

## **Who are the unemployed? Evidence from the United Kingdom**

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### **Abstract**

Using the UK Labour Force Survey 2005-2012, we analyse heterogeneity among non-employment subgroups in future employment hazards. Based on the results, we propose alternative measures of unemployment that include out-of-the-labour-force subgroups with similar or higher hazards to the officially unemployed.

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## 1. Introduction

The International Labour Organisation (ILO) defines individuals as unemployed if they are out of work, have looked for work recently, and are currently available to start working within 2 weeks.<sup>1</sup> The economically inactive, or people out of the labour force, encompass anyone who is out of work and not satisfying the recent search and/or current availability criterion. Such an aggregation conceals much heterogeneity in the labour force attachment of the inactive, who can be broadly split into three groups: people who are searching but not currently available for work; people who are not searching but would like to work; and people who are not searching and would not like to work. Each group can also be subdivided according to their reasons for being in that group. Given this heterogeneity, it is conceivable that some members of the inactive behaviourally resemble the ILO unemployed rather closely, making it appropriate to devise alternative measures of unemployment in which they are included to obtain a more accurate measure of the state of the labour market.

The central idea in this paper is that component groups of the inactive can be classified as unemployed if their probability of transition into employment, i.e. employment hazard, is similar to or greater than that of the ILO unemployed. The early literature in this area focuses on whether the unemployed and the inactive, as a whole, are behaviourally distinct in terms of employment hazard (Clark and Summers, 1982; Flinn and Heckman, 1983; Tano, 1991; Gönül, 1992). The emergence of richer survey data has allowed more recent studies to look beyond the unemployed vs. inactive dichotomy. The detailed breakdown of the reasons for inactivity in the Canadian Labour Force Survey (LFS) 1997-2000 allowed Jones and Riddell (2006) to show that some groups of the inactive, principally people awaiting the results of a job application, are behaviourally indistinct from the unemployed, supporting their categorisation as unemployed. However, the authors find that most other groups are appropriately aggregated as inactive, for they are quite different from the unemployed in terms of transition rates into employment and inactivity.

Our approach is similar to that of Jones and Riddell (2006), but data from the quarterly UK LFS covering 2005-2012 allows us to add two dimensions to the analysis. First, it provides an even more detailed breakdown of the inactive. This allows us to consider heterogeneity

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<sup>1</sup> The ILO does not define how recent a “recent” job search needs be but 4 weeks is the conventional cut off (Brandolini et al., 2006). The ILO also defines as unemployed people who have already found a job and are waiting to start in 2 weeks.

within all three broad groups of the inactive, instead of focusing on the “marginally attached” or people who are not searching but would like to work. Second, the UK LFS has a longer observation horizon (5 quarters c.f. 6 months) and the sampling period encompasses the onset of a major recession in 2008. This allows us to consider the potential sensitivity of the evidence-based classification of unemployment to transition across labour market states from one to four quarters and over business cycles. Schweitzer’s (2003) earlier UK study adopted different approaches from ours and covers only the expansionary period of 1993-1999.

## 2. Data and empirical approach

Table A1 in the online appendix<sup>2</sup> reports raw frequency counts for all groups and subgroups in the analysis. Since the raw data are not representative of the population, each observation is weighted by its longitudinal weight when computing the transition probabilities and unemployment rates.

We have adapted the classification scheme of Jones and Riddell (2006; J-R hereafter) to suit our more detailed data. The NL (not searching, would like to work) and NN (not searching, would not like to work) groups respectively correspond to the “marginally attached” and the “non-attached” (the two main inactive groups) in their analysis. But as a third main group, we also consider SN (searching, not currently available): these job searchers, who only differ from the unemployed due to their unavailability for work, are expected to resemble the unemployed more than the other groups.

To investigate within-group heterogeneity, J-R subdivided the NL group into 4 subgroups according to their reasons for not searching, and the NN group into long-term future job starts and “the rest”. Our data allow us to handle NL and NN symmetrically, by also subdividing “the rest” of NN according to reasons for not searching. We also subdivide the SN group according to reasons for unavailability, which are a subset of reasons for not searching.

The analysis focuses on comparing employment hazards. The question of interest is whether a particular inactive (sub)group is at least as attached to the labour market as the ILO unemployed. More formally, the null hypothesis is:

$$H_0: p_{O_{i-E}} - p_{U-E} \geq 0 \quad (1)$$

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<sup>2</sup> This is available at: <http://goo.gl/MjF1o5>

where  $p_{O_i-E}$  is the employment hazard of (sub)group  $O_i$  and  $p_{U-E}$  is that of the ILO unemployed.  $p_{O_i-E}$  is computed for each non-employed (sub)group, and  $H_0$  is tested against the alternative that this (sub)group is less attached (i.e. the difference-in-proportions in (1) is negative).

### 3. Results

Table 1 reports the employment hazard of each non-employed group, computed as the weighted proportion of people in that group at time  $t_0$  who move into employment at time  $t_1$ .  $t_0$  and  $t_1$  are one quarter apart (top panel) or four quarters apart (bottom panel). The online appendix provides information on the intermediate horizons. Each panel presents three sets of results using all available non-employment spells (2005-2012), spells beginning and ending in 2005-2008, and in 2009-2012. While the UK recession began in 2008, the first quarter of 2009 saw the largest fall (over 0.1) in the adjacent quarter employment hazard of the ILO unemployed. Using 2009 as the cut-off also has the advantage of roughly dividing the sample into halves. In all columns, the ranking of the hazards across the broad categories is what would be expected:  $p_{U-E} > p_{SN-E} > p_{NL-E} > p_{NN-E}$ .

The 2005-2012 results suggest that it is reasonable to consider as unemployed the “Searching, not available” (SN) group, which is by definition similar to the ILO unemployed (U) apart from not being available to start within 2 weeks. The difference between the employment hazards of SN and U is statically significant but small (0.039) over one quarter, and almost non-existent over four quarters. The case for inclusion is particularly strong for those whose non-availability is due to non-personal reasons (SN2): their employment hazard is always higher than that of U.

By contrast, the “Not searching, would like work” (NL) group exhibits a distinctly lower employment hazard than the ILO unemployed (U). Classifying these “marginally attached” individuals as unemployed appears less appropriate in our context than the Canadian context of J-R, where the employment hazard over one quarter is much higher at 0.215 (c.f. 0.053 in the UK). However, within-group heterogeneity qualitatively mirrors the findings of J-R. People awaiting job application outcomes (NL1) are a reasonable candidate for inclusion in unemployment: this subgroup’s employment hazard is higher than that of the ILO unemployed (U). Those who are not searching for personal reasons (NL2) and those believing that no job is available (NL3) have distinctively lower hazards than U.

Table 1: Transition probabilities into employment for one and four quarters, UK

Transitions from:	Transitions to Employment		
	2005-2012	2005-2008	2009-2012
		1 quarter apart	
U: Unemployment (searching, available)	0.235	0.270	0.219
U1: Job searchers	0.225**	0.259*	0.211
U2: Future job starts	0.706	0.756	0.687
SN: Searching, not available	0.196***	0.237***	0.168***
SN1: Personal	0.167***	0.216***	0.135***
SN2: Others	0.281	0.293	0.269
NL: Not searching, would like work	0.053***	0.061***	0.048***
NL1: Waiting	0.295	0.331	0.284
NL2: Personal	0.043***	0.047***	0.041***
NL3: Discouraged	0.046***	0.045***	0.047***
NL4: Others	0.142***	0.170***	0.120***
NN: Not searching, would not like work	0.041***	0.047***	0.035***
NN0: Long-term future job starts	0.662	0.706	0.632
NN1: Waiting	0.198	0.235	0.198
NN2: Personal	0.036***	0.041***	0.031***
NN3: Discouraged	0.023***	0.039***	0.010***
NN4: Others	0.100***	0.118***	0.087***
		4 quarters apart	
U: Unemployment (searching, available)	0.409	0.449	0.397
U1: Job searchers	0.404	0.444	0.393
U2: Future job starts	0.759	0.754	0.740
SN: Searching, not available	0.403	0.420	0.410
SN1: Personal	0.370**	0.382**	0.389
SN2: Others	0.478	0.504	0.459
NL: Not searching, would like work	0.124***	0.125***	0.128***
NL1: Waiting	0.490	0.337	0.654
NL2: Personal	0.109***	0.116***	0.111***
NL3: Discouraged	0.069***	0.041***	0.085***
NL4: Others	0.223***	0.201***	0.238***
NN: Not searching, would not like work	0.117***	0.127***	0.110***
NN0: Long-term future job starts	0.797	0.809	0.794
NN1: Waiting	0.211**	0.363	0.000***
NN2: Personal	0.111***	0.120***	0.105***
NN3: Discouraged	0.088***	0.130***	0.000***
NN4: Others	0.182***	0.193***	0.193***

\*/\*\*/\*\*\* denotes rejection of the null (see equation 1) at the 10%/5%/1% level

Source: UK LFS

The “Not searching, would not like work” (NN) group has the lowest employment hazard, making their blanket inclusion in unemployment inappropriate, but the group-level hazard masks important exceptions. NN encompasses those who have found a job and are waiting to start (NN0): they are like their counterparts in the ILO unemployed (U2), except the job does not start within 2 weeks. The case for inclusion of NN0 in unemployment is even stronger in the UK than Canada, because the employment hazard of this subgroup is much higher (0.662 vs. 0.270 over 3 months in J-R) and similar to that of U2, far exceeding that of the job searchers (U1) who form the core of the ILO unemployed. The “Waiting” subgroup (NN1) also may be considered for inclusion as the one-quarter employment hazard of NN1 is not far

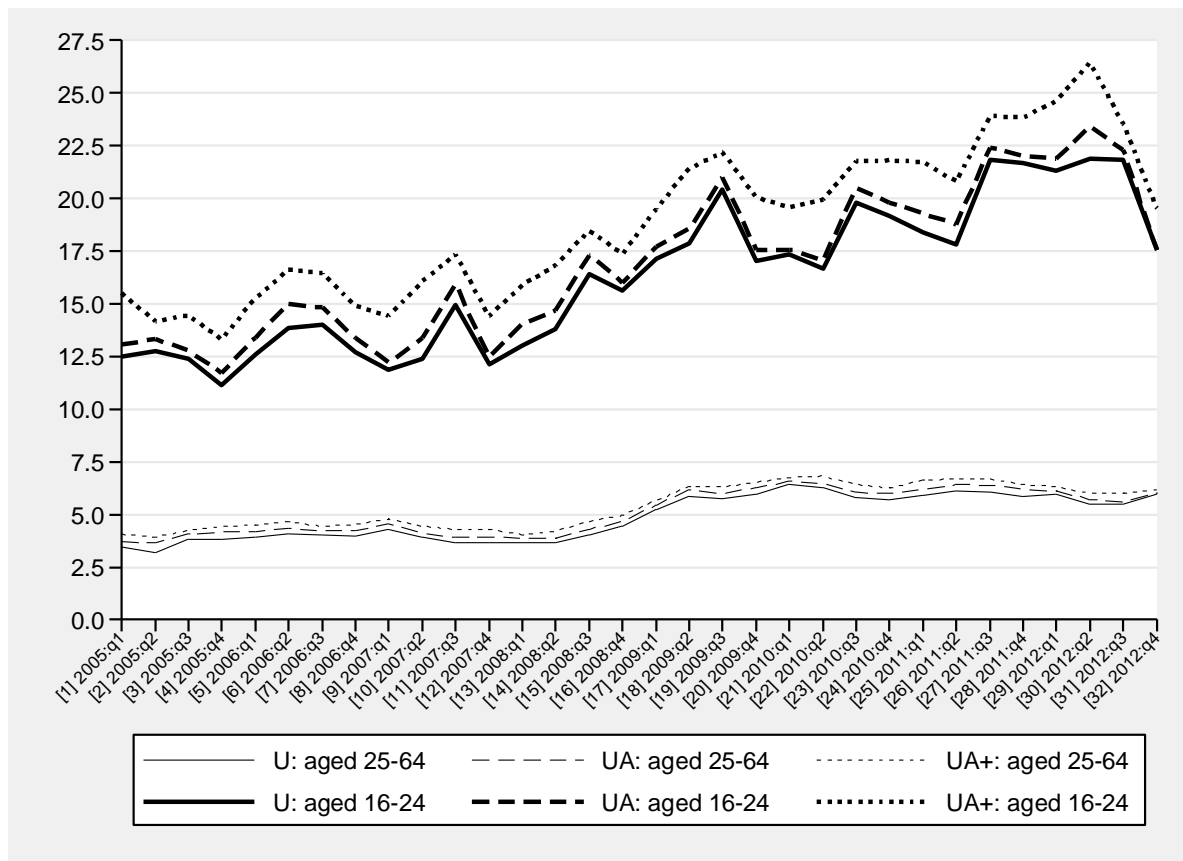
below that of U. However, unlike the “Waiting” subgroup who would like to work (NL1), NN1 shows a much lower four-quarter hazard than U.

Considering spells in 2005-2008 and 2009-2012 separately, almost all employment hazards declined following the economic downturn. Although the extent of the decline varied across groups, this variation was not so great as to reverse most of the earlier findings. The main between-period difference is in the four-quarter hazards of the “Waiting” subgroups (NL1 and NN1), but this is as expected: as Table A1 shows, they are relatively small in number, providing even fewer observations for computing the four-quarter hazards. Another noteworthy difference is that only in 2005-2008 do job searchers unavailable for work for personal reasons (SN1) have a lower four-quarter hazard than U by a statistically significant margin.

The results suggest two expanded definitions of unemployment,  $U^A$  and  $U^{A+}$ , that can be considered as alternatives to ILO unemployment (U).  $U^A$  comprises U, SN2 (Others), NL1 (Waiting) and NN0 (Long-term future starts) because these 3 subgroups have higher employment hazards than U.  $U^{A+}$  comprises  $U^A$  and also SN1 (Personal) and NN1 (Waiting), noting that evidence supporting their incorporation is sensitive to horizons and time periods over which the employment hazards are computed.

Since the inactive components of  $U^A$  and  $U^{A+}$  account for small fractions of the overall working age population, the three unemployment rates based on U,  $U^A$  and  $U^{A+}$  would vary more in the analysis of a particular submarket than the UK labour market as a whole. For illustration, Figure 1 plots three rates of adult (aged 25-64) and youth (aged 16-24) unemployment in each quarter of 2005-2012. For adults, forming the core of the working age population, the three unemployment measures are almost indistinguishable. For youths, however, the  $U^{A+}$  rate remains distinctively and persistently higher than the other two. Given that youth unemployment is a major policy challenge in the UK (Bell and Blanchflower, 2010), this finding warrants a more specialised study of the labour state transitions of SN1 and NN1 subgroups within this age band.

Figure 1: Quarterly youth (aged 16-24) and adult (aged 25-64) unemployment rates in the UK



Source: UK LFS

#### 4. Conclusion

This paper has used the UK LFS covering 2005-2012 to develop an evidence-based classification of unemployment. The results suggest that such a classification would augment the official measure with job searchers currently unavailable for work due to non-personal reasons, the marginally attached awaiting job application outcomes, and people with a job starting more than 2 weeks later. It may further incorporate every job searcher and everyone awaiting a job application outcome, though the results supporting this latter classification are weaker. The results suggest that evidence-based measures of unemployment remain rather stable across time and countries: the measures derived using different horizons and time periods are similar, and Jones and Riddell (2006) also arrived at similar expanded definitions using the Canadian LFS covering 1997-2000. This implies that such measures have the potential to be useful means of comparison across disparate labour markets.

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