
**SUBSIDISING JOBS:
AN EVALUATION
OF THE
EMPLOYMENT INCENTIVE SCHEME**

**Richard Breen
with
Brendan Halpin**



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GENERAL SUMMARY

Employment subsidy programmes are one of a range of policy instruments which governments have used, over the past 15 years, to address the unemployment problem. The Employment Incentive Scheme (EIS), which was established in 1977, is an example of such a programme. Between 1977 and 1988, almost 70,000 people have been recruited to jobs under the scheme. This report looks at the effectiveness and cost of EIS, concentrating on three main issues:

1. how effective is EIS in achieving its central economic goal of increasing total employment?
2. how effective is EIS in securing its social or equity goal, of redirecting hiring towards targeted categories of job seeker?
3. what is the cost of the scheme to the Exchequer?

The Employment Incentive Scheme

The EIS is what is sometimes termed a targeted, marginal stock subsidy, under which participating employers may receive a subsidy on the wage of additional employees for a period of 24 weeks. The EIS is “targeted” in the sense that the subsidy is only payable in respect of certain categories of employee, such as those who had previously been on the Live Register for 13 weeks or more; long-term unemployed adults; and, until recently, school leavers. “Marginal” refers to the fact that the subsidy is only payable for employees who are hired as additions to the firm’s pre-existing labour force. Thus, individuals who are hired to replace workers who have left or who have been dismissed are not eligible for the subsidy. Since the subsidy is paid for only a relatively short period EIS can be viewed as offsetting the initial costs associated with the taking on of an extra employee. The level of subsidy is £30 per week, except in the case of an adult employee who has previously been unemployed for a year or more, where the premium is £60. During 1986 — the year to which our data refers — each employer could receive the subsidy in respect of a maximum of 4 employees. Finally, the subsidy is paid retrospectively as a lump sum and only if the employee remains with the firm for the full 24 week period.

Firms using EIS tend to be relatively small and to be predominantly Irish owned.

Data

The research reported here is based primarily on interviews with a total of 405 employers who participated in EIS during 1986 and on data relating to their employees which were collected from the records of the scheme held by the Department of Labour. Details of data sources, sampling methodology, response rates and other aspects of the fieldwork will be found in Chapter 2. The interviews with employers were carried out at an average of 13-14 months after an EIS employee had been hired.

Job Creation

At the end of the 24 week subsidy period about 85 per cent of employees hired under EIS are still with their employer. A further 8 months later this has declined to 54 per cent although in 65 per cent of cases the actual job which the EIS employee was hired to fill still exists as a separate job.

International research on job subsidy programmes has identified the problem of deadweight as being the main obstacle to their creating additional employment. In this case deadweight arises because a proportion of the jobs subsidised would have existed even had the subsidy not been available. In the case of EIS, for example, a firm may decide to avail of the subsidy in respect of a recruitment it would have made in any case: the subsidy payment can then be seen as a windfall gain to the firm and the scheme cannot be said to have created additional employment. Our estimates show that deadweight in EIS is very high. Based on the responses of employers themselves (which should yield a conservative estimate of deadweight) we find that 68 per cent of hirings using EIS would have taken place at the time they did even without the existence of the scheme. In a further 23 per cent of hirings EIS acted to bring forward the recruitment date from the time that the firm would otherwise have hired someone. Only in 9 per cent of EIS hirings would the job not have existed without the programme.

This high level of deadweight consequently diminishes the job creation effect of EIS. Every 100 hirings made using EIS result, on average, in the creation of 12.5 person-years of additional employment during the 24 week subsidy period. But since some of these extra jobs continue to exist after the 24 week period we find that, eight months later, the total amount of employment created will have increased to just over 16 person-weeks per 100 hirings. The effect on registered unemployment will be rather less than this because not all those hired using EIS would have appeared on the Live Register.

Substitution

Targeted employment subsidies have the further aim of encouraging employers to recruit from among those categories of job seeker for whom the

subsidy is payable. In other words, targeted subsidies seek to encourage employers to give preference to employees eligible for the subsidy over those who are not eligible.

In total about 30 per cent of hirings under EIS result in the employment of an EIS eligible person who would not otherwise have been hired. If we exclude from this measure those cases in which EIS induces an employer to increase his or her labour force (9 per cent) then in about a quarter of the remaining cases the subsidy encourages employers to redirect their hiring towards the EIS eligible categories and thus away from ineligible job seekers.

Taking both the economic (job creation) and social (substitution) goals of EIS, we find that 44 per cent of hirings made using the scheme achieve one or both of these goals; conversely 56 per cent achieve neither.

Among the EIS eligible categories we find that no more than 6 per cent of all EIS recruitment could be said to be redirected towards the long-term unemployed by virtue of the higher subsidy rate available for such employees. This finding, and the reasons for it, are discussed in Chapter 6 of the report.

Exchequer Costs

The average subsidy payment and administrative costs of EIS are more than offset by savings on social welfare and the income tax and PRSI yield in respect of employees hired under the scheme. In addition EIS receives a subvention from the European Social Fund. On this basis, then, by the end of the subsidy period, and allowing for cases in which employers did not claim, or were not eligible for, the subsidy, the scheme yields a profit of around £900 per hiring over the expenditure that would have been incurred and revenue which would have been lost had the person hired under EIS remained unemployed for that period. However, an accurate costing of the scheme should also take account of the deadweight effects (in other words, some of the Exchequer savings and revenue might have occurred even had EIS not been in operation) and other offsetting effects. Allowing for these EIS breaks even over the 24 week subsidy period and, by virtue of the persistence of jobs which would not have existed without the scheme, yields a profit of the order of £80 per hiring after a further 8 months.

Conclusions

The high deadweight element in EIS (of which our figures are probably a low estimate) precludes the scheme from having a significant job creation effect. On the other hand, the scheme is inexpensive. It is somewhat more successful in achieving its aim of redirecting existing hiring towards the eligible categories of job seeker, although the existence of the £60/£30 differential in

subsidy levels does little to encourage employers to increase their hiring of long-term unemployed job seekers.

The main obstacle to hiring the long-term unemployed is the perception, on the part of many employers, that the long-term unemployed have acquired bad work habits and may prove difficult to train. In addition, many employers claimed that the jobs for which they were recruiting were not suitable for the older, long-term unemployed worker. This may reflect the nature of the jobs on offer, but it probably also relates to the wage that the employer would be willing to pay. When asked whether a bigger premium differential in favour of the long-term unemployed would substantially increase the likelihood of their being hired, only just under 40 per cent of employers felt that it would. This group considered that, on average, the differential would have to be slightly more than doubled (to around £65) to have this effect. This suggests that, during the subsidy period, employers are willing to pay (net of the subsidy) the same wage to the long-term unemployed as to first time job seekers.

Since it is unlikely that the job creation effect of EIS can be increased, the policy recommendations we advance relate to improving the effectiveness of EIS in helping the long-term unemployed. Our main recommendation is that only two types of job seeker should henceforth be eligible for the subsidy: these are the long-term unemployed (for whom the £60 subsidy would be payable) and disabled persons, travellers and discharged prisoners (for whom the £30 subsidy would be paid). We further suggest that the subsidy period for the long-term unemployed should be extended to a minimum of 39 weeks. These policy recommendations are set out in detail in Chapter 7.

Chapter 1

INTRODUCTION

1.1 Introduction

Employment subsidies are one of a range of policy instruments which governments have used, over the past 15 years in particular, to address the problem of unemployment. Employment subsidies involve, as their name indicates, the payment, by the State, of a subsidy to employers in order to meet some proportion of the gross wage costs of participating firms. The primary aim of such programmes is to increase the level of demand for labour. As such, employment subsidies have usually been viewed as counter-cyclical measures (as in the original discussion by Kaldor, 1936).

Such schemes were implemented in a number of industrialised countries during the 1970s (see the descriptions given by Balkenhol, 1979) and the 1980s (OECD, 1986, pp. 50-52). The first such programme to be introduced in Ireland was the Premium Employment Programme (evaluated by Walsh and O'Donnell, 1978) which began in 1975. In 1977 it was replaced by the Employment Incentive Scheme (EIS) which remains in operation to date and is the subject of this report. The EIS is what is sometimes termed a targeted, marginal stock subsidy, under which participating employers may receive a subsidy on the wage of additional employees for a period of 24 weeks. The EIS is "targeted" in the sense that the subsidy is only payable in respect of certain categories of employee, such as the long-term unemployed and, until recently, school leavers. "Marginal" refers to the fact that the subsidy is only payable for employees who are hired as additions to the firm's pre-existing labour force (termed its "base level" of employment). Thus, individuals who are hired to replace workers who have left or who have been dismissed are not eligible for the subsidy. Since the subsidy is paid for only a relatively short period EIS can be viewed as offsetting "wage costs in the initial part of the employee's period of employment with a particular firm" (Hamermesh, 1978, p.89). This contrasts with the more ambitious permanent (or, at any rate, long term) type of employment subsidy, which has been advocated by Layard and Nickell (1980) for the UK and by Chiarella and Steinherr (1982).¹ In this report we evaluate the effects of EIS in terms both of creating additional jobs (which we might term its "economic aim") and of redirecting hiring towards the targeted

1. Another important distinction concerns which employees within a firm are eligible for the subsidy. As Hamermesh (1978, p.90) notes "A wage subsidy can be applied to all employment, to net changes in employment, or to gross flows into employment reflecting increased hiring or reduced layoffs".

categories (its "social" or "equity" goal). We seek to estimate the net Exchequer cost of the scheme and discuss some ways in which the programme might be improved.

The OECD paper *Marginal Employment Subsidies* (OECD, 1982) draws very clearly the distinction between the economic and the social functions of targeted marginal employment subsidies. This paper argues that such programmes might usefully be viewed in terms of their component parts:

... the distinction between marginal stock and targeted subsidy programmes is an important one. It is helpful to think of marginal stock programmes as primarily serving macro-economic goals (increasing employment and production) and targeted programmes serving mainly structural or micro-economic objectives (redirecting hiring towards those less well placed in the labour market) OECD 1982 p. 23 (parentheses added).

In other words, the economic function of a programme like EIS is to create jobs, while what we term its social function is to shift the pattern of hiring in favour of those who would be less likely to be hired. In general, however, while the latter may be considered an aspect of long-term structural policy, the former is, as we noted earlier, usually considered to be a counter-cyclical, and thus short-term, objective. Indeed, EIS itself was originally meant to last for only one year.

In this introductory chapter we begin by briefly describing the EIS, its operation and objectives; we review the macroeconomic employment situation within which the scheme has operated; we discuss the aims of this report; we provide an outline of the report's contents; and we conclude the chapter with a review of employment subsidies in general.

1.2 *The Employment Incentive Scheme*

1.2.1 Operation of the Scheme

The EIS was introduced in 1977, replacing the similar Premium Employment Programme (PEP) which had operated since 1975. Although the broad outline of EIS as a marginal, targeted stock subsidy has remained unchanged since 1977, the details of its operation have been revised several times². These revisions have chiefly concerned the type of employee eligible; the sectors of economic activity in which the scheme could operate; the premium structure of the scheme; and the maximum number of workers a firm could hire under EIS in each year.

2. A useful summary of these revisions will be found in NESO (1985).

The data on which this research is based relate to the scheme as it operated during 1986. At that time the operation of the scheme was as follows. The scheme was open to employers in all sectors of activity except the public service and some financial institutions. During the year a maximum of four employees could be taken on under the scheme by any employer. The kinds of workers eligible under the scheme were:

- (i) A first time entrant to the labour force who had left the educational system at least 13 weeks prior to recruitment;
- (ii) An individual who had spent at least 13 weeks on the Live Register immediately prior to recruitment;
- (iii) Any individual over the age of 24 who had been on the Live Register for 52 weeks or more immediately prior to recruitment;
- (iv) Certified disabled people;
- (v) Individuals who had been undergoing a course of training with an agency such as AnCO or CERT for 13 weeks immediately prior to recruitment;
- (vi) Individuals who had been participating in a programme of work experience for 13 weeks immediately prior to recruitment.

The subsidy was confined to full time employment and was payable in respect of the first 24 weeks of employment at a rate of £30 per week for all the above six categories except category (iii) (the long-term unemployed) for whom the rate was £60 per week. The subsidy was payable in one lump sum at the end of the EIS period of 24 weeks, subject to certain criteria being met. These were that the subsidised employee should have remained with the firm for the full 24 week period; and that the level of employment in the firm should have increased by a minimum of one over the level at the time the employee was hired. In other words, the base level of employment in the firm (excluding the EIS employee) should not have fallen during the 24 week period. Should the EIS employee leave before the 24 week period was complete, then no subsidy would be payable in respect of the period during which s/he was employed. However, if the employer replaced this person with another EIS eligible worker within four weeks, eligibility for payment of the subsidy would be maintained.

The stipulation that employees hired using EIS must remain with the firm for a minimum period in order for the subsidy to be payable excludes apparently more efficient means of paying incentives to employers to hire, such as employee tax credits or a reduction in, or exemption from, employers' PRSI contributions.

The level of paperwork involved in the scheme was relatively slight. Form EIS/1 served as the employer's application form to join the scheme during 1986. Form EIS/2 — the eligibility certificate — had to be completed by the employer in respect of each employee he or she wished to take on under the scheme. This form established under which of the categories the potential employee fell, and thus the level of premium payable. This form had to be stamped and certified by the local National Manpower Office in respect of employees hired under criteria (i) or (vi). In the case of other criteria, the employer was obliged to forward this form to be stamped by the local employment exchange (in the case of categories (ii) and (iii)) or to the relevant bodies in the case of category (iv) or (v) employees. Form EIS/3 was then used by the employer to claim payment of the subsidy (£720 or £1,440) at the end of the EIS 24 weeks.

1.2.2 Recruitment and Expenditure

During 1986, 10,159 recruitments under the scheme were notified, of which 15 per cent related to the long-term unemployed (£60 category). The balance of male:female recruitment was roughly 6:4. Total expenditure on the scheme was £6.17m. In 1987, there were 5,643 entrants to the scheme and total expenditure was £5.3m. Table 1.1 shows the annual number of recruitments under the scheme since its introduction and also the annual expenditure on the programme. The EIS has been in operation for longer than any other job creation programme, and total recruitments under the scheme to date exceed 65,000.

Since 1986 the major changes in the scheme have comprised alterations to the criteria for qualification under (v) above and the removal of eligibility from category (i) (school leaver) employees. This latter came into effect in June 1987. In addition, however, the abolition of the Work Experience Programme (WEP) in October 1987 has also effectively removed category (vi).³

The EIS qualifies for subvention from the European Social Fund (ESF), at the rate of 55 per cent of the premium in respect of all those under 25 and approximately 50 per cent in respect of the long-term unemployed aged 25 or over.

1.3 *Economic Background*

The Premium Employment Programme was introduced in the budget of June 1975 during the recession of 1974/75, with the EIS replacing it in January 1977.

3. Although employers who had received assistance from the State within the past 12 months for the purpose of providing or maintaining employment were not eligible for EIS in 1986, this did not exclude employers who had acted as a sponsor to a young person on a scheme such as the Work Experience Programme (WEP). Such young people were eligible for EIS hiring under category (vi) above. In practice this meant that employers could keep on for a further 24 weeks under EIS a young person whom they had had as a WEP placement for the previous 26 weeks. Thus firms could effectively be subsidised in respect of a young worker for a full year.

Table 1.1: *Annual Expenditure on, and Recruitment to, the Employment Incentive Scheme, 1977–1988 and Unemployment Rate and Percentage of Males Unemployed for More than One Year, 1972–1988*

<i>Year</i>	<i>Expenditure £m</i>	<i>Recruitments</i>	<i>Unemployment Rate %</i>	<i>% Males Unemployed for > 52 weeks</i>
1972			5.2	15.8
1973			4.7	20.9
1974			4.6	24.0
1975			6.4	18.6
1976			7.8	20.4
1977	0.796	2,698	7.6	26.6
1978	4.320	10,410	7.1	29.0
1979	4.192	6,969	6.1	32.6
1980	3.748	6,747	6.0	38.8
1981	1.181	3,446	8.6	33.5
1982	2.581	5,527	10.7	35.3
1983	6.340	5,870	14.1	34.4
1984	1.456	5,579	16.1	43.5
1985	4.124	8,162	17.0	45.0
1986	6.174	10,159	17.4	48.8
1987	5.271	5,643	17.7	49.3
1988*	2.606	2,725	16.6	49.4

* 1988 EIS figures refer to first 9 months only. Unemployment data from Breen (1988, p. 431) and *Quarterly Economic Commentary*, October 1988, Dublin: The Economic and Social Research Institute.

In both cases, there may have been some optimism that the economy was about to enter an upturn — certainly this was the case at the time of the introduction of EIS, when the unemployment rate, as Table 1.1 shows, had already begun to fall. Thus, as T. O'Mahony (1983, p.4) notes, one of the objectives of EIS was seen as being to enable firms to “gear up to impending economic recovery by assisting them in bringing forward the recruitment of workers who would otherwise have been recruited at some later stage”. In other words, the purpose of EIS was to help accelerate economic recovery. Since then, however, the scheme has remained in place, against a background, since 1980, of increasing unemployment rates. There is no relationship between the indicators of unemployment shown in Table 1.1 and the levels of EIS activity also shown there: in large part this is because the size of the scheme has at certain times

been determined by employer demand, at other times by political decisions about funding levels and the desired mix of programmes within manpower policy.

1.4 *Objectives of the Study*

This study of EIS examines six major issues. These are

1. the question of why some participating firms fail to claim the subsidy and the level of non-claims;
2. the extent to which EIS redirects employers towards hiring from among the EIS eligible categories (which we term the “substitution” effect of the scheme);
3. the level of deadweight in the scheme (by which we mean the extent to which subsidies are paid to employers in respect of employees whom they would have hired even without the subsidy);
4. the extent of displacement of business from non-subsidised firms as a result of the scheme;
5. the extent to which EIS creates new jobs and the duration of these jobs;
6. the net Exchequer cost of the scheme.

In this report we concentrate on these six items and we present figures in respect of job creation, costs, and so on. In addition, we look at the costs of EIS in respect of employees hired under the scheme’s various criteria. We also focus on the question of how far the scheme assists the long-term unemployed and the obstacles to be overcome to make the scheme more effective in this respect.

1.5 *Contents of the Report*

Chapter 2 deals with the methodology of the present research — sampling, design of the questionnaire, gathering of additional data, and so on.

In Chapter 3 we turn our attention to the job creation effects of EIS and the extent of non-claiming of the subsidy payment by employers. In Chapter 4 we deal with the issues of substitution, deadweight and displacement and also present our estimates of the net Exchequer costs of the scheme.

Deadweight measures the degree to which recruitment to jobs using EIS would have occurred even in the absence of the scheme, and displacement refers to the possibility that, by virtue of the subsidy, participating firms may take trade away from their Irish competitors, leading to detrimental effects on the latter’s level of employment. Substitution refers to the degree to which EIS encourages employers to hire EIS eligible job seekers where they would not otherwise have done so. This corresponds to the social aim of the scheme, but we can distinguish two circumstances in which such substitution arises. First, it subsumes the job creation effect of the scheme, in so far as all non-deadweight hirings meet our definition of substitution. The second component of

substitution, however, measures the degree to which, in those cases where the employer would, even without EIS, have hired an employee, the existence of the scheme persuaded him or her to hire from among the EIS eligible categories and to pass over a non-eligible employee whom he or she would probably have hired in the scheme's absence. In other words, the extent to which the scheme redirects hiring which would have occurred in any case. In our discussions of substitution we always distinguish these two aspects. Leaving aside the issue of displacement, for the moment, we can say that in the case of a non-deadweight hiring, both the economic and social goals of the scheme are being met, while in the case of a hiring which would have occurred even without EIS but where the availability of the subsidy has encouraged the employer to hire from among the eligible categories, the scheme is meeting only its social goal.

Chapter 5 looks further at the costs and benefits of EIS, disaggregating them by hiring criteria and sector of employment to see if there are specific areas in which EIS is either more or less cost effective than the average.

Chapter 6 deals with two issues. We begin by looking at the level of deadweight. Since the level of deadweight is inversely related to the job creation effect of the scheme we seek to discover whether there are any characteristics of firms which account for the variations in the level of deadweight and thus in the job creation potential of EIS. In the second part of Chapter 6 we focus on the substitution effect of the scheme, and in particular examine the obstacles which employers perceive to hiring the long-term unemployed and whether a scheme such as EIS can overcome them.

Chapter 7 contains a summary of our findings and a number of policy recommendations.

We conclude this chapter with a review of the arguments for and against employment subsidies, and some discussion of the recent experience of such schemes in Ireland and the UK.

1.6 The Argument for Employment Subsidies

During much of the post-war period, employment subsidies were a policy option to which governments had little or no recourse. However, with the growth in the levels of unemployment during the 1970s, such measures gained a new found popularity, and were introduced in France, Germany, the Netherlands, Denmark and Sweden, among others. In the USA several employment subsidy measures were introduced during the late 1960s and 1970s, including JOBS (Job Opportunities in the Business Sector), which offset some of the wage cost during the initial period of employment and was targeted at disadvantaged workers; and a number of programmes, including some based on tax credits, under the Comprehensive Employment and Training Act of 1973 (Hamermesh, 1978). In the UK there were some relatively small scale job

subsidy programmes, such as the Youth Employment Subsidy, the Small Firms Employment Subsidy and the Adult Employment Subsidy (*Employment Gazette* April 1978; November 1979; Layard, 1979; Lindley, 1987). However, by far the most important such programme in the UK was the Temporary Employment Subsidy (Deakin and Pratten, 1982). This was somewhat unusual in so far as it was a subsidy which sought to defer redundancies by encouraging employers to retain workers they otherwise would have been forced to lay off. The programme ran from 1975 to 1979 when it was replaced by the similar Temporary Short Time Working Compensation scheme.

During the 1980s employment subsidies have once more fallen from favour in most of Europe and in the USA. In the UK the Manpower Services Commission (MSC) has drawn attention to the high levels of deadweight recorded in some of the UK job subsidy schemes during the late 1970s (MSC, 1982). The MSC suggests that such schemes have considerable drawbacks in the form of deadweight and displacement and that they lead to the less efficient use of labour. A recent draft OECD report (OECD, 1986) argues that the decline in the popularity of employment subsidies has been due to the questionable success of such schemes in creating extra jobs. However, this, the report suggests, is to ignore the social objective of such programmes, namely the redistribution of jobs and income.

In summary the panel considers that there is a case for using firm-based recruitment flow subsidies in order to promote the engagement of long-term unemployed persons. This implies that the primary purpose should be equity based... (OECD, 1986, p.53).

A number of other writers have advanced a similar argument (e.g. Lindley, 1980). However, as originally formulated, employment subsidies were seen as having a specifically counter — cyclical economic goal of increasing the level of employment. This is clear in Kaldor's (1936) paper, where subsidies are seen as a superior alternative to wage cuts in bringing about increased employment. Kaldor favoured the removal of taxes on labour (employers' national insurance contributions) rather than the payment of a subsidy, but he proposed that this should be extended to all employees, regardless of whether they were already in employment or recruited as a result of the subsidy. Hence his suggestion was for a general, rather than a marginal, subsidy. Even for such a scheme, Kaldor argued that the net Exchequer cost was likely to be zero, and that the overall cost to the tax paying community as a whole would be negative, given the transfer of the subsidy back to tax payers.

Many of the arguments advanced by Kaldor in favour of wage subsidies were also put forward by proponents of such policies in the 1970s. These

arguments are, broadly, as follows:⁴

1. Wage subsidies decrease the cost of labour to employers in circumstances where reductions in the real wage are undesirable or impossible. The effect of the subsidy is then to increase the demand for labour. Since the subsidy is specifically targeted at labour it is superior to other, less direct forms of stimulating employment, such as reductions in income tax or increasing public expenditure.

2. Proponents of wage subsidy schemes argue that such schemes can, potentially, improve the Exchequer balance in so far as the gross cost of such schemes may well be less than the savings incurred on, for example, unemployment compensation, and the increased tax yield and other forms of revenue which arise from additional workers. Such arguments have been advanced by, among others, Mukherjee (1976) and Rehn (1977). Much of the discussion of employment subsidies during the 1970s was concerned with the issue of "stagflation": thus inflation was viewed as an (almost) equally serious issue as unemployment. Some of the arguments advanced in favour of employment subsidies at that time, therefore, also sought to show that such programmes would have an anti-inflationary effect. The argument that employment subsidies lead to a more favourable Exchequer position falls into this category.

3. Proponents also suggested that wage subsidies' anti-inflation effects extended to an influence on the price of goods produced by firms. The argument here is that output prices are reduced, first because firms' unit labour costs decline, and, secondly, because subsidies permit a higher level of capacity utilisation which leads in turn to lower average costs of production. If employment increases as a result of greater output and higher demand then this "scale effect" may be added to the "substitution effect" (arising because labour is now cheaper) to arrive at the overall employment effect of the programme (Metcalf, 1982, pp. 12-13).

Layard (1979, p.190; Layard and Nickell, 1980, p.52) argues that the effectiveness of a marginal employment subsidy (as opposed to a general wage subsidy) in increasing output will be greatest in enterprises engaged in exporting or import substitution. A subsidy

... has its effect mainly by reducing prices, and ... since the price elasticity of aggregate domestic demand is low, the effect of any subsidy upon domestic demand is limited. But ... many firms are price takers in markets for internationally traded goods. Thus a large fall in the marginal cost of producing them will have a profound

4. This discussion draws chiefly on Balkenhol, 1979, Burton, 1977 and Phan-Thuy, 1979.

effect on the quantity sold, even if there is only a small fall in their average costs (Layard and Nickell, 1980, p.52).

4. In addition to the previous arguments, we reiterate the social or equity goal of such schemes. At their simplest they will entail a transfer of welfare to one of the poorer sections of society — the unemployed — while, if targeted, they may, in theory at least, confer such benefits on very specific groups — notably those, like the long-term unemployed, who experience the greatest difficulties in the labour market.

In evaluating EIS our concern is with items 1,2 and 4 of the above.

In the 1980s there have been two major proposals in favour of employment subsidies. Layard and Nickell (1980; 1983; see also Whitley and Wilson, 1984) argued for an extensive marginal employment subsidy for the UK applicable to all new jobs created. They envisaged the programme being open to employers for a period of two years, in order to advance future hiring, with the subsidy lasting for a further four years, although at a diminishing rate.

In a 1982 paper Chiarella and Steinherr argued that marginal employment subsidies "can have a significant effect on employment creation without worsening the public sector deficit". However, this very optimistic conclusion rests on several assumptions — notably that the subsidy is effectively (or is believed by employers to be) permanent. If this is not the case, then, as the authors note, "a transitory subsidy will only have transitory effects on employment".

1.7 The Arguments against Employment Subsidies

In practice, subsidy programmes introduced by governments have involved the payment of the subsidy for a short term, rather than a long term or permanently. Nevertheless, their fall from favour suggests that many of the positive claims made for such schemes have not materialised in practice. Notwithstanding the variability in the details of particular instances of such programmes (whether general or marginal; the size of the subsidy relative to the gross wage; the duration of subsidy payments; and so forth) there are two major issues which, critics of employment subsidies argue, will act to reduce the likelihood of a successful outcome.

1. The level of deadweight in subsidy programmes is likely to be high. By deadweight is meant payments in respect of employees and/or recruits who would have been employed even in the absence of the subsidy. This is sometimes termed — for obvious reasons — the windfall element of a subsidy. The effect of deadweight is at once to reduce the effectiveness of a subsidy scheme in two ways. First, the number of jobs created or induced by the subsidy will be less than the number for whom the subsidy is paid. Secondly, the net

Exchequer position will be much less favourable than otherwise, in that the savings in social welfare payments, increases in income taxation and so on which stem from individuals moving from unemployment into jobs will only arise from those hirings where deadweight is absent. But since this will only be a proportion of the total subsidised jobs, this return may well be substantially smaller than the cost of paying the subsidy on all subsidised jobs.

The problem of deadweight is likely to be greater in the case of general as opposed to marginal subsidies. In the former, employers will receive the subsidy for their current stock of employees, which immediately places a huge financial burden on the Exchequer. An across the board reduction in employers' Pay Related Social Insurance is a good example of such a general subsidy. Hughes (1985, pp. 47-48) has argued that a reduction of £1 per week in employers' PRSI in 1977 (in the manufacturing sector) would have led to a fall of 20 per cent in revenue from employer pay roll tax while generating an increase of only 0.16 per cent in employment. Clearly this would entail very great deadweight losses.⁵

A marginal subsidy may reduce deadweight losses but they can still be substantial. For example a subsidy payable only in respect of employees who are hired as net additions to the firm's labour force above some specified base line figure (as with EIS) will incur deadweight losses in so far as some of these additional employees would have been hired in any case. As Layard (1979, p.193) notes

... an incremental employment subsidy .. explicitly subsidises the "natural" increase in expanding establishments as well as the "induced" increase.

Ideally, as several authors have pointed out, we should like to design a scheme in which only the induced jobs receive the subsidy payment. To date no such scheme has been developed and deadweight losses are consequently unavoidable.

2. Employment subsidies, by making firms in receipt of the subsidy more competitive, will lead to displacement effects in firms which do not receive the subsidy. One result of this may be that unsubsidised firms will lose market share and, in the extreme, may have to shed jobs or even close. Clearly, the extent to which this is likely to occur will depend on a number factors (many of which are discussed in some detail in Breen and Halpin, 1988). One crucial issue,

5. It should be pointed out, however, that Hughes' (1985) finding has been contested by Fagan and Murphy (1986) who argue that his results are likely to be an under-estimate of the employment effect of a reduction in the rate of employer PRSI contributions.

however, is the question of the markets served by subsidised firms. If such firms are serving export markets or import substitution markets, then the displacement effects on the domestic economy may well be absent, and displacement will occur among foreign competitors. On the other hand, if subsidised firms are in the non-traded sectors of manufacturing and the services, then the possibility of domestic displacement arises. The effect of such displacement is like that of deadweight. If a subsidised job displaces an employee elsewhere in the economy, then the net job creation effect of the programme is lessened. Each subsidised job which displaces another job will have received the subsidy, but the countervailing flow of returns to the Exchequer arising from the subsidised job (in the form of income tax, increased expenditure tax, savings on social welfare, and so on) will be offset (in some cases partially, in some cases possibly more than offset) by the costs incurred as a result of the lost job elsewhere (loss of income tax, decreased indirect taxation, costs of social welfare, and so forth). We might note, however, that in so far as a scheme such as EIS generates displacement effects, the result is to redistribute in favour of expanding firms — to reward success. In this it seems preferable to a redundancy deferring subsidy — such as the TES in the UK — which may well give temporary support to firms whose long-term viability is questionable, at the expense of more successful enterprises.

While the methodological question of how one goes about measuring deadweight and displacement effects is crucial to research such as that reported here, we defer a description of this until Chapter 4. Broadly speaking, however, research in the UK identifies deadweight as a more serious problem than displacement in reducing the effectiveness of employment subsidies. Lindley (1987, p. 12) suggests that "Job expansion subsidies are likely to have deadweight in the region of 50–75 per cent", while displacement levels do not appear to exceed 10 per cent. The Manpower Services Commission (1982, pp. 16–17) reported a deadweight level estimated at 80 per cent for the Adult Employment Subsidy, and at 60 per cent for the Small Firms Employment Subsidy (Lindley, 1980, pp. 343–353). As a redundancy deferring scheme, TES had a lower level of deadweight at around 30 per cent (Deakin and Pratten 1982).

1.8 Previous Research into EIS

There has been one previous evaluation of EIS: this was carried out by the analysis section of the Department of Finance in 1983 and was not published (T. O'Mahony, 1983). In addition, two studies were carried out of EIS's predecessor, the Premium Employment Programme (Walsh and O'Donnell 1978; Nolan 1978).

Walsh and O'Donnell made no costings of the PEP, but looked chiefly at the extent to which it created jobs and the degree to which it led employers to

redirect their hiring towards the eligible categories of worker. They based their findings on the records of the scheme held by the Department of Labour and on the results of a survey of 93 participating firms and 87 non-participants. Their chief findings were that in 17 per cent of cases the payment of the PEP subsidy had created jobs where none would otherwise have existed; and that in a further 17 per cent of cases the availability of the subsidy encouraged employers to advance the date at which they would have recruited an extra worker. They also suggest that in 14 per cent of cases the premium redirected employers, who would not otherwise have done so, to hire from among workers eligible for the subsidy.

Nolan's study was based entirely on the records of the scheme in the Department of Labour. He was unable, therefore, to make estimates of such things as deadweight and displacement effects. However, he calculated that, in order for the scheme to break even (in terms of Exchequer costs) 42 per cent of participating firms would have to create jobs (net of deadweight and displacement) which would last for the duration of the subsidy period. Taken together with Walsh and O'Donnell's findings, this suggests that the scheme was not breaking even — unless the jobs established under it lasted for a good deal longer than the period of the subsidy.

O'Mahony's Department of Finance study of EIS was based on data supplied by the Department of Social Welfare in respect of the social welfare position of employees hired under the scheme, and on the replies of 319 participating firms to a postal questionnaire. O'Mahony found that 20 per cent of participating firms created a job where none would otherwise have existed, and a further 7 per cent brought forward their hiring because of the subsidy. According to O'Mahony the break-even point for EIS would be for 33 per cent of participants to create new jobs which would last to the end of the EIS period. However, as he points out, the fact that less than this number of firms created new jobs (net of deadweight and displacement) may be offset by the survival of some new jobs beyond the end of the EIS period. Finally, O'Mahony suggests that in 26 per cent of cases the subsidy led to the shifting of recruitment towards the eligible categories of worker.

The studies of Walsh and O'Donnell and O'Mahony found that their respective schemes had a high deadweight element: in the former between 70 and 80 per cent; in the latter around 75 per cent. O'Mahony also found that the level of deadweight increased with the size of the participating firm's labour force. On the other hand, O'Mahony argues that the net displacement effect of the scheme is nil.

Chapter 2

RESEARCH METHODOLOGY AND DATA COLLECTION

2.1 Data

Two main types of data are used in this study. The first comprises information gathered from employment exchanges on the social welfare position of employees hired under the scheme. This information was required in order to compute the savings to the Exchequer arising from non-payment of unemployment allowance (UA) and benefit (UB) to individuals hired under EIS. The second is information collected from participating firms by means of face to face interviews.

The sample on which all our data are based was drawn from the EIS records in the Department of Labour. Copies of form EIS/2 (the eligibility certificate completed in respect of each employee hired under the scheme) are filed in the EIS section according to the week in which the employee was hired. Accordingly, we drew a sample of 200 such forms from the first two weeks of each of February, June and October 1986. This yielded a sample of 576 usable returns (188 from February; 195 from June; 193 from October).

A computer database of information based on these forms was then set up. The information consisted of the name and the address of the employer, the name and address of the EIS participant, his or her date of birth, the criterion under which he or she was hired, the date of hiring, the employee's Revenue and Social Insurance (RSI) number (if known) and the name of his or her local employment exchange. These data were later used to supplement the survey data and the information collected from the Department of Social Welfare.

In order to find out the UA or UB position of individuals hired under EIS at the time of their hiring, we collected further data on our sample in two ways. First, all those in our sample who were hired under criterion 1 (first time entrants to the labour force) and who lacked an RSI number on recruitment (which meant that they could probably not be traced in the records of their local employment exchange, since, even if they were signing on, we had no record of their Qualification Certificate (QC) number) were sent a short postal questionnaire asking them how much, if any, benefit or assistance they had been receiving immediately prior to being hired under EIS. We were able to include on the questionnaire both the exact date at which they were hired and the name of the firm which hired them, so ensuring that respondents would be clear as to the time to which our questions referred. In all 155 such

questionnaires were sent out and 87 replies were received. Very few respondents reported receiving any social welfare payments.

Secondly, the Department of Social Welfare kindly assisted us in circulating a postal questionnaire to individual Employment Exchanges inquiring into details of the social welfare position of those in our sample who were hired under criteria 2 (spent 13 weeks or more on the Live Register) or 3 (the adult long-term unemployed) or who were hired as first time labour market entrants under criterion 1 but nevertheless had an RSI number⁶. This questionnaire provided the name, address, date of birth and RSI number of the person in respect of whom data was sought, and also the date at which he or she was hired under the scheme. The questionnaire looked for information as to his or her social welfare position at that date — the amounts (if any) of UA, UB and/or PRB being received (and the rate in the case of PRB); the number and nature of dependants; the number of days entitlement to UA and UB exhausted at that time; and the rate of UB that would apply after 156 days (where applicable). The data so collected provided us with sufficient information to calculate how much the participant would have received under social welfare had he or she not been recruited onto EIS. We describe in the appendix to Chapter 4 how we went about making these calculations. A total of 311 questionnaires were sent to the relevant Employment Exchanges and 250 replies were received.

2.2 *The Main Questionnaire*

The bulk of the data on which this report is based comes from 405 interviews carried out with the firms which hired the members of our sample in February, June and October of 1986. In general these interviews were carried out with the principal or managing director of the firm, though, in larger firms, the personnel manager was the respondent.

The sample of firms to be interviewed was drawn directly from our database based on the initial sample of 576 EIS/2 certificates. When drawing the sample of firms a number of records had to be omitted from consideration for two reasons. Because the initial sample was drawn from EIS/2 forms there were 37 cases in which the same employer appeared more than once in the sample. This was due, of course, to the fact that employers may hire up to four people using EIS in any year. A more minor cause of dropping cases from our sample was inaccessibility: two firms were left out of the sample because the nearest interviewer would have had to travel over 50 miles to reach them.

Removing these 39 cases from our initial sample of 576 left us with 537. Since

6. Since individuals hired under criteria 4,5 or 6 would not have been in receipt of UA, UB or PRB immediately before joining the scheme we did not seek data from employment exchanges in respect of them.

Table 2.1 *Response Rates and Reasons for Non-Response*

Total sample for interview:	487
Interviews	405
Response Rate	83.2%
Non-Responses:	
a. Refused	11
b. Temporarily Absent	11
c. Firm Closed	14
d. Not Located	20
e. Other Non-contact	26
	82
Adjusted Response Rate = $405 / (405 + a + b) = 94.8\%$	

we wanted to secure 400 interviews with firms which had used EIS in 1986 we randomly selected a subsample of 487, which we believed would be sufficient to secure the necessary number of completed interviews. Of these 487 firms, interviews were obtained with 405, giving a response rate of 84 per cent. Table 2.1 breaks down the non-responses according to category. As can be seen, over half of the non-responses were not contacted and a further 14 firms had closed. Thus, of those firms which were actually contacted, the response rate was of the order of 95 per cent.

The survey itself was carried out in two phases. Phase One was carried out in May and June, 1987, and dealt with employers who had taken on people in the months of February and June, 1986. The second phase was delayed, since the remainder of the sample (those who hired in October 1986) could not be expected to have had their final paper work processed before approximately June 1987, and it would not be known whether they had received the subsidy. Phase Two went into the field in mid-August.

Our questionnaire differed considerably from those previously used in studies of marginal employment subsidies in so far as the bulk of the questionnaire concerned the hiring, and subsequent career with the firm, of a specific named employee, whose date of hiring was known to us exactly. In this way we were able to focus our questions on this one particular use of the EIS — as well, of course, as asking more general questions about the firm and its history of recruitment.

The questionnaire was divided into eight main sections, each dealing with different aspects of the employer's business and his or her hiring of the EIS participant. Section 1 gathered information on the firm, such as its sectoral location, type of ownership of the firm, etc. Section 2 attempted to find out how

the firm came to participate in EIS in the case of this particular hiring. Section 3 dealt with the participant, and the specifics of his or her hiring and employment, including a set of questions to determine whether or not the job still existed at the time of interview. Section 4 was devoted to whether the employer had successfully claimed the subsidy, and the extent to which he or she had made use of the scheme during 1986 and 1987. Section 5 sought details of the firm's employment history, and the extent to which employment was or had been State subsidised. Section 6 examined opinions and attitudes to the EIS, with a view to (a) measuring deadweight and (b) answering other questions about the scheme, as, for instance, why so few hirings were made of people entitled to the £60 subsidy. Section 7 dealt with the firm's market position, with a view to assessing displacement. Section 8 attempted to assess the interviewee's experience of the scheme, and discover his or her attitudes to the effectiveness of the scheme, the hiring of the long-term unemployed, and the obstacles to hiring in general.

2.3 Weighting

Our survey was carried out on a sample of firms which had hired an individual using EIS — necessarily so since we specifically excluded from our original sample cases in which the same employer had used the scheme for a second or third time. However, the costs and returns of the scheme are best assessed on a per hiring basis. Accordingly, our sample data were weighted to reflect the profile of hirings made under the scheme during 1986. In other words, while our sample was representative of firms which used EIS in 1986, the process of reweighting altered this to make it representative of hirings made using EIS during that year. Two variables were used in this weighting: we weighted our sample to correspond to the observed inflow into the scheme in each of the months of February, June and October; and we also weighted the sample to correspond to the balance of £30 and £60 hirings made during 1986. In our weighting procedure the total sample size was preserved at 405. All results presented in this report relate to the weighted data.

Chapter 3

JOB CREATION AND PAYMENT OF CLAIMS

3.1 Introduction

In this chapter we present some basic data relating to our sample. We examine the breakdown of EIS employees in terms of their sex and the criterion under which they were hired; and we look at the type and size of participating firms. In Section 3.3, we turn to the question of how long jobs initiated under EIS survive and the contribution of the scheme to job creation. However, none of these measures takes account of the possibility of deadweight or the displacement effects of the scheme. Figures for job creation net of deadweight and displacement appear in Chapter 4. Finally, we turn our attention to the question of claims made for payment of the subsidy. We examine what proportion of firms which use EIS claim the subsidy and what proportion of this latter group receive payment.

3.2 Basic Data on EIS

Tables 3.1 to 3.4 show:

- (i) the number of males and females hired under EIS in our sample;
- (ii) the percentage of employees hired under each of the six criteria of the scheme;
- (iii) the distribution of hiring firms according to the number of their employees at the time of hiring under EIS;
- (iv) the distribution of hiring firms across sectors of economic activity.⁷

Table 3.1: *Sex of Employees Hired under EIS*

	%	<i>n</i>
Male	63	255
Female	37	150
Total	100	405

7. The categorisation of firms by sector used in this report differs from the categorisation used by the Department of Labour in their statistics of the scheme.

Table 3.2: *Criterion under which Employee was Hired*

<i>Criterion</i>	<i>%</i>
1 First time job seekers	36.8
2 Unemployed for 13 weeks or more	28.3
3 Unemployed for 52 weeks or more and aged over 24	15.0
4 Disabled	0.3
5 Undergoing training for 13 weeks or more	8.0
6 Participating in work experience for 13 weeks or more	11.5

Table 3.3: *Size of Firm using EIS*

<i>Firm Size (number of employees at hiring)</i>	<i>Percentage of Firms</i>
0	17.8
1	11.8
2	9.8
3	10.4
4	8.1
5-9	18.3
10-24	15.0
25-49	6.2
50-99	1.9
100 or more	0.7

Table 3.4: *Sectoral Distribution of Firms using EIS*

<i>Sector</i>	<i>Percentage of Firms</i>
Manufacturing	27.4
Building and Construction	15.1
Shops, Wholesaling	33.2
Business, Insurance, Finance, Services	8.8
Personal and Miscellaneous Services	11.6
Agriculture, Fishing, Forestry	3.9

From these tables it can be seen that the ratio of male to female employees is roughly 6:4, and that the majority of employees hired are first time entrants to the labour force (category 1) or what we will henceforth call the short-term unemployed (category 2), with about 15 per cent falling into the £60 per week long-term unemployed (category 3).

About 1 in 6 firms had no other employee at the time the EIS employee was hired and over half of the participating firms had fewer than 5 employees while three quarters had less than 10. Just over half of firms which used EIS were located in the service area, broadly defined to include shops, hotels, cafes, pubs, wholesalers, financial and business services, and personal and other services. Just over 1 in 4 firms was engaged in some form of manufacturing.

3.3. *Survivorship and Job Creation.*

On average, our interviews with employers who had participated in EIS took place 8 months after the end of the EIS period in question and, therefore, just under 14 months after the particular hiring. In this section we look at the extent to which individuals hired under EIS are kept on after the end of the subsidy period and the degree to which jobs induced by the scheme persist after the payment of the subsidy at the end of the EIS period. We shall be concentrating on three measures:

1. the extent to which the actual employee taken on under EIS was retained by the firm once the EIS period had finished;
2. the survivorship of the specific job which the EIS employee was hired to carry out, regardless of whether the specific EIS employee was still with the firm;
3. whether or not, at the time our survey was carried out, the firm's labour force had increased as a result of the EIS subsidy.

As a job creation scheme, the purpose of EIS is (in part) to help bring about an increase in the firm's labour force. The distinction between items 2 and 3 above lies in the fact that, although the specific job for which the EIS employee was hired may have persisted as a separate job up to the time of the survey, it does not follow that this will have led to an increase in the firm's labour force. For example, an individual may have been hired under EIS because the employer knew that some other worker was intending to leave his/her firm within a few months. In this way, although EIS cannot be used to replace workers who have left the firm, it could be used to replace workers who are intending to leave, as long as the departure of the worker is delayed for 6 months after the EIS participant is hired. Likewise, an EIS employee may be kept on after the end of the EIS period only because some other member of the work force leaves.

Empirically the distinction between items 2 and 3 above is borne out by the fact that our data contain a number of instances in which the respondent stated that the specific job for which the EIS participant was hired still existed as a separate job, but in which the overall level of the firm's labour force was lower at the time of the survey than it was when the EIS participant was hired.

We describe the way in which we went about measuring the effect of EIS on the firm's labour force in the appendix to this chapter.

Table 3.5 shows the percentage of employees hired under EIS who were still with the firm at the end of the 24 week EIS period and at the time of our survey. Here we take employee to mean the person initially hired under EIS or, if that person left the firm during the EIS period, the replacement hired under the scheme. By the end of the EIS period, 85 per cent of employees were still with the firm. At the time of our survey, however, this had fallen to 54 per cent. However, in a further 11 per cent of firms, although the specific EIS employee was no longer with the firm, the respondent stated that the job which that person had been hired to fill still existed as a separate job. In total, then, about 65 per cent of jobs filled using EIS were still in existence at the time of our survey.

This latter figure may require some clarification. Because the firms in our example were drawn from three points during 1986, and because they were interviewed at different times, the length of time between the end of the EIS period and the date of our survey is not constant. Therefore data relating to the situation of firms at the time of the survey will have different meanings depending upon the time when the firm hired an employee using EIS. However, the average length of time (taken across all firms in our sample) between the end of the EIS period and the survey, is approximately 8 months. Thus, we can say that data relating to firms (and employees) at the time of the survey represents their average position at a point 8 months after the end of the EIS period.

Table 3.5: *Percentage of Employees Hired under EIS* still with Firms (a) at the End of the EIS Period; (b) at the Time of the Survey*

	<i>Percentage</i>
(a) At the end of EIS period:	
Still employed	85.2
Not employed	14.8
(b) At the survey:	
EIS participant still employed	53.8
Job still there but EIS participant no longer employed	10.7
Jobs no longer in existence	35.4

* or their EIS replacement.

The figures shown in Table 3.5 present a picture relating to one point in time, and thus do not tell us the number of person-months of additional employment created by the scheme. We discuss our definition of this in the appendix. According to this definition, by the end of the EIS period each EIS hiring has, on average, led to the creation of 5.08 person-months of additional employment (not allowing for deadweight and displacement), or approximately 22 weeks. This figure takes into account not only those cases in which the employee remained with the firm for the full 24 weeks and the base level of employment was maintained, but also the contribution to employment in cases where the EIS employee did not remain for the full 24 weeks but was, nevertheless, employed for some shorter period and/or situations in which the base level of employment in the firm was maintained for a period of less than 24 weeks.

Between the end of the EIS period and our survey each hiring had led to, on average, a further 4.8 person-months of additional employment. In other words, and speaking approximately, in the 8 months after the end of the subsidy period, each hiring by a firm created a further 4.8 person-months of employment by virtue of maintaining the job which the EIS employee was hired to fill and also maintaining the base level of employment in the firm.

It should be stressed that these figures take no account of displacement or deadweight, and thus do not give a proper picture of the net job creation effect of the scheme. Furthermore, measured unemployment will be reduced by less than the amount of additional employment generated because certain categories of EIS employee (notably first time entrants to the labour force and those who had completed the Work Experience Programme) would have been unlikely to have appeared on the Live Register had they not entered EIS. These are issues we take up in the next chapter.

3.4 Claims for Payment

To the extent that firms which participate in EIS fail to claim the subsidy payment or are refused payment, the scheme may create some additional employment and may incur an Exchequer saving. This is because, in such cases, the only direct cost to the Exchequer is the administrative overheads associated with a particular hiring while, for the duration of the employment, the Exchequer may save on the payment of social welfare benefits.

Our data show that in 90 per cent of hirings firms lodge a claim for payment of the EIS subsidy and 86 per cent of these claims, or 77 per cent of all hirings, result in the payment of the subsidy. Thus, 10 per cent of all hirings do not result in the submission of a claim, while just under 13 per cent are refused payment. In other words, just over 1 in 5 hirings made under EIS result in no subsidy payment.

Table 3.6: *Reasons why Firms did not Claim EIS Subsidy or were Refused Payment*

	<i>Percentage of those who did not claim</i>	<i>Percentage of those whose claim was refused</i>
Base level fell	5.7	25.5
Participant did not stay for 24 weeks	73.2	17.4
Participant proved to have been ineligible	n.a.	7.3
Claim still to be made	4.4	—
Oversight	4.4	—
Other reason	3.7	30.9
d/k or no reason given	8.7	18.9
	100.0	100.0
Percentage of total sample:	10.1	12.6

n.a. — not applicable.

The reasons why firms fail to claim or, alternatively, are refused payment, are shown in Table 3.6. The major reason why firms do not submit a claim is that the employee left before the 24 week period had been completed and an eligible replacement was not hired. In those cases where payment was refused, respondents suggested a variety of reasons why this might have been so, but a fall in the base level and failure of the employee to remain for the full EIS period were the two major reasons.

*APPENDIX TO CHAPTER 3**A3.1 Measuring the effect of EIS on employment*

Determining whether the EIS subsidy had helped to create an additional job which lasted until the end of the EIS period is reasonably straightforward, given that in any firm which received payment of the subsidy there must have been at least 24 person-weeks additional employment created. In some cases, of course, a firm may have been refused payment even though some additional employment had been created. This could be either because some employment, but less than 24 weeks, was created; or because, although the participant remained with the firm to the end of the EIS period and the base level of the firm did not fall, payment was refused for some other reason. In the former case the amount of additional employment could be calculated from data collected on our questionnaire. In the latter case, since we collected information on the reasons why firms were not paid the subsidy, it was possible to identify those who had not received payment for reasons other than failure of the employee to stay for the full period or a decline in the base level. For these firms, we assumed that the full 24 weeks of additional employment had been created.

In seeking to determine whether or not the EIS subsidy had resulted in an additional job being created which was still in existence at the time of the survey, we decided to apply the same criteria. In other words, we treated the period between the end of the EIS period and our survey as if it were another EIS period. This means that we defined an additional job to have been created by EIS and to be still in existence at the time of the survey if:

1. the specific job for which the EIS participant had been hired still existed as a separate job at the time of our survey; and
2. the firm's workforce (defined as full time plus short time employees) had not decreased between the end of the EIS period and the time of the survey.

So, for example, even if the workforce of the firm had increased in numbers between the end of the EIS period and the survey, if the specific job for which the EIS employee had been hired no longer existed, then we assumed that any employment attributable to EIS had not been maintained to the survey date. We assumed, in such a case, that the growth in the workforce arose for some reason unconnected with EIS. On the other hand, even if the job set up under EIS was reported to be still there at the time of the survey as a separate job, but the firm's overall employment level had fallen since the end of the EIS period, then, again, we assumed that any job creation attributable to EIS had not endured to the time of the survey.

In those cases where conditions 1 and 2 above were not met at the time of the survey, we attempted to estimate the proportion of the post-EIS period for which an additional job had been created and which could therefore be attributed to the scheme.

Chapter 4

DEADWEIGHT, DISPLACEMENT, SUBSTITUTION EFFECT AND COSTINGS OF THE SCHEME

4.1 *Introduction*

In this chapter we present the major findings of our research in relation to the aggregate Exchequer costs and benefits of EIS. In Section 4.2 we outline the way in which we went about costing the scheme. Section 4.3 deals with the issue of deadweight — how we measured it and what results we obtained. In Section 4.4 we discuss the substitution effect of EIS: that is, the degree to which the subsidy encourages employers to redirect their hiring towards individuals for whom the subsidy is payable. Section 4.5 deals with the measurement of the displacement effect of EIS. In Section 4.6 we present estimates of the number of jobs created by EIS and its effect on the Live Register, taking account of both deadweight and displacement; and in Section 4.7 we provide estimates of the cost of the scheme. Finally, in Section 4.8 we look at two issues: first, the degree to which the cost of the scheme is influenced by the fact that just over 1 in 5 firms does not receive payment of the subsidy; and, second, the likely effect of the change in the scheme made in June 1987 — namely removing criterion one from eligibility. In the appendix to Chapter 4 we outline in more detail how we arrived at our costings of EIS and the measures and assumptions on which they are based.

4.2 *Costing the Scheme*

Estimates of the Exchequer cost of EIS per participant or per hiring can be viewed in three ways. First, we might choose to look only at the *gross costs*, defined as the *outflow of funds associated with the scheme*. These are:

- (1) the payment of the EIS subsidy;
- (2) administrative and other overhead costs associated with the programme.

The second perspective on costing EIS is to examine what we term *net costs*, which we define as *outflows minus inflows* — or, gross costs minus cash inflows and expenditure savings. These inflows are:

- (3) payments by the European Social Fund in respect of certain categories of participants in EIS;
- (4) the social welfare payments forgone by the employee (i.e., that the employee would have received had s/he not been hired under EIS);

- (5) the income tax and PRSI (employer and employee) paid by, or in respect of, the employee;
- (6) the increased expenditure taxation paid by the employee due to the differential between his/her disposable income from employment and income he or she would have received from social welfare had s/he not been hired under EIS. Note that this quantity could be negative if the individual had lower disposable income when in work than when unemployed.

This list is far from complete: it fails to take account of, for example, potential exchequer savings that might be made, by virtue of the scheme, in such areas as the Differential Rents Scheme and in discretionary payments by Health Boards. It also takes no account of savings in, say, health expenditure. Since unemployment appears to be linked to poorer health (see, for example, the review by Breen 1987), when the unemployed join EIS their health might be expected to improve, possibly leading to savings in health expenditure. However, such items are likely to have a relatively minor impact on the overall balance of costs when set against the items listed above.

The third perspective on costing EIS is to look at what we term true costs or *overall costs*, which we define as *net costs weighted to make allowance for the levels of deadweight and displacement*.

4.3 Deadweight

In the case of EIS deadweight arises to the extent that firms would, in any case, have hired an employee even without the subsidy. In such cases the net effect of the scheme on employment will be zero. Partial deadweight arises if the scheme induces firms to advance the hire date of an employee whom they would in any case have taken on.

The central difficulty in measuring deadweight lies in its counter-factual nature: we are asking "what would have happened to participants in a particular programme if the programme had not been undertaken?" How we set about answering this depends on the particular programme and the circumstances surrounding it, though, broadly speaking, there are only two possible approaches. These involve either using a control group (broadly defined) to observe what happens to similar individuals who do not participate and then comparing them with a group of participants; or by asking participants what they think they would have done had the programme not been available to them. Which of these avenues is followed may well be dictated by the nature of the programme being examined. Asking participants whether they would have got a job even if they had not participated in a particular training programme is clearly nonsensical. The use of a control

group may, in other cases, be impossible — if, for example, the scheme is such that it would be inconceivable that anyone seeking to achieve the goals of the scheme should do so without recourse to it. The EIS provides a good example of this: it is unlikely that any firm which was eligible to participate and wished to hire an employee from among the eligible categories would do so without using the scheme. Any firms which did this could not be considered representative of firms which had, in fact, used the scheme, and thus the former would not constitute a suitable control group. In the case of EIS, then, we adopted the strategy of asking employers what they would have done had the scheme not been available to them.

In our questionnaire we included a number of items which sought to discover whether or not firms would have taken on an employee even without help from EIS, and, if so, whether they would have hired the person at the time they did or later. If the latter, then the effect of EIS will have been to advance the date of hiring and thus to create some additional person-weeks of employment.

The main item we used for this purpose was the following:

When you hired [Name] in [month] 1986, if the EIS subsidy programme had not been in operation, how likely is it that you would have hired [Name] at that time in any case?

Respondents who replied that this was likely or very likely were assigned a deadweight value of 1 (i.e. total deadweight). Respondents who replied that this was unlikely or very unlikely were asked how likely it was that they would have hired the same, or another, employee at a later date, had EIS not been available. Those employers who reported that this was likely or very likely were assigned a score to reflect “partial deadweight” — in other words, the subsidy had acted to advance hiring that would have taken place at a later date.

There is an obvious difficulty in evaluating the replies of respondents to the question of whether they would have hired the particular employee or not even in the absence of EIS. Employers who benefit from the scheme may believe it to be in their own interests to claim that they would not have hired without the subsidy. Accordingly we sought to test the reliability of our deadweight measure by examining whether or not the deadweight levels across firms covaried with the firms' experience of EIS. For example, if employers' responses to the deadweight item were found to relate to events which occurred after the date of hiring, then we should strongly suspect that their response had been biased by such subsequent events. Here we used two measures of employers' experiences of the scheme — whether or not the employee remained with the firm for the full 24 week period, and whether the employer received payment of the subsidy.

We found that once we controlled for those variables which we believed should influence the level of reported deadweight (such as the ratio of the subsidy to the gross wage paid and the size of the firm — these are discussed in Chapter 6 where we analyse deadweight in more detail), then the issues of whether the employer had received payment of the subsidy and whether the employee had remained with the firm for the full 24 weeks were unrelated to measured deadweight.

Overall, 9 per cent of respondents were left with a deadweight score of zero; 68 per cent with a score of 1 (total deadweight); while for the remaining 23 per cent, EIS was presumed to have brought forward, by the full subsidy period, a hiring which would have occurred later. Notwithstanding the attempts we made to assess the reliability of these figures we feel that the presence of some downward bias cannot be definitively ruled out. If this is so, then these figures represent a likely lower bound on the level of deadweight in EIS.

In common with other studies of marginal employment subsidies, then, we find a high level of deadweight. Of every 100 hirings, 68 would have occurred even had there been no EIS, while in a further 23 cases EIS encouraged firms to bring forward a hiring which they would have made in any case. In only 9 out of every 100 hirings did EIS succeed in inducing firms to hire someone when they would not otherwise have done so.

4.3.1 An Alternative Approach

An alternative strategy to that adopted here would be to examine the aggregate effect of EIS on employment via a modelling approach. For example, one simple strategy would be to regress the trend in unemployment (over a period longer than that during which EIS has been in operation) on a set of explanatory variables plus a dummy variable representing the period during which EIS has been available. Here the magnitude of the dummy variable's coefficient would give an indication of the effect of EIS. One important objection to using this approach is that, given the relatively small size of EIS, any effects of the scheme would be unlikely to be registered. So, EIS in 1987 had around 5000 participants, which must be set against the estimate of approximately 200,000 recruitments per annum in the economy as a whole. A second objection is related to this. Following a modelling strategy we are implicitly asking the question of what the trend in unemployment would have been had EIS not been in operation: the effect of EIS is then the difference between the actual and this counter-factual state of affairs. However, this approach requires that we correctly specify the trend of unemployment — in other words, we include all the variables that influence this trend and model their relationship with it in the correct manner. Because EIS is a small scheme when set alongside the numbers unemployed and the annual number of

recruitments by firms, any small inaccuracy in this specification will be enough to "muddy the waters" sufficiently to make it impossible to detect an effect of the scheme. In more technical terms, a hypothesis test using this approach would, in fact, be testing two hypotheses simultaneously — namely a hypothesis concerning the correctness of our specified model and the hypothesis we want to test concerning the effects of EIS on the trend in unemployment. Therefore, if, for example, we found no effect of EIS on unemployment using this approach that could mean either that EIS really had no effect or that our model was incorrectly specified. Finally the issue of causality in such an approach is not clear and may lead to problems of identification due to endogeneity of the variable measuring EIS participation. That is to say, while it is reasonable to suppose that EIS will influence the trend in unemployment, it is equally true that the level of participation in EIS may be responsive to the level of unemployment in so far as the budget available for EIS is determined by government. For these reasons, then, we chose not to pursue this particular approach.

4.4 *Substitution*

Substitution is closely related to deadweight: it measures the extent to which EIS acts to redirect the recruiting of workers towards those categories of worker which the scheme subsidises. We went about measuring substitution in terms of the probability that this had occurred.

We constructed our substitution measure in two ways, depending on whether or not the firm had hired workers during 1986 and 1987 without recourse to EIS. Among those firms which had hired non-EIS workers we were able to determine how many of them would probably have been eligible for the EIS subsidy. We did this by asking respondents how many of the people they hired outside EIS had been unemployed for 3 months or more or had just left school. It was not possible to determine into exactly which of the six EIS categories these employees would have fitted, however.⁸ Using these data, then, we were able to form a measure of the probability that the firm, when hiring outside EIS, would hire individuals falling into the EIS eligible categories. For them the measure of substitution was 1 minus this probability — i.e. yielding the probability that their "normal" hiring would not be from among EIS eligible workers.

For those firms which did not hire anyone outside EIS in 1986 and 1987, we have to resort to the use of questionnaire items concerning what sorts of worker they would have hired had EIS not been in operation. This allowed us to

8. The main reason why a firm would hire EIS eligible employees without using EIS is probably that the firm had already employed the maximum permitted 4 employees per year under the scheme.

assign a score of either zero (for those employers who claimed that even without EIS they probably would have hired someone who would have fallen into one of the EIS eligible categories, such as a recent school leaver) or 1 (for those who said they probably would not).

In the case of firms where deadweight was zero (i.e., firms who would not have hired anyone at all without the subsidy) the substitution probability was set to 1.

By these methods we arrive at an overall average measure of substitution of 30 per cent. However, the substitution measure taken only over those firms which did in fact hire outside EIS (as opposed to those which did not) may be somewhat more reliable (since it is based on their observed behaviour rather than what the respondent feels he or she would have done). Confining our measure to these firms, however, we arrive at an almost identical mean level of substitution of 29 per cent.

Our data indicate, then, that for every 100 hirings made using EIS, 30 result in the employment of an EIS eligible person who would not otherwise have been hired. In such cases, had it not been for the subsidy, the firm (a) would either have not hired anyone, or, (b), would have hired someone who did not fall into one of the EIS eligible categories. Clearly, 9 per cent of cases must fall under (a), since this is equivalent to the number of jobs that the scheme induces (i.e., where deadweight is zero); and, thus, 21 per cent of cases must fall under (b). For every 100 hirings under EIS, 91 contain some element of deadweight: however, 21 of these 91 (or just under a quarter) do result in the shifting of employment towards job seekers in the EIS categories at the expense of non-eligible workers.

4.5 Displacement

Displacement refers to the extent to which businesses which are subsidised to take on extra workers under EIS take trade away from other, unsubsidised firms (and, in the extreme, cause redundancies or the closure of such firms) as a consequence of the support they receive under EIS. This might be expected to occur in so far as, for example, the payment of the EIS subsidy allows firms which receive it to be more competitive by reducing the price of the goods or services they produce.

We went about measuring displacement in the following way. In the questionnaire we included a number of items concerning the markets in which the firm operated, the level of Irish competition they faced, and so on. If a firm reported that it had no Irish competitors, then we assumed zero displacement effects. In our sample, 12 per cent of firms reported that they had no Irish competitors: the majority of these were engaged in manufacturing or were in the agriculture, forestry and fishing sectors.

Among those firms which reported having Irish competitors, we then examined the replies to two further questions. First, those firms which claimed to be faring better than their Irish competitors were asked to give up to three reasons for this: any firm mentioning the assistance they obtained from EIS in answer to any of these three reasons was assigned a displacement score of 1 — i.e., we assumed that this hiring had led to the total displacement of a worker elsewhere in the economy. Secondly, all firms, whether they claimed to be doing better or worse than their competitors, were asked the following question:

Do you think that being able to hire workers under EIS in 1986 had any effect on reducing the price of the goods &/or services you produce or on keeping price increases lower than they might have been otherwise?

Any firms who replied that EIS had had a large effect were also assigned a displacement score of 1.

Using this method, then, firms which either lacked Irish competitors or which did not report that EIS influenced their competitive position, were assumed not to be displacing other workers through their use of the scheme. Of course, this relatively crude method of dichotomising our sample into those hirings where displacement was total and those where it was absent is open to a number of objections. In defence of this approach, however, it can be said that attempts to devise apparently more sophisticated measures of the level of displacement yielded almost identical results.⁹ Using the present method we estimate the level of displacement to be about four per cent of all hirings.

This is similar to T. O'Mahony's (1983) conclusion that EIS effectively accounts for no displacement. This, however, was a conclusion which the authors of the NESC report on Manpower Policy (NESC, 1985) felt to be implausible. All our questionnaire items, however, unanimously support O'Mahony's finding in this area. For example, we also asked firms what they considered to be the main benefit to them from hiring under EIS: none of them gave any reply relating to possible displacement effects (such as that it helped to make the business more competitive or to reduce costs).

The question arises, however, of why displacement should be so low. It seems to us that there are two reasons why we find this result. First, the level of the subsidy is relatively low and is paid for only a short time: it is difficult to believe that the effective payment of £720 or £1,440 to a firm could have an

9. Briefly these attempts entailed asking those firms which reported having Irish competitors how much of the business they had done in the past year they felt they had taken from their competitors and whether they considered EIS to have been any help in this respect.

appreciable effect on competitiveness, just as the high level of deadweight in the scheme indicates that the payment does little to encourage firms to take on a worker they would not otherwise have employed. Second, since firms which participate in the scheme are, by definition, expanding their workforce, it follows that many firms may be participating precisely because they are successful (and taking business from competitors) and wish to expand their labour force. If this is so, then displacement will not be caused by EIS — rather, EIS will be used by firms which are, in any case, displacing their competitors. That this is the case is also evident from the high level of deadweight in the scheme. Such firms may very well be taking business from their competitors, but this is unlikely to be due to the effects of EIS. This is reflected in the relationship between our deadweight and displacement measures. The displacement effect of EIS, as we have measured it, is lower (at 1 per cent on average) in firms where deadweight is total than in firms where there is no measured deadweight or where deadweight is partial (9 per cent on average).¹⁰ In other words, our measures of deadweight and displacement indicate that, as we should expect, EIS is doing less to help the competitive position of firms which would have hired someone even without the subsidy and more to help those where the scheme creates some additional employment within the firm.

4.6 *Revised Figures for Job Creation by EIS*

In Chapter 3 we presented some figures relating to the job creation effect of EIS. These figures did not take account of deadweight or displacement, however, nor did we examine the issue of the effect of the scheme on measured unemployment. We turn now to these questions.

4.6.1 Job Creation net of Deadweight and Displacement

In Chapter 3 we noted that, by the end of the subsidy period, each hiring had led to the creation, on average, of 5.08 person-months of employment, and, by the time of the survey (an average of roughly a further 8 months later) an additional 4.8 person-months of employment had been created. However, if we take deadweight and displacement into account, these quantities are much reduced, to 6½ weeks (1.5 months) and 2 weeks respectively. In other words, if we allow for the probability that firms would, in any case, have taken on an employee, either when they did or later, then the overall job creation effect of EIS per hiring is to create 6½ person-weeks of work up to the end of the EIS period. A further 8 months later the total amount of additional employment

10. Though it should be kept in mind that displacement which occurs in firms where deadweight is total plays no part in the overall costing of EIS. In other words, our method of costing ensures that displacement is only applied to the non-deadweight element of the hiring.

generated will have increased to $8\frac{1}{2}$ weeks. The reason for the considerable difference between the adjusted and unadjusted figures is, of course, the very high level of deadweight in the scheme to which we referred earlier.

Another way of interpreting these figures is to say that one-person year of additional employment is created, during the EIS period, per 8 hirings made using EIS.

4.6.2 Effects of EIS on Registered Unemployment

If we now turn to the effects of EIS on the Live Register, then it follows that this will be less than the job creation effect of the scheme, given that certain EIS employees (notably first time labour force entrants, those entering EIS from a work experience programme, and the registered disabled) would probably not have appeared on the Live Register even had they not been hired using EIS. The same may well hold for many of those entering EIS from training programmes.

If we assume that only the short-term unemployed (those hired under criterion 2) and the long-term unemployed (hired under criterion 3) would otherwise have been counted among the registered unemployed, the effect of EIS is to reduce measured unemployment by just over half a person-month during the EIS period. In other words, each EIS hiring has the overall effect (allowing for deadweight and displacement) of taking 1 person off the Live Register for a little over $2\frac{1}{2}$ weeks during the EIS period. If we assume that all those hired having undertaken a training programme (under criterion 5) would also have otherwise been on the Live Register, this figure increases to .75 of a month, or 3.25 weeks. By the time of the survey (roughly a further 8 months later) the effect on measured unemployment would have increased to .9 of a month or just over 1 month ($4\frac{1}{2}$ weeks), depending on the assumptions we make concerning which criteria of employees would otherwise have been on the Live Register. During the EIS period, 1 extra person will be removed from the Live Register for a full year for every 20 hirings made under EIS (assuming that only workers hired from categories 2 and 3 would otherwise have appeared on the Live Register).

4.7 Costing EIS

During this chapter and in the appendix to the chapter we have discussed at some length how we went about costing EIS and deriving measures of the components used in such a costing. Accordingly, Table 4.1 now presents the average values per person hired of these various components, measured at the end of the EIS 24 week period and at the time of our survey. Thus, the average subsidy paid is £635.24, reflecting the fact that just over 1 in 5 hirings does not

Table 4.1: *Costings for EIS: Average amounts per Hiring at the end of EIS Period and at Survey*

	<i>End of EIS Period</i>	<i>At Survey</i>
	£	
(a) EXCHEQUER OUTFLOWS:		
(1) Subsidy Payment	635.24	635.24
(2) Administrative Costs	9.45	9.45
(b) "INFLOWS" TO EXCHEQUER:		
(3) ESF Subvention	320.24	320.24
(4) Social Welfare Forgone	597.76	1,107.86
(5) Income Tax Yield	83.78	290.31
(6) PRSI (Employee and Employer) Yield	368.55	889.00
(7) Increased Expenditure Tax Yield	180.06	346.63

receive payment of the subsidy; the average ESF subvention is £320.24; and so on. Some of these items do not change between the end of the EIS period and our survey, for the obvious reason that they are outflows which relate only to the actual EIS period. On the other hand, most of the inflow measures, such as income tax and PRSI paid, continue to increase after the EIS period has finished.

Of central importance in Table 4.1 is the fact that the subsidy payment plus administrative costs minus the ESF subvention is, on average, less than the amount of social welfare forgone and also less than the combined PRSI and income tax receipts. This is despite the facts that not all those hired under the scheme are eligible for ESF assistance and that a large proportion of those hired would not have received social welfare in any case. These figures show that, were it not for the high deadweight element in the scheme, EIS would yield a substantial profit to the Exchequer, as Table 4.2 reveals. This shows the gross, net and overall costs (as defined earlier) associated with the scheme, at the end of the EIS period and at the time of our survey.

The gross costs relate only to cash outflows (and therefore do not change during the post-EIS period): taking account of the inflows, however, shows that, not allowing for deadweight and displacement (the latter is, in any case, almost zero) the scheme would generate an Exchequer profit of £913 per hiring by the end of the EIS period, rising to £2,547 per hiring a further 8 months later. Taking account of deadweight and displacement changes the picture somewhat: by the end of the EIS period the scheme is roughly

Table 4.2: *Average Gross, Net and Overall Costs per Hiring at the end of EIS period and at time of Survey*

	Gross	£ Net	Overall
At end of EIS period	644.69	-913.05	-7.22
At Survey	644.69	-2,546.89	-81.80

breaking even, leading to an overall Exchequer return per hiring of £7.¹¹ Eight months after the end of the EIS period, however, the scheme is showing a larger net return to the Exchequer of almost £82 per hiring.¹²

The question naturally arises of how the scheme comes to be returning what appears to be a modest profit within about 8 months of the end of the subsidy period.

All the returns to the Exchequer from EIS are, in fact, generated by only 32 per cent of hirings. This 32 per cent is made up of the 23 per cent for whom the effect of EIS is to advance the date at which the firm hires, and the 9 per cent whom EIS induces to take on a worker when they would not have done so otherwise. Since the returns to the Exchequer from the first group — the 23 per cent — are confined to the period by which EIS advances hiring, deadweight being total for this group after that time, it follows that the net profit which accrues to the Exchequer in the period after the end of the EIS period itself, is being generated by those firms in the latter group — the 9 per cent — which are still creating employment. This, in turn, has two consequences. First, neo-classical economic theory (or a simplistic version of it) would deny that a temporary marginal employment subsidy could create jobs in this way, and, indeed, this was one of the conclusions in the study by Chiarella and Steinherr (1982). If employers were hiring labour up to the point where its marginal revenue product equalled its marginal cost, then a temporary subsidy, which reduced the marginal cost temporarily, could only have temporary effects. Once the subsidy finished, it would no longer pay employers to retain the employee. Thus, the only firms who would participate in EIS would, by this

11. Gross costs are given by

Subsidy payment + administrative costs

Net costs are given by

Subsidy payment + administrative costs - ESF subvention - (social welfare forgone + income tax yield + PRSI + increased expenditure tax yield)

Overall costs are given by

Subsidy payment + administrative costs - ESF subvention - (social welfare forgone + income tax yield + PRSI + increased expenditure tax yield) * (1 - deadweight) * (1 - displacement).

12. These costings take no account of the effects of the PRSI exemption scheme. A number of firms in our sample used this scheme together with EIS. In total, 12 per cent of hirings in our sample benefited under the exemption scheme. Taken across our entire sample this yields an average loss of revenue per hiring of £42.59.

account, be those who intended to hire a worker anyway (and, as we have seen, this is the case for most participating firms); or those who were going to hire a worker later but were persuaded by the subsidy to advance that hiring (as was the case in 23 per cent of our sample); or, finally, firms which would retain the employee only for the period covered by the subsidy. Examples of all these cases occur in our data. However, our sample also contains employers who fall into none of the above three categories. These are those who would not have hired anyone without EIS, but nevertheless retain their employee (and maintain their base level of employment) after the subsidy period has finished. Such hirings account for just under 5 per cent of our sample: in other words, in 1 out of every 2 hirings where deadweight is zero the additional job which had been induced by the subsidy was still in existence at the time of our survey.¹³ One explanation for this is that some firms are not hiring labour to the point where marginal output and costs are equated. In other words, these are firms which, through the EIS, find that they can, in fact, profitably employ an extra worker(s), whereas previously they had believed otherwise. The EIS, then, seems to be serving an educational function in this regard. If this is so, then not only does the scheme help to create additional jobs, but it also probably improves the overall efficiency of the firm.

A second consequence relates to the longer-term costings of the scheme. As we have seen, our data suggest that the per hiring costs of the programme decline in the 8 months after the EIS period, because of the returns to the Exchequer generated by these firms. The question then arises of whether the costs would be even lower if we were to reinterview this sample in, say, another 8 months' time. The answer to this question is probably yes, although the rate of decline in costs would be slight, and would depend, crucially, upon the survival of those jobs created in this small percentage of firms where EIS induced a hiring which otherwise would not have occurred.¹⁴

13. Or, to be more exact (and drawing on our definition of what constitutes job creation, as discussed in the appendix to Chapter 3), in this group of hirings the total person-months of employment created net of deadweight and displacement was equal to the entire period between the hiring date and the date of our survey.

14. We believe that the effect on the overall costings of the scheme is likely to be quite modest. This is because, as we noted in the text, the returns to the Exchequer after the end of the EIS period are being generated by a very small proportion of participating firms. If these firms do not maintain their increased level of employment, this proportion will diminish. A further factor to be taken into account is the offsetting effect of the discount rate on these later returns. Strictly speaking, in costing a scheme such as EIS, we should discount the outflows and inflows by an appropriate discount factor to arrive at the net present value of all money amounts. In our study of the Enterprise programme we used a rate of 11 per cent per annum. Because EIS is a relatively short scheme, in the sense that participation lasts for only 24 weeks, discounting would have little effect on our measures of cost. However, as we examine inflows to the Exchequer which will occur in the future, the discount rate comes to play an increasingly large role.

Table 4.3: *Overall Average Costs per EIS Hiring under Two Assumptions: (a) Excluding all Cases where the Subsidy was Not Paid; (b) Excluding all Employees Hired Under Criteria 1 or 6*

<i>Overall Costs</i>	£	
	<i>(a) Excluding Cases where Subsidy not Paid</i>	<i>(b) Excluding Hirings Under Criteria 1 and 6</i>
At end of EIS period	22.78	- 80.06
At time of survey	- 74.20	- 194.28

4.8 *Non-claimants and Changes in Eligibility*

In this final section of Chapter 4 we shall examine two issues: the effect on the overall cost of the scheme of the non-payment of the subsidy in just over 20 per cent of all hirings made under the scheme; and the effect on the costings of the decision to exclude first time job seekers from the scheme.

4.8.1 *Non-payment and its Effect on Costings*

Table 4.3 shows the overall average costs per participant in those cases in which firms received payment of the EIS subsidy. The exclusion of firms which did not receive the subsidy makes little change to the overall costs either at the end of the EIS period or at the survey when compared with the results for the full sample given in Table 4.2. In other words, the relatively favourable cost position of the scheme is not due to the fact that just over 1 in 5 hirings results in no payment of the subsidy. This is because, although there is no subsidy payment in respect of such hirings, there is, correspondingly, no ESF payment possible. Furthermore, hirings where payment is not received tend to contribute little in the way of net job creation (since the failure of the employee to remain with the firm for 24 weeks and a drop in the pre-hiring base level — both of which are criteria which we use to measure job creation — are two main reasons why firms do not receive the subsidy). This means that the Exchequer receipts, in the form of tax, PRSI, social welfare forgone, and so forth, are correspondingly diminished.

4.8.2 *Removal of Criterion 1 and its Effect on Costings*

In June 1987 it was decided to remove school leavers from eligibility under EIS. Furthermore, the decision to terminate the Work Experience Programme meant that within a short time criterion 6 also disappeared from the scheme. In this section we try to gauge the effects of these changes on the costs and benefits of EIS by recalculating our earlier measures omitting cases where the employee hired fell into criteria 1 or 6.

Table 4.3 shows the overall average cost per participant on this basis. Compared with the figures in Table 4.2, excluding first time labour force entrants and ex-Work Experience Programme participants has the effect of making the scheme cheaper. This is because such employees have, on average, little or no social welfare payments to forgo, and, because their wage rates are lower than those of adult workers, they contribute correspondingly less tax and PRSI.

The exclusion of employees hired under these two criteria has a more significant impact on reducing unemployment. Under these conditions, measured unemployment is reduced by 1.2 person-months (just over 5 weeks) per hiring over the duration of the subsidy period. In other words, over the EIS period, 1 person will be removed from the Live Register for 1 year per 10 EIS hirings (assuming that only the short-term and long-term unemployed categories two and three would otherwise have appeared on the Live Register).

*APPENDIX TO CHAPTER 4**A4.1 Costing EIS*

1. Administrative and overhead costs: these were estimated on a per hiring basis by taking the total overhead costs for the scheme in 1986 and dividing this figure by the net hiring figure for that year. This yielded an average cost per hiring of £9.45.

2. Payments from the European Social Fund: EIS is eligible for support from the ESF at the rate of 55 per cent of the subsidy for all participants aged under 25 and at a rate of roughly 50 per cent for those 25 and over who have been unemployed for a year or more (this latter rate in fact differs — though only very slightly — in different years, but we have used the figure of 50 per cent in our calculations). Although the full rate of subvention may not always be received from the ESF, we have assumed, in making our costings, that the above levels of subvention are paid.

3. Social Welfare payments forgone by the participant: we estimated these using two data sources. To all those entrants to the scheme under category 1 (i.e., recent school leavers) who lacked an RSI number, we sent a postal questionnaire asking them whether they had been receiving any social welfare payment immediately before they were hired by the particular firm which hired them under EIS. The questionnaire contained both the name of the firm and the date of the hiring.

In respect of all those entrants to the scheme under category 1 and who had an RSI number, and all those who joined EIS under categories 2 and 3 (the short-term and long term unemployed), we sent a form containing details of their name, address, date of birth and RSI number, together with the date on which they were hired under EIS, to the Department of Social Welfare who forwarded these forms to the local employment exchanges. These forms sought information on the social welfare position of the named individual at the time she or he was hired under EIS.

From these forms and from the postal questionnaires, we were able to estimate the average social welfare payments which participants would have received had they not joined EIS, according to their sex, criterion under which hired (1,2, or 3) and age group. These estimates were made using a computer program which we wrote to take account of both changes in the individual's entitlement (e.g. movement from one type of payment, such as Unemployment Benefit, to another, such as Unemployment Assistance) and changes in the overall rates of payment occurring each July.

In the case of individuals who moved onto UA during the period they were on EIS or subsequently, we had no data concerning their means (which, of course, helps determine the level of UA to be paid). In these cases we assumed that the full rates of UA were payable.

Individuals who join EIS under categories 5 or 6 (i.e., having participated in a training or Work Experience Programme) are not in receipt of social welfare payments. However, in the absence of EIS we may assume that they would have remained, for a period, in their present situation (on training or Work Experience Programmes) before moving onto UA or UB (if they were so entitled). Accordingly, in joining EIS they would have forgone some or both of a training allowance and social welfare payments. In these cases, then, we assumed that the amounts forgone in this way were as follows:

category 6 (former Work Experience Programme participants): we assumed that the average amount forgone was equal to the average for individuals of the same sex and age group hired from category 1 (first time entrants to the labour force); category 5 (former training programme participants): we assumed that the amount forgone was the same as for those hired under category 1 if the employee was aged less than 25 years; if the employee was over 25 we assumed that the amount forgone was equal to the average amount forgone by those hired under category 2 (the short-term unemployed) in the appropriate sex and age groups.

4. Income Tax paid by the employee: we estimated the income tax payable by employees hired under EIS using the figure for the gross wage collected in our questionnaire data and applying the following assumptions:

- (i) that all employees had the basic single person's tax free allowance for the appropriate years (1986/87 and 1987/88). This, of course, assigns a relatively low level of tax free allowances to the employees hired and may thus serve to inflate the true tax yield. However, we sought to offset this in our second assumption;
- (ii) that the job taken up under EIS was the employee's first job during the particular tax year in question. This assumption is based on the fact that, at a minimum, EIS participants must have been unemployed for the previous 13 weeks. Thus, employees in our sample hired in June 1986 could not have worked previously in the 1986/87 tax year. Of course, employees hired in February 1986 could have worked at some previous time in the year 1985/86, just as those hired in October 1986 might have worked at some point previously in 1986/87. However, by assuming that

they did not we make a conservative assumption about the amount of tax payable, which will help to offset any possible overestimate of the tax yield which may arise from assumption (i).

Some of the consequences of the latter assumption are that, for example, we assume no tax yield in February and March 1986 from those hired in February 1986; and that, for those hired in October 1986, the estimated tax yield from them for the year 1986/87 was substantially reduced by virtue of the fact that we assumed their total 1986/87 tax free allowance to have been applied to their earnings over the last 6 months of that tax year (from October 1986 to March 1987).

It should be noted that our final costings of EIS are highly insensitive to the particular assumptions we make about the tax liability of employees hired under the scheme: in other words, the choice of any other assumptions within the "feasible set" makes little or no change to our costings. This is because the contribution of the income tax yield to the overall costings is itself small, as can be seen from Table 4.1. This, in turn, arises because of the relatively low wage rates paid to employees hired under EIS. Furthermore, when we turn to the overall costs, the tax yield is weighted by a factor given by $(1 - \text{deadweight}) * (1 - \text{displacement})$, so reducing further its effect on the final costings.

5. PRSI: employers' and employees' PRSI was calculated by assuming that Class A rates were payable and estimating the amount paid by applying the relevant figure to gross earnings. Although some employers in our sample also availed of the PRSI exemption scheme, we do not take this into account in making our costings i.e., we assume that they paid full PRSI. This is because we feel that the cost of the PRSI exemption scheme ought to be kept separate from the costings of the EIS.

6. Increased expenditure taxation from participants: to the extent that there is a difference in the level of disposable income that the participant would have had under social welfare and under EIS (where disposable income is defined as gross income net of income tax and employee's PRSI), then the total paid by the individual in expenditure taxes can be expected to change — either to increase or fall. In order to estimate this change we need to have a figure for the proportion of disposable income which is returned to the Exchequer via indirect taxation. For the purposes of this costing we took the figure from the results of the 1980 Household Budget Survey. Data from the HBS have been analysed by Dr. David Rottman, formerly of the ESRI, and he has grouped households according to the occupation of the household head, into 14 categories. We have estimated an average indirect tax rate for all households headed by an employee. Averaged over all the employee groups this gives a

figure of .213 or 21 per cent of their disposable income. Note that since we apply this figure to the change in income between social welfare and employment we make the implicit assumption that the true rate of indirect tax on these persons' social welfare income was also 21 per cent. Note too, that if the disposable income from employment is less than would have been received from social welfare payments, this change can be negative.

Chapter 5

FURTHER DISCUSSION OF EIS COSTS AND RETURNS

5.1 Introduction

In this chapter we examine the degree to which returns from EIS vary either according to the criterion under which the employee was hired or according to the sectoral location of the employing firm. To the extent that significant variation does occur, this may provide some indications as to how the scheme might be more effectively targeted.

5.2 Sectoral Variation in Costings

Table 5.1 categorises firms hiring under EIS into six groups, and for these, and for the whole sample, the table shows the mean levels of displacement and deadweight (columns labelled A and B); the mean level of expenditure (or outflow) per participant in the scheme (allowances plus administrative costs minus ESF refunds) in column C; the mean value of all other returns (inflows) to the Exchequer in column D; and, in column E, the mean number of person-months of employment created (making no allowance for deadweight and displacement). All these figures relate to the position at the end of the EIS period. We note in passing that a simple estimate of the overall cost of EIS per hiring can be arrived at by using the formula:

$$\text{overall cost} = C - (D * (1 - A) * (1 - B))$$

In other words, we weight column D by 1 minus deadweight times 1 minus displacement and subtract this from column C. To arrive at an overall average we weight each entry in the resulting vector according to its relative size (given in the column “% of Total” divided by 100) and sum. Applying this method to the overall figures shown at the foot of the table we arrive at an estimate of the average per participant overall cost at the end of the EIS period of $-\pounds 55$, which may be compared with the estimate of $-\pounds 7$ given in Table 4.3 (see the appendix to this chapter for more discussion of this use of Table 5.1).

Table 5.1 sheds light on the issue of whether there are sectoral differences in the level of returns generated by EIS during the subsidy period. The relevant figures are those in column D. There is a statistically significant difference in the returns generated by firms in the different sectors: the highest return to the Exchequer comes from building firms, the lowest from firms using EIS in the business, insurance and finance sector and those in the personal services sector. Why this should be so is a question we address later in this chapter. For the

Table 5.1: *Components of Costing for EIS at the End of EIS Period, According to the Sectoral Location of the Employing Firm*

<i>Type of Business</i>	<i>% of Total</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
Agriculture, Fishing, Forestry	3.9	.00	.70	249	1125	5.05
Manufacturing	27.4	.02	.72	332	1214	5.12
Building	15.1	.10	.70	344	1818	5.14
Shops and Wholesaling	33.2	.02	.64	335	1191	5.10
Business, Insurance, Finance Services	8.8	.02	.61	303	972	5.30
Personal and other Services	11.6	.04	.68	282	812	4.79
Overall		.04	.68	323	1230	5.09

Key: A = mean displacement;

B = mean deadweight during EIS period;

C = mean cost of EIS allowance plus administrative costs minus ESF refund;

D = mean value of other returns from participants during EIS period;

E = mean number of person-months of employment created during EIS period.

present, however, we note that there are no statistically significant differences across sectors in the amount of employment created by the end of the subsidy period (column E of Table 5.1). Of course, both these measures of returns and employment make no allowance for deadweight and displacement. As the figures in column B of Table 5.1 suggest, the levels of deadweight do not vary systematically according to sector — that is, there is as much variation in deadweight levels between firms in the same sector as there is between different sectors. In the case of displacement the issue is less clearcut. As column A of Table 5.1 shows, there are quite marked differences between, for example, the building sector, where displacement is (relatively) high, and the agriculture, fishing and forestry sector, where it is absent. These differences fall very marginally short of reaching statistical significance. However, as we noted in Chapter 4, our measure of displacement is relatively crude, which, taken together with the near statistical significance of the inter-sectoral differences, strongly suggests that, in the scheme as a whole, displacement may be higher in firms in the building sector than elsewhere.

5.3 Variations in Returns to EIS According to Sector

Earlier we noted that returns to the Exchequer (inflows) from an EIS hiring (that is, increased income tax, PRSI and expenditure receipts and reduced social welfare payments) showed significant variation as between different

sectors. The main distinction is between firms engaged in building, where returns are greatest, and the rest. There is no significant sectoral variation in the level of net costs (defined as subsidy plus administrative costs minus ESF refunds) nor in the level of overall costs at the end of the EIS period (that is, costs and returns making allowance for deadweight and displacement), nor in the number of person-months of employment, either at the end of the subsidy period or by the time of our survey.

5.3.1 Sectoral Variation in Inflows

Given the definition of inflows used here, these will be greatest where the employee is receiving a higher wage and where he or she would otherwise have been receiving a relatively large amount in social welfare payments. The issue of how long the employee is employed will not, in this case, be of major significance, since we are here discussing inflows only during the EIS period, and, as we have seen, most employees are retained for this period.

Wage levels and social welfare forgone are linked to the criterion under which the individual is hired. Certainly, wage levels, as we shall see in Chapter 6, are greatest among the long-term unemployed hired under the scheme, while the level of social welfare forgone is highest among them and among the short-term unemployed category. As we might have expected, it transpires that the sectoral variation in inflows is wholly accounted for by the differences in mean inflow associated with hirings made under different criteria. Average inflows from building firms are greater than from firms of other sectors, but this is because firms in the building sector are much more likely than firms in most other sectors to hire employees from among the long-term unemployed, who, in turn, display the highest average levels of inflows to the Exchequer. The pattern of inflows according to hiring criterion is shown in panel A of Table 5.2, while panel B shows the average percentage of EIS employees drawn from the long-term unemployed (category 3) in firms of each sector. This reveals that 23 per cent of EIS employees in building firms are drawn from among the long-term unemployed; while the comparable figure for manufacturing is 19 per cent. The sectoral differences in the average level of Exchequer inflows associated with EIS hirings, then, is wholly due to the greater propensity of building and manufacturing firms to hire employees from category 3.

5.3.2 Variations in Average Net Receipts

Net costs, as defined in Chapter 4, are simply the difference between what, in the preceding section, we have termed outflows and inflows. As Table 4.2 shows, this figure is negative, reflecting an excess of inflows over outflows. In what follows, to avoid confusion, we shall talk about net (Exchequer) receipts, which are simply what we have, until now, been presenting as negative

Table 5.2: *Exchequer Inflows according to Criterion*

<i>A. Mean Inflows according to Hiring Criterion</i>	
<i>Criterion</i>	<i>£</i>
1 First Time Job Seekers	669
2 Short Term Unemployed	1,779
3 Long Term Unemployed	2,315
5 Ex-training scheme	727
6 Ex-WEP	650

Inflows = Income Tax + PRSI + increased expenditure tax + social welfare saving.

<i>B. Percentage of EIS employees drawn from Category 3 according to sector</i>	
<i>Sector</i>	<i>Percentage</i>
Agriculture, Fishing, Forestry	0
Manufacturing	19
Building	23
Shops & Wholesaling	14
Business, Insurance, Finance Services	6
Personal and Other Services	7

Exchequer costs. As with our earlier discussion in this chapter, we are, as yet, making no allowance for deadweight and displacement. In this section we want to examine whether or not there is any variation in net receipts, either between sectors or hiring categories.

With respect to the sectoral differences, the same pattern holds for net receipts as for inflows: these are greatest in the case of firms in the building sector and least in the business, insurance and finance (BIF) services and personal/miscellaneous service sectors. These figures are given in Table 5.3. However, once again, these variations are wholly accounted for by the distribution, across sectors, of hirings from the various categories. The mean net return for categories 1 (first-time job seekers), 5 and 6 (ex-training scheme and WEP participants) lies between £360 and £460, while for category 2 (the short-term unemployed) it exceeds £1,400 and for category 3 (the long-term unemployed) it exceeds £1,700, as Table 5.3 shows. Whereas just under half of EIS employees in building firms come from among the short-term and long-term unemployed, only a quarter of EIS employees in BIF services and in personal and miscellaneous services are drawn from these categories.

Table 5.3: *Net Receipts According to Criterion and Sector*

<i>Sector</i>	<i>Net Receipts</i>
	£
Agriculture, Fishing, Forestry	976
Manufacturing	881
Building	1,473
Shops and Wholesaling	866
BIF Services	659
Personal and Other Services	525
<i>Criterion</i>	
1 First-time Job Seekers	411
2 Short-term Unemployed	1,456
3 Long-term Unemployed	1,781
5 Ex-training scheme	452
6 Ex-WEP	368

5.4 *Other Variations according to Hiring Criterion*

Once deadweight and displacement are taken into account, variations between firms in different sectors in their average level of overall costs are no longer statistically significant. However, there are statistically significant differences in the level of average overall costs between hirings made from the different categories of EIS employee. Allowing for deadweight and displacement, hirings made from among the long-term unemployed are significantly cheaper than those made of employees from any other category. As the first column of Table 5.4 shows, by the end of the EIS period, hirings from among the long-term unemployed show a substantial net inflow to the Exchequer of almost £300 on average, compared with an approximate break-even situation for hirings made from other categories. In other words, while Table 5.3 showed that returns to the Exchequer from hiring the long-term unemployed were greatest when we did not take account of displacement and deadweight, Table 5.4 shows that this situation still holds even when we do take these things into account. How does this situation arise? There are no statistically significant differences in the levels of either deadweight (see Chapter 6) or displacement as between hiring categories, while the level of Exchequer outflows (subsidy plus administrative costs minus ESF refund) is highest in respect of hirings of the long-term unemployed. However, this latter effect is more than offset by the substantial levels of

Table 5.4: *Overall Cost per Hiring at the End of EIS Period and Components of Inflow to Exchequer, According to Hiring Criterion*

<i>Criterion</i>	(1)	(2)	£ (3)	(4)	(5)
1 First-time Job Seekers	71	135	39	281	212
2 Short-term Unemployed	-13	1,041	143	450	148
3 Long-term Unemployed	-296	1,488	139	553	144
5 Ex-Training Schemes	82	221	32	278	192
6 Ex-WEP	74	149	41	262	192

(1): Average overall costs (i.e., taking account of deadweight and displacement);
(2): Average social welfare forgone;
(3): Average income tax yield;
(4): Average PRSI yield;
(5): Average increased yield from expenditure tax.

inflow to the Exchequer from these hirings.¹⁵ The components of this inflow are shown in the columns of Table 5.4. As column 2 of that table shows, the level of social welfare forgone during the subsidy period is very closely related to criterion, with first time job seekers and former WEP participants, whose eligibility for social welfare is very limited, contributing hardly anything from this source to Exchequer savings, while the short-term unemployed and, especially, the long-term unemployed, show that there are considerable savings made in this area. Columns 3 and 4 show the average yield from, respectively, income tax and total PRSI. Since these yields are related to income, those categories in respect of whom the highest gross wage is paid — the short-term and long-term unemployed — again show the greatest return to the Exchequer. The issue of wage levels is one we take up again in more detail in Chapter 6. Finally, column 5 shows the average increased yield from expenditure tax. In this area hirings of the short-term and long-term unemployed show the least return: this is because this figure depends upon the differential between the individual's income from social welfare and his or her

15. The favourable position of category 3 hirings is not due to any effect of non-claiming of the subsidy: indeed, when we cost the scheme only for those hirings in respect of which the subsidy was paid we find that the average overall cost of long-term unemployed hirings falls further to -£346 by the time of the survey. Readers may be somewhat surprised that the omission of cases where no subsidy was paid should lead to a fall in average costs. The reason for this fall, however, is that the net Exchequer cost (i.e., outflows minus inflows) in respect of cases of non-payment is greater than in the case of firms who receive the subsidy. Thus, excluding the former group will decrease the average cost. Since outflows in respect of those who receive no subsidy are very small, it follows that the inflows generated by them must also be very small. This is indeed the case.

income once employed. This differential is smallest in the case of hirings made from categories 2 and 3 because of the greater level of social welfare received by such job seekers.

One final area in which there is statistically significant variation as between hiring categories is in the amount of work created by the time of the survey. Again, leaving deadweight and displacement out of the picture, hirings of former Work Experience Programme participants (category 6 employees) lead to the creation of more person-months of employment (11 person-months, on average, by the time of the survey) than do hirings from any other categories. One possible reason for this is that many employers use EIS as a means of "trying out" a new worker for his or her suitability or of finding out whether they can profitably employ an additional employee. In the vast majority of hirings made under category 6, the employer will already have had a chance to answer these questions, in as much as the employee will already have been in the firm for the period of the Work Experience Programme. Accordingly, we would expect that employers who keep on their WEP trainee through hiring him or her using EIS would do so only if they were satisfied that a permanent job existed which that employee could fill.

5.5 Conclusion

We examined the costs and returns associated with EIS and the way in which these varied according to sector and the criterion under which the employee was hired. Net returns are greatest for hirings made under categories 2 and 3 (the short-term and long-term unemployed), while overall returns (that is, net returns taking account of displacement and deadweight effects) appear to be greatest for hirings made under category 3 (the long-term unemployed). The job creation effect of the scheme, measured at the time of our survey, suggested no differences in effectiveness according to hiring category except in the case of employees hired following a spell on the WEP. Here the jobs so induced were likely to survive, on average, longer than elsewhere.

APPENDIX TO CHAPTER 5

Using Table 5.1 to cost EIS will provide only an approximate figure. The measure of the inaccuracy involved in applying this method to the data of Table 5.1 is, of course, shown by the discrepancy between the overall cost of $-\pounds 55$ calculated from this table and the figure of $-\pounds 7$ shown in Table 4.2. In large part this discrepancy is due to the fact that the data in Table 5.1 implicitly assign to each hiring an average level of deadweight and displacement (either that found in the sample as a whole or in the particular sector in which they are located). The problem with this strategy is that the effects of deadweight and displacement will depend not simply on their average level but also on the way in which they are distributed over the sample. For example, given our estimate of displacement of around 4 per cent, this will have very different influences on estimates of costs and benefits depending on whether everyone in the sample has the same displacement value or whether the values of the displacement measure vary widely between hirings. The same is, of course, true of the deadweight measure. If, for example, those firms which retain their employee after the end of the EIS period have the highest levels of deadweight, this will have different consequences from a situation in which, although the mean level of deadweight is the same, it is unrelated to the duration of the EIS job.

The data in Table 5.1 relate only to the position at the end of the EIS period. This is because the use of the mean values of displacement and deadweight, without knowledge of their distribution over the sample, is likely to lead to less inaccuracy in the computing of overall costs at this point than it would if this method were applied to the position at the time of our survey, where the inaccuracies would be substantial.

Bearing these issues in mind, Table 5.1 does, nevertheless, allow the incorporation of deadweight and displacement assumptions (concerning particular sectors), which have been presented in studies of other programmes, to be used in making (approximate) calculations of the overall cost of EIS. This may help to render the various studies more comparable.

These figures can also be used to test the sensitivity of our costings to our estimates of deadweight and displacement. For example, concentrating on our displacement measure, we find the following approximate estimates of overall costs using various levels of displacement combined with our estimate of 68 per cent deadweight:

<i>Displacement (%)</i>	<i>Approx. Overall Cost (£)</i>
20	8
40	87
60	166
80	244

All these figures are obtained from the equation

$$\text{Approx. Overall Costs} = \text{£}323 - \text{£}1,230 * (1 - \text{displacement}) * (1 - .68).$$

Column E of Table 5.1 can be used to make comparable estimates of the overall job creation effect of EIS at the end of the subsidy period. In this case an approximate estimate of job creation net of deadweight and displacement is given by

$$E * (1 - A) * (1 - B).$$

Some measure of the loss of accuracy involved in estimating job creation using average figures can be found by comparing the result obtained in this way

$$5.09 * (1 - .04) * (1 - .68) = 1.56 \text{ person-months}$$

with the estimate of 1.5 given in Section 4.6.1 of Chapter 4. Again, readers may re-estimate the job creation effects of the scheme by inserting their own values for displacement and deadweight in place of those shown in columns A and B.

Chapter 6

DEADWEIGHT, SUBSTITUTION AND THE LONG-TERM UNEMPLOYED

6.1 Introduction

In this chapter we turn our attention to two of the central issues in our analysis of EIS, namely the levels of deadweight and substitution. Our results in Chapter 4 indicated that the level of deadweight was the main factor in determining the degree to which EIS fulfils its economic objective of creating more jobs, as well as being the single most significant factor in our costings of the scheme. Substitution, on the other hand, is a direct measure of the degree to which EIS is fulfilling its social objective of stimulating the hiring of job seekers in the EIS eligible categories.

In Section 6.2 we discuss the relationship between deadweight and substitution. In Section 6.3 we address the question of whether it is possible to determine what sorts of firms using EIS are likely to have high levels of deadweight. In Section 6.4 we turn to the issue of substitution and, in particular, we investigate whether, and how, the scheme might be used to help more of the long-term unemployed to find employment.

6.2 Deadweight and Substitution

Deadweight refers to the probability that a firm hiring under EIS would, even without the scheme, have hired an employee, either at that time or afterwards. A measure of deadweight is thus the counterpart to the job creation effect of the scheme. Substitution, on the other hand, is a measure of the degree to which the existence of the subsidy persuades employers who would not otherwise have done so to hire from among the categories of employee for whom the subsidy is payable. Clearly there will be some overlap between these two measures: in particular, in any case where deadweight is zero (reflecting the fact that the subsidy induced an employer to take on an extra worker) then, according to our definition of substitution, there will be a positive substitution effect. On the other hand, from the presence of deadweight alone we can conclude nothing concerning possible substitution effects.

Table 6.1 shows the relationship between deadweight and substitution, drawing on our discussion in Chapter 4. Table 6.1 cross classifies a hypothetical 100 hirings according to substitution and deadweight. From this table it can be seen that, in all those cases (9 per cent) where EIS induced an additional job it also, by definition, redirected hiring towards individuals in the EIS

Table 6.1: *Effects of EIS: Substitution and Deadweight in a Hypothetical 100 Firms*

	<i>Substitution Effect</i>	
	<i>Yes</i>	<i>No</i>
Deadweight:		
None	9	0
Partial	9	14
Total	12	56

categories.¹⁶ In those cases where the subsidy acted to bring forward the date of hiring it also, in about 40 per cent of such cases, led to the redirecting of employment towards EIS eligible job seekers. In such cases, in the absence of EIS, the employer would have hired, at a later date, an employee who did not fall into any of the EIS categories. Finally, in those cases where EIS created no additional employment, 12 out of 68 hirings led to the redirecting of hiring and the substitution of an EIS eligible employee for a ineligible employee. Perhaps the most striking feature of this table is that, while a percentage of hirings using EIS lead to the creation of extra employment or to the redirecting of hiring, or both, in about 56 per cent of cases EIS appears to achieve neither of these objectives. These are cases in which the firm would have hired an employee at the time it did even without the subsidy, and that employee would, in any event, have probably fallen into one of the EIS eligible categories. If we abstract from our measure of substitution the 9 per cent of cases where EIS appears to have created a new job where none would otherwise have existed, we find that the level of substitution in the remaining cases is 21/91 or, roughly, 1 in 4.

6.3 *Modelling Deadweight*

Although, as our figures in Chapter 4 suggest, EIS is a relatively cost-effective scheme, it nevertheless displays a high level of deadweight. Since those hirings where deadweight is total contribute nothing to the economic goals of EIS, it follows that if the scheme could be targeted at firms in which deadweight would be low, the scheme might be made more effective. In order to do this, however, it would be necessary to be able to account for variations in the incidence of deadweight across participating firms.

16. We refer to this as a hypothetical 100 hirings under the scheme because, as should be clear from our discussion of substitution in Chapter 4, our substitution measure for each firm in our sample is a probability measure. While the overall probability is .3, the scores for individual firms range from zero to 1. Thus, a figure in Table 6.1 which shows that, say, in 12 out of 68 hirings where deadweight is total the subsidy acts to redirect hiring ought, strictly, to be taken as meaning that, among those firms where deadweight is total, the average probability of substitution is $12/68 = .176$. The figure should not be taken to imply that there are 12 identifiable firms in which substitution occurred.

The way in which we sought to account for the levels of deadweight across our sample of EIS hirings and the results we obtained are set out in detail in the appendix to this chapter. In summary our findings are as follows. First, hirings made by firms which were, in any case, expanding (i.e., firms whose labour force was showing long-term growth) were likely to result in a high level of deadweight. In other words, these firms would, in all likelihood, have hired an employee even without the help of the scheme and are availing of the subsidy as a windfall. Second, the level of deadweight is related to the size of the subsidy as a proportion of the total wage rate for the job. As the subsidy increases as a proportion of the total wage, deadweight declines. This is as we might have expected: the more significant is the subsidy as a proportion of the total costs of employing the worker, the more likely is the scheme to have induced a hiring that would not otherwise have been made. However, once the proportion grows over about 65 per cent, deadweight begins to rise again. Where the subsidy forms a very small proportion of the total gross wage (less than 20 per cent) it is most unlikely to induce any net job creation. However, where the subsidy is between 20 and 50 per cent or over 70 per cent of the gross wage, deadweight levels are also likely to be relatively high: deadweight seems to be lowest where the subsidy makes up about 60 per cent of the total gross wage. Thirdly, our main finding is that, as T. O'Mahony (1983, p.14) noted, deadweight and firm size show a positive relationship: the larger the firm, the less likely is EIS to lead to net job creation. While these relationships between deadweight and firm size and deadweight and the size of the subsidy relative to the wage are themselves related (the link lies in the relationship between firm size and average gross wage levels: see the appendix for a discussion of this) neither of these variables displays anything other than a fairly weak (though significant) relationship with deadweight. This is an issue we return to later in this chapter and again in Chapter 7.

6.4 Substitution and the Long-term Unemployed

It is a feature of unemployment almost throughout the EC and OECD countries that as high levels of unemployment are sustained, the greater the proportion of the unemployed who are classed as long-term unemployed (unemployed for more than a year). In Ireland, for example, the proportion of males on the Live Register who have been unemployed for more than a year has risen from 33 per cent in 1979 to 49 per cent in 1988. In terms of social policy, the long-term unemployed and their families constitute one of, if not the, most disadvantaged group in society. Thus policies which redistribute in favour of them will be highly progressive and can be justified on grounds of social equity. Beyond this, however, labour market policies which favour the long-term unemployed are attractive from an economic point of view, not least

because they are unlikely to have any of the deleterious consequences that can sometimes follow from other forms of intervention in the labour market. Econometric studies (see Bradley, 1988; Walsh, 1987) suggest that the level of long-term unemployment has less effect on restraining wage increases than has the level of short-term unemployment. It follows, therefore, that measures targeted at the long-term unemployed are unlikely to lead to increased wage demands in the economy as a whole or to an increase in inflation (via the Phillips curve). Thus, labour market policies targeted at this group are desirable on several grounds.¹⁷

The EIS is only moderately successful in encouraging employers to hire the long-term unemployed: as we saw in Chapter 3, about 15 per cent of hirings under EIS in 1986 were of the long-term unemployed, despite the fact that the subsidy available for them is twice that available for the other categories. In the remainder of this section we examine the following issues:

- (i) to what extent does the differential subsidy itself persuade employers to hire the long-term unemployed?
- (ii) what extra costs does hiring the long-term unemployed place on employers?
- (iii) what obstacles do employers, in general, see to hiring the long-term unemployed?
- (iv) would an increase in the subsidy differential encourage greater hiring of the long-term unemployed within EIS?

6.4.1 Substitution within EIS

Thus far when we have referred to substitution we have meant the degree to which the availability of the subsidy persuades employers to take on an EIS eligible employee. However, because of the differential subsidy within EIS between category 3 hirings (the long-term unemployed) and the rest, it is also possible to speak of substitution between EIS categories. In other words, to what extent does the availability of the £60 subsidy persuade employers to redirect their hiring away from categories 1, 2, 4, 5 and 6 and towards the long-term unemployed? In our questionnaire we sought to answer this question by asking those employers who had hired a member of the long-term unemployed whether this was because they qualified for the higher subsidy. Forty per cent claimed that the higher subsidy had been influential in persuading them to hire such an employee, though, of these, half said it was not the main reason. This suggests that about 9 per cent of EIS hirings (i.e., 15

17. The recent NESC (1988) paper on labour markets reports very similar arguments which have been used in the UK to justify concentrated assistance on the long-term unemployed.

per cent \times 60 per cent) would have been from among the long-term unemployed even without the subsidy differential. Conversely, the effect of the differential is, at a maximum, to redirect 6 per cent of hiring within EIS towards the long-term unemployed.

6.4.2 Costs Associated with Employing the Long-term Unemployed

Although the EIS subsidy which is available in respect of the long-term unemployed is £30 greater than the subsidy which is available for other eligible categories of employee, the long-term unemployed are nevertheless more costly to employ (in terms of gross wage) than most other categories of employee. We can see this from Table 6.2, where we show the mean gross wage minus the subsidy for each employee category. In other words, this is the weekly amount which the employer must pay over and above the subsidy during the EIS period. It is clear that the short-term and the long-term unemployed categories are around £35 per week more costly to employ than employees from the other categories. It follows from this that the long-term unemployed category employees receive a wage (inclusive of the subsidy) roughly £30 per week higher than employees of the short-term unemployed category and £65 per week higher than those from the other categories. During the subsidy period, then, employees of categories 2 and 3 are considerably more expensive to employ than others: after the subsidy period, however, those long-term unemployed (category 3) employees who are retained become considerably more expensive than short-term unemployed (category 2) employees.

The reason why employees who had been long-term unemployed are more expensive to employ relates to their age (though age is not the most important factor in respect of the short-term unemployed category). As Table 6.3 shows, employees drawn from categories 1, 5 and 6 (first time job seekers and former

Table 6.2: *Mean Gross Wage Minus Subsidy According to Criterion under which Hired*

<i>Employee Category*</i>	<i>Gross Wage minus Subsidy £</i>
1 First-time Job Seekers	33.55
2 Short-term Unemployed	67.33
3 Long-term Unemployed	67.64
5 Ex-Training Scheme	30.51
6 Ex-WEP	31.00
All	47.25

* Category 4 omitted because only one case.

training scheme and WEP participants) are aged between just under 18 and just over 19 years: short-term unemployed (category 2) employees are, on average, in their early twenties, and long-term unemployed (category 3) employees are, on average, about ten years older.

Table 6.3: *Mean Age in years of Employees According to Criterion of Hiring*

<i>Employee Category</i>	<i>Age</i>	<i>Standard Deviation</i>
1 First-time Job Seekers	17.79	1.79
2 Short-term Unemployed	23.62	6.90
3 Long-term Unemployed	32.23	8.74
4 Disabled	19.00	0.00
5 Ex-Training Scheme	19.40	2.64
6 Ex-WEP	18.90	1.94
All	21.87	7.17

Table 6.4: *Regression Results: Gross Wage Minus Subsidy (t-statistics in parentheses)*

<i>Column:</i>	(1)	(2)
Intercept	-61.411 (3.51)	-64.810 (3.88)
Hiring Categories:		
Two	17.004 (3.73)	16.011 (3.75)
Three	-3.145 (0.42)	-3.070 (0.43)
Five	-8.206 (1.47)	-10.004 (1.91)
Six	-7.634 (1.46)	-4.896 (0.99)
Age	6.752 (5.18)	6.857 (5.61)
Age-Squared	-0.078 (4.13)	-0.082 (4.59)
Sex	—	-11.441 (3.70)
Firm Size	—	1.336 (4.24)
Firm Size Squared	—	-0.013 (2.27)
R ²	.34	.43

It is well known that wage levels which employees can command are related to their age: in general a quadratic relationship between age and earnings appears to exist, earnings increasing with age up to some point in the middle years and then declining. To a large extent the age/earnings relationship reflects the value of experience. In our case, we regressed the amount that employers were willing to pay for employees (i.e., gross wage minus subsidy) on variables representing the criterion under which the employee was hired and on the employee's age and age squared (to capture the quadratic effect). The results of this are shown in column 1 of Table 6.4. When we take age into account, then there is no difference in the amounts added by employers to the subsidy in respect of any employees of any category except those in category 2 (the short-term unemployed). To illustrate: given two employees both aged 30, one of whom had been long-term unemployed and was thus hired under category 3, the other of whom was a former training scheme participant (and thus hired under category 5), our results suggests that these two could expect to receive, from their employer, virtually the same amount over and above the subsidy payment. Of course, the category 3 employee would still earn more — £30 per week — because of the subsidy differential. In other words, category 3 employees drawn from among the long-term unemployed cost more to employ because they tend to be older.¹⁸

Controlling for age, however, does not remove the positive coefficient associated with short-term unemployed (category 2) employees. Column 2 of Table 6.4 shows a more fully specified equation which also takes account of the employee's sex and the size of the firm (including the quadratic term which our analyses, reported in the appendix to this chapter, showed to be appropriate). Again, the long-term unemployed no longer receive a greater wage net of the subsidy: however, the short-term unemployed do: for any age employees in a given size of firm, category 2 employees receive, on average, £16 per week gross wage (excluding the subsidy) more than others. It is also worth noting the effect of sex: this indicates that, on average, employers top up the subsidy payment by £11 per week less for women than for men. If, however, we take account of both the sector in which the employing firms are located and the occupations in

18. While we have argued that the relationship between wages and age arises because of skill and experience differentials, it is also possible that it in fact reflects differences in the "reservation wage" of the unemployed. In particular, older job seekers are more likely to have dependants and to be receiving a higher rate of unemployment compensation than are younger job seekers. Accordingly they will require a higher wage if they are to re-enter employment. In our data the average weekly level of UA/UB among our sample immediately preceding their entry into employment is very highly correlated with age (.7). When we add a variable measuring the weekly level of UA/UB to equation (2) in Table 6.4 it does not reach statistical significance. Similarly, replacing the age measures in that equation by this new variable leads to a reduction in R^2 from .43 to .34. In other words, age, although highly correlated with the level of UA/UB, explains rather more of the variation in wage levels.

which the employees are engaged, this sex effect disappears.¹⁹ Women hired under EIS earn less than men because of the way they are distributed across firms of different types (which pay different wage rates) and across occupations (which command different rates of pay). However, the positive differential in favour of employees who had been short-term unemployed persists even when we take such factors into account. Allowing for age, sex, firm size, the sector of the firm and the specific occupation, such employees receive, on average, £14 per week more from their employers (not including the subsidy) than do first time job seeker employees from category 1. The persistence of the differential may be due to the fact that the jobs for which short-term unemployed employees are hired have a higher average skill content: certainly a much larger percentage of category 2 employees enter jobs classed as skilled (using the rather crude Census definition). For example, 36 per cent of category 2 employees were in jobs classed as skilled, against 19 per cent from among the long-term unemployed, 20 per cent from categories 1 and 6; and 33 per cent from category 5 (i.e., those who had undertaken a training programme).

6.4.3 Obstacles to Hiring the Long-term Unemployed

As well as greater wage costs, employers perceive other obstacles to hiring the long-term unemployed. When given a list of five possible reasons for why employers in general appear reluctant to hire the long-term unemployed via EIS, our respondents considered that the existence of bad work habits among the long-term unemployed and the difficulties of training the long-term unemployed were the most important obstacles. Reasons such as "It is cheaper to employ young people or other categories of worker" were considered to be less important. There were no significant differences in the pattern of replies as between those who had and those who had not hired the long-term unemployed, with one exception: those who had employees from among the long-term unemployed tended to view the difficulties of training the long-term unemployed as less of an obstacle to their employment.

As the counterpart to our question asking those who had hired from among the long-term unemployed why they had done so, we asked the following question of those employers who had hired someone from one of the other categories:

19. We do not report this larger analysis. However, the sectoral breakdown we used was the sixfold categorisation shown in Table 3.4, while the occupational grouping was based on the Census coding of socio-economic groups which we aggregated into 6:

1. Agricultural, Forestry and Fishing occupations;
2. Higher non-manual;
3. Routine non-manual;
4. Skilled manual;
5. Semi-skilled manual;
6. Unskilled manual.

Why didn't you hire someone from among the long-term unemployed adult population for whom you could have got £60 per week?

Just under half of our respondents claimed that either the job which was available was not suitable for older workers or that no suitable long-term unemployed job seeker was available. The next most important reason related to training: 17 per cent of respondents said that they did not hire from among the long-term unemployed because the young were easier to train. A further 13 per cent claimed to be ignorant of the existence of the premium differential.

6.4.4 The Effects of an Increased Differential

The findings reported in the preceding three sections suggest that, although, net of the subsidy, the long-term unemployed are more expensive to employ, the cost factor is not perceived as the most important in deciding whether or not to hire from among them. Of more significance is the perception that the long-term unemployed have bad work habits and a feeling that they will prove less easy to train than a younger person. A second factor is the belief that the available jobs are not suited to older, long-term unemployed workers — though this may, in turn, reflect the fact that a low wage is being offered or be related to the issue of perceived bad work habits or training.

Employers who hire using EIS do not appear to view a lack of skills among the long-term unemployed as a crucial factor militating against them: after all, the majority of employees taken on under EIS enter unskilled jobs. The objection to the long-term unemployed seems, rather, to relate to their perceived lack of what we might call "flexibility": employers seem to believe that the long-term unemployed will be "set in their ways" and will encounter difficulty in adapting to new work practices and acquiring new skills. It is noticeable that, as we remarked earlier, this view is less strongly held by those who have actually hired the long-term unemployed.

The greater financial cost of employing the long-term unemployed could be removed by increasing the subsidy differential by a further, say, £35 per week (basing this figure on the results shown in Table 6.2), which would make the long-term unemployed as cheap to employ (at least during the subsidy period) as employees hired from among recent labour force entrants or former participants in training or work experience schemes (and considerably cheaper than those hired from among the short-term unemployed). However, this would still leave the other, and apparently greater, non-financial obstacles to hiring the long-term unemployed. Accordingly, the questions arise: (i) could a greater differential be used to offset the apparent unattractiveness of the

long-term unemployed?; (ii) if so, how much would this differential have to be?²⁰

Our data do not provide an optimistic answer to the first of these questions. When asked if a greater differential in the premium structure in favour of the long-term unemployed would make employers "like you" more likely to hire them, only 38 per cent thought it would. Again, there was a statistically significant difference between those who had used EIS to hire an employee from among the long-term unemployed (48 per cent of whom thought it would) and those who had not (36 per cent). When those who replied in the affirmative were then asked what the differential would have to be to encourage employers to take on "substantially more" of the long-term unemployed, the average reply was £63. Here too there was a difference between those who had hired from among the long-term unemployed using EIS and those who had not: the figure for the former being £53; £65 for the latter.

These results tend to suggest that, among those employers who feel that the disadvantages to hiring the long-term unemployed could be overcome by making them cheaper to employ, the cost of these disadvantages, as it were, is around £65. This implies a more than doubling of the subsidy differential in favour of the long-term unemployed from £30 to £65 — an increase of £35. Referring back to Table 6.2 we see that this latter figure is almost exactly the actual average extra cost to employers who hire employees from the long-term unemployed category rather than categories 1, 5 or 6. Since we have also seen that this actual extra cost arises because of the greater age of category 3 employees, it suggests that employers are not prepared to compensate or reward the long-term unemployed for their work experience (for which age is a proxy measure): rather, they are willing to pay them, over and above the subsidy, only what they pay category 1 employees, most of whom lack any work experience whatsoever.

6.5 Conclusion

In this chapter we have examined the issues of deadweight and substitution. Here we summarise our findings. We postpone a discussion of their policy relevance until Chapter 7.

6.5.1 Deadweight

We found that the probability that an EIS hiring would produce no net job creation (because of total deadweight) was linked to firm size; to the size of the subsidy relative to the gross wage; and to the firm's recent growth history.

20. Clearly we are now talking of a zero sum game, our concern being with redistributing employment rather than creating it.

Thus, all these three variables could, in theory, be used to select among applicant firms with the aim of excluding those in which deadweight seemed likely to be high. However, all these three variables are themselves related, as we discuss in the appendix, and this, in turn, contributes to the rather low explanatory power of models attempting to account for, or predict, likely deadweight. In very general terms, the size of the labour force accounts for about 2 per cent of the total variation in deadweight across our sample, while the size of the subsidy relative to gross wage accounts for about 3 per cent. In other words, while these three variables are clearly related to deadweight levels, there is nevertheless considerable variation in the levels of deadweight across firms in our sample which these variables do not explain and, therefore, cannot be used to predict.

6.5.2 Substitution and the Long-term Unemployed

Our earlier analysis suggests that about 40 per cent of participating firms believe that an increase in the premium differential in favour of the long-term unemployed would lead to an increase in hirings of such employees. The average increase in the differential which would be required, is, in the opinion of these firms, around £35. This, as we showed, would make EIS employees drawn from among the long-term unemployed about as costly to employ (net of the subsidy) as first time job seekers hired under category 1 and much less costly than category 2 employees (who had been short-term unemployed). Two additional points might be made. First, the greater cost of employing a long-term unemployed worker under EIS is less of a disincentive than the perception of the long-term unemployed as lacking what might be termed "flexibility". In addition, many employers felt that the jobs they had on offer were not suited to the older worker. Thus, the greater differential in the subsidy which some employers regard as necessary to increase recruitment from among the long-term unemployed might be seen as a form of compensation to overcome these non-wage issues. Secondly, we believe that when we asked employers whether a greater differential would encourage increased hiring from among the long-term unemployed, employers may have assumed the continuation of the present rates of subsidy for the other categories of employee hired under EIS. So, the average subsidy, according to their replies and making this assumption, would rise to £95 for category 3 while remaining at £30 for the other categories. However, roughly the same differential could be arrived at by retaining the present subsidy of £60 for long-term unemployed workers and removing the subsidy from all other categories of worker. This might constitute a greater incentive to employ the long-term unemployed than would a £95:£30 premium structure, despite the fact that the differential is the same in both cases. This is an issue we shall return to in our discussion of policy in Chapter 7.

*APPENDIX TO CHAPTER 6**A6.1 Deadweight Levels*

We sought to account for the levels of deadweight across our sample of EIS hirings as follows. The EIS is a marginal subsidy, thus all firms who participate must be expanding their level of employment, at least in the short-term. The distinction between hirings where deadweight is total and hirings in which at least some additional employment is induced by the subsidy lies in the fact that the former would have expanded their work-force at around the time of hiring in any case, while the latter would not. Ideally, then, we would like to be able to distinguish between firms which are, on the one hand, "naturally" growing and, on the other, those whose growth is EIS induced. Deadweight, we anticipate, should be higher among the former. We tried to draw this distinction among the firms in our sample by asking questions about the nature of the growth in their employment levels over the past few years. The two items which we draw on below were (i) a question asking employers whether, over the last 3 or 4 years, their labour force had been increasing, decreasing, or remaining roughly the same; and (ii) a question concerning the number of workers they had hired during 1986 and 1987 without using EIS. Clearly, firms whose employment numbers were in long-term decline or approximately steady could avail of EIS given short-term constancy in employment numbers. Accordingly, we used these two questions to distinguish, on the one hand, between firms which appeared to be on a long-term growth path in employment numbers and who were recruiting to some extent outside EIS, and those whose growth was zero or static or who, although they were increasing employment, were doing so entirely via EIS. We constructed a variable on this basis, with all the latter being given a score of zero and the former receiving a score equal to their number of non-EIS hirings during 1986 and 1987. Clearly, this variable can only be a proxy for the dichotomisation of firms referred to above. In particular, it will not distinguish cases where growth is entirely EIS induced from cases in which, although growth is not induced by EIS, firms make full use of the scheme by recruiting only under the provisions of the scheme (both these cases will have a zero score on our variable though their deadweight levels will, in fact, be quite different). However, even as an approximation this variable should, nevertheless, be positively related to the level of deadweight. We label this variable CHANGE.

The other major variable which ought to account for variations in deadweight is the size of the subsidy relative to the gross wage. Since employment subsidies are based on the assumption that a major obstacle to

employment is a too-high level of wages, it follows that the effect of a subsidy ought to be proportional (depending on the elasticity of demand for labour) to the decline in labour costs brought about by the subsidy. We measure the decline in costs by the subsidy divided by the gross wage: our expectation here is that the larger this figure the more likely would the employer have been to be induced to take on an extra employee. Thus EIS would be most effective in low wage firms where the subsidy makes up a correspondingly higher proportion of the gross wage. This variable is labelled PROP.

As well as these two variables there are three other factors which we might expect to have a bearing on the level of deadweight: these are the criterion under which the employee was hired; the sector in which the firm is located; and the size of the firm. T. O'Mahony (1983, p.14) reports that "the degree to which subsidised jobs are created because of the existence of the subsidy varies markedly with the size of the firm, and variations in the degree of effectiveness across sectors are primarily due to the different size structures of the sectors". O'Mahony's data show that the larger the firm, the greater the likelihood of deadweight.

A6.2 Analysis of Deadweight Levels

In order to make our analysis relatively straightforward, all the hirings in our sample were divided into those where some employment was created by the scheme (that is, the 9 per cent where an additional job was induced plus the 23 per cent where hiring was advanced), and those in which deadweight was total. We then sought to account for the probability that deadweight was total (i.e., that the subsidy had no effect on hiring) in terms of the measures discussed in the preceding section. The particular technique used was a logistic regression analysis which allowed us to examine the simultaneous effects of these measures on the probability of total deadweight.

Our analysis found that there was no simple relationship between the sector in which the firm was located (defined as manufacturing/building and construction/shops and wholesaling/business, insurance and finance services/personal and miscellaneous services/agriculture, fishing and forestry) and the probability of total deadweight. This is not surprising, given that these are relatively coarsely aggregated groups, within which are firms of widely differing size, profitability, and so on (controlling for firm size we also failed to find any statistically significant relationship between sector and deadweight). We also found no statistically significant relationship between the probability of total deadweight and the criterion under which the employee was hired: however, the coefficient for criterion 2 fell only marginally short of significance. This coefficient is positive, indicating that deadweight may be greater among employees hired in this category than in others. This does not seem to us to be

surprising: category 2 (adults unemployed for at least 13 weeks) is made up of job seekers, many of whom are "prime age males" and who would, in any case, be relatively attractive to employers.

Taken singly, each of the variables CHANGE, (measuring the degree to which the hiring firm was on a long-term path of expansion), PROP (the proportion of the total wage accounted for by the subsidy) and LF (the size of the firm's labour force at the time of hiring) are statistically significantly related to the probability of total deadweight. In all cases the direction of the relationship is as we anticipated. The greater the size of the subsidy relative to the gross wage the lower the probability of total deadweight; the greater the endogenous long-term growth of the firm the greater the probability of deadweight; and the larger the firm, the greater the probability of deadweight. This latter result, of course, lends support to O'Mahony's earlier finding.

The results obtained so far in respect of the coefficients for hiring category 2 (the short-term unemployed) and for the variables CHANGE, PROP and LF are gratifying in as much as the fact that their signs accord with what one would expect suggests, in turn, that the deadweight measure itself is reliable. In Chapter 4 we referred to attempts to test the reliability of our deadweight measure by examining its relationship with variables which, in theory, should be unrelated to deadweight. These were a variable reflecting whether or not the employee had remained with the firm for the full 24 weeks (which we can label Z1) and a variable indicating whether the employer had received payment of the subsidy (Z2). In Chapter 4 we noted that, when we controlled for other variables which we felt should be related to deadweight, the relationship between deadweight and these two variables proved to be non-significant. Having now discussed the variables we feel should be linked to deadweight levels, we can present these tests in some greater detail. A simple model regressing the log-odds of deadweight on Z1 and Z2 revealed that Z1 had a statistically significant coefficient. However, including any of our three variables CHANGE, PROP and LF in the model led to both Z1 and Z2 having non-significant coefficients. In other words, Z1 and Z2, both of which refer to employers' experiences of EIS after they had made the hiring decision (and which should, therefore, have no bearing on the measure of deadweight) have no influence on deadweight independent of their correlation with firm size, wage levels, and so forth.

The variables CHANGE, PROP and LF are all mutually correlated; as a consequence, when they are entered together into the analysis, none of them reaches statistical significance. Taken separately, the size of the labour force (LF) provides the best predictor of deadweight. The coefficients for this equation are shown in column 1 of Table 6.5.

In an earlier analysis of half of the current data set it was discovered that the relationship between deadweight and the variable PROP was strengthened if a quadratic term was included. Accordingly, we re-analysed the full data set including, as an extra variable, PROP2 — that is, the variable PROP squared (i.e. the squared ratio of the subsidy to the gross wage). The results of this are shown in the second column of Table 6.5 on page 72.

A6.3 *Interpreting the Results*

Before turning to a discussion of why the probability of total deadweight shows a quadratic relationship with the ratio of subsidy to gross wage, we shall first turn to the implications of our findings.

Because the equation shown in column 2 of Table 6.5 defines a strictly convex function,²¹ we can use it to define the ratio of subsidy to gross wage at which total deadweight will be minimised. We find that deadweight will be minimised in those cases where the ratio of the subsidy to the gross wage is around 60 per cent. Deadweight will be at a maximum where the subsidy accounts for less than 20 per cent of the gross wage. As the proportion of the wage made up by the subsidy increases, so the probability of deadweight declines to reach its lowest where the proportion is around 60 per cent. However, beyond this point, deadweight begins to rise again, though it never reaches the levels found in cases where the subsidy accounts for under 20 per cent of the gross wage.

We anticipated a linear relationship between the proportion of the total wage accounted for by the subsidy and the probability of total deadweight. In particular, the quadratic relationship which we in fact observe differs from our expectation in so far as, once the proportion of the wage accounted for by the subsidy exceeds about 65 per cent, the probability of deadweight begins to increase again, rather than continuing to fall. We may note that this effect does not disappear when we make the finer distinction between hirings where deadweight was total and partial, nor does it alter if we control for the sector of the business or the criterion under which the employee was hired. Why, then, does it arise? That deadweight is high in firms where the subsidy forms only a small percentage of the wage is as we would have anticipated: the relatively

21. The coefficients in Table 6.5 actually relate to the log-odds of total deadweight, but since the odds are a monotonic function of the corresponding probability this is of no account in minimising the function. The function is convex because its second derivative is positive. Thus, if we let b_1 be the coefficient for the variable PROP and b_2 the coefficient for PROP² the first derivative is given by

$$dy/dPROP = -b_1 + 2b_2 PROP$$

setting this to zero and rearranging yields a minimum for the probability where

$$PROP = b_1 / 2b_2$$

Table 6.5: *Analysis of Deadweight: Results (t-ratios in parentheses)*

Column:	(1)	(2)	(3)	(4)
Dependent Variable:	Log-odds of Total Deadweight	Log-odds of Total Deadweight	Gross Wage	Gross Wage minus Subsidy
Independent Variables:				
Intercept	0.549 (3.73)	3.601 (3.74)	74.080 (26.55)	39.667 (15.83)
Size of Firm	0.03 (2.18)	—	1.448 (3.31)	1.547 (3.94)
Size Squared	—	—	-0.019 (2.46)	-0.019 (2.80)
Prop ¹	—	-0.107 (2.84)		
Prop Squared	—	0.0009 (2.54)		
R ²	—	—	.04	.05
Method	Logit	Logit	OLS	OLS

$$1. \text{ Prop} = \frac{\text{Subsidy}}{\text{Gross Wage}} \times 100$$

high deadweight in firms where the subsidy makes up three quarters or more of the wage may be due to the fact that these are low wage jobs and wage levels are not, therefore, the main obstacle to increasing employment among such firms. As a result, the availability of the subsidy makes little or no difference to the hiring behaviour of these firms.

The relationship between firm size and deadweight, on the one hand, and that between PROP and deadweight, on the other hand, can be reconciled quite easily. The relationship between firm size and gross wage is also quadratic, as the results given in column 3 of Table 6.5 show. In other words, average wages increase with increasing firm size up to about 40–45 employees, after which wage levels begin to decline again. Since the EIS subsidy payment has only two possible levels, the ratio of subsidy to gross wage follows an approximately inverse pattern (the relevant coefficients being given in column 4 of Table 6.5). In other words, as we move to ever larger firms, the subsidy comes to form a decreasing proportion of the gross wage, reaching its minimum proportion in firms with about 40–45 employees. After this point, however, because wage levels begin to decline again, the subsidy starts to increase as a proportion of gross wage.

Chapter 7

SUMMARY OF FINDINGS AND POLICY RECOMMENDATIONS

7.1 Summary of Findings

1. Just over 1 in 5 hirings made using EIS does not result in payment of the subsidy. About 10 per cent of hirings do not result in the submission of a claim for payment, while a further 13 per cent culminate in a claim which is not paid. The reasons in both cases are broadly similar — either the participant did not remain with the firm for the full 24 weeks or the base level of employment in the firm fell during the period.

2. The level of deadweight in the scheme is high. Just under 70 per cent of hirings would have occurred when they did even without the programme, while in a further 23 per cent the effect of EIS is to advance hiring which would have taken place in any event. In only about 9 per cent of hirings did the scheme induce a firm to take on an employee where they would not otherwise have done so. Given the difficulties of measuring deadweight accurately, we regard this as a likely minimum level — and, consequently, as a maximum estimate of the job creation effect of the scheme.

3. The level of displacement is, conversely, very low or nonexistent. However, our data suggest (though they do not definitively show) that displacement levels may be highest among firms located in the building and construction sector.

4. The scheme appears to have some impact on directing hiring towards the EIS categories. In total about 30 per cent of hirings under the scheme result in the employment of an EIS eligible person who would not otherwise have been hired. If we exclude from this measure those cases in which EIS induces an employer to increase his or her labour force, then in about a quarter of the remaining cases the subsidy encourages employers to redirect their hiring towards the EIS eligible categories.

5. At the end of the subsidy period about 85 per cent of employees hired using EIS are still with their employer. A further 8 months later this has declined to 54 per cent, although in a further 11 per cent of cases the initial job which the employee was hired to fill still exists as a separate job.

6. The job creation effects of EIS are limited because of the high level of deadweight. However, net of deadweight and such displacement as occurs, by the end of the EIS 24 weeks 1 additional person-year of employment will have been created for every 8 hirings under the scheme. In other words, every 100 hirings using EIS result in, on average, the creation of 12.5 person-years of

additional employment. However, since there is a small percentage of firms who have no deadweight and who continue to employ the extra worker after the end of the subsidy period, the average employment created per hiring increases for as long as these jobs last. So, after a further 8 months, the average job creation per hiring will have increased, such that 1 person-year of employment will have been created per 6 hirings made under the scheme, taken over a period of about 14 months.

7. The EIS reduces measured unemployment to the extent that individuals hired under the scheme would otherwise have appeared on the Live Register. Given the criteria regarding eligibility which prevailed in 1986 the effect of EIS on measured unemployment was to reduce it by 1 person-year per 20 hirings over the subsidy period itself (assuming only those hired from categories 2 and 3 — i.e., the short-term and the long-term unemployed — would otherwise have been on the Live Register). Taking account of the post-programme returns suggests that measured unemployment is reduced by 1 person-year per 13 hirings, over a 14 month period.

8. Over the 24 week EIS period, the scheme breaks even, having an average overall Exchequer return per hiring of £7. Because of the persistence after this period of additional employment in firms where the deadweight effect is zero, the scheme begins to show an overall Exchequer profit of the order of around £82 per hiring after a further 8 months.

9. The main effect of removing eligibility from categories 1 (first time job seekers) and 6 (former WEP participants) is to greatly increase the effect of EIS on measured unemployment. Over the 24 week EIS period, measured unemployment would be reduced by 1 person-year per 10 EIS hirings under the new eligibility regime (as compared with 20 EIS hirings under the 1986 rules). The change also increases the overall Exchequer returns from the scheme.

10. We find that overall returns to the Exchequer at the end of the EIS period (that is, inflows to the Exchequer in the form of social welfare savings, tax, PRSI, etc., minus outflows such as the subsidy itself and taking deadweight and displacement into account) are greatest for hirings made from among the long-term unemployed. Despite the fact that the level of outflows is greatest for hirings from this category (particularly since the level of subsidy is £60), they generate very large inflows.

11. The greatest average per hiring contribution to job creation (leaving aside deadweight and displacement) comes from hirings made of category 6 employees (former WEP participants). Such hirings lead to a significantly greater number of person-weeks of employment created by the time of the survey than do hirings of other categories of employee.

12. If we examine the two major objectives of EIS together — these are to create additional jobs, net of deadweight and displacement, and to redirect

hiring towards the EIS eligible categories — we find that 44 per cent of hirings achieve one or both of these ends; conversely, 56 per cent achieve neither.

13. We found that three factors are associated with the observed level of deadweight. Firms which are, in any case, expanding, tend to show higher levels of deadweight; larger firms display higher deadweight; and deadweight is highest where the subsidy makes up less than about 55 per cent or more than 70 per cent of the gross wage paid to employees. We found no significant difference in deadweight levels as between employees hired from the different categories of EIS eligibility, though there was a suggestion in our data that category 2 (the short-term unemployed) hirings may lead to higher deadweight losses than others.

14. Turning to the subsidy differential within the scheme, we found that no more than 6 per cent of all EIS recruitment could be said to be redirected towards the long-term unemployed as a result of the greater subsidy for category 3 hirings.

15. From the employer's point of view, workers hired from categories 2 (short-term unemployed) and 3 (long-term unemployed) are the costliest to employ (net of the subsidy). The greater wage rates paid for category 3 employees is due to their being rather older, on average, than other EIS employees. However, age does not account for the higher rates paid for category 2 workers. Rather, this may be due to the fact that the jobs for which they are hired have a higher skill content: certainly a much larger percentage of category 2 employees enter jobs classed as skilled (using the rather crude Census definition).

16. The main obstacle to hiring the long-term unemployed is the perception, on the part of many employers, that the long-term unemployed have acquired bad work habits and may prove difficult to train — a combination which we earlier termed a perceived lack of "flexibility". In addition, many employers claimed that the jobs for which they were recruiting were not suitable for the older, long-term unemployed worker. This may reflect the nature of the jobs on offer, but it probably also relates to the wage that the employer would be willing to pay. When asked whether a bigger premium differential in favour of the long-term unemployed would substantially increase the likelihood of their being hired, only just under 40 per cent of employers felt that it would. This group considered that, on average, the differential would have to be slightly more than doubled (to around £65) to have this effect. This would make the long-term unemployed as cheap to employ as first time job seekers (for the duration of the subsidy period).

7.2 Deadweight and Job Creation

Perhaps the most contentious of our findings is that, in a small proportion of hirings, the scheme does appear to induce firms to create jobs where none

would otherwise have been created. We have discussed this in some detail in Chapter 4. However, it is perhaps worth noting that, even if this were not the case, and we replaced this finding with a less ambitious assumption about the behaviour of firms, then the scheme would still appear to break even. If we assume that, rather than the scheme inducing, in this 9 per cent of hirings, jobs that would never otherwise have been created, the scheme persuades these firms to advance hiring by the full duration of EIS, then the costings of EIS at the end of the subsidy period are unaffected. In other words, we now assume that EIS acts to advance hiring in 32 per cent of cases (23 per cent plus 9 per cent). Even so, the scheme still breaks even by the end of the subsidy period.

This finding - perhaps surprisingly - supports O'Mahony's conclusion that, in order for the scheme to break even in the short run, 33 per cent of hirings would have to lead to the creation of net new jobs for the duration of the subsidy period. Our results suggest that a figure of this magnitude remains accurate, even given the changes in the circumstances and operation of the scheme since 1983.

Of course, our results also suggest that the scheme does rather better than this, precisely because of our 9 per cent of hirings which lead to net job creation, some of which jobs persist after the end of the subsidy period.

7.3 Reducing the Level of Deadweight

If the central aim of EIS is directly to create additional jobs in the economy, then it ought to seek to minimise the deadweight content of the scheme. However, the very fact that all studies of employment subsidy programmes report levels of deadweight comparable to those found in our study of EIS, indicates the difficulty of doing this. In large part this difficulty comes about because of the problems associated with finding features of hiring firms which are clearly related to higher or lower levels of deadweight. If such variables could be identified then they might be used to screen out firms applying to use EIS but whose deadweight would be unacceptably high. We sought to isolate such variables in Chapter 6: however, the usefulness of the variables we found to be linked to higher levels of deadweight is compromised by the fact that, even when we allow for differences in these variables (such as size of firm, and so on) we still find a great deal of variation in levels of deadweight which these variables do not account for. This means that in some cases these variables cannot be used to effectively screen out potential EIS employers who would have high deadweight. In other cases, in order to effectively remove potential employers who would have very high deadweight, the selection process would drastically reduce the operations of the scheme. Examples of this are shown in Table 7.1.

Table 7.1: *Effects of Restricting Firms' Eligibility for EIS*

<i>Deadweight</i>	<i>Total Sample</i>	<i>Firms with < 21 employees</i>	<i>Firms with < 2 employees</i>	<i>Firms where ratio of subsidy to gross wage lies between 55 and 65 per cent</i>
Total	68	67	62	53
Partial	23	24	25	30
None	9	9	13	17
Remaining Cases as Percentage of Sample	100	90	30	18

Two of the variables that were shown to be associated with the level of deadweight were the size of the hiring firm and the ratio of the subsidy to the gross wage. Table 7.1 shows what would be likely to happen if we used these variables to exclude firms from participation: specifically it shows the effect of such exclusion on the levels of deadweight and on the overall level of participation in the scheme. The first column of the table shows the percentages of firms in the entire sample falling into each of the three deadweight categories — namely total deadweight; partial deadweight (where the scheme acted to advance the start date of the scheme); and zero deadweight. The second column shows the effect of limiting the scheme to firms with 20 or less employees. Deadweight is reduced, but by very little, compared with the figures in column 1. At the foot of the column is the effect of such a limitation on sample size: here, excluding firms with more than 20 employees reduces our sample size by 10 per cent. Column 3 shows the effect of limiting the subsidy to firms with 1 or fewer employees. Finally, column 4 shows the effect of limiting participation to hirings in which the subsidy makes up between 55 and 65 per cent of the gross weekly wage.

All these restrictions improve the deadweight position, but only the last one makes a statistically significant difference.²² However, this latter is achieved

22. Readers may wonder why, when the relationship between deadweight and firm size was shown to be statistically significant in Chapter 6, the use of firm size to impose a restriction on entry to the sample does not lead to a statistically significant change in the level of deadweight. The reason lies in the difference between a correlation between a continuous variable (firm size) and a categorical variable (deadweight category), on the one hand; and a correlation between the same categorical variable and a second categorical variable which is formed from an arbitrary dichotomisation of the continuous variable (firm size dichotomised between, for example, firms with over 20 and firms with 20 or fewer employees). Dichotomising a continuous variable will attenuate (i.e., reduce) the strength of the relationship between that variable and any other. Thus, since the original correlation (continuous with categorical) was quite small, the new correlation (categorical with categorical) fails to reach statistical significance.

only at the cost of reducing the sample to less than 20 per cent of its original size. If we assume that the imposition of such a constraint on the working of the scheme itself would lead to a similar effect, then it is clear that such a policy would lead to a massive decline in the size of the scheme. This, of itself, might not be undesirable; however, the data in Table 7.1 show that, while the bulk of firms excluded from the scheme on this basis would indeed be those where deadweight would have been total, nevertheless there is a loss of many firms in which additional work would have been created. For example, although, in column 4 of Table 7.1 the percentage of firms with zero deadweight has increased from 9 to 17 as a result of this constraint, there has been a much larger loss of firms in which deadweight would have been zero. Of the 9 per cent of firms in the total sample in which deadweight is zero, two-thirds (6 per cent of the total) have been excluded by limiting the scheme to firms where the ratio of subsidy to gross wage lies between 55 and 65 per cent. A similar loss occurs in cases where deadweight is partial. If similar results were obtained by the imposition of this restriction on entry to the entire scheme (supposing that this were possible) then, although the scheme would become more cost effective and its deadweight burden would fall, it would contribute substantially fewer net new jobs to the economy.²³ Our conclusion, therefore, is that such screening of firms is likely to prove impossible or undesirable.

Before leaving the issue of deadweight, however, it should be pointed out that deadweight expenditure may have some positive effects. Use of the term deadweight in the context of public expenditure programmes generally refers to a gain which accrues to participants by virtue of the fact that they are given some incentive — such as a subsidy — to do something which they would have done in any case. However, such a windfall gain may lead to positive effects, depending upon the way in which its recipients use it. In the case of EIS if the subsidy is invested in the firm, even though not in increasing employment, it may very well have effects that are beneficial and which accord with government policy. On the other hand, the effect of deadweight is to transfer control of the subsidy to the recipient: rather than the transfer being for the specific purpose of increasing employment its use is now at the discretion of the employer. Thus whether a deadweight subsidy payment has positive effects from a public policy point of view is determined at the recipient's discretion.

Finally, deadweight is inevitable in any public expenditure programme. Its non-appearance as a feature of evaluations of other programmes should not be taken as evidence of its absence.

23. This is an example of a more general trade off in subsidy programmes between minimising deadweight and maximising job creation. For example, if our only concern were with maximising job creation we would make the subsidy as large as possible in order to encourage more employers to hire; however, given that some employers would have hired anyway, a very large subsidy would lead to a very high level of deadweight.

7.4 Appraisal of EIS

Taken overall, EIS appears to be a moderately successful scheme, though not without problems. On the positive side is the fact that the scheme breaks even in terms of per participant costs by the end of the subsidy period and probably generates an overall return to the Exchequer beyond this point. This happy state of affairs arises in part because the subsidy enables firms to advance their hiring of workers, but chiefly because the scheme fulfils an educational function in demonstrating, to a small percentage of employers, that they can profitably increase their number of employees. The scheme also helps reduce measured unemployment and the further restriction of EIS to categories 2, 3, 4 and 5, enhances this. Lastly, in so far as it redirects about 30 per cent of hirings towards the EIS eligible categories, the scheme is partially successful in achieving its "social" objective.

Given that EIS appears approximately to break even, the question arises of whether an indefinite expansion of the scheme would not solve the Irish unemployment problem at zero additional net Exchequer cost. The answer is, of course, that the scheme as a whole is restricted by the level of demand for it among employers. This also means that participants are a particular subset of Irish employers (selected on various grounds: most importantly participating firms are by definition expanding their labour force whereas the majority of firms are not) from whom it is impossible to generalise to employers as a whole. The job creation effect of EIS is constrained in two important ways. First, the degree to which EIS acts to advance hiring depends upon the underlying level of demand for additional labour among firms, and this is independent of EIS itself. Second, the degree to which EIS induces jobs which otherwise would not have existed is both small and is restricted to a small subgroup of employers. We have argued that EIS induces jobs among this group by demonstrating to them that they can profitably employ an additional worker. The number of firms among which EIS could have this effect seems unlikely to be large.

On the negative side two features of EIS stand out. First, the high level of deadweight. While this is a feature of most, indeed all, employment subsidy programmes, it nevertheless means that the total job creation effect of EIS is modest. Thus, although the scheme creates jobs cheaply — perhaps even costlessly — it does not create very many. Additionally, over half of all hirings do not lead either to any job creation or to any redirecting of hiring towards the EIS categories of worker. Second, the long-term unemployed do not seem to benefit to the extent that one might have expected given the premium differential in their favour. This differential has very modest effects and is not sufficient to overcome the obstacles to hiring the long-term unemployed which the majority of participating firms believe exist.

7.5 *Policy Options*

7.5.1 Goals of Policy and Possible Changes

In presenting and deciding upon policy options, it is, of course, important to have some clear notion of what goals a scheme such as EIS is seeking to achieve. The EIS has two major goals — social and economic as we labelled them — between which there is a certain tension in so far as the changes that would maximise the attaining of one of these goals might well militate against the attaining of the other. For example, if our object is to maximise the social goal of the scheme and redirect hiring towards certain priority categories of job seekers, then the issue of deadweight is insignificant: our main target variable is the level of substitution. However, in seeking to maximise the job creating effect of EIS, the level of deadweight is the single most important variable.

There are perhaps two features of EIS that ought, ideally, to be expanded. The first of these is the job creation potential of scheme: we have seen that, in a small percentage of cases, employers hire an additional permanent employee as a result of the subsidy. We suggested that this arises because the subsidy period is one during which employers discover that they can profitably employ an extra worker. The second of these is the substitution effect of the scheme — specifically, the extent to which the scheme helps direct additional hiring towards the long-term unemployed. However, it may not be possible effectively to pursue both of these goals simultaneously. The attempt to pursue the dual goals of marginal employment subsidies has been common throughout many OECD countries: in the Irish case this may account for why each has met with only modest success. Less than 10 per cent of EIS firms are induced to create new additional jobs, and only 15 per cent of hirings made under the scheme are of long-term unemployed job seekers. This latter figure must be seen against the background of the fact that almost half of all males on the Live Register are long-term unemployed. Of the two possible goals of marginal employment subsidies, international evidence tends to suggest that the equity, or social, goal might be more effectively attained (for example, OECD, 1986 p.53). Furthermore, our research suggests that the job creation effect of EIS is minor. Accordingly most of the policy suggestions in the following sections relate to a redirecting of the scheme more fully towards the social or equity goal and the abandoning of the economic goal.

7.5.2 Policy Options

Given the structure of EIS there are five major areas in which possible policy changes can be carried out. These are:

1. The premium structure as between categories of employee. In the limit a category can be excluded from the scheme by setting its premium level to

zero. Conversely new categories could be included in the scheme by assigning them a particular subsidy level;

2. The premium structure in respect of sectors of employment. The same argument applies here as to 1;
3. The duration of the subsidy period (presently set at 24 weeks);
4. The “incremental” or “marginality condition” — that is, the requirement that each EIS hiring by a firm be additional to the level of employment represented by the firm’s “base level”;
5. The limitation on the annual number of EIS recruitments per firm — presently set at 4.

7.5.2.1 Premium structure among employee categories

At present the scheme has four categories of eligible job seeker; these are (in terms of the labelling operative at the time of our survey) categories 2 (the short-term unemployed), 3 (the long-term unemployed), 4 (the registered disabled) and 5 (former training scheme participants). The only job seekers presently excluded from EIS are those who are not on the Live Register (mainly comprising recent entrants to the labour force, notably school leavers and possibly married women seeking to re-enter the labour force) and those who have been on the Live Register for less than 13 weeks. We do not believe that there are any persuasive arguments for extending the scheme to cover any of the excluded groups: on the contrary there are strong arguments against such a move. We feel that, on balance, the removal from the scheme of categories 2 and 5 would be desirable.

In the case of category 2, which comprises individuals who have spent at least 13 weeks on the Live Register, the evidence indicates that such job seekers are not at the kind of disadvantage in the labour market that can justify their inclusion in this scheme. Our analyses in Chapter 6 showed that category 2 employees earn a higher wage, given their age and level of experience, than any other EIS employees; a higher proportion of them enter occupations described as skilled; and there is a suggestion (though no more than this) that deadweight levels may be higher for hirings made from category 2 than for others. Taken together with the fact that category 2 employees are, on average, in their early to mid-twenties, that they have experience of work and have been unemployed for a relatively short time, then it can be argued that they are at less of a disadvantage in the labour market than certain other categories of job seeker — such as some school leavers — who have recently been excluded from EIS. Furthermore, 13 weeks is considerably less than the average expected duration of unemployment for the labour force as a whole. In other words, an individual

being made unemployed today can, on average, expect to spend much longer than 13 weeks in unemployment before finding another job. Indeed, even in 1979, the average duration of unemployment was 25 weeks (see M. O'Mahony, 1983). The criterion of 13 weeks, then, cannot be said to be an effective cutoff point if our aim is to select those who are experiencing difficulties finding a job. Indeed, the EIS category 2 doubtless contains a proportion of individuals who would be very likely to obtain a job even without the help of EIS.

The latter consideration suggests two possible policy options. Either, as we suggested earlier, category 2 might be removed from the scheme; or, alternatively, the period of unemployment required might be increased to, say, 26 weeks. This would have the effect of ensuring that many of those who could get a job without the assistance of EIS would do so, and that, as a result, EIS would be targeted at a group whose difficulties were greater.

In the case of category 5 (former participants in training schemes), similar arguments apply in so far as the duration of unemployment (that is, time on the LR plus time on a training programme) for such job seekers may be quite short. Again, the options might be to exclude this category or to stipulate that the total continuous time on the LR and in training should be 26 weeks or more.²⁴

We feel that the total time unemployed for qualification under any of the scheme's criteria should be computed in terms of the continuous (i.e., unbroken) length of time spent on any combination of time on the LR, time in training and time on work experience/direct temporary job creation programmes. Thus, for example, a job seeker could qualify as long-term unemployed after 6 months on the Live Register plus 6 months on a training scheme;²⁵ or after a year on the Social Employment Scheme.

Given the above changes we feel that the current level of premium should be retained. Thus, if categories 2 and 5 are excluded from the scheme this would leave two categories of eligible employee: (i) the long-term unemployed, for whom £60 per week would be payable; and (ii) the disabled, travellers and discharged prisoners, for whom no qualifying duration of unemployment would be required, and in respect of whom a weekly premium of £30 would be

24. The data regarding category 5 hirings reported in this study are probably no longer representative of hirings made under this category since the changes made to EIS in June 1987. After this date, job seekers who had spent 13 weeks or more on a training programme were eligible for EIS only if they had also spent a period on the Live Register (either before or after participation in the training programme). Prior to June 1987, however, there was no such stipulation. As a result of this change, those qualifying for EIS under this criterion are now probably somewhat older, on average, than those included in our survey.

25. Though this recommendation must be subject to the stipulations of the European Social Fund as regards qualification for receipt of an ESF subvention.

payable. If it is felt desirable to include a new category of individuals unemployed for more than 26 weeks but less than 52 weeks (as outlined above) then we feel that the premium for them should be £30 per week but that, in this case, the premia for the other two categories should be increased to £80 for the long-term unemployed and £50 for the disabled, travellers and discharged prisoners.

The premium structure must reflect one's beliefs about the priority which ought be attached to different groups: here we have adopted the principle of relating the subsidy level to the duration of unemployment, together with modifications of the subsidy to allow for other labour market difficulties not necessarily related to unemployment duration (in the case of the disabled, travellers, etc.) Referring to our discussion of Chapter 6, it can be seen that the proposed subsidy differential in favour of the long-term unemployed is actually rather less than the £65 suggested by the responses to our questionnaire items dealing with this issue. However, the premium differential suggested here must be viewed together with the proposal advanced below for a differential duration of the subsidy period. Taken together (and this is dealt with below) these two sources of differential would introduce a considerable bias into EIS in favour of hiring the long-term unemployed.

7.5.2.2 Premium structure among sectors

At present firms in all sectors of economic activity are eligible to participate in EIS with the exceptions of the public sector and some areas of the business, insurance and financial (BIF) services sector. We see no pressing arguments for any change here. The inclusion of the remaining areas in the BIF services sector would, we feel, have relatively little impact on the scheme, since such firms are unlikely to seek to recruit the employees available under EIS. Likewise we see no arguments for excluding any of the sectors presently eligible. While there is evidence of a higher level of displacement in the building sector than elsewhere, this is offset by the finding that firms in this sector are more likely than any others to recruit from among the long-term unemployed.

7.5.2.3 Duration of the subsidy period

Our data and analyses have little to say about the possible effectiveness of changing the duration of the subsidy period: thus we have to rely on hypothetical arguments. There is no obvious case for shortening the subsidy period below 24 weeks: on the other hand it might be argued that increasing the subsidy period would encourage employers to hire more employees. In the extreme, an indefinitely prolonged subsidy, by bringing about an apparently permanent reduction in the wage bill for new employees, might be expected to stimulate much additional employment. On the other hand, this would

increase the deadweight losses. While we feel that such a subsidy programme might be considered, the questions that would have to be addressed in doing so are somewhat different to those dealt with in this study. In other words, an evaluation of the feasibility of an indefinitely prolonged labour subsidy, along the lines proposed by Chiarella and Steinherr (1982) and, more recently, by Sinclair (1987), merits much fuller discussion than it could receive here.²⁶

We feel that there are good reasons for prolonging the EIS subsidy period in respect of hirings of the long-term unemployed. In part this is because a longer subsidy period would increase the attractions of hiring the long-term unemployed relative to others. However this suggestion also relates to our discussion, in Chapter 6, concerning the obstacles to hiring the long-term unemployed. There we saw that firms were reluctant to hire the long-term unemployed because of the difficulties, which they believe exist, in training the long-term unemployed and in accustoming them to new work habits and routines. It was also suggested that a financial incentive alone would be insufficient, in the majority of cases, to overcome this. An alternative might be to seek to re-skill the long-term unemployed via the provision of training programmes. While programmes of re-skilling the unemployed are essential, in this case the difficulty with this suggestion is that the objections of employers only relate partially to skills. They also relate to what they perceive as the habits and attitudes of the long-term unemployed. Furthermore, their concern appears to be not so much to do with a lack of specific skills on the part of the long-term unemployed, but with the difficulties of training them. The reason for suggesting a longer subsidy period, then, is, implicitly, to allow time, within the subsidy period, for employers to undertake this training and "acclimatising" of the long-term unemployed to their new work situation. For this purpose we suggest an extension of the subsidy period in respect of the long-term unemployed to 39 weeks or possibly a full year.

7.5.2.4 Incremental condition

If we continue to regard EIS as primarily a job creation measure, then we feel that the incremental or marginality condition should be retained. In such a case the condition will have a major impact on the level of deadweight: clearly, if a subsidy were payable in respect of all recruitments the level of deadweight would increase greatly and the costs per job created would increase accordingly. Some examples of the effect of loosening the incremental condition

26. Within the Irish context such a subsidy programme — whether a direct subsidy or a tax-expenditure based scheme — might be viewed as a means of establishing a desirable level of relative factor costs (by reducing the tax wedge) given the implicit and explicit subsidies (in the form of favourable tax treatment and grants) to capital (see Ruane and John (1984) for a discussion of these and their effects on relative factor costs).

to apply to recruitments above a certain percentage of a base level figure (e.g., 90 per cent rather than, as in EIS, 100 per cent²⁷) are presented by Hamermesh (1978, p.106). His simulations in respect of the USA labour market show that, irrespective of the level of the elasticity of demand for labour, a loosening of the incremental condition from 100 per cent to 85 per cent leads to a fourfold increase in the cost per job created.

However, if we ignore the job creation aspect and assume that the sole purpose of EIS is to encourage the hiring of the long-term unemployed, then the issue of the relaxing of the incremental condition becomes more contentious. Although there are, or have been, recruitment subsidies in operation which have no such conditions attached (in Australia, for example), the removing of the condition from EIS may still have undesirable consequences. For example, it may encourage firms to fire workers in order to replace them with EIS workers for whom a subsidy is payable. Furthermore, firms may also be encouraged to fire their EIS employee when the subsidy period ends and replace him/her with a new EIS employee for whom the subsidy is payable. Imposing a restriction on the number of EIS employees that may be hired in a given year may reduce such activity but will not remove it entirely. A lesser incremental condition relating only to EIS employees — such that a subsidy is only payable for new EIS employees so long as employees formerly hired under EIS are still with the firm — is also inadequate to address this problem and is, in any case, likely to prove more irksome to employers than the present incremental condition. On the other hand, it might be argued, for example, that even if employers were to continuously replace workers whose subsidy period had ended with those long-term unemployed job seekers for whom a subsidy could be claimed, this could itself be seen as redistributing more equitably the limited amount of available employment. Since the now dismissed workers would, at least, have acquired some recent experience of work after a prolonged period of unemployment, then their chances of acquiring a job on their own account ought to have been improved. The main objection to retaining the incremental condition, however, is that it may significantly reduce the effectiveness of EIS in persuading employers to hire the long-term unemployed.

In such a situation, where the consequences of removing the incremental condition are far from obvious, the ideal solution would be to remove the condition from the scheme for a trial period or in a pilot area. However, the difficulties that would arise in trying to re-impose the condition, should the trial period demonstrate this to be necessary, may be too great to permit this. If that

27. A figure of 90 per cent, for example, means that a subsidy is payable for any hirings which increase the number of a firm's employees above 90 per cent of a previously established base level of employment.

is not a feasible option then we suggest that the incremental condition should be retained in any revised EIS, with the proviso that, should participation levels in such a revised scheme decline excessively, the condition should be removed.

7.5.2.5 Restrictions on annual number of EIS hirings

If EIS is to concentrate on those job seekers who are experiencing the greatest difficulties in the labour market, then restricting the number of hirings per annum by firms who are willing to employ such job seekers seems counterproductive. Thus, unless there are other pressing reasons for retaining this restriction, we feel that it should be dropped.

7.5.3 Other Changes

Our analyses in Chapter 6 showed that deadweight was likely to be higher in larger firms. Consequently, if the job creation goal of the scheme is to take precedence, consideration might be given to restricting eligibility to firms below a certain size. For example, restricting the scheme to firms with 25 or fewer full-time or short-time employees may have a marginal effect on reducing deadweight while bringing about only a slight decline in the overall size of the scheme. On the other hand, if, in line with our previous suggestions, the primary goal of EIS is its equity or social function, then there seems to be nothing to be gained from such a restriction in so far as deadweight levels would no longer be a prime focus of policy changes.

7.6 *Summary of Proposed Changes*

The EIS would have two categories of eligible employee:

- (i) individuals who had spent one year or longer in continuous unemployment made up of any combination of spells on the Live Register, in training, or on programmes of direct temporary job creation. For this group the subsidy would be £60 per week and the subsidy would be payable for between 39 and 52 weeks;
- (ii) individuals who are disabled; travellers and discharged prisoners. For this group the subsidy would be £30 per week payable for 24 weeks.

There would be no restriction on the number of hirings per annum per firm under the scheme. Firms' eligibility to participate and their eligibility for payment would be determined in the same way as at present — i.e., the incremental or marginality condition would be retained and the same restrictions as to which sectors could participate would also be unchanged.

We also suggested the possibility of a third employee category under the scheme:

(iii) individuals who had spent more than 6 months but less than 1 year in continuous unemployment made up of any combination of spells on the Live Register, in training or on programmes of direct temporary job creation. For this group the subsidy would be £30 per week and the subsidy would be payable for 24 weeks.

If it were felt desirable to include this third category in the scheme it would be necessary to increase the subsidy levels for categories (i) and (ii): we suggested figures of around £80 and £50 respectively.

7.7 Possible Effects of Changes

Assuming an EIS as set out above with only two categories of eligible employee, (i) and (ii), the likely consequences are, first, a considerable reduction in the level of participation in the scheme and thus of the number of hirings per annum under the scheme; second, an increase in the per hiring gross costs of the scheme but a decrease in net and overall costs; and, third, an increase in the substitution effect of the scheme. Our estimates of the size of these effects are given below: they must, however, be regarded as approximations.

We should anticipate a decline in demand for the scheme on the part of employers to roughly half of what it was at the time of our study (i.e., when there were 6 eligible categories of employee). This figure is derived from the figure of 38 per cent of employers who felt that an increased subsidy differential would make "employers like you" more likely to hire the long-term unemployed, together with the 15 per cent of hirings made under the scheme which were, in any case, of the long-term unemployed. In addition, however, we might also expect increased hiring of the disabled, travellers, and so on, under the scheme, through a substitution effect arising from their relatively increased cheapness when compared with job seekers outside EIS. It should be recognised, however, that a good deal of uncertainty surrounds any estimate of how employers will respond to such changes in EIS. It may be that, at least initially, FAS will have to engage in greater marketing of the scheme in order to maintain usage at a reasonably high level.

The costs per hiring of the proposed scheme depend, to some degree, on the balance of £30 and £60 hirings. Concentrating on the latter and assuming that the subsidy was payable for 52 weeks in respect of the long-term unemployed and that the rate of non-payment of the subsidy (which, as we saw in Chapter 3, amounts to 20 per cent of all hirings) remained unchanged, this would give a total gross cost (as defined in Chapter 4) per £60 hiring of £3,130. Using the figures presented in Chapters 4 and 5 to make an estimate of the returns to the Exchequer during the 52 weeks period in the form of social welfare forgone, income tax, and so on, and assuming a refund from the ESF equal to 50 per

cent of the subsidy, this would yield a net cost per hiring over the 52 weeks of the order of $-\pounds 3,600$. Finally, assuming unchanged deadweight and displacement effects, the overall cost (i.e., net cost allowing for deadweight and displacement) would be in the region of $-\pounds 125$ per hiring of the long-term unemployed. In other words, after the year on EIS, there would be a slight overall Exchequer profit. Note that if we assume that all hirings led to the payment of the subsidy, then this may not make the scheme appreciably more expensive since it is to be expected that, under those circumstances, returns to the Exchequer in the form of social welfare forgone, tax, and so forth, would also increase. We are unable to make equivalent estimates for hirings made under our new category (ii) — the disabled, discharged prisoners, etc. However, it is reasonable to assume that such hirings would be only a minority of hirings made under the revised EIS. Therefore the figures we have presented for the costs of hiring the long-term unemployed are probably broadly indicative of the per hiring costs for such a revised EIS.

The substitution effect could be expected to increase greatly, though we are unable to give a precise figure for the size of such an increase. It is evident, however, given that the motivation for such a change to the scheme is the low rate of recruitment of the long-term unemployed, that a scheme, almost all of whose recruitments are from this group, will show a substantial substitution effect. Furthermore, although our main concern is now with the level of substitution, the changes we have suggested do not of themselves imply that the scheme's job creation effect will henceforth be zero. Our earlier argument — to the effect that, for a small percentage of participating employers EIS helped persuade them that they could profitably take on an extra worker — could still hold, even given the proposed changes to the scheme, particularly since the subsidy period would now be longer for certain categories of EIS employee. Again, it is not possible to make an estimate of this effect.

We believe that there are strong arguments, based on both equity and economic considerations, for targeting the scheme more fully towards the long-term unemployed (see Section 6.4). If this were done the scheme could play a significant role as part of a set of policies to deal with long-term unemployment and assist the long-term unemployed to return to work. In addition, within EIS, hirings of the long-term unemployed are also the least expensive indeed they appear to generate a positive return to the Exchequer. This being so, changing the scheme in the manner outlined will not only increase its effectiveness as a redistributive measure but should also make the scheme itself less costly when measured on a per hiring basis.

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