Understanding why an intervention to boost employment retention worked better in the US than the UK - an analysis of two experiments

by

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Abstract

The Employment Retention and Advancement (ERA) demonstrations conducted in the US and the UK tested the extent to which time-limited provision of financial bonuses and personal support could increase employment among lone parent welfare recipients. The tests showed very different effects. In this paper, we estimate an innovative duration model on pooled UK-US individual-level data collected in the course of carrying out these experiments in order to explore the reasons behind these differences. Our results confirm the significant differences in the effectiveness of ERA in the two countries, with a greater impact on employment rates seen in the US. We examine the extent to which this can be attributed to compositional differences between the UK and the US. Our modelling approach allows us to consider differences in both observed and unobserved characteristics, and to describe how impacts vary across these dimensions. We find evidence of significant variation in the impact of ERA with observed characteristics and also across groups defined on the basis of unobserved characteristics. However, after controlling for differences in observed characteristics and unobserved heterogeneity, ERA in the US still prompted a stronger labour supply response.

1. Introduction/motivation

Individuals moving from welfare into work disproportionately enter low-quality jobs. This is true in the UK (Stewart and Swaffield, 1999; Stewart, 2007), the US (refs), and numerous other countries (refs). Such jobs are often vulnerable and insecure, with the consequence that it is common to move repeatedly between welfare and low-earning employment.

There are several motivations for policy to intervene in such a situation (Morris et al., 2003):

- to address a perceived failure of the labour market to operate effectively due to, for example, individuals' barriers to work
- from concern over living standards, well-being and inequality of particular groups
- to reduce individuals' reliance on transfer payments and increase tax receipts
- from a normative view of welfare dependency and social exclusion as being intrinsically undesirable
- to increase the pool of labour available to employers.

Many governments offer financial support to those in low-paid employment. The Working Tax Credit (WTC) in the UK and the Earned Income Tax Credit (EITC) in the US both aim to increase employment rates by improving work incentives. However, those entering work from welfare often face a period of particular uncertainty. Consequently, it is appropriate to consider whether temporary additional support during this transition period might have a beneficial effect. A handful of pilots have been carried out to explore this. Examples include (SSP, US-ERA, UK-ERA, MFiP, New Hope etc). While these vary in a number of regards, they share the basic feature of offering a fixed-term earnings supplement in addition to other existing sources of support.

In this paper, we consider the Employment Retention and Advancement (ERA) demonstrations carried out first in Texas and later in the UK. A number of variations on the ERA model were trialled in the US and these are fully documented in Hendra et al. (2010). We focus on the trials carried out in Texas since these tested a model of ERA very similar to the ERA model subsequently trialled in the UK. Most importantly, it was only in Texas that ERA offered, in addition to caseworker support, financial incentives to remain in employment. Dorsett and Robins (2011) show financial bonuses to be a key element of the support made available under ERA in the UK. Lundquist and Homonoff (2010) provide a detailed comparison of Texas and UK models.

Despite the similarity in the intervention, the impact of ERA in the UK was very different from that in Texas. The reasons behind this are unclear. It may, for instance, be due to differences between countries in the characteristics of the eligible group, differences in the institutional set-up, differences in the details of the support on offer, differences in the delivery of that support, and so on. The aim of this paper is to understand which of these differences might explain the differences in impacts. At the heart of the analysis is an econometric model of movements into and out of employment. Using the experimental samples of lone parent welfare recipients, we examine how these movements were affected by ERA. We control for compositional differences between the two countries and also allow the patterns of duration dependence in transitions to be country-specific. We allow the pattern of transitions to vary over the business cycle but again do not constrain this to be the same in the two countries. In line with other studies of this type, we control for unobserved heterogeneity. As discussed in Eberwein et al. (1997), experimental data should be free of systematic differences between the treatment and control group as a whole but this does not hold when making treatment-control comparisons among subgroups selected on the basis of an outcome, such as post-randomisation employment status if the treatment itself alters the probability of being employed. In our most general model, we allow the impact of ERA to vary with observed and unobserved characteristics. We allow the coefficients on observed characteristics to vary across the two countries. We also allow the distribution of unobserved heterogeneity in the UK to differ from that in Texas. This allows us to examine the extent to which any apparent difference in the effectiveness of ERA may be attributed to differences in individuals' characteristics.

Substantively, the results show a marked difference in the effects of ERA in the two countries. In the UK, ERA had little effect on either employment entry or employment retention. In the US, ERA increased both. While the US impacts were at the margins of statistical significance, closer inspection reveals a highly significant impact while the support provided by ERA was available followed by essentially no impact once this support was withdrawn. Thus, lone mothers in the US appear to have reacted to ERA by increasingly remaining in work, while lone mothers in the UK showed no such response. Our results suggest that the stronger behavioural response in the US dominates compositional differences or differences in the distribution of unobserved heterogeneity as potential explanations for the greater impact of ERA on employment.

Methodologically, the paper is innovative in two ways. First, to the best of our knowledge, no previous study has pooled individual-level experimental data across two countries. The advantage of doing this is that it permits formal testing of inter-country differences. Second, we introduce an innovation in the treatment of unobserved heterogeneity. Rather than treat this as a nuisance parameter, we attempt to capture meaningful differences in unobserved heterogeneity across the US and the UK and use these to simulate country-specific outcomes. In common with many empirical papers, we approximate the distribution of unobserved heterogeneity using a small number of discrete mass points. The innovation is that, while identical mass points are assumed to characterise unobserved heterogeneity in both countries, their distribution is allowed to vary by country. Intuitively, approximating unobserved heterogeneity through a fixed number of mass points is tantamount to segmenting the population into that same number of groups. We go further and allow for impacts to vary across these groups. Using estimates of impact variation by group together with estimates of the UK-US differences in the distribution of these groups it is possible to infer how unobserved differences between the two countries contribute to country differences in overall effectiveness.

The remainder of the paper is structured as follows. Section 2 provides the relevant institutional detail. We describe the US and UK experiments, focusing particularly on the similarities and differences. To provide context, we also summarise the support available in the absence of the experiment, and compare the important characteristics of EITC and WTC. The effect of ERA on work incentives is considered and from this we set out the expected effect of ERA. Section 3 presents the econometric approach. Section 4 describes the data and gives descriptive statistics, highlighting the key differences between the US and the UK. Section 5 presents the main estimation results, comparing effects across the two countries. A simulation exercise attempts to identify the reason behind the observed differences in the overall effect of ERA on employment rates. Section 6 provides a discussion of the results and section 7 concludes.

2. The ERA programmes in the UK and the US

< To follow. For the time being, a key point to note is that ERA provided financial bonus payments to individuals moving from welfare into work of 30+ hours per week. These bonuses were payable only after remaining in full time work for a period of time>

3. The econometric approach

Our basic econometric model is in the spirit of Eberwein et al. (1997). In common with that paper, we address the initial conditions problem (Heckman, 1981) using the solution suggested by Heckman and Singer (1984), treating spells ongoing at the time of randomisation separately from those 'fresh' spells beginning after randomisation. As described in the next section, employment status is observed on a discrete (quarterly) basis so we write the hazard rates in conditional log-log form:

$$\theta_{jk}\left(t|x_\tau, v_{jk}\right) = 1 - \exp\left(-\exp\left(\gamma_{jk}(t) + \beta'_{jk}x_\tau + v_{jk}\right)\right)$$

where $j \in \{1,2\}$ distinguishes between spells that were ongoing during the quarter of randomisation and those that started after the quarter of randomisation, $k \in \{\mathrm{u}, \mathrm{e}\}$ distinguishes between non-employment spells and employment spells, *t* is the duration of the spell and τ is calendar time. The specification allows duration dependence to be captured by the contribution of the baseline hazard, where $\gamma_{jk}(t)$ has a flexible piecewise constant form and the effects of other observed characteristics are captured by the term $\beta'_{jk}x_t$. Included in x_τ are variables such as: a dummy indicating whether in the treatment group or the control group; a dummy indicating whether in the UK or the US; personal circumstances (age, age of youngest child), the rate of unemployment, trend terms and a dummy variable indicating whether ERA eligibility had expired. Several of these variables were interacted with each other. Unobserved heterogeneity is represented by v_{jk}.

Estimation proceeds through maximum likelihood. The nature of each individual's contribution to the likelihood depends on how many transitions they have experienced. Someone who was out of work at the time of randomisation and who did not enter work during the follow-up period *T* quarters later will contribute the following amount:

$$L_i(v) = \prod_{t=1}^{T}\left(1 - \theta_{1u}(t|x_\tau, v_{1u})\right).$$

If, instead, that initial spell had completed in $t+d$ quarters, the individual's contribution would have been the product of that completed spell and any further spells. Assume for the purpose of exposition that the initial spell of non-employment ends after d quarters and is followed by an employment spell that is censored at the end of the observation period. The overall contribution to the likelihood for this individual would then be

$$L_i(\upsilon) = \theta_{1u}(t+d|x_\tau, \upsilon_{1u}) \prod_{t=1}^{t+d-1} \left(1 - \theta_{1u}(t|x_\tau, \upsilon_{1u})\right) \prod_{t=1}^{T-t+d} \left(1 - \theta_{2e}(t|x_\tau, \upsilon_{2e})\right).$$

The contributions of individuals with different patterns of transitions can be derived analogously. To derive the marginal likelihood, we must integrate out the unobserved heterogeneity term, υ. We approximate the distribution of unobserved heterogeneity through a non-parametric mass point approach (Heckman and Singer, 1984; Huh and Sickles, 1994). With four possible transition types, we introduce mass points as (4×1) vectors, υ^m, $m = 1, 2,...,M$, where M is the number of mass points (defined on the joint distribution – see, for example, Røed and Raaum, 2006). With M mass points, the unobserved heterogeneity joint distribution is represented by the $\{ \upsilon^m, p^m \}$, where p^m is the probability attached to υ^m and $\sum_{m=1}^{M} p^m = 1$. Across all individuals, the likelihood becomes:

$$L = \prod_{i=1}^{N} \sum_{m=1}^{M} p^m L_i(\upsilon^m).$$

The estimation of a mixed proportional hazards (MPH) model of this type is standard in the empirical literature (for a survey, see van den Berg, 2001). Our application is unusual in that it is based on individual-level data from two countries. To allow the differences between the countries to be explored, we generalise the standard MPH model in two directions. First, we relax the assumption that the distribution of mass points is the same in the UK and the US (note that the mass points themselves remain common to both countries). We do this by allowing the probabilities associated with each mass point to be country specific. Denoting the number of UK individuals by N_{UK} and the number of US individuals by N_{US} the likelihood can be written as the product of the sub-likelihoods for the UK and the US:

$$L = \prod_{i=1}^{N_{UK}} \sum_{m=1}^{M} P_{UK}^m L_i(\upsilon^m) \prod_{i=1}^{N_{US}} \sum_{m=1}^{M} P_{US}^m L_i(\upsilon^m).$$

where $\sum_{m=1}^{M} p_C^m = 1, c \in \{\text{UK, US}\}$. Intuitively, this amounts to assuming that the same types of individuals exist in both countries but in possibly different proportions. The second extension is to allow for the treatment effect to vary across the groups defined by these mass-points. This amounts to a re-definition of the group specific hazard rate:

$$\theta_{jk}^m(t|x_\tau) = \text{ 1 - exp}\left(-\text{exp}\left(\gamma_{jk}(t) + \beta'_{jk} x_\tau + T_{jk}^m\right)\right)$$

where T_{jk}^m is the effect of treatment on the probability of exit for those in group m.

These extensions to the standard MPH model allow us to explore the nature of the differences between the UK and the US in the effect of ERA. Specifically, we can control for differences not just in observed characteristics but also unobserved characteristics and, by so doing, assess how these two sources of variation affect the overall impact.

4. Comparing the UK and the US

As noted above, individuals' characteristics at baseline were collected immediately prior to randomisation. This information was combined with quarterly employment indicators taken from administrative sources. Taking outcomes from administrative data avoids the problem of nonresponse that arises with surveys and means that we can analyse the full experimental samples. The employment data were available on a monthly basis in the UK and a quarterly basis in the US. For consistency, the UK monthly data were used to create quarterly employment indicators.

At randomisation, all sample members were lone mothers aged 18 or over. Table 1 shows the resulting sample. In total, there were close to 9,500 individuals, roughly two-thirds from the UK and one third from the US. Those in the UK were observed for 19 quarters (including the randomisation quarter) while most of those in the US were observed for 20 quarters. Over this period, some 29,000 separate spells of employment and non-employment were observed. The US accounted for 45 per cent of these. This is higher than the share of the US in the estimation sample (33 per cent) and reflects the lower rates of transition into and out of employment in the UK relative to the US. While the mean number of spells in the UK was 2.5, in the US it was 4.2. The greater dynamism of the US is evident also when looking at the number of spells per person. In particular, while only 11 per cent of lone mothers in the UK experienced 5 or more spells, the corresponding proportion in the US was 43 per cent.

Table 1: Sample size and spell details

		UK	US
Number of individuals		6,365	3,095
Number of spells		15,903	12,996
Number of spells per person:			
	1	1,986	505
	2	1,747	351
	3	1,240	530
	4	708	383
	5+	684	1,326
Mean		2.50	4.20
(sd)		(1.50)	(2.42)
Number of quarters observed:			
	19	6,365	381
	20		2,714

Table 2 draws some comparisons across the two samples. This is complicated somewhat by institutional and definitional differences. In the UK, for instance, GCSE (General Certificate of Secondary Education) qualifications are typically attained at age 16 (the legal school-leaving age for most) and then A-levels (Advanced level) qualifications at 18. In the US, by contrast, individuals typically only gain qualifications on leaving high school at age 18. So, despite the fact that fewer lone mothers in the UK are recorded as having no qualifications, the comparison is unfair since there is no US counterpart to the GCSE. In view of this, perhaps the fairest comparison is between those in the UK with A-levels or higher and those in the US with any recorded qualifications. On this basis, the US lone mothers are more qualified. However, the extent to which this is true depends on the comparability of UK A-levels and the US High School Diploma.

With regard to other characteristics, roughly two-thirds of lone mothers in the UK lived in social housing of some type, whereas about one fifth of those in the US were in public or subsidised housing. Lone mothers in the UK were older than in the US but had fewer children, a mean of 1.7 compared to 2.0. Their children tended to be older, with women in the US being nearly twice as likely to have a child of two years or younger. Also, the lone mothers in the UK were predominantly white while in the US whites were very much in the minority.

Another point that should be noted from Table 2 is the similarity between the characteristics of those in the treatment group and those in the control group. This is true in both the UK and the US. This provides a partial demonstration of the extent to which the random assignment process was successful at creating two statistically equivalent groups.[1]

[1] A fuller account is given in the respective project reports (Hendra et al., 2010; Hendra et al., 2011).

Table 2: Background characteristics

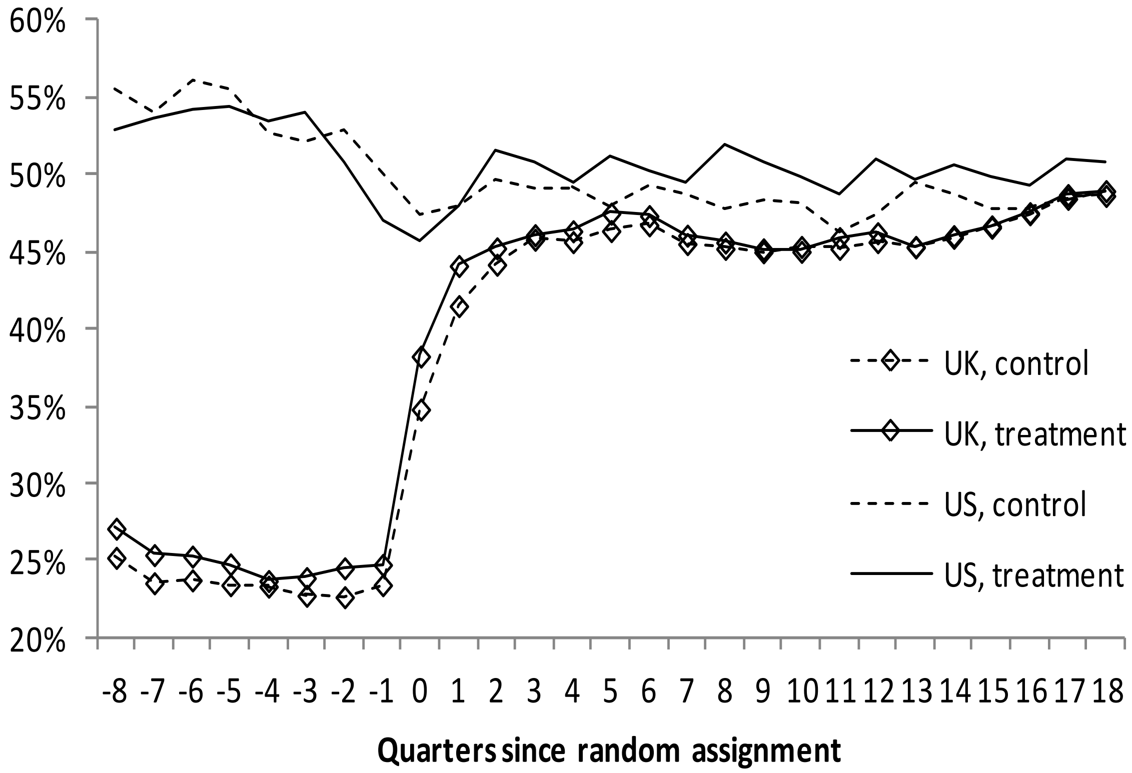
	UK			US	
	control	treatment		control	treatment
		Qualifications			
- no qualifications	24.57	24.38	- None	50.61	46.80
- GCSE	52.20	51.99	- GED	14.76	15.00
- A-level or higher	23.23	23.63	- High school diploma	29.97	34.32
			- Tech/AA/2 year degree	3.75	3.36
			- Four year degree	0.91	0.52
		Living arrangements			
- Living with family	7.34	7.60	- Rent, public	10.10	9.11
- Social housing	66.50	67.16	- Rent, subsidised	10.75	10.79
- Private accommodation	26.16	25.24	- Rent, 0ther	20.34	22.67
			- Own home	3.89	3.49
			- Emergency or temporary	1.55	1.36
			- Other	53.37	52.58
		Age			
- 18-29	42.79	42.43	- 18-29	63.37	63.61
- 30-45	52.31	52.95	- 30-45	33.33	33.48
- over 45	4.90	4.63	- over 45	3.30	2.90
		Number of children			
-1	53.54	51.92	-1	42.98	44.19
-2	32.15	32.23	-2	30.81	28.77
-3	10.90	12.14	-3	15.73	16.13
-4	2.98	2.88	-4	7.70	7.68
-5 or more	0.43	0.83	-5 or more	2.78	3.23
		Age of youngest child			
- 0-2	26.69	27.40	- 0-2	52.56	51.42
- 3-5	25.61	26.14	- 3-5	20.06	19.55
- 6-18	47.45	46.36	- 6-18	27.38	28.97
		Race			
- Not white	13.85	15.17	- Black	36.49	37.30
			- Hispanic	44.16	42.15
			- Other	1.82	1.16
		Quarters worked in 3 years pre-RA			
	0.42	0.44		6.40	6.16
N	3,209	3,156	N	1,545	1,550

A particularly stark difference between the UK and the US is evident when considering employment history. In the three years prior to randomisation, lone mothers in the UK worked an average of less than one quarter. In the US, the corresponding length of time was more than 6 quarters. More detail on this is provided in Figure 1 which shows the mean employment rates for the treatment and control groups in the UK and the US. In the quarters prior to random assignment, employment rates in the UK were far lower than those in the US. In the quarters following randomisation, lone mothers in the UK experience a marked rise in employment. This was seen for both the treatment and the control groups, with the difference between the two – the (unadjusted) impact of ERA – being rather slight, certainly after the first two quarters. In the US, employment rates fell over the two years prior to random assignment. Part of this is no doubt explained by the familiar Ashenfelter's dip (Ashenfelter, 1978). However, the fact that the decline was ongoing for at least a year before randomisation suggests there may be other factors at play. In particular, the unemployment rate in Texas increased steadily from the last quarter of 2000 to that of 2002, the intake period for the experiment.

This difference between the UK and the US reflects a key difference. As already noted, in the UK, those entering the experiment were receiving a welfare benefit that imposed no requirements to look for work yet they had voluntarily participated in NDLP, a programme designed to help them find work. By contrast, the US lone mothers were recruited from those applying (or re-applying) for TANF. Taken together with what we know about their personal characteristics, the impression is that the lone mothers in the UK was more likely to be made up of women who were looking for help (re-)entering employment now that their children had reached a certain age. In the US, the impression women were more likely to have been relatively engaged in the labour market but exposed to ERA because of a recent job loss.

In a sense, Figure 1 motivates this paper. In the UK, the longer-term impacts of ERA were very small. In the US, they were bigger. The question of interest is what lies behind these differences. In the remainder of this paper we apply our econometric model to explore this question.

Figure 1: Quarterly employment rates, UK and US



5. Results

5.1 Selecting the preferred model

Specification tests of the number of mass points used to characterise unobserved heterogeneity in the data were carried out using the baseline specification. Table 3 shows that increasing the number of mass points from one (no unobserved heterogeneity) to five leads to considerable improvements.[2] However, most of this improvement is achieved with four mass points. The Akaike Information Criterion (AIC) is minimised at five mass points, while the Bayesian Information Criterion (BIC) is minimised at four mass points. The final column of Table 3 shows the likelihood ratio test statistics resulting from restricting the specification to have one fewer mass point. The relevant chi-squared critical value at a 5 per cent significance (11.07). On the basis of these results, we proceed using five mass points, although we note that the choice between four and five is rather marginal.

[2] Introducing a sixth mass point resulted in convergence problems.

Table 3: Specification tests of the number of mass points

# mass points	AIC	BIC	Log likelihood	chi-squared(5)
1	117074.20	118368.82	-58409.10	
2	116866.38	118211.57	-58300.19	217.82
3	116783.38	118179.15	-58253.69	92.99
4	116638.00	118084.34	-58176.00	155.38
5	116630.61	118127.52	-58167.30	17.40

5.2 The nature of transitions in the UK and the US and the overall impact of ERA

Table 4 presents the estimation results. The first panel (a) captures the effect of ERA through a simple dummy variable indicating membership of the treatment group rather than the control group. The second panel (b) differs in that it distinguishes between the period during which ERA support was available (the "policy-on" period) and the post-ERA ("policy-off") period. All estimation results control for the length of spell (the baseline hazard) and also include: season dummies; dummies for the age of youngest child (0-2, 3-5); a dummy for the mother being under 30; seasonally-adjusted local unemployment rates; annual time trend and time trend-squared. All these regressors were interacted with a US dummy, which was also included. Full results (that is, including the interrupted spells and showing the coefficients for all regressors) are presented for all both specifications in Appendix Table 1.

Consider first the results in panel a). There was little effect in the UK on either non-employment spells or employment spells. The only marginally significant coefficient is rather counterintuitive, suggesting ERA increased exits from interrupted employment spells. In the US, the impact of ERA was more in line with expectations – increasing employment entry and reducing employment exit. These impacts were not significant for interrupted spells and were only significant at the 10 per cent level for fresh spells. However, the effects on employment retention were different from those for the UK. For interrupted spells, this difference was significant at the 5 per cent level while for fresh spells it was significant at the 10 per cent level. Taken together, it appears that ERA increased employment retention in the US to a greater extent than in the UK. Differences with regard to employment entry were not statistically significant.

Panel b) of Table 4 distinguishes between the eligibility period and the post-eligibility period. In the UK, the post eligibility period was defined as beginning 11 quarters (33 months; see section 2) after randomisation. In the US, by contrast, eligibility ceased in August 2004 and is therefore defined accordingly.

The estimation results reveal further differences between the UK and the US. No impact of ERA was evident during the period of eligibility (the "policy on" period) in the UK. In the US, on the other hand, fresh employment spells were significantly lengthened while ERA was available. The US-UK difference in the effect of ERA on employment retention was highly significant for fresh spells but also significant at the 10 per cent level for interrupted spells. In the "policy off period", the exit hazard was increased for employment spells ongoing at the time of randomisation in the UK but there was no effect on other hazards, nor on any of the hazards for the US. Once again, though, there is some evidence that the effect of ERA on interrupted employment spells was different in the US and the UK.

Overall, the impression is that the response to ERA among lone mothers in the UK was rather muted. In the US, there was a stronger response arising from increased employment retention while ERA eligibility continued. However, once the support provided under ERA was withdrawn, the effect of ERA disappeared in the US.

Table 4: Hazards of employment entry and employment retention: estimated coefficients of the impact of ERA

	Interrupted spells				Fresh spells			
Origin state:	non-employment		employment		non-employment		employment	
	a) Baseline model							
UK	-0.018		0.116	*	0.058		0.046	
	(0.042)		(0.062)		(0.045)		(0.044)	
US	0.041		-0.088		0.080	*	-0.076	*
	(0.061)		(0.069)		(0.041)		(0.045)	
Difference (US-UK)	0.059		-0.204	**	0.022		-0.121	*
	(0.075)		(0.092)		(0.061)		(0.063)	
	b) Distinguishing between eligibility and post-eligibility periods							
UK policy on	0.005		0.087		0.089		0.063	
	(0.047)		(0.066)		(0.058)		(0.053)	
US policy on	0.050		-0.073		0.069		-0.158	***
	(0.063)		(0.072)		(0.048)		(0.051)	
Difference (US-UK)	0.045		-0.161	*	-0.02		-0.221	***
	(0.079)		(0.097)		(0.075)		(0.073)	
UK policy off	-0.109		0.259	**	0.026		0.020	
	(0.088)		(0.131)		(0.059)		(0.060)	
US policy off	-0.055		-0.186		0.092		0.066	
	(0.179)		(0.191)		(0.057)		(0.060)	
Difference (US-UK)	0.054		-0.444	*	0.065		0.046	
	(0.199)		(0.231)		(0.082)		(0.085)	

* p<0.10, ** p<0.05, *** p<0.01. Standard errors in parentheses.

Appendix Table 1 shows the influence of other characteristics. We report on these briefly here, focusing only on the fresh spells. There is evidence of negative duration dependence in unemployment exits and this is particularly marked for the US (evident from the fact that the

US-UK differences in the baseline hazard decline with duration). For employment exits, the pattern is less clear. In the UK, the hazard rate varies rather erratically while, in the US, negative duration dependence holds after the first quarter. Seasonality appear quite similar in both the UK and the US, affecting unemployment hazards but not employment hazards. Turning to demographic characteristics, UK hazard rates were higher for those whose youngest child was no more than two years of age at the time of randomisation; this held for both non-employment exits and employment exits. In the US, the same pattern was seen, with the exception that the hazard of employment exit was higher still for women whose youngest child was aged 3 to 5 at the time of randomisation. Interesting age differences between the two countries were seen. In the UK, being younger (18 to 29) at the time of randomisation was associated with a reduced hazard of employment entry but an increased hazard of employment exit. In other words, younger women were less likely to be employed. In the US, hazard rates of employment entry were significantly higher than those in the UK for these younger women and hazard rates of employment exit were significantly lower. Exits from unemployment were significantly associated with the business cycle. In the UK, a higher prevailing rate of unemployment was associated with a reduced hazard of unemployment exit. This is true in the US as well, although to a lesser extent. In both countries, employment exit hazards were not significantly associated with the local unemployment rate. Lastly, there was evidence of strong trend effects in unemployment exit hazards. These existed in both the UK and TX, albeit the trends were significantly different. No trend effects in employment exit hazards were found in either country.

5.3 Exploring the differences between the UK and the US in the effect of ERA

The effect of ERA in the UK and the US could differ for three broad reasons. The first is that differences in the nature of the support on offer and in how this support was delivered might matter. Some consideration of this was provided in Section 2. The second broad reason is that it is differences in charateristics that matter. The third broad reason is that it is behavioural differences, stemming perhaps from institutional or cultural differences, between the UK and the US that matter.

The MPH generalisation described in Section 3 allows us to explore this source of variation. The model we estimate allows the impact of ERA to vary with both observed and unobserved characteristics. We can therefore assess the extent to which the observed overall difference between the UK and the US in the effect of ERA is explained by compositional differences and differences in the strength of the local labour market (as captured by the unemployment rate).

In estimating this more complicated model, we encountered some difficulties in achieving convergence. This was overcome by removing the quadratic trend terms from the regressor set. However, only four rather than five mass points (or "groups") could be included. As discussed in subsection 5.1, the choice of five rather than four groups was rather marginal so we do not regard the specification with one fewer group as materially weakening the model. More worrying was the performance of the resulting model in simulating outcomes (covered in the next section). Having more than two groups substantially reduced the extent to which it was possible to simulate outcomes that resembled actual employment levels. In view of this, we concentrate on a model with just two groups. This is clearly a less rich characterisation of the unobserved heterogeneity distribution, although we note that it is common in the empirical literature to have just two mass points and, furthermore, Heckman and Singer (1984) suggest that a small number of mass points will tend to be adequate.[3]

Table 5 presents the estimated coefficients for a model with two mass points. Only the key results are shown (full results are provided in Appendix Table 3). With just two groups, the distribution of unobserved heterogeneity appears rather similar in the UK and the US. Group 2 accounted for 82 per cent of the UK sample and 76 per cent of the US sample. The upper panel describes the nature of unobserved heterogeneity. We see that the mass points enter significantly into all equations.

The bottom panel of Table 5 reports the variation in impacts by observed and unobserved characteristics. With regard to personal characteristics, the only suggestion of impact variation is with regard to the mother's age; ERA increased employment entry among those under 30 to a greater degree than it did among those 30 or over. There is also some evidence that ERA may have actually increased exit from ongoing employment spells when the prevailing unemployment rate was higher. However, both these findings were only significant at the 10 per cent level. With regard to unobserved heterogeneity, we see that the impact of ERA on employment entry was significantly lower among those in group 2 than those in group 1. This provides some justification of our generalisation of the MPH model. Despite this, the ERA*US interaction term is significant for both types of interrupted spells. It appears that, even after controlling for variations in the effectiveness of ERA across a range of possible dimensions, there is something about ERA in the US that results in it having a greater impact on employment.

[3] We intend to explore the reasons why having more mass points reduces the simulation performance and hope to incorporate our findings into a later revision of this paper.

Table 5: Hazards of employment entry and employment retention: estimated coefficients showing how the impact of ERA varies by observed and unobserved characteristics

	Ongoing spells				Fresh spells			
Origin state:	non-employment		employment		non-employment		employment	
	Unobserved heterogeneity							
Constant (group 1 - UK)	1.303	***	1.358	**	-2.396	***	-3.323	***
	(0.455)		(0.614)		(0.260)		(0.225)	
US dummy (group 1 - US)	-3.547	***	-2.036	***	-1.183	***	-0.458	*
	(0.485)		(0.581)		(0.282)		(0.256)	
mass point 2 (group 2)	-2.52	***	-2.615	***	0.186	**	-0.033	***
	(0.128)		(0.243)		(0.075)		(0.073)	
	Distribution of groups							
	UK				US			
pr(group 1)	0.176				0.236			
pr(group 2)	0.824				0.764			
	Impact heterogeneity							
ERA (reference = control group)	0.667	*	-0.452		0.118		0.371	*
	(0.365)		(0.439)		(0.234)		(0.220)	
ERA*US	0.188	*	-0.283	**	-0.026		-0.086	
	(0.110)		(0.125)		(0.061)		(0.058)	
ERA*Youngest child 0-2	-0.085		-0.14		-0.016		0.072	
	(0.109)		(0.129)		(0.071)		(0.068)	
ERA*Youngest child 3-5	0.103		-0.178		-0.077		0.052	
	(0.113)		(0.135)		(0.079)		(0.075)	
ERA*Age 18-29	-0.12		0.104		0.118	*	0.016	
	(0.090)		(0.109)		(0.062)		(0.059)	
ERA*Unemployment rate	-0.103		0.151	*	0.012		-0.064	*
	(0.071)		(0.082)		(0.040)		(0.039)	
ERA*group 2	-0.101		-0.235		-0.235	**	-0.011	
	(0.154)		(0.200)		(0.101)		(0.099)	

* p<0.10, ** p<0.05, *** p<0.01

5.4 Using simulation to assess what accounts for UK-US differences

In this sub-section, the estimated coefficients are used to simulate outcomes. We do this in the first instance in order to demonstrate the ability of the model to produce employment rates that compare reasonably well with the actual employment rates in the sample. The protocol for this is as follows:

1. Take a sample of 1,000 individuals from the sample (either from the UK or the US)

2. Take a random coefficient draw (that is, a random draw from a normal distribution with means equal to the estimated coefficients and variance equal to the variance-covariance matrix of the estimated coefficients)
3. Using this draw, assign each individual to either group 1 or group 2 (i.e. mass point 2) on the basis of a uniformly distributed random number
4. Starting with the randomisation quarter, calculate the hazard rate of exit from the current state (i.e. that state they are observed to be in at randomisation)
5. Using this hazard, assign each individual to either exit their current state or not to exit their current state on the basis of a uniformly distributed random number
6. Update their simulated state for the next quarter according to whether they were assigned to exit in step 5.
7. Calculate the hazard for the next quarter
8. Repeat steps 5-7 until outcomes for 20 quarters have been simulated.
9. Repeat steps 2-8 999 times.

Table 6 shows the results of the simulation for the UK and the US separately. For compactness, we show only the first six quarters of the experiment and then the 12th and 18th quarters. In the UK, the simulated employment rates look fairly similar to the actual rates, albeit slightly higher in the early quarters. In the US, the simulated rates were slightly lower than the actual rates in the early quarters but again were more comparable in later quarters.

Table 6: Comparing simulated employment rates with actual employment rates (%)

	UK			
	Simulated		Actual	
Quarter	Control	Treatment	Control	Treatment
1	37.60	37.60	34.81	38.24
2	44.70	44.72	41.51	44.11
3	46.93	46.81	44.19	45.25
4	47.41	47.08	45.81	46.10
5	46.39	46.09	45.65	46.36
6	46.58	45.97	46.37	47.50
12	46.97	46.36	45.22	45.91
18	48.49	47.70	48.46	48.70
	US			
	Simulated		Actual	
	Control	Treatment	Control	Treatment
Quarter	45.30	45.30	47.44	45.61
2	47.34	48.36	47.90	47.94
3	46.05	47.18	49.58	51.48
4	45.39	47.22	49.13	50.84
5	46.35	48.15	49.13	49.55
6	46.24	48.04	47.90	51.23
12	46.72	49.29	46.28	48.77
18	46.98	50.03	48.41	50.90

As already noted, we can use the estimated coefficients to see what explains the UK-US differences. In Figure 2, the solid line shows the simulated employment rates over time (relative to quarter 1, the quarter of randomisation) for the UK. The line with diamonds shows the corresponding rate for the US. To avoid cluttering the diagram, confidence intervals are not shown. Instead, we report in Table 7 the standard errors of the simulations. In the UK there are essentially no impacts while in the US we see significant positive impacts of roughly 2-3 percentage points for much of the period.

The other lines in Figure 2 provide an insight into why the impacts in the US are different from those in the UK. To understand what these represent, consider the simulated outcomes for the UK. These are generated using the UK sample, the relevant estimated coefficients (not the coefficients for the US, in other words) and the UK distribution of unobserved heterogeneity. The crossed line (labelled "US X, UK β, UK υ") shows the outcomes generated when the US sample is used instead of the UK sample but with the UK coefficients and UK distribution of unobserved heterogeneity. As such, it provides an estimate of the effect UK ERA might be expected to have if people in the US behaved in a similar way to people in the UK and, furthermore, were similar in their unobserved characteristics. The simulations suggest a negative impact of ERA under these conditions, although we also note from Table 7 that these impacts never achieve statistical significance. The role of unobserved characteristics looks rather marginal. The dashed line (labelled "UK X, UK β, US υ") applies the UK coefficients to the UK data but assumes the US distribution of unobserved heterogeneity. The resulting line lies very close to the UK simulations (line 1) which is not surprising given that the model finds rather similar distribution of unobserved heterogeneity in the two countries.

Clearly, it is the dotted line which drives the differences between the UK and the US. This line (labelled "UK X, US β, UK υ") shows the effect of applying the US coefficients to the UK data while assuming the UK distribution of unobserved heterogeneity. These impacts lie above those for the US and we see from Table 7 that they are statistically significant at the five per cent level for much of the simulated follow-up period. It appears that, for whatever reason, individuals in the US simply responded more strongly to ERA than individuals in the UK.

Figure 2: Exploring differences between the UK and the US in the estimated impacts of ERA on employment rates

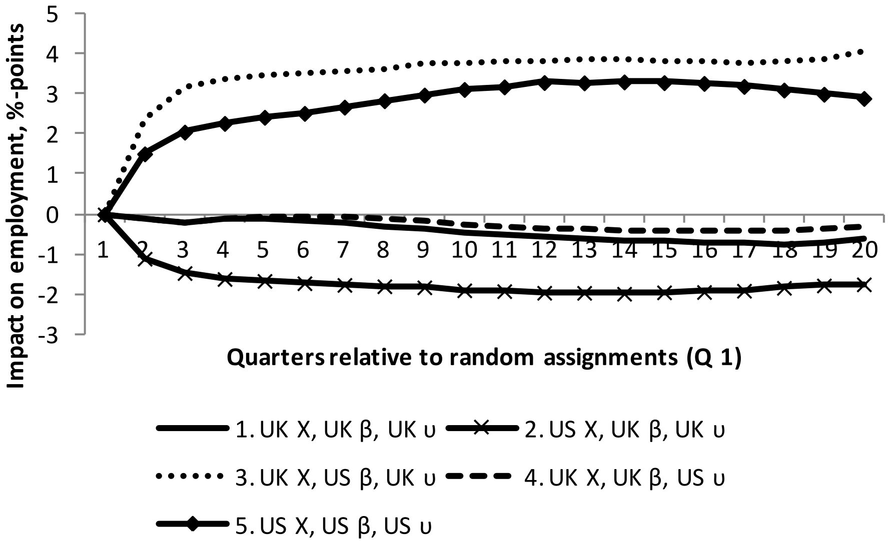


Table 7: Exploring differences between the UK and the US in the estimated impacts of ERA on employment rates (%-points)

Quarter	(1)	(2)	(3)	(4)	(5)
1	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	-0.10	-1.11	2.38	-0.14	1.51
	(0.87)	(1.00)	(1.16)	(1.10)	(1.18)
3	-0.21	-1.47	3.19	-0.24	2.06
	(0.88)	(1.06)	(1.31)	(1.02)	(1.04)
4	-0.14	-1.61	3.38	-0.12	2.28
	(0.86)	(1.05)	(1.42)	(0.89)	(1.08)
5	-0.14	-1.66	3.47	-0.08	2.43
	(0.93)	(1.13)	(1.50)	(0.95)	(1.18)
6	-0.16	-1.72	3.52	-0.08	2.53
	(1.02)	(1.19)	(1.63)	(1.02)	(1.28)
12	-0.59	-1.96	3.83	-0.35	3.30
	(1.19)	(1.64)	(1.86)	(1.21)	(1.60)
18	-0.75	-1.83	3.81	-0.43	3.11
	(1.41)	(1.72)	(2.04)	(1.44)	(1.76)

Note: Table entries show the simulated percentage point impact of ERA on the employment rate at varying times post random assignment. Column (1) shows the simulated UK impacts. Column (2) simulates impacts applying the UK behavioural coefficients and the UK distribution of unobserved heterogeneity to the US data. Column (3) simulates impacts applying the US behavioural coefficients and the UK distribution of unobserved heterogeneity to the UK data. Column (4) simulates impacts applying the UK behavioural coefficients but the US distribution of unobserved heterogeneity to the UK data. Column (5) simulates the US impacts. Standard errors are shown in parentheses.

6. Discussion

<to follow>

7. Conclusion

<to follow>

Appendix Table 1: Hazards of employment entry and retention: estimated coefficients

	Interrupted spells		Fresh spells		Interrupted spells		Fresh spells	
	u --> e	**e --> u**	**u --> e**	**e --> u**	**u --> e**	**e --> u**	**u --> e**	**e --> u**
ERA dummy	-0.018	0.116 *	0.058	0.046	0.005	0.087	0.089	0.063
	(0.042)	(0.062)	(0.045)	(0.044)	(0.047)	(0.066)	(0.058)	(0.053)
ERA*US	0.059	-0.204 **	0.022	-0.121 *	0.045	-0.161 *	-0.02	-0.221 ***
	(0.075)	(0.092)	(0.061)	(0.063)	(0.079)	(0.097)	(0.075)	(0.073)
ERA*post-ERA					-0.114	0.171	-0.062	-0.043
					(0.096)	(0.138)	(0.074)	(0.070)
ERA*US*post-ERA					0.009	-0.284	0.085	0.267 ***
					(0.208)	(0.241)	(0.098)	(0.094)
US	-5.931 ***	-0.404	-3.045 ***	1.105 *	-6.05 ***	-0.126	-3.104 ***	0.934
	(0.638)	(0.907)	(0.666)	(0.629)	(0.647)	(0.933)	(0.669)	(0.634)
Baseline hazard								
Quarter 1	0.717 ***	-1.344 ***	0.631 ***	0.219 ***	0.722 ***	-1.347 ***	0.631 ***	0.215 ***
	(0.176)	(0.245)	(0.075)	(0.080)	(0.176)	(0.243)	(0.075)	(0.080)
Quarter 2	0.691 ***	0.004	0.5 ***	0.695 ***	0.694 ***	-0.003	0.499 ***	0.692 ***
	(0.141)	(0.145)	(0.076)	(0.073)	(0.141)	(0.144)	(0.076)	(0.073)
Quarter 3	0.45 ***	0.266 **	0.45 ***	0.445 ***	0.452 ***	0.261 **	0.449 ***	0.442 ***
	(0.137)	(0.124)	(0.078)	(0.076)	(0.137)	(0.124)	(0.078)	(0.076)
Quarter 4	0.604 ***	0.127	0.335 ***	0.49 ***	0.605 ***	0.125	0.333 ***	0.487 ***
	(0.122)	(0.118)	(0.083)	(0.076)	(0.122)	(0.118)	(0.083)	(0.076)
Quarters 5-6	0.504 ***	0.036	0.275 ***	0.25 ***	0.504 ***	0.035	0.274 ***	0.248 ***
	(0.088)	(0.094)	(0.072)	(0.070)	(0.088)	(0.094)	(0.072)	(0.070)
US*Quarter 1	0.455 **	1.898 ***	0.566 ***	0.275 ***	0.452 **	1.898 ***	0.565 ***	0.281 ***
	(0.212)	(0.299)	(0.098)	(0.099)	(0.212)	(0.297)	(0.099)	(0.099)
US*Quarter 2	0.241	0.933 ***	0.409 ***	-0.163 *	0.24	0.938 ***	0.409 ***	-0.156
	(0.180)	(0.185)	(0.104)	(0.097)	(0.181)	(0.185)	(0.105)	(0.097)
US*Quarter 3	0.484 ***	0.509 ***	0.378 ***	-0.144	0.484 ***	0.513 ***	0.378 ***	-0.135

	(0.174)		(0.172)		(0.109)		(0.105)		(0.174)		(0.172)		(0.110)		(0.105)	
US*Quarter 4	-0.029		0.474	***	0.396	***	-0.291	***	-0.028		0.477	***	0.397	***	-0.281	**
	(0.173)		(0.177)		(0.117)		(0.111)		(0.173)		(0.177)		(0.118)		(0.111)	
US*Quarters 5-6	0.111		0.445	***	0.225	**	-0.075		0.112		0.446	***	0.225	**	-0.068	
	(0.130)		(0.141)		(0.107)		(0.103)		(0.130)		(0.141)		(0.107)		(0.103)	
janfebmar	0.413	***	0.329	***	0.336	***	0.03		0.404	***	0.345	***	0.325	***	0.023	
	(0.063)		(0.080)		(0.064)		(0.056)		(0.063)		(0.081)		(0.065)		(0.057)	
aprmayjun	0.288	***	0.013		0.27	***	-0.003		0.283	***	0.024		0.262	***	-0.008	
	(0.063)		(0.081)		(0.063)		(0.055)		(0.063)		(0.081)		(0.064)		(0.055)	
Julaugsep	0.357	***	0.006		0.293	***	0.031		0.354	***	0.012		0.29	***	0.028	
	(0.060)		(0.078)		(0.062)		(0.052)		(0.060)		(0.078)		(0.062)		(0.052)	
US*janfebmar	-0.002		-0.45	***	-0.027		-0.106		0		-0.473	***	-0.013		-0.075	
	(0.110)		(0.124)		(0.081)		(0.075)		(0.111)		(0.125)		(0.082)		(0.077)	
US*aprmayjun	-0.017		-0.047		-0.039		0.003		-0.016		-0.064		-0.028		0.032	
	(0.110)		(0.120)		(0.081)		(0.073)		(0.111)		(0.121)		(0.082)		(0.073)	
US*julaugsep	-0.041		-0.152		-0.011		-0.041		-0.042		-0.164		-0.004		-0.014	
	(0.106)		(0.118)		(0.079)		(0.070)		(0.106)		(0.119)		(0.079)		(0.071)	
Youngest child 0to2	0.03		0.122		0.129	**	0.13	**	0.03		0.12		0.13	**	0.13	**
	(0.061)		(0.088)		(0.062)		(0.061)		(0.061)		(0.088)		(0.062)		(0.062)	
Youngest child 3to5	0.04		-0.022		-0.106		0.022		0.04		-0.022		-0.106		0.022	
	(0.060)		(0.087)		(0.066)		(0.063)		(0.060)		(0.087)		(0.066)		(0.063)	
age_18to29	-0.029		0.362	***	-0.126	**	0.283	***	-0.029		0.364	***	-0.127	**	0.284	***
	(0.048)		(0.067)		(0.050)		(0.050)		(0.048)		(0.067)		(0.050)		(0.050)	
US*youngest child 0-2	0.145		-0.078		-0.015		0.003		0.144		-0.075		-0.017		0.009	
	(0.108)		(0.130)		(0.086)		(0.090)		(0.108)		(0.130)		(0.086)		(0.090)	
US*youngest child 3-5	0.093		0.097		0.1		0.167	*	0.093		0.098		0.098		0.174	*
	(0.119)		(0.136)		(0.093)		(0.098)		(0.119)		(0.136)		(0.093)		(0.098)	
US*age 18-29	0.485	***	-0.265	**	0.302	***	-0.357	***	0.485	***	-0.268	**	0.301	***	-0.362	***
	(0.093)		(0.109)		(0.072)		(0.078)		(0.093)		(0.110)		(0.072)		(0.078)	
urateSA	-0.465	***	0.21	*	-0.339	***	0.001		-0.483	***	0.243	**	-0.351	***	-0.008	

	(0.084)		(0.111)		(0.055)		(0.055)		(0.085)		(0.114)		(0.057)		(0.056)	
US*urateSA	0.55	***	-0.143		0.184	**	0.028		0.565	***	-0.18		0.198	***	0.068	
	(0.105)		(0.132)		(0.074)		(0.075)		(0.106)		(0.135)		(0.076)		(0.077)	
Year	-1.156	***	-0.511	**	-0.771	***	0.129		-1.187	***	-0.454	**	-0.782	***	0.117	
	(0.141)		(0.205)		(0.158)		(0.144)		(0.143)		(0.210)		(0.159)		(0.144)	
year squared	0.092	***	0.018		0.068	***	-0.011		0.096	***	0.011		0.07	***	-0.01	
	(0.012)		(0.017)		(0.012)		(0.011)		(0.012)		(0.018)		(0.013)		(0.012)	
US*year	1.035	***	0.462	*	1.059	***	0.028		1.062	***	0.401		1.066	***	0.012	
	(0.199)		(0.253)		(0.174)		(0.161)		(0.200)		(0.257)		(0.175)		(0.162)	
US*year squared	-0.107	***	-0.042		-0.12	***	-0.026		-0.108	***	-0.032		-0.122	***	-0.027	*
	(0.025)		(0.029)		(0.017)		(0.016)		(0.026)		(0.030)		(0.017)		(0.016)	
_cons	1.543	*	-0.415		0.605		-1.043		1.719	*	-0.674		0.663		-1.009	
	(0.917)		(0.915)		(0.674)		(0.664)		(0.901)		(0.941)		(0.673)		(0.653)	
mass point 2	1.065		4.142	***	1.176		1.382	*	1.038		4.105	***	1.139		1.334	*
	(0.839)		(0.761)		(0.721)		(0.729)		(0.805)		(0.734)		(0.693)		(0.701)	
mass point 3	-0.576		1.815	***	-1.593	***	-1.814	***	-0.597		1.803	***	-1.597	***	-1.823	***
	(0.463)		(0.559)		(0.377)		(0.418)		(0.459)		(0.554)		(0.374)		(0.416)	
mass point 4	1.079	***	0.2		0.063		1.183	***	1.06	***	0.199		0.054		1.18	***
	(0.345)		(0.306)		(0.309)		(0.292)		(0.343)		(0.299)		(0.305)		(0.285)	
mass point 5	-1.872	***	-2.256	***	-1.653	***	-3.369	***	-1.845	***	-2.243	***	-1.63	***	-3.352	***
	(0.373)		(0.378)		(0.359)		(0.375)		(0.345)		(0.350)		(0.330)		(0.349)	
pr(mass point 2)	0.118								0.122							
	(0.063)								(0.067)							
pr(mass point 3)	0.088								0.088							
	(0.010)								(0.010)							
pr(mass point 4)	0.52								0.516							
	(0.060)								(0.064)							
pr(mass point 5)	0.249								0.248							

	(0.030)	(0.030)
ll	-58167.3	-58158.7
N	182454	182454

* p<0.10, ** p<0.05, *** p<0.01

Appendix Table 2: Hazards of employment entry and retention: estimated coefficients

	Interrupted spells				Fresh spells			
	u --> e		e --> u		u --> e		e --> u	
Constant	1.303	***	1.358	**	-2.396	***	-3.323	***
	(0.455)		(0.614)		(0.260)		(0.225)	
US (reference = UK)	-3.547	***	-2.036	***	-1.183	***	-0.458	*
	(0.485)		(0.581)		(0.282)		(0.256)	
Spell duration (quarters, reference = 7+ quarters):								
1	0.725	***	-0.896	***	0.793	***	0.663	***
	(0.182)		(0.171)		(0.060)		(0.060)	
2	0.779	***	0.153		0.609	***	1.059	***
	(0.160)		(0.133)		(0.066)		(0.057)	
3	0.589	***	0.386	***	0.52	***	0.742	***
	(0.143)		(0.135)		(0.071)		(0.065)	
4	0.711	***	0.294	**	0.368	***	0.739	***
	(0.129)		(0.132)		(0.078)		(0.068)	
5-6	0.562	***	0.197	**	0.275	***	0.436	***
	(0.097)		(0.100)		(0.069)		(0.065)	
Spell duration interacted with US dummy:								
US*1	0.425	*	1.462	***	0.754	***	0.619	***
	(0.234)		(0.235)		(0.084)		(0.084)	
US*2	0.328		1.036	***	0.547	***	0.126	
	(0.202)		(0.206)		(0.093)		(0.084)	
US*3	0.594	***	0.719	***	0.481	***	0.113	
	(0.182)		(0.179)		(0.101)		(0.095)	
US*4	0.08		0.602	***	0.48	***	-0.069	
	(0.181)		(0.185)		(0.111)		(0.104)	
US*5-6	0.202		0.446	***	0.292	***	0.091	
	(0.140)		(0.148)		(0.104)		(0.098)	
Personal characteristics:								
Youngest child 0-2	0.077		0.241	**	0.123	*	0.096	
	(0.085)		(0.113)		(0.067)		(0.061)	
Youngest child 3-5	0.014		0.108		-0.058		0.004	
	(0.086)		(0.112)		(0.073)		(0.065)	
Age 18-29	0.012		0.308	***	-0.17	***	0.23	***
	(0.068)		(0.091)		(0.056)		(0.051)	
Personal characteristics interacted with US dummy:								
US*Youngest child 0-2	0.144		-0.113		-0.036		-0.026	
	(0.125)		(0.138)		(0.073)		(0.070)	
US*'Youngest child 3-5	0.086		0.09		0.083		0.108	
	(0.138)		(0.142)		(0.080)		(0.076)	
US*Age 18-29	0.617	***	-0.269	**	0.271	***	-0.233	***
	(0.106)		(0.115)		(0.062)		(0.059)	
Local unemployment								
Unemployment rate	-0.367	***	-0.362	***	-0.123	***	0.064	
	(0.077)		(0.093)		(0.045)		(0.039)	

US*Unemployment rate	0.581	***	0.492	***	0.221	***	0.166	***
	(0.084)		(0.099)		(0.047)		(0.042)	
Calendar time variables								
Quarter 1 (jan-mar)	0.283	***	0.082		0.44	***	0.013	
	(0.057)		(0.071)		(0.059)		(0.052)	
Quarter 2 (apr-jun)	0.187	***	-0.158	**	0.337	***	-0.007	
	(0.059)		(0.076)		(0.060)		(0.052)	
Quarter 3 (jul-sep)	0.286	***	-0.116		0.32	***	0.023	
	(0.057)		(0.074)		(0.061)		(0.051)	
Calendar time variables interacted with US dummy								
US*Quarter 1	0.029		-0.316	***	-0.199	***	-0.181	**
	(0.103)		(0.113)		(0.076)		(0.071)	
US*Quarter 2	0.04		0.05		-0.156	**	-0.052	
	(0.108)		(0.116)		(0.078)		(0.069)	
US*Quarter 3	0.024		-0.059		-0.061		-0.065	
	(0.106)		(0.116)		(0.078)		(0.069)	
Unobserved heterogeneity:								
mass point 2	-2.52	***	-2.615	***	0.186	**	-0.033	***
	(0.128)		(0.243)		(0.075)		(0.073)	
Treatment effects:								
ERA (reference = control group)	0.667	*	-0.452		0.118		0.371	*
	(0.365)		(0.439)		(0.234)		(0.220)	
ERA*US	0.188	*	-0.283	**	-0.026		-0.086	
	(0.110)		(0.125)		(0.061)		(0.058)	
ERA*Youngest child 0-2	-0.085		-0.14		-0.016		0.072	
	(0.109)		(0.129)		(0.071)		(0.068)	
ERA*Youngest child 3-5	0.103		-0.178		-0.077		0.052	
	(0.113)		(0.135)		(0.079)		(0.075)	
ERA*Age 18-29	-0.12		0.104		0.118	*	0.016	
	(0.090)		(0.109)		(0.062)		(0.059)	
ERA*Unemployment rate	-0.103		0.151	*	0.012		-0.064	*
	(0.071)		(0.082)		(0.040)		(0.039)	
ERA*mass point 2	-0.101		-0.235		-0.235	**	-0.011	
	(0.154)		(0.200)		(0.101)		(0.099)	
	uk				us			
pr(mass point 2)	0.824				0.764			
ll	-58422.3							
N	174948							

* p<0.10, ** p<0.05, *** p<0.01