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"One Dummy Won't Get it: The Impact of Training Programme Type and Duration on the Employment Chances of the Unemployed in Ireland"

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Abstract: In the extensive literature on the employment impact of public-sponsored training programmes for the unemployed, insufficient attention has been paid to the differential impact of different types of programmes and training duration. This paper uses a unique dataset, which tracks the labour market position of a cohort of unemployment benefit claimants for almost two years, to evaluate the impact of a range of government-sponsored training courses in Ireland. Overall, we found that those who participated in training were less likely to be unemployed at the end of the two-year study period. However, the average effect of training varied by the type and duration of training received. In general, we found strong positive effects for job-search skills training and medium-to high-level skills courses, a more modest positive effect for general vocational skills programmes (which are not strongly linked to demand in the labour market) and less consistent effects with respect to low-level skills training. We also found that training episodes with lower duration had a more positive impact, with the exception of high-level skills training programmes where longer training durations appear more effective. The results suggest that, in the Irish context, there are potentially substantial benefits to re-orientating unemployment training provision away from standard classroom vocational training towards the medium to high-level skill end of the market and demonstrate that, in most cases, training durations can be reduced without lowering the effectiveness of the interventions.

Keywords: Unemployment, activation, training

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I Introduction

The evolution of the Irish recession that began in 2008 has been well documented, with much commentary focused around the collapse of the banking system, the bursting of the property bubble and the escalating public sector deficit. As a consequence of these various factors, the unemployment rate in Ireland has increased dramatically from less than 5 per cent in 2007 to over 14 per cent in 2011. Irish policymakers are now faced with a Herculean task to reduce the level of unemployment. This task is particularly challenging given the growth in both the numbers of structurally unemployed construction sector workers and those that are long-term unemployed[1], not to mention severe shortages of resources to tackle unemployment because of the fiscal crisis of the state and near-stagnant economic growth prospects in the medium term. Given this context, it is crucial that the limited public funds available in Ireland for labour market activation are effective. In relation to this matter, it would appear that much needs to be done in light of a recent evaluation of the country's activation programme, the National Employment Action Plan (NEAP), which concluded that the Job Search Assistance (JSA) process implemented under the NEAP was wholly ineffective and, if anything, tended to impede an effective return to the labour market (McGuinness, O'Connell, Kelly & Walsh, 2011). That evaluation also concluded, however, that those who participated in training under the NEAP were less likely to be unemployed over a 21 month time horizon. This paper builds on that research and examines the differential impacts of various types of training programmes on participants' subsequent employment chances[2], along with the effect of training duration.

II Labour Market Activation in Ireland

A limited activation programme targeting youth unemployed was introduced in Ireland in 1996. However, the use of activation measures began in earnest in September 1998 when the 'Preventative Strategy' was introduced under the National Employment Action Plan (NEAP).[3] Under the NEAP process, targeted groups of unemployment benefit recipients -

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1 Long-term unemployment accounted for 53.9 per cent of total unemployment in the second quarter of 2011 compared with 43.3 per cent a year earlier and 21.7 per cent in the first quarter of 2009 (CSO, 2011).

2 Where employment is measured in terms of an absence from the Live Register, Ireland's official unemployment benefit recipient record, at any given point in time.

3 The NEAP was developed by the Irish government in response to the European Employment Strategy (EES). This strategy required each member state to develop a National Action Plan (NAP) setting out the actions that the country would undertake to implement the guidelines contained in the EES (Grubb, Singh and

those on either Jobseeker's Allowance (JA) or Jobseeker's Benefit (JB) [4] - are to be intervened with after a period of 13 weeks on the Live Register. After this point, jobseekers are referred by the benefit agency, the Department for Social Protection (DSP), to the national training and employment authority, FÁS, for an activation interview: Ireland is one of a small number of OECD countries where the placement function of the Public Employment Service (PES) is separate from the benefit function (Grubb, Singh and Tergeist, 2009). The activation interview is designed to initiate a process whereby FÁS assists the unemployed individuals to reintegrate into the labour market via intensive engagement, guidance and counselling, establishment of action plans, and provision of employment and/or training programmes, work placement and/or job offers.

Studies evaluating the NEAP have been limited and have tended not to separate out the effects of JSA and training. O'Connell (2002a) and Indecon (2005) concluded that, by and large, the NEAP has been an effective labour market policy tool. According to O'Connell (2002a), the NEAP process, in conjunction with increased labour demand, was successful in achieving a substantial movement off the Live Register between its inception and 2001. However, O'Connell (2002a) concluded that this positive finding in relation to the NEAP was tentative as the process had not been subject to a rigorous evaluation at the time he conducted his work. Indecon (2005) concluded from its review of the NEAP, which consisted of both econometric and non-econometric analyses, that the process encouraged early exit from the Live Register and helped to prevent individuals from drifting into long-term unemployment (Grubb et al., 2009). However, Indecon (2005) did not analyse the destinations of those that exited the Live Register i.e. whether benefit recipients exited to the labour market, training or moved on to some other non-employment benefit. Moreover, the control group used in the Indecon study displayed substantially longer unemployment durations than the treatment group, and were thus likely to have shown a lower likelihood of exit from the Live Register than the treatment group, independent of the effects of the NEAP. A recent, and arguably more rigorous, evaluation conducted by McGuinness *et al.*, (2011) found that the JSA component of the NEAP actually lowered the probability of labour market entry while training was found to have positive effects (see also McGuinness, O'Connell and Kelly, 2001). The research presented here builds on this analysis by attempting to distinguish the differential impacts of various forms of training and training programme duration on labour market entry.

Tergeist, 2009). The Irish government developed its 'Preventative Strategy' (i.e. activation strategy) to meet the specific EES guideline of improving employability via a more systematic engagement of the employment services with the unemployed.

[4] JA and JB are Ireland's two unemployment benefits. JA is a means-tested payment and JB is based on social insurance contributions.

III International Evidence on the Impact of Training Programmes

The objective of training programmes offered to jobseekers is to enhance their human capital, and, therefore, employment prospects. Programmes vary according to jobseeker type. For example, some individuals require basic job search training and/or other general skills, while others undertake more intensive and specific training to enhance their employability or to secure better quality jobs. Training tends to account for the largest share of spending on active labour market policy measures (Martin, 2000). However, the findings from the empirical literature on the effectiveness of training programmes are mixed, even when long-run effects are considered.

Some studies have found positive average treatment effects of participation in training programmes on employment/unemployment. For example, Cockx (2003) found that classroom training programmes in Belgium increased the transition rate from unemployment. Richardson and van den Berg (2006) also found that vocational training in Sweden had a positive impact on exits to work; however, the effect only held for the first few weeks after course completion. Rosholm and Skipper (2009), on the other hand, found that Danish classroom training programmes increased participants' unemployment rates in the period immediately after the training ended - a result the authors attributed to a 'lock-in effect', since the negative effect disappeared over time. However, they also found that in the long run training actually increased the fraction of time that programme participants spent in employment[5]. The lock-in effect, which is when job search declines during (or immediately after) participation in a training course, may be one of the main reasons for the poor performance of some training programmes that have been evaluated over a short time horizon. In analysing public-sponsored training programmes in France, Crépon, Ferracci and Fougère (2011) also estimated a negative effect on the exit rate from unemployment but a positive impact on the duration of subsequent employment spells. For Germany, Fitzenberger, Osikominu and Paul (2010) found that government-sponsored training programs had positive employment effects in the medium and long-term, as did Lechner, Miquel and Wunsch (2010), Lechner, Miquel and Wunsch (2007), Lechner and Wunsch (2009), and Fitzenberger, Osikominu and Völter (2006)[6]. However, earlier evaluations of German training programmes (e.g. Lechner, 2000; and Hujer and Wellner, 2000) found no significant effects for German public-sponsored training.

[5] Other Danish studies have found insignificant or negative employment effects for their labour market training programmes: see Rosholm and Skipper (2009) for more details.

[6] Lechner *et al.*, (2010), Lechner, *et al.*, (2007), Lechner and Wunsch, (2006) and Fitzenberger *et al.*, (2006) all identified negative employment effects in the short-run, which each study attributed to a lock-in effect. Lechner and Wunsch (2006) also found that the negative lock-in effects that they identified were smaller in times of higher unemployment and the positive long-run effects were larger.

Results from evaluations of the impact of the duration of training have also been mixed. In France, Crépon *et al.*, (2011) found that longer training spells led to longer unemployment spells but also to longer employment spells. Fitzenberger *et al.*, (2010) found a similar result for Germany, in that longer duration public-sponsored training programs had higher long-run employment gains. Kluve, Schneider, Uhlendorff and Zhao (2007), again for Germany, found positive employment effects for training programs with durations of up to three months, but programs longer than this did not add any additional benefits (see also Biewen, Fitzenberger, Osikominu and Waller, 2007). Hujer, Thomsen and Zeiss (2006), on the other hand, found no impact for short-term vocational training programmes, while medium (six month) and long length (twelve month) programs had negative employment effects. Thus, the results from studies that have evaluated the impact of training programme duration are also inconclusive.

A series of papers on Germany's experience with training provide useful evidence regarding the differential impact of different types of training programmes. Biewen *et al.*, (2007) in their analysis of the impact of short-term training programs, found that 'practical' orientated courses performed better than 'classroom' training. However, other studies that have evaluated the effectiveness of programme type in Germany have derived mixed results. For example, Lechner *et al.*, (2010) looked at the impact of three programs in West Germany and found that 'retraining', for up to 2 years for a different professional qualification, had the biggest employment impact seven years after program start, followed by short-duration (about five months) and long-duration (9 to 12 months) training to provide additional qualifications in a current profession. Yet, when lock-in effects were taken into consideration, 'short training' outperformed the other two programs. They found no sustainable positive effects for training in 'practice firms' that simulate working in a specific occupation. In another evaluation, Lechner *et al.*, (2007) investigated the impact of the same three programs in East Germany and found that, on average, all three programs displayed negative employment effects in the short-run and positive effects in the long-run. However, the positive long-run effects identified for the three programs applied to females only, as the 'long training' program had a negative employment affect for males and the 'retraining' program an insignificant effect[7]. In another evaluation of German public-sponsored training programs, again for East Germany, Fitzenberger and Völter (2007) found that training in specific professional skills and techniques (SBST) to enhance qualifications in a current occupation produced positive medium (1-3 years) and long-run (4-6 years) employment effects, although there were strong negative lock-in effects for the first two years. However, neither practice firms nor retraining for a different occupation showed consistent positive employment effects, in contrast to the positive effects found for these two programmes by

[7] Lechner *et al.*, attributed the male results to inappropriate long-term courses by the Public Employment Service (PES), which largely consisted of training in construction which was experiencing a boom at the time of training but by the time the participants had completed their courses the sector was in recession.

Lechner *et al.* (2010). All three programs analysed by Fitzenberger and Völter (2007) showed an increase in benefit recipiency in the short-run, due to lock-in effects, and no reduction in benefit recipiency in the medium and long-run. Fitzenberger, Osikominu and Völter (2006) conducted a similar analysis for West Germany and derived slightly different results. Specifically, after initial lock-in effects in the short-run, all three programs exhibited positive employment effects in the medium and long-term. As with East Germany, SPST performed better than the other two programs. Arellano (2010) examined a variety of training courses in Spain and found that 'medium-level' programmes, including occupational training for unskilled workers, and specialist training for skilled workers, reduced the length of unemployment spells, with stronger effects for females.

The results from studies that have evaluated the effectiveness of training programmes against other Active Labour Market Programmes (ALMPs) are also mixed. For example, Kluve, Lehmann and Schmidt (1999) found a statistically significant positive effect of training programmes on participants' employment rates in Poland, while both public employment and wage subsidies had a negative effect. Van Ours (2001) also found that training had a positive effect on the job placement rate of unemployed workers in the Slovak Republic. However, so did public-sector subsidised jobs, whereas private-sector wage subsidies had a negative effect. Van Ours (2001) attributed the positive training result to reverse causality: unemployed workers only entered the training programme because they were promised a job. Fitzenberger, Orlyanskaya, Osikominu and Waller (2008) studied the affect of two types of short-term programs in West Germany and found that each had a positive impact on employment. Of the two programmes analysed, skills training had a greater positive impact than a short-term programme focussing on job-search assistance and monitoring. Neubäumer (2010) found that both vocational training and wage subsidies in Germany had a positive employment impact in both the short-term (after an initial lock-in period) and the medium term, although wage subsidies had a stronger impact than vocational training. Jespersen, Munch and Skipper (2008) found no significant effect (short or long-term) from classroom training on participants' employment in Denmark, while wage subsidies had a positive impact[8]. Using Swedish data, Sianesi (2008) found that unemployed individuals that participated in a labour market training programme subsequently displayed lower employment rates (short and long term), along with a higher benefit collection probability. Wage subsidies, on the other hand, increased employment prospects in the long-term. Overall, Sianesi (2008) concluded that ALMPs that resemble regular employment perform better. An earlier study of Swedish ALMPs by Carling and Richardson (2004) derived similar results: they found subsidised work experience and training provided by firms had better outcomes than classroom vocational training. O'Connell (2002b) and O'Connell and McGinnity (1997) drew a similar conclusion using Irish data, showing that ALMPs with strong

[8] Furthermore, in a cost-benefit analysis of the large-scale system of ALMPs in Denmark, Jespersen et al. (2008) found that classroom training led to a deficit.

linkages to the labour market, including training in specific skills and employment experience in private sector firms, were more likely to enhance subsequent employment chances. Conniffe, Gash and O'Connell (2000) focussed on young unemployed individuals and found that general training had no significant effect on this group's probability of gaining employment. Negative or insignificant training effects have also been uncovered for Switzerland (Lalive, van Ours and Zweimüller, 2008; and Gerfin and Lechner, 2002) and various other European countries (see Kluve, 2006).

It is perhaps not surprising that, given the variation in economic and institutional settings across countries, differences in specific programme characteristics (e.g. type, scale,[9] target group, etc.), as well as in methodological issues in conducting evaluations (e.g. data used, methodology employed, outcome measured, use of selection controls, etc.), and in the time period over which training programmes are assessed, it is difficult to draw decisive conclusions from the literature on whether training programmes are an effective tool for assisting the unemployed to reintegrate back into the labour market. In their recent surveys of the ALMPs literature, both Kluve (2006) and Card, Kluve and Weber (2010) use a meta-analytical framework[10] to overcome these cross-country comparison problems, and in so doing found that training programmes produced favourable outcomes in the medium-term. The main policy implication from Kluve (2006) and Card *et al.*, (2010) work is that 'programme type' is what matters most for a programme to be effectiveness. In this regard, it would appear that training programmes that are targeted to specific groups, and which involve some type of on-the-job component, and, as such, are closely related to the labour market, tend to show positive employment effects, while unfocused large-scale training programmes are not successful in raising employment.

IV Data and Methods

The dataset used in this study is quite unique in both construction and content, and comes from four key administrative sources:

i) The Live Register database, which contains information on all unemployment benefit recipients in Ireland and was constructed using

[9] Many programmes that have been evaluated tend to be small scale or trial programmes; thus, while such programmes might produce positive outcomes, the positive results might not hold if the programme was extended in terms of participant numbers or geographic coverage (Martin, 2000).

[10] A meta-analysis is a statistical procedure that combines the results from different studies that address the same scientific question (e.g. training programme effectiveness) in order to obtain a quantitative estimate of the overall effect of a particular intervention (e.g. training programme participation) on a defined outcome (e.g. re-entry to the labour market).

weekly files detailing (a) the claimant population and (b) claimants leaving the Live Register each week[11];

ii) The FÁS Events and Customer files, which chronicle each jobseeker's contact with the employment and training agency;

iii) The DSP's profiling datafile, which contains employment, unemployment and benefit history information, along with comprehensive socio-economic details, collected in a specially designed questionnaire administered to all individuals that registered a new claim for an unemployment-related social welfare benefit during a 13 week period between September and December 2006[12];

iv) A separate file specifically compiled by the DSP detailing the specific training programmes undertaken by activated individuals within our sample who entered FÁS training programmes prior to week 35 on the Live Register.

The general approach to the construction of the sample used in the analysis is outlined below in Figure 1. The Live Register information was constructed using weekly files provided to us by the DSP for the period September 2006 to June 2008 for a population of individuals who made claims for unemployment benefit in a designated thirteen week period between September and December 2006. The Live Register database was then merged with the DSP's profiling datafile and the FÁS customer events file to generate the final database on which the evaluation was based. From the evaluation database we then drew a treatment population of individuals not previously intervened with under the NEAP that were referred to FÁS and who subsequently undertook training. The outcomes in respect of this population were compared with a control group that consisted of individuals who had been referred to FÁS but had received JSA only: the use of such a control group enables us to effectively isolate the impact of training on employment prospects, given that training participation represents the only distinguishing factor between the treatment and control groups. In order to evaluate the impact of training, we utilise data spanning the entire period over which the profiling database individuals were tracked, which was September 2006 up to June 2008.

<Figure 1>

The total number of unemployment benefit claimants within the initial Live Register database was 60,189. However, over 15,000 individuals failed to complete the DSP's

[11] The Live Register database contains detailed information on benefit recipients marital status, geographic location (i.e. social welfare office where the claimant signs on the Live Register) and spousal earnings.

[12] The primary objective in administering this questionnaire was to develop a statistical profiling model for long-term unemployment risk in Ireland (See O'Connell, McGuinness, Kelly & Walsh, 2009).

profiling questionnaire that was administered to the initial claimant population. When account is taken of this, and duplicates and claim types ineligible for NEAP assistance are eliminated as well, our NEAP evaluation sample fell to 27,328.

Of our 27,328 NEAP sample, 9,817 received activation interviews during the study period, which comprise the central population used in the study. Within the data we can identify if, and when, individuals exited the Live Register to take up a place on the Community Employment (CE) scheme, which is Ireland's main public sector job creation programme, or a FÁS training course: of our NEAP sample, 534 individuals closed to the CE scheme and 1,505 closed to FÁS training courses. With respect to the CE scheme, individuals generally do not enter the CE programme until, on average, week 45. Thus, the longitudinal aspect of our data is insufficient to allow an assessment of the CE scheme's impact on employment as these schemes typically exceed 52 duration. Consequently, the impacts of the CE programme are not explicitly considered in this study.

FÁS training courses typically last less than six months; thus, we restrict our treatment group to individuals who exited the Live Register for such a programme prior to week 35 to allow adequate time for individuals that participated in training and failed to secure employment to have re-entered the Live Register. Given our data restrictions, we are unable to assess the medium or long-term effects of training. However, from a public policy perspective, whereby the objective of the training strategy is to achieve an immediate reduction in unemployment, the short-run effects are clearly important. We restrict our control group to individuals with minimum unemployment duration of 20 weeks who were interviewed but not trained, on the grounds that the treatment group would generally have been on the Live Register for at least this period before exiting to training. When we apply the restriction that the training intervention had to occur at or before week 35, our treatment group is reduced from 1,505 to 764 individuals. When we linked the data with the detailed training information provided to us by FÁS, the number of valid matches falls to 764[13] individuals, which represents our key treatment sample.

Thus, our control group consists of individuals who received an activation interview with FÁS but no training. We apply some further restrictions to the data, such as removing individuals still in employment[14], after which the "interviewed only" control group consists of 8,088 individuals, just under 70 per cent of whom became NEAP clients for the first time during the course of the current study., We exclude from the control group individuals who exited

[13] We were forced to make further exclusions as some individuals received more than one period of training; thus, we concentrated on the final training episode and excluded individuals who's final training episode ended close to June 2008.

[14] Under the NEAP process individuals are entitled to work a limited number of hours per week without losing their entitlement to benefits.

to employment and then subsequently re-entered the Live Register; however, when we relax this assumption our results remain largely unchanged

We evaluate the impact of training in terms of an absence from the Live Register at one point in time, specifically 21 months (91 weeks from the beginning of the Profiling data capture): 21 months is the latest available data point, which we use in order to reduce the impact of lock-in effects. Van Ours (2001) points out that the observed impact of an ALMP will be the net of two countervailing effects; the first relates to the participant's increased employability through, in this case, additional training, while the second relates to a reduced employment probability as a consequence of reduced job search while undertaking the training programme. By observing an individual's status at week 91, we allow for a sufficient period of time during which programme participants can complete their training: over 90 per cent of the treatment group had completed their training programmes by December 2007, implying that the vast bulk of the treatment group had a minimum of 6 months job search activity, thus, ensuring that lock-in effects are minimal.

Based on the course descriptions provided to us by the DSP, we categorised training episodes into the following five groups: i) Job search training, ii) General training, iii) Low-level specific skills training, iv) Medium-level specific skills training and v) High-level specific skills training (Table 1).

<Table 1>

Job-search training refers to short training programmes in job seeking, application and interview techniques. General training captures vocational skills training, but without a strong linkage to the labour market or to a particular occupation; for example, training for the European Computer Driving Licence (ECDL). Specific Skills training has a stronger linkage to the labour market and previous research (Sianesi, 2008; Carling and Richardson, 2004; O'Connell, 2002b; and O'Connell and McGinnity, 1997) suggests that this type of training should have a stronger impact on participants' employment prospects. We distinguished between three levels of Specific Skills training from Low-level (e.g. *Introduction to Warehousing and Distribution*) to High (e.g. *Computer Aided Draughting and Design*).

The range of potential methodological approaches to the evaluation of ALMPs includes matching estimates, duration models and difference-in-difference estimates. We opt for a standard probit analysis augmented by a matching based approach as it has several advantages over duration models. Specifically, it i) facilitates a more straightforward mechanism to account for sample selection bias, ii) seems more sensible given that the nature of the study restricts us to examining outcomes at a single point in time, and iii) allows for the straightforward calculation of relevant marginal effects. In relation to the difference-in-difference methodology, this approach relies on a dataset in which we observe

both a treatment and control group in two periods. Consequently, the difference-in-difference approach is ruled out on the grounds that eligibility for training assistance will be inextricably linked to an unbroken period of unemployment prior to the claimant receiving support; thus there will, by definition, be no variation in the outcomes of the treatment group in the period prior to training.

V Results

As can be seen from Table 2, there is some variation in the average duration of training programmes: perhaps not surprisingly, job-search training courses have the lowest durations and high-level skills training the longest. Taking average duration of training into account, 70 per cent of training effort is either general or low-level specific skills, 20 per cent medium- or high-level specific skills, and 8 per cent takes the form of job search training. No information on training costs is available However, on the basis that training costs may tend to rise with skill intensity, the share of spending on high and medium skill training is likely to exceed the share measured in terms of training weeks (Table 3).

<Table 2>

<Table 3>

With respect to our econometric analysis, we evaluate the effectiveness of public-sponsored training in a number of ways: we begin with an analysis of training participation per se and then proceed to examine the role of programme duration and type in more detail. All results are checked in terms of their robustness to the influences of both sample selection and unobserved heterogeneity. It should be noted that if an individual receives government-sponsored training as part of the NEAP, we would observe an interview referral from the DSP prior to the claim being closed for training purposes. However, individuals can also voluntarily enter a FÁS office on becoming unemployed and request training assistance. It is likely that such individuals, which we will hereafter refer to as “walk-ins”, possess certain unobserved attributes, such as motivation and commitment to job search, which would upwardly bias the estimated treatment effect of training. Within our treatment group of trainees, we do not observe DSP interview referrals for 185 individuals (29 per cent). Thus, we test the sensitivity of our results with such “walk-ins” removed: this second specification arguably provides the more robust estimate of the effects of training on exits from unemployment.

The initial results from our multivariate analysis are presented in Table 4. The first model evaluates the average impact of public-sponsored training on a participant’s likelihood of

exiting unemployment using a single dummy variable to represent participation in any training programme. The second specification measures the effect of the duration of training in weeks. These specifications are estimated for the entire sample and for the sub-sample excluding "walk-ins"[15]. Generally the models are well specified, with the large range of additional controls that are included in the specifications conforming to expectations. For example, the probability of an exit from unemployment by 21 months is positively related to possessing a third-level qualification, having one's own transport, a willingness to move for a job, having a high earning spouse and a history of recent employment. On the other hand, the likelihood of a successful exit is lowered by the presence of dependent children, a history of LT unemployment and having literacy/numeracy problems. In terms of our variables of interest, the results indicate that, relative to the control group, government-sponsored training increased a participant's likelihood of no longer being unemployed in June 2008 by 11 per cent, or by 3 per cent for every ten weeks training undertaken. The estimates fall slightly when the models are re-estimated on the sample excluding "walk-ins"; however, the differences are marginal.

To achieve a greater insight into the role of training duration, and to allow for non-linearity in its effect, we re-estimated the models to include a range of duration related dummies. These results are presented in Table 5: we no longer report the additional covariates, as these remain virtually unchanged from Table 4[16]. The results from both the total and "walk-ins" excluded samples support the view that shorter training spells of between 1 and 19 weeks are the most effective in ensuring labour market success. In fact, within the restricted sample, individuals participating in training programmes of between 40 and 49 weeks were 36 per cent less likely to have exited unemployment by 21 months relative to the control group. Similar results for training duration have been identified by Kluve *et al.*, (2007), and may be related to lock-in effects of the longer duration courses. However, we should treat these duration results with an element of caution as course duration is also correlated with the type of training undertaken (Table 2).

In Table 6, the single dummy variable representing participation in training is replaced with five dummy variables distinguishing the type of training received. We find positive effects in respect of each of the training programmes when the model is estimated on the entire sample. The largest effects relate to high-level specific skills training, which increased the probability of an exit from the Live Register by 22 per cent, while medium-level specific skills training and job search training each increased the probability of exiting unemployment by 17 per cent. The smallest effects relate to general training and low-level specific skills training, each of which increased the probability of exiting from unemployment by 8 and 9

[15] The treatment group size is now 640 as opposed to 764.
[16] Results available from the authors on request.

per cent respectively. Within the arguably more robust restricted sample that excludes "walk-ins", significant impacts were derived for all courses apart from low-level specific skills training. The positive effect for medium-level skills training is also weaker in this specification.

To ensure the robustness and reliability of our results, we undertook a number of sensitivity checks. First, we guarded against the possibility of non-random assignment to the treatment group. If assignment to training was in some way systematic, for example, if individuals with superior (inferior) human capital characteristics were more (less) likely to be assigned to the treatment, then failure to take account of such non-random assignment would upwardly (downwardly) bias the estimated impact of training. Evaluation studies of this kind typically deal with this issue by employing a Propensity Score Matching (PSM) estimation framework in order to ensure that treated individuals are compared with members of the control group who hold similar observable characteristics. PSM involves a two stage process. In the first stage, the principal characteristics of the treatment group are identified using a probit model, and individuals in both the treatment and control groups are then assigned a "propensity score" based on their estimated probability of receiving the treatment (i.e. government-sponsored training), which is determined by their observable characteristics. In the second stage, individuals within the treatment group are "matched" with counterparts in the control group that have similar propensity scores and their actual outcomes (in this instance, actual exits from unemployment) are compared. It can be shown that matching individuals on the basis of propensity scores is equivalent to matching on actual characteristics (Rosenbaum & Ruben, 1983). Thus, PSM compares the probabilities of exiting from unemployment of individuals receiving each of the differing types of training with claimants who have similar characteristics and therefore have a similar probability of being selected for such training, but who, for whatever reason, did not receive any training. This approach ensures that we are comparing like-with-like individuals and that our estimates are, therefore, unaffected by any non-random assignment into the treatment group. There are a number of PSM algorithms that can be estimated and, while each has some obvious advantage and drawbacks, no one single method is generally considered to be superior. In this instance, we estimate using Nearest Neighbour (NN) with replacement.

A principal problem with the application of PSM in this instance is the relatively small size of the treatment groups that are being matched against the control group and, more specifically, the low numbers undertaking job-search training and medium-level and high-level specific skills training. To overcome this problem, we pooled the medium-level and high-level specific skills training participants, which seemed sensible given the similarity of the marginal effects of both types of training within the probit analysis. Given the small number of individuals that undertook job search training, it was not feasible to undertake PSM for such trainees. Furthermore, the more restricted size of the treatment sample excluding "walk-ins" implied that the PSM analysis by training type was not feasible;

however, a PSM model was estimated on the overall training effect to test for sample selection within this cohort.

The results from our analysis, which are presented in Table 7, indicate that the non-parametric estimates are broadly in line with those of the probit models reported in Table 6, suggesting that our initial analysis was not affected by selection bias. However, the PSM estimate for medium/high-level skills training was somewhat lower than that of the probit model, suggesting that there may have been some selection with respect to the allocation of places on such programmes, which is, perhaps, not surprising. For instance, individuals who participated in medium/high-level skills training programmes tended to possess third-level qualifications, be single, have a recent employment history and live in non-rural locations. The standard errors are slightly higher in the PSM estimates, but this is not surprising given the much-reduced sample. Post-estimation checks confirmed that our data was well balanced and that like-for-like comparisons were achieved within the matching framework.

We also checked our broad training PSM estimates (11.3 per cent for the entire sample and 9.2 per cent in the restricted sample) for robustness to unobservered heterogeneity bias using the MHBOUNDS procedure in Stata (Table 8). The intuition here is that we introduce an unobserved factor that simultaneously increases the likelihood of an exit from the Live Register and increases the likelihood of allocation to the treatment group (termed positive selection bias) by 10 per cent to assess if our estimated treatment effect remains statistically reliable. Thus, the approach measures the sensitivity of our estimate to unobserved confounding influences. The analysis revealed that, for the overall sample, our Nearest Neighbour PSM estimate became statistically unreliable in the presence of an unobserved confounding factor that simultaneously increased the likelihood of exit and increased the likelihood of allocation to the medium/high-level skills training by 35 per cent. This suggests that unobserved effects would need to be very substantial for our estimate to become questionable. However, with respect to the restricted sample, the PSM estimate became insignificant in the presence of a confounding influence that simultaneously increased the probability of both events by 20 per cent. Thus, in conclusion, the results of our sensitivity checks confirm that while our estimates are generally robust to the presence of unobserved heterogeneity, some caution is still warranted in terms of their overall reliability.

Finally, we examined the relationship between training type and course duration. It does not seem sensible to estimate a model interacting the duration variables of Table 5 with the training type variables in Table 6 as duration levels differ substantially according to training type and we would have been left with a number of empty or very small cells in many instances. Instead, we have distinguished between long and short duration training according to the median duration level for each category of training. The results from this analysis are presented in Table 9. The analysis suggests that individuals participating in lower duration training programmes performed better, with the exception of high-level skills training where the results of the restricted, and arguably more robust, sample found that

the longer duration high-level skills training was more effective. Given that over 90 per cent of our sample completed their training programmes at least 6 months prior to the end point of our study, we can be confident that the observed pattern of results are not been driven by lock-in effects. The evidence with respect to low-level skills training was inconsistent across both samples, which raises some questions with respect to the short-term benefits of such programmes.

VI Summary and Conclusions

This paper uses a unique dataset to assess the differential impact of various types of government-sponsored training programmes and a range of training programme durations on the probability of exiting unemployment. The analysis suggests that job-search training and high-level specific skills training are most likely to increase the probability of their participants exiting from unemployment. The effect of medium-level specific skills training is similar to that for higher-level skills, although this is sensitive to the inclusion of voluntary walk-ins, which might overstate the impact of training. There is no consistent evidence to support the view that low-skills training significantly increase the short-term labour market prospects of participants. The analysis supports the view that shorter duration training programmes are more effective for the unemployed, with the exception of high-level skills training where there appears to be a pay-off to more extended training durations.

These results should be considered in the light of the distribution of trainees across training programme types in our sample: only eight per cent of trainees participated in the highly effective jobs search training, as did just four per cent in high-level specific skills training. Over two thirds of all training days were spent in arguably much less effective low-skill training or in general training, which, based on the empirical analysis, was found to have only modest employment effects.

Tables

Table 1: Government-Sponsored Training Programmes

	Type of training	Description	Example
1	Job Search Training	Training in job search techniques	*Preparing for Work*
2	General Training	General purpose training without specific link to labour market	*European Computer Driving Licence*
	Specific Skills Training	Training for specific occupational position	
4	– Low-Level		*Introduction to Warehousing and Distribution*
5	– Medium-Level		*Computerized Accounts and Payroll*
6	– High-Level		*Computer Aided Draughting and Design*

Table 2: Distribution of Government-Sponsored Training Programmes by Duration and Level

	Average Duration	Number	Percent
Programme Type:			
Job Search Training	8	63	8
General Training	17	256	41
Specific Skills - Low	18	179	29
Specific Skills - Medium	19	98	16
Specific Skills - High	40	25	4
Total:		621	100

Table 3: Distribution of Government-Sponsored Training Programmes by Training Weeks

	Training Weeks Numbers	Percent
Programme Type:		
Job Search Training	522	5
General Training	4,342	38
Specific Skills - Low	3,426	31
Specific Skills - Medium	1,893	17
Specific Skills - High	1,018	9
Total:	11,201	100

Table 4: Overall Estimated Impact of Government-Sponsored Training on Exits from the Live Register at 21 Months

	Total Sample		Walk-ins Excluded	
Training Type:				
FÁS Training	0.113***		0.092***	
	(0.021)		(0.024)	
Training Duration		0.003***		0.002
		(0.001)		(0.001)
Personal Information:				
Male	-0.013	-0.015	-0.014	-0.016
	(0.013)	(0.013)	(0.013)	(0.013)
Aged 25-34	0.012	0.010	0.014	0.012
	(0.017)	(0.017)	(0.017)	(0.017)
Aged 35-44	-0.017	-0.019	-0.017	-0.018
	(0.020)	(0.020)	(0.020)	(0.020)
Aged 45-54	-0.052**	-0.051**	-0.052**	-0.051**
	(0.023)	(0.023)	(0.023)	(0.023)
Aged 55plus	-0.081***	-0.080***	-0.080***	-0.079***
	(0.027)	(0.027)	(0.028)	(0.028)
Married	0.037*	0.037*	0.036*	0.036*
	(0.020)	(0.020)	(0.020)	(0.020)
Cohabits	-0.017	-0.018	-0.018	-0.018
	(0.028)	(0.028)	(0.028)	(0.028)
Separated/Divorced	0.034	0.035	0.037	0.038
	(0.030)	(0.030)	(0.030)	(0.030)
Widowed	0.168**	0.169**	0.190***	0.191***
	(0.070)	(0.070)	(0.070)	(0.070)
Children	-0.041***	-0.041***	-0.041***	-0.041***
	(0.009)	(0.009)	(0.009)	(0.009)
Human Capital:				
Junior Certificate	-0.021	-0.020	-0.021	-0.020
	(0.019)	(0.019)	(0.019)	(0.019)
Leaving Certificate	0.030	0.032*	0.029	0.031
	(0.019)	(0.019)	(0.019)	(0.019)
Third-level	0.114***	0.115***	0.115***	0.116***
	(0.020)	(0.020)	(0.021)	(0.021)
Apprenticeship	-0.003	-0.003	-0.003	-0.003
	(0.017)	(0.017)	(0.017)	(0.017)
Literacy/Numeracy Problems	-0.044**	-0.044**	-0.048**	-0.048**
	(0.022)	(0.022)	(0.022)	(0.022)
English Proficiency	0.006	0.006	0.006	0.007
	(0.031)	(0.031)	(0.032)	(0.031)
Location:				
Village	0.019	0.019	0.021	0.021
	(0.021)	(0.021)	(0.021)	(0.021)
Town	0.010	0.012	0.011	0.012
	(0.019)	(0.019)	(0.020)	(0.020)
City	-0.005	-0.004	-0.003	-0.002
	(0.019)	(0.019)	(0.020)	(0.020)

Table 4: continued

	Total Sample		Walk-ins Excluded	
Transportation:				
Own Transport	0.030**	0.030**	0.029**	0.029**
	(0.013)	(0.013)	(0.013)	(0.013)
Public Transport	-0.002	-0.002	-0.003	-0.002
	(0.017)	(0.016)	(0.017)	(0.017)
Employment History:				
Employed in Last Month	0.062*	0.055	0.070**	0.065*
	(0.034)	(0.034)	(0.035)	(0.035)
Employed in Last Year	0.065*	0.059*	0.071**	0.067*
	(0.034)	(0.034)	(0.035)	(0.035)
Employed in Last 5 Years	0.028	0.024	0.038	0.036
	(0.036)	(0.036)	(0.037)	(0.037)
Employed Over 6 Years	-0.016	-0.020	-0.013	-0.016
	(0.043)	(0.043)	(0.044)	(0.044)
Job Duration:				
Job Duration Less 1 Month	-0.023	-0.019	-0.029	-0.025
	(0.038)	(0.038)	(0.039)	(0.039)
Job Duration 1-6 Months	0.031	0.035	0.024	0.027
	(0.032)	(0.032)	(0.033)	(0.032)
Job Duration 6-12 Months	0.024	0.026	0.019	0.021
	(0.034)	(0.034)	(0.034)	(0.034)
Job Duration 1-2 Years	0.026	0.029	0.021	0.024
	(0.035)	(0.034)	(0.035)	(0.035)
Job Duration 2+ Years	0.030	0.033	0.028	0.031
	(0.032)	(0.032)	(0.033)	(0.033)
Would Move for a Job	0.035***	0.034***	0.035***	0.035***
	(0.012)	(0.012)	(0.013)	(0.013)
UE Benefit Type:				
Job Seeker's Assistance	-0.174***	-0.174***	-0.173***	-0.174***
	(0.014)	(0.014)	(0.014)	(0.014)
Signing on for 12 Months+	-0.072***	-0.071***	-0.073***	-0.072***
	(0.018)	(0.018)	(0.019)	(0.019)
Weekly Spousal Earnings:				
Spousal Earnings €250	0.140***	0.140***	0.150***	0.149***
	(0.031)	(0.031)	(0.031)	(0.031)
Spousal Earnings €251-350	0.087	0.083	0.089	0.087
	(0.082)	(0.083)	(0.083)	(0.083)
Spousal Earnings €351+	0.091***	0.089***	0.096***	0.095***
	(0.023)	(0.023)	(0.023)	(0.023)
Historic FAS Client	-0.059***	-0.059***	-0.055***	-0.054***
	(0.014)	(0.014)	(0.015)	(0.015)
Observations	8,655	8,655	8,486	8,486
Pseudo R	0.088	0.087	0.089	0.088

Note: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0

Table 5: Impacts of Training on Probability of Exiting the Live Register at 21 Months by Detailed Duration

	Total Sample		Walk-ins Excluded	
Training Spell				
Training Duration	0.003***		0.002*	
	(0.001)		(0.001)	
Train 1 – 9 weeks		0.138***		0.136***
		(0.037)		(0.042)
Train 10 – 19 weeks		0.130***		0.111***
		(0.033)		(0.039)
Train 20 – 29 weeks		0.083*		0.081
		(0.049)		(0.059)
Train 30 – 39 weeks		0.114*		0.026
		(0.059)		(0.073)
Train 40 – 49 weeks		-0.152		-0.358***
		(0.144)		(0.136)
Train 50 plus		-0.023		-0.070
		(0.128)		(0.155)
Observations	8,655	8,655	8,486	8,486
Pseudo R^2	0.087	0.089	0.088	0.089

Note: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 6: Impacts of Training on Probability of Exiting the Live Register at 21 Months by Training Type

	Total Sample		Walk-ins Excluded	
Training Type:				
All Training	0.113***		0.092***	
	(0.021)		(0.024)	
JS Training		0.167***		0.179***
		(0.059)		(0.063)
General		0.078**		0.090**
		(0.032)		(0.038)
Specific Skills - Low		0.087**		0.020
		(0.038)		(0.046)
Specific Skills - Medium		0.169***		0.102*
		(0.049)		(0.060)
Specific Skills - High		0.219***		0.224**
		(0.072)		(0.087)
Observations	8,655	8,655	8,486	8,486
Pseudo R^2	0.088	0.089	0.089	0.089

Note: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 7: Probit and PSM Estimates of Training Effects

	Total Sample	Walk-ins Excluded
Probit - All training	0.113 (0.021)***	0.091 (0.024)***
PSM (NN) – All training	0.115 (0.029)***	0.142 (0.034)***
PSM (Kernel) – All training	0.103 (0.021)***	0.072 (0.024)***
Probit - General training	0.078 (0.032)**	
PSM (NN) - General training	0.079 (0.046)*	
Probit – Low-level skills training	0.087 (0.038)**	
PSM (NN) – Low-level skills training	0.149 (0.054)***	
Probit - Medium\high-level skills training	0.200 (---)***	
PSM (NN) - Medium\high-level skills training	0.161 (0.058)***	

Note: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 8: Sensitivity of Overall PSM Estimates to Unobserved Heterogeniety

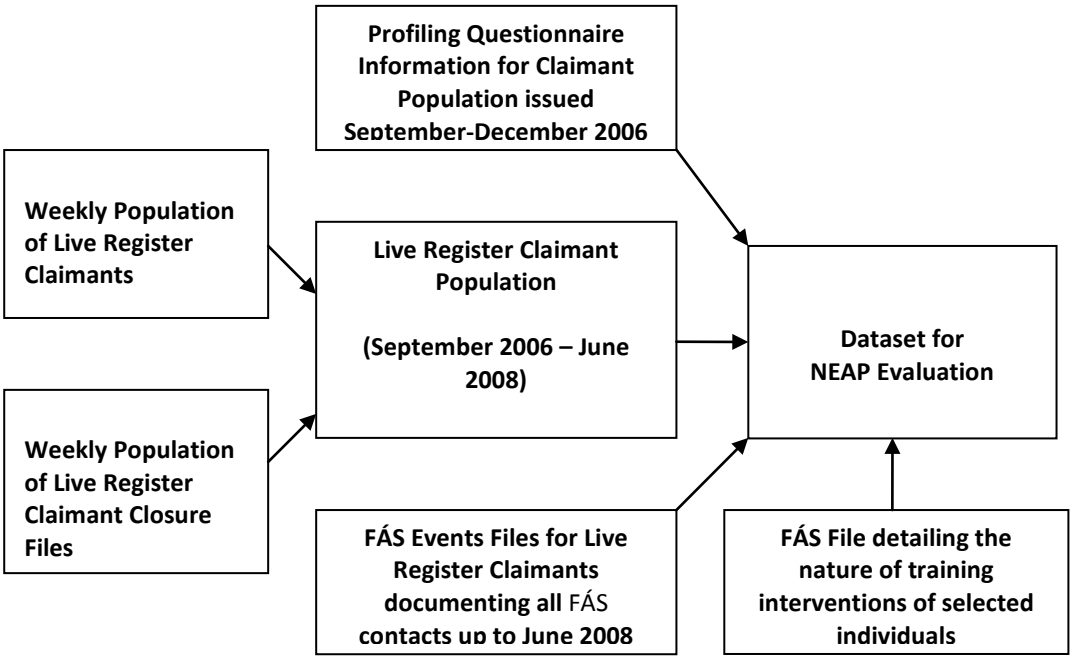
	Total Sample			Walk-ins Excluded		
Gamma	**Q_mh+**	**Q_mh-**	**p_mh+**	**Q_mh+**	**Q_mh-**	**p_mh+**
1	3.754	3.754	0.000	2.535	2.535	0.006
1.05	3.335	4.177	0.000	2.173	2.900	0.015
1.1	2.935	4.579	0.002	1.827	3.247	0.034
1.15	2.553	4.963	0.005	1.497	3.580	0.067
1.2	2.187	5.332	0.014	1.180	3.898	0.119
1.25	1.836	5.687	0.033	0.877	4.204	0.190
1.3	1.500	6.028	0.067	0.586	4.498	0.279
1.35	1.176	6.357	0.120	0.306	4.782	0.380
1.4	0.864	6.674	0.194	0.036	5.056	0.486
1.45	0.564	6.981	0.287	0.090	5.320	0.464
1.5	0.273	7.278	0.392	0.342	5.576	0.366
1.55	-0.008	7.566	0.503	0.585	5.824	0.279
1.6	0.163	7.845	0.435	0.821	6.064	0.206
1.65	0.427	8.116	0.335	1.049	6.298	0.147
1.7	0.683	8.380	0.247	1.271	6.525	0.102
1.75	0.931	8.636	0.176	1.486	6.745	0.069
1.8	1.173	8.886	0.120	1.695	6.960	0.045
1.85	1.407	9.129	0.080	1.899	7.169	0.029
1.9	1.636	9.366	0.051	2.097	7.373	0.018
1.95	1.859	9.597	0.032	2.291	7.572	0.011
2	2.076	9.823	0.019	2.479	7.766	0.007

Table 9: Impacts of Training on Probability of Exiting the Live Register at 21 Months by Training Type & Duration

	Total Sample	Walk-ins Excluded
Training Type:		
Job Search Training – short duration	0.277***	0.280***
	(0.064)	(0.066)
Job Search Training – long duration	-0.006	-0.003
	(0.099)	(0.112)
General Training – short duration	0.075	0.107**
	(0.046)	(0.053)
General Training – long duration	0.073	0.070
	(0.045)	(0.054)
Low-level Skills– short duration	0.126**	0.064
	(0.049)	(0.059)
Low-level Skills– long duration	0.031	-0.049
	(0.059)	(0.073)
Medium-level Skills– short duration	0.220***	0.217***
	(0.068)	(0.077)
Medium-level Skills– long duration	0.113	-0.011
	(0.071)	(0.086)
High-level Skills– short duration	0.383***	0.221
	(0.096)	(0.229)
High-level Skills– long duration	0.160*	0.223**
	(0.089)	(0.095)
Observations	8,655	8,486
Pseudo R^2	0.09	0.09

Figures

Figure 1: Construction of NEAP Evaluation Dataset



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