Research report

Employment Retention and Advancement (ERA) demonstration: The Impact on Workers' Outcomes

by Barbara Sianesi

DWP Department for Work and Pensions

Department for Work and Pensions

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Abbreviations

ASA	Advancement Support Adviser
BIF	Basic Information Form
DWP	Department for Work and Pensions
ERA	Employment Retention and Advancement study
FILM	Fully interacted linear model
HMRC	Her Majesty's Revenue & Customs
IB	Incapacity Benefit
IS	Income Support
JSA	Jobseeker's Allowance
ND25+	New Deal 25 Plus
NDLP	New Deal for Lone Parents
NDYP	New Deal for Young People
OLS	Ordinary Least Squares
PAYE	Pay As You Earn
RA	Random assignment
WTC	Working Tax Credit
WPLS	Work and Pensions Longitudinal Study

Summary

The issue

Launched in 2003, the Employment Retention and Advancement (ERA) scheme was designed to test the effectiveness of a unique combination of services to help both unemployed individuals who have entered work as well as low-paid workers remain and progress in work. The innovative package of support once in work combined job coaching and advisory services with a new set of financial incentives rewarding sustained full-time work, as well as the completion of training or education courses whilst employed.

Three groups traditionally characterised by a weak labour market position and low job attachment were eligible for ERA: long-term unemployed people over the age of 25 who were mandated to start the New Deal 25 Plus (ND25+) programme, lone parents who had volunteered for the New Deal for Lone Parents (NDLP) programme, and lone parents who were already working part-time and receiving Working Tax Credit (WTC).

The effectiveness of the ERA programme, which operated in six regions across the UK between October 2003 and October 2007, has been carefully evaluated through a large-scale randomised control trial.

ERA was designed to make a difference to employment chances and earnings over a period of years and the experimental design offers a very reliable way to test whether this has indeed been the case. However, it cannot directly address questions that relate to the impact of ERA on any outcome which is only defined conditional on being in work – such as wage rates, hours, fringe benefits, other job quality measures and wage progression. This is because the ERA programme itself may influence who it is that works (and who it is that stays in work). In this case, the sub-sample of ERA participants who have found (and retained) work might have different observed and unobserved characteristics from the sub-sample of controls who have found (and retained) work. If these different characteristics in turn affect other outcomes conditional on employment such as wage rates, a simple comparison of workers from the programme and from the control groups will suffer from post-random assignment (RA) selection bias. An assessment of ERA's impacts on advancement has thus to rely on more complex non-experimental methods. This is particularly important since as the programme's name suggests, advancement was one of the key ERA objectives.

Research objectives

The report aims at estimating the impact of ERA on a number of measures of retention and advancement of workers.

For the two lone parent groups, research questions include the impact of offering ERA services and incentives on remuneration (monetary wages and non-pecuniary benefits), work hours (including workers' chances to work full-time as opposed to part-time), other measures of job quality (mainly in terms of job stability, workers' responsibilities at work, promotions and opportunities for promotions, workers' own assessment of their jobs), workers' chances of combining work with training as well as of achieving formal qualifications, workers' patterns of engagement with Jobcentre Plus, workers' advancement behaviour (in terms of any step taken while working to help improve work situation or earnings, as well as to find another job), workers' future training and work aspirations and a few indicators of overall well-being.

For NDLP and WTC workers, ERA impacts have been assessed both two and five years after RA. While both are discussed, focus is on impacts at year 5 as they are key in understanding whether ERA has had any impact that lasted beyond the period of ERA participation. Covering more than two years post-programme, impacts at year 5 offer a sufficiently long post-programme period to assess whether the financial incentives and adviser support provided under ERA were enough to have a lasting impact on placing and keeping its participants in well-paying and good quality jobs, or else whether any effects faded away once that support was withdrawn.

For the ND25+ group, the report had to rely on administrative records alone, and has considered the more limited question of whether the availability of ERA incentives and services has affected the tax year earnings of ND25+ workers, with workers being defined as those with positive earnings in the relevant tax year(s). Earnings have been evaluated for four tax years, covering 1-2, 2-3, 3-4 and 4-5 years after RA. Focus is on ERA impacts after the programme has ended, that is 4-5 years post RA (corresponding to the 2008/09 tax year).

Types of non-experimental analyses

ERA's impacts on workers' outcomes have been estimated under alternative assumptions on the process of selection into work.

a Assuming that selection into employment is the same for ERA and control group members.

  Indirect support for this assumption can be obtained by considering whether all relevant characteristics that are observed are balanced between ERA and control group workers.

b Controlling for observable differences between ERA and control group workers.

  Under the assumption that the only outcome-relevant differences between the two groups of workers are those which are captured in the many characteristics observed in the data (such as age, gender, education, duration on benefit, labour market history), one can use the wage outcomes of those control group workers who are observationally similar to the ERA workers to estimate what the wage outcomes of the former would have been had they not received ERA.

c Recognising that ERA workers may differ from control group workers in important ways that the analyst cannot directly observe.

  Under a set of assumptions, one can not only test whether this is in fact the case, but experiment with a control function approach to allow for this residual bias.

Key findings

The report has extensively analysed the impact that ERA has had on a variety of outcomes experienced by working members of the NDLP and WTC target groups, as well as on the tax year earnings of working members of the ND25+ target group.

- ERA appears to have had a sizeable impact on workers' **hours** – in particular in terms of encouraging full-time work – for both lone parent groups during the programme period. For NDLP workers, though, such impact has subsequently faded away, as participation in full-time work has caught up among control group workers. By contrast, ERA appears to have induced WTC workers to work longer hours (and indeed to work full-time) well into the post-programme period. It thus seems that the time-limited in-work support offered by ERA was able to encourage a permanent move to full-time only among the group of lone parents who were already in part-time work at the time of RA.

- ERA has had no impact on NDLP or WTC workers' employment **retention**, as measured by the share of the five follow-up years spent in employment. (There is some weak evidence of a positive impact on retention for NDLP workers whose children were aged five to six years at RA.)
- For both lone parent workers, ERA has had no impact on hourly **wages** either during or after the programme. (There is some indication that ERA might have increased wages for NDLP workers in Wales through increased job mobility.)
- In the absence of a wage impact, any impact on **weekly earnings** would need to be driven by impacts on hours worked. Even though the impact on hours was found to persist post-programme for the WTC workers, it was relatively small (+1.1 hours/week), not allowing the corresponding impact on weekly earnings (+£9.3) to reach statistical significance.
- There is no evidence of improved **job quality** as a result of ERA for NDLP workers both during and after the programme. For WTC workers, the overall impression is that ERA did not affect job quality in any dimension except for a sustained increase in sick pay eligibility.
- ERA impacts on the take-up of **training** while in work and on workers' attainment of qualifications were found to critically differ between the two lone parent groups.
  - For NDLP workers, ERA appears to have only changed the timing of training: ERA has increased training among workers while the programme was operational, but during the post-programme period, the workers from the control group have been catching up, so that overall, between RA and five years, ERA has had no impact on training take-up. It would thus seem that ERA has mostly led to a **reallocation** over time of training activities that would have taken place in any case over the five years. Furthermore, ERA failed to foster the attainment of qualifications among workers. (An exception appear to be NDLP workers in North East England, a district where ERA has affected workers mainly through human capital acquisition channels (having undertaken education/training while in work and having obtained relevant qualifications since RA), while it has strongly discouraged taking steps towards advancement, in particular towards increasing one's hours.)
  - While the increase induced by ERA on WTC workers' participation in training was entirely concentrated during the time when ERA's training incentives were available, WTC workers from the control group did not fully catch up. As opposed to NDLP workers, at least over a 5-year follow-up period, the ERA-induced training of WTC workers thus appears to have indeed been additional, suggesting that ERA succeeded in encouraging training among those in work over and above what they would have done anyway over such a comparatively long time horizon. Furthermore, there seems to have been an impact on the attainment of work-related qualifications which was sustained after the end of the programme.
- No impact on any **advancement** measure was detected for NDLP workers either during or after the programme. ERA has by contrast given rise to a significant increase in the advancement efforts of WTC workers both during and, most crucially, after the programme. In particular, a sustained effect has been uncovered on the likelihood that WTC workers tried to increase working hours and have taken steps to look for a better job with a different employer. ERA does not, however, appear to have affected their **future** advancement intentions. Thus, though ERA's impact on workers' advancement behaviour appears to have lasted until the fifth year post RA, it might in fact have come to an end.

- As to the **well-being** of workers five years after RA, ERA appears to have raised overall life satisfaction for NDLP workers, leaving their self-assessed financial situation, health, parental involvement in their child and the child's well-being unaffected. The evidence for WTC workers at year 5 is by contrast quite mixed, as while no adverse impact could be detected on self-reported health, ERA did appear to decrease the proportion of workers reporting that their child's life was going very well.
- Some **impact heterogeneity** has been uncovered for NDLP workers, with ERA at times displaying larger effects (even in absolute terms) for more disadvantaged subgroups.
  - Non-white workers appear to have experienced much larger and more favourable impacts than white workers, enjoying increased hours, weekly earnings (via increased hours only), training take-up and experience (gained in full-time jobs).
  - Through specific advice and/or the training bonus, ERA seems to have encouraged the most disadvantaged group (with at most GCSE qualifications, without work in the three years prior to RA and with at least one barrier to employment) to aim at entering the labour market via a part-time job and to focus on improving their skills via training. For this group, there is also weak evidence of an increase in hourly wage.
  - Finally, it is interesting to note that ERA impacts appear to have been driven by the low-education group of WTC workers and by the high-education group of NDLP workers.
- For both lone parent groups, no significant ERA impact could be detected on the **yearly earnings** of workers in any tax year post RA.
- The **yearly earnings** of those ND25+ participants who were employed in any of the tax years considered have not been affected by ERA. This finding might not be very surprising given the absence of an effect for lone parent workers and once it is considered that at the time of RA the ND25+ group was facing far more severe labour market disadvantages and higher barriers to work, in addition to being the most hard-to-help group.

Conclusions

While ERA has significantly increased the employment chances of the ND25+ group for most of the follow-up period, no impact could be detected on the earnings of those in employment.

ERA appears to have had only two effects on NDLP workers: an increase in hours worked while the programme was in operation which disappeared once participation in full-time work caught up among control group workers, and a reallocation over time of training activities that would have taken place anyway over the 5-year follow-up period. For NDLP workers ERA has thus accelerated changes that in time would have occurred anyway, but has not any long-term impacts.

For WTC workers, by contrast, the impact on hours was sustained, and so was the impact on advancement efforts in terms of increasing one's working hours and in terms of job mobility. Furthermore, ERA appears to have induced a net increase in training take-up together with a sustained increase in the attainment of work-related qualifications. There is, however, no evidence to suggest that such increased training participation, concomitant rise in qualifications, renewed advancement efforts, enhanced job mobility and indeed the increased incidence of full-time work and attendant increase in work experience among workers have actually translated into demonstrable work advancement in terms of higher wages or an otherwise improved job quality.

Indeed, for either lone parent group no lasting nor temporary impact could be detected on hourly wages, on weekly earnings, on job quality, on yearly earnings or on the time spent in employment, all outcomes that one would expect to see increase if there were an effect on retention and advancement.

A final comment relates to the delicate issue of whether having induced WTC lone parent workers to increase their hours and work full-time has had any adverse consequence on their children. Although ERA appears to have reduced the proportion of WTC workers reporting that their child's life was going very well, the mechanisms behind such an impact remain unclear, as workers' overall life satisfaction was left unaffected and indeed the time they reported spending helping their child with homework appears to have been increased.

1 Background, research questions and overview

1.1 Background

Launched in 2003, the Employment Retention and Advancement (ERA) scheme was envisioned as a 'next step' in British welfare-to-work policies, which had been hitherto focused on getting people back into work. ERA added a new unique combination of services to help unemployed individuals who have entered work as well as low-paid workers **remain** and **progress** in work.

The ERA scheme was designed to test the effectiveness of an innovative package of support once in work, combining job coaching and advisory services with a new set of financial incentives rewarding sustained full-time work, as well as completing training or education whilst employed. Specifically, working participants were entitled to employment-related assistance from a dedicated Advancement Support Adviser (ASA). Those in full-time work for a sustained period (13 out of every 17 weeks, i.e. about 75 per cent of the time) would additionally qualify for a retention bonus of £400 three times a year for up to two years. Combining training with (at least part-time) work was encouraged through subsidised tuition fees (up to £1,000) and a financial bonus (also up to £1,000) for those completing training. Participants also had access to in-work emergency payments to overcome short-term barriers to staying in work.

Three groups, traditionally characterised by a weak labour market position and low job attachment, were eligible for this new set of support and financial incentives conditional on work:

1 Long-term unemployed people over the age of 25 who were mandated to start the New Deal 25 Plus (ND25+) programme.

2 Lone parents who had volunteered for the New Deal for Lone Parents (NDLP) programme.

3 Lone parents who were already working part-time (between 16 and 29 hours a week) and were receiving Working Tax Credit (WTC).

The programme was administered by Jobcentre Plus in six regions across the UK (East Midlands, London, North East England, North West England, Scotland, and Wales) between October 2003 and October 2007.

The effectiveness of ERA in supporting sustained employment and advancement in the labour market has been carefully evaluated through a large-scale randomised control trial. Eligible participants in the six districts were randomly assigned to a programme group, which was offered the new ERA services, or to a control group, which just received the existing pre-employment New Deal services (if from either New Deal entrant groups). Indeed, with over 16,000 individuals being randomly assigned between October 2003 and the end of 2004, the ERA study represented at its inception the largest randomised controlled trial of a social programme in the UK.

Experimental findings have considered impacts on employment, annual earnings and benefit receipt up to five years since random assignment (RA) (Hendra *et al.*, 2011). The 5-year Impacts are of particular interest as they cover more than two years post-programme, thus being able to identify, for the first time, whether ERA had any **sustained** impact beyond the period of ERA participation.

Although by far the most reliable measures of programme effects are provided by the experimental estimates which directly compare the outcomes of the randomly assigned programme group members to the outcomes of the randomly assigned controls, there are a number of important evaluation questions that the experimental design simply cannot answer. These questions all relate to the impact of ERA on any outcome which is only defined conditional on being in work or having found a job at a specific point in time – such as wage rates, hours, fringe benefits, job quality measures and wage progression.

Since such outcomes – to fix ideas let us consider wage rates – are by construction only available for individuals who are in work, any programme group-control group comparison of wage rates must be confined to people in work. Indeed, examination of wage progression must rely on individuals who were in work at two separate points in time. Since, however, the ERA programme itself may influence who it is that works (and who it is that stays in work), the sub-sample of ERA participants who have found (and retained) work might have different observed and unobserved characteristics from the sub-sample of controls who have found (and retained) work. Indeed, the more effective ERA is in getting and keeping participants in work, the more the employed ERA and control subgroups will differ. If these different characteristics in turn affect other outcomes conditional on employment (wage rates in the example), a simple comparison of the employed programme and control subgroups will suffer from selection bias. When trying to assess ERA's **impacts on workers**, non-experimental methods are thus needed to remove the potential selection bias.

An assessment of ERA's impacts on advancement has thus to rely on more complex non-experimental methods. This is particularly important since as the programme's acronym suggests, advancement was one of the key ERA objectives.

1.2 Research questions

The non-experimental analyses carried out in this report aim at estimating the impact of ERA on measures of retention and advancement of workers.

For the two lone parent group, it addresses such questions as:

- Does the availability of ERA incentives and services raise the hourly wage for those in work?
- Does it increase the non-pecuniary work-related benefits or the fringe benefits received by those in work?
- Does ERA foster advancement (e.g. in terms of growth in hourly wage rates or in work-related benefits) for those in work?
- Does the offer of ERA incentives and services increase the chance that workers work full-time as opposed to part-time?
- Does the availability of ERA incentives and services increase the chance that workers participate in education or training?

More generally, research questions considered include the impact of offering ERA services and incentives on any relevant outcome related to individuals who are in work (see Box 1.1). Apart from remuneration (monetary wages and non-pecuniary benefits) and from work hours (including workers' chances to work full-time as opposed to part-time), outcomes considered include several other measures of job quality (mainly in terms of job stability, workers' responsibilities at work, promotions and opportunities for promotions, workers' own assessment of their jobs), workers' chances of combining work with training as well as of achieving formal qualifications, workers' patterns of engagement with Jobcentre Plus, workers' advancement behaviour (in terms of any

step taken while working to help improve work situation or earnings, as well as to find another job), workers' future training and work aspirations and a few indicators of overall well-being.

For NDLP and WTC workers, ERA impacts have been assessed both two and five years after RA. While both are discussed, focus is on impacts at year 5 as they are key in understanding whether ERA has had any impact that lasted beyond the period of ERA participation. Covering more than two years post-programme, impacts at year 5 offer a sufficiently long post-programme period to assess whether the financial incentives and adviser support provided under ERA were enough to have a lasting impact on placing and keeping its participants in well-paying and good quality jobs, or else whether any effects faded away once that support was withdrawn.

These detailed questions have to rely on measures collected via surveys. For one intake group, ND25+, the survey two years after RA was, however, not deemed reliable enough to be used to derive the experimental impact estimates (due to low response rates coupled with the survey sample consisting of early entrants into ERA), and administrative employment and earnings records were used instead.

For ND25+, thus, this report too has to rely on administrative records and consider the more limited question of whether the availability of ERA incentives and services has affected the tax year earnings of ND25+ workers, with workers being defined as those with positive earnings in the relevant tax year(s).

Administrative data do not allow for an assessment of hours worked nor an in-depth exploration of the types of jobs found by ERA and control group members. They do, however, allow one to consider ERA impacts on the yearly earnings for workers – an important question given how few actually worked among the ND25+ group (almost half (47 per cent) of this group never worked in the tax years covering 1-2 to 4-5 years after RA).

Earnings are evaluated for four tax years, covering 1-2, 2-3, 3-4 and 4-5 years after RA. Focus is on ERA impacts after the programme has ended, that is 4-5 years post RA (corresponding to the 2008/09 tax year).

For comparison to the ND25+ group as well as to the more detailed survey outcomes, the analysis on administrative earnings outcomes has been performed for the other two intake groups too.

Box 1.1: Additional outcomes for working lone parents

Does the availability of ERA incentives and services affect

- Worker's **rewards**:
  - net hourly/weekly wage;
  - non-pecuniary work-related or fringe benefits (pension, paid holidays, flexible working hours, paid or unpaid time off for family reasons, sick pay, car or van for own private use, crèche or nursery at workplace, trade union membership).
- Other **job quality** measures:
  - job stability (permanent job, job consists of shift work most of the time, job includes daytime hours, had days absent in the last month);
  - worker's responsibilities at work (self-employed, has formal responsibility for supervising others);

(Continued)

  - advancement prospects (employer offers training for advancing, received promotions or increased responsibility, foresees further opportunities for promotions or increased responsibility, received a pay rise);
  - worker's own assessment of their jobs (agrees/strongly agrees about having some say over the way they work, likes the job a great deal, job is very/extremely stressful, often/always has unrealistic time pressures at work);
  - employment travel costs.
- Worker's **chances to work full-time** as opposed to part-time.
- Worker's **chances of combining work with training** and of obtaining qualifications.
- Worker's **advancement behaviour**:
  - taking steps while working to help improve work situation or earnings (tried to increase hours of work, to get a pay rise, to negotiate better terms, to change to different sort of work with the same employer);
  - taking steps while working to find another job (tried to get a better job with a different employer, put name on the books of a private recruitment agency, went to a career office, career advice department or used Connexions service, looked for another job on own, did something else to find another job).
- **Advancement**: worker's growth in hourly wage rates or in work-related benefits.
- Workers' patterns of **engagement with Jobcentre Plus** (any contact with Jobcentre Plus staff while in work, received any help or advice from Jobcentre Plus staff on retention and advancement while in work, unprompted Jobcentre Plus help/advice).
- **Future intentions** (training intentions, labour supply intentions, work intentions).
- **Subjective well-being** measures (overall life satisfaction, stress/health, appraisal of one's financial situation, children's well-being, time with children).

1.3 Overview

The rest of the report is organised as follows.

Chapter 2 briefly describes the data sources, including the available background characteristics and the outcomes considered, and provides the definition of the samples of workers.

Chapter 3 discusses the problem of 'post-RA selection bias' that needs to be addressed in order to analyse ERA impacts on workers. It also looks in more detail at how this issue arises when considering important outcomes such as wages, hours worked and work progression and at the limitations experimental methods face in these instances.

The analysis framework and methodological approaches explored in the report are outlined in Chapter 4.

The results of all empirical analyses are presented and discussed in Chapters 5 and 6.

Chapter 5 focuses on the two lone parent groups. Section 5.1 briefly describes the benchmark outcomes experienced by the employed members of the control group and provides a descriptive analysis of the wages and hours observed for the employed ERA and control subgroups. Section 5.2 subsequently assesses how different the composition of the employed ERA and control subgroups is in terms of the rich set of observed characteristics. Overall, ERA impacts on a wide range of survey outcomes are presented in Section 5.3 for NDLP and WTC workers, both 2 and 5 years post-RA. Section 5.4 assesses whether ERA impacts have been heterogeneous across districts and selected subgroups of lone parents. Section 5.5 contains a rather speculative analysis aiming to shed some light on whether an unusually large or unusually small individual ERA impact on the take-up of education/training or on obtaining educational qualifications is accompanied by an unusually large or unusually small individual ERA impact on wages. Finally, ERA impacts on administrative tax year earnings for the lone parent subsamples who are employed in each post-RA tax year are presented in Section 5.6.

Chapter 6 presents and discusses ERA impacts on administrative tax earnings for the groups of ND25+ participants employed in each post-RA tax year. This section contains both the overall impact estimates and the estimates at the district level.

Chapter 7 summaries the findings and concludes.

2 Data and sample definition

2.1 Data

This report exploits a number of **data sources**:

- the administrative data held by Department for Work and Pensions (DWP), the Work and Pensions Longitudinal Study (WPLS) dataset on benefit and employment spells and on tax-year earnings (since these data are collected by Her Majesty's Revenue & Customs (HMRC) through P14 returns, for convenience in the following they are referred to as P14 earnings data);
- baseline characteristics data collected at intake specifically for the Employment Retention and Advancement (ERA) experimental sample in the form of the Basic Information Form (BIF);
- local-area level data; and
- data from the three waves of surveys covering the experiences of a sample of the programme group and the control group during the first 12, 24 and 60 months following individuals' date of random assignment (RA) (surveys at 24 and 60 months only covered the experiences of the two lone parent groups).

An extensive collection of **background variables** has been put together to capture the widest possible range of individual, office and local area characteristics that are most likely to affect individuals' labour market outcomes. Characteristics at the time of RA collected specifically for all participants in the BIF have been supplemented with detailed employment, past programme participation and benefit histories from the administrative WPLS data held by DWP, as well as with Jobcentre Plus office-level data and local-area level data (Census, travel-to-work and super-output area data).

Table 2.1 organises and summarises the various observable factors used in the analysis, and briefly comments on the variables.

In-depth **outcome** data were collected in three waves of surveys for the two lone parent groups (1, 2 and 5 years after programme start). This report mainly focuses on 5-year post-programme outcomes, but also looks at 2-year outcomes. The survey outcomes considered are organised and listed in Table 2.3.

The New Deal 25 Plus (ND25+) group second year survey was not deemed representative enough to be used for impact measures (due to low response rates coupled with the survey sample consisting of early entrants into ERA), and it was decided not to survey this group again. To estimate ERA impacts for the ND25+ target group one has thus to exclusively rely on administrative data.

Specifically, the administrative outcomes considered are tax-year earnings filed under the Employer Annual Return (P14) and contained in the WPLS (originally obtained from HMRC). As listed in Table 2.2, the analysis considers earnings for the 2005/06 through the 2008/09 tax year. The tax year runs between the start of April and the end of March of the following year, so for instance the 2005/06 earnings roughly cover earnings in the first follow-up year for individuals randomly assigned late in the intake period and earnings in the second follow-up year for those randomly assigned early in the intake period (intake period taking place between October 2003 and the end of 2004). Given that the ERA intervention ended in October 2007, earnings during the 2008/09 tax year are post-programme earnings for all individuals, as they cover a time period where nobody has been receiving any ERA services.

Table 2.1 Observed characteristics

ERA DISTRICT	
District dummies	
COHORT OF RA	
Time period when randomly assigned	New Deal for Lone Parents (NDLP) and ND25+: Oct03-Mar04; Apr04-Jun04; Jul04-Sep04; Oct04-Dec04 Working Tack Credit (WTC): Dec03-Jul04; Aug04-Nov04; Dec04-Jan05
DEMOGRAPHICS (at RA)	
Gender	
Age band	<30; 30 to 39; ≥40
Ethnic minority	
Single	
1 child	NDLP and WTC LP
2 or more children	NDLP and WTC LP
Any children	ND25
Age of youngest child	NDLP and WTC LP: ≤1; (1, 5]; (5, 16], >16
Missing child/child age information	ND25: aged 5 or less
Education Academic education	Levels 0-1; level 2; level 3; levels 4-5
Housing status	Social or private housing
BARRIERS TO WORK (at RA)	
Disability indicator	NDLP and ND25: has a disability at RA and/or if claiming Incapacity Benefits at RA
Missing disability status	
Health problem	
No driving license or lack of access to vehicle	
Transport problem	
Housing problem	
Childcare problem	
Basic skills problem	
Other problem	
CURRENT SPELL (at RA)	
Employed at random assignment	
Has currently >1 paid job	WTC LP
Current total weekly hours	WTC LP: Non eligible hours (i.e. <16 or ≥30); [16, 20); [20, 30)
Months in main current job	WTC LP
Quintile of pay in current job amongst WTC LP	WTC LP
Days before showing up	Same day, within 30 days, after >30 days NDLP and ND25+: Showing up defined as the time between becoming mandatory for ND25+ and starting the Gateway (for ND25+ group), or between being told about NDLP and volunteering for it (for NDLP group)
Early entrant into ND25+ programme	ND25+: Spent <540 days on Jobseeker's Allowance (JSA) before entering

Continued

Table 2.1 Continued

EMPLOYMENT HISTORY (at RA)	
In work before RA/previous to current jobs Quintile of pay in previous job amongst group Previous total weekly hours	WTC LP: <16; [16, 20); [20, 30); ≥30
In work before previous job Quintile of pay in that job amongst group Total weekly hours in that job	WTC LP: <16; [16, 20); [20, 30); ≥30
Number of jobs in the three years prior to RA	None, one, two or more
Total work experience in the three years prior to RA	7-12m; 13-24m; 25-36m
Hours per week worked in the three years prior to RA	<16; [16-30); ≥30
BENEFIT/PROGRAMME PARTICIPATION HISTORY (at RA)	
Past participation in basic skills	ND25+: Indicator of basic skills need
Past participation in ND25+ programme	ND25+
Past participation in NDLP programme	NDLP and WTC LP: indicator of past participation and how many times
On benefits at inflow	WTC LP
Summary of inactive benefit history in the three years prior to RA; Inactive benefits are Income Support (IS) and Incapacity Benefits (IB) WTC LP: Has been on inactive benefits in past three years	NDLP and ND25+: Spent >50% of past three years on inactive benefits
Summary of active benefit history in the three years prior to RA; Active benefits are JSA and compensation from New Deal for Young People (NDYP), ND25+, Employment Zones and WBLA and Basic Skills	NDLP: 0%; (0%, 50%); ≥50% ND25+: (0%, 50%); [50%, 100%); 100%
SPECIAL INDICATORS	
Looked for job on own while unemployed	NDLP and ND25+
LOCAL CONDITIONS (at RA)	
Total New Deal caseload at office (100s)	Office indicator
Share of lone parents in New Deal caseload at office	Office indicator
Quintiles of the index of multiple deprivation: bottom, 2nd, 3rd and 4th and top Note: top quintile is the most disadvantaged	Index of local deprivation at the super-output area level
Local unemployment rate	Travel-to-work-level unemployment rate

Table 2.2 Administrative outcomes

P14 earnings during 2005/06 tax year	Earnings 1-2 years post-RA
P14 earnings during 2006/07 tax year	Earnings 2-3 years post-RA
P14 earnings during 2007/08 tax year	Earnings 3-4 years post-RA
P14 earnings during 2008/09 tax year	Earnings 4-5 years post-RA
P14 earnings 2005/06 to 2008/09	Cumulative earnings 1-2 to 4-5 years post-RA

Table 2.3 Additional survey-based outcomes for lone parent workers

HOURS	
Weekly hours and whether works part- or full-time in the main and all current jobs	Hours per week for main current job Works ≤15 hours in main current job Works 16-29 hours in main current job Works ≥30 hours in main current job Hours per week for all current jobs Works ≤15 hours in all current jobs Works 16-29 hours in all current jobs Works ≥30 hours in all current jobs
Future labour supply intentions/desired hours	Would like to work part-time Would like to work full-time
EARNINGS	
Hourly and weekly earnings in the main and all current jobs	Gross weekly earnings for main current job
Gross hourly wage for main current job	
EDUCATION/TRAINING	
Education/training while in work	Education/training while in work Has obtained work-related qualifications
Future training intentions	Very/fairly likely to do training next year
FRINGE BENEFITS	
Fringe benefits: any, how many and specific	Any fringe benefits Number of fringe benefits Pension Paid holidays Flexible hours Time off for family Sick pay Car/van for own use Crèche/nursery Trade union membership
JOB QUALITY	
Actual and perceived measures of job quality – stability, patterns, roles, pressure	Number of desirable non-pecuniary work features Permanent job Shift work most of the time Usual work pattern during day Working pattern is inconvenient Has formal supervisory responsibilities Often/always has unrealistic time pressures at work (Strongly) agrees has some say over how they work Job is very/extremely stressful Likes job a great deal
ADVANCEMENT PROSPECTS	
Advancement opportunities and actual pay rises	Employer offers training for advancing Any promotions since started work Any opportunities for promotions Had pay rise since the previous wave/since first started job

Continued

Table 2.3 Continued

ADVANCEMENT BEHAVIOUR	
Various measures of advancement steps taken while in work	Took steps to improve work situation/pay Tried to increase hours Tried to get a pay raise Tried to negotiate better terms Tried to change work with same employer Tried to get better job with different employer Took steps to look for other job while in work, since RA Looked for other job while in work: private recruitment agency Looked for other job while in work: career office, etc Looked for other job while in work: on own Looked for other job while in work: something else Wants to improve pay and terms
Future work intentions	Very/fairly likely to look for different job next year Very/fairly likely to stop working next year
CONTACT WITH JOBCENTRE PLUS (year 2 only)	
Contact with and advice from Jobcentre Plus when working	Contact with Jobcentre Plus when in work since RA Advice/help from Jobcentre Plus when in work since RA Unprompted help/advice when in work since RA
VARIOUS	
Miscellaneous outcomes	Self-employed Cost of travel to work per week Days off rather that holidays in the last month Has not been late to work in the last month
Tenure and time in employment	Tenure of main current job (year 2 only) Share of two years since RA spent in employment, in part-time work and in full-time work
Subjective measures of overall well-being	(Very) dissatisfied with life as a whole Always/often tired/depressed/bad headache (year 5 only) Child's life is going very well (year 5 only) Spends >2.5h helping child with homework, etc. (year 5 only) Very/quite difficult financial situation now Very/quite easy financial situation now
GROWTH[1]	
Change in hours and wages	Growth rate: Hours/week, main job Growth rate: Hours/week, all jobs Growth rate: Hourly wage, main job
For NDLP only	Increase in number of fringe benefits Any improvement in non-pecuniary work/life conditions

Notes: Unless otherwise specified, outcomes are measured at interview date.

[1] Growth rate of y defined as [y(t) - y(t-1)]/y(t-1).

2.2 Sample selection

In order to assess impacts for workers, one has of course to start by deciding on how to define a 'worker'.

2.2.1 Survey outcomes for the lone parent groups

While a number of definitions would have been possible and have been explored, the final choice has been the cleanest one: NDLP workers and WTC workers are those 'currently' working, i.e. those who are employed at the time of the 5-year survey.[1] (When earlier 2-year outcomes are considered, workers are correspondingly defined as those in work at the 2-year survey.)

The most relevant alternative definition would have encompassed anyone who was employed at some point during the 5-year follow up. A number of reasons have, however, favoured focusing only on those employed at the time of the survey:

- For those employed at the time of the survey, considerable more outcome information is available, such as fringe benefits, detailed job quality indicators, advancement efforts whilst in work, etc.
- Preliminary analyses on year-2 survey respondents have uncovered basically the same impacts (and exactly the same story) for NDLP respondents ever employed within the first two years compared to those employed at year 2 on the subset of outcomes that are available for the ever employed.
- It was noted in particular that there was no loss in precision compared to the larger sample of the ever employed.
- A worker definition based on being ever employed in the follow-up period would not be meaningful for the WTC group, all of whom were supposed to be employed at random assignment. The choice of worker definition taken in the report is thus the same for both ERA lone parent groups.
- The change in work outcomes is more clearly defined between two waves.

When assessing the impact of ERA on outcome changes such as wage growth, the longest available time span to allow a change to take place has been considered. When considering outcome changes, NDLP workers are defined as those in work both at the 1-year survey and at the 5-year survey, while WTC workers are defined as those employed at random assignment (basically all of them) and at the 5-year survey.

2.2.2 Administrative outcomes

When looking at administrative earnings data, 'workers' are defined as that subset of the full ERA group who was ever employed during the relevant tax year in the sense of having had positive earnings in that tax year. Using P14 earnings data[2] one can thus obtain a reliable indicator of being 'ever-employed in that fiscal year'.

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1 This refers to employment status at the time of the 5-year survey, which took place earlier or later than month 60 for some respondents.

2 P14 data shows all earnings during the tax year which were assessed for income tax under the Pay As You Earn (PAYE) scheme for employees. While they are very accurate within that definition, it is important to note that this will not include any income from self-employment, and might not include some earnings as low as to fall below the 'NIC Lower Earnings Limit'. For further details on these data see Hendra *et al*. (2011).

Note, thus that for administrative earnings outcomes, workers are drawn from the full ERA participant sample, not from the subset that was surveyed and that responded. The outcome is, however, quite broad, reflecting total earnings in a tax year.

For the ND25+ target group, only this outcome can be looked at.

Five definitions of workers are considered – four relating to the four post-inflow tax years (2005/06, 2006/07, 2007/08 and 2008/09) and one encompassing the whole post-inflow duration (2005/06 to 2008/09).

Box 2.1 summarises the various definitions of 'workers' considered in the report.

Table B.1 displays the average characteristics at the time of random assignment of the sample subsequently in employment (at year 5 for the lone parent groups and during the 2008/09 tax year for the ND25+ group) by random assignment status.

Box 2.1: Definition of workers

a Administrative tax year earnings: 'workers' are those:

1 ever employed in 2005/06;

2 ever employed in 2006/07;

3 ever employed in 2007/08;

4 **ever employed in 2008/09** (main group);

5 ever employed at any time between 2005/06 and 2008/09.

Ever employed means having had positive earnings in the relevant tax year.

b Additional survey outcomes for the lone parent groups:

1 main group: **employed at Wave 3** (five years after random assignment);

2 employed at Wave 1 (NDLP) or at RA (WTC) and at Wave 3 for change in outcomes;

3 additional analysis: employed at Wave 2 (two years after RA);

4 additional analysis: employed at Wave 1 (NDLP) or at RA (WTC) and at Wave 2 for change in outcomes.

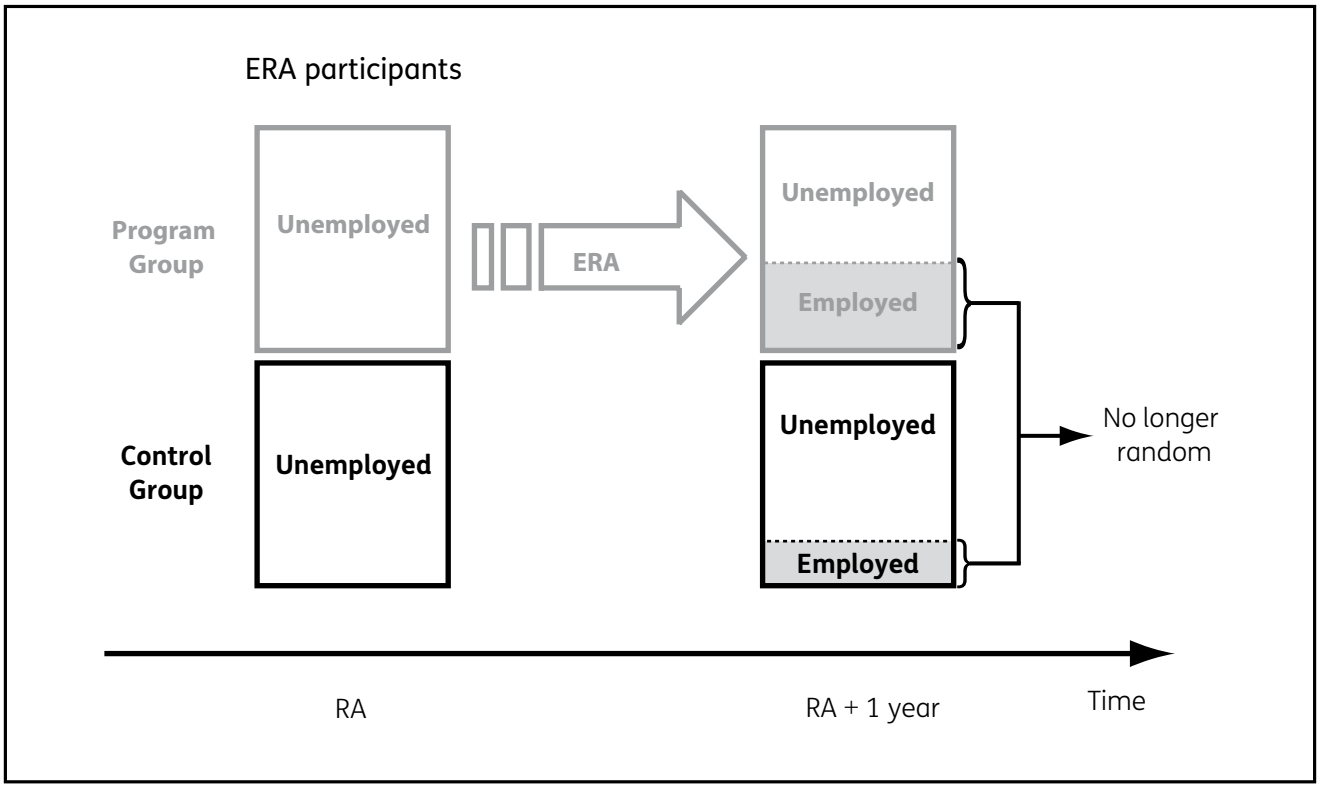
3 Analysing ERA impacts on workers: post-random assignment selection bias

3.1 Post-random assignment selection bias

A carefully designed and well-administered randomised experiment such as Employment Retention and Advancement (ERA) can provide unbiased impact estimates only for the overall programme group or for subgroups defined in terms of characteristics which have not been affected by the programme, in particular time-invariant individual characteristics such as age (date of birth) or ethnicity, or characteristics measured prior to random assignment (RA), such as pre-RA education or local conditions.

By contrast, subgroups defined on the basis of characteristics which may themselves have been affected by the programme may no longer be made up of properly balanced programme and control subgroups. In particular, the experimental contrast cannot be directly used to assess the impact of ERA on any outcome conditional on subsequent employment, such as wage rates, hours or wage growth. This is because the sub-sample of employed participants will in general have different observed and unobserved characteristics from the sub-sample of employed controls, and these different characteristics may in turn affect the outcome of interest.

Figure 3.1 Post-RA selection bias



Following Figure 3.1, randomisation has ensured that the (observed and unobserved) characteristics of the programme and control group members are the same at **baseline**. In order to consider wages, attention has to be restricted to subgroups defined on the basis of employment status after one year (a post-RA characteristic). The experimental contrast may, however, no longer hold between the employed programme and control subgroups, since the composition of those who are employed one year after RA may itself have been affected by the programme. If these different characteristics in turn affect wage rates, a simple comparison of employed treated and control subgroups will suffer from the so-called 'post-RA selection bias' (see e.g. Ham and LaLonde, 1996), with the true ERA impact on wages being confounded with the effect that the systematically different characteristics in the two selected subgroups have on wages. In other words, the experimental contrast cannot separate out differences between the average observed wages in the programme and control groups that result from the effect of the programme on wage rates from those that result from the effect of the programme on selection into employment.

Specifically, it is clear that if ERA affects job-finding or job-retention probabilities, the sub-sample of employed ERA participants is likely to have different characteristics from the employed control group members. For example, if the ERA treatment helps those nearest the lower margin of employability find and maintain employment, this will reduce the average wage rate of the programme group relative to the average wage rate of the control group because the treatment group will, on average, have characteristics that are less attractive to employers than the control group. This could be due to differences in either 'observables' (i.e. characteristics such as age, labour market experience or education) or 'unobservables' (characteristics such as motivation and self-esteem).

One might argue that if ERA has had no effect on employment probabilities (which is testable using experimental data[3]), the experimental contrast on the two employed subgroups will be unbiased. While strictly speaking this is not an a priori valid inference (as even in the absence of a programme employment effect, the programme might still have affected the composition of who it is that is employed), it is a plausible conjecture and one that can be further corroborated with additional analyses.[4]

In sum, the key problem to be addressed is of the standard **selection bias** type, that is, the possibility that outcomes differ between the groups being compared because their characteristics systematically differ, rather than because of differences resulting from the treatment being tested. In the case of post-RA selection bias, the characteristics of the ERA participants who have found (and retained) work might systematically differ from the characteristics of the controls who have found (and retained) work, and this imbalance in characteristics might confound any ERA impact on the outcomes observed for workers, such as wages.

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[3] One would also need to bear in mind that the failing to detect a statistically significant difference does not mean that there is no difference.

[4] The characteristics between the two employed subgroups can be imbalanced even in the absence of programme impacts on average employment probabilities if:

1. the programme has had heterogeneous employment impacts according to observed and/or unobserved characteristics;
2. heterogeneity is such that it has a different signs, in particular it also has to damage the employment prospects of some subgroup; and
3. these different signs have to balance out in the overall mean.

From a practical point of view, these conditions might be deemed quite restrictive. Note that it is always possible to test for heterogeneity in employment impacts based on observed characteristics, as well as to check the extent of balancing of observed characteristics between employed treated and controls.

3.2 Experimental and non-experimental methods to measure work advancement

The impact of ERA on earnings can and has been evaluated experimentally. It does not, however, provide a completely informative picture, since higher earnings might reflect any combination of:

- being more likely to be employed;
- working longer hours; and
- earning a higher hourly wage.

While the impact of ERA on employment rates can be directly evaluated experimentally, a separate analysis of the other two earnings-enhancing channels – hours worked and hourly wages – would be very informative for policy purposes.

3.2.1 Wages, non-pecuniary benefits and job quality

The evaluation of the wage returns from participating in ERA allows one to assess the extent to which individual productivity is increased by ERA services, notably via Advancement Support Adviser (ASA) advice and by financial incentives to undertake work-related training and to prefer full-time (hence possibly higher paying) jobs.

Employment advancement might also take the form of an improvement in terms and conditions quite distinct from increases in wage rates. Specifically, one would want to test whether ERA has resulted in higher levels of non-pecuniary work-related benefits and better job characteristics. While this hypothesis can be tested experimentally, it can only be tested in relation to the **whole** eligible population, whether working or not. However, this case might not be particularly interesting, as changes in, e.g. levels of non-pecuniary benefits measured this way will also reflect changes in employment; even if ERA caused no increase in non-pecuniary benefits, an ERA-induced increase in employment would translate into an experimental increase in average levels of work-related benefits. On the other hand, as argued above, the experimental contrast on workers alone will not provide unbiased impact estimates if ERA has influenced the composition of the employed.

Workers' outcomes such as average hourly net wages, receipt of fringe benefits, average levels of non-pecuniary work-related benefits and other measures of job quality thus need to be evaluated non-experimentally, accounting for selection into (continued) employment.

3.2.2 Hours and full-time work

In the design of ERA, full-time work was deemed as a better route out of poverty as well as to advancement than part-time work. In order to improve workers' access to better jobs, ERA thus provided direct and strong incentives to look for a full-time job if unemployed, or to switch from part- to full-time work if employed. Thus, in addition to disentangling any ERA impact on earnings, evaluating its impact on hours worked and indeed on the probability of working full-time allows one to directly assess how successful ASA's encouragement and the retention bonus have been in promoting full-time work.

It is again important to clarify that one can experimentally test whether ERA has led to an increase in full-time work, but only relative to a state made up by unemployment **and** part-time work, as one cannot experimentally test whether ERA has led to an increase in full-time work among the employed. With a sufficiently large ERA-induced increase in overall employment, an experimental increase in full-time work among the whole eligible population is in principle compatible with an ERA-induced reduction in full-time work amongst the employed.

3.2.3 Direct measures of progression

Similarly, non-experimental methods are required to assess ERA impacts on direct measures of the change in the quality of jobs (e.g. growth in hourly wage rate or in work-related benefits) over time. In these cases, the subgroups of interest would be restricted to those individuals observed to be in work in two periods of time, where ERA may again influence who it is that works and remains in work.

3.2.4 Other measures of ERA impacts

Another dimension of ERA's effectiveness where non-experimental methods can potentially shed more light than experimental ones is in terms of undertaking training or education while in work. This is directly encouraged by the training bonus, as well as arguably by the ASAs.

While the finding of an experimental increase in the probability of combining work and training among the whole eligible population would be interesting per se, it would not imply that ERA increased training for those in work, as it could equally be the case that employees are more likely to participate in training and that the observed increase in training while in work is simply capturing the ERA-induced increase in employment.

Finally, to assess the 'intensity' of the underlying ERA treatment once in work, a critical evaluation question relates to how much working members of the programme group were actually involved with Jobcentre Plus and used its support compared to working members of the control group. While one might expect that Jobcentre Plus services stopped for the controls upon finding a job, survey information showed that this was far from the case, highlighting the presence of a demand for continued support by newly employed lone parents and long term unemployed. To fully appreciate any ERA impact for workers it is thus essential to assess the differential intensity of post-employment support among workers.

4 Methodological approaches

This chapter starts by setting up the framework and basic notation. It then briefly outlines in some more detail the different methodological approaches and their underlying assumptions, mainly to be in a position to highlight some issues which are important for a correct interpretation of the empirical results.

Throughout, the discussion is kept as informal as its rather technical nature allows. For those who would still rather skip this section, the following is a very straightforward summary of the three approaches that have been adopted, which should be sufficient to allow one to follow the results in Chapters 5 and 6:

a Assuming that selection into employment is the same for Employment and Retention Advancement (ERA) and control group members.

  Indirect support for this assumption can be obtained by considering whether all relevant characteristics that are observed are balanced between ERA and control group workers.

b Controlling for observable differences between ERA and control group workers.

  Under the assumption that the only outcome-relevant differences between the two groups of workers are those which are captured in the many characteristics observed in the data (such as age, gender, education, duration on benefit, labour market history), one can use the wage outcomes of those control group workers who are observationally similar to the ERA workers to estimate what the wage outcomes of the former would have been had they not received ERA.

c Recognising that ERA workers may differ from control group workers in important ways that the analyst cannot directly observe.

  Under a set of assumptions, one can not only test whether this is in fact the case, but experiment with a control function approach to allow for this residual bias.

4.1 Analysis framework and overview

In order to estimate the causal impact of offering ERA services and incentives on employment-related outcomes of workers, such as hourly wages, one would ideally need to compare the average wage of the employed ERA group to the average wage that these same individuals would have received had they not been entitled to ERA – an unobserved counterfactual. The evaluation problem thus consists in providing unbiased estimates of this average counterfactual through the use of appropriate methods and usually untestable assumptions.

Trying to estimate the counterfactual non-ERA wage for the employed ERA participants with the observed mean wage of the employed controls will yield unbiased estimates only if employed ERA and employed controls do not systematically differ in terms of any characteristic affecting wages. If ERA had been randomised on the subgroup of workers, this would indeed have been the case. ERA was, however, randomly assigned on the full sample at baseline, so that nothing ensures that the above condition holds. Indeed, as argued in Chapter 3, post-random assignment (RA) selection bias would be present if ERA has affected the composition of who it is that is employed at the point of evaluation. In this case, some of the difference in wages observed between ERA and control workers is attributable to these individual differences, not to ERA itself.

Formally, let Y be the observed wage, Y_1 be the wage of a given worker if they received ERA and Y_0 the wage of the same worker if they did not receive ERA, and let the dummy variable $ERA \in \{0,1\}$ denote ERA eligibility.

The parameter of interest is the average effect of ERA on ERA workers (the so-called average effect of treatment on the treated, ATT):

$$\text{ATT} \equiv E(Y_1 - Y_0 \mid \text{work}, ERA=1) = \text{E}(Y_1 \mid \text{work}, ERA=1) - E(Y_0 \mid \text{work}, ERA=1) \quad (1)$$

Note that this set-up is general enough to allow the ERA impact, $Y_1 - Y_0$, to differ among workers. In fact, a **priori** there is no reason to expect all workers to benefit from the ERA services and incentives in exactly the same way.

As to the estimation of (1), the average observed wage of ERA workers is an unbiased estimate of the first component, $E(Y \mid \text{work}, ERA=1) = E(Y_1 \mid \text{work}, ERA=1)$. The average wage that ERA workers would have earned had they not received ERA, $E(Y_0 \mid \text{work}, ERA=1)$, is the unobserved counterfactual to be estimated through an appropriate choice of methods and assumptions.

To proceed, one can invoke three alternative types of assumptions:

1 Assume balancing biases between the working members of the programme and control groups.

2 Assume that there is selection on observable characteristics, but not on outcome-relevant unobservables or, alternatively, that biases resulting from unobservables balance once the observables are taken into account.

3 Allow for selection on both the observables and the unobservables.

Scenario (1) allows one to directly compare the employment-related outcomes of the working programme and control group members, as it assumes away the post-random assignment selection bias. In this scenario, $E(Y_0 \mid \text{work}, ERA=1) = E(Y_0 \mid \text{work}, ERA=0)$, so that the average observed wage of working controls can be taken as an unbiased estimate of the average wage that ERA workers would have earned had they not received ERA.

Alternatively, there are broadly two categories of non-experimental methods to account for selection bias when evaluating outcomes conditional on employment those that attempt to:

- measure all individual factors that may be the cause of such dependence and then match on these observed variables – Scenario (2); and
- control for the correlation between individual factors and employment choices by assuming that a subset of the observed variables drive selection into employment but not the employment outcomes directly (exclusion restriction) and generally invoking parametric assumptions – Scenario (3).

Before considering the three scenarios in more detail, it is important to summarise that the different approaches address the selection process into (continued) employment in different ways, seem a priori quite feasible in the ERA evaluation and present both advantages and disadvantages. Indeed no single non-experimental method is a priori uniformly superior to others, as they all rely on alternative and ultimately untestable assumptions. When the data has allowed it, both types of non-experimental analyses have thus been performed and compared in terms of the sensitivity of the resulting estimates when applied to a common dataset. By contrasting the relative magnitude of the different estimates, the report has tried to infer what kind of selection and outcome models underlie the data.

4.2 Balancing biases

In this scenario, it is acknowledged that biases will result from restricting the analysis to only members of the sample who work, because such individuals are most likely to significantly differ from those who do not work.

However, it is assumed that the biases are **similar** for the programme and control groups, in other words, that the selection process into employment is the same for the ERA and control samples. Comparing the working members of the two groups, the biases are thus offsetting and cancel out. In this case, the observed mean wage of control workers, $E(Y_0 \mid \text{work}, ERA=0)$, would be an unbiased estimate of the counterfactual non-ERA wage for ERA workers, $E(Y_0 \mid \text{work}, ERA=1)$, and just comparing average wages between employed programme and employed control group members would provide unbiased ERA impact estimates.

This assumption is most plausible if ERA has had no impact on who it is that works, hence on the sample selection process resulting in the sample of those in work (see footnote 4). A test of whether ERA has had an impact on employment probabilities can reliably be performed by using experimental data.

However, even in the presence of an ERA impact on employment probabilities, the two sub-groups might still happen to be balanced in terms of wage-relevant observable and unobservable characteristics.

Hence indirect support for this scenario can further be obtained by considering whether observed characteristics are balanced between ERA and control workers. If all outcome-relevant characteristics one can observe happened to be balanced, it might be defensible to argue that those characteristics that happen not to be recorded in the data are likely to be balanced as well.

One can test the amount of balancing between the observables between the two employed subgroups. In addition to testing whether characteristics are individually unbalanced between the two subsamples (e.g. using two-tailed t-tests), the following are some simple indicators of the existing extent of overall balancing:

- pseudo R^2: from probit estimation of the conditional probability of being an ERA worker as opposed to a control worker, this measure can help gauge how well the observable characteristics explain programme assignment among workers;
- p>chi2: a formal test of how different the two groups are in terms of observed characteristics. Specifically, it is the p-value of the likelihood-ratio test, testing the hypothesis that the regressors taken jointly do not help predict programme assignment among workers. Another way to look at this is as a test that the two groups being considered do not significantly differ in terms of the observables taken jointly;
- median and mean bias: median and mean standardised percentage difference, median and mean taken over all the characteristics. For a given characteristic X, the standardised difference is the difference of the sample means in the two groups as a percentage of the square root of the average of the sample variances in the two groups pooled.

So, the lower the pseudo R^2, the higher p>chi2 and the lower the mean or median bias, the more balanced are the groups. In particular, if (p>chi2) > 0.010, the groups can be regarded as balanced.

As a final note, such balancing tests are cast within the usual inferential paradigm of a null hypothesis that there is no difference between the groups. It is this important to note that even if this null hypothesis of balance cannot be rejected, there may still be some selection on observables.

Impact estimates from methods that do control for observables should always be preferred, because (apart from higher precision) they would control for chance or residual imbalance in observables.

4.3 Selection on observable characteristics

This scenario relaxes the previous one in that it allows the selection process into employment to differ between ERA and control group members in terms of observable characteristics – but not in terms of outcome-relevant unobservables or, alternatively, that biases resulting from unobservables balance out once the observables are taken into account.

Formally, it is required that conditional on a sufficiently rich set of observed characteristics X, the employed ERA and control group members would have experienced the same non-ERA wage, on average:

$$\mathrm{E}(Y_0 \mid \text{work}, ERA{=}1, \mathrm{X}) = \mathrm{E}(Y_0 \mid \text{work}, ERA{=}0, \mathrm{X})$$

This 'selection-on-observables assumption' thus requires the analyst to capture **all** the outcome-relevant differences between employed ERA and control group members. To the extent that **unobserved** differences remain between the two groups that are important determinants of employment-related outcomes such as wages, such differences will erroneously show up as part of the ERA impact estimates.

The reliability of such estimates thus crucially depends on the range and quality of characteristics observed. Section 2.1 has summarised the comprehensive data that has been assembled; in the following, its content in relation to the estimation problem to be addressed is briefly considered.

The available background information – an extensive collection of individual, office and local area characteristics most likely to affect individuals' labour market performance – is believed to be of good quality and scope.

In particular, the BIF combined with the Department for Work and Pensions (DWP)/Work and Pensions Longitudinal Study (WPLS) data provide:

- demographics (gender, age, ethnicity, partner and children, housing) and human capital indicators (education);
- information on an individual's current spell at random assignment (indicators of a very recent/current employment spell, how long it took them to start the Gateway or volunteer for New Deal for Lone Parents (NDLP) once having become mandatory for it or being told about it, and of whether ND25 Plus (ND25+) entrants volunteered for the Gateway ahead of time);
- very detailed work history (pay, hours, experience), active and inactive benefit history and past programme participation history, going back to the three years prior to random assignment.[5] Specifically, in addition to variables summarising the proportion of time employed and the proportion spent on benefits – separately on active benefits (Jobseeker's Allowance (JSA) and compensation whilst on a labour market programme) and inactive benefits (Income Support (IS) and Incapacity Benefits (IB)) – the data also include variables capturing the extent of past participation in voluntary employment programmes (as a crude indicator of willingness to improve one's circumstances), in the ND25+ (a mandatory programme) and in Basic Skills (a programme designed to address basic literacy, numeracy and IT skills).

[5] The previous literature has indicated the potential for detailed labour market histories (like those constructed here) to help proxy unobserved traits (see, for example, Heckman and Smith, 1999, Heckman *et al.*, 1998, and Heckman *et al.*, 1999).

- a number of direct indicators of individual heterogeneity such as basic skills needs, disability and health barriers, transport barriers (including access to car and having a driving licence), childcare, housing or other problems, and for the New Deal groups, whether the individual has looked for job on their own while unemployed;
- travel-to-work area unemployment rates and the deprivation of the area the individual lives in (local index of multiple deprivation).

Local area-level data further provides important information on the conditions of the local labour market in which persons reside, which are known to affect both the levels and dynamics of earnings and employment.

Such strong baseline information could warrant the use of strategies based on the selection-on-observables assumption, whereby unbiased ERA impact estimates are obtained by appropriately controlling for any imbalance between working members of the programme and control groups that is observed in terms of measured characteristics X.

Differences between working ERA and control group members that result from observables can be corrected statistically in a regression framework (simple Ordinary Least Squares (OLS), interacted regression and, for binary outcomes, a Probit model) or more robustly by using matching methods.

Simple OLS regression can suffer from misspecification bias if the observed characteristics affect the outcome in a non-linear fashion and/or if the impact of ERA varies according to workers' characteristics. Both these biases are further exacerbated if some workers fall outside of the so-called **common support** of the observables, i.e. if there are ERA workers for whom there are no comparable control group workers. In this case, performing OLS might hide the fact that the researcher is actually comparing incomparable individuals by using the (linear) extrapolation.

A **fully interacted linear (regression) model** (FILM) allows the effect of ERA to vary according to each observable characteristic. An additional advantage of this specification is that one can actually test for the presence of such heterogeneous effects.

OLS regression (simple or interacted) does not take into account the potentially binary nature of the outcome variable. **Probit** models by contrast do appropriately model binary outcomes, but do so on the basis of a distributional assumption.

Non-parametric **matching** methods are by contrast very robust: they do not restrict at all the way in which workers' characteristics affect either the outcome or the impact of ERA. In addition, matching methods simply compare means, and are thus equally appropriate for either continuous or binary outcomes. Finally, the focus of matching methods is on the actual comparability of groups. Indeed, one of the main advantages of matching methods is that one can easily check how well matching has balanced the available observables between the ERA and the matched control workers. If balancing cannot be achieved, the researcher needs to accept the fact that the working ERA and working control group members are just too different in terms of the observables and that there simply is not enough information in the available data to achieve sufficiently close – and thus reliable – matches. Matching quality is typically summarised with the balancing indicators described in Section 4.2.

As a final note, if no heterogeneity in impacts is found, the estimate of the effect of ERA from simple OLS will basically coincide with the one from the fully interacted model. If in addition the two groups of interest can be selected so as to be comparable (i.e. there is no serious common support problem and matching can achieve a good balancing of characteristics), both sets of estimates will be very close to the one from the matching estimator. As Section 5.3 shows, this often turns out to be the case in the analysis in this report.

4.4 Selection on observables and unobservables

The most general case is the one where the selection process into employment is allowed to differ between ERA and control group members in terms of both observed and unobserved factors.

Approaches to deal with these two sources of bias fall within the 'control function' method. These models, which build upon the classical sample selection model introduced by Heckman (1979), add a selection term to the wage regression to control for differences in outcome-relevant unobservables between the two groups of workers.

The selection term itself is obtained from a separate Probit model in which employment status is regressed against a set of explanatory variables, which differ from the set of explanatory variables included in the outcome (here wage) regression.

The model thus crucially relies on an 'exclusion restriction' – an observable variable which affects the probability to be in work, but does not affect work outcomes directly. Potential excluded variables that could be thought of affecting work probabilities but, conditional on the other observed variables, be excluded from the outcomes equation include, e.g. barriers to work due to transport problems or childcare problems, not having access to a car or not having a driving licence, local unemployment rates, the presence of a partner or other adult in the household who is in work. There are thus a number of potential instruments in the available data; it is, however, crucial to test their power first, i.e. to test whether they do in fact have a strong impact on the chance of being in work. It has in any case be kept in mind that although their validity can be discussed and defended, eventually all instruments rely on untestable exclusion restriction.

The success of this approach, however, depends on how well a set of fairly strong assumptions is satisfied; these models are framed within a formal set-up and require additional technical conditions for identification of the effects and at times quite complex estimation methods, suffering at times from unstable estimates and the possibility of convergence problems.

In particular, these models usually impose that the unobservables are jointly normal and homoskedastic, though such parametric assumptions can be relaxed. The control function approach can also be modified to properly model a binary outcome variable, such as working full-time as opposed to part-time.

A particularly attractive feature of these types of models is that (relying on the validity of the exclusion restriction and of the other control function assumptions) they allow one to test for selection into work based on unobserved characteristics such as 'ability', or in other words, to test the appropriateness of approaches relying on the selection-on-observable assumption.

The control function model was further extended to allow the unobserved determinants of the probability to be in work to be potentially correlated with both unobserved individual characteristics and idiosyncratic ERA impacts. The extended model thus allows for selection into work to be potentially based on both unobserved characteristics as well as on unobserved individual-specific ERA impacts, and provides the analyst with the basis for separately assessing the importance of residual selection on unobserved ERA impacts and on unobserved individual heterogeneity, evidence which can be of interest in its own right. Noteworthy is the fact that to achieve separate identification of the two selection terms the randomised nature of ERA has been exploited throughout.

The model was further extended to allow for heterogeneity in ERA impacts based on observed characteristics (e.g. age, education, ethnicity) in the underlying wage model. In this case, impacts can be estimated for the ERA workers (ATT), for the control group workers (ATNT) and for all workers (ATE).

Appendix A derives the standard control function model as well as its extension to allow for selection into work based on unobserved ERA impacts.

In the sections discussing the empirical results (Chapters 5 and 6), a number of boxes present in a concise way the control function results, model summary and relevant diagnostics. Specifically, for each outcome considered, the box shows:

- the instrument(s) used, together with their first stage power (i.e. their significance in predicting employment status);
- a brief description of the type of control function model that was chosen based on specification tests (i.e. whether heterogeneity in ERA impacts based on observables, selection on unobserved ERA impacts or non-normality were detected and hence allowed for);
- evidence that was uncovered on the presence (i.e. whether statistically significant or not) and direction (i.e. positive or negative) of selection into work based on unobserved characteristics; and
- the control function estimate of the impact of ERA on the outcome of interest; if allowing for observed heterogeneity in impacts, estimates for ERA group workers, control group workers and all workers are presented.

5 Impacts of Employment Retention and Advancement on working lone parents

5.1 Descriptive analysis of outcomes of lone parent workers

This chapter first establishes the benchmark against which to assess the impacts of Employment Retention and Advancement (ERA) conditional on work by briefly describing the outcomes experienced by the employed members of the control group. It then moves on to show the results of a descriptive analysis of the wages and hours observed for the employed ERA and control subgroups among the lone parent target groups.

5.1.1 Establishing the benchmark: outcomes of the control group workers

The workers from the control group provide the baseline non-ERA outcomes for those lone parents who found a job following New Deal Lone Parents (NDLP) and those Working Tax Credit (WTC) recipients who were (still) in work five years after random assignment (RA). Table 5.1 displays the average values for the detailed survey-based outcomes in terms of which ERA will be assessed in the following sections.

Both lone parent groups are normally (i.e. without ERA) found to work around 27 hours per week on average; there is an interesting distinction between the two groups, though, as almost half (46.4 per cent) of former NDLP participants work full-time (30 hours or more), compared to 41.8 per cent of the WTC group. The hours of the latter group are concentrated between 16 and 19 hours per week. Both groups, however, would like to work full-time in the future to the same extent (26 per cent).

The share of both groups investing in training or education courses while in employment is remarkably high, with two-thirds of the WTC group and slightly over half of the NDLP group having participated in such activities since having been assigned to the control group. Participation has mostly been concentrated in the latter part of the follow-up period (three to five years after RA). The control group is by itself engaging in such activities to a considerable extent without any ERA training incentives or bonuses; it transpires though that 40 per cent of WTC workers' employers do offer training for advancing, so this might be the most likely channel behind the large take-up rates. Whatever its origins, though, this is an important benchmark to keep in mind when assessing ERA's impacts on the take-up of training once in work (for an in-depth analysis of the delivery, take-up, and outcomes of the training support and incentives provided through ERA see Hendra *et al*., 2011).

Intentions to engage in training or education activities in the next year are particularly strong, with 67 per cent of both working groups having expressed such an objective.

Despite having engaged in more training activities whilst employed, the working WTC control group is just as likely to have obtained formal qualifications as the working NDLP control group (40 per cent).

In terms of job quality, WTC group members are in better jobs across a range of job characteristics compared to workers from the NDLP control group. Hourly remuneration is slightly higher on average (£8.4 compared to 7.5), they have a slightly higher probability of enjoying any fringe benefit (98 per cent compared to 96 per cent) and slightly more fringe benefits (4.5 compared to 4).

The incidence of some important fringe benefits is particularly high among these two groups of workers, again slightly higher for the WTC group possibly reflecting their more established work history (95 per cent and 90 per cent have paid holidays, 82 per cent and 75 per cent have sick pay, 80 per cent and 70 per cent have time off for family reasons). Most of these jobs are of a permanent type (96 per cent and 90 per cent), around one-quarter entail formal supervisory responsibilities (23 per cent and 18 per cent) and the majority is liked a great deal/quite a lot by workers (70 per cent). For around 45 per cent of them the job offers opportunities for promotions and indeed 27 per cent of them have had one since starting the job. Four-fifths of the WTC workers and over two-thirds of the NDLP workers have actually had a pay rise.

In terms of advancement steps, around 60 per cent of these control group workers have taken steps to improve their work situation or pay. Most have tried to increase hours (43 per cent) and to obtain new training or qualifications (40 per cent), and one-quarter has taken steps to look for another job while in work, mostly on their own. Around 43 per cent of them will want to improve pay and terms at some point, and hardly anyone sees themselves as likely to stop working in the next year.

Only around seven per cent of these control group workers are self-employed.

The average weekly cost of getting to work is £11 for the NDLP control group workers and almost £13 for the WTC control group workers (these costs look reasonably in line with those given in Fujiwara, 2010). Most of these workers are able to arrive to work on time (93 per cent).

While the WTC control group workers have obviously spent a much higher share of the five years since RA in work (97 per cent against 77 per cent of the NDLP workers who by contrast had started out as unemployed), the share of that time spent in full-time work (slightly less than one-third) is the same between the two groups.

Finally, life satisfaction is low overall, with 74 per cent of both working groups claiming to be very dissatisfied or dissatisfied with life as a whole; given that 63 per cent report that their child's life is going very well, such overall dissatisfaction is most likely to stem from financial worries (53 per cent of the WTC and 60 per cent of the NDLP control group workers reporting to be facing a very or quite difficult financial situation at the time of the interview) and stress- or fatigue-related health issues (45 per cent of workers reporting to always or often feel tired, depressed or suffering from a bad headache).

Table 5.1 Baseline average outcomes of control group lone parents employed at year 5

	NDLP	WTC
Hours		
Hours per week for main current job	25.9	26.6
Works ≤15 hours in main current job (%)	9.6	5.6
Works 16-29 hours in main current job (%)	44.1	52.6
Works ≥30 hours in main current job (%)	46.4	41.8
Hours per week for all current jobs	26.5	27.2
Works ≤15 hours in all current jobs (%)	7.8	4.4
Works 16-29 hours in all current jobs (%)	44.8	51.9
Works ≥30 hours in all current jobs (%)	47.4	43.7
Would like to work part-time, <30 (%)	12.3	12.7
Would like to work full-time, ≥30 (%)	25.8	26.8
Earnings		
Hourly wage for main current job	7.7	8.4
Weekly earnings for all current jobs	207.7	226.8
Education/training		
Education/training while in work in years 3-5 (%)	51.0	58.1
Education/training while in work since RA (%)	56.5	66.2
Has obtained work-related qualifications in years 3-5 (%)	24.8	22.7
Has obtained work-related qualifications since RA (%)	40.0	40.3
Very/fairly likely to do training next year (%)	66.5	67.1
Fringe benefits		
Fringe benefits: any (%)	96.4	98.4
Fringe benefits: number	4.0	4.5
Fringe benefits: pension (%)	58.6	69.9
Fringe benefits: paid holidays (%)	89.6	95.9
Fringe benefits: flexible hours (%)	59.1	59.0
Fringe benefits: time off for family (%)	70.6	79.1
Fringe benefits: sick pay (%)	74.6	82.4
Fringe benefits: car/van for own use (%)	4.7	4.4
Fringe benefits: crèche/nursery (%)	5.3	8.7
Fringe benefits: trade union membership (%)	39.9	49.7
Job quality		
Number of desirable non-pecuniary work features	11.6	12.1
Permanent job (%)	90.1	95.6
Shift work most of the time (%)	20.5	14.7
Usual work pattern during day (%)	92.4	94.8
Working pattern is inconvenient (%)	22.9	19.3
Has formal supervisory responsibilities (%)	18.7	23.4
Often/always has unrealistic time pressures at work (%)	14.0	17.4
(Strongly) agrees has some say over how they work (%)	69.0	68.6
Job is very/extremely stressful (%)	17.6	17.6
Likes job a great deal/quite a lot (%)	71.2	70.3

Continued

Table 5.1 Continued

	NDLP	WTC
Advancement prospects		
Employer offers training for advancing (%)	40.0	37.6
Any promotions since started work (%)	27.8	26.8
Any opportunities for promotions (%)	45.0	42.3
Had had a pay rise (%)	68.6	80.3
Advancement behaviour		
Took steps to improve work situation/pay (%)	60.0	56.7
Tried to increase hours (%)	41.8	44.0
Tried to get a pay raise (%)	26.0	29.8
Tried to negotiate better terms (%)	30.1	28.6
Tried to change to work with same employer (%)	19.1	22.3
Tried to get better job with different employer (%)	28.1	26.0
Tried to get new training or qualifications (%)	39.8	40.0
Took steps to look for other job while in work, since RA (%)	26.9	25.3
Looked for other job while in work: private recruitment agency (%)	6.8	5.6
Looked for other job while in work: career office etc (%)	3.9	3.2
Looked for other job while in work: on own (%)	26.0	24.4
Looked for other job while in work: something else (%)	8.4	8.2
Will want to improve pay and terms at some point (%)	42.7	44.6
Very/fairly likely to stop working next year (%)	3.0	4.1
Miscellaneous		
Self-employed (%)	6.4	7.0
Cost of travel to work per week	11.2	12.7
Had days off work other than holidays in past four weeks (%)	25.5	19.4
Has not been late to work in the last month (%)	92.5	92.7
Time in employment		
Share of 5 years since RA spent in employment (%)	77.0	96.1
Share of 5 years since RA spent in part-time work (%)	45.3	62.7
Share of 5 years since RA spent in full-time work (%)	31.3	32.9
Well-being		
(Very) dissatisfied with life as a whole (%)	73.9	73.9
Always/often tired/depressed/bad headache (%)	44.8	46.5
Child's life is going very well (%)	63.1	62.4
Spends >2.5h helping child with homework, etc. (%)	28.3	21.9
Very/quite difficult financial situation now (%)	59.5	52.5
Very/quite easy financial situation now (%)	7.8	9.3

5.1.2 Observed outcomes of ERA and control group workers

Moving on to consider differences in the observed outcomes of the ERA and control subgroups of workers, Figures 5.1 and 5.2 show the distributions by treatment status of the two most important work outcomes – hourly wages and hours worked.

For both NDLP and WTC workers, the ERA and control subgroups who are employed either at year 2 or at year 5 display exactly the same distribution of hourly wages. Not only are the distributions of wages of ERA and control group workers visibly the same at both points in time, but a formal test of the equality of the distribution functions cannot be rejected at any level.[6]

The story in terms of hours per week is, however, more complex. For both the NDLP and WTC workers at year 2, the hour distributions of the ERA and control groups are visibly and statistically different, highlighting a clear 'move' by the programme group away from part-time to full-time work. In particular, a sharp decrease in the proportion working 16 hours per week is accompanied by a **doubling** of the proportions of those working 30 and 35 hours per week.

However, by the fifth year following RA, the story is different between the two lone parent groups (note that the findings at the two points in time are not necessarily comparable as they pertain to potentially different samples of workers). The distributions of hours per week are now statistically the same for ERA and control workers among the NDLP group, while the differences have persisted for the WTC group. ERA workers from the WTC group are still much less likely to work 16 hours per week and still double as likely to work 30 hours per week as the employed control group.

These raw differences indicate that there has been no raw impact of ERA on wages, but a sizeable **raw** effect on hours in the second year, which persists in the fifth year for the WTC group.

Will these raw differences remain once account has been taken of the potentially different composition of programme participants who are in work compared to control group members who are in work?

The first step taken in the next subsection is to assess just how different the composition of the two worker subgroups is in terms of the rich set of observed characteristics that are available.

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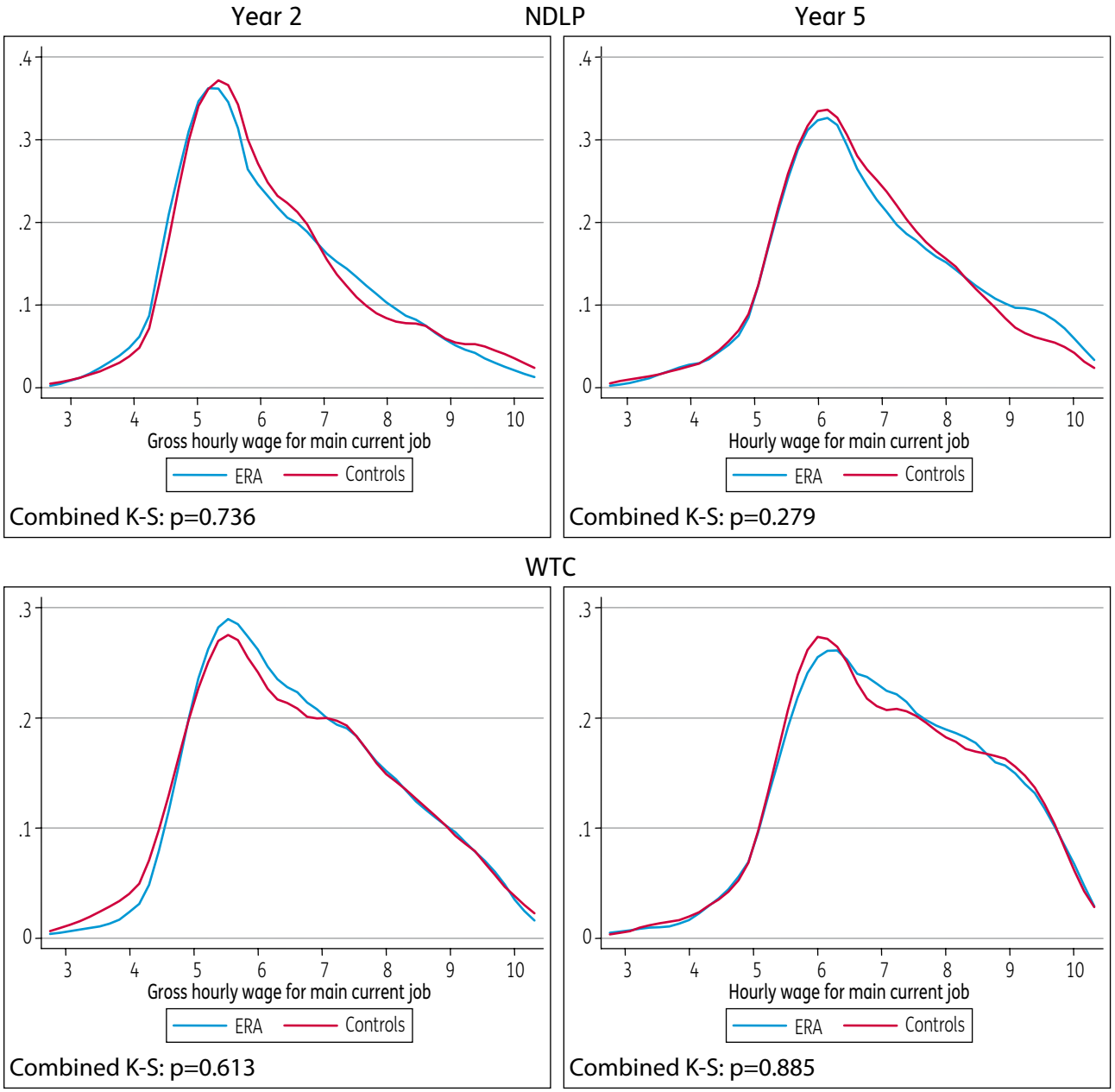
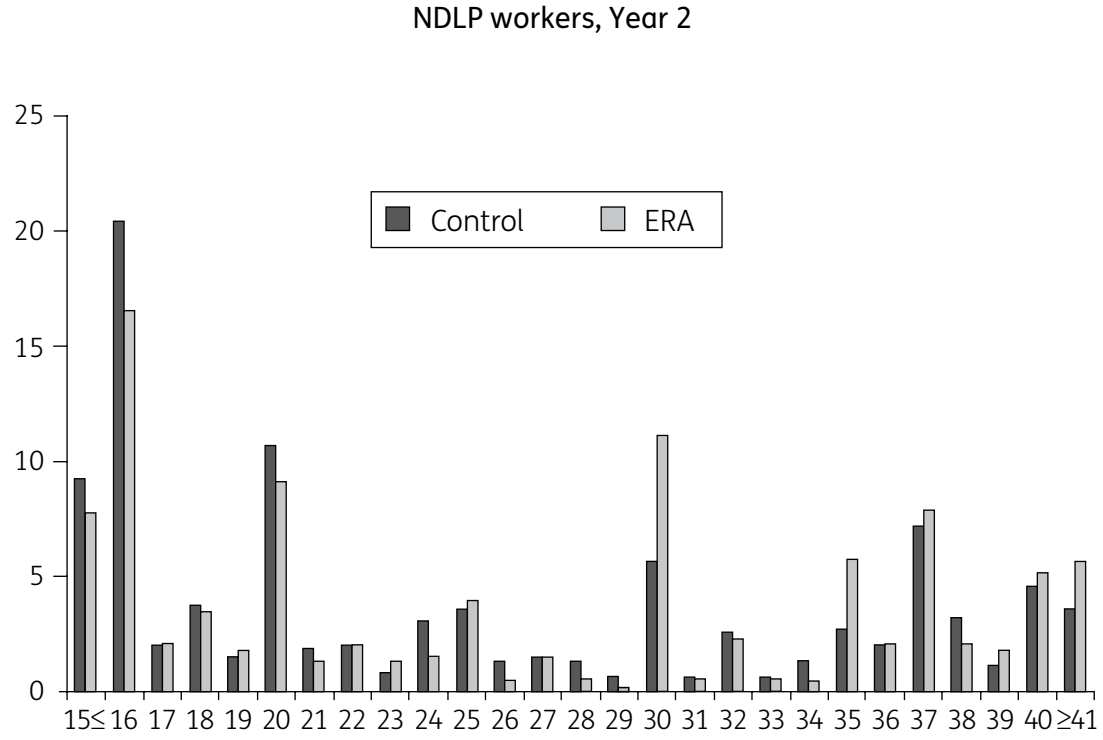
6 As the charts show, a non-trivial proportion of workers appear to have been earning below the minimum wage of £5.35 for year 2 and £5.73 for year 5. Specifically, 12 per cent of WTC workers have gross hourly wages below the minimum wage at both years, while as many as 23 per cent of NDLP year 2 workers and 18 per cent of NDLP year 5 workers earn below the minimum wage. It has to be noted that gross hourly wage may not be perfectly measured, as it has been derived from weekly earnings and weekly hours reported by survey respondents.

Figure 5.1 Hourly wage rate for the main current job of lone parent workers

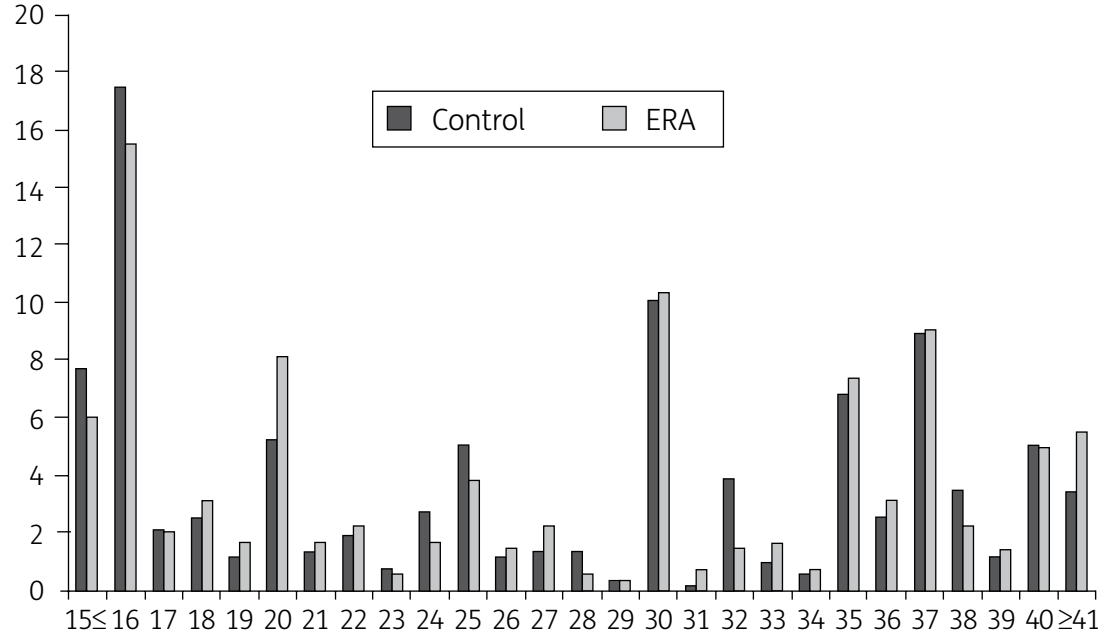


Note: p is the p-value of a two-sample Kolmogorov-Smirnov test for equality of distribution functions.

Figure 5.2 Hours per week in all current jobs of lone parent workers

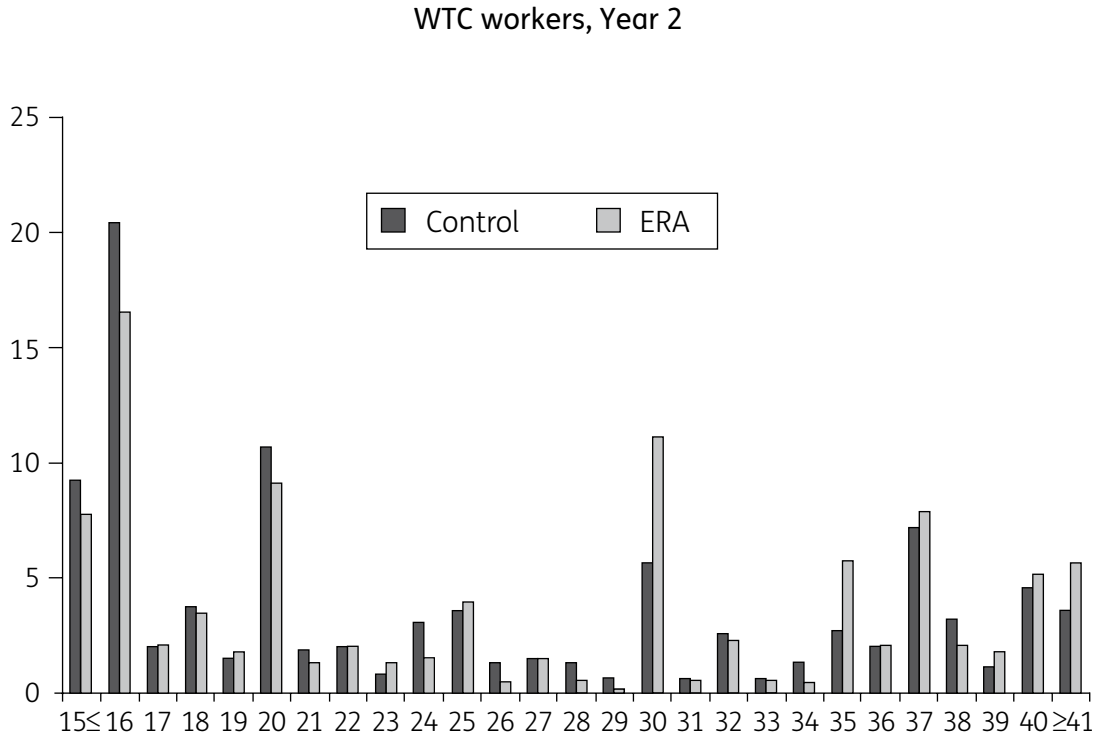


Pearson chi2 p=0.070; likelihood-ratio chi2 p=0.017.

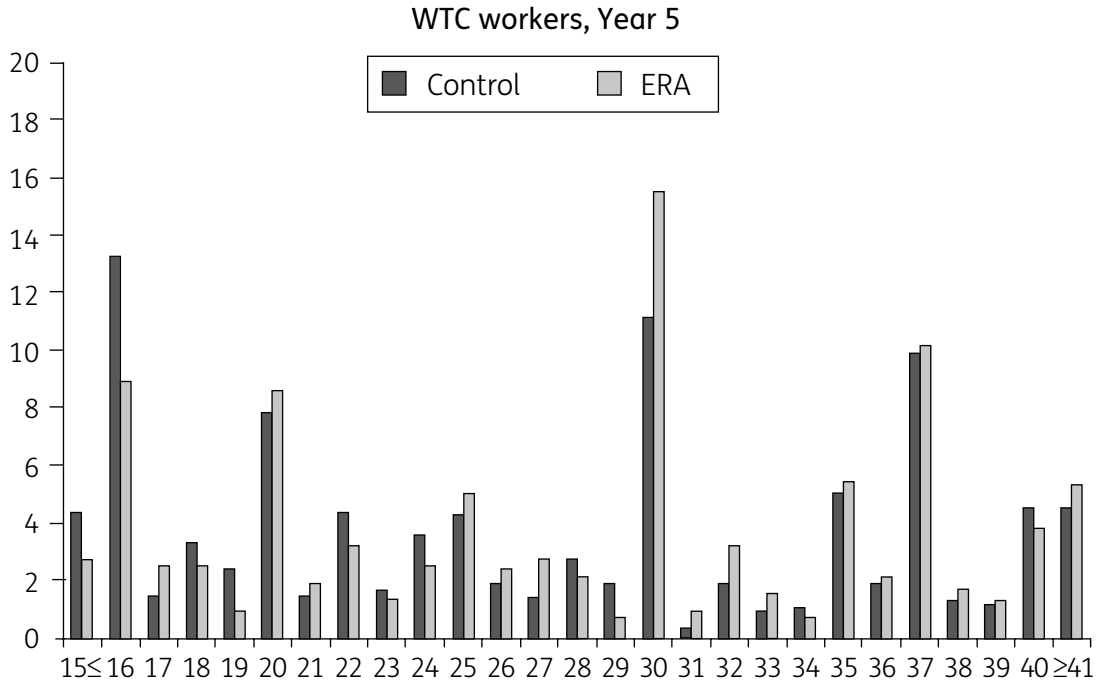


Pearson chi2 p=0.532; likelihood-ratio chi2 p=0.240.

Figure 5.2 Continued



Pearson chi2 p=0.000; likelihood-ratio chi2 p=0.000.



Pearson chi2 p=0.082; likelihood-ratio chi2 p=0.017.

5.2 Balancing of characteristics between employed subgroups

Selection of individuals into work or continued employment is clearly present and very strong for both lone parent groups: looking at the control group members who are employed at year 2 (or 5) compared to those control group members who are not in work at year 2 (or 5) reveals two highly selected sub-samples. In particular, the control group members who are in work are systematically different from the non-employed control group members, displaying much more favourable labour market characteristics (see Appendix B). To appreciate just how different the two subgroups are in terms of pre-RA characteristics, consider those control group members employed at year 5. Compared to control group members not in work at year 5, the former are less likely to live in deprived areas, they are served by Jobcentre Plus offices with a lower New Deal caseload, they are older, less likely to be single, less likely to belong to an ethnic minority group, more likely to have only one child, their youngest child is older, they are much more highly educated (and more likely to have academic education), far more likely to have access to a car or to have a driving licence, more likely to live in private housing, less likely to have a transport, basic skill or housing problem and stronger labour market histories (in terms of a higher probability of being in work at RA, having been in work and having had jobs in the three years prior, longer work experience and a lower likelihood to have been on inactive benefits during the previous three years). Indeed, the groups of employed versus non-employed controls are unbalanced at any confidence level in terms of pre-RA characteristics. The same is true when looking at the composition of employed compared to non-employed ERA group members.

The issue, however, is not whether strong selection into employment is present or not, but whether there is **differential** selection into work between ERA and control group members. If that were not the case and the biases from selection into work were similar for the programme and control groups (the balancing biases scenario of Section 4.2), then the subgroups of employed ERA and employed control group members could be directly compared, and the difference in their observed work-related outcomes would provide an unbiased estimate of ERA impacts.

As argued in Section 4.2, this scenario is most plausible in the absence of ERA impacts on who it is that works. The absence of ERA impacts on employment probabilities can reliably be tested using experimental data. However, even in the presence of an ERA impact on employment probabilities, it is possible for the two sub-groups to still be balanced in terms of relevant observable and unobservable characteristics. Indirect support for this scenario can thus be obtained by considering whether **observed** characteristics are balanced between ERA and control workers. If all outcome-relevant characteristics one can observe happened to be balanced, it might be defensible to argue that those characteristics that happen not to be recorded in the data are likely to be balanced as well. Several indicators are available to measure the extent of balancing in terms of observable (see Section 4.2).

Let us start by considering ERA impacts on the probability of belonging to the employed sample in year 2 and in year 5. As shown in Table 5.2, for both NDLP and WTC respondents, at both years 2 and 5, no ERA impact could be detected. The point estimates are very similar for both lone parent groups, 2.7 percentage points in year 2 falling to 0.3 percentage points in year 5, none of the estimates being even remotely significant.

And indeed, while the employed and non-employed control (or programme) group members are systematically different, the employed programme and employed control group members are statistically **indistinguishable** in terms of observed characteristics, for both target groups and both at year 2 and year 5 (see Table 5.2 and for more details Appendix B). Indeed, even the distributions of important continuous observables are balanced between ERA and control group workers (see Appendix B).

Similarly, no ERA impacts could be detected on the probability that respondents are employed at two points in time; balancing of observed characteristics between employed treated and employed controls was also found to hold when restricting attention on those employed at two points in time.

The only case where characteristics were found to be overall unbalanced (at the 5% level) are for WTC year 2 respondents with non-missing hourly wage information at year 2 and for those with non-missing wage information at both year 2 and RA. For the specific analyses looking at this outcome for the WTC group at year 2, reliance on models properly adjusting for observables is thus crucial to correct the observed imbalance.

Box 5.1 looks in some detail at a candidate conditioning variable derived for NDLP participants from the first year survey – having looked for a job on their own while unemployed.

Table 5.2 ERA impacts on employment probabilities and balancing information for NDLP and WTC workers

	NDLP		WTC	
	Year 2	**Year 5**	**Year 2**	**Year 5**
Employed at year x	54 per cent of year 2 respondents	57 per cent of year 5 respondents	89 per cent of year 2 respondents	83 per cent of year 5 respondents
Overall ERA impact on the probability that a Wave x respondent is employed at year x	None: β=0.027, p=0.192	None: β=0.003, p=0.901	None: β=0.027, p=0.192	None: β=0.001, p=0.962
Per cent ERA group among workers at year x	53%	51%	53%	51%
Balancing of observed characteristics between employed ERA and control groups	Holds: Pseudo R2 = 0.039 p>chi2 = 0.422 Mean bias = 4.6	Holds: Pseudo R2 = 0.041 p>chi2 = 0.746 Mean bias = 4.0	Holds: Pseudo R2 = 0.032 p>chi2 = 0.162 Mean bias = 3.8	Holds: Pseudo R2 = 0.038 p>chi2 = 0.228 Mean bias = 4.1
Percent working with non-missing wage information	88%	99%	86%	99%
Balancing between employed ERA and control groups with non-missing wage information	Holds: Pseudo R2 = 0.045 p>chi2 = 0.436 Mean bias = 5.1	Holds: Pseudo R2 = 0.043 p>chi2 = 0.706 Mean bias = 4.1	Does not hold: Pseudo R2 = 0.045 p>chi2 = 0.016 Mean bias = 4.9	Holds: Pseudo R2 = 0.037 p>chi2 = 0.290 Mean bias = 4.1
Employed both at year 1 (RA for WTC) and year x	41.5 per cent of year 2 respondents	38 per cent of year 5 respondents	86 per cent of year 2 respondents	79 per cent of year 5 respondents
Overall ERA impact on the probability that a year x respondent is employed both at year x and year 1 (RA for WTC)	None: β=0.025, p=0.216	None: β=-0.000, p=0.988	None: β=0.003, p=0.819	None: β=-0.001, p=0.968
Balancing of observed characteristics between ERA and control groups employed both at year 1 (RA for WTC) and year x	Holds: Pseudo R2 = 0.049 p>chi2 = 0.555 Mean bias = 4.8	Holds: Pseudo R2 = 0.063 p>chi2 = 0.753 Mean bias = 5.0	Holds: Pseudo R2 = 0.032 p>chi2 = 0.213 Mean bias = 3.8	Holds: Pseudo R2 = 0.032 p>chi2 = 0.213 Mean bias = 3.8
Per cent working with non-missing wage information at both waves	77%	89%	75%	83%
Balancing between ERA and control groups employed both at year 1 (RA for WTC) and year x with non-missing wage information at both waves	Holds: Pseudo R2 = 0.047 p>chi2 = 0.949 Mean bias = 5.2	Holds: Pseudo R2 = 0.064 p>chi2 = 0.891 Mean bias = 4.9	Does not hold: Pseudo R2 = 0.049 p>chi2 = 0.083 Mean bias = 5.1	Holds: Pseudo R2 = 0.053 p>chi2 = 0.300 Mean bias = 4.9

Box 5.1: NDLP survey 1 respondents: Looked for a job on their own while unemployed

Per cent looking for a job on their own in the first year since RA and marginal effects

	ERA	Controls	p>|t|	δ given *X*	p-value
Full sample of year 1 respondents	70.4	71.4	0.579	-0.013	0.580
Full sample of year 2 respondents	70.6	71.7	0.566	-0.018	0.484
Full sample of year 5 respondents	70.0	70.6	0.770	-0.003	0.924
Employed sample at year 2	68.6	73.0	0.085	-0.089	0.017
Employed sample at year 5	67.6	69.8	0.447	-0.038	0.334

Note: δ given *X* is the marginal effect of having searched on one's own on the probability of belonging to the ERA as opposed to the control group, from a Probit model controlling for all other covariates.

	Employed	Non-employed	p>|t|	δ given *X*	p-value
Control group at year 2	73.0	70.1	0.291	0.107	0.007
Control group at year 5	69.8	71.7	0.555	0.038	0.387

Note: δ given *X* is the marginal effect of having searched on one's own on the probability that a control group member belongs to the employed as opposed to the non-employed, from a Probit model controlling for all other covariates.

It was thought that information on whether unemployed NDLP participants had looked for a job on their own in the first year after RA could provide important information on generally unobserved individual motivation and initiative. The only concern was that this variable – recorded in the year 1 survey – could potentially have been affected by ERA and would thus not be appropriate as a conditioning variable. The first table above, however, completely dispels such a concern, as this variable is perfectly balanced between ERA and controls from the full sample of year 1 respondents, from the full sample of year 2 respondents and from the full sample of year 3 respondents.

The second issue relates to whether having looked for a job on one's own would indeed capture some interesting heterogeneity. The results from the tables above indicate that the answer is affirmative at year 2, but no longer so at year 5, a time when individual search behaviour four years before no longer seems to matter much. Specifically, control group NDLPs who searched on their own were **ceteris paribus** 11 percentage points more likely to be employed at year 2 than control group NDLP who did not look for a job on their own whilst unemployed (this difference only arising once controlling for other characteristics.) However, NDLP control group members who are employed and non-employed at year 5 do not systematically differ in terms of their individual search behaviour four years before.

Similarly, ERA group NDLPs who are employed at year 2 are significantly **less** likely to have searched on their own than employed NDLP from the control group (4.5 percentage points in the raw data, increased to nine percentage points once controlling for other characteristics), though by year 5 such differences have disappeared.

In conclusion, this variable seemed to qualify to be among the conditioning set, this being especially the case for year 2.

5.3 Overall impacts for the lone parent groups

5.3.1 Introduction

This section presents the results concerning the impact of ERA on the outcomes of NDLP and WTC workers. While impacts at both year 2 and year 5 have been estimated and are discussed and contrasted in the following, impacts at year 5 are of special interest, given that they are the ones that show whether ERA has had any impact that lasted beyond the period of ERA participation. Since participants were entitled to receive ERA services and incentives for up to 33 months, the five year results show impacts for more than two years post-programme. Impacts at year 5 thus offer a sufficiently long post-programme period to assess whether the financial incentives and adviser support provided under ERA were enough to have a lasting impact on placing and keeping its participants in well-paying and good quality jobs, or else whether any impacts disappeared once that support was withdrawn.

Survey data

Impact estimates presented in this section are based on survey data[7], relating to the time of interview or to the fifth year post-RA. As a notational shortcut, in the following estimates are referred to as pertaining to year 2 (year 5). This has to be interpreted as pertaining to the time of the Wave 2 (Wave 3) survey interviews, which for some participants fell before or after the second (fifth) anniversary of having been randomly assigned.[8]

The 'common subgroup'

In presenting impacts at these two points in time it may come natural to compare and contrast the results. It has, however, to be kept in mind that the two sets of impact estimates pertain to two potentially different samples of workers – those who responded to the 2nd year survey and were employed at that time, and those who responded to the 5th year survey and were employed at that time. To allay some of these concerns, some additional analyses have been performed to check whether year 5 survey respondents were different from year 2 survey respondents in terms of observables and more importantly whether 5 year survey respondents who were employed at year 5 were different from year 2 survey respondents who were employed at year 2 (note that non-overlap in the latter case includes both those who have not been interviewed at one wave and/or who were not employed at one wave). In both cases, the samples being compared were balanced in terms of the rich set of observed characteristics used in the impact analysis.

Further sensitivity analyses have been performed on the common subset of the two samples, i.e. on the subset of year 5 survey respondents who were employed both at year 5 and (having responded to the year 2 survey) were employed at year 2 as well. For this 'common subset':

- ERA impacts have been assessed on their year 5 outcomes and compared to the impacts on the year 5 outcomes of the full year 5 sample employed at year 5;
- ERA impacts have been assessed on their year 2 outcomes and compared to the impacts on the year 2 outcomes of the full year 2 sample employed at year 2.

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7 Although there are some concerns about the reliability of year 5 survey data when examining effects over time, they can be used to provide estimates of the impact of ERA on outcomes at the time of the 5-year interview (see Hendra *et al.*, 2011).

8 In particular, many WTC group members responded to the Wave 3 survey before their five year follow-up point was reached. Measures captured 'at interview' are thus typically captured late in year 4 through year 5.

These results, contained in Appendix C, only show some marginal differences in impacts. Together with the findings on the balanced nature of the background characteristics, the similar impact story that emerged on the 'common subgroup' would seem to allow one to albeit cautiously compare ERA impact estimates across the two years.

Methodological approaches and sensitivity checks

The favourable balancing results in the previous section have encouraged estimation of ERA impacts on the wide-range of survey outcomes (see Table 2.3) under the selection-on-observables assumption (how the rich set of background variables summaries in Table 2.1 supports the selection-on-observables assumption is discussed in Section 4.3). A number of methods focusing on controlling for observed characteristics were used, in particular accounting for observables linearly (Ordinary Least Squares (OLS)), as well as allowing the impact of ERA to depend on all observed characteristics (fully interacted linear model (FILM)). For binary outcomes, the marginal effects from a Probit model are also presented (all methods are discussed in Section 4.3).

For the most important work-related outcomes – hourly wages and the probability that a worker works full-time as opposed to part-time (and for tax year earnings from administrative data in Section 5.6) – additional sensitivity checks have been performed by experimenting with a control function model that allows for selection into work based on unobserved characteristics. As discussed more fully in Section 4.4, such a model is useful also because under its assumed structure it allows one to test for the presence of residual selection into work. The model was further relaxed to allow for selection into work based on unobserved individual ERA impacts, for the binary nature of some outcomes, for ERA impacts that are heterogeneous in terms of observed characteristics, and for non-normality. Control function models need a (strong) instrument to drive identification of the impacts; instruments are observed variables that (strongly) affect the propensity to be in work but do not directly affect the outcome of interest (e.g. wages).

Candidate instruments in the available data that have been experimented with are:

- the local unemployment rate (at RA);
- whether the lone parent has an employed partner at year 2 and/or year 5;
- whether there is another employed adult (over 16) in the household at year 2 and/or year 5;
- childcare problems as barriers to work (at RA);
- transport problems as barrier to work (at RA);
- no access to car and/or no driving licence (at RA);
- financial situation when teenager; and
- mother's labour supply when teenager.

Overview of results tables

In the next subsections, the results of the various analyses of ERA impacts are discussed for both time periods and both lone parent groups organised by outcome type. To avoid burdening the discussion, no references to specific tables are made.

Instead, Table 5.3 summarises in words the findings relating to the whole range of work-related outcomes and a few measures of well-being of NDLP and WTC group members who were in employment at year 2 and of those who were in employment at year 5.[9]

Table 5.4 displays the main estimates based on OLS regression (for continuous outcomes) or Probit models (for binary outcomes). Results obtained via FILM produced extremely close estimates. The full sets of impact estimates (including raw differences, OLS, Probit and FILM models) can in any case be found in Appendix D.

Box 5.2 contains the control function results for ERA's impacts on wages and full-time work for both lone parent workers at year 5.

[9] Impact estimates for the common subset, i.e. those employed both at year 2 and at year 5, are presented in Appendix C. Impacts for these workers were found to be exactly the same as those summarised in Table 5.4 except as follows:

NDLP: After two years, the common subset does not experience a significant increase in training, nor an increase in total time spent in employment and it experiences a decrease in pension as a fringe benefit. After five years, there is weak evidence of an increase in the desire to work full-time and of a decrease in the likelihood of having tried to increase hours.

WTC: After two years, there is very weak evidence of a decrease in the probability of having received a pay rise, there is no impact on tenure and ERA has impacted fewer dimensions of advancement behaviour, though for this subgroup it has had an impact on the desire to improve pay and terms. After five years, the increase in weekly earning reaches ten per cent significance, there is weak evidence of a decrease in crèche/nursery among fringe benefits, an increase in promotions since starting work, an increase in the cost of travel and weak evidence of a decrease in the share of time spent in employment since random assignment.

Table 5.3 Summary of ERA impacts on lone parent workers

	NDLP workers		WTC workers	
	After two years	**After five years**	**After two years**	**After five years**
Hours	Increased hours Move from part-time to full-time Decrease in future intentions to look for a part-time job Increase in future intentions to look for a full-time job	No impact on current nor desired hours	Increased hours Move from part-time to full-time Increase in future intentions to look for a full-time job	Increased hours Move from part-time to full-time
Earnings	No impact on individual productivity → weak increase in weekly earnings is driven by increased hours Robust to modelling selection	No impact on hourly wages nor weekly earnings Robust to modelling selection	No impact on individual productivity nor in weekly earnings Robust to modelling selection	No impact Robust to modelling selection
Education/training	Impact on training But none on qualifications Increase in future training take-up intentions	No impact on training nor qualifications – recent or since RA	Impact on training Impact on qualifications Increase in future training take-up intentions	No impact on current training nor qualifications, but increase in training and in qualifications since RA
Fringe benefits	No impact	No impact (except reduction of car/van for own use)	Some impact: on receiving any, sick pay and paid holidays	Increase in sick pay
Job quality	No impact on any dimension	No impact (possibly increased shift work)	Work during the day more likely Increase in perceived stress	Increase in inconvenient work pattern
Advancement prospects	No impact	No impact	Increase in promotion chances	No impact
Advancement behaviour	No impact	No impact	Impact on some dimensions, in particular on trying to increase hours and to get a better job with a different employer	Impact on some dimensions, in particular on trying to increase hours and to get a better job with a different employer

Continued

Table 5.3 Continued

	NDLP workers		WTC workers	
	After two years	**After five years**	**After two years**	**After five years**
Contact with Jobcentre Plus when in work	Increased contact	N/A	Increased contact	N/A
Various	No impact on current tenure But weak increase in total time spent in employment	Increase on cost of travel Increase in total time spent in full-time employment since RA	Some evidence of increased cost of travel to work and of reduced tenure	Increase in total time spent in full-time employment since RA
Well-being	No impact	No impact on financial or children's situation but increase in life satisfaction	No impact	Mixed evidence on child; increase in difficult financial situation
Growth in hours, wages, NDLP fringe benefits	No impact	No impact	Impact on growth in hours	No impact

Note: Impacts discussed are those significant at least at the 10% level.

5.3.2 ERA's impacts on hours worked

Since the ERA retention bonus was contingent on full-time work (defined as at least 30 hours per week), ERA should induce participants to take up full-time jobs or to work multiple part-time jobs to reach a total number of weekly hours of at least 30.

NDLP

NDLP participants who were in work at year 2 appear to be working an extra one and a half hour per week due to ERA. More impressive is the fact that such an increase in hours has been induced by a clear move away from part-time to full-time work, as ERA seems to have increased workers' propensity to work full-time by ten percentage points and correspondingly reduced their propensity to work part-time (16-29 hours per week), leaving the propensity to work 15 hours or less unchanged. To put these impacts in context, it is important to consider that at the time of RA NDLP participants were either not working or working fewer than 16 hours per week.

Indeed, an ERA impact could be detected even on workers' desired hours, decreasing the share intending to look for a part-time job in the future by six percentage points and correspondingly increasing the share looking for a full-time job.

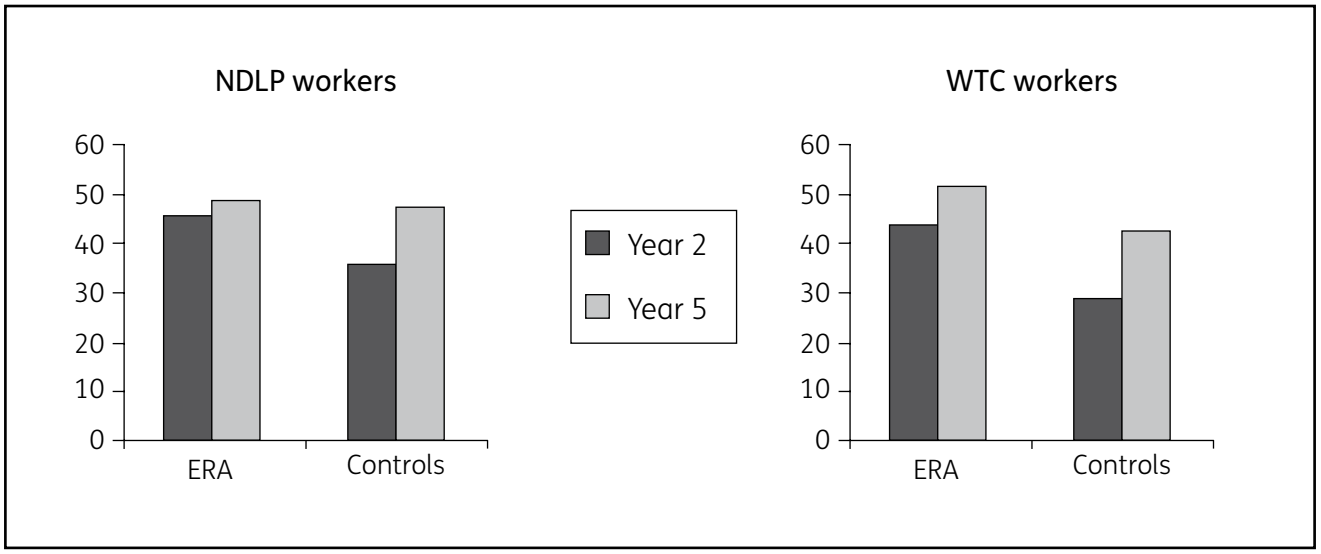
This sizeable impact of ERA on the hours of NDLP workers does not, however, appear to be sustained beyond the programme period: for workers at year 5, no impact could be detected on either current or desired hours, a result robust to allowing for selection into work based on unobservables. It is important to note that ERA workers **did not reduce their hours** after the withdrawal of ERA support. The disappearance of the impact on hours was instead due to the control group workers catching up, i.e. increasing their hours and full-time participation to the levels reached by the ERA workers. The raw data plotted in Figure 5.3 give some indication of the underlying trends. The proportion of ERA workers in full-time work increased from 45.8 per cent in year 2 to 48.8 per cent in year 5, but while only 35.7 per cent of control group workers were in full-time work in year 2, by year 5 the gap had largely closed, with 47.4 per cent of control group workers in full-time jobs.

Looking at the five-year follow-up period, ERA has left the overall time spent in employment unchanged, but has induced a shift to full-time (with a corresponding drop in part-time) in the earlier part of the follow-up. In other words, workers spent five per cent more time working full time over the five-year follow-up period due to ERA, though this impact was concentrated in the programme period, leaving the propensity to be working full-time at year 5 unchanged.

The fact that ERA has had no impact on year 5 workers' share of the past five years spent in employment is a disappointing finding, as the total time spent in employment is the most obvious and direct measure of work retention. (As a reminder, the retention bonuses, payable for at most two years, were contingent upon working about 75 per cent of the time within a four-month period; the design of this ERA incentive thus suggests that uninterrupted employment was not what the programme necessarily aimed at encouraging.[10])

[10] The ERA design aimed at maximising time in work, while recognising that for many people this would not mean continuity with one employer (and indeed shifting jobs was viewed as an obvious route to advancement) and that a retention bonus scheme which demanded complete continuity would be unreasonable. Specifically, the bonus was framed in a way that if a worker lost their job for whatever reason, they would have a strong incentive to find another one rather than just give up.

Figure 5.3 Proportion of workers in full-time work, by RA status and year



WTC

At year 2, ERA's impact on WTC workers' hours and probability of working full-time is remarkably similar to the one it had on NDLP workers: it induced an increase in hours of 1.5 and in the share working full-time of around 13 percentage points, again with a corresponding decrease in the share working part-time (16-19 hours), leaving the share working 15 hours or less unchanged. Similarly to NDLP workers at year 2, ERA also increased the desire to work full-time in the future by around six percentage points.

The similarities with NDLP workers are, however, limited to year 2, as in contrast to their NDLP counterparts, WTC workers do appear to still enjoy a positive ERA impact on hours well into the post-programme period. Workers at year 5 appear to work an extra hour thanks to ERA and indeed to be 8.2 percentage points more likely to be in a full-time job rather than in one involving less than 30 hours per week (at year 5 there is also a small reduction in the probability of working less than 16 hours). The underlying raw data in Figure 5.3 show that while the incidence of full-time work has increased over time for both ERA and control group workers and indeed much faster for control group workers, the gap remained far from being closed.

Though workers from the ERA group and from the control group are well balanced in terms of their observed characteristics (see Section 5.2), the persistence of the ERA impact on full-time work is an important result warranting further investigation. Its robustness to selection into work based on unobserved characteristics was tested using the control function approach (see Box 5.2); despite some very weak evidence of negative selection into work, the slightly reduced estimate of a 6.8 percentage points increase in the probability of working full-time remains highly significant.

It thus appears that ERA has had a sustained effect on work hours among WTC workers.

Though weakened compared to year 2, there is still some evidence of an increase (four percentage points) in the desire to work full-time.

As was the case for NDLP workers, though, while ERA has increased the share of the previous five years spent in full-time employment by eight per cent (with a corresponding drop in the share spent in part-time work), the programme has had no impact on year 5 workers' share of the past five years spent in employment, indicating that ERA had no impact on retention.

5.3.3 ERA's impacts on hourly and weekly earnings

The ERA package was aimed at increasing individual productivity and hence hourly wages through a number of channels: incentives to complete work-related training courses and adviser support, encouragement and advice to retain work (hence gain labour market experience) and to advance to better paying jobs.

If ERA is effective in increasing workers' hours and/or hourly wages, weekly earnings should increase accordingly.

NDLP and WTC

For both lone parent workers, ERA appears to have had no impact on hourly wages at either point in time, a result robust to allowing for selection into work based on unobserved characteristics, unobserved impacts and impact heterogeneity in terms of observables (see Box 5.2).

Only for the NDLP workers at year 2 is there weak evidence of an increase in weekly earnings (£13 significant at the 10% level), fully driven by the increase in hours.

For WTC workers at both periods, by contrast, the point estimates of ERA's impact on weekly earnings are positive but never reach statistical significance. Thus despite ERA's positive impact on hours, no evidence was found for a corresponding effect on workers' weekly earnings. This is explained by the fact that in spite of a relatively large increase (over eight percentage points) in the share of workers working full-time as opposed to part-time, *ERA's impact on hours worked per week was never particularly large* (+1.1 hour for WTC workers at year 5). Given the absence of an impact on hourly wages and an average hourly wage of the ERA group of £8.4 per hour, ERA workers should earn £9.2 (=1.1×8.4) more per week than control workers. Indeed, OLS regression yields exactly the same point estimate (£9.3), which, as mentioned, does not reach any statistical significance.

5.3.4 ERA's impacts on education and training

Conditional on working at least 16 hours per week, ERA offered two financial incentives to induce participants to engage in work-related training: it offered to pay up to £1,000 towards tuition fees and the training completion bonus would pay £8 for every hour of training completed (up to a maximum of £1,000).

NDLP

For workers at year 2, ERA increased the take-up of training by a significant 6.6 percentage points, though without any concomitant increase in the attainment of educational qualifications over that two-year period. ERA also appears to have led to a sizeable increase in the proportion claiming to be very or fairly likely to do training the following year.

By year 5, however, no evidence was found that the increased training in the first two years has translated into qualifications. Not only that, but the positive impact on workers' training take-up has completely disappeared. Indeed, the point estimates of ERA's impact on having been on training in years 3-5 are negative (though nowhere near statistical significance), while the point estimates of the training impact since RA are literally zero.

The picture that emerges is thus one where ERA has only served to change the timing of training: the programme has increased training among workers in the first two years (while the programme was operational), but during the post-programme period, i.e. 3-5 years post-RA, the workers from the control group have been catching up, so that overall, between RA and five years, ERA has had no impact on training take-up. It would thus seem that ERA has mostly led to a **reallocation** over time

of training activities that would have taken place in any case over the five years; to take advantage of the ERA training incentives, ERA workers simply appear to have undertaken training during the programme period rather than later.

Not only has ERA failed to foster the attainment of qualifications among workers, but the extra training undertaken in the first two years never seems to have translated into a productivity (i.e. wage) gain.

WTC

In the first two years post-RA, ERA increased WTC workers' participation in training by 14.4 percentage points, double the impact found for NDLP workers over the same period. While this increase was entirely concentrated in the first two years (when ERA's training incentives were available), WTC workers from the control group did not fully catch up with observationally similar workers from the ERA group, so that overall, ERA still appears to have had a sizeable ten percentage points impact on the probability that a year 5 worker has undertaken training since RA. As opposed to NDLP workers, at least over a five-year follow-up period, the ERA-induced training of WTC workers thus appears to have indeed been additional, suggesting that ERA succeeded in encouraging training among those in work over and above what they would have done anyway over such a comparatively long time horizon.

Also quite encouraging are the findings in terms of qualifications. For workers at year 2 and even more importantly for workers at year 5, ERA appears to have increased the likelihood of having obtained work-related qualifications since RA by a sizeable six to seven percentage points. There does thus seem to have been an impact on qualifications which was sustained after the end of the programme.

5.3.5 ERA's impacts on job quality

A wide variety of outcomes have been considered to capture several dimensions of job quality, in particular in terms of fringe benefits, stability of the job, work patterns, supervisory responsibilities and the worker's own assessment of the job.

NDLP

The overall picture emerging from the results is that ERA has not affected any dimension of job quality, either for workers at year 2 or for workers at year 5.

WTC

The overall impression is that ERA has had little effect on the various dimensions of job quality, but with a few exceptions.

For WTC workers at year 2, there is weak evidence of ERA having increased the likelihood of receiving some employment benefits, in particular of being entitled to sick pay (+2.6 percentage points) and to paid holidays (+3.4 percentage points). By year 5, the impact on the latter has completely disappeared, but the impact on the likelihood of being entitled to sick pay remains, increased in size and significance (+4.4 percentage points).

Other weakly significant ERA impacts are found for workers at year 2 and relate to a tiny increase in the likelihood that the usual work pattern is during the day (+1.4 percentage points) and an increase in perceived stress (+3.3 percentage points in the probability of viewing one's job as extremely or very stressful). The latter impact seems to be driven by these workers' large increase in the probability of working full-time (conditional on working full-time, ERA workers are just as likely to report a stressful job as observationally-equivalent control group workers.)

For workers at year 5, apart from the significant impact on sick pay entitlement, only a marginally significant increase in the probability of an inconvenient work pattern (+3.7 percentage points) could be found.

5.3.6 ERA's impacts on advancement

Assessing the impact of ERA on the job characteristics of workers is an indirect way of assessing ERA's contribution to workers' advancement, as these job characteristics reflect whether workers are indeed advancing into higher quality jobs. As discussed in the previous subsection, however, ERA's impact on these dimensions has been absent for NDLP workers and mostly negligible for WTC workers.

In addition to assessing how much advancement workers have already achieved in terms of their job quality, it is useful to determine whether ERA has affected the advancement prospects offered by the job (employer offers training for advancing, any opportunities for promotions), the probability of having obtained a promotion, and indeed the steps that workers have taken to try to advance.

Finally, direct measures of advancement once in (continued) work directly relate to growth in hours, in hourly wages and in fringe benefits (where growth in the latter can only be evaluated for NDLP workers).

NDLP

No impact on any advancement measure was detected for NDLP participants employed at year 2 or at year 5. Specifically, no evidence was found that ERA affected their probability of having obtained a promotion, advancement prospects, or any form of advancement behaviour.

WTC

The evidence on ERA's impacts on the advancement of WTC workers was more encouraging, with a significant increase in the advancement efforts of workers at year 2 and at year 5.

Specifically, ERA increased by 4.2 percentage points the proportion of year 2 workers who took steps to improve their work situation or pay and indeed by ten percentage points the share that tried to increase their working hours. The two advancement channels that appear to have been encouraged by ERA are trying to increase one's working hours (a ten percentage points increase in the share of workers reporting to have tried to do this) and trying to get a better job with a different employer (a six percentage points increase). Indeed, the share of year 2 workers that has taken steps since RA to look for another job while in work increased by 6.6 percentage points. Interestingly, though the use of a range of job search channels was fostered by ERA, the largest increase was registered in the probability of having looked for another job while in work on one's own (increased by 6.3 percentage points, compared to an increase of 2.4 percentage points in the use of a private recruitment agency and of 2.8 percentage points in the use of a career office). There is also some weak evidence of a 4.5 percentage points increase in the share of year 2 workers very or fairly likely to look for a different job in the following year.

For WTC workers at year 2, additional impacts were detected on promotion chances (increased by four percentage points) and on the growth rate in hours (increased by around 10 percentage points from a baseline of a 20 per cent growth rate between RA and year 2).

Moving forward to year 5, the impact of ERA on some dimensions of advancement behaviour appears to have lasted for over two years after the end of the ERA programme: workers from the ERA group are still significantly more likely to have tried to increase their working hours than observationally equivalent workers from the control group (at 5.6 percentage points, the increase

is halved in size compared to the impact for year 2 workers, though still highly significant) and still seven to eight percentage points more likely to have taken steps while in work to look for a better job with a different employer. Interestingly, the impact of ERA on the channels used in the latter endeavour has slightly changed: the use of a private recruitment agency is no longer fostered, reliance on a career office has been increased by only 1.1 percentage points, a 2.8 percentage points increase in resorting to 'something else' has emerged, though the main channel remains a 6.8 percentage points increase in having looked for another job on one's own.

Notable areas that do not appear to have been affected by ERA in neither year are efforts to find different work with the same employer, to negotiate better terms or indeed to get a pay rise. Growth rates of wages were never affected, nor growth rates of hours for workers at year 5. At that time, while ERA has fostered several forms of advancement efforts undertaken by workers, it does not appear to have affected future advancement intentions (the point estimates on wanting to improve pay and terms at some point being negative but insignificant). Thus, though ERA's impact on workers' advancement behaviour appears to have lasted until the 5th year post RA, it might in fact have come to an end.

The nature of recruitment into the NDLP and WTC groups was fundamentally different. Members of the former group were already in the Jobcentre and had decided to join NDLP. Irrespective of their jobs aspirations, they had nothing to lose from participating in ERA, and hence the substantial majority chose to participate. Members of the WTC group, by contrast, were not in the Jobcentre, and unless they had a real interest in advancement there was no reason for them to join a programme which would require some additional time and effort. It is, therefore, hardly surprising that there was a greater appetite for advancement in the WTC group. Indeed qualitative research (summarised in Hendra *et al*., 2011) on participants' attitudes to advancement clearly highlights the fact that WTC participants were further along and more established in their work paths than their NDLP counterparts, and thus proved to be more receptive to advancement. This positive attitude towards advancement was reflected in measureable changes in their behaviour: they were more likely to undertake training and combine it with work, as well as to take important advancement steps than their NDLP counterparts.

It thus seems to be the case that ERA has been effective in providing the necessary advisory and financial support to help a pre-existing desire to advance come true within the group of WTC one parents who had come forward, while the programme has not been effective in giving rise to such a desire in lone parents (NDLP) who were not particularly focused on advancement from the outset.

As discussed in the previous section, though, there is not much evidence to suggest that the training and advancement efforts undertaken by the more advancement-oriented lone parent group have indeed translated into an improved job quality or indeed higher wages.

5.3.7 ERA's impacts on additional work-related outcomes

An additional outcome considered in this subsection is the extent of contact with Jobcentre Plus once in work during the first two years (when the programme was operational). Assessing how much more contact and help the workers from the ERA group had compared to the workers from the control group allows one to gauge the actual 'intensity' of the ERA in-work treatment.

ERA might have had an impact on workers' cost of travel per week if the retention bonus has induced individuals to accept jobs further away.

Finally, ERA's impact on year 2 workers' tenure in the current job is assessed. It is not a **priori** obvious what kind of impact ERA would have on tenure. Advisers could be encouraging retention in a given job – with its attendant wage returns in the form of tenure, a stronger long-term relationship and

more training – or else promoting mobility between jobs towards increasingly better job matches and faster employment advancement.

NDLP and WTC

For year 2 workers in both target groups, ERA has had an unsurprisingly large impact on having contact with and receiving help from Jobcentre Plus during the two post-RA years. The probability of having had contact with Jobcentre Plus while in work was increased by 43 and 68 percentage points for NDLP and WTC workers respectively, of receiving unprompted advice or help from staff while in work by 45 and 67 percentage points and of receiving (unprompted or requested) help or advice while in work by 53 and 74 percentage points. While large impacts were expected, it is interesting to note that as many as 44 per cent of NDLP workers from the **control** group did have contact with Jobcentre Plus while in work during the two post-RA years, that one-fifth of them reported to have received advice or help from Jobcentre Plus when in work during the same period and that for 12 per cent of control workers, such advice/help was unsolicited. For workers from the WTC control group, contact with Jobcentre Plus was, as one would expect, much lower. It is still the case, though, that over one-fifth (22 per cent) reported to have had contact with Jobcentre Plus while in work and that five per cent received advice or help while in work.

ERA impacts on contact with Jobcentre Plus thus point to a quite intense in-work ERA intervention, this being particularly the case for WTC workers.

Some evidence of an increased cost of travel to work was uncovered, but restricted only to NDLP participants employed at year 5 (+£2.3 per week) and for WTC participants employed at year 2 (+£1.3 per week).

As to tenure in the job held by workers at year 2, no ERA impact could be detected for NDLP workers, while evidence of a reduction of 14.6 days in tenure was uncovered for WTC workers. These findings are consistent with those on the different impacts that ERA has had on NDLP versus WTC workers' efforts to get a better job with a different employer. A shorter tenure for WTC ERA workers might be the result of WTC workers having been induced by ERA to consider mobility between jobs as a form of advancement. This conjecture is supported also by the ERA-induced increase in the share of year 2 WTC workers reporting to be very or fairly likely to look for a different job in the following year.

5.3.8 ERA's impacts on well-being

This final subsection considers the impact that ERA has had on selected measures of workers' well-being, including personal well-being (overall life satisfaction and health/stress assessment), financial well-being and, most importantly, children's well-being.

Children's well-being (available for year 5 workers) is a critical outcome to consider, as it is typically feared that inducing parents and especially lone parents to increase their labour force participation and working hours may come at the expense of their parental responsibilities and may thus have detrimental consequences for their children's well-being. Given that ERA has visibly succeeded to permanently encourage WTC workers to increase their working hours, even the absence of any negative effects on the welfare of the children of these workers could be considered a favourable finding.

NDLP

No statistically significant ERA impacts could be found on the overall life satisfaction and financial situation of NDLP workers at year 2.

The findings for workers at year 5 are mostly as expected, given the absence of ERA impacts on work outcomes. Specifically, ERA has not affected workers' self-assessed financial situation or their probability of being always or often tired, depressed or suffering from a bad headache. Similarly, no significant evidence was found of an ERA-induced reduction in parental involvement in their child or in the child's well-being, which again is as expected, given the absence of post-programme impacts on workers' hours. However, ERA did appear to have had a statistically significant impact on year 5 workers' well-being in terms of an increase in their overall life satisfaction (reducing by six percentage points the probability of being very or just dissatisfied with life as a whole).

WTC

The evidence for WTC workers at year 5 is by contrast quite mixed.

ERA appears to have increased by six percentage points the proportion of workers viewing their current financial situation as very or quite difficult. Such an impact is hard to rationalise, though, as ERA does not seem to have adversely (or otherwise) affected these workers' weekly earnings. Also, no significant ERA impact could be detected on these workers' overall life satisfaction.

Despite the fact that ERA has significantly encouraged WTC workers to increase their working hours and indeed to work full-time, no adverse impact could be detected on the probability that a worker would report to always or often feel tired, depressed or suffering from a bad headache.

On the other hand, ERA did appear to decrease the proportion of workers reporting that their child's life was going very well by 5.2 percentage points (significant at the 10% level). The mechanism behind this effect is unclear, as at the same time a 4.8 percentage points increase (again significant at the 10% level) in the probability that the worker spends over 2.5 hours per week helping their child with homework was uncovered. Some studies in the US have, however, found that programmes which increase work without increasing income can have negative effects on children, particularly adolescents (see the discussion in Hendra *et al.*, 2011).

Table 5.4 Lone parents employed at year 5: ERA impacts on year 5 outcomes

	NDLP	WTC
Hours per week for all current jobs	0.735	1.123**
Works <=15 hours in all current jobs	-0.011	-0.009**
Works 16-29 hours in all current jobs	0.008	-0.063**
Works >=30 hours in all current jobs	0.005	0.082***
Would like to work part-time, <30	-0.017	-0.015
Would like to work full-time, >=30	0.043	0.040*
Hourly wage for main current job	0.255	-0.031
Weekly earnings for all current jobs	11.007	9.283
Education/training while in work in years 3-5	-0.027	0.030
Education/training while in work since RA	0.016	0.099***
Has obtained work-related qualifications in years 3-5	0.012	0.020
Has obtained work-related qualifications since RA	0.022	0.068**
Very/fairly likely to do training next year	0.008	-0.013
Number of desirable non-pecuniary work features	-0.174	0.107
Fringe benefits: any	0.001	0.000
Fringe benefits: number	-0.163	0.117
Fringe benefits: pension	-0.041	0.025
Fringe benefits: paid holidays	0.008	0.003
Fringe benefits: flexible hours	-0.043	0.017
Fringe benefits: time off for family	-0.044	0.015
Fringe benefits: sick pay	-0.018	0.044**
Fringe benefits: car/van for own use	-0.013***	0.011
Fringe benefits: crèche/nursery	0.010	-0.016
Fringe benefits: trade union membership	-0.018	0.018
Permanent job	0.012	-0.002
Shift work most of the time	0.020	0.016
Usual work pattern during day	0.002	0.004
Working pattern is inconvenient	0.005	0.031
Has formal supervisory responsibilities	-0.013	-0.005
Often/always has unrealistic time pressures at work	-0.011	0.019
(Strongly) agrees has some say over how they work	-0.010	0.029
Job is very/extremely stressful	0.002	0.030
Likes job a great deal/quite a lot	0.013	0.015
Employer offers training for advancing	0.002	0.019
Any promotions since started work	-0.039	0.039
Any opportunities for promotions	0.003	0.026
Had had a pay rise	-0.018	0.000
Took steps to improve work situation/pay	-0.018	0.027
Tried to increase hours	-0.035	0.056**
Tried to get a pay raise	0.042	0.035
Tried to negotiate better terms	-0.033	0.019

Continued

Table 5.4 Continued

	NDLP	WTC
Tried to change work with same employer	-0.020	0.003
Tried to get better job with different employer	0.013	0.081***
Tried to get new training or qualifications	0.019	0.034
Took steps to look for other job while in work, since RA	0.019	0.072***
Looked for other job while in work: private recruitment agency	0.010	0.017
Looked for other job while in work: career office etc	-0.003	0.011**
Looked for other job while in work: on own	0.025	0.068***
Looked for other job while in work: something else	0.012	0.028**
Will want to improve pay and terms at some point	-0.031	-0.038
Very/fairly likely to stop working next year	0.000	-0.009
Self-employed	0.005	-0.006
Cost of travel to work per week	2.341**	1.153
Had days off work other than holidays in past four weeks	-0.016	0.008
Has not been late to work in the last month	-0.010	0.013
Share of 5 years since RA spent in employment	0.911	-0.421
Share of 5 years since RA spent in part-time work	-4.387*	-9.224***
Share of 5 years since RA spent in full-time work	5.319**	8.836***
(Very) dissatisfied with life as a whole	-0.060**	-0.032
Always/often tired/depressed/bad headache	0.019	0.004
Child's life is going very well	-0.051	-0.052*
Spends >2.5h helping child with homework, etc	-0.048	0.048*
Very/quite difficult financial situation now	0.027	0.059**
Very/quite easy financial situation now	-0.013	-0.008

Notes: OLS or, for binary outcomes, marginal effect from Probit; * significant at 10%; ** at 5%; *** at 1%.

Table 5.5 Lone parents employed at year 2: ERA impacts on year 2 outcomes

	NDLP	WTC
Hours per week for all current jobs	1.373**	1.656***
Works <=15 hours in all current jobs	-0.011	-0.005
Works 16-29 hours in all current jobs	-0.088***	-0.136***
Works >=30 hours in all current jobs	0.104***	0.145***
Likely to look for different job next year and work pt, <30	-0.064***	-0.025
Likely to look for different job next year and work ft, ≥30	0.047*	0.064***
Hourly wage for main current job	-0.181	-0.372
Weekly earnings for all current jobs	8.167	8.262
Education/training while in work since RA	0.066**	0.144***
Has obtained work-related qualifications since RA	0.032	0.061***
Very/fairly likely to do training next year	0.083***	0.072***
Number of desirable non-pecuniary work features	-0.106	0.133
Fringe benefits: any	0.004	0.019*
Fringe benefits: number	-0.070	0.126
Fringe benefits: pension	-0.019	0.012
Fringe benefits: paid holidays	0.006	0.026*
Fringe benefits: flexible hours	-0.041	0.033
Fringe benefits: time off for family	-0.018	0.014
Fringe benefits: sick pay	-0.012	0.034*
Fringe benefits: car/van for own use	-0.001	0.005
Fringe benefits: crèche/nursery	-0.011	0.001
Fringe benefits: trade union membership	0.004	0.005
Permanent job	0.003	-0.006
Shift work most of the time	0.002	-0.015
Usual work pattern during day	0.010	0.014*
Working pattern is inconvenient	0.000	0.015
Has formal supervisory responsibilities	0.005	-0.008
Often/always has unrealistic time pressures at work	0.004	-0.014
(Strongly) agrees has some say over how they works	-0.009	-0.021
Job is very/extremely stressful	0.023	0.033*
Likes job a great deal	0.000	0.004
Employer offers training for advancing	-0.013	0.007
Any promotions since started work	0.002	0.023
Any opportunities for promotions	0.019	0.042*
Had pay rise since w1/first started job after w1	-0.031	-0.016
Took steps to improve work situation/pay	0.026	0.042**
Tried to increase hours	0.015	0.108***
Tried to get a pay raise	-0.024	0.006
Tried to negotiate better terms	0.004	0.029
Tried to get a pay raise	0.042	0.035
Tried to negotiate better terms	-0.033	0.019

Continued

Table 5.5 Continued

	NDLP	WTC
Tried to change work with same employer	0.030	0.003
Tried to get better job with different employer	0.016	0.062***
Took steps to look for other job while in work, since RA	0.010	0.066***
Looked for other job while in work: private recruitment agency	0.005	0.024***
Looked for other job while in work: career office etc	0.010	0.028***
Looked for other job while in work: on own	0.010	0.063***
Looked for other job while in work: something else	0.018	0.017
Wants to improve pay and terms	0.030	0.029
Very/fairly likely to look for different job next year	-0.019	0.046*
Very/fairly likely to stop working next year	0.001	0.000
Contact with Jobcentre Plus when in work since RA	0.431***	0.684***
Advice/help from Jobcentre Plus when in work since RA	0.526***	0.748***
Unprompted help/advice when in work since RA	0.453***	0.668***
Self-employed	0.001	-0.012
Cost of travel to work per week	0.957	1.346**
>5 days off work in past four weeks	-0.010	0.003
Tenure of main current job	4.813	-14.539**
Share of two years since RA spent in employment	2.488*	0.374
(Very) dissatisfied with life as a whole	-0.021	-0.019
Very/quite difficult financial situation now	-0.028	0.01
Very/quite easy financial situation now	-0.004	-0.001

Notes: OLS or, for binary outcomes, marginal effect from Probit; * significant at 10%; ** at 5%; *** at 1%.

Box 5.2: Control function results for workers at year 5

NDLP workers at year 5

Instruments:	No license/car First stage: F=12.4 p=0.000

Hourly wages

Model allows for heterogeneity in ERA impacts based on X (p=0.091);
no evidence of selection on unobserved ERA impacts (p=0.985);
no evidence of non-normality

Selection	Negative**
ATT – ERA workers	0.21
ATNT – control workers	0.26
ATE – workers	0.24

Probability of working full-time

Selection	Positive
ERA impact (coefficient)	0.016

WTC workers at year 5

Instruments:	Employed adult at Wave 3 First stage: F=8.2 p=0.004

Hourly wages

No evidence of heterogeneity in ERA impacts based on X (p=0.116);
no evidence of selection on unobserved ERA impacts (p=0.869);
no evidence of non-normality

Selection	Negative
ERA impact	-0.03

Probability of working full-time

Selection	Negative*
ERA impact (coefficient)	0.183***
ERA impact (marginal effect)	0.068***

Note: * significant at 10%; ** at 5%; *** at 1%.

5.4 Subgroup and district-level impacts on workers at year 5

This section presents the results of analyses meant to assess whether the impact of ERA on year 5 workers' outcomes has varied across districts and across different subgroups of lone parents. In general, one might not expect everyone to be affected by a given programme in the same way, as individual programme impacts may depend on individuals' pre-existing skills, disposition or family circumstances.

When running the analyses across subsamples, the greatly reduced sample sizes decrease the likelihood of detecting statistically significant impacts as well as differences in impacts across subsamples. For this reason, the primary focus in the following analysis is not whether the impact in a given district or for a given subgroup is statistically significant, but whether the variation in effects across districts/subgroups is statistically significant.

The analyses were performed in a parsimonious hence slightly restrictive way; OLS regression was used throughout, not allowing the effect of all the other characteristics to vary by subgroup, nor the ERA impact for a given subgroup to vary according to the other characteristics. When the employed ERA and controls appeared to be unbalanced for a given subgroup and when a suitable instrument was found, the sensitivity of the results to the presence of selection on unobservables was tested.

Appendix E contains the detailed balancing information and the full set of OLS results at the district and subgroup levels.

5.4.1 NDLP workers at year 5

District

Comparing the impact for a given district to the impact for all other districts, some heterogeneity in impacts has been uncovered, as in different districts ERA seems to have affected workers through different channels and to varying degrees. The exceptions are Scotland and the East Midlands, which do not stand out from the average.

North East England is the only district where ERA appears to have had a large positive impact on the probability of having undertaken training or education while in work during years 3 to 5, having increased this probability for workers by 22.7 percentage points. Correspondingly, ERA has induced for workers in this district a net increase in their chances of having participated in training while in work since RA (+21.5 percentage points). Both these impacts are significant at the 1% level and statistically different from the corresponding impacts in all the other districts. Indeed, North East England is also the only district to show a significant positive impact on the attainment of qualifications since RA (+17.5 percentage points). Maybe because workers in this district appear to have been encouraged to such a strong degree by ERA to take the training route towards advancement, this district shows a reduction in efforts taken to improve one's work situation and pay, in particular in terms of increasing one's working hours (-14.5 percentage points, significant at the 10% level and significantly different from the impact in all other districts).

In North West England, although ERA does not seem to have affected workers' past propensity to undertake training while in work, it seems to have increased their future intentions (+19 percentage points, significant individually as well as significantly different from the impact in the other districts). Evidence was also uncovered of an impact on workers' receipt of fringe benefits (mainly pension).

As for the remaining districts, Wales and London, results need to be viewed with extra caution given the unbalanced nature of the employed subgroups in these districts and the fact that given due to the large number of regressors coupled with limited sample sizes matching did not successfully manage to redress such imbalance. Results for these districts thus not only rely on the selection-on-observables assumption, but on the functional form assumptions made by OLS.

With this caveat in mind, in Wales ERA seems to have greatly reduced workers' likelihood of having undertaken training while in work in the three to five years after RA (a significant 34 percentage points reduction, which is also statistically significantly different from the impact in all other districts). ERA indeed appears to have had a net negative impact on the likelihood to combine training with work since RA.

Reporting on the experimental impact findings for the entire sample in Wales, Hendra *et al.* (2011) found that despite a large negative impact on employment there was no earnings impact. This seeming contradiction was deemed suggestive of employed people in the ERA group working either more hours or at a higher wage than employed people in the control group. The analyses performed here seem to corroborate the latter supposition, as evidence has been found of a weakly significant increase in hourly wages for workers in Wales (£2.5), while hours seem to have been unaffected (if anything, the point estimate is negative). This wage impact appears in fact to be robust to selection into work based on unobservables[11], though how well the regression-based model could deal with the documented imbalance in observables remains unknown.

How such an increase in productivity could have been brought about given the strong and negative impact on training could be explained via increased job mobility, as ERA appears to have significantly increased workers' efforts to try to get a better job with a different employer (+15 percentage points).

Though it has to be interpreted with caution, the evidence of ERA's impacts on the outcomes of workers in London is rather mixed, as apart from a weakly significant increase in hours (driven by a move to full-time work), there is evidence of a weakly significant reduction in hourly wages, of a sharp drop in the probability of undertaking training while in work since RA, of a reduction in the number of employment benefits, of a weakly significant reduction in job mobility and of an increase in the cost of travel to work.

Ethnicity

Non-white workers appear to have experienced much larger and more favourable impacts than white workers. Specifically, the picture for ethnic minority workers emerging across all outcomes considered is one of increased hours, earnings, training take-up and experience – the latter gained in full-time jobs. More specifically, the share of the five post-RA years spent in employment has been increased by 15 per cent, driven by a 34 per cent increase in the share spent in full-time work (the share spent in part-time employment decreased by 20 per cent). These impacts are both significant for non-white workers as well as statistically different from the ones for white workers.

Given such strong impacts on labour supply, non-white workers also experience a sizeable and significant increase of £87 in weekly earnings. As to hourly wages, the impact of ERA for non-white workers is close to a one pound increase, though not statistically significant. The control function approach using local unemployment as an instrument (first stage p=0.022) shows no selection (p=0.139), and hence an impact estimate (+£1.22) very close to the OLS one, though it has now reached weak statistical significance (p=0.092).

As opposed to whites, non-white workers also appear to have been encouraged in their education/training efforts in years 3 to 5 (+32 percentage points, significant at five per cent) and hence possibly over the whole period since RA (though the point estimate for non-whites does not reach statistical significance due to the much smaller sample size of this subgroup).

While very encouraging, the results for non-white workers have to be viewed with caution, given that matching could not be performed due to small sample sizes and lack of common support. The concern here is not so much about selection on unobservables (which has not been detected by the control function model), but the fact that we know we are using the linear regression approximation to control for different observed characteristics between employed ERA non-whites and employed control non-whites. Looking at the raw impact estimates (i.e. not controlling for any observed

[11] Using the absence of access to a car or lack of a driving licence as instrument (first stage p= 0.056) shows no selection on unobservables (p=0.427), returning an impact estimate which is very close to the OLS one: an increase of £2.4 in hourly wages, significant at the 1% level (p=0.004).

characteristics) might provide some indication as to the direction of any potential remaining bias. The results of this exercise quite reassuringly show that not controlling for observables leads to **downward**-biased estimates of the impact of ERA on non-white workers' outcomes, suggesting that non-white ERA workers display weaker labour market related characteristics than employed non-whites from the control group.

Child's age, education and disadvantage

The breakdown of impacts by child's age, education and disadvantage has uncovered few noteworthy findings.

First, the increase in the share of the previous five years spent in full-time work as well as in cost of travel to work that were uncovered for the full sample of workers appear to be driven by the impacts on the highly educated workers (i.e. those with A-level qualifications or above). Indeed, the high education group benefited from an almost £1 increase in hourly wages both at year 2 and 5, which despite failing to reach statistical significance is statistically significantly different from the small negative impact for the low-education group.

There is some weak evidence that ERA has induced lone parent workers whose children were aged five to six years at RA to increase both the share of the past five years spent in full-time work as well as the share of time in part-time work, with an overall increase in the share of time spent in employment (for lone parent workers with children of a different age, ERA has by contrast substituted time in part-time work with time in full-time work, leaving the share of time spent in employment unaffected).

Finally, some interesting findings have been uncovered for workers who were severely disadvantaged at RA (defined as having only GCSE qualifications or lower, no work in the three years prior to RA and at least one barrier to employment). For this group, ERA seems to have encouraged the take-up of part-time work (16-29 hours), participation in education and training since RA (+22 percentage points), while having discouraged advancement behaviour, especially in terms of increasing one's hours. It thus appears that ERA (through advice and/or the training bonus) has encouraged the most disadvantaged group to aim at entering the labour market via a part-time job and to focus on improving their skills via training. The point estimate of the impact of ERA on these workers' hourly wage is sizeable (and over ten times the estimate for the non-disadvantaged group), but fails to reach statistical significance. The control function model does by contrast produce an estimated wage effect of £1.60 which is significant at the 1% level (the model does not uncover any selection on unobservables, though, so that, strictly speaking, the OLS model should be preferred). Finally, it is worth noting that while unbalanced in the raw samples, the observables can be rebalanced extremely well (p=0.987), so that these results do not necessarily hinge on the OLS specification.

5.4.2 WTC workers at year 5

District

Due to small sample sizes, differential ERA impacts have been assessed for the East Midlands compared to all other districts taken together. Heterogeneity in ERA impacts for workers has been uncovered only in terms of workers' efforts to get a pay rise: past efforts have been significantly increased only in the East Midlands, but accompanied there by a decrease in future intentions to improve pay and terms of roughly the same size. This analysis has also clearly shown that it is the effectiveness of ERA in the East Midlands that is driving all the significant ERA impacts for the full sample of workers that were discussed in the previous section.

Ethnicity, education and child's age

No noteworthy impact heterogeneity has been uncovered in terms of ethnicity (in contrast to NDLP). This is likely to stem from the very small sample size of barely 100 non-whites in work at year 5. The only comment regarding these results is that in terms of sign and large size, the estimates would point to an inadequate if not counterproductive intervention for non-white workers.

The only impact heterogeneity according to educational level that was uncovered relates to a 13 percentage points increase in the share of high-education workers (i.e. with A levels or above) who find their financial situation to be very or quite difficult; the low-education workers do not seem to have been affected in this dimension. Given, however, that no ERA impact could be detected on the hours, wages and weekly earnings of the high-education workers, the finding of their increasingly hard financial situation is difficult to rationalise.

The breakdown by subgroup clearly allows one to see that it is the low-education group that is driving the main overall impacts (except of course the increase in financial difficulties), and that this applies both at year 2 and year 5. Low-education workers are the ones driving ERA's impact on hours; enjoying a corresponding, statistically significant increase in weekly earning; displaying increased advancement efforts (having tried to increase hours and to get a better job with another employer and having taken steps to look for other job while in work and to be likely to look for different job next year). They are the ones whom ERA induced to look for jobs further away (i.e. whose cost of travel to work has increased) and whose tenure in their main current job has been significantly decreased. Indeed, they are the ones whom ERA significantly encouraged to look for a different and full-time job in the following year.

Low-education WTC workers are thus those who have been greatly affected by ERA's incentives to increase their hours and indeed to do so mostly by changing jobs.

As to the age of the lone parent's child at the time of RA, impact heterogeneity was uncovered again in terms of perceived financial situation, which was significantly improved for workers whose children were aged five to six, while significantly worsened for workers with children of other ages. ERA's impact on full-time work is in fact exclusively concentrated among workers in the former group, who experience a sizeable though insignificant increase in weekly earnings (£23 compared to £5 for the other workers). Heterogeneous impacts have also been uncovered on the timing of workers' efforts to improve pay and terms. ERA appears to have reduced the likelihood that workers with children aged five to six at RA have actively pursued job mobility as a way to advance in the past, but the programme seems to have increased their intentions to improve pay and terms at some point in the future. The opposite type of impacts were found for workers with children of other ages, for whom past advancement efforts appear to have been increased while future intentions correspondingly decreased.

5.5 Correlating individual ERA impacts on wages and on the take-up of training (or the attainment of qualifications) for workers

This section aims to shed some light on whether an unusually large (small) individual ERA impact on the take-up of education/training or on obtaining educational qualifications is accompanied by an unusually large (small) individual ERA impact on wages. The idea behind the existence of such a correlation is that work-related training and the subsequent attainment of qualifications are the ERA components most likely to increase individual productivity (as reflected in hourly wages).

Appendix F outlines a way to proceed and presents the full set of results, the latter informally summarised in Table 5.6.

It cannot be stressed enough that this type of analysis can at most be viewed as indicative – both for methodological and empirical reasons. First, focus is on workers, so that non-experimental considerations apply. In particular, it is assumed that when looking at subgroups defined by observables, the corresponding ERA and control group can at most differ in terms of the other observables. On an empirical front, it has to be kept in mind that as shown in the previous subsections, there is very strong evidence for the impact on workers' wages to be zero both after 2 and 5 years, however, the data have been cut. Strong demands are thus made of the data when trying to correlate basically non-existent impacts with other impacts.

Nonetheless, some interesting insights could be drawn.

The first two rows in Table 5.6 relate to the correlation between contemporaneous impacts on educational investments and on wages. The last row allows for a time gap between impacts on individual educational investments and on individual wages. Note that the latter results pertain to the subgroup of year 5 respondents who responded to the year 2 survey and were employed at year 2.

Table 5.6 Sign of the correlation between wage impacts and educational impacts

	NDLP		WTC LP	
	Education/training take up	Qualifications	Education/training take up	Qualifications
Year 2	positive	negative	negative	large positive
Year 5	negative	negative	no correlation	small positive
Year 2 educational impacts on year 5 wage impacts	small negative (positive then negative)	negative	small negative (negative then positive)	positive

Note: The entries summarise the overall linear correlations. If the sign of the correlation visibly changes over the range of individual training/education impacts, this is summarised in brackets.

The findings of this exercise for the WTC group are quite intuitive, especially given the rather well established fact that wage returns accrue to **certified** training. The results indeed point to a positive relationship between impacts on the achievement of qualifications and impacts on individual productivity as measured by wages. Such a correlation is strongest at year 2, remains though weakened at year 5 and also when allowing for a time lag between the impact on qualifications and the impact on wages. By contrast, the relationship between impacts on the take-up of training while working and on individual wages is either absent or negative. A possible explanation for the strong negative correlation at year 2 could be that workers who took part in training while working in this relatively short period of time (two years since RA) are still in the negative part of the wage-education profile (i.e. the one characterised by the loss of experience, tenure and possibly having had to contribute to training by accepting a lower wage) and that the returns might accrue later on. The latter prediction, however, is not fully borne out by the data looking at the correlation between impacts on the take up of training in year 2 and impacts on wages in year 5. The overall (linear) correlation is still slightly negative, but the corresponding graph shows that the negative slope only applies over the range of negative impacts on training; when ERA encourages the take-up of training, the correlation turns positive, so that the larger the impact on training take-up, the larger the impact on future wages.

In contrast to the WTC group, the results are hard to rationalise for the NDLP group. Particularly suspect is the finding of a mostly strong and always negative correlation between individual impacts on qualifications and contemporaneous as well as future impacts on wages. A negative correlation between impacts on the achievement of qualifications in year 2 and wage impacts in year 5 is particularly hard to explain. A negative correlation with contemporaneous wage impacts could by contrast be explained if workers who managed to take part in training and achieve qualifications all the while working are still paying a wage price in terms of loss of experience, tenure and possibly having had to contribute to training by accepting a lower wage. This story does not, however, seem to be consistent with the findings for year 2 of a positive correlation between impacts on the take up of training and contemporaneous wage impacts.

In year 5, the counterintuitive NDLP result of a negative correlation between impacts on education/training while in work and impacts on hourly wages is, however, likely to be driven by Wales. The disaggregated results discussed in Section 5.4.1 have highlighted how NDLP workers in Wales were the only subgroup for whom evidence of a significant, positive ERA impact on wages (+£2.5, robust to modelling selection) could be found. However, ERA in this district also seems to have greatly reduced workers' likelihood of having undertaken training while in work in the three to five years after RA (a significant 34 percentage point reduction, which is also statistically significantly different from the impact in all other districts). ERA indeed appears to have had a net negative impact on the likelihood to combine training with work since RA. With a negative impact on training and a positive impact on hourly wages, Wales is thus most likely to be the driving force behind the negative correlation between individual training impacts and individual wage impacts for the NDLP. At the same time, the results in Wales offer a potential mechanism to explain such negative correlation. While workers can advance not just by undertaking training but also by changing jobs, i.e. by **moving** to better paying jobs, it could be that such channels are mutually exclusive. In other words, workers who have been focusing on job mobility efforts have not had the time and/or mental resources to additionally get involved in training. Thus, it is not necessarily the case that a reduction in training activities has to be interpreted as somehow 'causing' an increase in wages. What the results in Wales by contrast suggest is that it is possible that a reduction in training activities could **allow** a more intense and effective on-the-job search and mobility, which might in turn cause an increase in wages.

5.6 ERA impacts on administrative outcomes

This section considers the impacts of ERA on tax year earnings taken from administrative sources. Unlike survey data, administrative data have the advantage of being available for the full sample and of not suffering from either non-response or respondent recall error. As mentioned in Section 2.2, however, while P14 earnings data are very accurate in capturing income under the PAYE scheme for employees, they do not include any income from self-employment and might not include some earnings as low as to fall below the 'NIC Lower Earnings Limit'[12] (for further details on these data see Hendra *et al*., 2011). Note that the earnings impact estimates discussed refer to labour market earnings and thus do not include any additional income from the ERA bonuses.

For both lone parent groups, there appears to be no significant ERA impact on the yearly earnings of workers in any tax year post RA (Tables 5.8 and 5.9). Controlling for X reduces the size of the point estimates consistently across all years for both groups, with all methods based on controlling for observables reaching similar conclusions, and indeed very close point estimates.

[12] Although there is no formal obligation for employers to send in returns for the very low earners, it is likely that the latter will appear in the data as in this end of year process and employers are prone to just send in returns for all employees.

For the NDLP target group, despite a sizeable ERA impact (+2.5 percentage points, significant at the 5 per cent level) on the probability of being ever employed in the 2005/06 tax year (as measured by having positive P14 earnings in the corresponding tax year) and an almost negligible effect on the probability of being ever employed (+0.02 percentage points, significant at the 10 per cent level), the observable characteristics of the employed ERA and employed subgroups are perfectly balanced even in the raw data.

For the WTC group, by contrast, despite the fact that ERA has had no impact on the employment probabilities throughout the follow-up period, the intervention still seems to have affected the composition of who it is that is ever employed in the ERA compared to the control group: significant imbalances in observed characteristics are present in the raw samples in all tax years considered individually (no imbalance is present among the ever-employed between 2005/06 and 2008/09). These imbalances are, however, easy to correct; the matched samples obtained using kernel-based propensity score matching methods are balanced at all levels of significance. The corresponding matching estimates are very close, in terms of both point estimates and the absence of statistical significance, to the ones arising from the fully interacted regression model. It can thus confidently be ruled out that the original imbalance in terms of observables could be biasing the estimates of ERA's impacts on workers' earnings.

For both lone parent groups, though, one cannot of course rule out that some selection on still uncontrolled for factors has taken place and is biasing the results.

The sensitivity checks performed with the control function approach do not change the story for either lone parent group (see Boxes 5.3 and 5.4). No selection into work based on unobserved characteristics has been detected for the WTC group, while for the NDLP group it seems that negative selection has taken place (implying that those in work display less favourable wage-related characteristics than those not in work). In both cases, though, there is no evidence of any impact of ERA on the earnings of those employed in the post-programme tax year, both point estimates being negative, small in absolute value and statistically indistinguishable from zero.

Table 5.7 NDLP – Impact of ERA on the probability of being ever employed in a given post RA tax year and balancing of observables between employed ERA and controls

		ERA impact on employed probability		Balancing between employed ERA and controls			
	% of sample	Impact (ppt)	p-val.	% ERA	R2	p-value	Med bias
Ever employed in 2005/06	53.3	2.50**	0.044	51	0.012	0.626	2.4
Ever employed in 2006/07	49.6	0.00	0.976	50	0.013	0.600	2.6
Ever employed in 2007/08	49.1	1.00	0.419	50	0.011	0.921	2.7
Ever employed in 2008/09	52.7	-0.70	0.559	49	0.012	0.615	2.7
Ever employed 2005/06 to 2008/09	72.2	0.02*	0.098	50	0.009	0.675	2.4

Note: * significant at 10%; ** at 5%; *** at 1%.

Table 5.8 NDLP – Impacts for workers based on selection on observables

	RAW	OLS	FILM	N
Earnings 2005/06; 1/2y post-RA	200	143	163	3,620
Earnings 2006/07; 2/3y post-RA	202	70	92	3,369
Earnings 2007/08; 3/4y post-RA	-75	-250	-262	3,330
Earnings 2008/09; 4/5y post-RA	-83	-244	-283	3,579
Cumulative earnings 2005/06 to 2008/09	-98	-279	-302	4,902

Note: * significant at 10%; ** at 5%; *** at 1%;
(h) ERA impact is heterogeneous at least at the 5% level.

Box 5.3: NDLP – Control function model for earnings in 2008/09

Instruments:	No license/car	
First stage:	F=12.4 p=0.000	
Model:	No evidence of selection on observed or unobserved impacts No evidence of non-normality	
lambda	negative**	(p=0.011)
Impact of ERA	–78	(p=0.853)

Note: * significant at 10%; ** at 5%; *** at 1%.

Table 5.9 WTC – Impact of ERA on the probability of being ever employed in a given post RA tax year and balancing of observables between employed ERA and controls

		ERA impact employment probability		Balancing between employed ERA and controls				Balancing on matched samples (kernel matching)		
	% of sample	Impact (ppt)	p-val	% ERA	R2	p-value	Med bias	R2	p-val	Med bias
Ever employed in 2005/06	80.8	2.40	0.108	51	0.035	0.003	3.3	0.002	1.000	0.8
Ever employed in 2006/07	76.4	0.80	0.601	51	0.031	0.058	2.5	0.002	1.000	0.7
Ever employed in 2007/08	71.9	-2.00	0.237	50	0.032	0.082	3.3	0.002	1.000	0.9
Ever employed in 2008/09	75.1	0.80	0.637	51	0.031	0.089	3.1	0.002	1.000	0.9
Ever employed 2005/06 to 2008/09	90.4	0.02	0.123	51	0.024	0.199	2.6	0.001	1.000	0.6

Table 5.10 WTC – Impacts for workers based on selection on observables

	RAW	OLS	FILM	PSM	N
Earnings 2005/06; 1/2y post-RA	350	291	306	348	2,273
Earnings 2006/07; 2/3y post-RA	435*	328	264	282	2,151
Earnings 2007/08; 3/4y post-RA	295	225	195	198	2,023
Earnings 2008/09; 4/5y post-RA	89	-26	-153	-78	2,115
Cumulative earnings 2005/06 to 2008/09	727	268	285	221	2,545

Note: * significant at 10%; ** at 5%; *** at 1%;
(h) ERA impact is heterogeneous at least at the 5% level.

Box 5.4: WTC – Control function model for earnings in 2008/09

Instruments:	Local unemployment rate	
First stage:	F=4.9 p=0.027	
Model:	No evidence of selection on observed or unobserved impacts No evidence of non-normality	
selection	negative	(p=0.350)
Impact of ERA	–68	(p=0.849)

Note: * significant at 10%; ** at 5%; *** at 1%.

6 Impacts of ERA on ND25+ workers

Chapter 5 has been devoted to assessing the impact of Employment Retention and Advancement (ERA) on a varied number of outcomes for the two lone parent groups. This chapter presents and discusses the ERA impacts experienced by the third target group of the programme – the New Deal 25 Plus (ND25+) participants.

Before discussing the impact results for this target group, it is important to appreciate just how different the ND25+ target group is compared to the two lone parent groups:

1 The ND25+ group faces significantly higher barriers to work than the lone parent groups – even conditional on having found work.[13] With the obvious exception of childcare problems (and with a weak labour market experience prior to inflow which is comparable to the New Deal for Lone Parents (NDLP) group), the ND25+ group who is employed displays far more disadvantaged characteristics than the other two target groups who found work (see Table 6.1). Nearly half of employed ND25+ participants are age 40 or older, 22 per cent are ethnic minorities (compared to 7-11 per cent among the employed lone parent groups), more than half have no or basic educational qualifications, over one-fifth have disabilities, 70 per cent do not have a driving licence or access to a vehicle, and they suffer from transport, housing, basic skills and other problems in a much larger proportion than the employed lone parents.

2 The intake process differed drastically between the groups. While the NDLP participants had volunteered for their New Deal programme wishing to enter the labour market and the Working Tax Credit (WTC) participants were already in work and had to come to the Jobcentre Plus offices to volunteer for the chance to become eligible for ERA, the ND25+ participants were mandated to start the New Deal programme. ND25+ participants were thus much harder to engage and generally not particularly interested in advancement.

Thus, not only did the ND25+ group face far more severe labour market disadvantages and multiple barriers to work, but it was also the most hard-to-help group.

[13] These differences are even more pronounced unconditional on being in work. Looking at the full ND25+ sample at the time of entering the study reveals that over a third does not have any educational qualification at all and almost half had never worked in the three previous years. Nationally, about 30 per cent of ND25+ participants report suffering from some long-term illness or disability, while others have criminal records, drug or alcohol dependence, or mental or physical health problems. Additionally, this group has particularly low employment retention rates, with only one in four ND25+ participants leaving benefits for sustained work.

Table 6.1 Average characteristics at the time of random assignment (RA) of the sample subsequently in employment (during the 2008/09 tax year for ND25+ and at year 5 for the two lone parent groups)

	ND25+	NDLP	WTC
Top quintile of local deprivation	0.521	0.501	0.323
Female	0.201	0.951	0.978
Age at RA	39.5	33.1	33.1
Age>=40	0.463	0.219	0.359
Ethnic minority	0.215	0.114	0.065
Education Level 0-1	0.525	0.348	0.301
Academic education	0.363	0.524	0.532
Has disability/claims Incapacity Benefit (IB) at inflow	0.210	0.082	N/A
No driving license or lack of access to car	0.716	0.608	0.295
Housing problem	0.094	0.081	0.042
Transport problem	0.266	0.189	0.177
Childcare problem	0.040	0.510	0.509
Basic skills problem	0.079	0.028	0.045
Health problem	0.190	0.063	0.071
Other problem	0.170	0.064	0.108
No job in last three years	0.346	0.450	0.011
Total work experience in last three years	1.5	1.5	3.6

For the ND25+ group only administrative outcome data are available; as opposed to the two lone parent groups, one cannot thus paint a detailed and in-depth picture of the impact that ERA has had on the work and life experiences of its working participants. Still, administrative data do allow a crucial outcome like yearly earnings to be assessed, whilst being available for the full sample of workers and not suffering from either survey non-response or respondent recall error. Note that the earnings impact estimates discussed in the following refer to labour market earnings and thus do not include any additional income from the ERA bonuses.

Focus is on the post-programme impact of ERA, that is, on ND25+ workers' earnings in the 2008/09 tax year, a time period where nobody had been receiving any ERA services. Impacts on previous tax years are also shown and briefly touched upon. It is important to bear in mind though, that the findings for workers across tax years cannot directly be compared as they relate to a largely different sample each time. Specifically, only between 50.5 per cent and 52.5 per cent of those ever employed in a given tax year is accounted for by the same subgroup, i.e. by those who are employed at some time in **each** of the tax years considered.[14]

Table 6.2 shows that the ERA group is more likely to be ever employed in a given tax year (as measured by having positive P14 earnings in that tax year) than the control group. In the first three post-RA tax years, the ERA impact on employment chances is significant but decreasing in size, dwindling to an insignificant 1.4 percentage points increase in the post-programme phase (tax year 2008/09).

[14] Less than one-fifth of the full ND25+ sample (18.6 per cent of the full ERA group and 17.5 per cent of the full control group) is employed at some time in each of the tax years considered.

Maybe surprisingly, despite a significant ERA impact on employment rates, the subsamples of employed ERA and employed controls are perfectly balanced in terms of the rich set of observables in the first two post-RA tax years; and despite the absence of an impact on employment, the working subsamples are unbalanced in the last tax year considered.

In terms of the estimates of interest, no significant ERA impact has been detected on the earnings of workers in the first two post-RA tax years; though the point estimates are positive and represent a sizeable proportion of the controls' average earnings, they are far from reaching any statistical significance (see Table 6.3).

There is, however, some weak evidence of positive earnings impacts for workers in the 2007/08 and 2008/09 tax years; however, these two years are ones where there exists a significant imbalance of observed characteristics between ERA and control workers. As was the case for the WTC LP group, however, this imbalance in terms of observables is one which is easy to correct; using kernel matching methods it is indeed possible to obtain matched samples which are balanced at any level of significance. The corresponding matching estimates in Table 6.3 (PSM) are almost identical, in terms of both point estimates and very weak statistical significance, to the ones arising from the fully interacted regression model. So it can confidently be ruled out that any remaining imbalance in terms of observables could be at the root of the weakly significant impact ERA seems to have had on the earnings of workers in those two years.

Still, it cannot of course be ruled out that some selection on unobservable factors has taken place.

As to the impact on earnings in the post-programme period, the extensive sensitivity analysis that has been carried out does point to the presence of significant and negative selection into work ($p=0.000$). Indeed in the preferred specification of the control function model (one allowing for heterogeneity in ERA earnings impacts depending on observed characteristics), such selectivity effect halves the point estimates and reduces them to insignificance, implying that the earnings of the working ERA group have not been statistically significantly enhanced by ERA and similarly that the earnings of the working control group would not have been statistically significantly enhanced by ERA had they received such intervention (see Box 6.1).

Selection into work similarly explains away the weak positive impact of ERA on the earnings of workers in the 2007/08 tax year (see Box 6.1).

Taken together, the findings from the various types of analysis mostly point to the absence of ERA impacts on workers' earnings.

Indeed, it would have been hard to rationalise any significant impact on the earnings of those in work, as the two candidate channels for such an increase do not seem to be particularly open to ND25+ workers. First, conditional on being in work, an increase in hours (e.g. a move to full-time work) would have seemed unlikely. As shown by the control group, when they do work, the majority of ND25+ participants work full-time, leaving less room for a large change in hours worked (see Table 4.4 in Miller *et al*., 2008). As for the second potential channel, an increase in hourly wages, it would not have been easy to envisage how increases in productivity could have been brought about, as

research has suggested that ND25+ participants were the hardest to engage once they were in work and indeed were generally not interested in advancement, as obtaining a steady job was viewed as accomplishment enough (see Hendra *et al.*, 2011).[15]

6.1 Impacts by district

Results at the district level are presented in Table 6.4 (Appendix G contains the corresponding sample sizes and detailed balancing information).

No impact estimate is remotely statistically significant in the post-programme tax year.

A noteworthy finding is the large, significant increase in earnings in the 2007/08 tax year for workers in the East Midlands. The ERA impact of £1,700 is significant at the 5% level and is statistically significantly different from ERA impacts in the other districts. The robustness of this finding to selection on unobservables could not be tested given that no candidate instrument had any explanatory power; it is still worth noting though that the employed subsamples were balanced (p=0.748) even in the raw data for that year. They were by contrast unbalanced at the 10% level in the subsequent tax year, the 2008/09 post-programme year. For this case, the local unemployment rate provided a reasonable instrument and the corresponding control function model found no evidence of selection on unobservables while yielding a positive but non-significant impact estimate.

Other findings worth mentioning are the negative, large, though insignificant point estimates for ERA impacts on workers' earnings in North East England and in Wales. Indeed, the £1,500 reduction in earnings reaches ten per cent significance in North East England in the first post-RA tax year. The underlying employed subsamples are unbalanced at the 10% level, but can perfectly be balanced by matching (see Appendix G). Unfortunately, the control function analysis to exclude any residual selection on unobservables could not be performed due to the lack of a suitable instrument.

Overall, the picture emerging from this analysis does not point to drastically different stories across district.

[15] An underlying mechanism that might have produced positive in-work impacts for the ND25 group relates to the fact that due to a steady fall in the numbers flowing into the ND25+ programme, substantially fewer participants were available in the six districts than forecast in the ERA design. Additionally, this also meant that the target group was made up of the hardest to help, resulting in even lower-than-envisaged entries into work. Having to deal with fewer post-employment cases could have resulted in higher quality and greater density of service (Dorsett and Robins, 2011, have explicitly looked at links between Jobcentre Plus office caseload and ERA impacts).

Table 6.2 ND25+ – Impact of ERA on the probability of being ever employed in a given post RA tax year and balancing of observables between employed ERA and controls

		ERA impact on employment probability		Balancing between employed ERA and controls				Balancing on matched samples (kernel matching)		
	% of sample	Impact	p-val	% ERA	R2	p-value	Med bias	R2	p-val	Med bias
Ever employed in 2005/06	35.8	4.1***	0.002	53.0	0.024	0.191	2.9	0.001	1.000	0.9
Ever employed in 2006/07	34.4	2.8**	0.043	52.4	0.023	0.346	2.7	0.001	1.000	0.6
Ever employed in 2007/08	34.9	2.7**	0.808	52.4	0.028	0.042	3.4	0.001	1.000	0.5
Ever employed in 2008/09	35.3	1.4	0.213	51.6	0.027	0.039	2.7	0.001	1.000	0.6
Ever employed 2005/06 to 2008/09	54.1	4.0***	0.597	52.1	0.017	0.077	2.9	0.001	1.000	0.5

Notes: * significant at 10%; ** at 5%; *** at 1%; (h) ERA impact is heterogeneous at least at the 5% level.

Table 6.3 ND25+ – Impacts on earnings for workers based on selection on observables

	Average control	RAW	Ordinary Least Squares (OLS)	FILM	PSM	N
Earnings 2005/06; 1/2y post-RA	2,770	316	296	336	342	2428
Earnings 2006/07; 2/3y post-RA	3,123	419	345	323	317	2332
Earnings 2007/08; 3/4y post-RA	3,257	846*	743	874*	830*	2364
Earnings 2008/09; 4/5y post-RA	3,612	665	653	747*	712*	2394
Cumulative earnings 2005/06 to 2008/09	12,762	1,643	1,408	1,474	1,453	3,601

Notes: * significant at 10%; ** at 5%; *** at 1%; (h) ERA impact is heterogeneous at least at the 5% level.

Table 6.4 ND25+ – ERA impacts on those employed within tax year: by district (OLS)

	All	Scotland	NE England	NW England	Wales	East Midlands	London
Earnings 2005/06; 1/2y post-RA	296	39	-1,500*	132	-890	946	144
Earnings 2006/07; 2/3y post-RA	345	-228	-59	452	-1,500	747	-450
Earnings 2007/08; 3/4y post-RA	743	-362	-1,200	1,049	406	1,691**(d)	-359
Earnings 2008/09; 4/5y post-RA	653	488	6	941	-804	691	477
Cumulative earnings 2005/06 to 2008/09	1,408	2,349	-2700	1,554	-4,000(d)	2,409	707

Notes: Impact significant at the 10% (*), 5% (**) and 1% (***) level as estimated by simple OLS regression on the individual subgroup, controlling for *X*.

Impact for the subgroup is statistically different from the rest at the 10% (d), 5% (dd) and 1% (ddd) level, based on the significance of the coefficient on the (subgroup)*(ERA group) interaction term in the pooled OLS regression, controlling for *X*.

Box 6.1: ND25+ – Preferred specification of the control function model

Earnings in 2008/09

Instruments:	No license/car, local unemployment rate First stage: F=7.2 p=0.001
Model:	Allows for heterogeneity in ERA impacts based on X (p=0.060) No evidence of selection on unobserved ERA impacts (p=0.601) No evidence of non-normality

Selection	Negative***
ATT – ERA workers	344
ATNT – control workers	239
ATE – workers	293

Earnings in 2007/08

Instruments:	No license/car, First stage: F=5.9 p=0.003
Model:	Relaxing normality No evidence of selection on observed or unobserved ERA impacts

Selection	Negative**
ERA impact	-161

Note: * significant at 10%; ** at 5%; *** at 1%.

7 Summary and conclusions

Since the Employment Retention and Advancement (ERA) intervention was explicitly intended and designed to make a difference once people are in work, findings on its impact on its intended beneficiaries – i.e. on workers – are of critical interest. This report has extensively analysed the impact that ERA has had on a variety of outcomes experienced by working members of the New Deal for Lone Parents (NDLP) and Working Tax Credit (WTC) target groups, as well as on the tax earnings of working members of the New Deal 25 Plus (ND25+) target group.

Focusing on the employed subgroups has required use of non-experimental methods to overcome the potential bias arising from post-random assignment (RA) selection into work.

Impacts on workers' outcomes have been assessed both while the programme was in operation and afterwards. Findings relating to the later point in time are of special policy interest, as they are the ones relevant for judging whether ERA's impacts have been maintained or else have quickly faded once the in-work assistance and financial incentives were withdrawn.

In summarising the findings that emerged from the various analyses that have been performed, this section separately considers the two lone parent groups – for whom the detailed survey outcome measures were available – and the ND25+ group – for whom ERA could only be assessed in terms of its impact on administrative tax year earnings.

7.1 Lone parents

- ERA appears to have had a sizeable impact on workers' **hours** – in particular in terms of encouraging full-time work – for both lone parent groups during the programme period. For NDLP workers, though, such impact has subsequently faded away as control group workers naturally increased their hours. By contrast, ERA appears to have induced WTC workers to work longer hours (and indeed to work full-time) well into the post-programme period. In contrasting the findings about the sustainability of ERA's impacts on workers' hours, it is useful to keep in mind that at the time of RA members of the WTC group were already working between 16 and 29 hours per week, while NDLP participants were out of work (or working at most 16 hours per week). It thus seems that the time-limited in-work support offered by ERA was able to encourage a permanent move to full-time only among the group of lone parents who were already in part-time work.
- ERA has had no impact on NDLP or WTC workers' **retention**, as measured by the share of the five follow-up years spent in employment. (There is some weak evidence of a positive impact on retention for NDLP workers whose children were aged five to six years at RA.)
- For both lone parent workers, ERA has had no impact on hourly **wages** either during or after the programme. (There is some indication that ERA might have increased wages for NDLP workers in Wales through increased job mobility.)
- In the absence of a wage impact, any impact on **weekly earnings** would need to be driven by impacts on hours worked. Even though the impact on hours was found to persist post-programme for the WTC workers, it was relatively small (+1.1 hours/week), not allowing the corresponding impact on weekly earnings (+£9.3) to reach statistical significance.
- There is no evidence of improved **job quality** as a result of ERA for NDLP workers both during and after the programme. For WTC workers, the overall impression is that ERA did not affect job quality in any dimension except for a sustained increase in sick pay eligibility.

- ERA impacts on the take-up of **training** while in work and on workers' attainment of qualifications were found to critically differ between the two lone parent groups.
  - For NDLP workers, the picture that emerges is one where ERA has only served to change the timing of training: the programme has increased training among workers while the programme was operational, but during the post-programme period, the workers from the control group have been catching up, so that overall, between RA and five years, ERA has had no impact on training take-up. It would thus seem that ERA has mostly led to a **reallocation** over time of training activities that would have taken place in any case over the five years. Furthermore, ERA failed to foster the attainment of qualifications among workers. An exception appear to be NDLP workers in North East England, a district where ERA has affected workers mainly through human capital acquisition channels (having undertaken education/training while in work and having obtained relevant qualifications since RA), while it has strongly discouraged taking steps towards advancement, in particular towards increasing one's hours.
  - While the increase induced by ERA on WTC workers' participation in training was entirely concentrated during the time when ERA's training incentives were available, WTC workers from the control group did not fully catch up. As opposed to NDLP workers, at least over a five-year follow-up period, the ERA-induced training of WTC workers thus appears to have indeed been additional, suggesting that ERA succeeded in encouraging training among those in work over and above what they would have done anyway over such a comparatively long time horizon. Furthermore, there seems to have been an impact on the attainment of work-related qualifications which was sustained after the end of the programme.
- No impact on any **advancement** measure was detected for NDLP workers either during or after the programme. ERA has by contrast given rise to a significant increase in the advancement efforts of WTC workers both during and, most crucially, after the programme. In particular, a sustained effect has been uncovered on the likelihood that WTC workers tried to increase working hours and have taken steps to look for a better job with a different employer. ERA does not, however, appear to have affected their future advancement intentions. Thus, though ERA's impact on workers' advancement behaviour appears to have lasted until the fifth year post RA, it might in fact have come to an end.
- As to the **well-being** of workers five years after RA, ERA appears to have raised overall life satisfaction for NDLP workers, leaving their self-assessed financial situation, health, parental involvement in their child and the child's well-being unaffected. The evidence for WTC workers at year 5 is by contrast quite mixed, as while no adverse impact could be detected on self-reported health, ERA did appear to decrease the proportion of workers reporting that their child's life was going very well.
- Some **impact heterogeneity** has been uncovered for NDLP workers, with ERA at times displaying larger effects (even in absolute terms) for more disadvantaged subgroups.
  - Non-white workers appear to have experienced much larger and more favourable impacts than white workers, enjoying increased hours, weekly earnings (via increased hours only), training take-up and experience (gained in full-time jobs).
  - Through specific advice and/or the training bonus, ERA seems to have encouraged the most disadvantaged group (with at most GCSE qualifications, without work in the three years prior to RA and with at least one barrier to employment) to aim at entering the labour market via a part-time job and to focus on improving their skills via training. For this group, there is also weak evidence of an increase in hourly wage.

  - Finally, it is interesting to note that ERA impacts appear to have been driven by the low-education group of WTC workers and by the high-education group of NDLP workers.
- For both lone parent groups, no significant ERA impact could be detected on the **yearly earnings** of workers in any tax year post RA.

7.2 New Deal 25 Plus

The earnings of those ND25+ participants who were employed in any of the tax years considered have not been affected by ERA. This finding might not be very surprising given the absence of an effect for lone parent workers and once it is considered that the ND25+ group was facing far more severe labour market disadvantages and higher barriers to work, in addition to being the most hard-to-help group.

7.3 Conclusions

The only two effects that ERA appears to have had on NDLP workers are in terms of an increase in hours worked while the programme was in operation which disappeared once participation in full-time work caught up among control group workers, and of a reallocation over time of training activities that would have taken place anyway over the five-year follow-up period. For NDLP workers ERA has thus accelerated changes that in time would have occurred anyway, but has not any long-term impacts.

For WTC workers, by contrast, the impact on hours was sustained, and so was the impact on advancement efforts in terms of increasing one's working hours and in terms of job mobility. Furthermore, ERA appears to have induced a net increase in training take-up together with a sustained increase in the attainment of work-related qualifications. There is, however, no evidence to suggest that such increased training participation, concomitant rise in qualifications, renewed advancement efforts, enhanced job mobility and indeed the increased incidence of full-time work and attendant increase in work experience among workers have actually translated into demonstrable work advancement in terms of higher wages or an otherwise improved job quality.

Indeed, for either lone parent group no lasting nor temporary impact could be detected on hourly wages, on weekly earnings, on job quality, on yearly earnings or on the time spent in employment, all outcomes that one would expect to see increase if there were an effect on retention and advancement.

A final comment relates to the delicate issue of whether having induced WTC lone parent workers to increase their hours and work full-time has had any adverse consequence on their children. The non-experimental analysis in this report has found that ERA did appear to decrease the proportion of WTC workers reporting that their child's life was going very well. The mechanisms behind such an impact remain unclear though, as workers' overall life satisfaction was left unaffected and indeed the time they reported spending helping their child with homework appears to have been increased.

Finally, no impact of ERA could be detected on the earnings of ND25+ workers.

Appendix A
Control function models

A.1 Standard control function approach

The problem of post-random assignment (RA) selection bias can be fruitfully framed as the classical sample selection problem (selectivity model of Heckman, 1979): the wage outcome is observed for the Employment Retention and Advancement (ERA) and control members who are employed at a given time, but is not observed for the non-employed ERA and control members.[16]

The model for the observed outcome for the full population is:

$$Y_i = \alpha + \beta\, ERA_i + \gamma' X_i + u_i \qquad u_i \sim N(0, \sigma_u^2)$$

Outcomes Y such as hourly wages or weekly hours are, however, only observed for employed participants. Allowing the employment decision (or the chance to be employed) to depend on ERA participation (ERA), on observed outcome-related characteristics X, on observed variables Z that do not affect outcomes and on unobservable factors (v), the observability rule for Y (or equivalently, the rule for being employed) can be written as:

$$employed_i = 1(\delta' W_i + v_i \geq 0) \qquad \text{with } Wi \equiv [1, ERA_i, X_i, Z_i],\ v_i \sim N(0, 1) \text{ and } Corr(v_i, u_i) = \rho$$

The model thus allows for selection into employment based on both observed (W) and unobserved (v) factors.

The crucial set of assumptions implicit in this model is:

(A1) (u_i, v_i) is a mean zero normal random vector that is statistically independent of W (note that $Var(v_i)$ is normalised to 1); and $\delta_z \neq 0$.

Apart from the parametric choice of the distribution of the unobservables implied by this assumption (in particular, joint normality and homoskedasticity), the control function model crucially relies on an exclusion restriction for non-parametric identification. Specifically, it needs at least an observable variable Z which is contained in W, i.e. which affects the decision to work, but which is not contained in X, i.e. does not affect work outcomes directly. A way to rewrite assumption (A1) to make these conditions explicit is:

(A1) (a) $P(employed{=}1 \mid X, ERA, Z)$ is a non-trivial function of Z

(b) $E(Y \mid X, ERA, Z) = E(Y \mid X, ERA)$

(c) $$\begin{pmatrix} u \\ v \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \sigma_u^2 & \sigma_{uv} \\ \sigma_{uv} & 1 \end{pmatrix}\right]$$

16 Since the work-related outcomes are survey based, it also is the case that they are only observed for the ERA and control members who are employed and who have answered the question on the outcome of interest.

The power of the instrument in the first stage, i.e. condition (A1.a), can be tested. The parametric assumptions in (A1.c) can in principle be relaxed (and thus tested). Assumption (A1.b) is an untestable identifying condition.

Going back to the standard selection model, from the joint normality assumption it follows that:

$u_i = \rho\, \sigma_u\, v_i + \xi_i$ with $\xi_i \perp v_i$

For the selected sample of employed ERA and controls:

$$E(Y \mid employed{=}1,\, W) = \alpha + \beta\, ERA + \gamma X + E(u \mid v > -\delta W)$$
$$= \alpha + \beta ERA + \gamma X + \rho\sigma_u \frac{\phi(\delta W)}{\Phi(\delta W)} \equiv \alpha + \beta ERA + \gamma X + \lambda H(\delta W)$$

The model can be easily estimated via the following simple two-step procedure:

1. Estimate γ from a first-step Probit on the pooled subsample of employed treated and controls compared to the pooled subsample of non-employed treated and controls, controlling for X and for Z; construct the inverse Mills ratio $H(\hat{\delta} W)$ for each employed individual.
2. Estimate α, β, γ and λ by OLS in the augmented regression on the employed subsample. Specifically, for the employed subsample, observed outcomes are regressed on the ERA treatment indicator, observed characteristics X and the inverse Mills ratio H.
3. A t-test on λ provides a test for selection into work based on unobserved factors (e.g. innate ability, drive, motivation).

While the two-step estimator is consistent and √N-asymptotically normal, it is not fully efficient under normality; one can thus also estimate it via maximum likelihood to obtain full efficiency.

A.2 Allowing for selection into work based on unobserved ERA impacts

Allowing for both observable ($b(X_i)$) and idiosyncratic (b_i) heterogeneity in ERA impacts, let the model for the observed outcome for the full population be:

$$Y_i = \alpha + (\beta(X_i) + b_i)\, ERA_i + \gamma' X_i + u_i$$
$$= \alpha + \beta(X_i)\, ERA_i + \gamma' X_i + \{b_i\, ERA_i + u_i\} \qquad u_i \sim N(0, \sigma_u^2)$$

As before, outcomes Y conditional on work such as hourly wages are, however, only observed for employed participants. Let the observability rule for Y (or equivalently, the rule for being employed) be:

$employed_i = 1(\delta' W_i + \mu\, ERA_i + v_i \geq 0)$

with $W_i \equiv [1, X_i, Z_i]$
$v_i \sim N(0, 1)$
$Corr(v_i, u_i) = \rho_{uv}$
$\mathrm{Corr}(v_i, b_i) = \rho_{bv}$

The model thus allows for selection into employment based on observed characteristics X and on both unobserved characteristics (ρ_{uv}) and unobserved impacts (ρ_{bv}).

The crucial set of assumptions implicit in this model is:

(A1') (u_i, v_i, b_i) is a mean zero normal random vector that is statistically independent of Z, X and ERA and $\delta_z \neq 0$ (note that $Var(v_i)$ is normalised to 1).

The three requirements implicit in (A1') can we made explicit by rewriting this assumption as

(A1') (a) $P(employed=1 \mid X, ERA, Z)$ is a non-trivial function of Z

(b) $E(Y \mid X, ERA, Z) = E(Y \mid X, ERA)$

(c) $$\begin{pmatrix} u \\ v \\ b \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \sigma_u^2 & \sigma_{uv} & \sigma_{ub} \\ \sigma_{uv} & 1 & \sigma_{bv} \\ \sigma_{ub} & \sigma_{bv} & \sigma_b^2 \end{pmatrix}\right]$$

As before, the power of the instrument in the first stage, i.e. condition (A1.a = A1'.c), can be tested. The parametric assumptions in (A1.c = A1'.c) can be relaxed (and thus tested), while assumption (A1.b = A1'.b) is an untestable identifying condition.

Going back to the selection model, from the joint normality assumption it follows that:

$u_i = \rho_{uv}\, \sigma_u\, v_i + \xi_u \qquad$ with $\xi_u \perp v_i$

$b_i = \rho_{bv}\, \sigma_b\, v_i + \xi_b \qquad$ with $\xi_b \perp v_i$

For the selected sample of employed ERA and employed controls:

$E(Y \mid employed=1, X, ERA, Z)$

$$= \alpha + \beta(X)ERA + \gamma' x + E(u \mid X, ERA, Z, v \geq -\delta' W - \mu ERA) + \\ + E(b\, ERA \mid X, ERA, Z, v \geq -\delta' W - \mu ERA)$$

$$= \alpha + \beta(X)ERA + \gamma' x + E(u \mid X, ERA, Z, v \geq -\delta' W - \mu ERA) + \\ + E(b \mid X, ERA=1, Z, v \geq -\delta' W - \mu) \cdot ERA$$

$$= \alpha + \beta(X)ERA + \gamma' x + \lambda_{uv}\, H(\delta' W + \boldsymbol{\mu ERA}) + \lambda_{bv}\, H(\delta' W + \boldsymbol{\mu}) \cdot ERA$$

where $\lambda_{kv} \equiv \rho_{kv}\, \sigma_k$ for $k = u, b$ and $H(c) \equiv \phi(c)/\Phi(c)$.

The model can be easily estimated via the following simple two-step procedure:

1. Estimate δ and μ from a first-step Probit on the pooled subsample of employed treated and controls versus the pooled subsample of non-employed treated and controls, controlling for X, ERA status and Z; construct the two inverse Mills ratio $H(.)$ for each employed individual.
2. Estimate α, $\beta(X)$, γ and the two λ's by OLS in the augmented regression on the employed subsample. Specifically, for the employed subsample, observed wage outcomes are regressed on the ERA treatment indicator (possibly interacted with X to allow for observed heterogeneity in ERA impacts), observed characteristics X and the two additional control function terms H (one evaluated at the linear index, the other at the linear index once setting all observations to treated).

Note that a t-test on λ_{uv} provides a test for selection into work based on unobserved characteristics, such as ability, that also affect work outcomes; while a t-test on λ_{bv} provides a test for selection into work based on unobserved ERA impacts.

Note, how we have throughout exploited the randomised nature of the regressor of interest (ERA), which is the one that allows us to separately identify the two λ's by conferring separate variation to the two inverse Mill's ratios.

Arriving at the ATT, ATNT and ATE for workers once observable heterogeneity in ERA impacts is allowed

When the underlying wage model allows for heterogeneity in ERA impacts based on observed characteristics, the conditional treatment effect needs to be averaged over the characteristics of the relevant subpopulation of workers (i.e. ERA workers, control workers or all workers).

$$Y_i = \alpha + \beta(X_i)\, ERA_i + \gamma' X_i + \{b_i\, ERA_i + u_i\}$$

If $b_i = 0$ for all i (or equivalently $\sigma_b = 0$), then the conditional ERA impact is averaged among

1) ERA workers as:

$$E(\beta(X) \mid employed=1, ERA=1) \qquad = \beta_0 + \Sigma_k \{\beta_k\, E(X_k \mid employed=1, ERA=1)\}$$

2) Control workers as:

$$E(\beta(X) \mid employed=1, ERA=0) \qquad = \beta_0 + \Sigma_k \{\beta_k\, E(X_k \mid employed=1, ERA=0)\}$$

3) All workers as:

$$E(\beta(X) \mid employed=1) \qquad = \beta_0 + \Sigma_k \{\beta_k\, E(X_k \mid employed=1)\}$$

If allowance is made for unobserved heterogeneity in impacts ($\sigma_b \neq 0$), then the ATT is obtained by adding to the average above the extra control function term $E(b \mid employed=1, ERA=1)$, appropriately averaged. The impact of ERA on ERA workers is thus obtained as:

$$\mathrm{E}(\beta(X) \mid employed=1, ERA=1)$$

$$= \beta_0 + \Sigma_k \{\beta_k\, E(X_k \mid employed=1, ERA=1)\} + \lambda_{bv}\, E(H(\delta' W + \boldsymbol{\mu}) \mid employed=1, ERA=1).$$

Appendix B
Composition of working samples and balancing results

B.1 Composition of working samples by RA status

Table B.1 Average characteristics at the time of RA of the sample subsequently in employment

	NDLP employed at year 5		ND25+ employed in 2008/09 tax year	
	Control	ERA	Control	ERA
Scotland	0.170	0.153	0.121	0.158***
North East England	0.209	0.204	0.160	0.139
North West England	0.166	0.168	0.207	0.193
Wales	0.105	0.133	0.075	0.068
East Midlands	0.185	0.188	0.224	0.229
London	0.166	0.155	0.213	0.213
Total New Deal caseload at office (100)	4.478	4.856**	4.938	4.728
Share of lone parent in New Deal caseload at office	0.548	0.547	0.452	0.447
Bottom quintile of local deprivation	0.037	0.044	0.031	0.036
2nd quintile of local deprivation	0.068	0.055	0.050	0.062
3rd quintile of local deprivation	0.146	0.129	0.133	0.128
4th quintile of local deprivation	0.253	0.254	0.232	0.264*
Top quintile of local deprivation	0.491	0.510	0.541	0.503*
TTWA-level unemployment rate	0.062	0.062	0.060	0.061*
October 2003 – March 2004	0.419	0.344**	0.344	0.353
April 2004 – June 2004	0.230	0.276*	0.212	0.228
July 2004 – September 2004	0.228	0.262	0.249	0.235
October 2004 – December 2004	0.123	0.118	0.196	0.184
Male	0.045	0.053	0.802	0.796
Age <30	0.337	0.344	0.182	0.170
Age 30-39	0.448	0.433	0.348	0.373
Age ≥40	0.214	0.223	0.470	0.457

Continued

Table B.1 Continued

	NDLP employed at year 5			ND25+ employed in 2008/09 tax year	
	Control	ERA		Control	ERA
Ethnic minority	0.107	0.120		0.224	0.206
Single	0.680	0.659		0.592	0.578
One child	0.520	0.499	Has children	0.251	0.263
More than one child	0.462	0.494			
Youngest child ≤1 year at RA	0.064	0.059	Child ≤5	0.066	0.079
Youngest child (1-5) years at RA	0.277	0.308			
Youngest child (5-16) years at RA	0.620	0.602			
Youngest child over 16 years at RA	0.008	0.006			
Missing child age/no child	0.031	0.026		0.846	0.820*
Education Level 0-1	0.366	0.331		0.535	0.515
Education Level 2	0.374	0.427*		0.193	0.231**
Education Level 3	0.119	0.087*		0.079	0.083
Education Level 4-5	0.140	0.155		0.193	0.172
Academic education	0.517	0.530		0.358	0.368
Social housing	0.669	0.667		0.407	0.418
Private housing	0.242	0.252		0.334	0.346
Has disability/claims IB at inflow	0.043	0.057		0.210	0.200
Missing disability status	0.431	0.429		0.038	0.040
No driving license/lack of access to vehicle	0.604	0.611		0.709	0.722
Housing problem	0.092	0.072		0.101	0.087
Transport problem	0.175	0.203		0.271	0.261
Childcare problem	0.511	0.510		0.037	0.043
Basic skills problem	0.023	0.033		0.084	0.074
Health problem	0.076	0.052		0.197	0.184
Other problem	0.064	0.064		0.175	0.164
Currently in work	0.129	0.133		0.053	0.047
In work before now/previous to current jobs	0.865	0.866		0.896	0.909
Pay in previous job: Lowest quintile	0.195	0.171		0.195	0.187
Pay in previous job: 2nd quintile	0.277	0.269		0.154	0.135
Pay in previous job: 3rd quintile	0.080	0.092		0.168	0.201**
Pay in previous job: 4th quintile	0.152	0.151		0.256	0.272
Pay in previous job: Top quintile	0.162	0.182		0.122	0.113
In work before the previous job	0.497	0.499		0.590	0.600
No job in last three years	0.433	0.466		0.323	0.367**

Continued

Table B.1 Continued

	NDLP employed at year 5			ND25+ employed in 2008/09 tax year	
	Control	ERA		Control	ERA
One job in last three years	0.370	0.339		0.414	0.400
Many jobs in last three years	0.197	0.195		0.263	0.233*
Work experience <6 months	0.117	0.116		0.226	0.182***
Work experience 7-12 months	0.109	0.085		0.188	0.163
Work experience 13-24 months	0.135	0.129		0.185	0.196
Work experience 25-36 months	0.207	0.204		0.078	0.091
Hours per week over past three years <16	0.158	0.153		0.085	0.069
Hours per week over past three years [16-30)	0.203	0.182		0.060	0.055
Hours per week over past three years ≥30	0.207	0.199		0.532	0.509
Spent 0% of past three years on active benefits	0.848	0.856	Spent ≥0 & <50% on active benefits	0.156	0.142
Spent (0, 50%) of past three years on active benefits	0.096	0.092		0.625	0.647
Spent >50% of past three years on active benefits	0.057	0.052	Spent 100% on active benefits	0.218	0.211
Spent >50% of past three years on inactive benefits	0.634	0.630		0.089	0.102
Past participation in same New Deal program	1.583	1.692		2.115	2.050
			Past participation in basic skills	0.215	0.204
Show up same day	0.509	0.525		0.092	0.080
Show up within 30 days	0.172	0.180		0.650	0.652
Show up after >30 days	0.097	0.127		0.104	0.125
Missing show up time	0.222	0.168**		0.155	0.143
			Early ND25+ entrant	0.201	0.186
			Past designation as special group category customer	0.030	0.039
			Special group category customer at RA	0.207	0.204
Looked for job on own while unemployed	0.698	0.676		0.868	0.835

Table B.1 Continued

	WTC employed at year 5	
	Control	ERA
Scotland	0.103	0.101
North East England	0.106	0.109
North West England	0.052	0.066
Wales	0.077	0.081
East Midlands	0.591	0.574
London	0.072	0.068
Total New Deal caseload at office (100)	4.090	4.224
Share of lone parent in New Deal caseload at office	0.537	0.528
Bottom quintile of local deprivation	0.079	0.082
2nd quintile of local deprivation	0.148	0.144
3rd quintile of local deprivation	0.176	0.181
4th quintile of local deprivation	0.272	0.264
Top quintile of local deprivation	0.321	0.324
TTWA-level unemployment rate	0.058	0.058
December 2003 – July 2004	0.268	0.269
August 2004 – November 2004	0.332	0.328
December 2004 – January 2005	0.400	0.403
Male	0.016	0.028
Age <30	0.257	0.212**
Age 30-39	0.407	0.408
Age ≥40	0.336	0.380*
Ethnic minority	0.052	0.077
Single	0.407	0.409
One child	0.440	0.492**
More than one child	0.499	0.468
Youngest child <=1 year at RA	0.019	0.023
Youngest child (1-5] years at RA	0.184	0.186
Youngest child (5-16] years at RA	0.678	0.673
Youngest child over 16 years at RA	0.060	0.081*
Missing child age/no child	0.060	0.037**
Education Level 0-1	0.297	0.304
Education Level 2	0.381	0.381
Education Level 3	0.121	0.139
Education Level 4-5	0.201	0.175
Academic education	0.528	0.536
Social housing	0.336	0.356
Private housing	0.604	0.583
No driving license or lack of access to vehicle	0.289	0.300
Housing problem	0.050	0.034
Transport problem	0.176	0.179
Childcare problem	0.527	0.492
Basic skills problem	0.053	0.037
Health problem	0.068	0.074
Other problem	0.118	0.099

Continued

Table B.1 Continued

	WTC employed at year 5	
	Control	ERA
Not in work at RA	0.045	0.047
Has currently >1 paid job	0.095	0.114
Hours (16-20)	0.421	0.380
Hours (20-30)	0.502	0.539
Non eligible hours	0.032	0.034
Tenure 6-12 months	0.086	0.093
Tenure 1-2 years	0.155	0.136
Tenure 2-3 years	0.110	0.089
Tenure 3-4 years	0.097	0.090
Tenure 4-5 years	0.089	0.082
Tenure 5-8 years	0.117	0.133
Tenure >8 years	0.142	0.195***
Pay in current job: Lowest quintile	0.195	0.200
Pay in current job: 2nd quintile	0.167	0.165
Pay in current job: 3rd quintile	0.185	0.193
Pay in current job: 4th quintile	0.183	0.191
Pay in current job: Top quintile	0.193	0.176
In work before now/previous to current jobs	0.780	0.763
Hours in previous job: 16	0.144	0.109**
Hours in previous job: (16-20)	0.216	0.195
Hours in previous job: (20-30)	0.172	0.180
Hours in previous job: ≥30	0.248	0.279
Pay in previous job: Lowest quintile	0.223	0.184*
Pay in previous job: 2nd quintile	0.176	0.186
Pay in previous job: 3rd quintile	0.097	0.112
Pay in previous job: 4th quintile	0.144	0.134
Pay in previous job: Top quintile	0.140	0.147
In work before the previous job	0.452	0.436
One job in last three years	0.591	0.589
Many jobs in last three years	0.400	0.398
Work experience <6 months	0.050	0.044
Work experience 7-12 months	0.053	0.039
Work experience 13-24 months	0.123	0.101
Work experience 25-36 months	0.764	0.802*
Hours per week over past three years <16	0.052	0.041
Hours per week over past three years (16-30)	0.905	0.894
Hours per week over past three years ≥30	0.034	0.053*
On benefits at inflow	0.064	0.084
Has been on inactive benefits in past three years	0.317	0.298
Past participation in NDLP	0.335	0.317
Past participation in NDLP more than once	0.269	0.252

Notes: Difference in means significant * at 10%; ** at 5%; *** at 1%.

B.2 Balancing summaries

Employed at Wave *x* compared to non-employed at Wave *x* by treatment group and ERA group versus control group by employment status at Wave *x*.

In the tables that follow, each cell summarises differences in observed characteristics between the corresponding subgroups:

<table>
<tr><th></th><th colspan="2">Employed</th><th>Non-employed</th></tr>
<tr><td>ERA group</td><td rowspan="2">• employed ERA group compared to
• employed control group</td><td>• employed ERA group compared to
• non-employed ERA group</td><td rowspan="2">• non-employed ERA group compared to
• non-employed control group</td></tr>
<tr><td>Control group</td><td>• employed control group compared to
• non-employed control group</td></tr>
</table>

Indicators included are:

- Pseudo R2 (probit) gives an indication of how well the observed characteristics explain belonging to one group versus the other, i.e. how unbalanced the characteristics are.
- p>chi2 if the p-value of the likelihood-ratio test, testing the hypothesis that the characteristics are jointly insignificant, i.e. well balanced in the two groups.
- Mean bias is the mean standardised percentage difference (mean taken over all the characteristics). For a given characteristic X, the standardised difference is the difference of the sample means in the two groups as a percentage of the square root of the average of the sample variances in the two groups pooled.

So, the lower the pseudo R2, the higher p>chi2 and the lower the mean bias, the more unbalanced are the groups.

If p>chi2 > 0.010, the groups can be regarded as balanced.

Table B.2 Balancing indicators for the NDLP group, year 2 survey respondents

<table>
<tr><th></th><th colspan="2">Employed</th><th>Non-employed</th></tr>
<tr><td rowspan="2">ERA group</td><td rowspan="2">P(ERA | employed) = 53%
Pseudo R2 = 0.039
p>chi2 = 0.422
Mean bias = 4.6</td><td>P(employed | ERA) = 56%
Pseudo R2 = 0.130
p>chi2 = 0.000
Mean bias = 10.5
Employed ERA participants are systematically different from non-employed ERA participants, displaying much more favourable labour-market characteristics.</td><td rowspan="2">P(ERA | non-employed) = 50%
Pseudo R2 = 0.059
p>chi2 = 0.072
Mean bias = 5.3
ERA and control group members who are not employed at year 2 are statistically different at the 10% level, though with no clear direction in such a difference.</td></tr>
<tr><td>Control group</td><td>ERA and control group members who are employed at year 2 are balanced.
(Even the distributions of the continuous covariates are the same.)</td><td>P(employed | control) = 53%
Pseudo R2 = 0.166
p>chi2 = 0.000
Mean bias = 10.8
Employed control group members are systematically different from non-employed control group members, displaying much more favourable labour-market characteristics.</td></tr>
</table>

Table B.3 NDLP group, year 2 survey respondents: detailed story

<table>
<tr><th></th><th colspan="2">Employed</th><th>Non-employed</th></tr>
<tr><td rowspan="2">ERA group</td><td rowspan="2">Employed ERA (compared to employed controls):
• randomised in later
• higher incidence of Ethnic Minorities (12 per cent compared to eight per cent)
• slightly more educated
• less likely to be in social housing
• less likely to have looked for a job on their own (69 per cent compared to 73 per cent)</td><td>Employed ERA participants (compared to non-employed ERA participants):
• offices with a lower New Deal caseload
• less deprived areas
• older
• less likely to be single at RA
• their youngest child was older at RA
• much higher education (and more likely to have academic education), in particular much less likely to only have level 0-1
• less likely to be in social housing
• far more likely to have access to car/driving licence
• less likely to have a housing problem or a basic skills problem
• stronger labour market histories:
- in terms of probability of being in work at RA, having been in work and having had jobs in the three years prior
- from higher part of wage distribution of past jobs
- longer work experience
- more hours
- less likely to have spent more than half of the past three years on inactive benefits
• less likely to have looked for a job on their own</td><td rowspan="2">Non-employed ERA (compared to non-employed controls):
• slightly less deprived areas
• more likely to be single at RA
• less educated, less likely to have academic education
• more likely to have worked full-time sometime in the three pre-RA years</td></tr>
<tr><td>Control group</td><td>As above except that employed controls (compared to non-employed controls):
• less time on active benefits
• fewer ethnic minorities
• less likely to have a disability or to claim IB at RA
• equally likely to be in social or private housing
• equally likely to have a housing problem, but less likely to have a childcare problem
• just as likely to have looked for a job on their own</td></tr>
</table>

Note: Individual characteristics are tested unconditionally, i.e. **without** controlling for other observables.

Table B.4 Balancing indicators for the NDLP group, year 5 survey respondents

<table>
<tr><th></th><th colspan="2">Employed</th><th>Non-employed</th></tr>
<tr><td>ERA group</td><td rowspan="2">P(ERA | employed) = 51%
Pseudo R2 = 0.041
p>chi2 = 0.746
Mean bias = 4.0

ERA and control group members who are employed at year 5 are balanced.
(Even the distributions of the continuous covariates are the same.)</td><td>P(employed | ERA) = 57%
Pseudo R2 = 0.134
p>chi2 = 0.000
Mean bias = 9.7
Employed ERA participants are systematically different from non-employed ERA participants, displaying much more favourable labour-market characteristics.</td><td rowspan="2">P(ERA | non-employed) = 51%
Pseudo R2 = 0.084
p>chi2 = 0.163
Mean bias = 6.0
ERA and control group members who are not employed at year 5 are balanced.</td></tr>
<tr><td>Control group</td><td>P(employed | control) = 57%
Pseudo R2 = 0.155
p>chi2 = 0.000
Mean bias = 10.9
Employed control group members are systematically different from non-employed control group members, displaying much more favourable labour-market characteristics.</td></tr>
</table>

Table B.5 NDLP group, year 5 survey respondents: detailed story

<table>
<tr><th></th><th colspan="2">Employed</th><th>Non-employed</th></tr>
<tr><td rowspan="2">ERA group</td><td rowspan="2">Employed ERA (compared to employed controls):
• from offices with slightly higher New Deal caseload
• more likely to have been randomised between April-June 2004 rather than before
• more likely to have Level 2 qualifications, less likely to have Level 3</td><td>Employed ERA participants (compared to non-employed ERA participants):
• less deprived areas
• older
• less likely to be single at RA
• their youngest child was older at RA
• much more highly educated (and more likely to have academic education), in particular much less likely to only have level 0-1
• far more likely to have access to car/driving licence
• less likely to have a housing problem or a health problem
• stronger labour market histories:
- in terms of probability of being in work at RA, having been in work and having had jobs in the three years prior
- longer work experience
- though shorter hours
- less likely to have been on inactive benefits during the past three years
- less likely to have participated in NDLP in the past
• less likely to have looked for a job on their own</td><td rowspan="2">Non-employed ERA (compared to non-employed controls):
• slightly less deprived areas
• more likely to randomly assigned early on
• more likely to have been in work at RA
• slightly higher previous pay and longer hours</td></tr>
<tr><td>Control group</td><td>As above except that employed controls (compared to non-employed controls):
• offices with a lower New Deal caseload
• more likely to have only one child at RA
• fewer ethnic minorities
• more likely to be in private housing
• less likely to have a transport, basic skill or housing problem
• no difference in terms of past NDLP participation
• no difference in terms of having looked for a job on their own</td></tr>
</table>

Note: Individual characteristics are tested unconditionally, i.e. **without** controlling for other observables.

Table B.6 Balancing indicators for the WTC group, year 2 survey respondents

<table>
<tr><th></th><th colspan="2">Employed</th><th>Non-employed</th></tr>
<tr><td rowspan="2">ERA group</td><td rowspan="2">P(ERA | employed) = 51%
Pseudo R2 = 0.032
p>chi2 = 0.162
Mean bias = 3.8
ERA and control group members who are employed at year 2 are balanced.
(The distributions of continuous covariates are balanced too – with the exception of tenure in the job which was ongoing at RA; this is, however, unbalanced also on the full study samples).</td><td>P(employed | ERA) = 90%
Pseudo R2 = 0.242
p>chi2 = 0.000
Mean bias = 17.4
Employed ERA participants are systematically different from non-employed ERA participants, displaying much more favourable labour-market characteristics.</td><td rowspan="2">P(ERA | non-employed) = 51%
Pseudo R2 = 0.265
p>chi2 = 0.295
Mean bias = 11.4
ERA and control group members who are not employed at year 2 are balanced.</td></tr>
<tr><td>Control group</td><td>P(employed | control) = 89.4%
Pseudo R2 = 0.286
p>chi2 = 0.000
Mean bias = 18.7
Employed control group members are systematically different from non-employed control group members, displaying much more favourable labour-market characteristics.</td></tr>
</table>

Table B.7 WTC group, year 2 survey respondents: detailed story

<table>
<tr><th></th><th colspan="2">Employed</th><th>Non-employed</th></tr>
<tr><td rowspan="2">ERA group</td><td rowspan="2">Employed ERA (compared to employed controls):
• slightly more in North West England
• older
• more likely to only have one child
• youngest child slightly more likely to be either younger than one and older than 16
• more likely to have a driving licence or access to car
• longer tenure at RA
• slightly more likely to have worked full-time in the previous job as well as in the three years pre-RA
• longer work experience in the three years pre-RA</td><td>Employed ERA participants (compared to non-employed ERA participants):
• fewer in Wales
• fewer in the most disadvantaged areas
• more randomly assigned later on
• older
• less likely to be single
• more likely have more than one child at RA
• but their youngest child much more likely to be older
• higher levels of education
• much more likely to live in private housing
• much more likely to have driving licence/access to car
• less likely to have a housing problem
• much less likely not to be in work at RA
• less likely to have more than one job at RA
• more likely to be working (20, 30) hours per week
• much longer tenure (52 compared to 27 months on average)
• much higher pay
• more stable employment (more likely to have only had one job in past three years)
• much longer work experience in the three years prior to RA
• less likely to have worked full-time in the past
• much less likely to be on benefits at RA
• much less likely to have been on inactive benefits in the three years prior to RA
• much less likely to have participated in NDLP (and lower participation rates)</td><td rowspan="2">Non-employed ERA (compared to non-employed controls):
• much more in East Midlands as opposed to North West England
• more likely to have been randomly assigned between August and November 2004 (rather than earlier)
• fewer with a basic skills problem
• more likely to have worked full-time in the past
• more likely to have had more than one job in the three years prior to RA
• longer work experience
• less likely to have been on inactive benefits</td></tr>
<tr><td>Control group</td><td>As above except that employed controls (compared to non-employed controls):
• more located in the East Midlands (as opposed to Scotland and North West England)
• fewer Ethnic Minorities
• no more likely to have more than one child
• no higher levels of education – but more likely to have academic qualifications
• higher pay and hours also in the previous job before the one at RA
• just as stable employment
• just as likely to have worked full-time in the past</td></tr>
</table>

Note: Individual characteristics are tested unconditionally, i.e. **without** controlling for other observables.

Table B.8 Balancing indicators for the WTC group, year 5 survey respondents

<table>
<tr><th></th><th colspan="2">Employed</th><th colspan="2">Non-employed</th></tr>
<tr><td>ERA group</td><td rowspan="2">P(ERA | employed) = 51%
Pseudo R2 = 0.038
p>chi2 = 0.228
Mean bias = 4.1
ERA and control group members who are employed at year 5 are balanced.
(The distributions of continuous covariates are balanced too – with the exception of tenure in the job which was ongoing at RA; this is, however, unbalanced also on the full study samples).</td><td>P(employed | ERA) = 83%
Pseudo R2 = 0.109
p>chi2 = 0.176
Mean bias = 10.0
Employed and non-employed ERA participants exhibit important differences (with employed ERA members displaying much more favourable labour-market characteristics), but such all characteristics are jointly balanced.</td><td rowspan="2">P(ERA | non-employed) = 51%
Pseudo R2 = 0.223
p>chi2 = 0.031
Mean bias = 10.3
ERA and control group members who are not employed at year 5 are systematically different.</td></tr>
<tr><td>Control group</td><td>P(employed | control) = 83%
Pseudo R2 = 0.174
p>chi2 = 0.000
Mean bias = 13.4
Employed control group members are systematically different from non-employed control group members, displaying much more favourable labour-market characteristics.</td></tr>
</table>

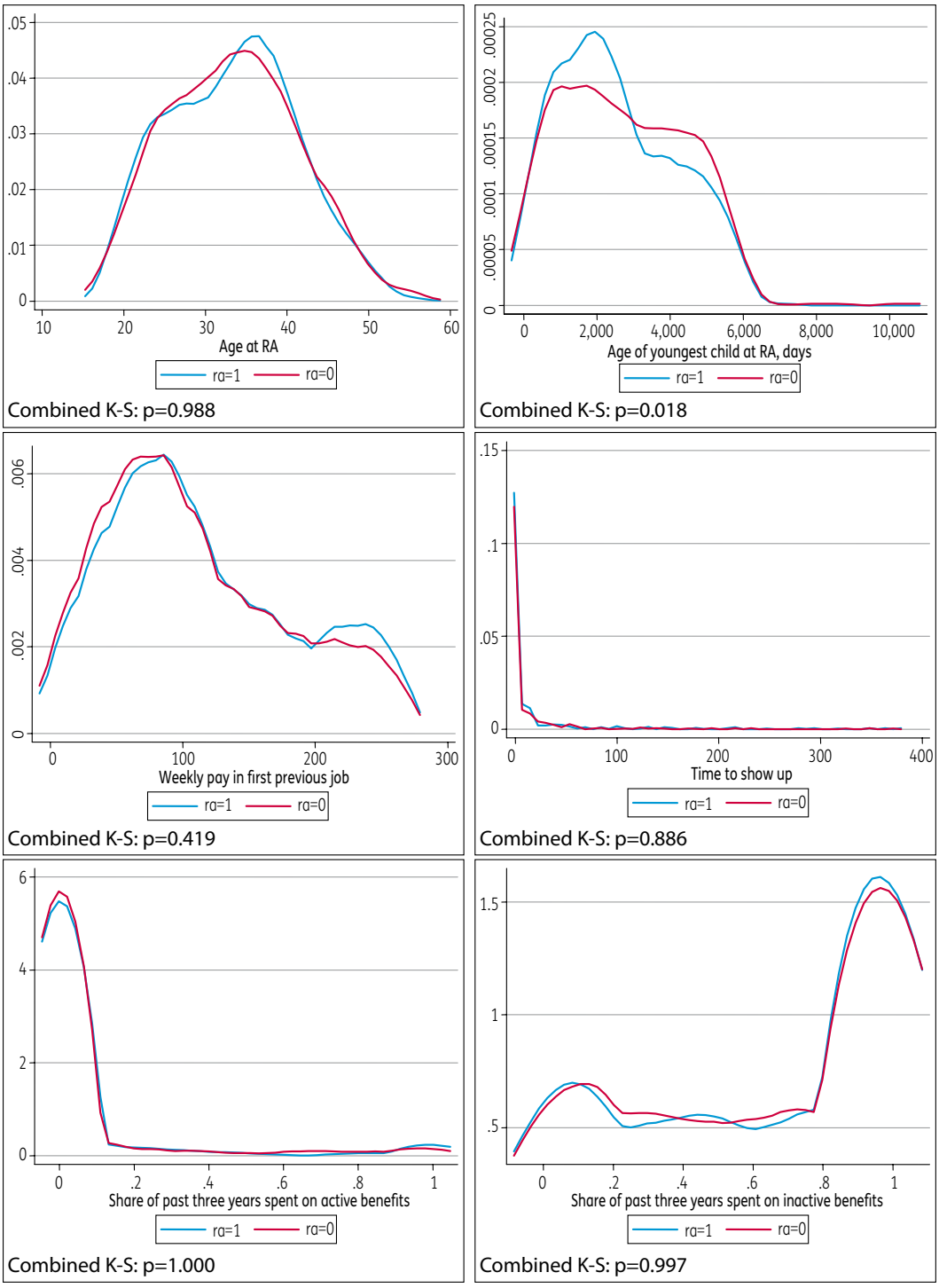
Table B.9 WTC group, year 5 survey respondents: detailed story

	Employed		Non-employed
ERA group	Employed ERA (compared to employed controls): • older • more likely to be an Ethnic Minority • more likely to only have one child at RA • youngest child more likely to be older than 16 • longer tenure at RA • longer work experience in the three years pre-RA	Employed ERA participants (compared to non-employed ERA participants): • less likely to be single • higher level of education • far more likely to live in private housing • far more likely to have driving licence/access to car • less likely to have a health problem • more likely to be working (20, 30) hours per week at RA • much longer tenure (53 compared to 37 months on average) • more likely to have worked (20, 30) hours per week in the past • much longer work experience in the three years prior to RA • much less likely to be on benefits at RA • much less likely to have been on inactive benefits in the three years prior to RA • much less likely to have participated in NDLP (and lower participation rates)	Non-employed ERA (compared to non-employed controls): • less likely to be in North West England (and more in Scotland) • less deprived areas • less likely to be Ethnic Minority • youngest child more likely to be older than 16 • less likely to live in social housing • longer tenure • longer work experience • more likely to have been in work before RA/previous to current job
Control group		Employed controls (compared to non-employed controls): • far less likely to be in North West England (and more in East Midlands) • much less deprived areas • fewer Ethnic Minorities (five per cent compared to 15 per cent) • less likely to be single • more likely to have more than one child • far more likely to live in private housing • far more likely to have driving licence/access to car • less likely to have a transport, health or basic skills problem • far more likely to be employed at RA • more likely to only have one job at RA • much longer tenure (45 compared to 30 months on average) • higher pay at RA • stable employment history • far longer work experience in the past three years • much less likely to be on benefits at RA • much less likely to have been on inactive benefits in the past three years • much less likely to have participated in NDLP (and lower participation rates)	

Note: Individual characteristics are tested unconditionally, i.e. **without** controlling for other observables.

B.3 Balancing of continuous variables between year 5 employed ERA and employed controls

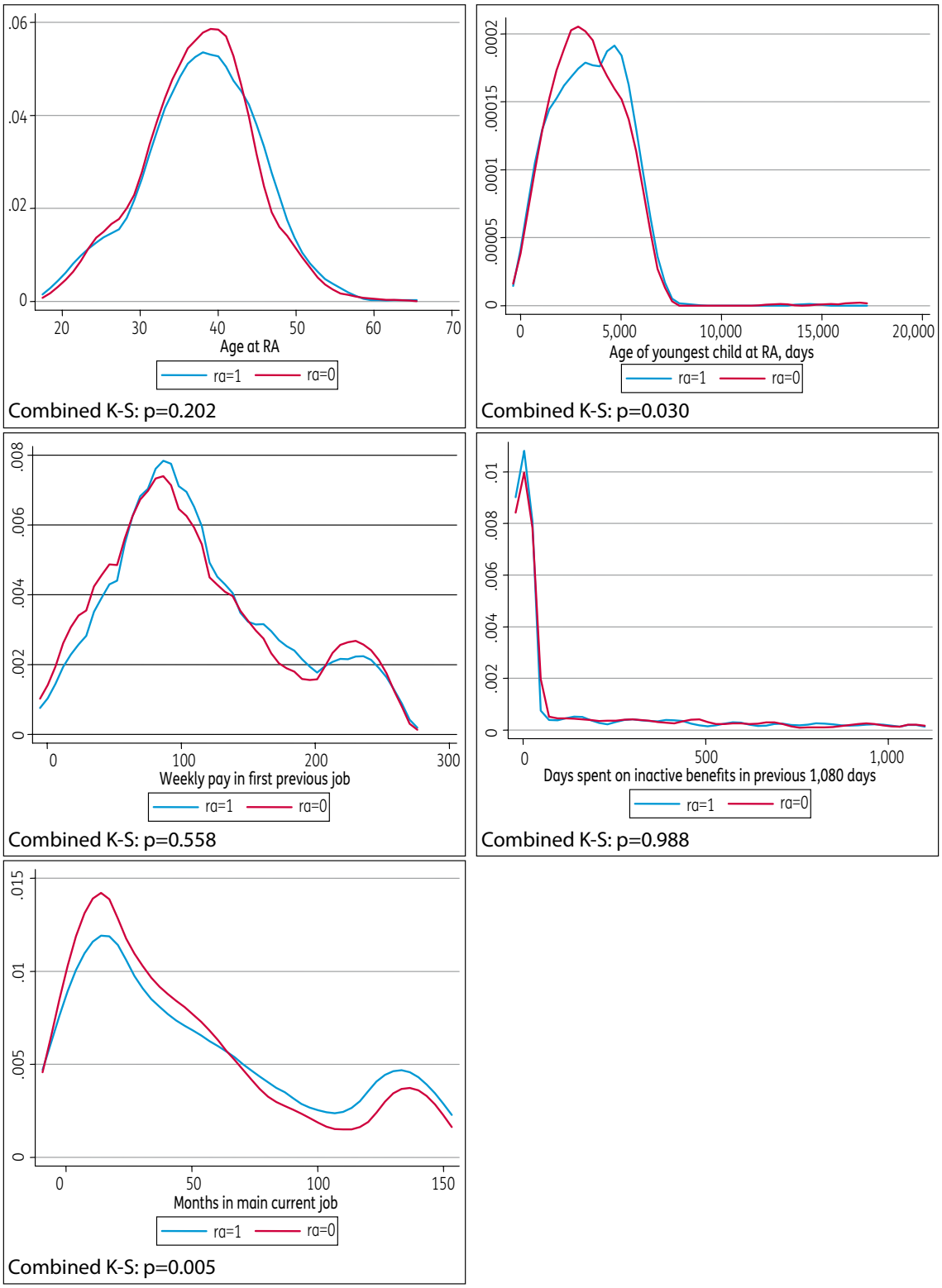
Figure B.1 NDLP workers at year 5: distribution of continuous covariates



Note: Combined K-S p is the p-value of a two-sample Kolmogorov-Smirnov test for equality of distribution functions.

For the hypothesis that educational qualifications (20 levels) and RA are independent: Pearson chi2 p=0.175 and likelihood-ratio chi2 p=0.125

Figure B.2 WTC workers at year 5: Distribution of continuous covariates



Note: Combined K-S p is the p-value of a two-sample Kolmogorov-Smirnov test for equality of distribution functions.

For the hypothesis that educational qualifications (20 levels) and RA are independent: Pearson chi2 p=0.209 and likelihood-ratio chi2 p=0.124

Appendix C
Survey results for respondents employed at year 2 and year 5

Table C.1 NDLP subset of employed at year 5 who are also employed at year 2: year 5 outcomes

	RAW	OLS	FILM	N
Hours per week for all current jobs	1.310*	0.867	0.878	713
Works <=15 hours in all current jobs	-0.006	-0.004	0.005	713
Works 16-29 hours in all current jobs	-0.02	-0.011	-0.016	713
Works >=30 hours in all current jobs	0.025	0.015	0.011	713
Would like to work part-time, <30	-0.008	-0.014	-0.009	696
Would like to work full-time, >=30	0.069**	0.064*	0.069*	696
Hourly wage for main current job	0.146	0.006	-0.086	708
Weekly earnings for all current jobs	16.397	8.087	5.765	706
Education/training while in work in years 3-5	-0.012	-0.023	-0.032(h)	712
Education/training while in work since RA	0.035	0.031	0.023	714
Has obtained work-related qualifications in years 3-5	0.030	0.011	0.023(h)	714
Has obtained work-related qualifications since RA	0.040	0.024	0.021(h)	714
Very/fairly likely to do training next year	-0.031	-0.017	0.001	711
Number of desirable non-pecuniary work features	-0.276	-0.164	-0.062(h)	660
Fringe benefits: any	0.009	0.008	0.006	660
Fringe benefits: number	-0.147	-0.159	-0.104(h)	660
Fringe benefits: pension	-0.040	-0.037	-0.024	660
Fringe benefits: paid holidays	-0.005	-0.009	-0.014	660
Fringe benefits: flexible hours	-0.016	-0.029	-0.021(h)	660
Fringe benefits: time off for family	-0.045	-0.034	-0.037(h)	660
Fringe benefits: sick pay	-0.014	-0.012	0.010	660
Fringe benefits: car/van for own use	-0.035**	-0.040**	-0.043**	660
Fringe benefits: crèche/nursery	0.006	0.005	0.017	660
Fringe benefits: trade union membership	0.003	-0.002	0.008(h)	660
Permanent job	0.004	0.011	0.024	714
Shift work most of the time	0.017	0.012	0.046	714
Usual work pattern during day	0.000	-0.003	-0.002	714
Working pattern is inconvenient	0.028	0.013	0.031(h)	713
Has formal supervisory responsibilities	0.014	0.004	0.037(h)	714
Often/always has unrealistic time pressures at work	0.003	-0.015	-0.013	701

Continued

Table C.1 Continued

	RAW	OLS	FILM	N
(Strongly) agrees has some say over how they work	-0.044	-0.020	-0.007(h)	702
Job is very/extremely stressful	0.002	-0.025	-0.022	702
Likes job a great deal/quite a lot	0.016	0.026	0.047	700
Employer offers training for advancing	-0.019	-0.020	-0.023(h)	692
Any promotions since started work	-0.055	-0.059	-0.039(h)	704
Any opportunities for promotions	-0.019	-0.02	-0.021(h)	694
Had had a pay rise	-0.037	-0.043	-0.027	704
Took steps to improve work situation/pay	-0.010	-0.011	-0.027(h)	682
Tried to increase hours	-0.080**	-0.069*	-0.043	714
Tried to get a pay raise	0.037	0.041	0.058	714
Tried to negotiate better terms	-0.028	-0.011	-0.003(h)	714
Tried to change work with same employer	0.001	-0.027	-0.028(h)	714
Tried to get better job with different employer	0.039	0.018	0.014(h)	714
Tried to get new training or qualifications	0.024	0.012	0.030	714
Took steps to look for other job while in work, since RA	0.040	0.017	0.014(h)	714
Looked for other job while in work: private recruitment agency	0.010	-0.011	-0.009	714
Looked for other job while in work: career office, etc	0.018	0.010	0.015	714
Looked for other job while in work: on own	0.044	0.024	0.021(h)	714
Looked for other job while in work: something else	-0.002	-0.009	0.005	714
Will want to improve pay and terms at some point	-0.014	-0.016	-0.060(h)	608
Very/fairly likely to stop working next year	0.000	0.002	0.003	700
Self-employed	0.004	0.003	0.000	714
Cost of travel to work per week	2.936***	2.392**	2.402**(h)	673
Had days off work other than holidays in past four weeks	-0.021	-0.015	-0.032	700
Has not been late to work in the last month	-0.012	-0.022	-0.015	701
Share of five years since RA spent in employment	0.858	0.766	0.533(h)	699
Share of five years since RA spent in part-time work	-7.388**	-6.395**	-6.407**(h)	699
Share of five years since RA spent in full-time work	8.327***	7.173**	6.935**(h)	699
(Very) dissatisfied with life as a whole	-0.090***	-0.092***	-0.084**(h)	714
Always/often tired/depressed/bad headache	0.026	0.000	-0.009	539
Child's life is going very well	-0.004	-0.015	0.000	538
Spends >2.5h helping child with homework, etc	-0.039	-0.044	-0.053(h)	522
Very/quite difficult financial situation now	0.016	0.043	0.054	714
Very/quite easy financial situation now	-0.003	0.000	-0.003	714

Note: * significant at 10%; ** at 5%; *** at 1%;

(h) ERA impact is heterogeneous at least at the 5% level.

Table C.2 NDLP subset of employed at year 5 who are also employed at year 2: year 2 outcomes

	RAW	OLS	FILM	N
Hours per week for all current jobs	2.119**	2.104**	2.167**	711
Works <=15 hours in all current jobs	-0.010	-0.008	-0.016	711
Works 16-29 hours in all current jobs	-0.145***	-0.148***	-0.143***(h)	711
Works >=30 hours in all current jobs	0.155***	0.156***	0.159***(h)	711
Likely to look for different job next year and work part-time, <30	-0.065**	-0.063**	-0.045	695
Likely to look for different job next year and work full-time, >=30	0.062*	0.067*	0.026(h)	695
Hourly wage for main current job	-0.208	-0.443	-0.508	624
Weekly earnings for all current jobs	19.040**	9.269	10.654	623
Education/training while in work since RA	0.070*	0.062	0.060(h)	712
Has obtained work-related qualifications since RA	0.041	0.040	0.022(h)	714
Very/fairly likely to do training next year	0.070*	0.076**	0.074*(h)	711
Number of desirable non-pecuniary work features	-0.179	-0.125	-0.047	714
Fringe benefits: any	0.018	0.020	0.021	714
Fringe benefits: number	-0.193	-0.128	-0.147	714
Fringe benefits: pension	-0.080**	-0.078**	-0.086**	710
Fringe benefits: paid holidays	-0.022	-0.007	-0.010	710
Fringe benefits: flexible hours	-0.025	-0.011	-0.002	710
Fringe benefits: time off for family	-0.032	-0.034	-0.051	710
Fringe benefits: sick pay	-0.053	-0.040	-0.049	710
Fringe benefits: car/van for own use	-0.012	-0.011	-0.018	710
Fringe benefits: crèche/nursery	-0.005	0.002	0.010	710
Fringe benefits: trade union membership	-0.010	-0.008	-0.006	710
Permanent job	-0.005	0.002	-0.011	713
Shift work most of the time	-0.017	-0.018	0.001	714
Usual work pattern during day	-0.003	-0.009	-0.003	714
Working pattern is inconvenient	0.032	0.036	0.035	714
Has formal supervisory responsibilities	0.013	-0.006	-0.003	713
Often/always has unrealistic time pressures at work	-0.006	-0.017	-0.040	712
(Strongly) agrees has some say over how they work	-0.001	-0.008	0.004(h)	711
Job is very/extremely stressful	0.015	0.011	-0.014	713
Likes job a great deal	0.006	0.010	0.037	713
Employer offers training for advancing	0.010	0.010	0.022	649
Any promotions since started work	0.018	0.006	0.006(h)	675
Any opportunities for promotions	0.036	0.029	0.051	654
Had pay rise since week 1/first started job after week 1	0.003	0.009	0.009(h)	672
Took steps to improve work situation/pay	0.050	0.042	0.039(h)	713
Tried to increase hours	0.008	0.010	0.011(h)	713
Tried to get a pay raise	-0.011	-0.010	-0.023	713

Continued

Table C.2 Continued

	RAW	OLS	FILM	N
Tried to negotiate better terms	0.028	0.014	0.003(h)	713
Tried to change work with same employer	0.042	0.034	0.023(h)	713
Tried to get better job with different employer	-0.002	0.019	0.033	713
Took steps to look for other job while in work, since RA	-0.006	0.013	0.026	713
Looked for other job while in work: private recruitment agency	0.028	0.023	0.017	713
Looked for other job while in work: career office, etc	0.021	0.024	0.023	713
Looked for other job while in work: on own	-0.005	0.015	0.030	713
Looked for other job while in work: something else	0.014	0.014	0.020	713
Wants to improve pay and terms	0.008	-0.009	-0.021	712
Very/fairly likely to look for different job next year	-0.002	0.001	-0.021	711
Very/fairly likely to stop working next year	0.009	0.006	0.006	712
Contact with Jobcentre Plus when in work since RA	0.425***	0.438***	0.460***(h)	714
Advice/help from Jobcentre Plus when in work since RA	0.495***	0.489***	0.504***(h)	713
Unprompted help/advice when in work since RA	0.430***	0.422***	0.435***	712
Self-employed	0.015	0.011	0.012	713
Cost of travel to work per week	1.415	1.238	1.764	699
>5 days off work in past four weeks	0.002	0.007	0.009	714
Tenure of main current job	-3.161	-3.069	-8.723	712
Share of two years since RA spent in employment	1.347	1.765	1.089	714
(Very) dissatisfied with life as a whole	-0.010	-0.003	-0.015	714
Very/quite difficult financial situation now	-0.050	-0.042	-0.066	713
Very/quite easy financial situation now	0.003	0.000	0.016	713

Note: * significant at 10%; ** at 5%; *** at 1%;

(h) ERA impact is heterogeneous at least at the 5% level.

Table C.3 WTC subset of employed at year 5 who are also employed at year 2: year 5 outcomes

	RAW	OLS	FILM	N
Hours per week for all current jobs	1.480***	1.267**	1.189**	1,321
Works <=15 hours in all current jobs	-0.022**	-0.022**	-0.016	1,321
Works 16-29 hours in all current jobs	-0.080***	-0.072***	-0.075**	1,321
Works >=30 hours in all current jobs	0.102***	0.094***	0.091***	1,321
Would like to work part-time, <30	-0.032*	-0.017	-0.013	1,303
Would like to work full-time, >=30	0.042*	0.039	0.035(h)	1,303
Hourly wage for main current job	0.004	0.011	0.069	1,314
Weekly earnings for all current jobs	12.367*	11.252*	11.640*	1,313
Education/training while in work in years 3-5	0.034	0.032	0.028(h)	1,322
Education/training while in work since RA	0.098***	0.095***	0.096***(h)	1,323
Has obtained work-related qualifications in years 3-5	0.015	0.015	0.014	1,320
Has obtained work-related qualifications since RA	0.066**	0.071**	0.063**	1,323
Very/fairly likely to do training next year	-0.027	-0.017	-0.017	1,319
Number of desirable non-pecuniary work features	0.018	0.075	0.078	1,229
Fringe benefits: any	0.002	0.005	0.006	1,229
Fringe benefits: number	0.073	0.089	0.113	1,229
Fringe benefits: pension	0.027	0.020	0.021	1,229
Fringe benefits: paid holidays	0.001	0.004	0.006	1,229
Fringe benefits: flexible hours	0.010	0.027	0.026	1,229
Fringe benefits: time off for family	-0.005	0.010	0.012	1,229
Fringe benefits: sick pay	0.042**	0.047**	0.052**	1,229
Fringe benefits: car/van for own use	0.019	0.016	0.018	1,229
Fringe benefits: creche/nursery	-0.029*	-0.028*	-0.029*	1,229
Fringe benefits: trade union membership	0.008	-0.007	0.006(h)	1,229
Permanent job	-0.013	-0.009	-0.011	1,321
Shift work most of the time	0.019	0.012	0.004	1,323
Usual work pattern during day	0.008	0.015	0.007	1,323
Working pattern is inconvenient	0.037*	0.036	0.043*	1,322
Has formal supervisory responsibilities	-0.012	-0.007	-0.003(h)	1,322
Often/always has unrealistic time pressures at work	0.029	0.029	0.026	1,314
(Strongly) agrees has some say over how they work	0.000	0.015	0.002	1,314
Job is very/extremely stressful	0.022	0.019	0.025	1,316
Likes job a great deal/quite a lot	0.015	0.024	0.017	1,317
Employer offers training for advancing	0.029	0.019	0.022(h)	1,298
Any promotions since started work	0.050**	0.056**	0.064**	1,315
Any opportunities for promotions	0.029	0.028	0.030	1,301
Had had a pay rise	-0.004	0.006	-0.004	1,315
Took steps to improve work situation/pay	0.010	0.014	0.015	1,267
Tried to increase hours	0.052*	0.059**	0.058**	1,323

Continued

Table C.3 Continued

	RAW	OLS	FILM	N
Tried to get a pay raise	0.037	0.032	0.032	1,323
Tried to negotiate better terms	0.009	0.019	0.026	1,323
Tried to change work with same employer	-0.010	-0.001	0.001	1,323
Tried to get better job with different employer	0.067***	0.074***	0.066**	1,323
Tried to get new training or qualifications	0.008	0.019	0.017	1,323
Took steps to look for other job while in work, since RA	0.063**	0.069***	0.061**	1,323
Looked for other job while in work: private recruitment agency	0.030**	0.027*	0.021	1,323
Looked for other job while in work: career office, etc	0.032***	0.031***	0.025**	1,323
Looked for other job while in work: on own	0.058**	0.063**	0.055**	1,323
Looked for other job while in work: something else	0.022	0.029*	0.027	1,323
Will want to improve pay and terms at some point	-0.058*	-0.050	-0.050	1,098
Very/fairly likely to stop working next year	-0.005	-0.008	-0.007	1,311
Self-employed	-0.013	-0.012	-0.014	1,323
Cost of travel to work per week	1.368	1.830**	1.806**	1,249
Had days off work other than holidays in past four weeks	0.008	0.008	0.001	1,317
Has not been late to work in the last month	0.010	0.015	0.015	1,317
Share of five years since RA spent in employment	-0.754*	-0.783*	-0.996**	1,002
Share of five years since RA spent in part-time work	-10.421***	-10.072***	-9.634***	1,002
Share of five years since RA spent in full-time work	9.641***	9.277***	8.591***	1,002
(Very) dissatisfied with life as a whole	-0.032	-0.030	-0.030	1,323
Always/often tired/depressed/bad headache	-0.019	-0.007	0.000	979
Child's life is going very well	-0.040	-0.056*	-0.051	979
Spends >2.5h helping child with homework etc	0.044	0.043	0.049*	950
Very/quite difficult financial situation now	0.062**	0.074***	0.073**	1,320
Very/quite easy financial situation now	-0.017	-0.018	-0.014	1,320

Note: * significant at 10%; ** at 5%; *** at 1%;

(h) ERA impact is heterogeneous at least at the 5% level.

Table C.4 WTC subset of employed at year 5 who are also employed at year 2: year 2 outcomes

	RAW	OLS	FILM	N
Hours per week for main current job	1.347***	1.108**	0.888*	1,320
Works <=15 hours in main current job	-0.002	-0.005	-0.004	1,320
Works 16-29 hours in main current job	-0.114***	-0.101***	-0.085***	1,320
Works >=30 hours in main current job	0.116***	0.106***	0.089***	1,320
Hours per week for all current jobs	1.629***	1.280***	1.028**	1,320
Works <=15 hours in all current jobs	-0.001	-0.001	0.001	1,320
Works 16-29 hours in all current jobs	-0.140***	-0.125***	-0.110***	1,320
Works >=30 hours in all current jobs	0.142***	0.126***	0.109***	1,320
Likely to look for different job next year and work part-time, <30	-0.015	-0.007	-0.007	1,294
Likely to look for different job next year and work full-time, >=30	0.056**	0.054**	0.044*	1,294
Hourly wage for main current job	0.005	0.190	0.295	1,169
Weekly earnings for all current jobs	10.106	9.037	8.976	1,166
Education/training while in work since RA	0.124***	0.127***	0.123***	1,322
Has obtained work-related qualifications since RA	0.049*	0.058**	0.049*(h)	1,323
Very/fairly likely to do training next year	0.088***	0.089***	0.087***	1,312
Number of desirable non-pecuniary work features	0.197	0.147	0.149	1,323
Fringe benefits: any	0.026*	0.029**	0.031**	1,323
Fringe benefits: number	0.141	0.109	0.125(h)	1,323
Fringe benefits: pension	0.020	0.010	0.019(h)	1,323
Fringe benefits: paid holidays	0.027	0.030*	0.028	1,323
Fringe benefits: flexible hours	0.011	0.013	0.012	1,323
Fringe benefits: time off for family	0.036	0.035	0.034	1,323
Fringe benefits: sick pay	0.048**	0.045**	0.043*(h)	1,323
Fringe benefits: car/van for own use	0.005	0.005	0.007	1,323
Fringe benefits: creche/nursery	-0.008	-0.007	-0.007	1,323
Fringe benefits: trade union membership	0.003	-0.021	-0.011(h)	1,323
Permanent job	-0.002	-0.002	-0.005	1,323
Shift work most of the time	-0.018	-0.024	-0.025	1,323
Usual work pattern during day	0.001	0.002	0.000	1,323
Working pattern is inconvenient	-0.016	-0.011	-0.016	1,322
Has formal supervisory responsibilities	-0.014	-0.013	-0.019	1,323
Often/always has unrealistic time pressures at work	-0.013	-0.010	-0.016	1,319
(Strongly) agrees has some say over how they work	0.003	0.003	-0.006	1,321
Job is very/extremely stressful	0.035*	0.035*	0.035	1,320
Likes job a great deal	0.012	0.005	0.007(h)	1,322
Employer offers training for advancing	0.000	-0.006	-0.006	1,209
Any promotions since started work	0.017	0.019	0.014	1,241

Continued

Table C.4 Continued

	RAW	OLS	FILM	N
Any opportunities for promotions	0.035	0.030	0.027	1,215
Had pay rise since week 1/first started job after week 1	-0.034	-0.042*	-0.036	1,238
Took steps to improve work situation/pay	0.032	0.028	0.020	1,323
Tried to increase hours	0.091***	0.082***	0.067**	1,323
Tried to get a pay raise	0.013	0.007	0.003	1,323
Tried to negotiate better terms	0.001	0.012	0.016	1,323
Tried to change work with same employer	0.018	0.018	0.006(h)	1,322
Tried to get better job with different employer	0.034	0.041	0.032	1,322
Took steps to look for other job while in work, since RA	0.039	0.047*	0.039	1,322
Looked for other job while in work: private recruitment agency	0.032**	0.032**	0.029**	1,322
Looked for other job while in work: career office, etc	0.045***	0.047***	0.047***	1,321
Looked for other job while in work: on own	0.037	0.045	0.036	1,322
Looked for other job while in work: something else	0.025	0.029*	0.024	1,321
Wants to improve pay and terms	0.066**	0.070**	0.072**	1,314
Very/fairly likely to look for different job next year	0.050*	0.056**	0.048*	1,312
Very/fairly likely to stop working next year	0.004	0.005	0.006	1,313
Contact with Jobcentre Plus when in work since RA	0.674***	0.674***	0.667***(h)	1,323
Advice/help from Jobcentre Plus when in work since RA	0.748***	0.751***	0.743***(h)	1,323
Unprompted help/advice when in work since RA	0.672***	0.673***	0.666***(h)	1,320
Self-employed	-0.021	-0.022	-0.022	1,323
Cost of travel to work per week	1.279*	1.644**	1.531**	1,280
>5 days off work in past four weeks	0.013	0.016	0.016	1,323
Tenure of main current job	4.081	1.731	2.890	1,319
Share of two years since RA spent in employment	-0.432	-0.203	-0.396	1,315
(Very) dissatisfied with life as a whole	-0.014	-0.012	-0.011	1,320
Very/quite difficult financial situation now	0.004	0.012	0.001	1,320
Very/quite easy financial situation now	-0.006	-0.012	-0.007	1,320

Note: * significant at 10%; ** at 5%; *** at 1%;

(h) ERA impact is heterogeneous at least at the 5% level.

Appendix D
ERA impacts on lone parent workers' outcomes

Table D.1 NDLP employed at year 5: ERA impacts on year 5 outcomes

	RAW	OLS	Marg. Effect	FILM	N
Hours per week for main current job	1.003	0.868		0.704	1,054
Works <=15 hours in main current job	-0.027	-0.028	-0.022	-0.027	1,054
Works 16-29 hours in main current job	0.016	0.024	0.028	0.031	1,054
Works >=30 hours in main current job	0.011	0.004	-0.001	-0.004	1,054
Hours per week for all current jobs	0.908	0.735		0.587	1,054
Works <=15 hours in all current jobs	-0.017	-0.016	-0.011	-0.013	1,054
Works 16-29 hours in all current jobs	0.003	0.007	0.008	0.012	1,054
Works >=30 hours in all current jobs	0.014	0.009	0.005	0.002	1,054
Would like to work part-time, <30	-0.012	-0.015	-0.017	-0.015	1,034
Would like to work full-time, >=30	0.041	0.037	0.043	0.038	1,034
Hourly wage for main current job	0.238	0.255		0.214	1,043
Weekly earnings for all current jobs	13.094	11.007		8.976	1,040
Education/training while in work in years 3-5	-0.018	-0.027	-0.027	-0.028(h)	959
Education/training while in work since RA	0.044	0.015	0.016	0.018	1,056
Has obtained work-related qualifications in years 3-5	0.019	0.012	0.012	0.019	1,056
Has obtained work-related qualifications since RA	0.029	0.019	0.022	0.026	1,056
Very/fairly likely to do training next year	0.009	0.013	0.008	0.012	1,050
Number of desirable non-pecuniary work features	-0.205	-0.174		-0.172(h)	969
Fringe benefits: any	0.010	0.008	0.001	0.007	969
Fringe benefits: number	-0.141	-0.163		-0.169(h)	969
Fringe benefits: pension	-0.038	-0.036	-0.041	-0.044	969
Fringe benefits: paid holidays	0.008	0.009	0.008	0.004	969
Fringe benefits: flexible hours	-0.029	-0.039	-0.043	-0.038	969
Fringe benefits: time off for family	-0.048	-0.044	-0.044	-0.055*(h)	969
Fringe benefits: sick pay	-0.006	-0.009	-0.018	-0.003	969
Fringe benefits: car/van for own use	-0.027**	-0.031**	-0.013***	-0.035***	969
Fringe benefits: crèche/nursery	0.013	0.012	0.010	0.014	969
Fringe benefits: trade union membership	-0.015	-0.024	-0.018	-0.011(h)	969

Continued

Table D.1 Continued

	RAW	OLS	Marg. Effect	FILM	N
Permanent job	0.011	0.014	0.012	0.021	1,056
Shift work most of the time	0.026	0.020	0.020	0.035(h)	1,056
Usual work pattern during day	0.004	0.003	0.002	0.003	1,056
Working pattern is inconvenient	0.015	0.005	0.005	0.011(h)	1,054
Has formal supervisory responsibilities	-0.005	-0.016	-0.013	0.002(h)	1,056
Often/always has unrealistic time pressures at work	-0.003	-0.008	-0.011	-0.008	1,043
(Strongly) agrees has some say over how they work	-0.009	-0.003	-0.010	0.001	1,044
Job is very/extremely stressful	0.014	0.005	0.002	0.006	1,044
Likes job a great deal/quite a lot	0.013	0.016	0.013	0.019	1,039
Employer offers training for advancing	0.006	0.005	0.002	0.000	1,034
Any promotions since started work	-0.020	-0.027	-0.039	-0.021	1,046
Any opportunities for promotions	0.006	0.006	0.003	0.005(h)	1,036
Had had a pay rise	-0.002	-0.020	-0.018	-0.007	1,046
Took steps to improve work situation/pay	-0.015	-0.018	-0.018	-0.024(h)	1,007
Tried to increase hours	-0.042	-0.038	-0.035	-0.020	1,055
Tried to get a pay raise	0.044	0.040	0.042	0.047	1,055
Tried to negotiate better terms	-0.026	-0.027	-0.033	-0.017(h)	1,055
Tried to change work with same employer	-0.009	-0.021	-0.020	-0.029(h)	1,055
Tried to get better job with different employer	0.030	0.016	0.013	0.011	1,055
Tried to get new training or qualifications	0.020	0.015	0.019	0.027	1,055
Took steps to look for other job while in work, since RA	0.037	0.022	0.019	0.017(h)	1,056
Looked for other job while in work: private recruitment agency	0.015	0.006	0.010	0.003	1,055
Looked for other job while in work: career office, etc	0.003	0.000	-0.003	-0.004	1,055
Looked for other job while in work: on own	0.040	0.028	0.025	0.022	1,055
Looked for other job while in work: something else	0.017	0.014	0.012	0.018	1,055
Will want to improve pay and terms at some point	-0.026	-0.031	-0.031	-0.056(h)	897
Very/fairly likely to stop working next year	0.000	0.001	0.000	0.004	1,038
Self-employed	0.004	0.005	0.005	-0.001	1,056
Cost of travel to work per week	2.525**	2.341**		2.210**	1,000
Had days off work other than holidays in past four weeks	-0.020	-0.010	-0.016	-0.009	1,042
Has not been late to work in the last month	-0.007	-0.015	-0.010	-0.007	1,040
Share of five years since RA spent in employment	1.084	0.911		1.795	939

Continued

Table D.1 Continued

	RAW	OLS	Marg. Effect	FILM	N
Share of five years since RA spent in part-time work	-5.201**	-4.387*		-3.645	939
Share of five years since RA spent in full-time work	6.345***	5.319**		5.452**	939
(Very) dissatisfied with life as a whole	-0.062**	-0.058**	-0.060**	-0.054*	1,055
Always/often tired/depressed/bad headache	0.025	0.014	0.019	0.023	785
Child's life is going very well	-0.048	-0.048	-0.051	-0.048	784
Spends >2.5h helping child with homework, etc	-0.051	-0.051	-0.048	-0.041(h)	765
Very/quite difficult financial situation now	0.003	0.016	0.027	0.023	1,055
Very/quite easy financial situation now	-0.013	-0.013	-0.013	-0.021	1,055

Notes: * significant at 10%; ** at 5%; *** at 1%; (h) ERA impact is heterogeneous at least at the 5% level.

Table D.2 NDLP employed at year 2: ERA impacts on year 2 outcomes

	RAW	OLS	Marg. Effect	FILM	N
Hours per week for main current job	1.611***	1.355**		1.706***	1,236
Works <=15 hours in main current job	-0.009	-0.008	-0.005	-0.019	1,236
Works 16-29 hours in main current job	-0.086***	-0.076***	-0.087***	-0.080***(h)	1,236
Works >=30 hours in main current job	0.095***	0.084***	0.098***	0.099***	1,236
Hours per week for all current jobs	1.651***	1.373**		1.753***	1,236
Works <=15 hours in all current jobs	-0.015	-0.013	-0.011	-0.023	1,236
Works 16-29 hours in all current jobs	-0.086***	-0.076***	-0.088***	-0.082***(h)	1,236
Works >=30 hours in all current jobs	0.101***	0.089***	0.104***	0.105***	1,236
Likely to look for different job next year and work part-time, <30	-0.056***	-0.064***	-0.064***	-0.055**	1,202
Likely to look for different job next year and work full-time, >=30	0.041	0.044*	0.047*	0.030	1,202
Hourly wage for main current job	0.019	-0.181		-0.085	1,079
Weekly earnings for all current jobs	16.874**	8.167		13.319*	1,076
Education/training while in work since RA	0.062**	0.057**	0.066**	0.061**	1,241
Has obtained work-related qualifications since RA	0.032	0.030	0.032	0.024(h)	1,245
Very/fairly likely to do training next year	0.079***	0.077***	0.083***	0.085***	1,238
Number of desirable non-pecuniary work features	-0.150	-0.106		-0.059	1,245
Fringe benefits: any	0.002	0.007	0.004	0.007	1,245
Fringe benefits: number	-0.086	-0.070		-0.056	1,245
Fringe benefits: pension	-0.018	-0.018	-0.019	-0.014	1,239
Fringe benefits: paid holidays	-0.005	0.003	0.006	0.005	1,239
Fringe benefits: flexible hours	-0.042	-0.040	-0.041	-0.036	1,239

Continued

Table D.2 Continued

	RAW	OLS	Marg. Effect	FILM	N
Fringe benefits: time off for family	-0.021	-0.015	-0.018	-0.021	1,239
Fringe benefits: sick pay	-0.015	-0.013	-0.012	-0.014	1,239
Fringe benefits: car/van for own use	-0.012	-0.008	-0.001	-0.009	1,239
Fringe benefits: crèche/nursery	-0.011	-0.015	-0.011	-0.008	1,239
Fringe benefits: trade union membership	0.012	0.003	0.004	0.006	1,239
Permanent job	-0.003	-0.001	0.003	-0.011	1,243
Shift work most of the time	0.001	0.002	0.002	0.010	1,245
Usual work pattern during day	0.010	0.011	0.010	0.017	1,245
Working pattern is inconvenient	0.008	0.001	0.000	-0.002	1,242
Has formal supervisory responsibilities	0.013	0.004	0.005	0.003	1,243
Often/always has unrealistic time pressures at work	0.011	0.003	0.004	-0.001	1,241
(Strongly) agrees has some say over how they work	-0.017	-0.008	-0.009	-0.005	1,239
Job is very/extremely stressful	0.023	0.021	0.023	0.013	1,242
Likes job a great deal	-0.008	-0.000	0.000	0.020	1,243
Employer offers training for advancing	-0.009	-0.012	-0.013	-0.007	1,148
Any promotions since started work	0.009	0.001	0.002	-0.001	1,185
Any opportunities for promotions	0.021	0.017	0.019	0.020	1,156
Had pay rise since week 1/first started job after week 1	-0.028	-0.029	-0.031	-0.027	1,180
Took steps to improve work situation/pay	0.034	0.024	0.026	0.030	1,244
Tried to increase hours	0.009	0.014	0.015	0.012	1,244
Tried to get a pay raise	-0.008	-0.020	-0.024	-0.018	1,244
Tried to negotiate better terms	0.017	0.004	0.004	0.006	1,244
Tried to change work with same employer	0.037	0.027	0.030	0.024	1,244
Tried to get better job with different employer	0.012	0.014	0.016	0.019	1,244
Took steps to look for other job while in work, since RA	0.006	0.008	0.010	0.014	1,244
Looked for other job while in work: private recruitment agency	0.011	0.002	0.005	0.009	1,244
Looked for other job while in work: career office, etc	0.021	0.021*	0.010	0.021	1,244
Looked for other job while in work: on own	0.005	0.009	0.010	0.015	1,244
Looked for other job while in work: something else	0.027*	0.022	0.018	0.025	1,244
Wants to improve pay and terms	0.039	0.027	0.030	0.023	1,239
Very/fairly likely to look for different job next year	-0.010	-0.017	-0.019	-0.023	1,236
Very/fairly likely to stop working next year	0.006	0.007	0.001	0.004	1,234

Continued

Table D.2 Continued

	RAW	OLS	Marg. Effect	FILM	N
Contact with Jobcentre Plus when in work since RA	0.412***	0.412***	0.431***	0.422***(h)	1,245
Advice/help from Jobcentre Plus when in work since RA	0.488***	0.479***	0.526***	0.493***(h)	1,243
Unprompted help/advice when in work since RA	0.430***	0.418***	0.453***	0.428***(h)	1,241
Self-employed	0.018	0.010	0.001	0.012	1,244
Cost of travel to work per week	1.384*	0.957		1.272*	1,222
>5 days off work in past four weeks	-0.006	-0.009	-0.010	-0.003	1,245
Tenure of main current job	5.933	4.813		1.553	1,238
Share of two years since RA spent in employment	2.861*	2.488*		2.236(h)	1,245
(Very) dissatisfied with life as a whole	-0.017	-0.018	-0.021	-0.021	1,241
Very/quite difficult financial situation now	-0.024	-0.025	-0.028	-0.036	1,240
Very/quite easy financial situation now	-0.003	-0.005	-0.004	-0.002	1,240

Notes: * significant at 10%; ** at 5%; *** at 1%; (h) ERA impact is heterogeneous at least at the 5% level.

Table D.3 NDLP employed at years 1 and 2: ERA impacts on change in outcomes between year 1 and year 2 (year 2 survey respondents)

	RAW	OLS	FILM	N
Growth rate: Hours/week, main job	-0.046	-0.049	-0.066	941
Growth rate: Hours/week, all jobs	-0.033	-0.036	-0.044	941
Growth rate: Hourly wage, main job	-0.027	-0.022	-0.012	798
Increase in number fringe benefits	-0.030	-0.020	-0.021	950
Any improvement in non-pecuniary work/ life conditions	0.001	0.010	0.015	950

Table D.4 NDLP employed at years 1 and 3: ERA impacts on change in outcomes between year 1 and year 5 (year 5 survey respondents)

	RAW	OLS	FILM	N
Growth rate: Hours/week, all jobs	-0.123	-0.111	-0.145	659
Growth rate: Hourly wage, main job	0.028	0.029	0.024	588
Increase in number fringe benefits	-0.009	-0.034	0.000	615
Any improvement in non-pecuniary work/ life conditions	0.003	0.005	0.013(h)	660

Notes: (h) ERA impact is heterogeneous at least at the 5% level.

Table D.5 WTC employed at year 5: ERA impacts on year 5 outcomes

	RAW	OLS	Marg. Effect	FILM	N
Hours per week for main current job	1.204**	1.154**		0.880*	1,542
Works <=15 hours in main current job	-0.022**	-0.026**	-0.015**	-0.018*	1,542
Works 16-29 hours in main current job	-0.061**	-0.057**	-0.061**	-0.055**	1,542
Works >=30 hours in main current job	0.082***	0.083***	0.089***	0.073***	1,542
Hours per week for all current jobs	1.259**	1.123**		0.918*	1,542
Works <=15 hours in all current jobs	-0.017*	-0.018**	-0.009**	-0.012	1,542
Works 16-29 hours in all current jobs	-0.063**	-0.059**	-0.063**	-0.059**	1,542
Works >=30 hours in all current jobs	0.080***	0.077***	0.082***	0.071***	1,542
Would like to work part-time, <30	-0.023	-0.014	-0.015	-0.006	1,524
Would like to work full-time, >=30	0.035	0.036	0.040*	0.031	1,524
Hourly wage for main current job	-0.038	-0.031		0.020	1,526
Weekly earnings for all current jobs	10.230	9.283		8.695	1,524
Education/training while in work in years 3-5	0.030	0.028	0.030	0.023(h)	1,396
Education/training while in work since RA	0.097***	0.093***	0.099***	0.095***(h)	1,544
Has obtained work-related qualifications in years 3-5	0.015	0.019	0.020	0.017	1,541
Has obtained work-related qualifications since RA	0.057**	0.064**	0.068**	0.058**	1,544
Very/fairly likely to do training next year	-0.023	-0.012	-0.013	-0.013	1,537
Number of desirable non-pecuniary work features	0.073	0.107		0.078	1,433
Fringe benefits: any	0.005	0.006	0.000	0.007	1,433
Fringe benefits: number	0.117	0.117		0.130	1,433
Fringe benefits: pension	0.033	0.025	0.025	0.025	1,433
Fringe benefits: paid holidays	0.003	0.005	0.003	0.007	1,433
Fringe benefits: flexible hours	0.003	0.016	0.017	0.013	1,433
Fringe benefits: time off for family	0.004	0.016	0.015	0.015(h)	1,433
Fringe benefits: sick pay	0.045**	0.047**	0.044**	0.050**	1,433
Fringe benefits: car/van for own use	0.018	0.016	0.011	0.016	1,433
Fringe benefits: crèche/nursery	-0.022	-0.023	-0.016	-0.023	1,433
Fringe benefits: trade union membership	0.032	0.016	0.018	0.027(h)	1,433
Permanent job	-0.006	-0.004	-0.002	-0.009	1,542
Shift work most of the time	0.018	0.015	0.016	0.007	1,544
Usual work pattern during day	-0.002	0.004	0.004	-0.004	1,544
Working pattern is inconvenient	0.036*	0.030	0.031	0.037*	1,542
Has formal supervisory responsibilities	-0.012	-0.010	-0.005	-0.010(h)	1,543
Often/always has unrealistic time pressures at work	0.029	0.030	0.019	0.025	1,535

Continued

Table D.5 Continued

	RAW	OLS	Marg. Effect	FILM	N
(Strongly) agrees has some say over how they work	0.018	0.030	0.029	0.019	1,535
Job is very/extremely stressful	0.014	0.013	0.030	0.016	1,537
Likes job a great deal/quite a lot	0.006	0.015	0.015	0.011	1,538
Employer offers training for advancing	0.027	0.019		0.011	1,519
Any promotions since started work	0.031	0.035	0.039	0.034	1,536
Any opportunities for promotions	0.024	0.024	0.026	0.014	1,522
Had had a pay rise	-0.012	-0.005	0.000	-0.012	1,536
Took steps to improve work situation/pay	0.020	0.026	0.027	0.026	1,477
Tried to increase hours	0.051**	0.053**	0.056**	0.054**	1,544
Tried to get a pay raise	0.042*	0.035	0.035	0.037	1,544
Tried to negotiate better terms	0.013	0.017	0.019	0.024	1,544
Tried to change work with same employer	-0.006	0.000	0.003	0.002	1,544
Tried to get better job with different employer	0.070***	0.077***	0.081***	0.070***	1,544
Tried to get new training or qualifications	0.021	0.033	0.034	0.030	1,544
Took steps to look for other job while in work, since RA	0.063***	0.068***	0.072***	0.063***	1,544
Looked for other job while in work: private recruitment agency	0.024*	0.023*	0.017	0.018	1,544
Looked for other job while in work: career office, etc	0.023**	0.021**	0.011**	0.019*	1,544
Looked for other job while in work: on own	0.059***	0.064***	0.068***	0.058**	1,544
Looked for other job while in work: something else	0.024	0.031**	0.028**	0.027*	1,544
Will want to improve pay and terms at some point	-0.043	-0.037	-0.038	-0.044	1,279
Very/fairly likely to stop working next year	-0.011	-0.012	-0.009	-0.012	1,531
Self-employed	-0.004	-0.004	-0.006	-0.003	1,544
Cost of travel to work per week	0.894	1.153		1.182	1,464
Had days off work other than holidays in past four weeks	0.009	0.009	0.008	0.002	1,538
Has not been late to work in the last month	0.013	0.019	0.013	0.021	1,538
Share of five years since RA spent in employment	-0.535	-0.421		-0.830	1,064
Share of five years since RA spent in part-time work	-9.458***	-9.224***		-8.300***	1,064
Share of five years since RA spent in full-time work	8.932***	8.836***		7.472***	1,064

Continued

Table D.5 Continued

	RAW	OLS	Marg. Effect	FILM	N
(Very) dissatisfied with life as a whole	-0.034	-0.031	-0.032	-0.028	1,544
Always/often tired/depressed/bad headache	-0.009	0.003	0.004	0.009	1,144
Child's life is going very well	-0.034	-0.048*	-0.052*	-0.049	1,144
Spends >2.5h helping child with homework, etc	0.047*	0.048*	0.048*	0.057**	1,112
Very/quite difficult financial situation now	0.048*	0.055**	0.059**	0.055**	1,541
Very/quite easy financial situation now	-0.004	-0.007	-0.008	-0.006	1,541

Notes: * significant at 10%; ** at 5%; *** at 1%; (h) ERA impact is heterogeneous at least at the 5% level.

Table D.6 WTC employed at year 2: ERA impacts on year 2 outcomes

	RAW	OLS	Marg. Effect	FILM	N
Hours per week for main current job	1.614***	1.411***		1.248***	1,889
Works <=15 hours in main current job	-0.009	-0.008	-0.006	-0.005	1,889
Works 16-29 hours in main current job	-0.115***	-0.110***	-0.118***	-0.104***	1,889
Works >=30 hours in main current job	0.124***	0.118***	0.126***	0.109***	1,889
Hours per week for all current jobs	1.924***	1.656***		1.501***	1,889
Works <=15 hours in all current jobs	-0.010	-0.008	-0.005	-0.005	1,889
Works 16-29 hours in all current jobs	-0.137***	-0.127***	-0.136***	-0.123***	1,889
Works >=30 hours in all current jobs	0.146***	0.135***	0.145***	0.128***	1,889
Likely to look for different job next year and work part-time, <30	-0.027*	-0.023	-0.025	-0.022	1,843
Likely to look for different job next year and work full-time, >=30	0.064***	0.063***	0.064***	0.061***	1,843
Hourly wage for main current job	-0.368	-0.372		-0.440	1,638
Weekly earnings for all current jobs	10.093*	8.262		7.223	1,635
Education/training while in work since RA	0.135***	0.135***	0.144***	0.125***	1,893
Has obtained work-related qualifications since RA	0.048**	0.058***	0.061***	0.050**(h)	1,895
Very/fairly likely to do training next year	0.070***	0.068***	0.072***	0.073***	1,882
Number of desirable non-pecuniary work features	0.166	0.133		0.117	1,895
Fringe benefits: any	0.020	0.020	0.019*	0.022*	1,895
Fringe benefits: number	0.151*	0.126		0.122(h)	1,895
Fringe benefits: pension	0.017	0.011	0.012	0.013(h)	1,895
Fringe benefits: paid holidays	0.026*	0.026*	0.026*	0.026*	1,895
Fringe benefits: flexible hours	0.028	0.031	0.033	0.026	1,895
Fringe benefits: time off for family	0.016	0.014	0.014	0.014	1,895
Fringe benefits: sick pay	0.038*	0.033*	0.034*	0.030	1,895

Continued

Table D.6 Continued

	RAW	OLS	Marg. Effect	FILM	N
Fringe benefits: car/van for own use	0.005	0.005	0.005	0.007	1,895
Fringe benefits: creche/nursery	0.001	0.001	0.001	-0.002	1,895
Fringe benefits: trade union membership	0.019	0.004	0.005	0.009(h)	1,895
Permanent job	-0.007	-0.007	-0.006	-0.011	1,895
Shift work most of the time	-0.006	-0.011	-0.015	-0.009(h)	1,895
Usual work pattern during day	0.016	0.017*	0.014*	0.018*	1,895
Working pattern is inconvenient	0.013	0.014	0.015	0.015	1,893
Has formal supervisory responsibilities	-0.005	-0.009	-0.008	-0.014	1,895
Often/always has unrealistic time pressures at work	-0.013	-0.013	-0.014	-0.020	1,891
(Strongly) agrees has some say over how they work	-0.023	-0.023	-0.021	-0.028	1,893
Job is very/extremely stressful	0.032*	0.031*	0.033*	0.036**	1,892
Likes job a great deal	0.003	0.004	0.004	-0.000	1,894
Employer offers training for advancing	0.012	0.006	0.007	0.009	1,731
Any promotions since started work	0.021	0.022	0.023	0.021	1,775
Any opportunities for promotions	0.045*	0.040	0.042*	0.042*	1,739
Had pay rise since week 1/first started job after week 1	-0.009	-0.015	-0.016	-0.011	1,770
Took steps to improve work situation/pay	0.040**	0.042**	0.042**	0.041**	1,895
Tried to increase hours	0.104***	0.103***	0.108***	0.097***(h)	1,895
Tried to get a pay raise	0.008	0.003	0.006	-0.004	1,895
Tried to negotiate better terms	0.018	0.028	0.029	0.030	1,895
Tried to change work with same employer	0.005	0.003	0.003	-0.003	1,894
Tried to get better job with different employer	0.045**	0.059***	0.062***	0.057**	1,894
Took steps to look for other job while in work, since RA	0.049**	0.063***	0.066***	0.061***	1,894
Looked for other job while in work: private recruitment agency	0.027**	0.029***	0.024***	0.028**	1,894
Looked for other job while in work: career office, etc	0.032***	0.038***	0.028***	0.037***	1,893
Looked for other job while in work: on own	0.046**	0.060***	0.063***	0.058***	1,894
Looked for other job while in work: something else	0.013	0.018	0.017	0.017	1,893
Wants to improve pay and terms	0.026	0.027	0.029	0.034	1,881
Very/fairly likely to look for different job next year	0.040*	0.044*	0.046*	0.044*	1,874
Very/fairly likely to stop working next year	-0.003	-0.001	0.000	-0.000	1,882

Continued

Table D.6 Continued

	RAW	OLS	Marg. Effect	FILM	N
Contact with Jobcentre Plus when in work since RA	0.642***	0.643***	0.684***	0.635***(h)	1,895
Advice/help from Jobcentre Plus when in work since RA	0.710***	0.714***	0.748***	0.705***(h)	1,894
Unprompted help/advice when in work since RA	0.640***	0.644***	0.668***	0.636***(h)	1,890
Self-employed	-0.014	-0.014	-0.012	-0.015	1,895
Cost of travel to work per week	1.025	1.346**		1.253*	1,827
>5 days off work in past four weeks	0.004	0.002	0.003	0.000	1,895
Tenure of main current job	-8.490	-14.539**		-14.644**	1,888
Share of two years since RA spent in employment	0.404	0.374		0.321	1,883
(Very) dissatisfied with life as a whole	-0.018	-0.020	-0.019	-0.016	1,891
Very/quite difficult financial situation now	0.006	0.009	0.01	0.005	1,888
Very/quite easy financial situation now	-0.001	-0.001	-0.001	0.003	1,888

Notes: * significant at 10%; ** at 5%; *** at 1%; (h) ERA impact is heterogeneous at least at the 5% level.

Table D.7 WTC employed at year 2: ERA impacts on change in outcomes between RA and year 2 (year 2 survey respondents)

	RAW	OLS	FILM	N
Growth rate: Hours/week, main job	0.085***	0.088***	0.076***(h)	1,734
Growth rate: Hours/week, all jobs	0.110***	0.108***	0.096***	1,734
Growth rate: Hourly wage, main job	0.001	0.001	0.000	1,350

Notes: *** at 1%; (h) ERA impact is heterogeneous at least at the 5% level.

Table D.8 WTC employed at year 5: ERA impacts on change in outcomes between RA and year 5 (year 5 survey respondents)

	RAW	OLS	FILM	N
Growth rate: Hours/week, main job	0.036	0.039	0.027	1,270
Growth rate: Hours/week, all jobs	0.034	0.039	0.026	1,270
Growth rate: Hourly wage, main job	0.003	0.001	0.006	1,054

Appendix E
Lone parent groups: Balancing and impacts at the district and subgroup levels

Table E.1 NDLP employed at Wave 3: balancing within subgroups

	% ERA group	R2	p-val	Median bias	N
By district					
Scotland	49	0.233	0.655	10.5	170
North East England	51	0.153	0.874	5.6	218
North West England	52	0.291	0.130	10.1	176
Wales	57	0.512	0.012	20.5	126
East Midlands	52	0.306	0.029	8.7	197
London	50	0.393	0.004	16.8	169
All	51	0.042	0.663	3.0	1,056
By ethnicity					
White	51	0.045	0.751	3.5	936
Non-white	54	1.000	0.000	8.3	120
By education					
Level 0-2	52	0.054	0.692	4.8	792
Level ≥3	50	0.153	0.798	6.4	264
By child's age					
Other	50	0.049	0.746	3.1	874
≥5 and <7	59	0.283	0.234	7.3	162
By severely disadvantaged status, i.e. with GCSE qualifications or lower, no work in the three years prior to RA and at least one barrier to employment					
Not severely disadvantaged	51	0.053	0.422	3.8	931
Severely disadvantaged	58	0.469	0.015	2.8	125

Table E.2 NDLP – ERA impacts on workers at year 5: by district

	All	Scotland	North East England	North West England	Wales	East Midlands	London
Works <=15 hours in all current jobs	-0.028	-0.038	-0.017	-0.042	0.072	-0.020	-0.098*
Works 16-29 hours in all current jobs	0.007	0.028	0.048	0.102	0.062	0.003	-0.091
Works >=30 hours in all current jobs	0.009	0.023	-0.053	-0.080	-0.126	-0.034	0.184*
Would like to work full-time, >=30	0.037	0.050	-0.042	0.060	0.063	-0.031	0.174*
Hourly wage for main current job	0.255	0.580	0.330	0.580	2.532*	-0.327	-1.025 (dd)
Weekly earnings for all current jobs	11.007	27.107	3.028	18.018	-1.917	-9.518	1.240
Education/training while in work in years 3-5	-0.027	0.041 (dd)	0.227*** (dd)	0.024	-0.342** (ddd)	0.017	-0.074
Education/training while in work since RA	0.015	0.102 (d)	0.215*** (dd)	-0.009	-0.103 (dd)	-0.040	-0.155* (dd)
Has obtained work-related qualifications in years 3-5	0.012	-0.107	0.090	0.130	-0.030	0.097	-0.083
Has obtained work-related qualifications since RA	0.019	-0.057	0.175**	0.045	-0.012	0.139	-0.144
Very/fairly likely to do training next year	0.013	0.025	-0.033	0.192** (dd)	-0.122	0.016	-0.064
Fringe benefits: any	0.008	0.020	-0.034	0.043* (d)	-0.010	-0.006	0.031
Fringe benefits: number	-0.163	0.132	-0.367	0.129 (dd)	-0.570	-0.188	-0.901** (dd)
Took steps to improve work situation/pay	-0.018	0.051	-0.073 (d)	0.028	0.028	-0.016	-0.084
Tried to increase hours	-0.038	-0.046	-0.145* (d)	-0.115	0.084	-0.005	0.025
Tried to get a pay raise	0.040	0.010	0.068	0.022	0.102	0.015	0.036
Tried to get better job with different employer	0.016	0.058	0.001	0.000	0.245**	-0.047	-0.147*
Took steps to look for other job while in work, since	0.022	0.062	0.023	-0.003	0.264**	-0.037	-0.146*

Continued

Table E.2 Continued

	All	Scotland	North East England	North West England	Wales	East Midlands	London
Will want to improve pay and terms at some point	-0.031	0.024	-0.011	0.060 (d)	-0.082 (d)	-0.104	-0.109
Cost of travel to work per week	2.341**	2.058	1.653	1.749	-0.739	0.083	11.826**
Share of five years since RA spent in employment	0.911	5.145	3.657	-0.450	-4.406	0.308	-2.289
Share of five years since RA spent in part-time work	-4.387*	-3.526	2.399	-5.086	0.694	3.294	-11.927
Share of five years since RA spent in full-time work	5.319**	8.515	1.445	4.423	-4.870	-2.692	9.023
(Very) dissatisfied with life as a whole	-0.058**	-0.095	-0.117	0.001	0.023	-0.067	-0.136 (d)
Child's life is going very well	-0.048	0.000	0.072	-0.221*	0.031	-0.141	0.196*
Very/quite difficult financial situation now	0.016	-0.063	0.031	-0.015	0.164	0.041	0.097

Notes: Impact significant at the 10% (*), 5% (**) and 1% (***) level as estimated by simple OLS regression on the individual subgroup, controlling for X.

Impact for the subgroup is statistically different from the rest at the 10% (d), 5% (dd) and 1% (ddd) level, based on the significance of the coefficient on the (subgroup)*(ERA group) interaction term in the pooled OLS regression, controlling for X.

Table E.3 NDLP – ERA impacts on workers at year 5: by education, child's age and severely disadvantaged status

	All	Low education	High education	Child aged (5, 7)	Other age	Not severely disadvantaged	Severely disadvantaged
Works <=15 hours in all current jobs	-0.028	-0.025	0.003	-0.066	-0.014	-0.007	-0.024 (dd)
Works 16-29 hours in all current jobs	0.007	0.024	-0.011	0.039 (dd)	-0.015	-0.009	0.125
Works >=30 hours in all current jobs	0.009	0.001	0.008	0.027 (ddd)	0.029	0.016	-0.101
Would like to work full-time, >=30	0.037	0.015	0.143**	0.093	0.036	0.047	0.029
Hourly wage for main current job	0.255	-0.094	0.987 (d)	0.343	0.157	0.113	1.647
Weekly earnings for all current jobs	11.007	3.124	26.052	18.343 (d)	9.408	7.461	10.875
Education/training while in work in years 3-5	-0.027	-0.017	-0.038	0.012	-0.033	-0.044	0.092 (d)
Education/training while in work since RA	0.015	0.032	-0.010	0.079	0.011	-0.004	0.223** (dd)
Has obtained work-related qualifications in years 3-5	0.012	0.026	-0.016	0.034	0.003	0.008	0.038
Has obtained work-related qualifications since RA	0.019	0.030	-0.029	0.017	0.017	0.004	0.092(d)
Very/fairly likely to do training next year	0.013	0.006	0.036	-0.017	0.018	0.013	0.029
Fringe benefits: any	0.008	0.003	0.038	0.024	0.003	0.008	-0.033
Fringe benefits: number	-0.163	-0.130	-0.358	0.059	-0.145	-0.203*	-0.627
Took steps to improve work situation/pay	-0.018	-0.046	0.033	0.039	-0.003	-0.001	-0.203*
Tried to increase hours	-0.038	-0.060*	0.023	-0.044	-0.023	-0.029	-0.205*
Tried to get a pay raise	0.040	0.028	0.080	-0.026	0.051	0.055*	-0.026
Tried to get better job with different employer	0.016	0.013	0.049	0.100	0.005	0.036	-0.151

Continued

Table E.3 Continued

	All	Low education	High education	Child aged (5, 7)	Other age	Not severely disadvantaged	Severely disadvantaged
Took steps to look for other job while in work	0.022	0.021	0.041	0.100	0.010	0.041	-0.143
Will want to improve pay and terms at some point	-0.031	-0.037	0.004	-0.248***	-0.015	-0.039	0.221
Cost of travel to work per week	2.341**	1.394	5.530**	0.821	2.945**	2.469**	3.027
Share of five years since RA spent in employment	0.911	1.051	2.895	11.935*	-0.955	-0.714	7.474 (d)
Share of five years since RA spent in part-time work	-4.387*	-2.412	-6.071	3.342 (dd)	-6.696***	-6.167**	8.13 (d)
Share of five years since RA spent in full-time work	5.319**	3.522	8.885*	8.352 (dd)	5.806**	5.447**	-0.589
(Very) dissatisfied with life as a whole	-0.058**	-0.043	-0.071	-0.021 (d)	-0.086***	-0.056*	-0.098
Child's life is going very well	-0.048	-0.088**	0.067	0.091 (dd)	-0.068	-0.023	-0.308*
Very/quite difficult financial situation now	0.016	0.011	0.063	0.051	0.009	-0.007	0.085

Notes: See notes to Table E.2.

Table E.4 NDLP – ERA impacts on workers at year 5: by ethnicity

	All	Whites	Non-whites	Non-whites RAW
Works <=15 hours in all current jobs	-0.028	-0.007	-0.118 (d)	-0.102*
Works 16-29 hours in all current jobs	0.007	0.007	-0.075	-0.001
Works >=30 hours in all current jobs	0.009	-0.001	0.194	0.103
Would like to work full-time, >=30	0.037	0.020	0.225*	0.134
Hourly wage for main current job	0.255	0.210	0.980	0.398
Weekly earnings for all current jobs	11.007	4.993	87.882**	55.975*
Education/training while in work in years 3-5	-0.027	-0.044	0.320**	0.096
Education/training while in work since RA	0.015	0.004	0.194	0.168*
Has obtained work-related qualifications in years 3-5	0.012	0.012	0.098	-0.004
Has obtained work-related qualifications since RA	0.019	0.013	0.230	0.097
Very/fairly likely to do training next year	0.013	0.011	0.071	-0.009
Fringe benefits: any	0.008	0.005	0.030	0.053
Fringe benefits: number	-0.163	-0.222*	0.658	0.506
Took steps to improve work situation/pay	-0.018	-0.012	-0.133	-0.071
Tried to increase hours	-0.038	-0.052	0.017	0.057
Tried to get a pay raise	0.040	0.027	0.167	0.136
Tried to get better job with different employer	0.016	0.039	-0.113	-0.150*
Took steps to look for other job while in work	0.022	0.040	-0.096	-0.113
Will want to improve pay and terms at some point	-0.031	-0.022	-0.111	-0.075
Cost of travel to work per week	2.341**	2.239**	3.092	3.272
Share of five years since RA spent in employment	0.911	-0.143	14.945* (dd)	8.438
Share of five years since RA spent in part-time work	-4.387*	-3.701	-19.839** (dd)	-12.249**
Share of five years since RA spent in full-time work	5.319**	3.688	33.981***	20.064***
(Very) dissatisfied with life as a whole	-0.058**	-0.068**	0.057	0.015
Child's life is going very well	-0.048	-0.066*	0.021	0.117
Very/quite difficult financial situation now	0.016	0.023	0.056	-0.066

Notes: See notes to Table E.2.

Table E.5 WTC employed at Wave 3: Balancing within subgroups

	% ERA group	R2	p-val	Median bias	N
By district					
East Midlands	50	0.060	0.268	3.4	899
Other districts	52	0.083	0.404	3.0	645
All	51	0.038	0.228	3.8	1,544
By ethnicity					
White	50	0.043	0.133	4.1	1,444
Non-white	61	1.000	0.000	1.9	100
All	51	0.038	0.228	3.8	1,544
By education					
Level 0-2	51	0.059	0.108	3.9	1,053
Level ≥3	51	0.097	0.652	5.9	491
All	51	0.038	0.228	3.8	1,544
By child's age					
Other	53	0.048	0.125	4.2	1,291
≥5 and <7	45	0.436	0.002	14.0	179
All	51	0.038	0.228	3.8	1,544

Table E.6 WTC – ERA impacts on workers at year 5: By district, education and child's age

	All	East Midlands	Other districts	Low education	High education	Child aged (5, 7)	Other age
Works <=15 hours in all current jobs	-0.018**	-0.014	-0.013	-0.021*	-0.007	-0.014	-0.014
Works 16-29 hours in all current jobs	-0.059**	-0.070**	-0.052	-0.093***	-0.017	-0.273***	-0.030
Works >=30 hours in all current jobs	0.077***	0.085**	0.064	0.114***	0.024	0.287***	0.044
Would like to work full-time, >=30	0.036	0.022	0.063*	0.039	0.035	-0.014	0.040
Hourly wage for main current job	-0.031	-0.134	0.141	-0.020	-0.014	-0.728	-0.023
Weekly earnings for all current jobs	9.283	4.321	16.912*	15.316**	-1.881	23.242	5.270
Education/training while in work in years 3-5	0.028	0.038	0.007	0.037	0.009	0.105	0.016
Education/training while in work since RA	0.093***	0.112***	0.068*	0.105***	0.078**	0.064	0.091***
Has obtained work-related qualifications in years 3-5	0.019	0.026	0.000	0.037	0.005	0.092	0.012
Has obtained work-related qualifications since RA	0.064**	0.076**	0.051	0.071**	0.093**	0.175*	0.047*
Very/fairly likely to do training next year	-0.012	-0.022	0.017	0.008	-0.042	0.088	-0.016
Fringe benefits: any	0.006	-0.001	0.017*	0.003	0.011	0.018	0.004
Fringe benefits: number	0.117	0.083	0.083	0.121	0.049	0.444	0.117
Took steps to improve work situation/pay	0.026	0.011	0.049	0.027	0.021	-0.023 (d)	0.047
Tried to increase hours	0.053**	0.048	0.045	0.042	0.045	0.161	0.042
Tried to get a pay raise	0.035	0.067** (dd)	-0.026	0.062**	-0.009	0.078	0.021
Tried to get better job with different employer	0.077***	0.096***	0.053	0.069**	0.122***	0.051	0.066**
Took steps to look for other job while in work, since	0.068***	0.087***	0.043	0.056*	0.116***	0.008	0.062**
Will want to improve pay and terms at some point	-0.037	-0.076*(d)	0.017	-0.020	-0.057	0.119 (dd)	-0.064**
Cost of travel to work per week	1.153	0.299	1.355	0.730	1.788	5.247**	0.716
Share of five years since RA spent in employment	-0.421	-0.963	-0.204	0.204	-1.506	-1.688	-0.469
Share of five years since RA spent in part-time work	-9.224***	-11.684***	-5.964	-12.122***	-5.489	-32.491***	-7.716***
Share of five years since RA spent in full-time work	8.836***	10.885***	5.657	12.369***	4.008	30.889***	7.200***
(Very) dissatisfied with life as a whole	-0.031	-0.051*	-0.008	-0.034	-0.027	-0.017	-0.037
Child's life is going very well	-0.048*	-0.053	-0.026	-0.033	-0.052	-0.072	-0.046
Very/quite difficult financial situation now	0.055**	0.078**	0.022	0.016	0.126*** (d)	-0.155* (dd)	0.078***

Notes: See notes to Table E.2.

Table E.7 WTC – ERA impacts on workers at year 5: By ethnicity

	All	Whites	Non-whites	No-whites RAW
Works <=15 hours in all current jobs	-0.018**	-0.017*	-0.019	-0.035
Works 16-29 hours in all current jobs	-0.059**	-0.065**	0.375	-0.028
Works >=30 hours in all current jobs	0.077***	0.082***	-0.356	0.063
Would like to work full-time, >=30	0.036	0.041*	-0.132	-0.032
Hourly wage for main current job	-0.031	-0.057	-1.385	0.114
Weekly earnings for all current jobs	9.283	7.774	-61.664	35.138
Education/training while in work in years 3-5	0.028	0.023	-0.183	0.115
Education/training while in work since RA	0.093***	0.095***	0.154	0.120
Has obtained work-related qualifications in years 3-5	0.019	0.015	0.178	0.112
Has obtained work-related qualifications since RA	0.064**	0.064**	0.183	0.107
Very/fairly likely to do training next year	-0.012	-0.016	0.080	0.020
Fringe benefits: any	0.006	0.003	0.065	0.051
Fringe benefits: number	0.117	0.125	0.079	0.112
Took steps to improve work situation/pay	0.026	0.036	-0.333	-0.069
Tried to increase hours	0.053**	0.051*	0.152	0.121
Tried to get a pay raise	0.035	0.046*	-0.143	-0.101
Tried to get better job with difference employer	0.077***	0.085***	0.370	-0.003
Took steps to look for other job while in work, since	0.068***	0.075***	0.337	0.032
Will want to improve pay and terms at some point	-0.037	-0.033	-0.238	-0.129
Cost of travel to work per week	1.153	1.372	-10.544*	-3.257
Share of five years since RA spent in employment	-0.421	-0.309	-7.064	-5.118*
Share of five years since RA spent in part-time work	-9.224***	-9.687***	6.187	-2.722
Share of five years since RA spent in full-time work	8.836***	9.474***	-14.114	-3.642
(Very) dissatisfied with life as a whole	-0.031	-0.032	0.043	-0.002
Child's life is going very well	-0.048*	-0.058*	0.183	0.101
Very/quite difficult financial situation now	0.055**	0.051*	0.242	0.163

Notes: See notes to Table E.2.

Appendix F Correlating individual ERA impacts on wages and on the take-up of training or the attainment of qualifications for workers

This appendix outlines a way to shed some light on whether an unusually large (small) individual Employment Retention and Advancement (ERA) impact on the take-up of education/training or on obtaining educational qualifications is accompanied by an unusually large (small) individual ERA impact on wages. The idea behind the existence of such a correlation is that work-related training and the subsequent attainment of qualifications are the ERA components most likely to increase individual productivity (as reflected in hourly wages).

One way to explore the existence of this link would be to look for subgroups of workers with very large/small impacts on either wages or training, and consider whether the impact on training or wages, respectively, is particularly large/small (see Hendra *et al.*, 2011). The problem with this way of proceeding is that it requires defining appropriate subgroups, which would always be a subjective cut of the data and be limited in the number of subgroups that can be analysed.

An alternative and more systematic way to proceed is by looking at the level of individuals characterised by a certain combination of observable characteristics X, and estimate X-specific (or type-specific) impacts on wages, on training and on the attainment of educational qualifications. This approach thus simply 'lets the data speak', remaining a priori agnostic about where there could be heterogeneity in impacts.

Specifically, the following regression for y was run, where y can be individual hourly wages, take-up of education/training or obtaining qualifications (to exemplify, only two observed variables X are included):

$$y = a + b\,ERA + b_1\,ERA \cdot X_1 + b_2\,ERA \cdot X_2 + c\,X_1 + d\,X_2 + u$$

The above regression allows the impact of ERA on y to depend on observed characteristics X_1 and X_2, e.g. to vary according to the individual's education level (X_1) and youngest child's age (X_2).

For each individual with characteristics X, the type-specific ERA impact on y can thus be recovered as

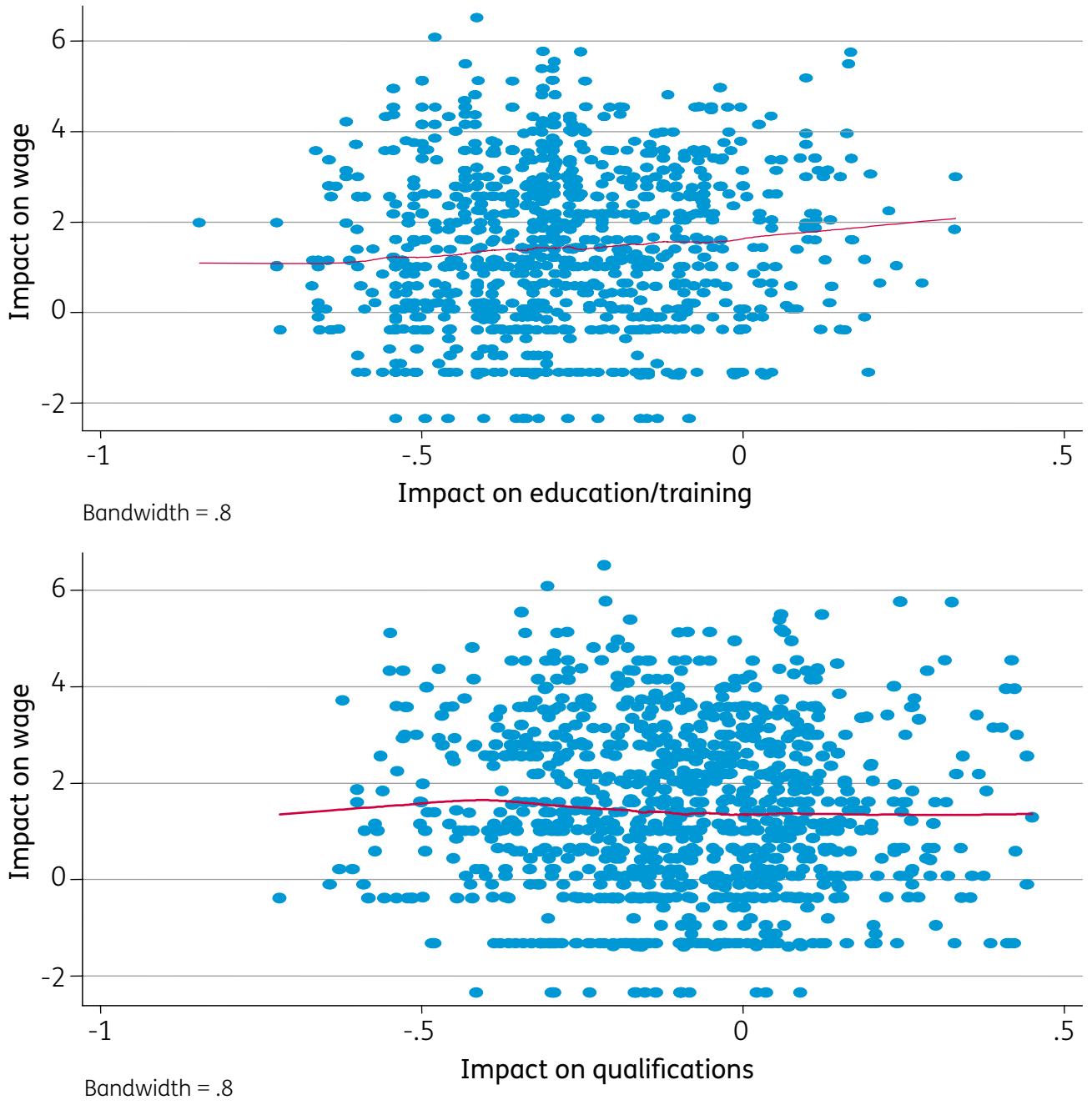
$$\beta(X) = b + b_1\,X_1 + b_1\,X_2$$

where only statistically significant interactions (b_1 and b_1) have been kept in constructing it.

By running the above regression (with the full set of background variables X) three times for the three different outcomes and constructing the corresponding type-specific impacts, a type-specific impact on wages, on training and on qualifications are obtained for each individual of type X.

With these in hand, one can then draw a scatter plot, as well as look at linear correlations.

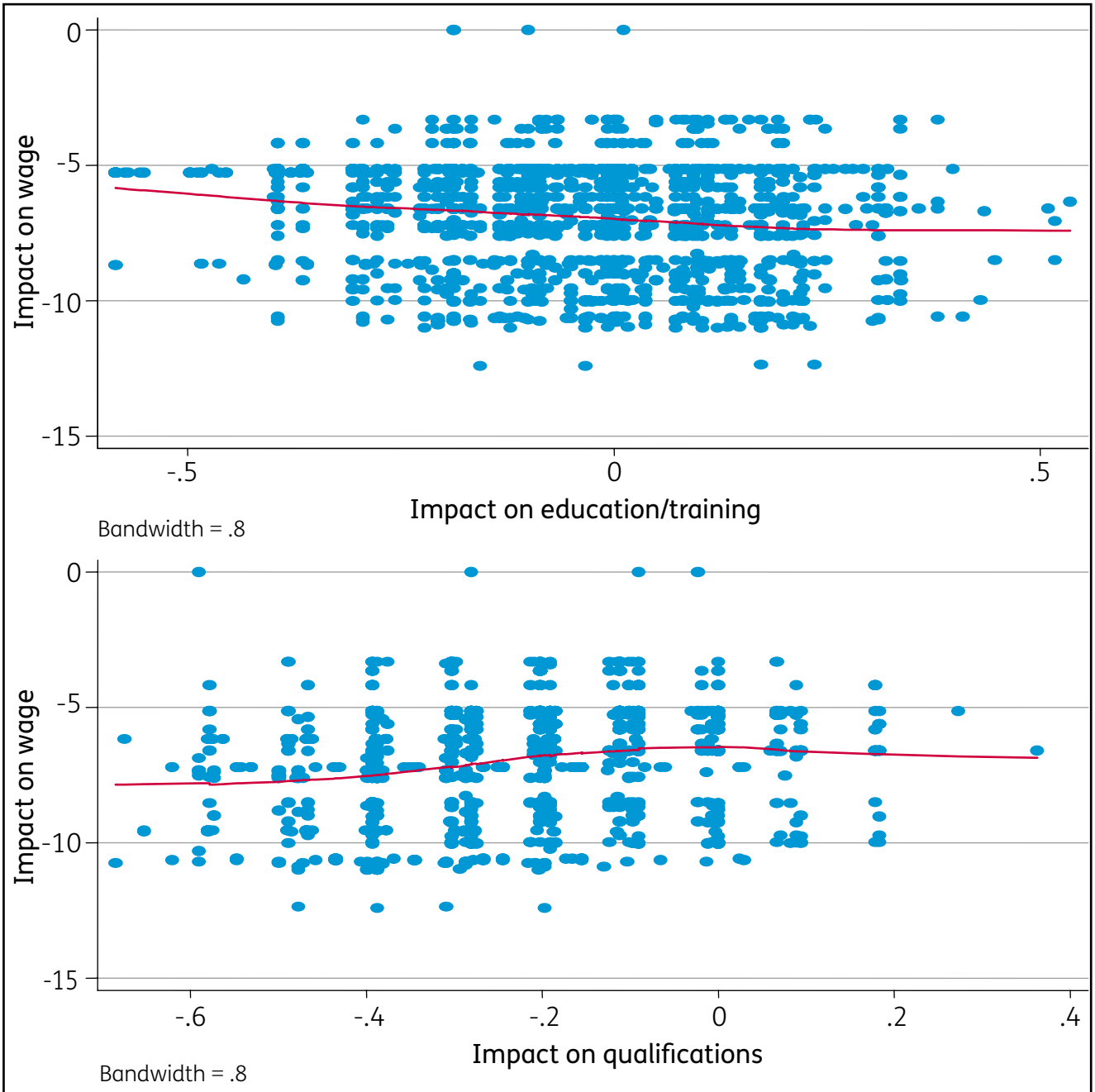
Figure F.1 NDLP – Measures of correlation between individual ERA impacts on wages and on the take up of training/education or the attainment of qualifications, all impacts measured at year 2 for NDLP employed at year 2



Note: The red line is lowess smoothing (i.e. a locally weighted regression of the impact on wages, of the impact on qualifications or on training).

Linear correlation between impact on wage and impact on	education/training take up	qualifications
for workers	0.081	-0.041
for ERA workers	0.050	-0.051

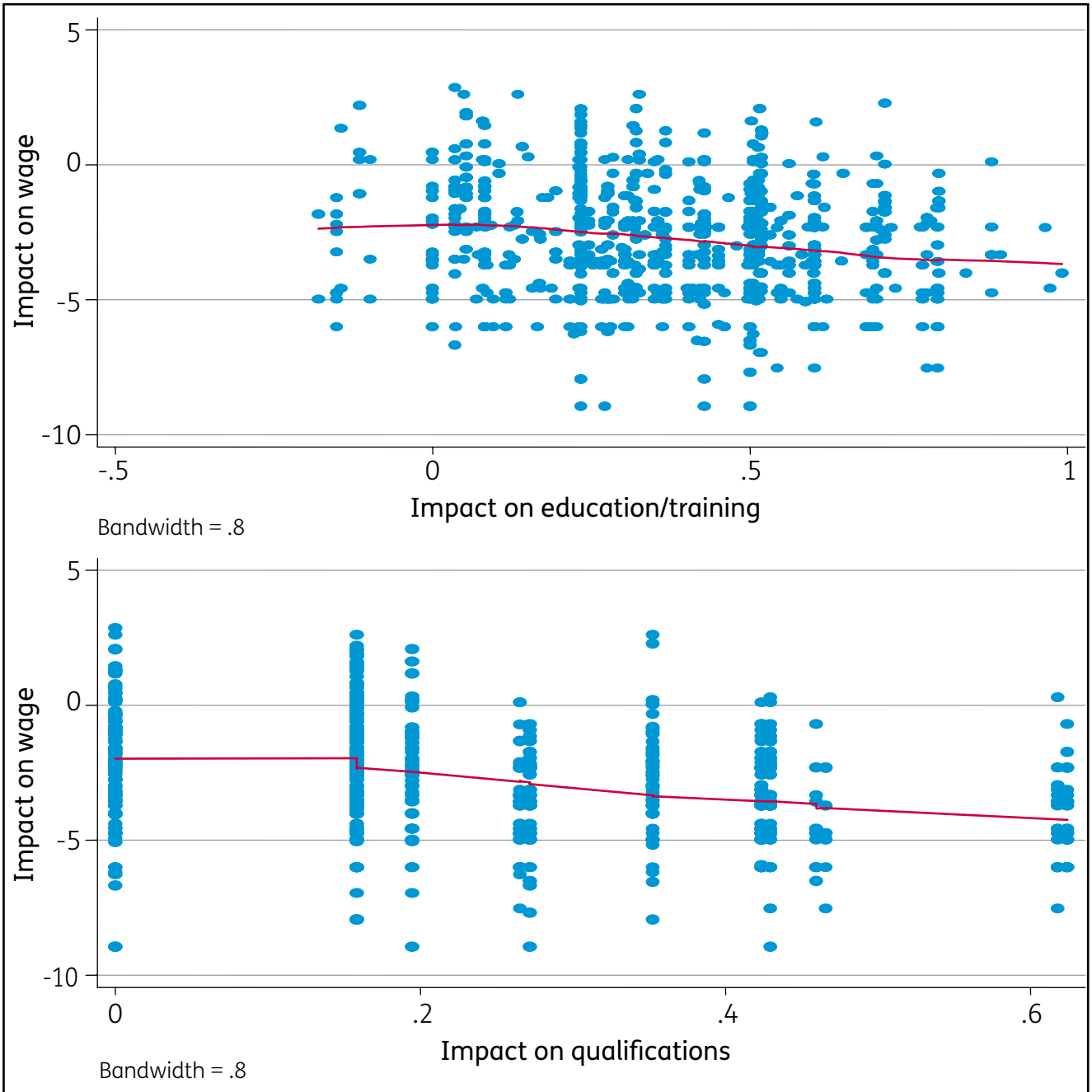
Figure F2 WTC – Measures of correlation between individual ERA impacts on wages and on the take up of training/education or the attainment of qualifications, all impacts measured at year 2 for WTC employed at year 2



Note: The red line is lowess smoothing (i.e. a locally weighted regression of the impact on wages, of the impact on qualifications or on training).

Linear correlation between impact on wage and impact on	education/training take up	qualifications
for workers	-0.157	0.221
for ERA workers	-0.189	0.217

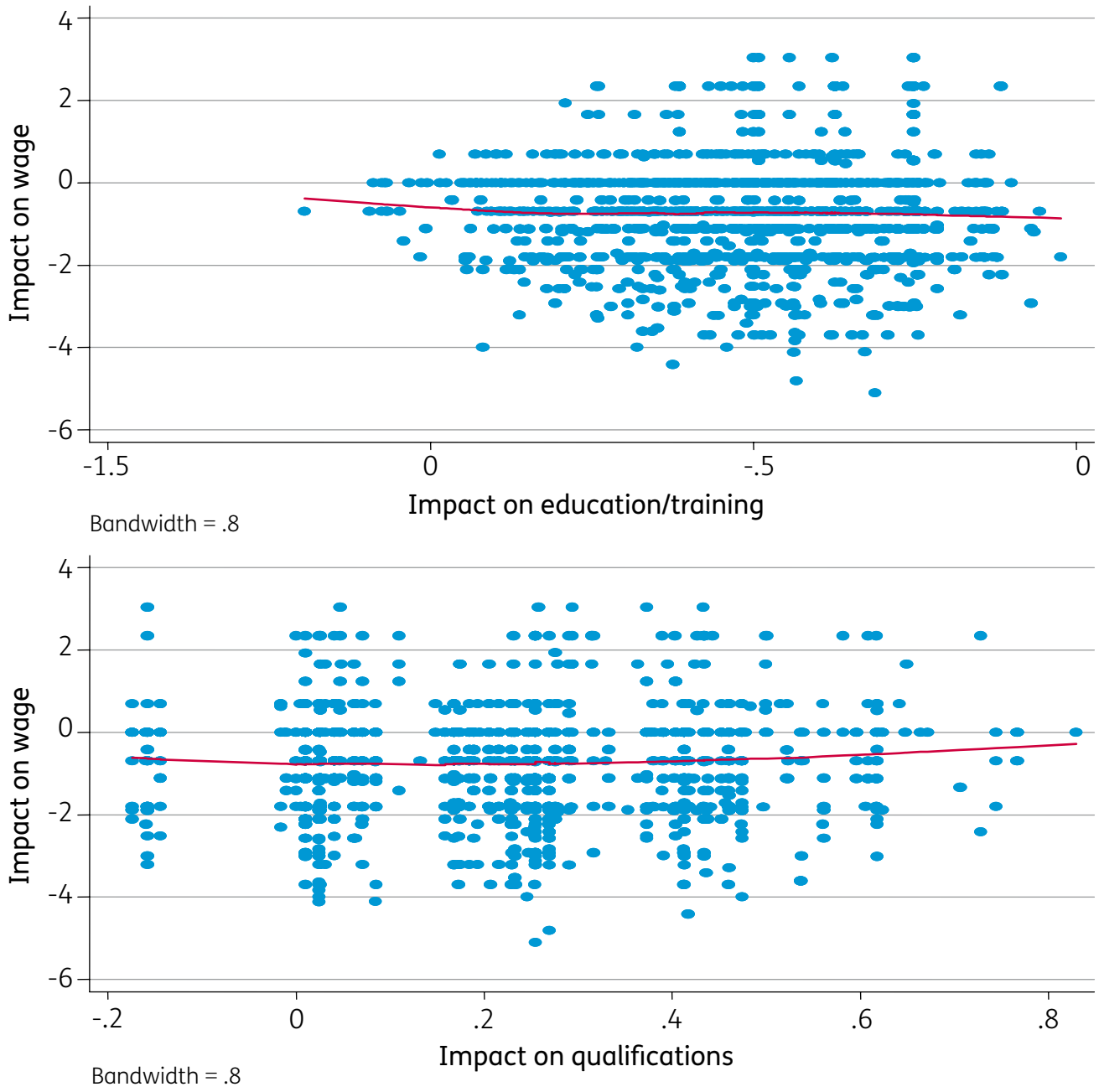
Figure F.3 NDLP – Measures of correlation between individual ERA impacts on wages and on the take up of training/education or the attainment of qualifications, all impacts measured at year 5 for NDLP employed at year 5



Note: The red line is lowess smoothing (i.e. a locally weighted regression of the impact on wages, of the impact on qualifications or on training).

Linear correlation between impact on wage and impact on	education/training take up	qualifications
for workers	-0.191	-0.357
for ERA workers	-0.224	-0.361

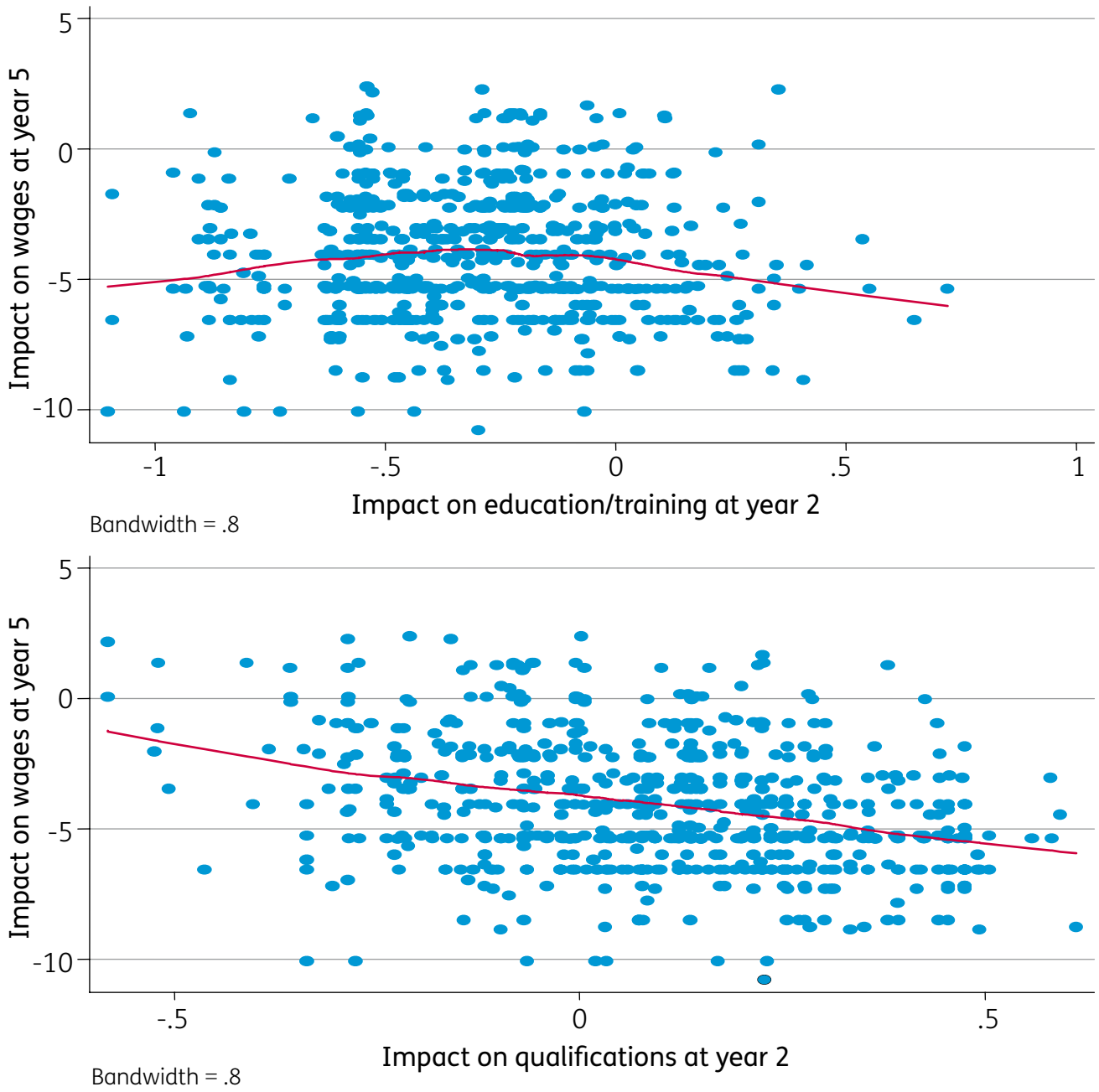
Figure F.4 WTC – Measures of correlation between individual ERA impacts on wages and on the take up of training/education or the attainment of qualifications, all impacts measured at year 5 for WTC employed at year 5



Note: The red line is lowess smoothing (i.e. a locally weighted regression of the impact on wages, of the impact on qualifications or on training).

Linear correlation between impact on wage and impact on	education/training take up	qualifications
for workers	-0.009	0.028
for ERA workers	0.001	0.019

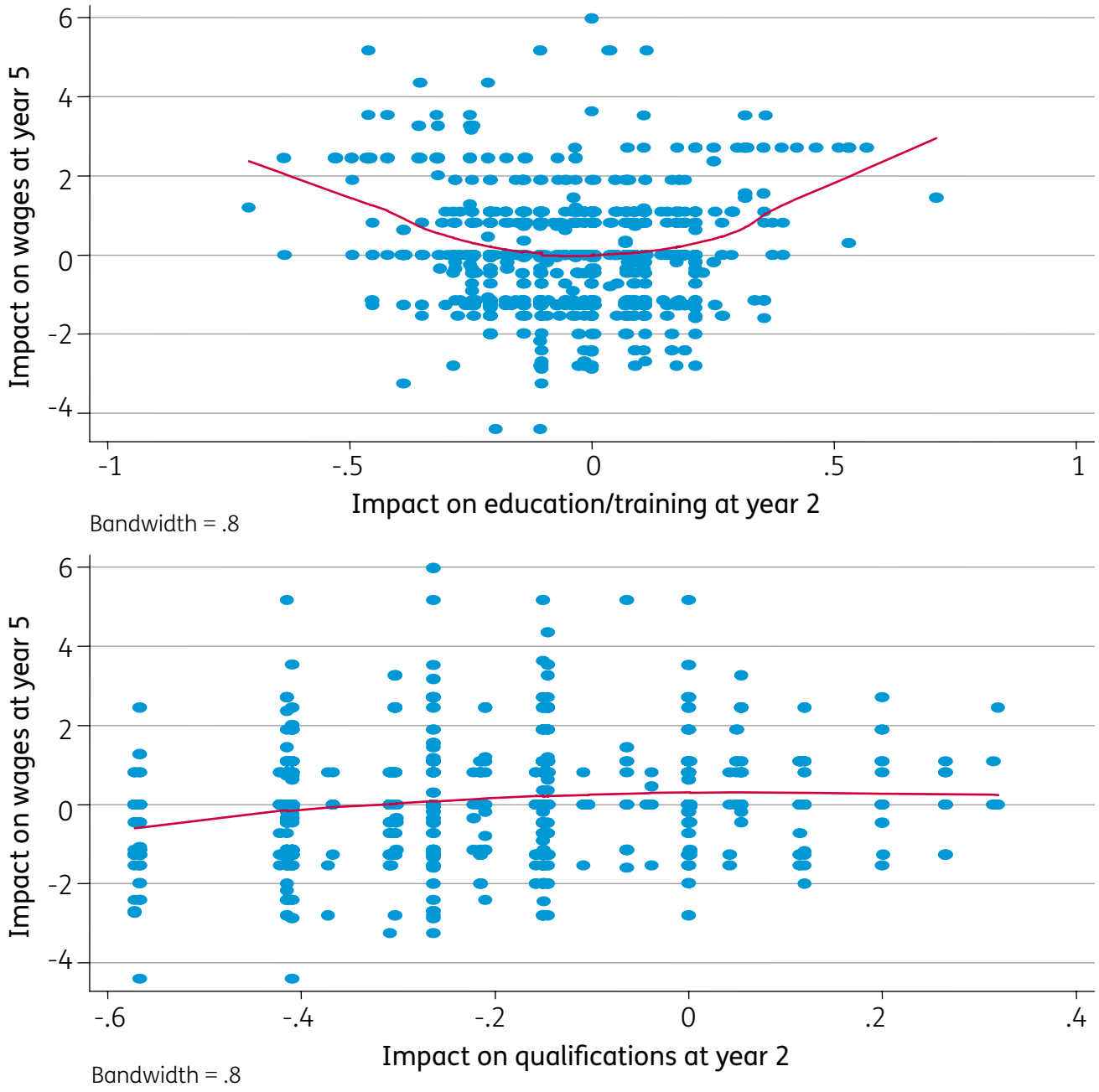
Figure F.5 NDLP – Measures of correlation between individual ERA impacts on wages and on the take up of training/education or the attainment of qualifications, impacts on wages at year 5, impacts on training/ qualifications at year 2, for those NDLP employed at years 2 and 5



Note: The red line is lowess smoothing (i.e. a locally weighted regression of the impact on wages, of the impact on qualifications or on training).

Linear correlation between impact on wage at year 5 and previous impact on	education/training take up	qualifications
for workers	-0.016	-0.325
for ERA workers	-0.040	-0.311

Figure F.6 WTC – Measures of correlation between individual ERA impacts on wages and on the take up of training/education or the attainment of qualifications, impacts on wages at year 5, impacts on training/ qualifications at year 2, for those WTC employed at years 2 and 5



Note: The red line is lowess smoothing (i.e. a locally weighted regression of the impact on wages, of the impact on qualifications or on training).

Linear correlation between impact on wage at year 5 and previous impact on	education/training take up	qualifications
for workers	-0.039	0.171
for ERA workers	-0.051	0.151

Appendix G
Balancing of characteristics at the district level for the ND25+ group

Table G.1 ND25+ – Balancing of characteristics between ERA and control participants with positive P14 Earnings in the relevant tax year

	All	Scotland	North East England	North West England	Wales	East Midlands	London
2005/06							
% ERA	53	55	52	55	43	53	54
R2	0.024	0.129	0.169	0.089	0.363	0.071	0.118
p-val	0.191	0.513	0.052	0.481	0.017	0.680	0.318
N	2,428	352	353	521	182	597	423
2006/07							
% ERA	52	57	50	51	46	53	54
R2	0.023	0.143	0.143	0.094	0.288	0.074	0.097
p-val	0.346	0.459	0.324	0.460	0.275	0.764	0.569
N	2,332	329	345	490	177	540	451
2007/08							
% ERA	52	56	52	52	48	52	53
R2	0.028	0.128	0.155	0.104	0.280	0.073	0.104
p-val	0.042	0.711	0.227	0.280	0.281	0.748	0.304
N	2,364	322	337	487	181	557	480
2008/09							
% ERA	52	58	48	50	49	52	52
R2	0.027	0.127	0.145	0.093	0.311	0.106	0.077
p-val	0.039	0.655	0.236	0.551	0.189	0.095	0.796
N	2,394	335	357	479	171	542	510
2005/09							
% ERA	52	54	52	52	49	53	52
R2	0.017	0.099	0.121	0.065	0.235	0.044	0.063
p-val	0.077	0.366	0.043	0.296	0.028	0.881	0.498
N	3,601	493	505	775	268	831	729

P-values after matching

	All	Scotland	North East England	North West England	Wales	East Midlands	London
Ever employed 2005/06	1.000	1.000	1.000	1.000	1.000	1.000	0.999
Ever employed 2006/07	1.000	1.000	1.000	1.000	0.998	1.000	1.000
Ever employed 2007/08	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Ever employed 2008/09	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Ever employed 2005/09	1.000	1.000	1.000	1.000	1.000	1.000	1.000

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The Employment Retention and Advancement (ERA) intervention was explicitly intended and designed to make a difference once participants were in work; evidence on its impact on the retention and advancement of its intended beneficiaries – i.e. workers – is thus of critical interest.

This report analyses the impact that ERA has had on a variety of outcomes experienced by working members of the New Deal for Lone Parents and Working Tax Credit target groups, as well as on the tax year earnings of working members of the New Deal 25 plus target group. Impacts on workers' outcomes have been assessed both while the programme was in operation and afterwards. Findings relating to the later point in time are of special policy interest, as they are the ones relevant for judging whether ERA's impacts on workers have been maintained or else have quickly faded once the in-work assistance and financial incentives were withdrawn.

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