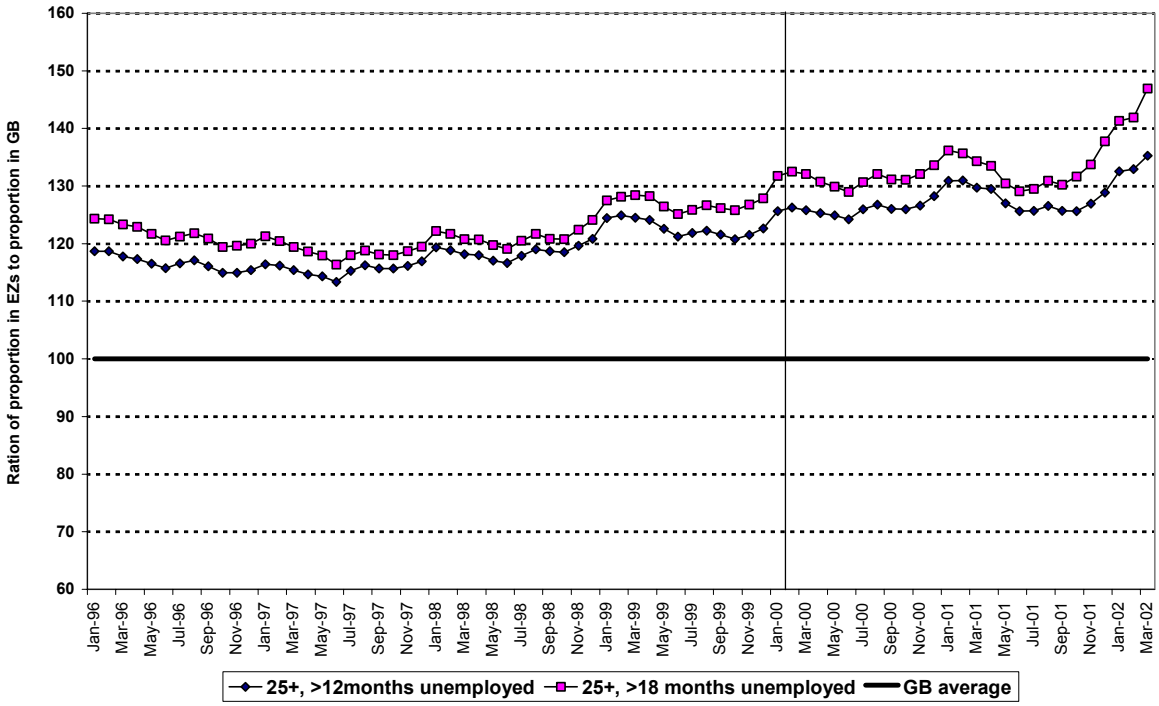


Figure 2.4:
Ratio of the EZ and GB shares of adult long-term unemployment, 1996-2002



2.3 Participation in the Employment Zone programme

Between April 2000 and December 2001, 57,700 people started on EZ[4]. The majority of entrants were male (85 per cent) and of White ethnic origin (72 per cent), reflecting the characteristics of the long-term unemployed client population as a whole. During this period, 19,700 EZ participants entered employment and of these 13,900 remained in work for 13 weeks or more. Of the 36,400 people starting on EZs between April 2000 and March 2001, 39 per cent entered employment by December 2001 and 80 per cent of these remained in work for 13 weeks or more.

The number of people participating on the EZ programme in each month is shown in Figure 2.5. This chart shows that the number of participants on the programme increased rapidly from April 2000 as eligible people were referred to, and entered the programme. Newly eligible clients entered the programme as a monthly flow whereas the stock of clients already eligible in April 2000 was delayed until July 2000 in order to spread the task of implementation. The EZ Evaluation Database shows that there were large differences in the timing of entry to the programme in individual EZs, reflecting local differences in implementation.

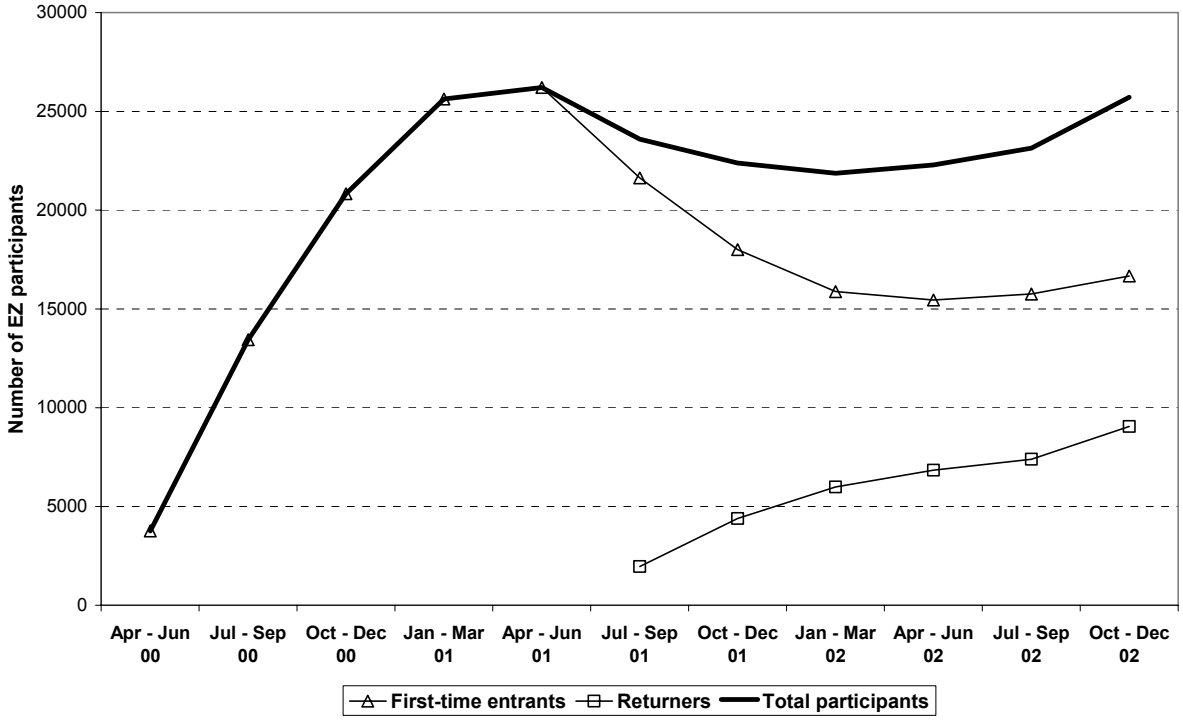
The number of participants on the EZ programme peaked in the period April-June 2001 declined thereafter (see in Figure 1). The flow of new entrants to the programme tailed off to around 15,000 by mid to late 2002 while, from mid to late

[4] *Employment Zones: statistics to end-December 2001*, Department for Work and Pensions, 28 March 2002

2001, a substantial flow of clients returning to EZs became apparent. By the end of 2002, more than one third (35 per cent) or 26,000 participants were those who had participated in the programme on a previous occasion.

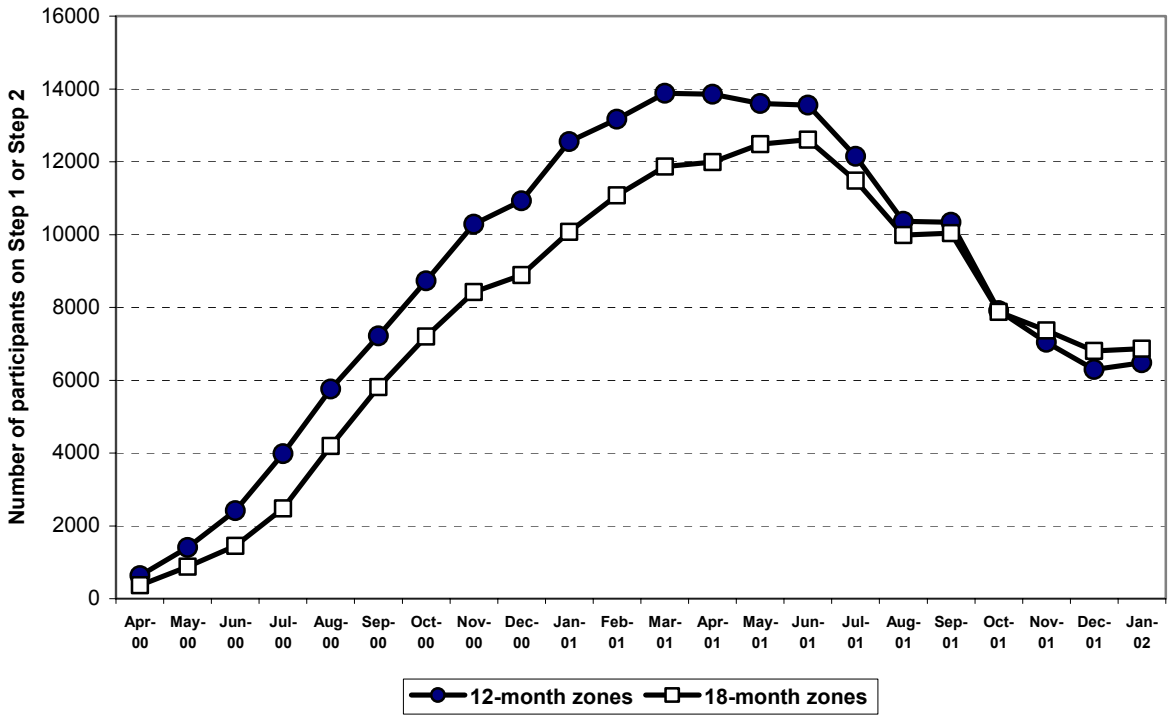
Because participation on the EZ programme includes the period of up to 13 weeks of paid employment that forms Step 3, an exit from unemployment (JSA) was not the same as an exit from the programme. The number of people participating on Step 1 or Step 2 is shown in Figure 2. The chart distinguishes between numbers in 12-month and 18-month zones although comparison is affected by the different size of the eligible populations of the zone types. Figure 2 shows how the numbers on Step 1 and Step 2 increased and suggests that the build up of participants was somewhat more rapid in the 12-month zones than in the 18-month zones. In the former, Steps 1 or 2 peaked in March 2001 whereas that peak was only reached some two months later in 18-month zones.

Figure 2.5:
Participation on the Employment Zone programme



Source: *Employment Zones: statistics to end-December 2002*, Department for Work and Pensions

Figure 2.6:
Numbers participating on Step 1 or Step 2 by type of EZ



Source: Employment Zone Evaluation Database.

3 PROFILES OF EZ AREAS

3.1 Background to the local labour market studies

In order to obtain a better understanding of the labour markets in which EZs operated, a series of local labour market assessments were conducted. The current position[5] and trends in EZs were also contrasted with the experience of comparison areas[6] and the national[7] context. In so doing, it was intended that the assessments would provide:

- a descriptive overview of the EZs as a 'backdrop' to aid interpretation of differential outcomes at local level;[8]
- indicators to feed into econometric analyses.

The method used involved the construction and compilation of a range of labour market and other socio-demographic indicators at local level from a variety of statistical sources. The sources included:

- claimant unemployment;
- Annual Business Inquiry (ABI);
- Local Area Labour Force Survey and quarterly Labour Force Survey (LFS) data;
- Mid-Year population estimates (MYEs);
- 1991 Census of Population;
- Neighbourhood Statistics Service (NeSS);
- Jobcentre Plus vacancy statistics.

Efforts were also made to supplement the sources above with information from local reports, surveys and similar sources[9] , as well as by telephone interviews with key contacts for the main EZ providers. Respondents were asked to provide any information that they thought would be useful to appreciate the way in which the EZ programme had operated and that might have implications for the way in which the impact of the programme was assessed. In particular, information was sought on client characteristics, the character of, and changes in, local labour demand and the day-to-day operation of the programme. It should be recognised, however, that the information available from such sources was of variable quality and coverage, and for some areas information was not forthcoming.

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5 The latest dates for which data are presented, by source, are: Local Area Labour Force Survey (2000), quarterly Labour Force Survey (winter 2001/2), Annual Business Inquiry (2000), claimant count (March 2001), mid year population estimates (2000).

6 Indicators were compiled from secondary data sources for both individual EZ and individual comparison areas. Details of individual comparison areas are not reported here.

7 Great Britain.

8 This report is concerned with providing this 'descriptive overview', in order to provide some contextual information on changes/trends in EZs which are likely to have a bearing on their performance.

9 Requests were made to relevant local Learning and Skills Councils (LLSCs) and local authorities for information. Responses were mixed but some useful information was provided.

It should be noted at the outset that the local labour market context is only one local feature likely to affect differential outcomes of EZs. EZ managers will play a role, as will differences in the size of Personal Adviser caseloads. Systems and strategies for identifying vacancies in the local labour market will also play a role, as will the comprehensiveness and timeliness of IT systems in place for processing vacancies and matching them with clients. The strength and nature of local partnerships[10] and the availability of, and speed of access to, support services can also impact on differential success.

3.2 Defining Employment Zones and comparison areas

When the EZ programme was designed the aim was that they would be amongst the most disadvantaged areas in Great Britain. Unitary authorities/local authority districts (UALADs) were short-listed as possible Employment Zones (EZs) if:

- they were amongst the worst 150 UALADs in Great Britain when ranked by the share of unemployed claimants, aged 25 and above, who were long-term unemployed;
- *and* they were amongst the worst 150 UALADs in Great Britain when ranked by the employment rate, the unemployment rate (using the ILO measure) and the unemployed for over two years as a percentage of the working age population;
- *and* they were not Single Gateway pilot areas, Single Gateway control areas, 25+ New Deal pilot areas or 25+ New Deal control areas.

Generally, EZs were selected from those UALADs with the worst performances based on a ranking of these three criteria. Most, but not all, EZs, conformed to UALADs. Those that did not conform to UALADs, represented amalgamations of subsets of contiguous wards within a larger UALAD.

The primary aim in the selection of comparison areas is to select areas that were similar to the EZs.[11] Hence, UALADs meeting the short-listing criteria for EZs (outlined above) were possible candidates. However, in order to take account of a wider array of socio-economic and demographic factors, reference was made to a geo-demographic classification[12] based on variables[13] from the 1991 Census of Population[14] which identified the districts 'most similar' to those selected as EZs as possible comparison areas. The EZs and UALADs selected as comparison areas are listed in Table 1.1. Those EZs adopting a qualification criterion of a claimant unemployment spell of 18 months are distinguished from those adopting a 12-month spell. EZs which were based on 'part UALADs' (i.e. which were defined in terms of selected 1991 wards) are identified.

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10 In terms not only of support from the local council, other key players, etc, but also the presence and extent of synergy with other local regeneration and employment initiatives – such as New Deal for Communities, etc.

11 The comparison area approach was used here, as distinct from selecting a national comparison sample.

12 This is a general purpose classification.

13 Including variables such as car ownership, household structure, ethnic composition, age structure, unemployment rate, limiting long-term illness, industrial structure, etc.

14 ONS (1999) *The ONS classification of local and health authorities of Great Britain: revised for authorities in 1999.*

Two practical issues had to be addressed in the profiling exercise. First, there was no single, standard geography underlying all of the data of interest. After a review of the many different working definitions of EZs and comparison areas, it was concluded that UALADs represent the best all round choice for analytical purposes, and this was the geographical base to which most indicators were disaggregated. In some instances, however, ward-based definitions of EZs were used[15]. Second, the boundaries of EZ changed over time for operational reasons. For the purpose of analysis, EZ boundaries were treated as frozen at a point in time[16] (the alternative would have been to modify the EZ boundaries/definitions over time to reflect the changes). These definitions reflected a 'core' definition of the EZs.[17]

Table 1.1:
EZs and comparison areas

EZ	type of EZ	part UALAD	comparison area
Birmingham	12 months	yes	Wolverhampton and Bradford
Brent	18 months	no	*London**
Brighton & Hove	18 months	no	Southend-on-Sea
Doncaster and Bassetlaw	12 months	no	Rotherham
Middlesbrough Redcar & Cleveland	18 months	yes	Stockton-on-Tees
Haringey	12 months	no	*London**
Glasgow	18 months	no	Dundee City
Liverpool and Sefton	18 months	yes	Wirral and Hartlepool
Heads of the Valley Caerphilly Torfaen	12 months	no	Rhindda Cynon Taff
Newham	12 months	yes	*London**
North West Wales	18 months	no	Pembrokeshire
Nottingham	12 months	yes	Salford
Plymouth	12 months	no	Southampton
Southwark	12 months	no	*London**
Tower Hamlets	18 months	no	*London**

Note: * The London comparison area comprises Ealing, Lambeth, Lewisham, Islington and Hackney.

15 In practice, the results obtained from analyses differ in detail according to the 'geography' adopted – i.e. the results obtained for Birmingham differ slightly if UALADs are adopted as the geographical based, as opposed to a more constrained ward-based definition. However, in general the patterns/results obtained are similar using both 'finer' and 'coarser' geographical units.

16 This is the option that was selected.

17 Since, in general, the overwhelming majority of EZ participants were from the 'original' wards (or UALADs) covered by the EZ.

3.3 Overviews of the Employment Zones

Review of the data for the EZs suggested the following 'broad brush' profiles of the areas (greater detail is provided in Green, 2003).

- *Birmingham*, in the West Midlands, has an industrial base, and manufacturing remains more important than nationally. Vacancies, particularly for temporary jobs, were at levels similar to those recorded in the 1980s boom. There was a large, and extremely diverse, ethnic minority population.
- In *Brent*, in north-west London, more than half of the local population was from ethnic minority groups and poor/no English was a particular problem amongst EZ participants. Brent was part of the broader London economy, and so, if mobility and aspirations can be enhanced, EZ participants could take advantage of employment opportunities elsewhere in London.
- *Brighton & Hove* was one of the most distinctive EZs. The local economy was relatively buoyant and this was reflected in lower non-employment rates than in many other EZs. There was a greater than average proportion of employment in financial services and in hotels & restaurants than the national average, and there were more employed residents in higher level non-manual occupations than nationally, alongside labour market disadvantage – prompting fears of the development of a 'two tier economy'.
- *Doncaster and Bassetlaw* has a coal mining heritage. Manufacturing remains a more important than nationally, but there was also development of service industries –particularly in the Dearne Valley. The proximity of several prisons resulted in a relatively high proportion of ex-offenders amongst EZ participants.
- *Middlesbrough Redcar and Cleveland*, in the North East – the most economically depressed region in England, contained some wards experiencing the greatest intensity of deprivation in England. There were particularly high levels of basic skills needs. Following the demise of heavy industries, non-employment (i.e. unemployment plus inactivity) had increased. The state of the local labour market was such that employers could 'pick and choose' whom to employ to a greater extent than in some of the other EZs.
- *Haringey*, in north London, is an outer London borough with inner city characteristics. It is an ethnically diverse area with a relatively transient population, and there were heavy requirements for English as a second language. The borough's economy was dominated by small business. Haringey was a net exporter of labour to other parts of London, and many EZ participants would need to look to other parts of London to find work.
- *Glasgow*, in central west Scotland, is often regarded as one of the 'traditional depressed areas' of Britain. In recent years the local economy had been transformed from a relatively high-cost manufacturing centre to a national and international service centre. Despite employment growth at a faster rate than the Scottish average over the late 1990s, there has been a large reduction in the number of manual jobs.

- *Liverpool and Sefton* are characterised by extensive deprivation. Merseyside remained in receipt of Objective 1 funding following the decimation of port-related industries and the traditional manufacturing base, and the area has been the target for many different regeneration initiatives. Basic skills needs were amongst the highest in England.
- *Heads of the Valley Caerphilly and Torfaen* covers the eastern part of the South Wales Valleys. The local economy was historically rooted in coal and steel. Now manufacturing and public services accounted for a greater proportion of employment than across Great Britain as a whole. In order to gain employment, some EZ participants would have to be prepared to travel outside the local area in order to take up new job opportunities in Cardiff, Newport and beyond.
- *Newham*, in the eastern part of Inner London, has a large ethnic minority population with a youthful age profile. The degree and extent of deprivation in Newham was amongst the highest recorded in any EZ area. Economic activity rates were lower than average. Service industries dominated. Newham residents were within reach of jobs in Docklands – but there was often a skills mismatch between what the residents had to offer and what the available jobs required.
- *North West Wales* is the most extensive of the EZs, incorporating some relatively remote rural areas. Ability to drive and access to a car was crucial if individuals were to gain employment. This is a distinctive local area, with an older age structure and an employment structure with a relatively large number of small businesses. Tourism was a key industry, but was badly hit by the foot and mouth crisis in 2001. Ability to speak Welsh was a requirement for some jobs in the area.
- *Nottingham* is a key regional service centre in the East Midlands. Much employment in traditional manufacturing industries has been lost, and the service sector has expanded. The local job market was buoyant, and there were insufficient suitable applicants for call centre jobs. The Nottingham EZ was small – covering a few deprived wards in central Nottingham – and local residents faced competition for local jobs from in-commuters.
- *Plymouth* has a relatively peripheral location in the 'far south-west' of the South West region. Despite a dramatic decline in the Dockyard labour force, in recent years the local labour market has been more buoyant than most local people can remember, and this was reflected in higher employment rates than in many other EZs. However, many of the available jobs were characterised by low wages.
- *Southwark* is located on the south bank of the Thames, opposite London's main financial district and close to Westminster, yet despite the fact that there was a large volume of job opportunities within commuting reach, there was a strong preference for local jobs. The local area has seen, and continues to be subject to, major flagship developments. About 30 per cent of the local population, and around half of EZ participants, were from ethnic minority groups.
- *Tower Hamlets* has a youthful and fast growing population, and a distinctive ethnic mix, with the Bangladeshis comprising the largest single group amongst the 45 per cent non-white portion of the population. The traditional dock related industries

have declined, and functions associated with the City of London have extended into Tower Hamlets. Hence, there is a large volume of jobs in the local area, but the occupational structure is biased towards professional, associate professional and managerial occupations.

3.4 How well do the comparison areas match EZs?

In aggregate, both EZs and comparison areas had a younger population age profile than Great Britain. This was particularly apparent in the London EZs and comparison area. Generally, both EZs and comparison areas had above average shares of population from ethnic minority groups although there was considerable variation in the relative size and diversity of such ethnic minority populations. In Brent and Tower Hamlets, for instance, more than half of the population were from ethnic minority groups whereas in EZs in Wales less than 1 per cent of the population was a member of an ethnic minority groups.

Because of the way they were selected, EZs and comparison areas contained many of the most deprived areas in England. Tower Hamlets, Liverpool, Newham, Middlesbrough, Nottingham, Haringey and Birmingham were amongst the most deprived and Brighton & Hove the least deprived. Unemployment rates on the ILO definition were consistently higher in EZs than comparison areas but analysis of claimant count data series confirmed that the unemployment experience of EZs and comparison areas was closely matched prior to the introduction of the EZ programme. Having said that, between January 1998 to April 2000, the proportion leaving the claimant count to enter work was lower in EZs than in comparison areas.

Economic activity rates were below the national average in both EZs and comparison areas but were consistently lower in EZs than in the comparison areas. EZs displaying the lowest economic activity rates for persons of working age fell into two main categories. First, East London boroughs with large Muslim populations and, secondly, traditional 'depressed' areas with a long history of economic decline (such as Glasgow, Liverpool & Sefton and the Heads of the Valleys). Economic activity rates varied markedly by level of qualification held. Those holding no, or low, qualifications had the lowest activity rates.

Overall, the occupational structure of EZs and comparison areas was similar to that of Great Britain. 'London EZs' had a larger proportion of employment in higher level, non-manual occupations than other EZs. However, the broad gender and full-time/part-time status profile of employees was similar across all EZs, comparison areas and Great Britain. The growth of employment in EZs slightly exceeded that of GB between 1998 and 2000, but was slightly lower than that of comparison areas. Of the EZs, Brighton & Hove, Newham and Tower Hamlets recorded the largest percentage increases in numbers of employees between 1998 and 2000.

The conclusion of the local labour market profiles is that across a range of labour market and socio-demographic indicators, the EZs and comparison areas were fairly well matched. Nonetheless, EZs emerged overall as being consistently more deprived than the comparison areas. In aggregate, the EZs were characterised by higher levels of non-employment (both unemployment and inactivity) than the comparison areas.

4 A TIME SERIES APPROACH TO EZ IMPACTS

4.1 Introduction

The EZ programme was designed to accelerate the transition from long-term joblessness to employment by increasing the intensity and effectiveness of job search (during Step 1 and Step 2) and overcoming barriers to employment (Step 2). If successful, EZs could be expected to have a positive impact on outflows from unemployment for the target group and reduce unemployment amongst this group of jobseekers. One method of assessing the impact of EZs is therefore to examine unemployment outflows for evidence of an increase co-incident with the introduction of the EZ initiative.

Any programme targeted on a particular group of unemployed persons has the potential for causing adverse effects on other participants in the jobs market. In particular, without any overall expansion in the demand for labour, employers might recruit more target jobseekers and fewer non-target jobseekers, resulting in the substitution in employment of the former for the latter. The result would then be to increase the incidence of unemployment within the same locality for those who did not qualify for assistance. Alternatively, the EZ programme might divert resources away from helping other jobseekers to gain employment and slow down their entry to jobs. Whatever the mechanisms involved, overall unemployment in EZ areas would not be reduced if a positive impact on the target group was offset by changes in the outflow rates of other jobseekers. Unemployment outflows thus provide a means of assessing the wider labour market effects of EZs.

Non-target groups of particular concern in relation to EZs (which target the adult long-term unemployed) were people who were short-term unemployed (of any age) and unemployed people aged 18-24. The matter of concern is whether improvements in the employment prospects (if any) of EZ participants were achieved at the cost of worsening prospects for young people and short-term unemployed adults. In the light of the need to consider these wider labour market impacts, the analysis reported here sought to answer a number of research questions. These research questions, based around an examination of unemployment outflows, were as follows:

- at what rate did long-term unemployed adults leave unemployment before the introduction of the EZ programme?
- have there been any change in the rate of exit from long-term unemployment since the introduction of the EZ programme?
- were there factors other than the EZ programme that would account for observed change (if any) in exits from unemployment?

- was EZ provision associated with slower rates of exit from unemployment for unemployed people who were not in the EZ target group?

4.2 A framework for modelling unemployment flows

The approach to modelling unemployment outflows in this analysis was based on the notion of a 'hiring function' (Layard, Nickell and Jackman, 1991), also referred to as a 'matching function' (Disney *et al*, 1992; Lehmann, 1993, Dor *et al*, 1997). This is a commonly used approach and was used, for instance, to estimate the impact of New Deal for Young People (Anderton, Riley and Young, 1999; Riley and Young, 2001).

The analysis started from the proposition that there was a functional relationship between the number of unemployed people hired in a period (the unemployment outflow), the number of vacancies in the jobs market and the effectiveness of jobsearch by unemployed people. With a given number of vacancies per period of time, and a particular level of job search effectiveness, there would be some 'equilibrium' rate at which people flow out of the stock of unemployed in each time period. Changes in any of the factors determining the outflow will lead to changes in the equilibrium outflow rate, although it may take several months for the new rate to be established (because of lags in the job search and hiring process, uncertainty and imperfect information).

The EZ programme can be thought of as an intervention in the job matching process that changes the efficiency of jobsearch amongst long-term unemployed jobseekers in the EZ area. If successful, the intervention would have increased the speed of the matching process and thus shifting the matching function for that target group. This would lead to a new (and higher) outflow rate from long-term unemployment in EZs. The practical task facing the research was to model unemployment outflow rates and to establish whether the introduction of EZs had, in fact, shifted the outflow relationship (Hasluck, 2003).

4.3 Modelling the unemployment outflow function

The approach to modelling outflow rates was to estimate outflow functions for different groups of jobseekers, with each equation taking the general form of:

$$\Delta \ln(O_t/U_t)^i_j = \beta^i_j \ln X^i_{tj} + \lambda^i_j EZ_t - \gamma^i_j \ln(O_{t-1}/U_{t-1})^i_j + \varepsilon^i_j \qquad (1)$$

where $\Delta \ln(O_t/U_t)^i_j$ was the change in the outflow rate in period t, $\ln X_t$ was a set of exogenous factors in period t and effect of EZs measured by a variable (EZ_t) reflecting the EZ intervention in period t. ε was an error term with mean zero. The superscript i refers to age group and the subscript j refers to unemployment duration group.). Since the outflow function was expected to be non-linear, the equation was specified as linear in logarithms.

The outflow adjustment term in equation (1) implies that adjustment to an equilibrium outflow rate was not instantaneous and was subject to a dynamic

adjustment process. This was represented by the lagged outflow term where the adjustment coefficient $-\gamma$ was expected to take a value between 0 and –1. Values close to 0 imply a very slow adjustment while values close to –1 imply almost complete adjustment in a single period.

The outflow adjustment equation (1) can be rearranged to provide an equivalent outflow rate equation:

$$\ln(O_t/U_t)^i_j = \beta^i_j \ln X^i_{tj} + \lambda^i_j EZ_t + (1 - \gamma^i_j) \ln(O_{t-1}/U_{t-1})^i_j + \varepsilon^i_j \qquad (2)$$

This equation is identical to the adjustment equation (1) except that the coefficient on the lagged outflow rate is now $(1 - \gamma^i_j)$. Since $-\gamma^i_j$ was expected to take a value between 0 and -1, this coefficient iwa expected to be positive and take a value between 0 and 1.

The principal exogenous factor determining the outflow from unemployment is the level of labour demand in the local economy. This can be measured by the ratio of unemployment to vacancies in the EZ area. Seasonal variations in labour demand and changes in macroeconomic activity can be represented by seasonal dummy variables and macro time variables.

The impact of EZs on unemployment outflows takes the form of a shift in the outflow equation and to estimate this impact requires a variable, or variables that can capture the EZ effect (if any). A simple [0,1] dummy variable taking the value 0 before April 2000 and 1 from April 2000 onwards was one possibility. Such an approach is most appropriate when comparing EZ and comparison areas (since there is no EZ to measure in the latter areas). When looking at differences across EZs a different approach was desirable. A [0,1] EZ dummy variable implies that all EZs came into effect simultaneously and were equally effective. A better reflection of actual events in the EZ would be a measure that reflected the timing and intensity of the EZ intervention at the local level. Some EZs were quicker off the mark that others, while others penetrated the target group to a greater extent (sometimes both) and these differences in the implementation could be expected to reflected in the scale of any EZ effect on outflows.

It is important to bear in mind that there would still have been labour market interventions in EZ areas even if the EZ programme had not been introduced. Prior to the introduction of EZs and, in most instances during the EZ period, unemployed people in the EZ areas were entitled to mainstream Employment Service provision for jobseekers. In addition to these mainstream services, there have also been major programmes aimed at specific client groups. From June 1998, residents of EZ areas who were over 25 and unemployed for at least two years would have been required to enter New Deal 25 plus (ND25plus). Similarly, people aged 18-24 who were unemployed for six months or more have been required to participate on New Deal for Young People (NDYP). The counterfactual situation during the operation of EZs was not a labour market without intervention but a more complex situation in which other interventions may already have impacted on unemployment flows. This

must be borne in mind when modelling unemployment outflows and when interpreting any empirical findings.

4.4 Data sources

Outflow equations were estimated using monthly data. The use of monthly data maximised the number of observations. The period covered by the analysis was January 1996 to May 2001. The analysis thus relates to a period prior to EZs and the first year of EZ operation. Analysis beyond May 2001 was constrained by the suspension of the JobCentre Plus vacancy series from May 2001. The suspension resulted from a major discontinuity in the vacancy series resulting from the introduction of Employer Direct which involved the transfer of vacancy taking from local Jobcentres to regional Customer Service Centres. The change in the procedures resulted in more vacancies being recorded by the new system than under the earlier system. Although the vacancy series was reinstated for June 2002 onwards, the data is not directly comparable with the previous vacancy series.

Data on claimant unemployment stocks and outflows (by duration of unemployment spell and age group) were downloaded from the National On-line Manpower Information System (NOMIS), as were the relevant vacancy series. The definition of EZs areas is not a straightforward matter (see chapter 3 above). Data for EZs was obtained from NOMIS for EZs defined in terms of local authority district(s) of UALADs. While not a precise match, UALADs were considered to be a close approximation to the areas covered by EZs. While more precise definitions were feasible, the UALAD definition provided maximum flexibility in terms of data availability.

Unlike other data used in the analysis, U/V ratios were measured at the Travel-to-Work Areas (TTWAs) level. There were two main reasons for this exception. First, it was more appropriate to measure demand at the (self-contained) local labour market level (the TTWA containing the EZ) than at some arbitrarily defined administrative area (UALAD). There were other benefits, such as a reduction in the degree of co-linearity between the dependent variables and the U/V ratio.

Measures of EZ implementation were derived from data contained in the Employment Zone Evaluation Database. The database contains a wide range of management information, relating to such matters as ‘start’ and ‘end’ dates on programme Steps, activities undertaken and destinations as well as data matched onto the database from JUVOS records.

Several different measures of EZ implementation were constructed. The principle measures used in analysis included:

- the number of EZ participants on Step 1 or Step 2, expressed as a percentage of the stock of eligible JSA claimants (the target group) in each month;
- the proportion of people who were within the target group at the time of the introduction of EZs (the stock) who had started the programme;

- the proportion of those becoming eligible for EZ (the flow) in each month who subsequently started on the programme.

A monthly time-series was computed for each EZ measure.

4.5 Evaluation design

The wider labour market impact of EZs was investigated by modelling unemployment outflow time series for the periods before and after the introduction of EZs. Evidence of an EZ effect would take the form of a shift in the outflow equations. Several variants of the approach were used, including separate models for each EZ area; separate models for 12-month and 18-month EZ areas and pooling data for EZ areas into a single model. For each variant of the model, the analysis looked at the out-flows from unemployment of the EZ target group (defined variously in terms of participation in the overall EZ programme or of participation in 12-month or 18-month EZ programmes) and of non-target groups (specifically, the short-term unemployed and young unemployed). These unemployment out-flows can be broken down according to age, gender, JSA claim duration and other characteristics. This is not reported here as it is the subject of Chapter 5 below.

Using the general form of outflow equation (equation [1] in section 4 above) separate functions were estimated for different age and duration groups. Although the direct effect of the EZ programme may be to shift the outflow equations of the target group (jobseekers aged 25 or above who had been claiming JSA for 12 or 18 months, depending on EZ), there may be impacts on other groups of jobseekers in the labour market. It is essential to examine whether EZ measures had offsetting, negative impacts on other jobseekers, notably the short-term unemployed and young people.

In order to examine possible differences between EZs as well as the impact of EZ on non-target jobseekers, outflow equations were estimated for the following age-duration groups:

- 18-24 year olds unemployed for less than 6 months;
- 18-24 year olds unemployed for 6 months or more;
- 25 plus unemployed for less than 12 months;
- 25 plus unemployed for between 12-18 months;
- 25 plus unemployed for between 18-24 months;
- 25 plus unemployed for 12 months or longer;
- 25 plus unemployed for 18 months or longer;
- 25 plus unemployed for 24 months or longer;
- 25 plus in EZ target group (12 or 18 months unemployment);
- the non-target group (25 plus unemployed for less than 12 months and all 18-24 year olds).

The approach taken to modelling the EZ programme was to regard mainstream Employment Service provision as the base case. Major

programmes were then dealt with by means of programme specific variables. However, in the case of NDYP and ND25plus there is a problem. While the two programmes were not introduced at exactly the same time, there was only three months difference between the programmes, making any [0,1] dummy variables highly co-linear (although not perfectly so). Moreover the treatment of ND25plus after the introduction of EZs is also problematic, since even though ND25plus ceased after the introduction of EZs, it would, presumably, have been available to jobseekers had EZs not been implemented. Because of this, it was decided to treat ND25plus as mainstream provision for the EZ target group. For this reason only NDYP and the introduction of JSA were explicitly represented by dummy variables.

NDYP was represented by a variable taking the value 0 before April 1998 and 1 thereafter. To take account of any temporary effect on unemployment outflows from the introduction of JSA (see Sweeney and McMahon, 1998 for a discussion of this effect) a dummy variable taking the value 1 for the months October 1996 to April 1997 and 0 at all other dates was introduced into the analysis (following the practice of Anderton, Riley and Young [1999]).

Because of the way that programmes were treated in the modelling, it is important to note that the estimated EZ impacts represent the additional impact on the target group over ES mainstream provision (including ND25plus) and net of any adverse effects from NDYP. A positive shift in the outflow equation would imply that EZs had raised outflows beyond what would have been the case with mainstream provision (including ND25plus). A finding that EZs had no significant effect on outflows would not mean there was no EZs effect, merely that EZs had not changed outflows beyond what would have occurred with mainstream provision (and ND25plus). Even a negative impact would not mean that EZs had no effect on unemployment outflows, but such a result would mean that EZs were less effective in helping jobseekers to leave unemployment than mainstream provision and ND25plus.

4.6 Results of analysis

Outflow equations of the general form of equation (2) were estimated for each age-unemployment duration group in each zone (or group of zones) to test out a variety of different specifications. With 10 age-duration groups and 18 area types (15 individual EZs, the12 months zones, 18-month zones and all zones) the estimation of a single specification of equation (1) required 180 different estimations to be made. Each change in specification (for instance, different measures of EZs or different treatment of time trends) generated a further 180 equations to estimate. It will be appreciated that the number of potential equations to be estimated quite quickly becomes unmanageable, both in terms of the scale of the task and the difficulty of reporting such a large number of results. To narrow down the options, different specifications were ‘tested’ on pooled data for all EZs and separately for the 12 month and 18 month zones. The ultimate choice of specification reported here was selected on the basis of measures of ‘goodness of fit’ as well as prior

expectations of the value, signs and statistical significance of individual coefficients.

Estimation of the outflow equations was by means of Ordinary Least Squares linear regression. Table 4.1 describes the variables used in the final specification while Table 4.2 provides a summary of the broad findings of the analyses.

Before looking specifically at the estimated impact of the EZ programme on target and non-target groups of jobseekers, a number of general observations can be made about the results. First, despite their relative simplicity, the model performs well. The estimated equations were capable of explaining a large proportion of the variation in outflow rates (adjusted R^2) while analysis of variance (the F test) indicated that the estimated coefficients were highly significant. Most of the estimated coefficients on key exogenous variables were statistically significant at a very high level of confidence and had the expected sign (positive or negative)[18]. Some variables were only statistically significant for specific age-duration groups but these differences were usually consistent with prior expectations.

A concern that arises with all time series analysis is that of positive serial correlation, where the error term is not independent of the error term in earlier periods. Conventionally, the presence of serial correlation is tested for by use of the Durbin-Watson (DW) statistic. DW statistics for the estimated of outflow equations have values that would suggest that serial correlation was not present, but such a test is not appropriate when the estimated equation contains lagged dependent variables (the DW statistic is biased towards the value of 2, the critical value). To test for serial correlation when models contain a lagged dependent variable and the sample is large (as in this case) the Durbin h-statistic can be used (Durbin, 1970). This test can break down under certain circumstances and an equivalent test is to regress the error term on the lagged error term and the set of explanatory variables and test the significance of the coefficient on the lagged error term (with insignificance signalling the absence of serial correlation). Tests of this type on the estimated outflow equations did not indicate positive first order serial correlation to be present.

[18] In the tables of results, the column headed 'Significance' indicates the 'level of significance' or degree of confidence that can be vested in the estimated coefficient. Coefficients with a significance of between 0.1000 and 0.0500 can be regarded as being significantly different from zero at the 90 per cent confidence level. A coefficient that is significantly different from zero at the 95 per cent confidence level will have a value of 0.0500 or less. Many of the estimated coefficients have a significance of 0.0000 (to four decimal points) and these estimates can be regarded as extremely significant results.

Table 4.1:
Definition of variables

Variable name	Definition
Dependent variables	
NY_6	Ratio of monthly flow off unemployment to the monthly stock of unemployment: 18-24 year olds unemployed less than 6 months
NY6M	Ratio of flow off unemployment to stock of unemployment: 18-24 year olds unemployed 6 months or longer
NA_12	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for less than 12 months
NA1218	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for 12-18 months
NA12	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for 12 months or longer
NA18	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for 18 months or longer
NA1824	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for 18-24 months
NA24M	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for 24 months or longer
Explanatory variables	
NUVL	The ratio of total claimant unemployment to total notified vacancies (multiplied by a factor of 3[19]) in the Travel-to-Work Area(s) corresponding to each EZ, lagged by one month
NY_6L	Ratio of monthly flow off unemployment to the monthly stock of unemployment: 18-24 year olds unemployed less than 6 months: lagged one month.
NY6ML	Ratio of flow off unemployment to stock of unemployment: 18-24 year olds unemployed 6 months or longer: lagged one month.
NA_12L	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for less than 12 months: lagged one month.
NA1218L	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for 12-18 months: lagged one month.
NA12L	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for 12 months or longer: lagged one month.
NA18L	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for 18 months or longer: lagged one month.
NA1824L	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for 18-24 months: lagged one month.
NA24ML	Ratio of flow off unemployment to stock of unemployment: 25+ unemployed for 24 months or longer: lagged one month.

(Table continued overleaf)

[19] It is widely accepted that around one third of unfilled vacancies are notified to Jobcentres. For this reason the vacancy series was adjusted by a factor of three to account for this. Such an adjustment merely scales down the U/V ratio and does not affect the significance (or otherwise) of the estimated coefficient. The proportion of vacancies notified may be larger under the new Employer Direct system but there is, as yet, no evidence relating to this.

Table 4.1: (continued)

Variable name	Definition
Winter	[0,1] dummy taking value 1 in December, January and February
Spring	[0,1] dummy taking value 1 in March, April and May
Autumn	[0,1] dummy taking value 1 in September, October and November
yr97	[0,1] dummy variable taking value 1 in 1997
yr98	[0,1] dummy variable taking value 1 in 1998
yr99	[0,1] dummy variable taking value 1 in 1999
yr00	[0,1] dummy variable taking value 1 in 2000
yr01	[0,1] dummy variable taking value 1 in 2001
JSADUM	[0,1] dummy variable taking value 1 between April 96-October 1997
NDYPDUM	[0,1] dummy variable taking value of 1 after April 1998
STG1_2PT	The number of participants on EZs in each month expressed as a percentage of the relevant client group.
Employment Zone dummies	
EZ1	[0,1] dummy variable taking value 1 if the zone is Birmingham
EZ2	[0,1] dummy variable taking value 1 if the zone is Doncaster and Bassetlaw.
EZ3	[0,1] dummy variable taking value 1 if the zone is Haringay
EZ4	[0,1] dummy variable taking value 1 if the zone is Heads of the Valley Caerphilly Toraen
EZ5	[0,1] dummy variable taking value 1 if the zone is Newham
EZ6	[0,1] dummy variable taking value 1 if the zone is Nottingham
EZ7	[0,1] dummy variable taking value 1 if the zone is Plymouth
EZ8	[0,1] dummy variable taking value 1 if the zone is Southwark
EZ9	[0,1] dummy variable taking value 1 if the zone is Brent
EZ10	[0,1] dummy variable taking value 1 if the zone is Brighton and Hove
EZ11	[0,1] dummy variable taking value 1 if the zone is Middlesborough, Redcar and Cleveland
EZ12	[0,1] dummy variable taking value 1 if the zone is Glasgow
EZ13	[0,1] dummy variable taking value 1 if the zone is Liverpool and Sefton
EZ14	[0,1] dummy variable taking value 1 if the zone is North West Wales
EZ15	[0,1] dummy variable taking value 1 if the zone is Tower Hamlets

Table 4.2:Summary of regression results

	All zones		12 month zones		18 month zones	
	Sign	Sig	Sign	Sig	Sign	Sig
25+ unemployed 24 months or longer						
NUVL	-	✗	-	✗	-	✓✓
Winter	-	✓✓	-	✓✓	-	✓✓
Spring	-	✓✓	-	✓✓	-	✓✓
Autumn	-	✓✓	-	✓✓	-	✓✓
yr97	+	✓✓	+	✓✓	+	✓✓
yr98	+	✓✓	+	✗	+	✓✓
yr99	+	✓✓	+	✓✓	+	✓✓
yr00	+	✓✓	+	✓✓	+	✓✓
yr01	+	✓✓	+	✓✓	+	✓✓
NA24ML	+	✓✓	+	✗	+	✓✓
JSADUM	-	✗	-	✓	-	✗
NDYPDUM	-	✓✓	-	✓✓	-	✓✓
STG1_2PT	+	✓✓	+	✓✓	+	✓
25+ unemployed for 18-24 months						
NUVL	-	✗	-	✗	-	✓✓
Winter	-	✓✓	-	✓✓	-	✓✓
Spring	-	✓✓	-	✓✓	-	✓✓
Autumn	-	✓✓	-	✓✓	-	✓
yr97	+	✓✓	+	✓✓	+	✓✓
yr98	+	✓✓	+	✗	+	✗
yr99	+	✓✓	+	✓✓	+	✗
yr00	+	✓✓	+	✓✓	+	✓✓
yr01	+	✓✓	+	✓✓	+	✗
NA1824L	+	✓✓	+	✗	+	✗
JSADUM	+	✓	+	✓	+	✗
NDYPDUM	-	✓	-	✓✓	-	✗
STG1_2PT	+	✓✓	+	✓✓	+	✓
25+ unemployed 18 months or longer						
NUVL	-	✗	-	✗	-	✓✓
Winter	-	✓✓	-	✓✓	-	✓✓
Spring	-	✓✓	-	✓✓	-	✓✓
Autumn	-	✓✓	-	✓✓	-	✓✓
yr97	+	✓✓	+	✓✓	+	✓✓
yr98	+	✓✓	+	✓✓	+	✓✓
yr99	+	✓✓	+	✓✓	+	✓✓
yr00	+	✓✓	+	✓✓	+	✓✓
yr01	+	✓✓	+	✓✓	+	✓✓
NA18L	+	✓✓	+	✓✓	+	✓✓
JSADUM	-	✗	-	✗	-	✗
NDYPDUM	-	✓✓	-	✓✓	-	✓✓
STG1_2PT	+	✓✓	+	✓	+	✓
25+ unemployed 12-18 months						
NUVL	-	✓✓	-	✗	-	✓✓
Winter	-	✓✓	-	✓✓	-	✓✓
Spring	-	✓✓	-	✓✓	-	✓✓
Autumn	-	✓✓	-	✓✓	-	✓✓
yr97	+	✓✓	+	✓✓	+	✓✓
yr98	-	✗	+	✗	-	✓
yr99	-	✗	+	✗	-	✓✓
yr00	+	✓✓	+	✓✓	-	✗
yr01	+	✗	+	✗	-	✓✓
NA1218L	+	✓✓	+	✓✓	-	✓✓
JSADUM	+	✓✓	+	✓✓	+	✓✓
NDYPDUM	-	✓✓	+	✓✓	-	✓✓
STG1_2PT	+	✓✓	+	✓✓	+	✗

(Table continued overleaf. For key to table see overleaf)

Table 4.2 (continued)

	All zones		12 month zones		18 month zones	
	Sign	Sig	Sign	Sig	Sign	Sig
25+ unemployed less than 12 months						
NUVL	+	✗	-	✔✔	+	✗
Winter	-	✔✔	-	✔✔	-	✔✔
Spring	-	✔✔	-	✔✔	-	✔✔
Autumn	-	✔✔	-	✔✔	-	✔✔
yr97	+	✔✔	+	✔✔	+	✔✔
yr98	+	✔✔	+	✔✔	+	✔✔
yr99	+	✔✔	+	✔✔	+	✔✔
yr00	+	✔✔	+	✔✔	+	✔✔
yr01	+	✔✔	+	✔✔	+	✔✔
NA_12L	+	✔✔	+	✔✔	+	✔✔
JSADUM	+	✗	+	✔✔	+	✔
NDYPDUM	-	✗	-	✔	-	✗
STG1_2PT	-	✗	-	✗	+	✗
18-24 unemployed for 6 months or longer						
NUVL	-	✔	+	✔	-	✔✔
Winter	-	✔✔	-	✔✔	-	✔✔
Spring	-	✔✔	-	✔✔	-	✔✔
Autumn	-	✔✔	-	✔✔	-	✔✔
yr97	+	✔✔	+	✔✔	+	✔✔
yr98	+	✔✔	+	✗	+	✗
yr99	+	✔✔	+	✔	+	✔✔
yr00	+	✔✔	+	✔✔	+	✔✔
yr01	+	✔✔	+	✔✔	+	✔✔
NYA_6L	+	✔✔	+	✔✔	+	✗
JSADUM	-	✗	-	✗	-	✗
NDYPDUM	+	✔✔	+	✔✔	+	✔✔
STG1_2PT	+	✗	-	✗	-	✔
18-24 unemployed for less than 6 months						
NUVL	-	✔✔	-	✔✔	-	✔✔
Winter	-	✔✔	-	✔✔	-	✔✔
Spring	-	✔✔	-	✔✔	-	✔✔
Autumn	-	✔✔	-	✔✔	-	✔✔
yr97	+	✔✔	+	✔✔	+	✔✔
yr98	+	✔✔	+	✔✔	+	✔✔
yr99	+	✔✔	+	✔✔	+	✔✔
yr00	+	✔✔	+	✔✔	+	✔✔
yr01	+	✔✔	+	✔✔	+	✗
NYA6ML	+	✔✔	+	✔✔	+	✔✔
JSADUM	-	x	-	✗	-	✗
NDYPDUM	+	x	-	✗	+	✔✔
STG1_2PT	+	x	-	✗	-	✗

Key to Table 4.2

✔✔ Estimated coefficient significant at 95 per cent confidence level or above.

✔ Estimated coefficient significant at 90 per cent confidence level.

✗ Estimated coefficient not significantly different from zero.

\+ Variable has positive effect on dependent variable.

\- Variable has negative effect on dependent variable.

Unemployment outflows and the U/V ratio were very strongly (and negatively) correlated. As the number of vacancies relative to the number of unemployed increased (and the U/V ratio decreased), so too did the outflow rate. Both series were very evidently strongly time-trended, with the latter (U/V) falling sharply over the period reflecting the general improvement in macroeconomic activity in the UK economy. When seasonal adjustments and macro time variables were included in the specification, the relationship between local labour demand (U/V) and outflow rates became much weaker. It is particularly interesting to note that the U/V ratio tended to be statistically significant in the case of the short-term unemployed groups (especially 18-24 year olds) and not significant in the case of long-term unemployed groups. This is consistent with the view that many of the long-term unemployed were disconnected from the labour market and their spells of unemployment much less sensitive to variations in labour demand than the short-term unemployed. Nonetheless, another possibility might explain the mixed results relating to the U/V ratio.

Outflow equations can be estimated from pooled time series data provided that the underlying outflow relationship was common across zones so that differences in outflows reflect differences in local labour demand (U/V) and differences in programme implementation (the EZ measure). Recent analysis of a range of local labour market indicators for the EZ areas has concluded that there were significant differences between the EZ areas (Green, 2002). To allow for differences in the outflow relationship between EZs, dummy variables representing each locality were introduced into the basic estimating equations. Insofar as the U/V and other variables captured variations in labour demand in each zone, and the EZ measure captured differences in implementation of EZs, such area dummies should not be significantly different from zero. If the area dummy variables were significant, this would indicate two possibilities. First, that outflow relationships differ across local labour markets (a given level of U/V being associated with different outflow rates). Alternately, there could have been differences in the implementation of the EZ programme not fully captured by the EZ measure.

The introduction of area dummy variables found significant differences between areas not accounted for by other variables[20]. A simple dummy variable distinguishing between 12 month and 18 month zones indicated that outflows were significantly lower in 18-month zones than in 12-month zones, regardless of other factors in the model. Within the 18-month zones Glasgow, Liverpool and Middlesborough appeared much on a par with outflow rates being systematically lower in North West Wales and higher in Brent, Brighton

[20] The method of using dummy variables requires that one area be taken as a 'baseline' against which other areas are measured. Thus in the analysis of 12-month zones, there is no dummy variable for Birmingham (EZ1) and coefficients on other EZ area dummy variables should be interpreted as the variation in outflow rates against that base case. Similarly, the base case for 18-month zones was Brent (EZ9). It is important to recognise that the choice of base case is essentially arbitrary and makes no difference to the significance of the estimated coefficients.

and Tower Hamlets. Within the 12-month zones, all areas appeared to have significantly higher outflow rates that Birmingham. Since the U/V ration becomes a significant determinant of outflow rates when area dummy variables are used, this implies that the area variables were correcting for unobserved differences in labour market structure and not differences in EZ implementation (although this cannot be ruled out).

The macro time variables were consistently significant and positive, indicating a general tendency for the outflow rates of all age duration groups to increase year on year regardless of local labour market conditions as the national economy and jobs market strengthened. An alternative to the macro time variables in the form of a time trend was also found to be highly significant. Nonetheless, the macro dummy variables were used in the final specification in preference to the time trend since these macro variables allowed for differences between years, whereas a simple time trend did not. Three dummy variables were used to allow for seasonal variation in outflows and these were also always significant. The negative signs on the seasonal dummy variables indicated that outflow rates were lower (to varying extents) in the autumn, winter and spring compared to the base case of the summer (June-August).

Whichever specification was estimated, the dynamic adjustment term (the lagged outflow rate) was always highly significant and possessed the expected positive sign and a value between 0 and 1. Estimated adjustment coefficients varied considerably between age duration groups and areas. In general, adjustment tended to be faster amongst young people and the short-term unemployed.

In terms of policy-related variables, the JSA dummy variable was insignificant for all but adults unemployed for between 12 and 18 months. The findings concerning NDYP tend to confirm earlier macroeconomic evaluations of the programme (Riley and Young, 2001). NDYP appears to have raised outflow rates amongst 18-24 year olds who were unemployed for six months or more while leaving outflow rates unchanged amongst young people unemployed for less than six months. There is some evidence from the present analysis that NDYP had a significant but small negative impact on the outflow rates of adults, especially amongst the longer-term client groups.

The EZ measure was not significantly related to variations in the outflow rates of non-target groups, specifically, 18-24 year olds of both unemployment duration groups and adult jobseekers who were unemployed for less than 12 months. This suggests that there were no adverse effects for the non-target group. As far as the targets of the EZ programme were concerned, in most cases a statistically significant positive impact on outflows was associated with the introduction of EZ. This suggests that the EZ programme had an additional effect over and above existing provision (including ND25plus). In some instances, EZ provision appeared to have had an impact no different from existing provision but there were no instances of the EZs impact having

been less than previous provision. These broad findings are discussed in greater detail below.

4.7 The impact of EZs on their target group

The implicit aim of the EZ programme is to increase the rate at which unemployed people leave the unemployment claimant count. Evidence of an EZ impact would take the form of an increase in outflow rates from the target group of unemployed people associated with the introduction of the programme. Prior expectation is thus that there will be an increase in outflow rates amongst jobseekers unemployed for 12 months or longer in the 12-month zones and amongst jobseekers in the 18-month zones who had been unemployed for 18 months or longer. However, the impact could be different across these target groups. Those unemployed for 24 months or longer would have entered ND25plus prior to the introduction of EZs and EZs may or may not add to the provision they would have received. Shorter duration groups would not have received the degree of support provided by the EZ programme and it seems more likely that it is amongst these sub-groups that the scope for an EZ impact was greatest.

Table 3 presents the estimated coefficients of outflow equations for the target group of the 12 month Employment zones, together with separate estimates for the three sub-groups that make up the target group. Table 4 presents similar estimates for the target group in the 18-month EZs and the two sub-groups that comprise the target group.

The results suggest that the EZ programme had a positive (statistically significant) effect on outflow rates from the broad target group in the 12-month zones. A similar impact was evident for outflows from all three age-duration sub-groups (12-18 months, 18-24 months and 24 months plus unemployed). The magnitude of the estimated impact was largest for those unemployed for 12-18 months. This accords with prior expectations as this group was previously ineligible for ND25plus so that the impact of the EZ programme is additional to mainstream ES provision (whereas EZ is replacing the more major intervention of ND25plus in the case of those unemployed over 24 months)

The results for the 18-month zones were similar to those from the 12-month zones, although the level of confidence to be placed in the estimates was lower. In general the size of the (positive) impacts were smaller in the 18-month zones and some were significant only at the 90 per cent level. It may be concluded that EZ provision was no worse than previous provision in 18-month zones and probably had a small positive effect on outflows.

Overall, the outflow models suggest that the EZ programme had a small positive impact on all jobseekers in the broad target groups but probably had a larger and more clear-cut impact on those most distinct from the ND25plus client group.

The second striking feature of the findings reported in Table 3 and 4 relates to the estimated impact of NDYP on the outflow rates of adult long-term unemployed people. The outflow equations for all sub-groups of those in the broad EZ target group show a highly significant negative impact from NDYP. This can be regarded as an indication that NDYP, a very major programme aimed at young long-term unemployed people has had the effect of increasing the outflows from its target group (see the report of findings relating to the non-target group below) at the expense of a reduction in the outflow from adult long-term unemployment. This provides an indication that NDYP has induced substitution effects amongst the client group for EZs.

Table 4.3:
Outflow equations for target groups in 12 month Employment Zones

	Coefficient	Standard Error	t-statistic	Significance
25plus, unemployed for 12 months or longer				
(Constant)	1.5981	0.1231	12.9828	0.0000
NUVL	-0.0665	0.0478	-1.3909	0.1649
NDYPDUM	-0.2448	0.0551	-4.4460	0.0000
JSADUM	0.0166	0.0363	0.4571	0.6478
STG1_2PT	0.0027	0.0008	3.4773	0.0006
WINTER	-0.2633	0.0310	-8.5001	0.0000
SPRING	-0.1769	0.0301	-5.8825	0.0000
AUTUMN	-0.1245	0.0288	-4.3211	0.0000
YR97	0.2157	0.0390	5.5347	0.0000
YR98	0.1780	0.0584	3.0481	0.0024
YR99	0.2926	0.0707	4.1386	0.0000
YR00	0.3809	0.0758	5.0245	0.0000
YR01	0.3337	0.1018	3.2779	0.0011
EZ2	0.2677	0.0434	6.1711	0.0000
EZ3	0.1115	0.0390	2.8605	0.0044
EZ4	0.2195	0.0395	5.5640	0.0000
EZ5	0.2873	0.0414	6.9474	0.0000
EZ6	0.1797	0.0389	4.6182	0.0000
EZ7	0.2711	0.0402	6.7381	0.0000
EZ8	0.1101	0.0391	2.8129	0.0051
NA12L	0.1605	0.0439	3.6557	0.0003
Adjusted R^2	0.484			
25plus, unemployed for 12-18 months				
(Constant)	2.2627	0.1431	15.8130	0.0000
NUVL	0.0054	0.0475	0.1132	0.9099
NDYPDUM	-0.1992	0.0551	-3.6173	0.0003
JSADUM	0.1319	0.0374	3.5250	0.0005
STG1_2PT	0.0035	0.0008	4.3465	0.0000
WINTER	-0.3080	0.0317	-9.7244	0.0000
SPRING	-0.1609	0.0308	-5.2302	0.0000
AUTUMN	-0.1135	0.0293	-3.8683	0.0001
YR97	0.1343	0.0397	3.3845	0.0008
YR98	0.0055	0.0606	0.0904	0.9280
YR99	0.0104	0.0740	0.1411	0.8878
YR00	0.2527	0.0779	3.2457	0.0013
YR01	0.1032	0.1055	0.9775	0.3288
EZ2	0.2451	0.0433	5.6567	0.0000
EZ3	0.0413	0.0394	1.0480	0.2951
EZ4	0.2026	0.0400	5.0716	0.0000
EZ5	0.1512	0.0397	3.8035	0.0002
EZ6	0.0356	0.0390	0.9142	0.3611
EZ7	0.2503	0.0405	6.1801	0.0000
EZ8	0.0397	0.0395	1.0053	0.3152
NA1218L	0.0325	0.0453	0.7159	0.4744
AdjustedR^2	0.487			

(Table continued overleaf)

Table 4.3: (continued)

	Coefficient	Standard Error	t-statistic	Significance
25plus, unemployed for 18-24 months				
(Constant)	1.9715	0.1281	15.3878	0.0000
NUVL	-0.0302	0.0503	-0.5996	0.5491
NDYPDUM	-0.1294	0.0590	-2.1938	0.0287
JSADUM	0.0755	0.0399	1.8911	0.0592
STG1_2PT	0.0024	0.0009	2.7684	0.0059
WINTER	-0.2705	0.0337	-8.0192	0.0000
SPRING	-0.1945	0.0330	-5.8924	0.0000
AUTUMN	-0.1113	0.0315	-3.5374	0.0004
YR97	0.1771	0.0426	4.1539	0.0000
YR98	0.0898	0.0640	1.4022	0.1615
YR99	0.2560	0.0775	3.3034	0.0010
YR00	0.3646	0.0831	4.3878	0.0000
YR01	0.3516	0.1116	3.1497	0.0017
EZ2	0.2110	0.0451	4.6812	0.0000
EZ3	0.0605	0.0422	1.4319	0.1528
EZ4	0.1522	0.0424	3.5922	0.0004
EZ5	0.2276	0.0431	5.2757	0.0000
EZ6	0.0152	0.0418	0.3631	0.7167
EZ7	0.2466	0.0431	5.7262	0.0000
EZ8	0.0815	0.0424	1.9214	0.0553
NA1824L	0.0052	0.0443	0.1176	0.9064
Adjusted R^2	0.368			
25plus, unemployed for 24 months or longer				
(Constant)	1.1428	0.1258	9.0835	0.0000
NUVL	-0.0959	0.0587	-1.6345	0.1028
NDYPDUM	-0.3118	0.0687	-4.5371	0.0000
JSADUM	-0.0418	0.0446	-0.9371	0.3492
STG1_2PT	0.0022	0.0010	2.2534	0.0247
WINTER	-0.2238	0.0375	-5.9693	0.0000
SPRING	-0.1699	0.0369	-4.6077	0.0000
AUTUMN	-0.1170	0.0353	-3.3097	0.0010
YR97	0.2571	0.0480	5.3555	0.0000
YR98	0.2543	0.0721	3.5296	0.0005
YR99	0.3952	0.0874	4.5230	0.0000
YR00	0.4014	0.0932	4.3084	0.0000
YR01	0.4174	0.1250	3.3384	0.0009
EZ2	0.2179	0.0516	4.2217	0.0000
EZ3	0.1228	0.0479	2.5645	0.0106
EZ4	0.1494	0.0476	3.1411	0.0018
EZ5	0.2300	0.0492	4.6721	0.0000
EZ6	0.2159	0.0481	4.4869	0.0000
EZ7	0.1958	0.0481	4.0672	0.0001
EZ8	0.1010	0.0479	2.1096	0.0354
NA24ML	0.3275	0.0424	7.7313	0.0000
Adjusted R^2	0.470			

Table 4.4:
Outflow equations for target groups in 18 month Employment Zones

	Coefficient	Standard Error	t-statistic	Significance
25plus, unemployed for 18 months or longer				
(Constant)	1.7460	0.1464	11.9276	0.0000
NUVL	-0.1541	0.0606	-2.5418	0.0114
NDYPDUM	-0.2970	0.0644	-4.6126	0.0000
JSADUM	-0.0419	0.0420	-0.9960	0.3198
STG1_2PT	0.0019	0.0010	1.8208	0.0694
WINTER	-0.2308	0.0362	-6.3694	0.0000
SPRING	-0.1252	0.0371	-3.3738	0.0008
AUTUMN	-0.1138	0.0338	-3.3701	0.0008
YR97	0.2775	0.0443	6.2617	0.0000
YR98	0.3036	0.0671	4.5230	0.0000
YR99	0.4128	0.0806	5.1232	0.0000
YR00	0.3653	0.0872	4.1878	0.0000
YR01	0.4025	0.1274	3.1596	0.0017
EZ10	-0.0409	0.0412	-0.9926	0.3215
EZ11	-0.1058	0.0440	-2.4051	0.0166
EZ12	-0.1336	0.0471	-2.8383	0.0048
EZ13	-0.1651	0.0423	-3.9034	0.0001
EZ14	-0.2806	0.0545	-5.1440	0.0000
EZ15	0.0684	0.0420	1.6282	0.1042
NA18L	0.1485	0.0488	3.0457	0.0025
Adjusted R^2	0.444			
25plus, unemployed for 18-24 months				
(Constant)	2.3588	0.1629	14.4773	0.0000
NUVL	-0.2025	0.0644	-3.1469	0.0018
NDYPDUM	-0.0969	0.0679	-1.4275	0.1542
JSADUM	0.0415	0.0455	0.9123	0.3621
STG1_2PT	0.0020	0.0011	1.7566	0.0797
WINTER	-0.2545	0.0398	-6.4021	0.0000
SPRING	-0.1086	0.0401	-2.7099	0.0070
AUTUMN	-0.0616	0.0366	-1.6811	0.0935
YR97	0.2027	0.0475	4.2649	0.0000
YR98	0.1015	0.0720	1.4091	0.1595
YR99	0.1696	0.0864	1.9624	0.0504
YR00	0.2049	0.0944	2.1693	0.0306
YR01	0.1235	0.1381	0.8947	0.3714
EZ10	-0.0940	0.0448	-2.0957	0.0367
EZ11	0.0438	0.0481	0.9108	0.3629
EZ12	-0.0010	0.0491	-0.0205	0.9837
EZ13	-0.0132	0.0452	-0.2918	0.7706
EZ14	-0.1399	0.0549	-2.5493	0.0111
EZ15	0.0643	0.0455	1.4148	0.1579
NA1824L	-0.0473	0.0510	-0.9274	0.3543
Adjusted R^2	0.261			

(Table continued overleaf)

Table 4.4: (continued)

	Coefficient	Standard Error	t-statistic	Significance
25plus, unemployed for 24 months or longer				
(Constant)	1.6028	0.1442	11.1149	0.0000
NUVL	-0.1492	0.0634	-2.3546	0.0190
NDYPDUM	-0.3438	0.0682	-5.0435	0.0000
JSADUM	-0.0632	0.0444	-1.4219	0.1558
STG1_2PT	0.0021	0.0011	1.8795	0.0609
WINTER	-0.2181	0.0380	-5.7403	0.0000
SPRING	-0.1255	0.0393	-3.1950	0.0015
AUTUMN	-0.1346	0.0356	-3.7809	0.0002
YR97	0.2886	0.0468	6.1613	0.0000
YR98	0.3336	0.0710	4.6964	0.0000
YR99	0.4326	0.0850	5.0897	0.0000
YR00	0.3427	0.0920	3.7253	0.0002
YR01	0.4134	0.1344	3.0751	0.0022
EZ10	-0.0350	0.0434	-0.8065	0.4204
EZ11	-0.1368	0.0465	-2.9415	0.0034
EZ12	-0.1712	0.0503	-3.4061	0.0007
EZ13	-0.1875	0.0449	-4.1802	0.0000
EZ14	-0.3176	0.0582	-5.4574	0.0000
EZ15	0.0505	0.0443	1.1407	0.2546
NA24ML	0.2047	0.0472	4.3376	0.0000
Adjusted R^2	0.473			

4.8 The impact of EZs on non-target groups

The possibility of wider labour market, or substitution, effects arising from intervention was the reason for examining the impact of EZs on the outflow rates on unemployed jobseekers not in the EZ target group. To seek evidence of potential substitution effects arising from the EZ programme, the outflow rates from the stock of unemployed young people (both short-term unemployed and long-term unemployed) were modelled together with outflows from adult short-term unemployment. The results of the modelling are reported in Tables 4.5 and 4.6 (again, distinguishing between 12-month and 18-month zones).

Significant negative coefficients on the EZ measure for any of the non-target age-duration groups would provide *prima facie* evidence of substitution effects arising from EZs. In the 12-month zones, none of the EZ measures were statistically significant, indicating that EZs had not induced no lower outflows from the stock of unemployed 18-24 year olds (whether unemployed for less than 6 months, or for longer) nor from adult short-term unemployed (aged 25 or above and unemployed for less than 12 months).

Table 4.5:
Outflow equations for not-target groups in 12-month Employment Zones

	Coefficient	Standard Error	t-statistic	Significance
18-24 year olds, unemployed for less than 6 months				
(Constant)	3.6016	0.1550	23.2342	0.0000
NUVL	-0.1265	0.0354	-3.5681	0.0004
NDYPDUM	0.0197	0.0385	0.5128	0.6083
JSADUM	-0.0036	0.0261	-0.1394	0.8892
STG1_2PT	0.0004	0.0006	0.7925	0.4285
WINTER	-0.3300	0.0231	-14.2803	0.0000
SPRING	-0.2428	0.0221	-10.9996	0.0000
AUTUMN	-0.1664	0.0210	-7.9342	0.0000
YR97	0.1826	0.0280	6.5290	0.0000
YR98	0.1898	0.0420	4.5145	0.0000
YR99	0.2638	0.0509	5.1852	0.0000
YR00	0.2828	0.0546	5.1846	0.0000
YR01	0.2571	0.0733	3.5048	0.0005
EZ2	0.3662	0.0328	11.1597	0.0000
EZ3	-0.1014	0.0278	-3.6490	0.0003
EZ4	0.3006	0.0292	10.2957	0.0000
EZ5	-0.0446	0.0274	-1.6292	0.1039
EZ6	0.1276	0.0277	4.6110	0.0000
EZ7	0.3356	0.0296	11.3204	0.0000
EZ8	0.0505	0.0279	1.8130	0.0704
NY_6L	-0.1381	0.0421	-3.2802	0.0011
Adjusted R^2	0.687			
18-24 year olds, unemployed for 6 months or more				
(Constant)	2.2494	0.1485	15.1429	0.0000
NUVL	-0.0945	0.0491	-1.9236	0.0550
NDYPDUM	0.1343	0.0545	2.4639	0.0141
JSADUM	-0.0115	0.0369	-0.3104	0.7564
STG1_2PT	0.0010	0.0008	1.2471	0.2129
WINTER	-0.3304	0.0321	-10.3043	0.0000
SPRING	-0.3254	0.0314	-10.3503	0.0000
AUTUMN	-0.2435	0.0309	-7.8877	0.0000
YR97	0.1280	0.0396	3.2370	0.0013
YR98	0.0868	0.0596	1.4565	0.1459
YR99	0.5121	0.0736	6.9623	0.0000
YR00	0.6577	0.0798	8.2391	0.0000
YR01	0.6564	0.1060	6.1956	0.0000
EZ2	0.4045	0.0469	8.6166	0.0000
EZ3	-0.0167	0.0391	-0.4275	0.6692
EZ4	0.2866	0.0409	7.0018	0.0000
EZ5	0.1486	0.0397	3.7425	0.0002
EZ6	0.1616	0.0393	4.1079	0.0000
EZ7	0.2244	0.0403	5.5730	0.0000
EZ8	0.0556	0.0395	1.4076	0.1599
NY6ML	0.1412	0.0430	3.2795	0.0011
Adjusted R^2	0.824			

(Table continued overleaf)

Table 4.5: (continued)

	Coefficient	Standard Error	t-statistic	Significance
25plus, unemployed for less than 12 months				
(Constant)	3.4125	0.1403	24.3237	0.0000
NUVL	-0.0727	0.0328	-2.2187	0.0270
NDYPDUM	-0.0634	0.0367	-1.7276	0.0847
JSADUM	0.0723	0.0251	2.8862	0.0041
STG1_2PT	0.0004	0.0005	0.6719	0.5020
WINTER	-0.2832	0.0218	-12.9818	0.0000
SPRING	-0.1507	0.0207	-7.2981	0.0000
AUTUMN	-0.1190	0.0197	-6.0236	0.0000
YR97	0.2346	0.0268	8.7477	0.0000
YR98	0.2108	0.0401	5.2603	0.0000
YR99	0.3186	0.0485	6.5641	0.0000
YR00	0.3753	0.0520	7.2143	0.0000
YR01	0.3802	0.0699	5.4366	0.0000
EZ2	0.3899	0.0316	12.3352	0.0000
EZ3	-0.1172	0.0266	-4.4093	0.0000
EZ4	0.3502	0.0285	12.3075	0.0000
EZ5	-0.0967	0.0262	-3.6870	0.0003
EZ6	0.0747	0.0262	2.8479	0.0046
EZ7	0.3801	0.0289	13.1566	0.0000
EZ8	-0.0061	0.0264	-0.2310	0.8174
NA_12L	-0.2333	0.0432	-5.3936	0.0000
Adjusted R^2	0.671			

Estimates for the 18-month zones were similar to those of 12-month zones with insignificant coefficients on the EZ measure for outflows from 18-24 year olds unemployed for less than 6 months, adults unemployed for less than 12 months and adults unemployed for between 12-18 months. The exception was the outflow equation for young people unemployed over 6 months. In this instance the EZ measure had a coefficient that was significant at the 90 per cent level but not at the 95 per cent level. It is not clear why such an apparently anomalous relationship might exist, although the fact that this age duration group is also the target of a major programme intervention may provide a clue. There might, for instance, have been some form of positive 'spill-over' effect from the EZ programme to NDYP programme. This might come about if 'good practice' on EZs was transferred to NDYP, perhaps through the transfer of Advisers between programmes in the EZ areas or in other ways.

Table 4.6: Outflow equations for non-target groups in 18-month Employment Zones

	Coefficient	Standard Error	t-statistic	Significance
18-24 year olds, unemployed for less than 6 months				
(Constant)	4.0203	0.1733	23.1941	0.0000
NUVL	-0.1844	0.0413	-4.4629	0.0000
NDYPDUM	0.0845	0.0416	2.0307	0.0429
JSADUM	0.0026	0.0282	0.0917	0.9270
STG1_2PT	0.0009	0.0007	1.2590	0.2087
WINTER	-0.3471	0.0256	-13.5773	0.0000
SPRING	-0.1843	0.0249	-7.4016	0.0000
AUTUMN	-0.1341	0.0228	-5.8868	0.0000
YR97	0.1790	0.0293	6.1052	0.0000
YR98	0.1324	0.0446	2.9710	0.0031
YR99	0.1964	0.0534	3.6760	0.0003
YR00	0.1946	0.0585	3.3243	0.0010
YR01	0.0931	0.0856	1.0881	0.2772
EZ10	0.2556	0.0289	8.8536	0.0000
EZ11	0.1956	0.0314	6.2389	0.0000
EZ12	0.0581	0.0303	1.9213	0.0554
EZ13	0.0069	0.0280	0.2450	0.8066
EZ14	0.2141	0.0329	6.5147	0.0000
EZ15	-0.2041	0.0291	-7.0206	0.0000
NY_6L	-0.2478	0.0461	-5.3790	0.0000
Adjusted R^2	0.651			
18-24 year olds, unemployed for 6 months or longer				
(Constant)	2.5509	0.1720	14.8296	0.0000
NUVL	-0.1627	0.0570	-2.8547	0.0045
NDYPDUM	0.1530	0.0577	2.6505	0.0083
JSADUM	-0.0251	0.0390	-0.6433	0.5204
STG1_2PT	0.0019	0.0010	1.9402	0.0530
WINTER	-0.3094	0.0343	-9.0097	0.0000
SPRING	-0.2288	0.0345	-6.6402	0.0000
AUTUMN	-0.1994	0.0322	-6.1956	0.0000
YR97	0.1173	0.0407	2.8817	0.0042
YR98	0.0736	0.0620	1.1881	0.2354
YR99	0.4990	0.0757	6.5917	0.0000
YR00	0.6069	0.0832	7.2981	0.0000
YR01	0.5482	0.1196	4.5834	0.0000
EZ10	0.0814	0.0383	2.1241	0.0342
EZ11	0.1285	0.0425	3.0243	0.0026
EZ12	0.0955	0.0419	2.2805	0.0231
EZ13	0.0151	0.0389	0.3876	0.6985
EZ14	0.0404	0.0460	0.8787	0.3801
EZ15	0.0982	0.0392	2.5061	0.0126
NY6ML	0.0698	0.0483	1.4458	0.1490
Adjusted R^2	0.800			

(Table continued overleaf)

Table 4.6 (continued)

	Coefficient	Standard Error	t-statistic	Significance
25plus, unemployed for less than 12 months				
(Constant)	3.4508	0.1501	22.9875	0.0000
NUVL	-0.0475	0.0377	-1.2615	0.2078
NDYPDUM	-0.0324	0.0399	-0.8133	0.4165
JSADUM	0.0448	0.0271	1.6528	0.0991
STG1_2PT	0.0007	0.0007	1.0877	0.2773
WINTER	-0.3089	0.0243	-12.6956	0.0000
SPRING	-0.1163	0.0238	-4.8878	0.0000
AUTUMN	-0.1040	0.0217	-4.7882	0.0000
YR97	0.2655	0.0284	9.3582	0.0000
YR98	0.2577	0.0428	6.0196	0.0000
YR99	0.3142	0.0513	6.1215	0.0000
YR00	0.3236	0.0561	5.7699	0.0000
YR01	0.2832	0.0820	3.4518	0.0006
EZ10	0.1802	0.0271	6.6512	0.0000
EZ11	0.4415	0.0343	12.8903	0.0000
EZ12	0.1488	0.0290	5.1285	0.0000
EZ13	0.0632	0.0271	2.3327	0.0201
EZ14	0.3755	0.0325	11.5727	0.0000
EZ15	-0.2342	0.0282	-8.2982	0.0000
NA_12L	-0.2735	0.0461	-5.9304	0.0000
Adjusted R^2	0.662			
25plus, unemployed for 12-18 months				
(Constant)	3.2631	0.1698	19.2197	0.0000
NUVL	-0.2542	0.0558	-4.5585	0.0000
NDYPDUM	-0.1461	0.0571	-2.5587	0.0109
JSADUM	0.1171	0.0388	3.0160	0.0027
STG1_2PT	0.0009	0.0010	0.9714	0.3319
WINTER	-0.3085	0.0336	-9.1785	0.0000
SPRING	-0.0709	0.0343	-2.0665	0.0394
AUTUMN	-0.0803	0.0309	-2.5971	0.0097
YR97	0.0839	0.0401	2.0911	0.0371
YR98	-0.1201	0.0622	-1.9311	0.0541
YR99	-0.1751	0.0751	-2.3320	0.0202
YR00	-0.0856	0.0820	-1.0440	0.2971
YR01	-0.2396	0.1203	-1.9915	0.0471
EZ10	-0.0806	0.0379	-2.1283	0.0339
EZ11	0.0211	0.0407	0.5178	0.6049
EZ12	-0.0019	0.0415	-0.0446	0.9645
EZ13	0.0089	0.0383	0.2333	0.8156
EZ14	-0.0925	0.0460	-2.0117	0.0449
EZ15	0.0117	0.0384	0.3039	0.7613
NA1218L	-0.2205	0.0507	-4.3469	0.0000
Adjusted R^2	0.349			

As with the EZ target groups, the analysis provides evidence of an NDYP effect on unemployment outflows. In the 12-month EZs a significant and positive effect on the outflow rates from the stock of 18-24 year olds unemployed for 6 months or more (who were the target client group for NDYP) while no significant effect on outflow rates amongst 18-24 year olds unemployed for less than 6 months was detected. A weak but negative impact was observed amongst adults who were unemployed for less than 12 months (significant at the 90 per cent confidence limit). In the 18-month zones a significant and positive NDYP effect was observed in respect of both duration sub-groups of 18-24 year old jobseekers. No significant NDYP effect was established in regard to adults unemployed for less than 12 months although a significant and negative effect was identified for adult jobseekers in the 12-18 month duration category. Overall, these results suggest that NDYP had a positive impact on its target group but did produce negative impacts on other groups of jobseekers with the impact being most marked for those with longer duration spells of unemployment (see the discussion above relating to the EZ target group).

Returning to the issue of the wider labour market impacts of the EZ programme, the analysis of outflow rates amongst non-target client groups in EZ areas provides no evidence of significant or widespread adverse substitution effects. In the exceptional instance of 18-24 year olds unemployed for less than six months, the estimated coefficient was positive suggesting that the EZ programme may have had a positive impact on that group of unemployed even though they were not within the EZ target group.

4.9 Estimating the impact on outflows after May 2001

The model of unemployment outflows set out above could, in principle, be applied to any period for which suitable data exists. Unfortunately, a key element of the model is the U/V ratio that is used to measure variations in local labour demand. The suspension of the vacancy series in May 2001 meant that it was not possible to model unemployment outflows using a U/V ratio after that date, restricted analysis to an assessment of the impact of EZs during the first year of operation (April 2000 to May 2001). Evidence from other studies of EZs (Hales *et. al.*, 2003) has indicated that the impact of the EZ programme may change over time and, for this reason, it would be desirable to extent the analysis of outflows beyond May 2001 if at all feasible.

The option of applying the outflow model to a later period when the vacancy series was restored is, unfortunately, not feasible. This is because the distortions introduced in the vacancy data following the introduction of Employer Direct (which transferred vacancy taking from local Jobcentres to regional Customer Service Centres) affected both the number of vacancies recorded and the geographical distribution of vacancies. Insufficient information on the precise scale of the discontinuity is available to allow adjustments to be made in order to achieve a degree of comparability.

An alternative to modelling unemployment outflows is to the analytical technique referred to as 'differences in differences'. This approach examines differences in the outflows from unemployment for different groups in the labour market and attributes changes in these differences to the impacts of policy. The differences in differences approach assumes that whatever the labour market factors involved, there will be some relationship between outflow rates for different groups. The outflow rate amongst young people, for instance, would normally be expected to be greater than the outflow rate from adult jobseekers because of the higher rate of job turnover amongst the former. Similarly, the outflow rate from adult short-term is likely to be higher than from adults employed for longer durations (since the former contain more employable jobseekers). If it is assumed that the factors determining outflow rates (such as macroeconomic conditions or changes in local labour demand) affect all groups in equal proportion, then the relative differences in outflow rates could be expected to remain fairly constant. A labour market intervention affecting one group would disturb such patterns of differential outflows and create a difference in the differences.

In the case of EZs, the expectation is that the programme would have increased outflow rates from the target group. Since outflow rates from the EZ target group tend to be lower than outflow rates amongst non-target groups, this would be expected to narrow the difference between the target group outflow rate and others. The remainder of this section examines changes in the outflow ratios over the period from April 1997 to January 2003 (thus extending the analysis to cover almost three years of EZ delivery).

The tables presented in this section describe the differences in differences in outflow rates for the two types of EZ on a year-by-year basis. The differences in question relate to the ratio of outflow rate of the relevant non-target group to the outflow rate of the target group(s). These ratios generally have a value in excess of one since the outflow rate of the target group is less than the outflow rate of the non-target group. Column (i) describes the mean difference in differences (ratio in year 1 minus ratio in year 2) across pairs of years. A positive value in column (i) can be interpreted as an improvement in target group outflow rate relative to the non-target comparison group (since a positive value arises if the ratio in year n+1 is less than the ratio in year n). Correspondingly, a negative value implies a widening of the differences between non-target and target groups. Columns (iii) and (iv) provide a test of the significance of the mean difference in each year compared to the preceding year (with the null hypothesis being that there was zero difference between the two years). A value of 0.0500 or less indicates that the difference in the mean differences between years was significant at the 95 per cent confidence level.

Table 4.7 looks at differences in differences in the whole EZ target group using the adult short-term unemployed as the comparison group (those aged 25+ and unemployed for less than 12 months, or less than 18 months, depending on the type of EZ). The results in the table indicate a similar pattern across time in both types of EZ area. There was a relative worsening of outflow rates of the target groups in 1998 to 1999 but this was reversed in the next three years with the ratio of outflow rates moving in favour of the target group. These changes were statistically significant with the exception of the change during 2000-2001 in the 18-month zones.

Table 4.7:
Differences in differences: EZ target group versus adult non-target group

Paired years (April-March)	(i) Mean	(ii) Std Error	(iii) t-statistic	(iv) Sig. (2-tailed)
12 month zones				
A97M98 - A98M99	-0.6799	0.0519	-13.0922	0.0000
A98M99 - A99M00	0.1460	0.0312	4.6842	0.0007
A99M00 - A00M01	0.3213	0.0426	7.5381	0.0000
A00M01 - A01M02	0.2503	0.0502	4.9843	0.0004
A01M02 - A02J03	-0.2066	0.0370	-5.5906	0.0003
18 month zones				
A97M98 - A98M99	-0.6238	0.0792	-7.8715	0.0000
A98M99 - A99M00	0.3017	0.0713	4.2291	0.0014
A99M00 - A00M01	0.1216	0.1255	0.9689	0.3534
A00M01 - A01M02	0.4426	0.1200	3.6897	0.0036
A01M02 - A02J03	-0.2731	0.0364	-7.4943	0.0000

It is tempting to ascribe these improvements to the EZ programme, but it must be noted that the improvement predates the introduction of the EZ programme. It is possible that the improvement in 1999-2000 was attributable to ND25plus which would have been expected to impact on that part of the target group unemployed for 24 months or more. Of more concern from the perspective of EZs is the finding that there was a relative worsening in outflow rates in 2002-2003. This is evidence (statistically significant) in both types of EZ.

Table 4.7 provides only an overall view of changes in outflow rates in EZs, and it amalgamating groups who may be affected by EZs to different degrees. Adults unemployed for 24 months or more may already have been affected by ND25plus, thus offering less scope for improvement in outflows than other

shorter duration groups of adult jobseekers. Tables 4.8-4.10 provide similar information to Table 4.7 for three subsets of the EZ client group: those unemployed for 12-18 months, those unemployed for 18-24 months and those unemployed for 24 months or longer.

Table 4.8:
Differences in differences: adults unemployed for 12-18 months versus adults unemployed for less than 12 months

Paired years (April-March)	(i) Mean	(ii) Std Error	(iii) t-statistic	(iv) Sig. (2-tailed)
12 month zones				
A97M98 - A98M99	-1.0080	0.0506	-19.9287	0.0000
A98M99 - A99M00	-0.1051	0.1487	-0.7069	0.4943
A99M00 - A00M01	0.7388	0.1022	7.2263	0.0000
A00M01 - A01M02	-0.0814	0.0643	-1.2648	0.2321
A01M02 - A02J03	-0.3057	0.0497	-6.1495	0.0002
18 month zones				
A97M98 - A98M99	-0.0390	0.0063	-6.2326	0.0001
A98M99 - A99M00	-0.0218	0.0078	-2.7944	0.0174
A99M00 - A00M01	-0.0026	0.0102	-0.2552	0.8033
A00M01 - A01M02	-0.0062	0.0067	-0.9321	0.3713
A01M02 - A02J03	-0.0084	0.0088	-0.9474	0.3682

The results in Table 4.8 are particularly interesting because they relate to a group of jobseekers who were in the target group in 12-month zones but were not in the target group in the 18-month zones. The results for the 12-month zones indicate a significant improvement in relative outflow rates in the first year of EZ operation (the mean difference was large, positive and highly significant). This change reversed a widening of the gap observed in the two preceding years. This improvement was sustained in the second year (although the mean difference was small, negative but not statistically significant). This pattern was not evident in the 18-month zones where the 12-18 month client group would not have been eligible for the EZ programme. In this case, the differential outflow rates widened throughout the whole period.

The analysis reported in Table 4.8 suggests that, to some extent, the relative gains during the first two years may have been reversed in 2002-2003. The mean difference was negative and highly significant in the 12-month zones but small and not significant in the 18-month zones. In the 12-month zones

the reversal amounted to around half of the improvement in 2000-01, suggesting that some of the earlier relative improvement in outflow rates remained when the period of EZ operation as a whole is considered.

Tables 4.9-4.10 provide the results of the differences inn differences analysis for two further sub-groups: those unemployed for 18-24 months and those unemployed for 24 months or longer. In the case of jobseekers unemployed for between 18-24 months, there were significant improvements in the outflow ratios in the first two years of EZ delivery in the 12-month zones. In the 18-month zones the improvement was only significant in the second year of the programme although the ratios moved in a positive direction (but were not significant) in the first year of the programme. Both types of zone exhibited a widening of the outflow ratios during 2002-03 although the differences were statistically significant only in the case of the 12-month zones.

Table 4.9:
Differences in differences: adults unemployed for 18-24 months versus adults unemployed for less than 12 months

Paired years	(i)	(ii)	(iii)	(iv)
(April-March)	Mean	Std Error	t-statistic	Sig. (2-tailed)
12 month zones				
A97M98 - A98M99	-0.7601	0.1157	-6.5685	0.0000
A98M99 - A99M00	0.1341	0.1064	1.2603	0.2336
A99M00 - A00M01	0.4170	0.0808	5.1627	0.0003
A00M01 - A01M02	0.5195	0.0637	8.1530	0.0000
A01M02 - A02J03	-0.3166	0.1140	-2.7760	0.0215
18 month zones				
A97M98 - A98M99	-0.0253	0.0056	-4.5536	0.0008
A98M99 - A99M00	-0.0153	0.0056	-2.7530	0.0188
A99M00 - A00M01	0.0023	0.0104	0.2194	0.8303
A00M01 - A01M02	0.0122	0.0076	1.6044	0.1369
A01M02 - A02J03	-0.0116	0.0117	-0.9907	0.3477

Table 4.10:
Differences in differences: adults unemployed for 24 months or longer versus adults unemployed for less than 12 months

Paired years (April-March)	(i) Mean	(ii) Std Error	(iii) t-statistic	(iv) Sig. (2-tailed)
12 month zones				
A97M98 - A98M99	-1.9419	0.1428	-13.6012	0.0000
A98M99 - A99M00	0.4456	0.1239	3.5965	0.0042
A99M00 - A00M01	0.4811	0.1918	2.5083	0.0291
A00M01 - A01M02	0.2599	0.1667	1.5595	0.1472
A01M02 - A02J03	-0.8169	0.0990	-8.2495	0.0000
18 month zones				
A97M98 - A98M99	-0.0336	0.0079	-4.2611	0.0013
A98M99 - A99M00	-0.0154	0.0065	-2.3491	0.0385
A99M00 - A00M01	-0.0098	0.0123	-0.7950	0.4434
A00M01 - A01M02	0.0113	0.0091	1.2437	0.2395
A01M02 - A02J03	-0.0186	0.0107	-1.7389	0.1160

In the case of jobseekers unemployed for 24 months or more, a significant improvement in the outflow ratios was apparent in the 12-month zones during 2000-01 and this was sustained during the second year of the EZ programme. Such an improvement was not evident in the 18-month zones where the outflow ratio improved only during 2001-02 and even then was not significant. Both types of EZ area exhibited a widening of the gap between outflow rates in the period 2002-03. This change was significant in 12-month zones but not in the 18-month zones.

What conclusions can be drawn from the difference in differences analysis? First, there was evidence of a positive effect on relative outflow rates during the first year of the EZ programme and this effect was probably maintained during the second year of the programme. This conclusion was undermined to some extent by the fact that the mean differences in outflow rates often increased in the year before the EZ programme was introduced. It is likely that this reflected an effect arising from other programmes such as ND25plus.

Second, the impact of the EZ programme appears to have been most marked for eligible clients with shorter durations (that is, less than 24 months). Partly for this reason, the impact on differential outflow rates appeared more marked in the 12-month zones than the 18-month zones.

Third, the evidence points to a deterioration in the relative outflow rates of EZ client groups during the third year of EZ delivery. This deterioration partly, but not entirely restored the differentials that existed prior to the introduction of the

EZ programme. The largest increase in outflow differences was in the 12-month zones where the largest initial EZ impacts were observed.

The pattern of effects observed may, partly at any rate, reflect the changing composition of participants on EZs over the three years. As seen earlier (Figure 1) the number of new entrants to the programme peaked at the end of the first year. The overall impact of the programme on aggregate outflow rates will depend on the number of participants and as the numbers decline the overall effect can be expected to diminish even if the impact on individuals remains the same. In addition, the proportion of clients returning to EZs has increased steadily and had reached over 35 per cent by the beginning of 2003. It is plausible to suggest that this particular client group may be more difficult to place in employment than new entrants, hence a fall in the rate at which clients exit unemployment for a job.

4.10 Quantifying the early effect of EZs on unemployment

The estimated outflow equations reported in Section 4.7 (above) indicate that the EZ programme had a statistically significant effect on unemployment outflows from the target groups during the first year of EZs. This conclusion is reinforced by the findings from the differences in differences analysis of relative outflow rate changes. The modelling of outflow equations provides a means by which estimates can be made of the scale of the impact on unemployment. The estimated coefficients in the equations indicate the magnitude of the impact of EZs on outflow rates. The estimated coefficients in conjunction with the values of the EZ measure (derived from the EZ Evaluation Database) can be used to calculate the size of the additional outflows associated with the introduction of EZs.

Estimates of the impact on outflows were calculated separately for the 12-month target group in 12-month zones and the 18-month target group in the 18-month zones. The impact of the EZ programme was estimated to have raised the outflow rate across the period April 2000 to May 2001 by 1.11 percentage points in the 12-month zones and by 1.09 percentage points in the 18-month zones. These estimates are mean values over the period. As numbers on the programme expanded and then declined slightly there was a related increase followed by a decrease in the size of the effect on outflow rates.

The increase in outflow rates for the two EZ target groups can also be translated into an additional outflow from unemployment. Using the coefficients from the model, the degree of participation in the EZ programme and levels of unemployment stock, the additional exits from unemployment amongst the EZ target groups were estimated and the results are reported in Table 4.11. The impact of the EZ programme in the 12-month zones was estimated to amount to an average of around 260 additional exits per month. In the 18-month zones the additional monthly outflow was less, at around 170 per month. This would suggest that over the first year of its operation the EZ programme was responsible for an additional 3656 exits from the target group

unemployed in 12-month zones, and additional 2396 exits from the target group in 18-month zones, during its first year of operation. This amounts to over 6000 additional exits across all EZ areas.

Table 4.11:
Estimated additional outflows from EZ target groups

Month	12-month zones	18-month zones	All EZs
Apr-00	272	174	446
May-00	272	174	446
Jun-00	271	174	445
Jul-00	271	172	443
Aug-00	271	174	445
Sep-00	268	174	442
Oct-00	263	173	436
Nov-00	260	172	432
Dec-00	258	170	428
Jan-01	259	172	431
Feb-01	255	171	426
Mar-01	251	169	420
Apr-01	245	165	410
May-01	240	162	402
Mean monthly outflow *April 2000-May 2001*	261	171	432
Total *April 2000-May 2001*	3656	2396	6052

Table 4.11 indicates that the size of the additional outflows arising from EZs was declining slightly over the period. This was less a consequence of any change in the impact of the EZ programme and more a reflection of the fact that the number of people in the target group declined over the period (so there were fewer unemployed people to help out of unemployment). The number of people on Step 1 and Step 2 of the EZ programme peaked at around May-June 2001 and this was reflected in the level of EZ induced outflows.

As none of the coefficients on the EZ measure were significant for non-target groups, the presumption must be made that there were no offsetting reductions in outflows to set against the additional outflows estimated above.

4.11 Summary of main conclusions

The aim of this project was to seek evidence of the impact of EZs on both the EZ target client group and on other jobseekers outside that client group. Two types of analysis were employed. The first was to model unemployment

outflows in the EZs over a time period just before and after the introduction of the programme. Outflows were examined for a range of age-duration categories with the additional distinction of different eligibility for the programme (12-month zones and 18-month zones) superimposed on top. This analysis covered only the first year impact of EZ because the vacancy time series (a critical element in the model) was suspended in May 2002 and only reintroduced with a major discontinuity in June 2002. In order to look at the impact of EZ over a somewhat longer period, a different approach was adopted. Using the differences in differences method, changes in relative outflow rates of different groups of jobseekers were examined over a period up to January 2003. The latter approach lacked the precision of the modelling approach but provided a broad indication of effects after the first year.

In the context of the model of unemployment outflows, evidence of an impact from the EZ programme would take the form of shifts in outflow relationships. If the programme was achieving its aim of helping long-term unemployed adults to leave unemployment more quickly than hitherto, then the programme would be expected, a priori, to raise outflow rates from EZ client groups. Correspondingly, if any positive impact on the EZ target group were to adversely affect other jobseeker's chances of leaving unemployment, this would be evident in the form of reduced unemployment outflow rates from non-target groups. The absence of such shifts would indicate that no such substitution effects had taken place.

The main findings of the modelling of outflows were as follows:

- Variations in outflows from unemployment in EZs were strongly and significantly related to variations in local labour demand. There were also significant local differences in the outflow relationships, reflecting structural differences between zones. Adults who were long-term unemployed were less sensitive to variations in local labour demand than were either adults in short-term unemployment or unemployed 18-24 year olds in general.
- The introduction of the EZ programme was significantly associated with an increase in outflows from unemployment amongst the programme's target client groups. The impact of the programme was to raise unemployment outflows from the EZ client group by a little over one percentage point. This positive impact was evident in both 12-month and 18-month zones, although the strength of the impact was greatest in the 12-month zones.
- Based on the estimated impact on unemployment outflows, a crude estimate of the EZ impact on the target client groups was that it had raised the number of people leaving JSA by an average of around 430 per month over its first year of operation (a total of just over 6,000 additional exits from unemployment over that period).
- Analysis of outflow rates of people aged 18-24 (both unemployed for less than six month and those unemployed for more than six months) and the outflow rates of unemployed adults outside the EZ client group provided no evidence of adverse impacts or substitution effects on the non-target

groups. In every case the coefficients on the EZ measure was insignificantly different from zero. On the basis of this evidence, it may be concluded that there were no adverse or substitution effects to offset against the positive gains from the EZ programme.

- The results from estimating the outflow model suggest that New Deal for Young People has had a significant impact on unemployment outflow rates. Strong positive affects on the outflow rates of 18-24 year olds unemployed more than six months (the NDYP target group) were found to be associated with the introduction of NDYP. Conversely, negative NDYP impacts were found in relation to adult unemployment outflows, especially in the long duration categories. This could indicate that the success of NDYP had impacted adversely on adult long-term unemployed but that the EZ programme had redressed the balance of labour market intervention in favour of the EZ target group.

The modelling of unemployment outflows in EZ areas covered only the first 12 months of EZ operation. In order to obtain a broad indication of the extent to which impacts were restricted to the first year, or found in subsequent years, analysis was undertaken using the differences in difference method. This method examined the changes in the relative outflow rates of different EZ target groups (relative to adult short-term unemployed). Within the limits of such a method, a number of key findings emerged. These were as follow:

- The evidence suggested a narrowing of relative outflow rates during the first year of the programme (the gap between non-target and target outflow rates decreased, as would be predicted if EZs had the expected effect on participants). This effect was probably maintained during the second year of the programme. This general conclusion was reinforced by evidence of a narrowing of outflow differential for 12-18 month unemployed clients in 12-month zones that was not evident in 18-month zones (where such a client group was ineligible).
- The impact of the EZ programme appeared to have been most marked for eligible clients with shorter durations (that is, less than 24 months). Partly for this reason, the impact on differential outflow rates appeared more marked in the 12-month zones than the 18-month zones.
- The analysis points to a widening of the gap between non-target and target group outflow rates during the third year of EZ operation. The largest increase in the differences was in the 12-month zones where the largest EZ initial impacts had been observed.

The results from modelling unemployment outflows and analysis of differences in differences appear consistent. Both point to a small but significant programme impact on exits from unemployment during the first year of EZs. The evidence for subsequent years is weaker but points to the impacts possibly remaining evident in the second year but being eroded to a considerable extent in the third year of EZ operation.

5 EZ IMPACTS ON INDIVIDUALS: AN ANALYSIS BASED ON ADMINISTRATIVE MICRO-DATA

5.1 Introduction

This paper presents results from a detailed investigation into the impact of Employment Zones on claimant unemployment (Elias, 2003). A specific focus of the analysis is upon the potential effect of this active labour market programme on spells of unemployment which were in existence at or which occurred in the fifteen months after April 2000. This was the date upon which 15 Employment Zones (EZ) were established in areas of Great Britain where the rate of long duration unemployment was well above the national average.

The analysis makes use of data arising from the operation of JUVOS (Joint Unemployment and Vacancies Operating System)[21] and from information relating to administration of the Employment Zones. Although these sources do not provide much detail about the employment experience of persons who may be affected by the operation of the Employment Zones programme, they have the advantage that they are comprehensive and provide useful insight into the experience of claimant unemployment both before the operation of the zones and for a significant period after their introduction.

The issue pursued here is whether or not these data reveal evidence of any impacts from the operation of Employment Zones upon claimant unemployment. The research evidence presented relates mainly to the changing nature of claimant unemployment among zone residents and others rather than their experiences of employment. Other strands of the evaluation of Employment Zones have examined this issue (Hales et al. 2003).

Questions that can be addressed from analysis of these data are as follows:

- Do persons who participate in this active labour market programme leave claimant unemployment at a faster rate than they would otherwise have done?
- Do non-participants experience any change in their incidence or duration of claimant unemployment as a result of the operation of this programme?
- Do the Employment Zone measures help to prevent participants from re-entering claimant unemployment?

[21] JUVOS data are generated via administration of claims for Job Seeker's Allowance.

The first question addresses the main aim of the programme – to move the long-term unemployed into work as quickly as possible. Employment Zones reflect the 'Work First' philosophy developed from experience with various forms of labour market interventions studied in the USA (Brown, 1997). The work first approach has the slogan 'a first job, a better job'. The 'first job' may not necessarily the best job going, but it is argued that the sooner a person moves into employment, the better is their chance of gaining good, sustainable employment.

The second question addresses the possibility that the programme may give rise to unwanted 'side-effects'. Commonly termed substitution or displacement effects, these arise when the employment of programme participants leads to measurable changes in employment opportunities for those who are not eligible to participate. In the context of the Employment Zones programme, such effects could arise if the efforts made to place participants into employment had a deleterious impact upon the chances of non-employed non-participants gaining jobs.

The third question relates to one of the objectives of the Employment Zones programme, to create sustainable employment among participants. In this investigation, due to the limitations of the data under investigation, 'sustainable employment' can only be equated with a lower probability of returning to claimant unemployment than would have been the case without the assistance offered to those who participate in the programme.

This chapter presents statistical evidence relating to these questions. First, details the administrative data available for the study of EZ impacts is described. This is followed by a statistical description of the incidence and duration of spells of claimant unemployment, contrasting the experiences of those who lived in the Employment Zones with those who lived in the comparison areas. This presented by means of graphical techniques and through the use of multivariate statistical methods. Next, the issue of whether or not those who participated in the Employment Zones programme were more or less likely to make a subsequent return to claimant unemployment following their participation is considered. A final section draws together these research findings and presents conclusions.

5.2 Administrative micro-data

Data sources

Two sources of information were made available to facilitate an examination of the impact of Employment Zones on claimant unemployment. First, information was extracted from the *JUVOS database*, the administrative records of all claims for Job Seeker's Allowance. Second, the *Employment Zone evaluation database* is compiled from administrative records supplied to the Department of Work and Pensions by Employment Zone contractors,

together with other relevant information from JUVOS and the LMS[22]. Each database employs the same system of national identifiers facilitating linkage between the two sources.

The JUVOS database holds information relating to all spells of claimant unemployment recorded in the United Kingdom since January 1995. The version of this database used in this analysis recorded the experience of claimant unemployment up to August 2002. The information available includes the start and end date of each spell, gender, date of birth, postcode, marital status, occupation sought and a code relating to the reason given for claim ending. Detailed postcode[23] information available on the database was processed to locate those claimants resident in an Employment Zone at the time each spell commenced.

Administrative data from the Employment Zones evaluation database were available up to June 2002. This information was linked to each spell of unemployment recorded in the JUVOS database, indicating that the person experiencing the spell was, would become or had been an Employment Zone participant. In total, 51,741 persons were identified as EZ participants in the period April 2000 to June 2002. Table 5.1 shows the relationship between the Employment Zone in which each zone participant was located and the distribution of spells of qualifying long duration unemployment recorded in the JUVOS database and located in the zones. It can be seen that the 'participation ratio' – an approximate measure of the extent to which eligible persons participated[24] in the zones – varies from a low of 41 per cent in the Valleys of South Wales to a high of 64 per cent in Liverpool. Birmingham is by far the largest zone in terms of the number of participants, having almost twice as many participants as the next largest zone, Liverpool.

A variety of problems were encountered with the processing of JUVOS data. Analysis of the dates for the end of an unemployment spell showed that a significant number were missing. Due to the manner in which the data are constructed, missing dates for the end of a spell could not be distinguished from uncompleted spells of claimant unemployment. An important feature of the analysis presented in this study is that it makes use of information on the experience of claimant unemployment *prior* to the introduction of the zones for both zone participants and non-participants. For this reason, persons with a missing spell end date at some time from January 1995 but before their most recent spell of unemployment were excluded from the analysis given that the

22 LMS refers to the 'Labour Market System', an administrative system used by Jobcentre staff to record client interactions.

23 Employment Zones are defined in terms of postcodes. Full postcode definitions of the zones were made available, with more than 160,000 individual postcodes defining the Employment Zones. This detail meant that the JUVOS records of all persons living in Employment Zones could be located, facilitating a very high degree of accuracy in the spatial definition of the zones.

24 Although participation in the programme is compulsory, there are a number of reasons why people with 'eligible' spells may not participate, including sickness (switching to invalidity benefit), relocation out of the zone, finding a job before becoming a zone participant or otherwise leaving claimant status before being brought into the programme.

missing dates preclude calculation of their earlier experience of unemployment. This restriction affected 3.3 per cent of all persons in the JUVOS extract. Another consequence of this problem is that it was not possible to distinguish in the most recent spell between persons whose spell is not completed and persons for whom the end date of the spell is missing. However, there is no reason to believe that the most recent spells recorded in the JUVOS database should suffer from this problem any more than for earlier spells. As a result, therefore, a small proportion (approximately 3 per cent) of spells labelled as uncompleted in August 2002 are probably completed spells with a missing end date.

Table 5.1:
Distribution of EZ participants and long duration unemployment, April 2000 – August 2002, claimants aged 25 years and over at date of start of spell

Zone	No. of participants (April 2000 - June 2002)	Type of zone	No. of spells[1]		'Participation' ratio
			12+ months	18+ months	
Birmingham	12,383	12-month	19,522		63.4
Haringey	4,727	12-month	7,451		63.4
Southwark	4,489	12-month	7,178		62.5
Newham	2,531	12-month	3,998		63.3
Doncaster	2,192	12-month	4,919		44.6
The Valleys	1,845	12-month	4,473		41.2
Plymouth	1,535	12-month	3,090		49.7
Nottingham	1,389	12-month	2,994		46.4
Liverpool	6,585	18-month		10,266	64.1
Glasgow	4,460	18-month		8,657	51.5
Brent	1,971	18-month		3,713	53.1
Brighton & Hove	1,937	18-month		3,300	58.7
Tower Hamlets	2,164	18-month		4,055	53.4
Middlesbrough	1,875	18-month		4,045	46.4
North Wales	1,658	18-month		3,338	49.7
Total	51,741		53,625	37,374	56.9

Note 1: Spells of the indicated duration in existence at April 2000 or arising between May 2000 and August 2002, for persons aged 25 and over at the date the spell started.

5.3 Choice of comparator groups

Given the introduction of 'EZ-like' measures to assist the long-term unemployed in all parts of the UK from April 2001, careful consideration must be given to the choice of comparator groups. A distinction is made between those persons who were already eligible for participation when the zones were inaugurated in April 2000, and those who became eligible subsequently. Members of the first group were not admitted to the programme until July 2000 at the earliest, and only then when they reached a Restart interview threshold. Given that 'zone-like' measures were introduced on a national basis in April 2001, the comparison period is restricted to shortly after this date. In much of the analysis presented in this study, four groups of individuals are defined in terms of their experience of claims for JSA between April 2000 and July 2001. These are:

- persons in 12-month zones (or 12-month comparator areas) who were in a spell of unemployment at April 2000 which had already lasted 12-months or more;
- persons in 12-month zones (or 12-month comparator areas) who entered the 12th month of a spell of unemployment after April 2000 but before July 2001;
- persons in 18-month zones (or 18-month comparator areas) who were in a spell of unemployment at April 2000 which had already lasted 18-months or more;
- persons in 18-month zones (or 18-month comparator areas) who entered the 18th month of a spell of unemployment after April 2000 but before July 2001.

Table 5.2 indicates the numbers of people in each group aged 25 years and over at the start of each type of spell, by type of EZ and comparison area. The summary statistics shown for these groups indicate that by July 2001, three months after the date that 'zone-like' measures were introduced in the non-EZ areas for persons who had been unemployed for 18-months or more, significant numbers individuals would qualify for the Re-engineered ND25plus. Of those in the first group (12-months or longer unemployed at April 2000), well over one third of those located in the comparison areas would qualify for the Re-engineered ND25plus in July 2001.

Table 5.2:
Distribution of spells of unemployment recorded in JUVOS database by type of spell, type of zone and comparison areas

12-month zones	**12-month comparison areas**
Persons already 12+months unemployed at April 2000 No of persons: 21,849 Av. duration of spell: 27.9 months Spell ends by 7/2001: 66.5% 18+ months unemp. by 7/2001: 33.5%	*Persons already 12+ months unemployed at April 2000* No persons: 17,483 Av. duration of spell: 35.4 months Spell ends by 7/2001: 62.7% 18+ months unemp. by 7/2001: 37.3%
Persons becoming 12+ months unemployed after April 2000 and before July 2001 No of persons: 18,671 Spell ends by 7/2001: 46.7% 18+ months unemp. by 7/2001: 21.5%	*Persons becoming 12+ months unemployed after April 2000 and before July 2001* No of persons: 15,265 Spell ends by 7/2001: 43.2% 18+ months unemp. by 7/2001: 23.8%

18-month zones	**18-month comparison areas**
Persons already 18+ months unemployed at April 2000 No of persons: 16,431 Av. duration of spell: 50.0 months Spell ends by 7/2001: 60.0% 18+months unemp. by 7/2001: 39.9%	*Persons already 18+ months unemployed at April 2000* No persons: 8,184 Av. duration spell: 44.4 months Spell ends by 7/2001: 57.1% 18+ months unemp. By 7/2001: 42.9%
Persons becoming 18+ months unemployed after April 2000 and before July 2001 No of persons: 12,641 Spell ends by 7/2001: 40.1% 18+ months unemp. by 7/2001: 59.9%	*Persons becoming 18+ months unemployed after April 2000 and before July 2001* No of persons: 6,708 Spell ends by 7/2001: 36.3% 18+ months unemp. by 7/2001: 63.7%

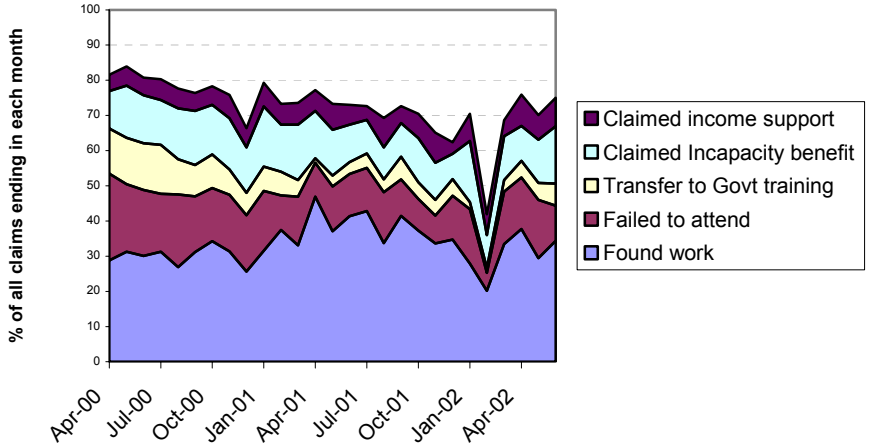
Further indication of the problems associated with the choice of comparison groups and areas can be gained from examination of Figures 5.1 and 5.2. These graphs show the principal destinations of the members of the two groups (those already long term unemployed at April 2000 and those becoming long term unemployed after April 2000), contrasting the information from the JUVOS database regarding their destination on completion of the spell of unemployment. Of particular interest here is the contrast between the proportions that 'found work' and those that 'transferred to government training'. In the Employment Zones, the proportion of leavers from JSA who found work remains between 30 and 40 per cent of all reasons given for the end of their claim for JSA. In the comparison areas, this proportion declines after July 2001. Conversely, the proportion of persons who were recorded as having 'transferred to government training' increases significantly after July 2001 in the comparison areas, with no corresponding increase apparent in the Employment Zones. This reflects the introduction of the 'Re-engineered ND25plus across the UK in all areas except the Employment Zones. For this reason, the period over which comparisons are made between the Employment Zones and the comparison areas is mainly restricted to the time from April 2000 to July 2001.

5.4 The incidence and duration of spells of long-term unemployment

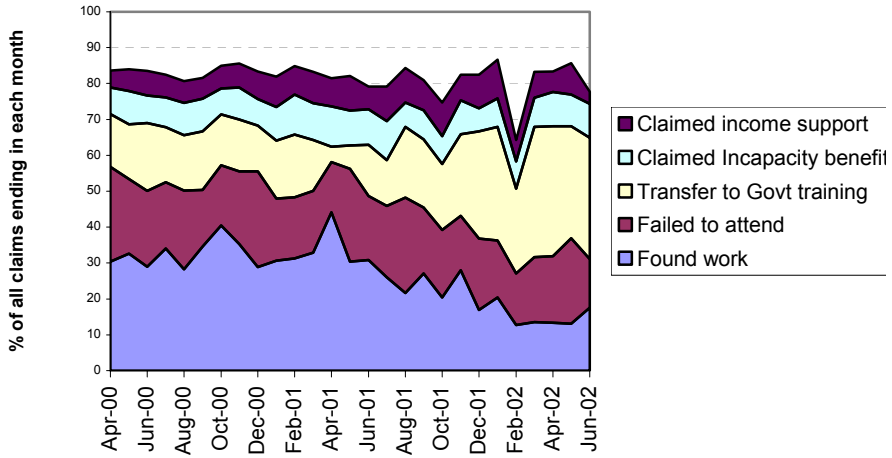
The *incidence* of unemployment is determined from the JUVOS database as the date upon which a spell of claimant unemployment first started. Dates are recorded with the precision of days in the database. However, in all subsequent analysis this precision has been reduced to the month in which the claim started. The number of claims starting within a month is defined as the *monthly inflow*. Correspondingly, the *monthly outflow* is calculated from a date a spell has ended. The *duration* of a spell of unemployment is calculated in months from the month of the start date to the month of the end date of the spell. All spells starting and ending within the same month are set arbitrarily to a completed duration of half a month. *Censored spells* are defined as those that were not complete by the end of the period under investigation (July 2001).

Figure 5.1a-d

Main reason for claim ending, persons who were 12+ months unemployed at April 2000 and living in 12 month Employment Zones



Main reason for claim ending, persons who were 12+ months unemployed at April 2000 and living in 12 month comparison areas



Main reason for claim ending, persons who became 12+ months unemployed after April 2000 and before July 2001 and living in 12 month comparison areas

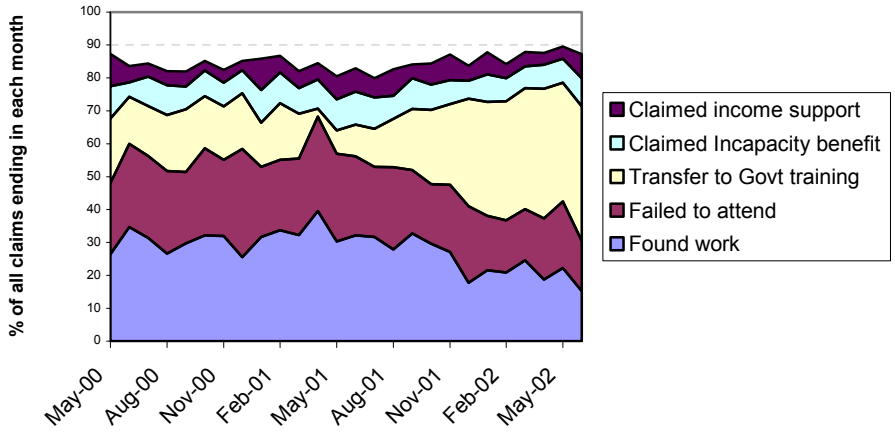
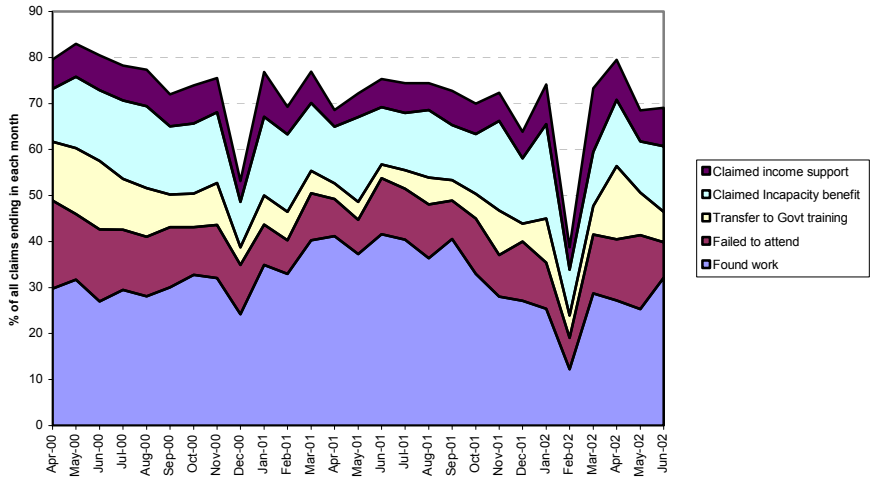
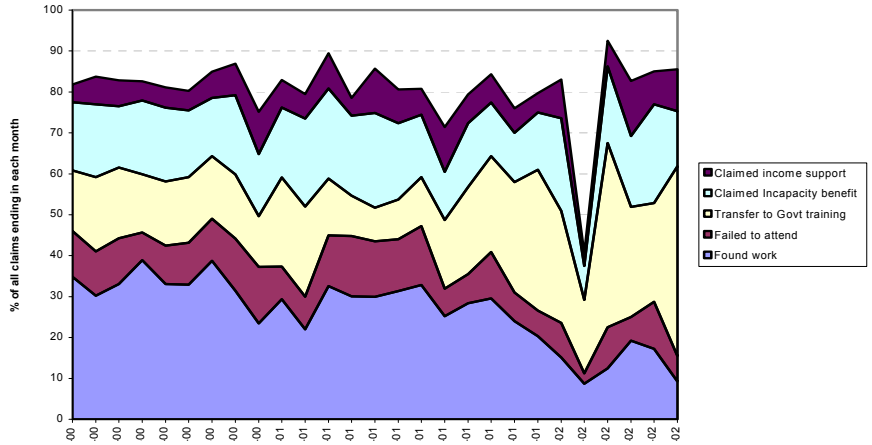


Figure 5.2a-d

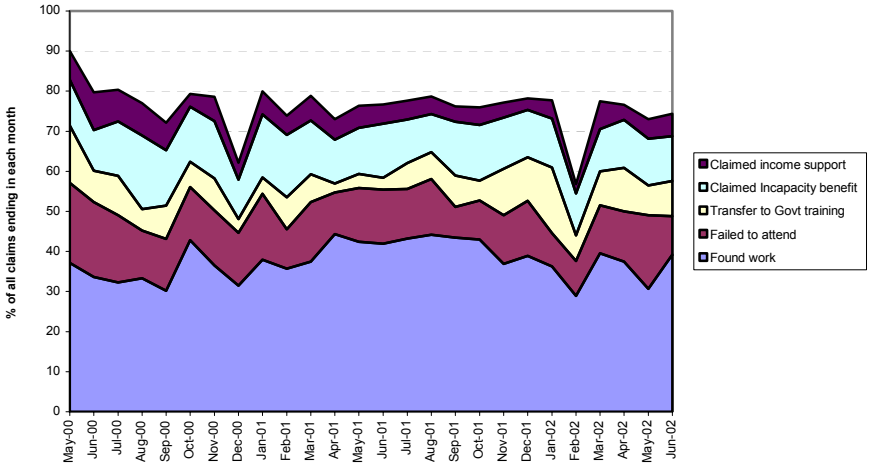
Main reason for claim ending, persons who were 18+ months unemployed at April 2000 and living in 18 month Employment Zones



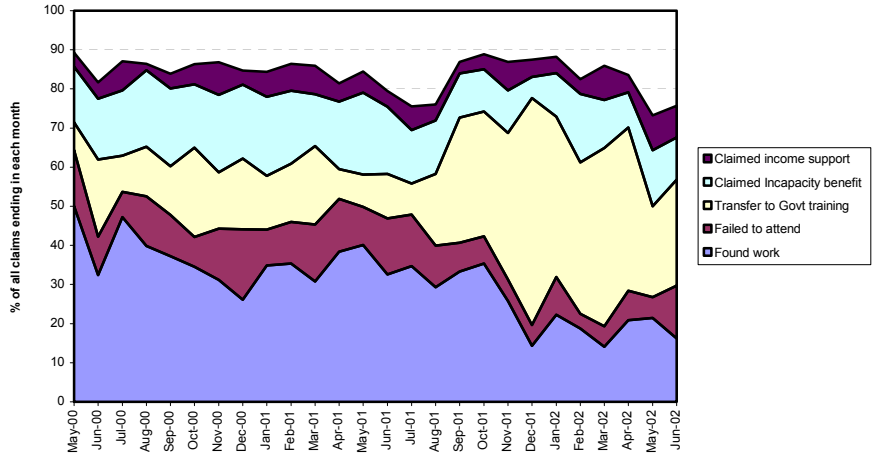
Main reasons for claim ending, persons who were 18+ months unemployed at April 2000 and living in 18 month comparison areas



Main reason for claim ending, persons who became 18+ months unemployed after April 2000 and living in 18 month Employment Zones



Main reason for claim ending, persons who became 18+ months unemployed after April 2000 and living in 18 month comparison areas



5.5 Unemployment inflows and outflows

We examine first the inflow to spells of long duration unemployment (defined when an individual *enters* the 12th month of his or her spell as a JSA claimant) as a proportion of the outflows from spells of unemployment that were of duration greater than 12 or 18-months.[25] This metric has a number of advantages over other measures of unemployment. Unlike the rate of unemployment, it does not employ a geographical estimate of employment in its construction.

Figure 5.3 shows the movement in this ratio for 12-month spells, contrasting the experience of 12-month zones and the 12-month comparison areas over the period from April 1998 to July 2001. Close examination of these inflow\outflow ratios reveals that, in the 11-month period from September 2000 to July 2001, the ratio in the 12-month zones dropped below the corresponding ratio for the 12-month comparison areas. This implies that long duration unemployment fell more quickly in the 12-month zones than in the 12-month comparison areas between September 2000 and July 2001.

Figure 5.3 also shows the inflow/outflow ratios for a two-year period before the introduction of the Zones. Examination of these ratios in this earlier period shows that there was no comparable and sustained difference in the performance of the Zones relative to the comparison areas in the preceding two years. In the majority of months during this two-year period, the inflow/outflow ratio for 12-month unemployment in the Zones lies above the corresponding ration for the comparison areas indicating that long-term unemployment either grew more rapidly or fell more slowly in the Zones than in the comparison areas.

Figure 5.4 shows the corresponding graphs for 18-month spells, comparing the variation in this ratio over the period April 1998 to July 2001 in 18-month Employment Zones with the same ratio for the 18-month comparison areas. Again, it can be seen that ratio in the 18-month zones drops well below that for the comparison areas throughout most of the 15 month period after April 2000, with no comparable difference in evidence during the two years prior to the introduction of the Zone measures.

[25] The flows into and out of JSA claimant status completely determine the 'stock' of JSA claimants. The stock can be likened to the volume of water in a tank. If the inflow exceeds the outflow, the level will rise. Conversely, it will fall. When the ratio of the monthly inflow to the monthly outflow equals 1, the stock will be the same at the end of the month as it was at the beginning of the month. In such a 'steady state', the product of the incidence of unemployment per time period and the average duration of all spells will equal the stock of unemployed persons. Because the inflow equals the outflow in a steady state, the ratio of the outflow to the stock of unemployed measures the average duration of all spells. The problem with such a ratio is that the steady state is not observed. Variations in the ratio of outflows to the stock of unemployed persons cannot, therefore, be interpreted as a measure of variation in the average duration of spells of unemployment. The ratio of inflows to outflows per period does, however, measure the dynamic change in the stock.

Figure 5.3:
Inflow to claimant unemployment spells of 12-months duration as a proportion of the outflow from claimant unemployment of 12-months duration or longer (persons 25 years and over)

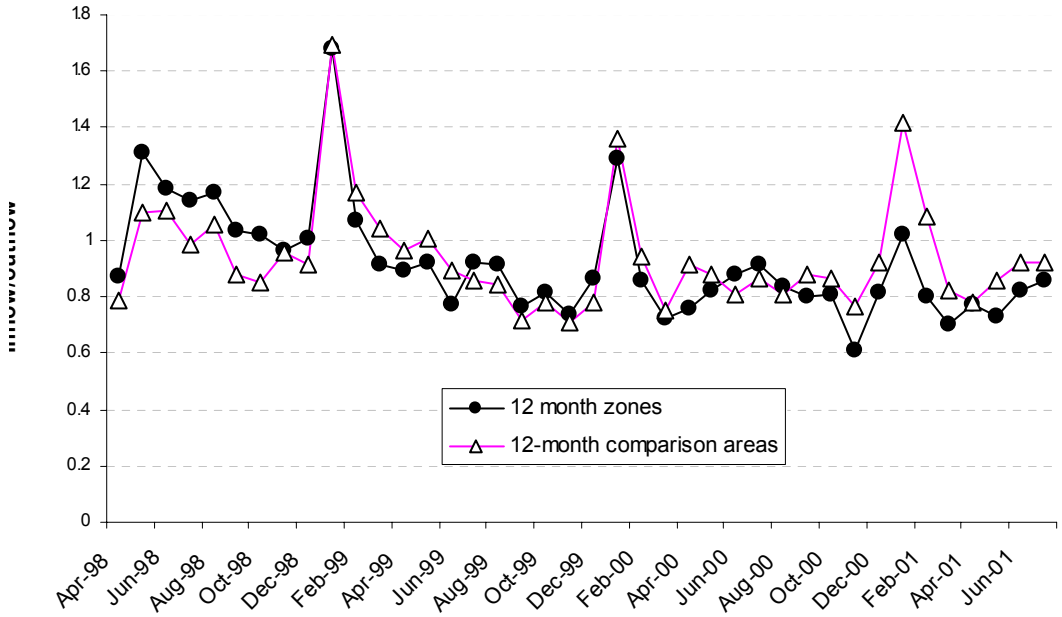
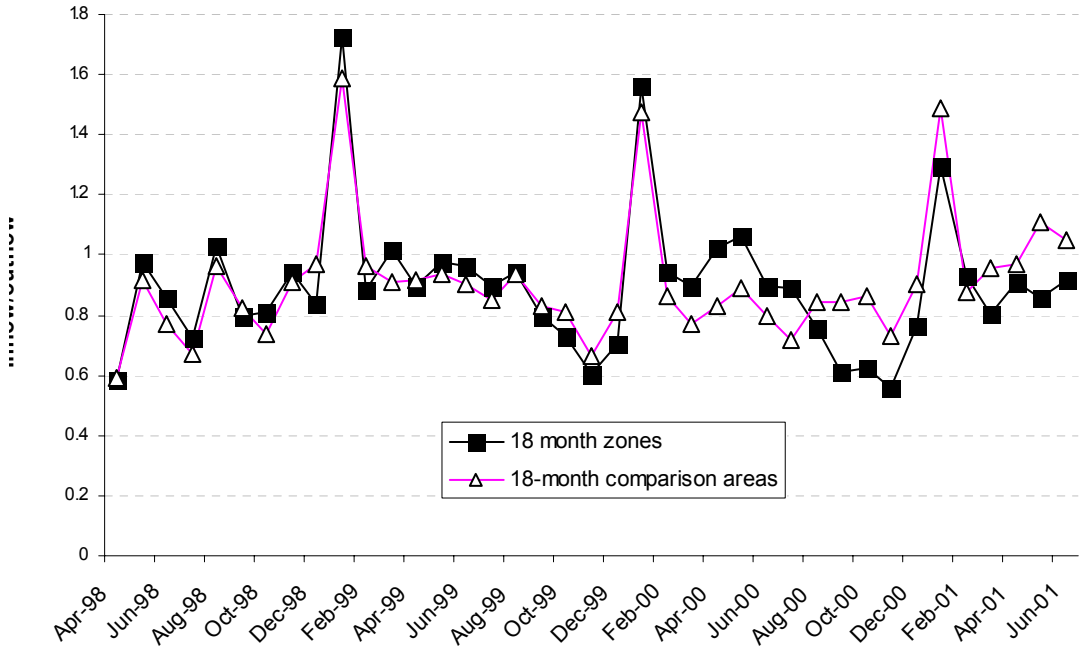


Figure 5.4:
Inflow to claimant unemployment spells of 18-months duration as a proportion of the outflow from claimant unemployment of 18-months duration or longer

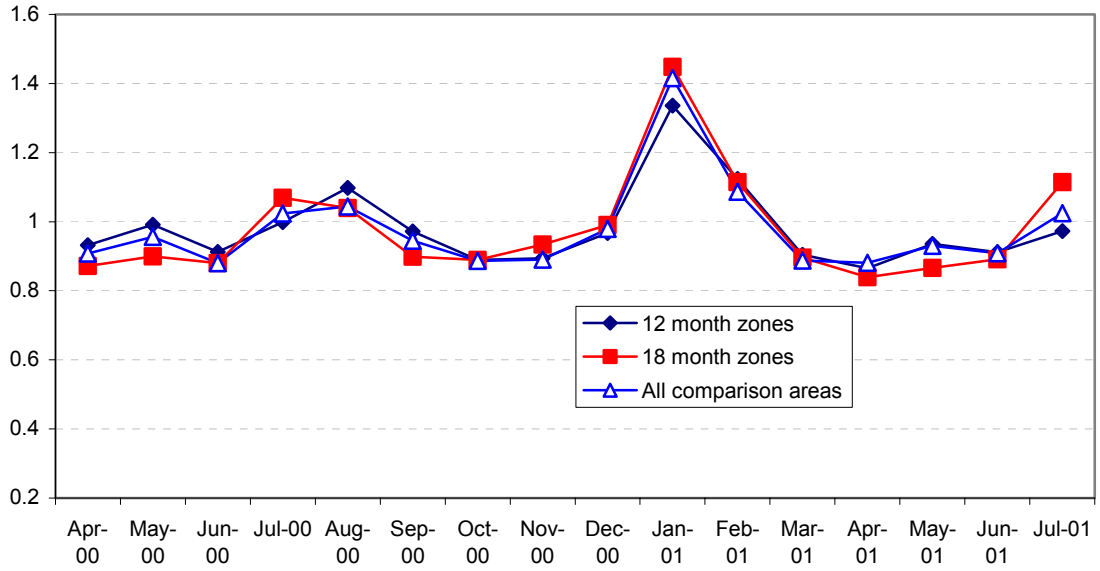


Thus, this simple graphical analysis reveals evidence of long-term unemployment falling faster from August 2000 to July 2001 in both the 12-month and the 18-month zones than was the case in the relevant comparison areas. With the exception of January 2001 in all areas, the inflow/outflow ratio lies below a value of unity, and these ratios are consistently lower in both types of Employment Zones than in the comparison areas. Examination of the preceding two-year period shows that this finding is particular to the period after the introduction of the Zone measure.

However, the analysis raises two interesting questions. First, what happened after July 2001? With the introduction of the 'Re-engineered New Deal 25+' in April 2001 in the comparison areas, we would anticipate that the relatively better performance of the Zones vis-à-vis the comparison areas would evaporate. Figures 3a and 4a in the Appendix show that this is indeed the case. The second question relates to the interpretation of this evidence. While the trends in these ratios are consistent with 'zone-effects' over the first 15 months of operation of the zones, there are a variety of other influences on flows into and out of long term unemployment which could give rise to these spatial differences. It remains to be shown that this effect is still apparent after controlling for such influences. This is undertaken in the following subsection. Before moving on to discuss the multivariate methods employed to introduce such controls, it is of interest to use this same graphical technique to examine the variations in short-term unemployment in the zones and comparison areas.

Figure 5.5 portrays this ratio for all persons whose spell of unemployment is of less than 12-months duration. The intention here is to examine whether or not the potential zone effect identified in Figures 3 and 4 (the faster rate of decline of long duration unemployment in the zones relative to the comparison areas in the period from September 2000 to July 2001) could have worsened the employment opportunities of those who do not qualify for the programme. To examine this, we define the inflow as the start of a spell of unemployment and the outflow as the exit from this spell if this occurs before one year has elapsed. The purpose of this analysis is to see whether or not there is any indication that the operation of the zones may have 'redistributed' unemployment from long-term to short-term. This could occur if the movement of persons with long durations of unemployment into employment disadvantaged those who would otherwise have taken these jobs, thereby increasing the flow into or decreasing the flow out of short duration unemployment. Figure 5 gives no clear evidence that the short duration unemployed have fared any better or worse in the 12 and 18-month zones than the corresponding experience of persons with short spells of unemployment in the comparison areas.

Figure 5.5:
Inflow to claimant unemployment spells of less than 12-months duration as a proportion of the outflow from claimant unemployment spells of less than 12-months duration



5.6 Multivariate analysis of the duration of spells of unemployment

One of the difficulties associated with the preceding analysis is that is does not disentangle the relationship between inflows to unemployment and outflows from unemployment. While it provides a good indicator for comparison purposes of the *net* effect of these flows on the stock of long-term unemployment in an area, it may well be the case that efforts to reduce long-term unemployment by increasing the outflow are thwarted by a corresponding increase in the inflow. In this section, therefore, attention is focussed upon the potential effect of EZ policy on the duration of spells of unemployment. This is performed by selecting people with particular spells of claimant unemployment from the database and examining the subsequent 'survival' of these individuals within the spell. In what follows this is demonstrated first by graphical methods and then explored further within a multivariate framework.

Figures 5.6 and 5.7 show the cumulative survival in claimant unemployment for those who were already in a spell of duration 12 or 18-months or longer at April 2000. Looking first at Figure 5.6, it can be seen that after fifteen months, this group had declined to between 30 and 35 per cent of its original size. The rate of decline (movement out of claimant unemployment) is slightly faster in the 12-month zones than in the 12-month comparison areas after December 2000.

Figure 5.6:
Cumulative survival in long-term unemployment: persons aged 25 years and over who were in a spell of unemployment of 12-months duration or longer at April 2000

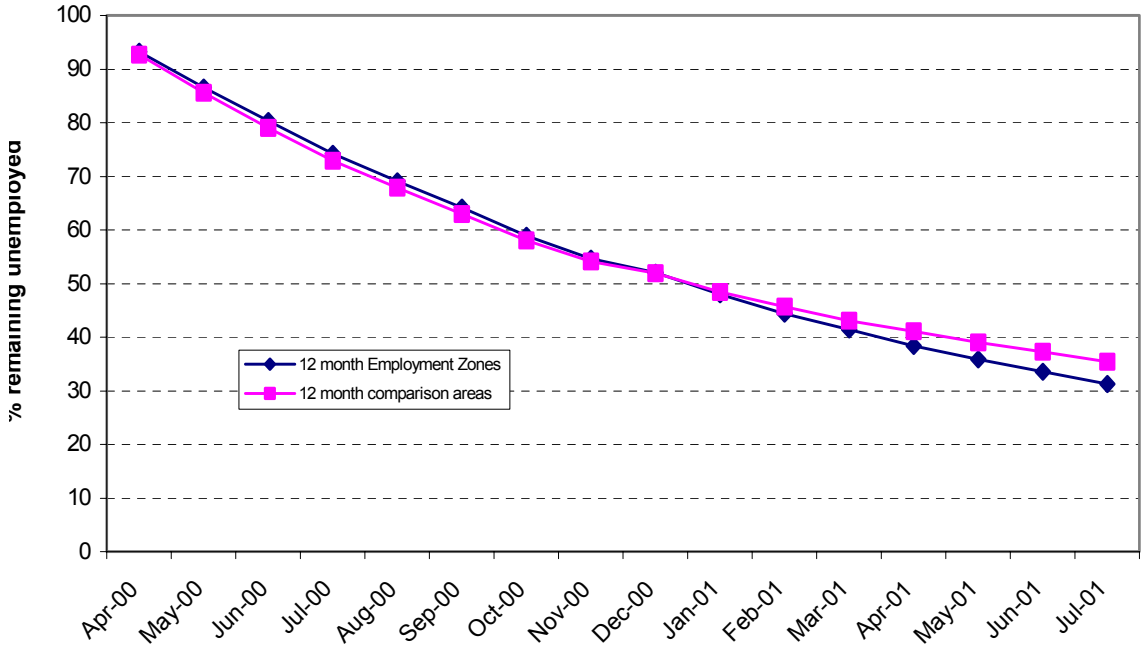


Figure 5.7:
Cumulative survival in long-term unemployment: persons aged 25 years and over who were in a spell of unemployment of 18-months duration or longer at April 2000

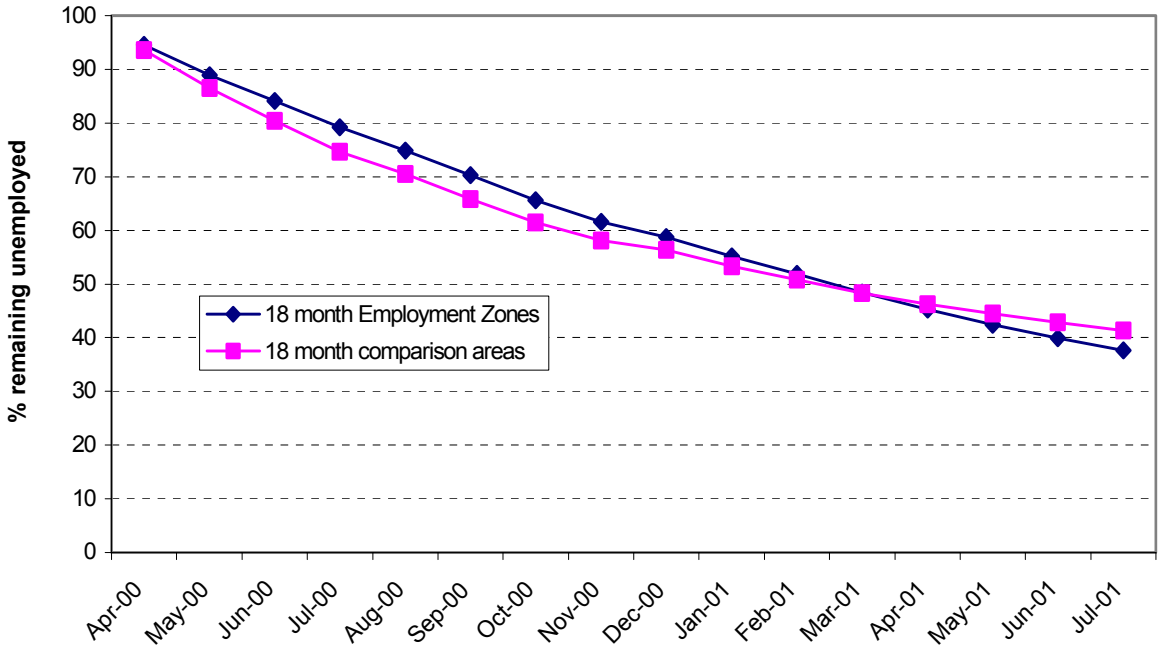


Figure 5.7 shows the same picture, for persons who had been in a spell of claimant unemployment for 18-months or longer at April 2000, contrasting the 18-month zones with the 18-month comparison areas. Here it can be seen that the rate of movement out of long-term unemployment is initially faster in the comparison areas than in the 18-month zones, but this situation reverses after one year. On balance, there is no clear evidence here of a 'zone effect' in the 18-month zones for those who were eligible in April 2000.

Figures 5.8 and 5.9 show these cumulative survival curves for persons who reached 12 or 18-months in a spell of claimant unemployment at some time between May 2000 and July 2001. These curves differ in shape from those shown in Figures 5.6 and 5.7, because 'new entrants' to long-term unemployment are arriving in these long duration categories up to and including July 2001. In both the 12-month zones and the 18-month zones there is a slight difference in the rate of movement out of JSA for these groups, with the zones showing a marginally faster rate of movement out of JSA than in the comparison areas.

Before introducing the multivariate analysis of these spell durations, one further issue to be considered is whether or not the zones operated a selective policy, deliberately targeting those who were more 'employable', possibly to the detriment of those whose personal characteristics, attitudes and motivation were such that they were difficult to place into work. We do this by examining and comparing the participants with the 'eligible non-participants' – persons who qualified for assistance on the basis of their unemployment duration and zone address, but were not recorded in the EZ database as having joined the scheme.

As was shown in Table 5.1, participation rates for this mandatory programme were nowhere near 100 per cent, ranging from 41 to 64 per cent in the period April 2000 to August 2002. There are a number of reasons for this, relating to the fact that not all persons could enter the programme as they became eligible and may have felt a claim for JSA before being brought into the programme.

Table 5.3 shows some of the characteristics of participants, comparing them with non-participants and with persons with similar spells in the comparison areas. This shows that zone participants are predominantly male and single. Those who were immediately eligible at April 2000 and who participated in the zone measures had, on average, a longer experience of unemployment than non-participants. Higher proportions of non-participants were transferring to government training programmes on completion of their spell of JSA.

Figure 5.8:
Cumulative survival in long-term unemployment: persons aged 25 years and over who started a spell of unemployment of 12-months duration or longer after April 2000

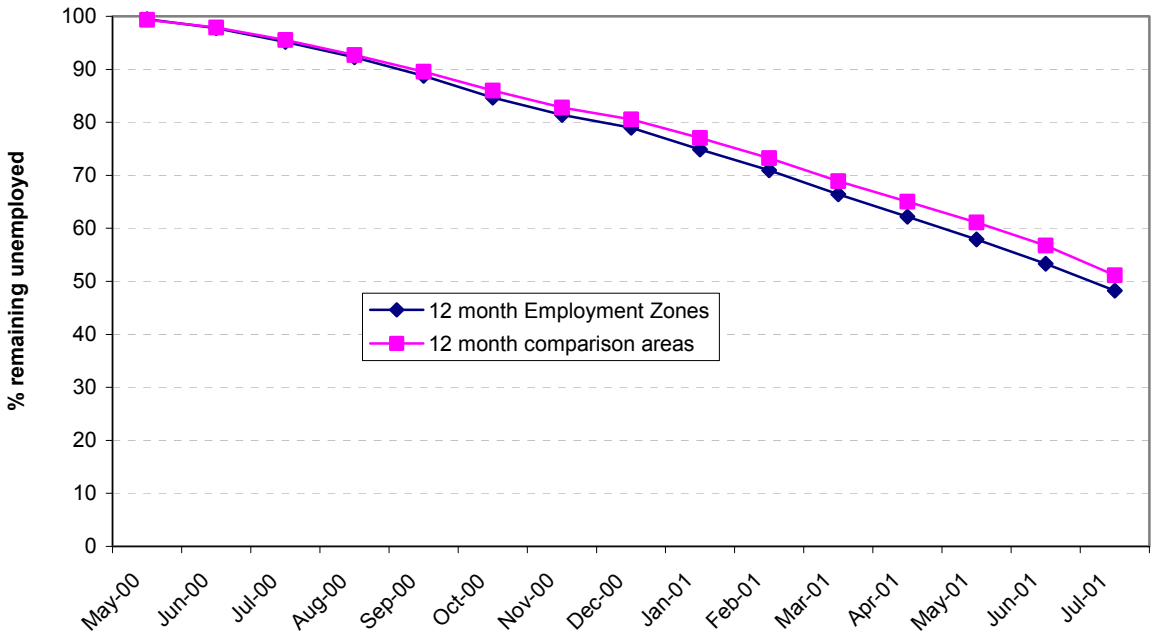


Figure 5.9:
Cumulative survival in long-term unemployment: persons aged 25 years and over who started a spell of unemployment of 18-months duration or longer after April 2000

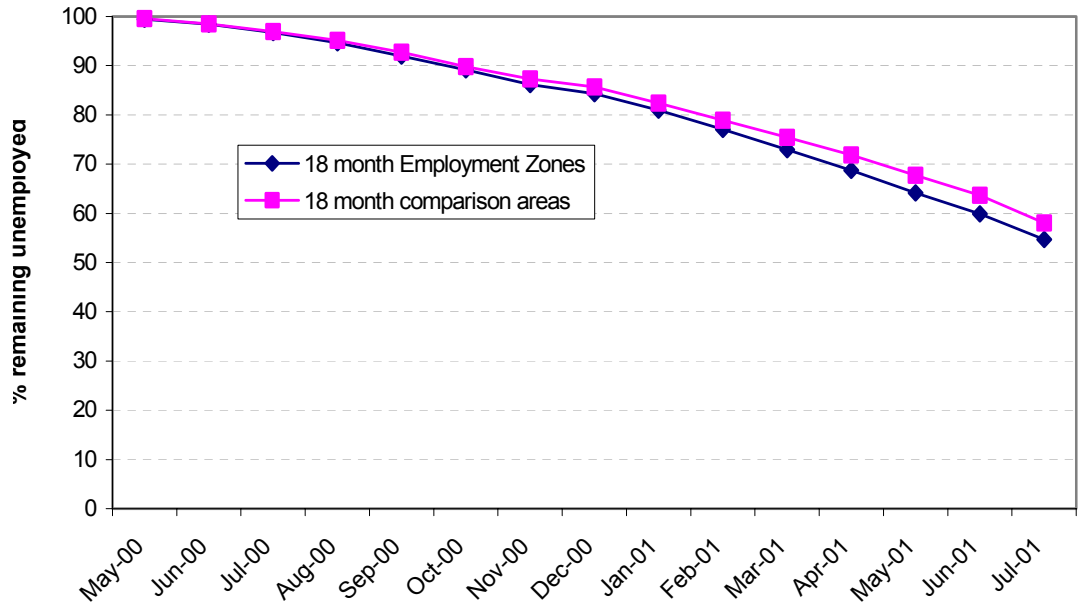


Table 5.3:
Characteristics of the long-term unemployed, by type of zone, type of spell, and participation in zone measures

	12-month Zones				18-month Zones				Comparison areas	
	Spell is 12+ months at 4/2000		Spell is 12+ months after 4/2000		Spell is 18+ months after 4/2000		Spell is 18+ months after 4/2000		Spell is 12+ months at 4/2000	Spell is 12+ months after 4/2000
	EZ Partic.	Non-particip.	EZ Partic.	Non-particip.	EZ Partic.	Non-particip	EZ Partic.	Non-particip.		
Male	85.3	80.3	81.4	75.9	86.3	82.3	84.2	78.3	81.9	78.8
Single	60.9	52.6	59.7	51.4	61.2	53.8	62.3	54.0	57.6	57.9
Found work	27.6	26.6	35.7	26.8	26.2	24.0	33.9	19.6	23.9	25.6
Transfer to Govt training	5.5	8.6	2.1	6.9	4.5	9.2	2.2	8.5	13.3	15.8
55-59 years	3.6	8.3	5.0	9.2	3.1	7.5	5.4	8.5	5.8	7.2
Average length of current spell at April 2000	40.7	34.4	n.a.	n.a.	52.8	46.4	n.a.	n.a	35.2	n.a.

Figures 5.10 and 5.11 contrast the movement out of unemployment for participants and non-participants who were in a spell of unemployment of duration 12 or 18 months or longer at April 2000. Looking at the 'half life'[26] of these groups, non-participants have reached the 50 per cent mark 5-6 months after April 2000. This situation is only reached after about a year for zone participants.

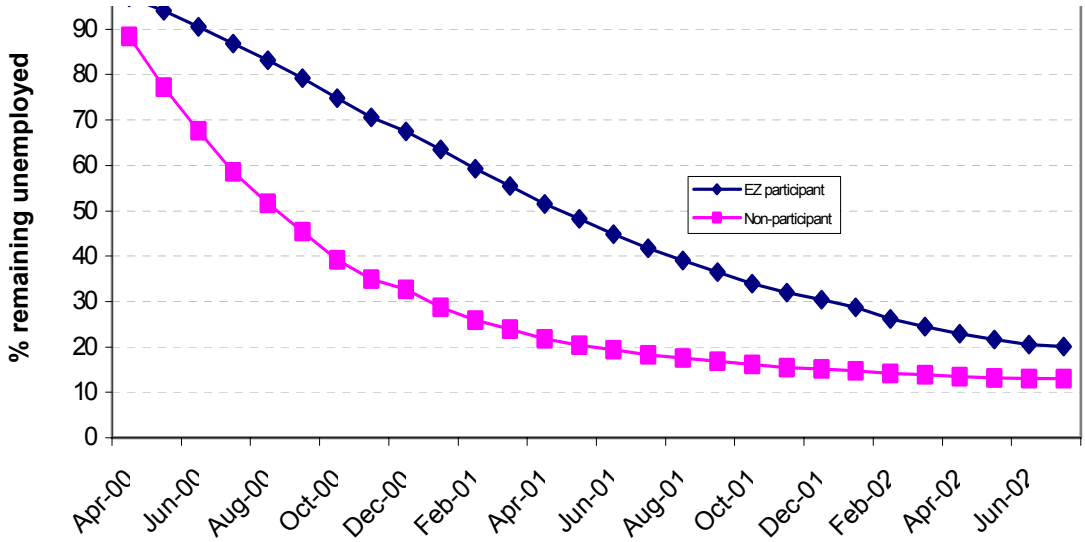
There are a number of reasons for these differences. First, the programme itself, although compulsory, has selection effects. Those who are ready to leave unemployment, or who prefer not to be claiming benefit rather than participate in the programme, are less likely to join EZs. Second, it may be the case that EZ participation slows down the movement out of long duration unemployment for those who participate. This is plausible since the first two stages of EZs last for a considerable period, during which time the participant remains registered on JSA. Furthermore, this group was not eligible for programme participation until July 2000 or later. By definition, they have a low rate of exit from claimant unemployment during the period from April to July 2000. Whatever the reason for these differences, the evidence presented here is not consistent with the idea that zone contractors specially selected those who were more employable.

In the following statistical analysis, we ignore this 'participation' effect. This is because the intention with this study is to determine whether or not EZ measures have an overall impact upon the experience of long duration unemployment for those living within the zones. This may or may not arise from their participation in the measures. What is important is the net effect of the zone on the unemployment experiences of those living in these areas.

[26] The 'half-life' is defined as the period of time that elapses before the group has declined to half its initial size.

Figure 5.10:
Cumulative survival in long-term unemployment: persons in 12-month Zones aged 25 years and over who were in a spell of unemployment of 12-months duration or longer at April 2000, by programme participation

Figure 5.11:
Cumulative survival in long-term unemployment: persons in 18-month Zones aged 25 years and over who were in a spell of unemployment of 18-months duration or longer at April 2000, by programme participation



5.7 Modelling the duration of spells of unemployment

The cumulative survival functions shown in Figures 6 to 11 depict some significant variations in the rate at which spells of unemployment end, particularly between those who were EZ participants and those who were not. However, this graphical analysis does not take account of the possibility that these variations might arise because of differences in the characteristics of the long-term unemployed resident in the zones and those located in the comparison areas, nor does it account for the possibility that zone participants might be concentrated in labour market areas that offer fewer employment opportunities to the long-term unemployed. To examine these possibilities, this section presents results from multivariate analysis of the duration of spells of unemployment, attempting to understand better the cause of these variations.

From the preceding graphical analysis it is apparent that there are a number of ways in which the EZ measures may have had an impact upon the overall level of long duration unemployment within a zone. First, they may have produced a 'shock' effect. The prospect of participating in the programme measures may have caused some people to terminate their claim for JSA. Figures 5.10 and 5.11 show that there is a major difference in the rate of leaving claimant unemployment between those who participated in the measures and those who appeared to be eligible but did not participate. This may be because those who were ready to leave claimant status had no reason to participate. Alternatively, it may be the case that participation in the measures slows down the rate of exit from long-term unemployment. The critical issue here is to determine the net effect within the zone on the long-term unemployed. Figures 5.3 and 5.4 indicate that, in both 12-month zones and 18-month zones, long duration unemployment fell relative to the comparison areas between Autumn 2000 and July 2001. Figure 5.6 to 5.9 show that long-term unemployment was declining in the zones at a marginally faster rate from December 2001 to April 2001. These findings are consistent with the view that the zones did have a net downward effect upon the level of long-term unemployment. However, to confirm these findings we employ a multivariate technique to take account of the varying circumstances in the zones and the comparison areas, particularly the different labour market conditions in these areas.

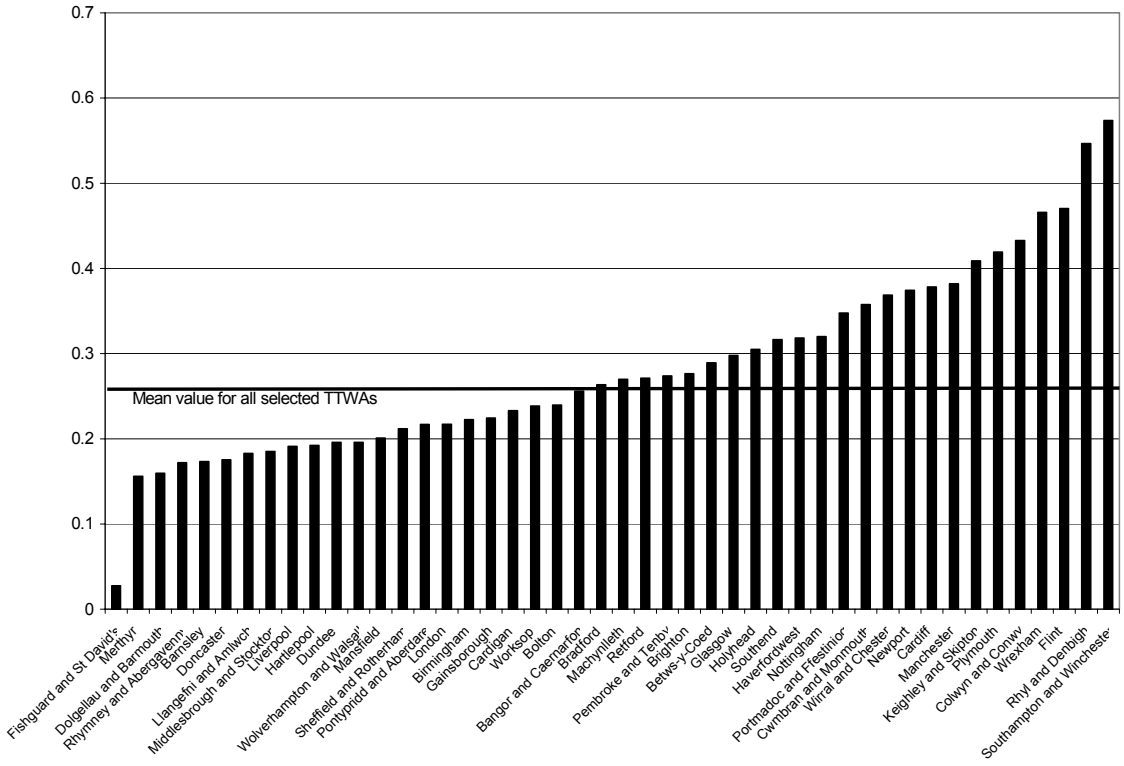
The technique employed is termed *Cox regression*. This is a flexible form of multivariate analysis for modelling event data in a continuous time framework. It handles censored data (unemployment spells which had not ended by July 2001 – the date upon which we terminate the comparisons) and does not impose a particular parametric form on the baseline hazard function.[27] Covariates included in these regressions include age, gender, previous cumulative experience of unemployment from all spells recorded in JUVOS since January 1995 (excluding the current spell), cumulative number of spells experienced since January 1995

[27] The hazard function is closely related to the cumulative survival functions shown in Figures 6 to 11. It represents the probability that a spell of unemployment will end in a particular month, gives that it has continued to that particular month. Rather like the constant term in a linear regression, the *baseline hazard* is the underlying hazard rate, which is modified for each unemployed person by the other factors included in the regression model.

(excluding the current spell), length of time in the current spell (for those who were 12-months or more unemployed at April 2000), marital/partnership status, occupational status and whether in a zone or a comparison area.

In addition to these variables, it is important to include a measure of labour market conditions in the travel-to-work area within which each claimant is located. To achieve this, monthly levels of claimant unemployment and unfilled vacancies were obtained for every travel-to-work area in which a claimant was located. The ratio of unfilled vacancies to claimant unemployment in each travel-to-work area and for each month was taken as a measure of labour market 'tightness' – the buoyancy of the local labour market. These ratios were computed from April 2000 to May 2001, the last date for which vacancy data are available by travel-to-work areas. The monthly average ratio over this period was computed. The resulting range of these ratios for all relevant travel-to-work areas is displayed in Figure 5.12.

Figure 5.12:
Unfilled vacancies as a proportion of claimant count (April 2000 – April 2001)



Travel-to-work areas were grouped into four types: 'very slack' labour markets (V/U ratio less than 20 per cent); 'slack' labour markets (V/U ratio 20-30 per cent); 'tight' labour markets (V/U ratio 30-50 per cent) and 'very tight' labour markets (V/U ratio greater than 50 per cent). These categories were mapped on to the travel-to-work area in which claimants were located at the time each spell began.

In modelling the duration of unemployment, previous research has indicated that vocational and academic qualifications are strongly related to the amount of time a person spends in a spell of unemployment. Such information is not available in the

JUVOS database. As a proxy, we make use of the information on the 'occupation sought' by the claimant. This is a two or three digit code representing a minor or unit group of the 1990 Standard Occupational Classification. Two digit occupation groups were ranked according to average hourly earnings as recorded in various quarters of the Labour Force Survey from 1999 to 2001. These rankings were used to create four indicator variables: seeking an occupation with above average earnings, two thirds average to average earnings, less than two thirds average earnings and a residual category 'sought occupation not stated'.

The regression results are shown in Appendix tables A1 to A4. The interpretation of these coefficients is assisted by examining the column in each table, which shows the exponentiated coefficient (labelled 'Exp (coeff)'). This can be interpreted as the proportional shift in the baseline hazard associated with each variable. Values below one indicate that the hazard (the rate of leaving unemployment at any particular duration of the spell) is lower than the baseline. Consider, for example, the effect of being male. From Table A1 it can be seen that this is associated with a reduction in the rate of leaving unemployment by approximately 16 per cent. In other words, at any point in the duration of a spell of unemployment that was already of 12-month's duration or longer at April 2000, men are 16 per cent less likely to leave the spell than women. Other important and statistically significant factors that appear to reduce the rate of leaving a spell of claimant unemployment include being in the 35-54 age groups and having worked previously in a job which is characterised by below average earnings.

Labour market conditions significantly affect the rate of leaving unemployment. The reference category is the group of travel-to-work areas classified as having 'very slack' labour market conditions. Other categories are generally associated with a more rapid exit from unemployment.

In terms of the effect of prior experience of unemployment on the duration of the spells of long-term unemployment there is evidence that those who have accumulated a longer experience of unemployment by April 2000 are much more likely to remain unemployed longer thereafter.

Table 5.4 below extracts results from Tables A1 to A4 to reveal the difference between the rate of leaving long-term unemployment in the zones compared with the relevant comparison areas, having taken account of the systematic differences in the movement out of unemployment associated with the other factors included in the regressions. In this table the percentages refer to the change in the rate of leaving long-term unemployment over the period April 2000 to July 2001 that is associated with residence in a 12-month or 18-month zone, after all other measurable differences between these groups have been taken into account.

Table 5.4:
Zone-related change in the rate of leaving long-term unemployment for each group of long-term unemployed claimants

Type of spell	Difference between 12-month zones and 12-month comparison areas	Difference between 18-month zones and 18-month comparison areas
Spell is 12+ months at April 2000	Negligible	
Spell becomes 12+ m between May 2000 and July 2001	+11% (very significant)	
Spell is 18+ months at April 2000		-4% (barely significant)
Spell becomes 18+ m between May 2000 and July 2001		+16% (very significant)

Source: Appendix Tables A1 – A4

The regression results indicate the existence of quite a strong zone-related effect for those who became 12 or 18-months unemployed between May 2000 and July 2001. The zone-related effects for those who were eligible at the start of the programme are negligible.

5.8 Redefining the end of a spell of unemployment

Thus far we have only investigated the impact of Employment Zones on spells of claimant unemployment. However, JUVOS data contain information on the destination of the claimant on completion of a spell of unemployment. This permits redefinition of the end of a spell, to exclude all situations where the end of the spell is not recorded as an employment destination. In so doing, the spell is deemed to continue even if a person leaves claimant unemployment (for a government training programme for example, or by transferring to invalidity benefit). As was shown in Figures 5.1 and 5.2, the Employment Zones do appear to have been more effective in moving the long term unemployed into employment that was the case in the comparison areas. This redefinition of the end of a spell should confirm this finding.

The analysis shown in Appendix Tables A1 to A4 was repeated, having redefined the spell end in accordance with this definition. The detailed results are shown in Appendix Tables A5 to A8. Table 5.5 summarises the results.

Table 5.5:
Zone-related change in the rate of leaving long-term joblessness for each group of long-term unemployed claimants

Type of spell	Difference between 12-month zones and 12-month comparison areas	Difference between 18-month zones and 18-month comparison areas
Spell is 12+ months at April 2000	+11% (very significant)	
Spell becomes 12+ m between May 2000 and July 2001	+43% (very significant)	
Spell is 18+ months at April 2000		+14% (very significant)
Spell becomes 18+ m between May 2000 and July 2001		+32% (very significant)

Source: Appendix tables A5 – A8

This analysis reveals that, when it comes to moving the long-term unemployed into jobs, there is a clear 'zone effect' operating between April 2000 and July 2001. The effect is not just confined to those who have just become long term unemployed, but applies to a lesser extent to those who were already long term unemployed at the date the Zones became operational.

5.9 Returning to unemployment

This section investigates the likelihood of re-entry into claimant unemployment following programme participation. For the two groups identified in the previous section (eligible at April 2000 and eligible from May 2000 to July 2001) the JUVOS database was interrogated to determine whether or not each claimant experienced a further spell of unemployment before August 2002. From this information, Table 6 shows the subsequent return to claimant unemployment as a percentage of those who qualified them for participation in the programme, contrasting the 12-month zones and the 18-month zones with the relevant comparison areas.

This information indicates that there is a significantly lower rate of re-entry into claimant unemployment in the 12-month zones in contrast with the comparison areas for those who became eligible between May 2000 and July 2001.

Confirmation of this finding via multivariate analysis was sought in the following manner. A *logistic regression* model was specified in which the dependent variable is defined as unity if a return to claimant unemployment had taken place before August 2002, zero otherwise, for persons who completed a spell of long-term unemployment after April 2000. The same covariates are entered into this model as were used in the analysis of the duration of spells of unemployment. Table 7 below extracts the 'zone effects' from the results[28] – that part of the difference in the

[28] Detailed regression results are available from the author on request.

probability of re-entering unemployment in a zone, relative to a comparison area, which cannot be attributed to the other measurable characteristics included in the analysis.

Table 5.6:
Subsequent experience of claimant unemployment for various categories of long-term unemployment (persons aged 25 and over at start of spell)

Type of spell	No. of persons with indicated type of spell	% re-entering spell before August 2002	No. of persons with indicated type of spell	% re-entering spell before August 2002
	12-month zones		**12-month comparison areas**	
Spell is 12+ months at April 2000	21,826	37.7	17,483	37.9
Spell becomes 12+ months between May 2000 and July 2001	18,648	33.7	15,265	38.2
	18-month zones		**18-month comparison areas**	
Spell is 18+ months at April 2000	16,403	34.6	8,184	31.5
Spell becomes 18+ months between May 2000 and July 2001	12,628	32.9	6,708	32.8

Table 5.7:
Zone related difference in the probability of re-entering unemployment by August 2002 for each group of long-term unemployed claimants

Type of spell and zone	Zone effect	Significance
In a spell of 12+ months at April 2000 and in a 12-month zone	98%	Not significant
Becoming 12+ months unemployed after April 2000 and before July 2001 and in a 12-month zone	**84%**	Significant
In a spell of 18+ months at April 2000 and in an 18-month zone	104%	Not significant
Becoming 18+ months unemployed after April 2000 and before July 2001 and in a 18-month zone	**82%**	Significant

This analysis shows that, in the presence of these controls for the characteristics of the unemployed and local labour market conditions, there is some evidence that the zone measures acted to reduce the probability of re-entering unemployment. Once again we find that the effects are confined to those who became eligible for participation between May 2000 and July 2001.

5.10 Summary

The availability of the complete set of administrative records of unemployed claimants, together with details of their participation in the zone measures, has facilitated a detailed analysis of the impacts of the EZ programme on long-term unemployment. The comparison area methodology adopted here is restricted mainly to the period from April 2000 to July 2001, due to the introduction of the Re-engineered New Deal 25 plus on a national basis from April 2001 onwards.

Focussing within the zones, it is shown that, relative to the comparison areas, there was a net outflow from long duration unemployment in both the 12-month zones and the 18-month zones between Autumn 2000 and July 2001 (Figures 5.3 and 5.4). There is no evidence to suggest that, within the zones, this net decline in long-term unemployment had an adverse impact upon short-term unemployment (Figure 5.5). Relative to the comparison areas, and in both the 12-month zones and 18-month zones, there is evidence of a slightly more rapid decline in long-term unemployment among those who were eligible for the measures at the date the zones were established (Figures 5.6, 5.7, and 5.8).

A very significant difference is noted in the rate of leaving long-term unemployment between those who participated in the zone measures and those who, whilst appearing to be eligible from their record of unemployment, were not recorded as participants (Figures 5.10 and 5.11). This is not particularly surprising, but it does raise questions about how the zones reduce unemployment. If, for example, the measures cause some people to leave long-term unemployment due to the fact that they do not wish to participate, this could offset a potential increase in long-term unemployment caused by the fact that the measures might slow down the rate at which participants leave long-term unemployment as they pass through the various stages of the EZ programme. We are unable to explore these issues further, given the nature of the information available. What is important, though, is the *net effect* of zone measures on the level of unemployment. The graphical approach adopted in the first part of the paper attempts this, but cannot take account of any systematic differences between the zones and the comparison areas, either in terms of the characteristics of the long-term unemployed or the state of the local labour markets in which they are seeking work. Given that the comparison areas are, on the whole, slightly more buoyant labour markets than the employment zones, and that the prior experience of unemployment among zone residents is clearly worse than for residents in the comparison areas, it is important to take account of these differences. For this reason multivariate techniques were employed to investigate these issues further.

The regression techniques employed here show that, after controlling for varying labour market conditions and for the personal characteristics of the unemployed, zone effects are in evidence in both the 12-month zones and 18-month zones for those who became eligible between April 2000 and July 2001. Redefining the end of a spell of unemployment as entry into employment shows that the Zones were particularly effective in promoting movement into employment in the period May 2000 to July 2001.

Finally, the analysis has investigated for differences in the rate of re-entry into claimant unemployment between these two groups (those who were eligible at April 2000 and those who became eligible in the next fifteen months) in the 12-month and 18-month zones. Again, it appears to be the case that there is a particularly strong zone effect, but only for those who became eligible from May 2000 to July 2001.

To summarise, this investigation provides evidence to support the claim that the Employment Zone programme reduced long-term unemployment in the fifteen-month period after they were introduced. The effects are measurable and significant and tend to be located primarily among those who became eligible for participation once the scheme was up and running rather than for those who already qualified at the start of the programme. The additional movement into employment relative to the comparison areas is a marked feature of the way in which Zones operated in this period. There is no evidence to support the view that the zone measures had significant 'spillover effects', potentially worsening the experience of unemployment for those not eligible for participation in the zone.

6 KEY CONCLUSIONS

This report presents the findings from research designed to establish whether there were any unintended adverse labour market impacts from the introduction of the Employment Zone programme. While the original research brief was to test for adverse effects, inevitably such investigations also answer the question of whether EZs had an impact on their intended target group. Indeed, adverse effects would be unlikely unless there was a significant impact of the target group. The two studies took distinct but related approaches. The first focussed on changes in aggregate outflows from unemployment for different groups of job seekers before and after the introduction of EZs. The second study examined spells of unemployment amongst individual job seekers in both the EZ areas and comparison areas. The two approaches offer different, but complementary, perspectives on the EZ intervention in local labour markets. Taken together they constitute a powerful test of the impact of EZs, both on their intended clients and on other job seekers in the labour market.

Identifying the labour market impact of EZs poses a number of conceptual and practical difficulties. Not least is establishing the counterfactual (what would have happened without the intervention). The first of the two studies established the counterfactual by reference to the time period before the introduction of EZs (Chapter 4). The second study drew upon data about job seekers in comparison areas to provide the counterfactual (Chapter 5). Such a comparison is always open to the criticism that no two local labour markets are alike and comparisons are thus invalid. However, extensive profiling of EZ and comparison areas indicated that the two sets of areas were reasonably well matched (Chapter 3). Comparisons between EZs and comparator areas were thus valid, although such comparison s slightly less favourable to EZs because of the somewhat less buoyant labour markets in EZs.

The key finding of both studies is that the EZ programme had a small, positive impact on the programme target group, relative to their situation when supported by mainstream Jobcentre Plus services and provision for adult long-term unemployed (ND25plus). The findings were remarkably consistent. Both studies found that there was a measurable and significant reductions in the stock of adult long-term unemployed in the EZs areas. The time series analysis of unemployment outflows found an increase of around one percentage point in the aggregate outflow rate of the adult long-term unemployed in EZs. The analysis of individual data found that this impact was greatest for those who became newly eligible for the programme rather than the stock of those already eligible at the start of the programme. Neither study found any significant evidence that EZ measures had adversely affected the experience of unemployment amongst other groups of job seekers in the zone areas. This included young people and adults in short-term unemployment.

7 REFERENCES

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ANNEX A

Table A1: Cox regression estimates of the covariates of the duration of a spell of claimant unemployment (12-month zones and 12-month comparison areas, persons 12+ months unemployed at April 2000)

	Coefficient	Standard error	Significance	Exp (coeff)	Mean of variable
Age group					
25-34	ref				
35-44	-0.131	0.015	0.000	0.878	0.318
45-54	-0.113	0.017	0.000	0.894	0.222
55-57	0.275	0.031	0.000	1.316	0.043
58-59	0.702	0.051	0.000	2.018	0.013
60 years and over	0.294	0.139	0.035	1.342	0.003
Male	-0.179	0.017	0.000	0.836	0.818
Partnership status					
Single	ref				
Married	-0.010	0.017	0.534	0.990	0.199
Widowed	0.044	0.072	0.541	1.045	0.007
Divorced	-0.027	0.023	0.246	0.974	0.091
Separated	0.374	0.026	0.000	1.454	0.057
Cohabiting	-1.061	0.129	0.000	0.346	0.007
Prior experience of claimant unemployment (not including the current spell)					
Cumulative months	0.002	0.000	0.000	1.002	23.244
Cumulative spells	0.286	0.004	0.000	1.331	1.044
Occupational earnings indicator					
Above average earnings	ref				
Two thirds average to average earnings	-0.043	0.023	0.057	0.957	0.186
Less than two thirds average earnings	-0.064	0.020	0.001	0.938	0.575
Occupation not known	0.022	0.025	0.375	1.022	0.111
0 Length of time in current spell at April 2000					
1 - <2 years	ref.				
2 - <3 years	-0.309	0.017	0.000	0.734	0.222
3 - <4 years	-0.708	0.024	0.000	0.493	0.089
4 - <5 years	-0.775	0.031	0.000	0.461	0.048
More than 5 years	-0.774	0.038	0.000	0.461	0.033
Local labour market conditions					
V/U > 0.5	0.144	0.045	0.001	1.155	0.021
V/U > 0.3 < 0.5	0.113	0.027	0.000	1.120	0.095
V/U > 0.2 < 0.3	-0.017	0.019	0.385	0.983	0.764
V/U < 0.2	ref				
Lives in a 12-month zone	-0.002	0.013	0.879	0.998	0.556

Total number of spells: 51,188
No. of censored spells: 10,291 (20.1%)

Table A2: Cox regression estimates of the covariates of the duration of a spell of claimant unemployment (12-month zones and 12-month comparison areas, persons entering the 12th month of a spell of claimant unemployment after April 2000 and up to July 2001)

	Coefficient	Standard error	Significance	Exp (coeff)	Mean of variable
Age group					
25-34	ref				
35-44	-0.095	0.018	0.000	0.909	0.315
45-54	-0.125	0.023	0.000	0.882	0.190
55-57	-0.123	0.041	0.002	0.884	0.043
58-59	0.223	0.050	0.000	1.250	0.022
60 years and over	0.136	0.117	0.247	1.145	0.004
Male	0.014	0.019	0.478	1.014	0.782
Partnership status					
Single	ref				
Married	0.020	0.020	0.320	1.021	0.199
Widowed	0.003	0.086	0.975	1.003	0.008
Divorced	0.090	0.030	0.003	1.094	0.080
Separated	0.054	0.031	0.077	1.056	0.068
Cohabiting	-0.844	0.133	0.000	0.430	0.006
Prior experience of claimant unemployment (not including the current spell)					
Cumulative months	-0.005	0.000	0.000	0.995	28.867
Cumulative spells	0.043	0.005	0.000	1.044	1.714
Occupational earnings indicator					
Above average earnings	ref				
Two thirds average to average earnings	0.022	0.028	0.424	1.023	0.185
Less than two thirds average earnings	0.049	0.024	0.040	1.050	0.544
Occupation not known	0.232	0.029	0.000	1.261	0.133
Local labour market conditions					
V/U > 0.5	0.395	0.052	0.000	1.484	0.022
V/U > 0.3 < 0.5	0.023	0.032	0.476	1.023	0.104
V/U > 0.2 < 0.3	-0.026	0.023	0.256	0.974	0.747
V/U < 0.2	ref				
Lives in a 12-month zone	0.108	0.016	0.000	1.114	0.551

Total number of spells = 33,913
Censored cases = 16,810 (49.6%)

Table A3: Cox regression estimates of the covariates of the duration of a spell of claimant unemployment (18-month zones and 18-month comparison areas, persons 18+ months unemployed at April 2000)

	Coefficient	Standard error	Significance	Exp (coeff)	Mean of variable
Age group					
25-34	ref				
35-44	-0.165	0.021	0.000	0.848	0.303
45-54	-0.079	0.022	0.000	0.924	0.265
55-57	0.366	0.040	0.000	1.442	0.044
58-59	0.940	0.080	0.000	2.560	0.009
60 years and over	-0.688	0.409	0.092	0.503	0.001
Male	-0.174	0.023	0.000	0.840	0.847
Partnership status					
Single	ref				
Married	-0.094	0.022	0.000	0.910	0.214
Widowed	0.177	0.084	0.035	1.194	0.009
Divorced	0.042	0.028	0.134	1.042	0.113
Separated	0.331	0.034	0.000	1.393	0.058
Cohabiting	-1.394	0.186	0.000	0.248	0.009
Prior experience of claimant unemployment (not including the current spell)					
Cumulative months	0.002	0.000	0.000	1.002	21.242
Cumulative spells	0.295	0.005	0.000	1.343	0.859
Occupational earnings indicator					
Above average earnings	ref				
Two thirds average to average earnings	-0.064	0.033	0.053	0.938	0.164
Less than two thirds average earnings	-0.177	0.029	0.000	0.838	0.587
Occupation not known	-0.008	0.033	0.797	0.992	0.151
1 Length of time in current spell at April 2000					
1 - <2 years	ref				
2 - <3 years	0.399	0.023	0.000	1.491	0.303
3 - <4 years	-0.094	0.029	0.001	0.910	0.122
4 - <5 years	-0.265	0.035	0.000	0.768	0.071
More than 5 years	-0.314	0.043	0.000	0.730	0.045
Local labour market conditions					
V/U > 0.5	-0.013	0.094	0.891	0.987	0.010
V/U > 0.3 < 0.5	0.150	0.029	0.000	1.162	0.127
V/U > 0.2 < 0.3	0.259	0.018	0.000	1.296	0.480
V/U < 0.2	ref				
Lives in an 18-month zone	-0.044	0.020	0.026	0.957	0.668

Total number of spells = 24,615
Censored cases = 9,572 (38.9%)

Table A4: Cox regression estimates of the covariates of the duration of a spell of claimant unemployment (18-month zones and 18-month comparison areas, persons entering the 18th month of a spell of claimant unemployment after April 2000 and up to July 2001)

	Coefficient	Standard error	Significance	Exp (coeff)	Mean of variable
Age group					
25-34	ref				
35-44	-0.114	0.027	0.000	0.892	0.309
45-54	-0.124	0.032	0.000	0.883	0.217
55-57	-0.238	0.056	0.000	0.788	0.048
58-59	0.305	0.070	0.000	1.356	0.022
60 years and over	-1.062	0.237	0.000	0.346	0.005
Male	0.021	0.029	0.478	1.021	0.814
Partnership status					
Single	ref				
Married	0.027	0.030	0.357	1.028	0.202
Widowed	0.029	0.118	0.803	1.030	0.010
Divorced	0.103	0.039	0.008	1.109	0.104
Separated	0.095	0.041	0.021	1.099	0.078
Cohabiting	-1.345	0.205	0.000	0.260	0.009
Prior experience of claimant unemployment (not including the current spell)					
Cumulative months	-0.003	0.000	0.000	0.997	28.895
Cumulative spells	0.046	0.007	0.000	1.047	1.626
Occupational earnings indicator					
Above average earnings	ref				
Two thirds average to average earnings	0.067	0.043	0.115	1.070	0.169
Less than two thirds average earnings	0.071	0.036	0.049	1.074	0.571
Occupation not known	0.272	0.042	0.000	1.312	0.138
Local labour market conditions					
V/U > 0.5	-0.572	0.128	0.000	0.565	0.012
V/U > 0.3 < 0.5	-0.018	0.038	0.635	0.982	0.140
V/U > 0.2 < 0.3	0.097	0.024	0.000	1.102	0.478
V/U < 0.2	ref				
Lives in an 18-month zone	0.148	0.026	0.000	1.160	0.653

Total number of spells = 39,309
Censored cases = 13,205 (32.1%)

Table A5: Cox regression estimates of the covariates of the duration of a spell of joblessness (12-month zones and 12-month comparison areas, persons 12+ months unemployed at April 2000)

	Coefficient	Standard error	Significance	Exp (coeff)	Mean of variable
Age group					
25-34	ref				
35-44	-0.135	0.024	0.000	0.874	0.318
45-54	-0.254	0.029	0.000	0.776	0.222
55-57	-0.567	0.065	0.000	0.567	0.043
58-59	-1.224	0.156	0.000	0.294	0.013
60 years and over	-1.369	0.409	0.001	0.254	0.003
Male	0.104	0.028	0.000	1.109	0.818
Partnership status					
Single	ref				
Married	0.018	0.027	0.499	1.018	0.199
Widowed	-0.229	0.151	0.129	0.795	0.007
Divorced	0.123	0.037	0.001	1.131	0.091
Separated	0.195	0.044	0.000	1.215	0.057
Cohabiting	-1.281	0.230	0.000	0.278	0.007
Prior experience of claimant unemployment (not including the current spell)					
Cumulative months	0.000	0.000	0.207	1.000	23.244
Cumulative spells	0.191	0.008	0.000	1.210	1.044
Occupational earnings indicator					
Above average earnings	ref				
Two thirds average to average earnings	-0.158	0.036	0.000	0.854	0.186
Less than two thirds average earnings	-0.224	0.030	0.000	0.799	0.575
Occupation not known	-0.123	0.040	0.002	0.884	0.111
2 Length of time in current spell at April 2000					
1 - <2 years	ref.				
2 - <3 years	-0.035	0.026	0.177	0.966	0.222
3 - <4 years	-0.397	0.039	0.000	0.672	0.089
4 - <5 years	-0.438	0.051	0.000	0.645	0.048
More than 5 years	-0.556	0.063	0.000	0.574	0.033
Local labour market conditions					
V/U > 0.5	0.236	0.071	0.001	1.266	0.021
V/U > 0.3 < 0.5	0.161	0.041	0.000	1.175	0.095
V/U > 0.2 < 0.3	-0.093	0.031	0.003	0.911	0.764
V/U < 0.2	ref				
Lives in a 12-month zone	0.105	0.021	0.000	1.110	0.556

Total number of spells = 39,309,
Censored cases = 29,254 (74.4%)

Table A6: Cox regression estimates of the covariates of the duration of a spell of joblessness (12-month zones and 12-month comparison areas, persons entering the 12th month of a spell of claimant unemployment after April 2000 and up to July 2001)

	Coefficient	Standard error	Significance	Exp (coeff)	Mean of variable
Age group					
25-34	ref				
35-44	-0.049	0.024	0.043	0.953	0.315
45-54	-0.115	0.030	0.000	0.891	0.190
55-57	-0.302	0.058	0.000	0.739	0.043
58-59	-1.278	0.122	0.000	0.279	0.022
60 years and over	-1.648	0.317	0.000	0.192	0.004
Male	0.251	0.027	0.000	1.286	0.782
Partnership status					
Single	ref				
Married	0.028	0.027	0.299	1.028	0.199
Widowed	-0.120	0.135	0.373	0.887	0.008
Divorced	0.150	0.040	0.000	1.162	0.080
Separated	-0.031	0.042	0.463	0.969	0.068
Cohabiting	-1.255	0.230	0.000	0.285	0.006
Prior experience of claimant unemployment (not including the current spell)					
Cumulative months	-0.004	0.000	0.000	0.996	28.867
Cumulative spells	0.038	0.007	0.000	1.039	1.714
Occupational earnings indicator					
Above average earnings	ref				
Two thirds average to average earnings	-0.069	0.036	0.054	0.933	0.185
Less than two thirds average earnings	-0.118	0.031	0.000	0.888	0.544
Occupation not known	-0.051	0.039	0.185	0.950	0.133
Local labour market conditions					
V/U > 0.5	0.394	0.071	0.000	1.484	0.022
V/U > 0.3 < 0.5	0.079	0.041	0.053	1.082	0.104
V/U > 0.2 < 0.3	-0.073	0.031	0.017	0.929	0.747
V/U < 0.2	ref				
Lives in a 12-month zone	0.359	0.022	0.000	1.432	0.551

Total number of spells = 33,913
Censored cases = 24,223 (71.4%)

Table A7: Cox regression estimates of the covariates of the duration of a spell of joblessness (18-month zones and 18-month comparison areas, persons 18+ months unemployed at April 2000)

	Coefficient	Standard error	Significance	Exp (coeff)	Mean of variable
Age group					
25-34	ref				
35-44	-0.213	0.032	0.000	0.808	0.303
45-54	-0.230	0.036	0.000	0.795	0.265
55-57	-0.679	0.087	0.000	0.507	0.044
58-59	-1.496	0.290	0.000	0.224	0.009
60 years and over	-1.921	1.001	0.055	0.147	0.001
Male	0.041	0.039	0.285	1.042	0.847
Partnership status					
Single	ref				
Married	-0.088	0.035	0.013	0.915	0.214
Widowed	0.031	0.155	0.840	1.032	0.009
Divorced	0.119	0.045	0.008	1.127	0.113
Separated	0.353	0.053	0.000	1.423	0.058
Cohabiting	-1.177	0.259	0.000	0.308	0.009
Prior experience of claimant unemployment (not including the current spell)					
Cumulative months	0.001	0.000	0.037	1.001	21.242
Cumulative spells	0.219	0.008	0.000	1.244	0.859
Occupational earnings indicator					
Above average earnings	ref				
Two thirds average to average earnings	-0.048	0.051	0.345	0.953	0.164
Less than two thirds average earnings	-0.270	0.044	0.000	0.763	0.587
Occupation not known	-0.101	0.051	0.049	0.904	0.151
3 Length of time in current spell at April 2000					
1 - <2 years	ref				
2 - <3 years	0.402	0.033	0.000	1.495	0.303
3 - <4 years	0.049	0.045	0.276	1.050	0.122
4 - <5 years	-0.216	0.058	0.000	0.806	0.071
More than 5 years	-0.251	0.071	0.000	0.778	0.045
Local labour market conditions					
V/U > 0.5	0.132	0.135	0.327	1.141	0.010
V/U > 0.3 < 0.5	0.215	0.046	0.000	1.240	0.127
V/U > 0.2 < 0.3	0.080	0.029	0.005	1.084	0.480
V/U < 0.2	ref				
Lives in an 18-month zone	0.135	0.033	0.000	1.144	0.668

Total number of spells = 24,615
Censored cases = 18,673 (75.9%)

Table A8: Cox regression estimates of the covariates of the duration of a spell of joblessness (18-month zones and 18-month comparison areas, persons entering the 18th month of a spell of claimant unemployment after April 2000 and up to July 2001)

	Coefficient	Standard error	Significance	Exp (coeff)	Mean of variable
Age group					
25-34	ref				
35-44	-0.048	0.034	0.161	0.953	0.309
45-54	-0.085	0.041	0.041	0.919	0.217
55-57	-0.331	0.078	0.000	0.718	0.048
58-59	-1.305	0.174	0.000	0.271	0.022
60 years and over	-2.346	0.578	0.000	0.096	0.005
Male	0.270	0.040	0.000	1.310	0.814
Partnership status					
Single	ref				
Married	-0.029	0.039	0.462	0.972	0.202
Widowed	-0.032	0.168	0.847	0.968	0.010
Divorced	0.198	0.050	0.000	1.219	0.104
Separated	0.037	0.055	0.502	1.037	0.078
Cohabiting	-1.430	0.289	0.000	0.239	0.009
Prior experience of claimant unemployment (not including the current spell)					
Cumulative months	-0.003	0.000	0.000	0.997	28.895
Cumulative spells	0.039	0.009	0.000	1.040	1.626
Occupational earnings indicator					
Above average earnings	ref				
Two thirds average to average earnings	0.001	0.054	0.989	1.001	0.169
Less than two thirds average earnings	-0.067	0.045	0.138	0.935	0.571
Occupation not known	0.173	0.054	0.001	1.189	0.138
Local labour market conditions					
V/U > 0.5	-0.378	0.151	0.012	0.685	0.012
V/U > 0.3 < 0.5	0.052	0.051	0.312	1.053	0.140
V/U > 0.2 < 0.3	0.031	0.031	0.316	1.032	0.478
V/U < 0.2	ref				
Lives in an 18-month zone	0.278	0.035	0.000	1.321	0.653

Total number of spells = 19,349
Censored cases = 14,337 (74.1%)

Figure 3a: **Inflow to claimant unemployment spells of 12-months duration as a proportion of the outflow from claimant unemployment of 12-months duration or longer (persons 25 years and over)**

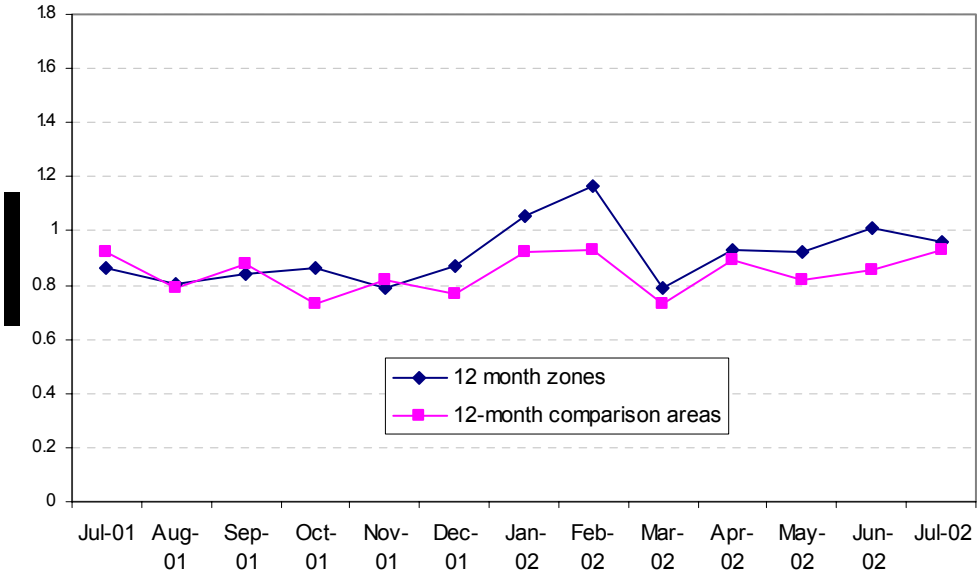

Figure 4a: **Inflow to claimant unemployment spells of 18-months duration as a proportion of the outflow from claimant unemployment of 18-months duration or longer**