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Job separation rates of immigrants and natives in the UK during the Great Recession

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Abstract

Purpose: This paper assesses the probability of job separations of immigrants and natives in the UK before and during the economic crisis of 2008.

Design/methodology/approach: A mixed proportional hazard duration model with a semi-parametric piecewise constant baseline hazard is used on a data sample of inflows into employment.

Findings: It is found that the crisis increased the probability of exits to unemployment for all groups, while immigrants from the new countries of the European Union seemed to have the lowest hazard towards unemployment even after controlling for their demographic and labour market characteristics. More specifically, even when we account for the fact that they tend to cluster in jobs that are most vulnerable to the business cycle, they are still less likely to exit dependent employment than natives. However, this migrant group is adversely affected by the crisis the most.

Research limitations/implications: Possible implications of out-migration of the lower performers are discussed.

Originality/value: This paper makes use of the panel element of the UK Quarterly Labour Force Survey, and uses duration analysis on the individual level to assess the labour market outcomes of natives and immigrants in the UK.

1. Introduction

The financial crisis of 2008 has been recognised to have serious effects on the labour markets in developed economies. More difficult trading conditions led to lower hiring rates and the laying off of workers in many sectors. The effect of these changes in the labour market might be expected to differentially affect migrant and native labour. On one hand, immigrants face disadvantages relative to those born in a destination country due to language barriers, non-transferable human capital, and potentially discriminatory hiring practices. On the other hand, positive selection of migrants may outweigh these factors, leading to better outcomes for immigrants.

This paper aims to investigate the differential effect of the crisis on native and migrant job separation rates. Separation rates give some indication of the relative value of labour, as we assume that employers will tend to keep hold of more productive workers, all else being equal. A duration model with exits to unemployment is estimated (controlling for various characteristics) in order to address this question. The main assumption behind this approach is that the longer an employee has been working for a specific employer, the more likely they are to have accumulated job-specific human capital, and as a result, the greater the loss for the company in the event that that worker is laid off [Cahuc and Zylberberg, 2004]. The more skilled the job, the more relevant this connection between duration of employment and human capital accumulation may be. As well as the loss of job specific human capital, statutory redundancy costs are also often increasing in duration of employment. The implication is that there is duration dependence in the hazard of job separation, meaning that for different lengths of employment, one could expect different

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4 hazards of exit from employment.

5 Recent research on the drivers of unemployment in the UK has indicated, that increased job separation
6 rates might be equally -if not more- responsible for increased unemployment rates during the recession,
7 than reductions in hirings. [Sutton \[2013\]](#) found that during the economic crisis, job separations played an
8 important role in increased unemployment in the UK, while [Gomes \[2012\]](#) found that for the UK job
9 separation rates differed among individuals with different educational backgrounds and different
10 employment histories (depending on whether they were employed, unemployed, or inactive before they
11 transitioned from employment to unemployment).
12

13 This paper focusses particularly on the effects of the crisis on immigrants. The relatively high levels of
14 migration into the UK following the accession of eight Eastern European countries into the EU in 2004
15 has been politically controversial. As migration within the EU is unrestricted, EU immigration flows are
16 not subject to UK visa laws. Thus, the extent to which EU migrants are successful in the labour market
17 cannot be affected by UK visa requirements on skills or language fluency. Human capital and experience
18 that has been acquired abroad, does not always provide equal returns in the UK labour market, as [Clark
19 and Drinkwater \[2008\]](#) have found, both with respect to employment rates and wages. At the same time
20 immigrants might have a natural disadvantage in the labour market due to possible discrimination,
21 language problems, lack of networks, and non-transferability of skills. Those facts lead to the next question:
22 were immigrants hit by the crisis to a greater extent than the natives?
23

24 In this paper we will present a duration model with exits (separations) from dependent employment to
25 unemployment. This approach requires that individuals of similar employment spans are compared. Our
26 main interest is to examine the effects of the crisis on the migrants from the newly accessed EU member
27 states. The timing of accession and the duration of the crisis are of imperative importance in our analysis,
28 defining the final sample to be used.
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30 The A8 countries joined the EU during the second quarter of 2004, so the majority of immigrants from
31 these countries arrived after this date. The effect of the Great Recession on output, dates from around the
32 second quarter of 2008, and GDP declined for approximately four subsequent quarters. However, the effect
33 on the labour market was much longer lasting, with unemployment remaining higher than before the
34 recession until 2014 at least [[Office of National Statistics, 2015](#)]. For comparisons between the UK natives
35 and the A8 immigrants to be informative, we must consider that A8 immigrants started to work in the
36 UK at earliest in 2004, and so we must restrict the sample to employment spells that commensurate with
37 this start date. The analysis covers the period between the second quarter of 2005 and the first quarter of
38 2011, and thus the longest employment spell is 72 months. Identification is maintained under standard
39 assumptions.
40

41 The data used in this paper are from the Quarterly Labour Force Survey. The sample created includes
42 inflows to employment (initial state) and follows the individuals until an exit to unemployment occurs, or
43 until the end of the observation window. This handling of the data allows for unobserved heterogeneity to
44 be included in the model. A mixed proportional piecewise constant hazard model is used for the
45 estimations.
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4 Several potential drawbacks (for example return migration, early attrition from the sample) with this
5 approach can be suggested. However, the approach we follow helps compare the labour market outcomes
6 of recently arrived immigrants to those of natives under changing economic conditions. A better
7 understanding of return migration and the flexibility of immigrants with respect to moving between
8 countries is of imperative importance; as [Barret and Kelly \[2010\]](#) point out in the case of Ireland, the
9 return migration of migrants in the case of unemployment is positive for the host country, as it provides
10 a flexible source of labour.

11
12 The paper is structured in the following way; first we discuss the relevant literature; then we present the
13 data and provide descriptive statistics that motivate the analysis that follows; we present the econometric
14 approach; the presentation of the findings of the paper along with a discussion on some potential
15 drawbacks follow; and, finally, we conclude.

16 17 18 19 **2. Literature Review**

20
21 This paper examines the differential effect of the economic crisis of the late 2000s on the immigrants and natives
22 in the United Kingdom. The historically high levels of immigration to the UK since the accession of the so-
23 called A8 countries to the European Union led to considerable public concern about the effect of such
24 inflows on both the labour market and on public service providers. The onset of recession following the
25 financial crash of 2007-8 only deepened these concerns in the UK [[Lucchino et al., 2012](#)], as increased
26 unemployment and reductions in public spending made the perceived effect of immigration more salient.
27 Much literature focuses on either the effect of the crisis on the labour market more generally (e.g. [Bell and](#)
28 [Blanchflower \[2011\]](#)), or on the effect of immigration on native labour market outcomes and on aggregate
29 fiscal balances (e.g. [Dustmann et al. \[2009\]](#)). In contrast, the focus here is on the labour market outcomes
30 of immigrants themselves, and how these were affected by the more difficult conditions after 2008. This
31 section proceeds by examining existing literature on the recession in the UK, before describing the state
32 of current knowledge about the labour market outcomes of immigrants. Existing studies focusing on A8
33 immigration to the UK are mentioned, and the importance of duration perspective on labour market
34 outcomes is also acknowledged.

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36 Following the global financial crash of 2007-8, along with many other developed economies, the United
37 Kingdom fell into a recession, with GDP declining for 5 consecutive quarters [[Office of National Statistics,](#)
38 [2015](#)]. The effects on the labour market would last considerably longer, however, as the unemployment rate
39 remained high throughout the period 2008-2014, and only began to reach pre-crisis levels in 2015 (ibid).
40 However, rates of unemployment were not as high as were experienced in other recent recessions in the UK,
41 despite a more sustained effect on productivity and output (ibid). [Gregg and Wadsworth \[2010\]](#) consider
42 this to be the result of successful labour market policies going back to 1996, as well as the right responses on
43 behalf of both the workers, who accepted declines in their real wages, and firms, who did not lay off
44 employees to preserve short-term profits. Transitions from employment to unemployment were thus, even
45 though increased, mitigated.

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4 Job separations are found to account for almost half the unemployment dynamics in the UK before the onset
5 of the crisis [[Petrongolo and Pissarides, 2008](#)]. More interestingly, separation rates are found to be even
6 more important than job finding rates in determining unemployment rates for the UK at times of rapidly
7 increasing unemployment [[Smith, 2011](#)]. This is in contrast to the experience in the US, where a reduction
8 in the rate of hirings was more important in accounting for a much sharper rise in unemployment [[Elsby and](#)
9 [Smith, 2010](#)]. However, not all individuals suffer the same job loss rates; some population groups are more
10 vulnerable than others. For example, individuals with the lowest educational background have two times
11 higher separation rates than individuals with the highest educational background [[Gomes, 2012](#)].

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13
14 There is a number of reasons why we might expect immigrants to experience different labour market
15 outcomes to those born in a host country, both during a recession and during better times. Immigrants have
16 different skills, motivations and experiences to native workers. However, the diversity of immigrant populations
17 in the UK and the existence of factors that could affect immigrants' employment prospects in both
18 directions makes it difficult to decide *a priori* how we expect migrants to perform relative to indigenous
19 populations in a downturn. [Chiswick \[1978\]](#) examined the performance of American immigrants and found
20 that despite initial disadvantage, migrants to America eventually caught up with and outperformed their peers
21 after several years in the country. He also found that the labour market conditions upon entry to the country
22 affect immigrants' long term performance. One explanation for such good performance on the part of
23 immigrants is that immigrants are often subject to selection. This can take the form of external selection
24 through border controls and visa regimes, whereby states attempt to allow only productive or wealthy
25 migrants into their territories. For example, [Bauer et al. \[2002\]](#) examined Portuguese guest-workers in
26 Germany, and found that while these migrants were less skilled than the average Portuguese worker, they
27 were positively selected with respect to income relative to similarly skilled German workers, and had a
28 high rate of vocational qualification, suggesting that the German immigration regime had succeeded in
29 attracting migrants who met skills demand in the economy.

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32 Migrants are also self-selected, in that those who tend to move might have different characteristics than the
33 general population. The very fact that migrants have moved to work in another country might mean that
34 they have high unobserved qualities, such as motivation and determination, which may translate to job
35 market success. [Chiswick \[1999\]](#) suggests, based on theoretical considerations, that migrants will be
36 positively self-selected, and that this self-selection will be greater where there are higher migration costs,
37 between countries with small skill differentials despite high wage differentials, and where ability lowers
38 migration costs.

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41 However, migrants also have disadvantages relative to those who were educated in the destination country.
42 Human capital acquired in the country of origin may translate imperfectly to the host country. The most
43 obvious example of this are language skills; studies by [Chiswick and Miller \[2002\]](#) and [Dustmann and Fabbri](#)
44 [\[2003\]](#) showed for the US and UK respectively, that lack of language skills leads to considerable disadvantages
45 in the labour market.

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48 Educational or vocational qualifications gained in the home country may also not be transferable to the
49 destination. [McGuinness and Byrne \[2015\]](#) examined the labour market performance of natives and

immigrants in 11 EU countries, and found significant evidence of over-skilling amongst migrants, without a related gain in income. [Visintin et al. \[2015\]](#) found similar evidence of such downgrading in a larger sample of more than 80 countries, finding additionally that the relationship between characteristics of the sending and receiving country is also significant in determining the degree of downgrading. [DellArima et al. \[2015\]](#) examined downgrading among immigrants in Italy, and similarly find that immigrant human capital is imperfectly transferable to the host nation. There are also differences in the transferability of skills based on the country of origin as well. In the UK, immigrants from the newly accessed European countries are found to accept elementary jobs, while they are highly educated ([Sirkeci et al. \[2014\]](#)), something that is not that highly evident on migrants from the old EU member states, or on other migrant groups.

Duration in employment may also be a significant explanatory factor for differences between migrants and native workers, as it is expected that increased duration in work will lead to higher separation cost for employers [[Cahuc and Zylberberg, 2004](#)]. [Kogan \[2004\]](#) explicitly examines the inflows and outflows to employment amongst migrant groups and natives in Germany. She finds that that recent non-EU migrants and guest workers are more likely to exit to unemployment because of the sectoral location of their employment, as well as because of their different human capital characteristics.

As previously noted, much of the literature on A8 immigration to the UK has focused on their effect on the labour market outcomes of the natives, using spatial auto-correlation methods to determine whether areas with high immigrant inflows also experience high unemployment [[Lucchino et al., 2012](#)], although it has been suggested that the geographical mobility of natives may mitigate any such effect, as those who can't find a job due to immigration may simply move elsewhere [[Hatton and Tani, 2005](#)]. Other research focusses on the benefit claims and fiscal impact of immigration. For instance, [Dustmann and Frattini \[2013\]](#) found that immigrants have a positive fiscal effect in the UK. Some other work focuses on the labour market outcomes of migrants in terms of the transferability of their skills. For the UK, [Drinkwater et al. \[2006\]](#) suggest A8 immigrants have low skills and take low-paying jobs despite good education; their rate of return to human capital is low even after controlling for their characteristics.

Less research has focussed explicitly on the dynamics of labour market outcomes of A8 immigrants themselves, and their entry and exits to employment. [Barret and Kelly \[2010\]](#) conducted such a study for Ireland using cross-sectional methods, and found that migrants to Ireland not only earned less than comparable natives, but also were more likely to lose their job after the recession. They also concluded that many immigrants returned to their country of origin or moved on to other destinations during the downturn, and that Ireland gained from this behaviour, as it was able to take advantage of labour during the boom, and shed it at little cost when the recession hit. [Kahanec and Guzi \[2016\]](#) also found that migrants (and in particular low-skilled migrants) from the new EU member states (entry in 2004 and 2007) were more responsive to the labour market needs of the host countries, reinforcing previous findings. This, along with the rest of the preceding discussion, suggests that the crisis may increase exits to unemployment differently for individuals with systematically different observable and unobservable characteristics, but it can also induce migrants to leave the UK, and thus also determine the observed average outcome for the group in question.

3. Data Description

The data used for this analysis is the Quarterly Labour Force Survey (QLFS) for the UK from the second quarter (April-June) of 2005 until the first quarter (October-December) of 2011. This creates a time-span of 72 months. The beginning of the time-window is set one year after the accession of the A8 countries. This choice is made on the grounds of letting the A8 immigrant population in the UK grow large enough so that the sample provides enough variation for all years.

The QLFS is a rotating panel where a household enters the dataset and is observed for five consecutive quarters. The unit of observation is the person-month. The data are manipulated in such a way so that duration analysis on a flow sample is made possible; the employment histories of each individual are recovered and their other characteristics are retrieved.

The main focus of this paper is on job separations, meaning terminations of job contracts of workers in dependent employment and entry into unemployment. The sample consists of inflows into employment (individuals who just got employed) with follow-up until separation or until the end of the observation window, whichever of the two occurs first. The reason we focus on job separations from dependent employment is because most of the employed workers in the sample are in dependent employment rather than self-employment (less than 10% of the sample is self-employed).

3.1 Data Formation

Using the information on the exact month and year an individual got employed, and the information on the exact month and year the interview took place, we were able to construct an unbalanced panel determined by the months of continuous employment of the individual, a formulation compatible with duration analysis. This means that each individual has as many observations in the data as his/her months of employment plus the month he/she exits to unemployment if such an exit happens during the observation window.

The duration of the employment spells individuals are allowed to experience, is restricted; the sample contains only workers with maximum continuous employment duration, that corresponds to what A8 immigrants could experience, given they started arriving in the UK after 2004. This means that in the second quarter of 2005 an A8 migrant could have been working in the UK for 12 months maximum, in 2006 for 24 months maximum, and so forth. Practically this restriction means that, for example, someone who has been continuously employed for the same employer for 5 years in 2005 is not included in the sample, while someone who has been continuously employed for 5 years in 2011 is included.

Regarding the characteristics that are controlled for, some are constant over time, like industry of employment, socio-economic status, or level of education, while others vary over time, like age and year controls. All characteristics are recovered from the beginning until the end of the employment spell –or observation window- of each individual. It is worth noting here that only individuals who have been employed continuously for the same employer are taken into account. Finally, multiple transitions between

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4 different states (for example from employment to unemployment and then, again, from employment to
5 unemployment) are not studied in this paper as the QLFS follows individuals only for 15 months
6 maximum. This short time-span is not enough for many transitions to take place, preventing us from
7 conducting this kind of analysis.
8

9 3.2 Data Characteristics

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11 The data cover the period between the second quarter of 2005 and the first quarter of 2011. The effects
12 of the economic downturn were evident on the country's GDP levels for a shorter period, but the
13 unemployment rate remained higher for longer. Since this paper focuses on the effects of the crisis on
14 employment duration, the period covered is divided in two parts; the time before the crisis (Q2 2005 -
15 Q1 2008) and the time during the crisis (Q2 2008 - Q1 2011), which means that each period consists of
16 36 months.
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19 In table 1 the characteristics of the duration dataset for exits from dependent employment to unemployment
20 are presented. Histories of 116,998 individuals have been recovered. The individuals considered are older
21 than 16 years old, have been continuously employed for the same employer, and are not in full-time
22 education. The sample has been divided in five population groups: UK natives, Second Generation
23 immigrants, A8 immigrants, EU14 immigrants, and non-EU immigrants. The EU14 immigrants account
24 for the smallest proportion of the sample (less than 3%), while the UK natives comprise almost 80% of
25 the sample. The second biggest group are the non-EU immigrants, followed by the Second Generation
26 immigrants, and the A8 immigrants.
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TABLE 1 HERE

The group with the shortest average length in the panel is the A8 immigrants, which could be an indication
of higher censorship, attrition, or faster exit from the initial state. By number of exits we mean the
number of transitions to unemployment, and by number of censored observations we mean the
sum of individuals who remained in dependent employment until the end of the observation
window, individuals who experienced early attrition, and individuals who exited towards
either inactivity or self-employment. A closer look at the percentage of censored observations in
comparison to the percentage of exits towards unemployment suggests that exits towards other destinations
or early attrition might be important factors regarding the shorter lengths of this group in the panel.
Finally, it is quite likely that due to the fact that the A8 population was intensely increasing during the first
years of the accession, it might also be that the sample of A8 immigrants is weighted towards shorter
durations.

In the analysis we control for age, age squared, gender, educational level, socioeconomic status, and
industry. We also divide the analysis by contract type (permanent or temporary in some way). In table 2
we show in greater detail what each variable entails.

TABLE 2 HERE

In the analysis that follows we compare the following four population groups with people who were born

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4 in the UK and are British; the EU14 migrants are migrants from one of the 14 old EU member states; the
5 A8 migrants are individuals who are from one of the new EU member states that entered the EU in 2004
6 (but are not from Cyprus or Malta), and arrived after the accession; the Second Generation are individuals
7 who were born in the UK but are not British, and the non-EU are all the other immigrants. The education
8 variable is created using the age that individuals completed full time education leading to three categories
9 of low, intermediate, and high education. The socioeconomic status is a variable related to the profession
10 the individuals' hold and it follows the ONS Standard Occupation Classification separation in three
11 categories; individuals who undertake routine, manual, or lower supervisory occupations have a low
12 socioeconomic status, individuals who hold intermediate occupations have an intermediate socioeconomic
13 status, and individuals who have high managerial and professional occupations have a high socioeconomic
14 status.
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18 19 20 **3.3 Descriptive Statistics**

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22 In this section we review the independent variables of the analysis. In table 3 we can see that the A8
23 immigrants and the Second Generation immigrants are relatively younger than the UK natives and the
24 other two immigrant groups. It is also interesting that 55% of A8 immigrants in the initial state are male.
25 The A8 immigrants have on average higher levels of education than the UK natives. This is also true for
26 the EU14 immigrants, even though to a lesser extent, and finally for the non- EU migrants. However, this
27 is not something unexpected of the non-EU migrants, as they are subjected to migration controls in order
28 to enter the country as economic migrants, which might lead to higher levels of education for this group.
29 The second generation migrants unsurprisingly have an educational distribution closer to that of the natives.
30 Looking at profession related socioeconomic status, EU14 migrants are generally employed in higher status
31 jobs than natives, while the A8 are mainly clustered in manual and elementary professions. This is also
32 pictured in the industry distributions where the proportion of A8 immigrants who are employed in banking,
33 financial or administrative jobs is much lower than the proportion of natives or other immigrants, while they
34 find themselves disproportionately gathered in manufacturing. All groups show high percentages of
35 employment in distribution services, hotels and restaurants. The UK natives are likely to have a
36 permanent contract, while at the opposite side of the spectrum lie the A8 and non-EU migrants.
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TABLE 3 HERE

In order to understand how these variables might be relevant to the duration in the initial state of
employment it is imperative that we connect them with survival in that state.

3.4 Non-parametric Analysis

In this section we present the survival rate¹ of a group of individuals in the initial state (dependent employment) for different durations before they exit towards unemployment. The durations we consider are monthly quarters at the beginning, but as time in the initial state prolongs, we consider longer time spans so that we will be able to observe exits at each time interval. This is done with the use of lifetables, estimates of the survivor function for grouped survival time data [Jenkins, 2005], which allow for individuals to be censored.

In figures 2a and 2b we see that the transition to unemployment is happening faster the lower the educational level of the individual is, and similarly the lower their socio-economic level is. As one would expect, individuals with temporary contracts lose their jobs much faster than individuals with permanent contracts (1b). Interestingly, even though the A8 immigrants find themselves mainly in subgroups that have the highest rates of exit from employment, they appear to have the highest survival rate in the sample, followed by the EU14 and the non-EU migrants, the UK natives, and finally the Second Generation migrants (1a).

FIGURE 1 HERE

FIGURE 2 HERE

4. Econometric Model

4.1 Main Specification

In this section we present the econometric approach of this paper. In the estimation specification the specific form of the data (interval censored) is taken into account. We consider a proportional hazard model, observed in discrete time intervals. The sample has been recovered in its flow form, which means that everyone is observed from the moment they enter the initial state, i.e. dependent employment. Given the continuous nature of the underlying process and the interval grouped form of the survey data, an ideal model to use is a complementary log-log model (Jenkins [2005]). We consider time intervals $(a_{t-1}, a_t]$ and the survival function is then calculated at the end of each interval:

$$S(\alpha_t, X) = \exp \left[- \int_0^{\alpha_t} \theta(u, X) du \right]$$

where S is the survival function, θ is the hazard rate, and X are the observed characteristics of the individual.

We assume that the proportional hazard assumption is satisfied, so that the time hazard is constant among individuals and within a time interval, but can vary in duration (between time intervals) and, ultimately, its level is shifted proportionately by the individuals' observed characteristics:

¹The proportion of individuals who survive in the initial state of employment during the first time interval is equal to one minus the proportion of individuals who became unemployed divided by the people at risk of becoming unemployed. See Jenkins (2005) for a detailed explanation of the survival rate.

$$\theta(t, X) = \theta_0(t)e^{\beta'X} = \theta_0(t)\lambda$$

where $\beta'X \equiv \beta_0 + \beta_1X_1 + \dots + \beta_kX_k$.

The interval censored hazard will be:

$$h(\alpha_j, X) = 1 - \exp[\exp(\beta'X + \gamma_j)]$$

where γ_j is the baseline hazard for any random interval $(a_{t-1}, a_t]$, which we allow to vary between intervals without restriction, adopting a semi-parametric type of hazard in this way. However, it is considered to be constant within a time interval.

In order to include heterogeneity in the model above, we consider a random variable v , positive, with mean equal to one, finite variance, and distributed independently of duration and the observed characteristics X . This allows us to identify dynamic sorting from duration dependence. The survivor function with heterogeneity will be equal to:

$$S(\alpha_t, X|v) = [S(\alpha_t, X)]^v$$

We assume a Normal distribution with zero mean for the random effect v , and we integrate it out. The discrete time interval hazard function is equal to:

$$h_t(X) = \frac{S(\alpha_t, X|v) - S(\alpha_{t-1}, X|v)}{S(\alpha_{t-1}, X|v)}$$

and the estimated model is:

$$\log(-\log(1 - h_t(X))) = \beta'X + \log(H_t - H_{t-1}) + \log(v)$$

where H_t is the integral of the baseline hazard over the interval.

4.2 Estimation

For the transitions to be estimated, an identification issue had to be resolved. Due to the specific form of the sample, longer durations of employment are only observed at later dates. That could potentially bias the outcome if no restrictions are assumed that help identify the effects of later years and longer durations. Furthermore, the fact that later years are during the crisis could exacerbate this problem. Even though we observe longer durations only at later dates, we also observe all shorter durations at all dates. Thus, under the standard assumption of the proportional hazard specification that the baseline hazard is independent of specific dates and only depends on duration in the initial state, we can identify the effect of the later years from longer durations.

5. Results

In this section, we present the main results of the paper. First, we present the transitions from employment to unemployment regardless of the type of contract a worker has (temporary or permanent), and then we present the transitions separately for workers with a permanent contract, and for workers with a non-permanent contract. Due to the direct relationship between the permanence of a contract with employment duration, it can be expected that the baseline hazards of individuals with permanent contracts would be different from those with temporary ones. All models are estimated considering heterogeneity.

We present a number of models where we consecutively add more relevant controls. In model A, we control only for the different population groups and for duration; in model B we also control for educational level, gender, age, and age squared; in model C we control for socioeconomic status; while in model D we also control for industry. Year dummies and residence fixed effects are controlled for in all models.

In table 4 we see the results of the complementary log-log model with heterogeneity for exits from employment to unemployment, for individuals with both permanent and non-permanent contracts. We include interactions between the population groups and the crisis, so at the top of the table we present the difference between the migrant population groups and the UK natives for the period before the crisis, followed by the difference between the UK natives during the crisis compared to the UK natives before the crisis, and finally the difference between the migrant population groups and the UK natives for the period during the crisis.

For both periods, before and during the crisis, it is mainly the A8 and the Second Generation migrants who seem to differ significantly in their hazard of exiting employment relative to the natives. The EU14 and the non-EU migrants do not show any significant differences from the natives for the hazard of exiting the initial state. Only for the non-EU do we see a slight decrease in the hazard of exiting, significant at 10% level, in model A. As we control for more characteristics, the difference becomes insignificant. Being a second generation migrant increases the hazard of exiting towards unemployment before the crisis, a difference that changes slightly as we control for more demographic and labour market relevant characteristics. Interestingly, being an A8 immigrant before the crisis, compared to being a native, decreases the hazard of exiting towards unemployment and as we control for more characteristics, this difference is actually getting higher. This could potentially suggest that the differences in the results between the A8 immigrants and the natives rely mainly on unobservable characteristics rather than observable ones.

TABLE 4 HERE

During the crisis, the hazard of exiting towards unemployment is significantly higher for UK natives (the crisis doubles² the hazard of exiting unemployment for UK natives), and it increases as we control for more occupation related characteristics. Being an EU14 or a non-EU migrant as opposed to being a native during

² The hazard ratio given by the hazard rate of UK natives during the crisis divided by the hazard rate of UK natives before the crisis is equal to $\exp(0.768) \approx 2$.

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4 the crisis doesn't seem to affect the hazard of exiting employment as soon as we control for demographic
5 and occupation related characteristics. However, being a Second Generation migrant seems to increase the
6 hazard of exiting employment slightly more during the crisis than it did before the crisis. Finally, being an
7 A8 migrant decreases the hazard of exiting towards unemployment, a difference that increases as we
8 control for more observable characteristics. The crisis seems to close the gap between the A8 migrants and
9 the natives, however the A8 migrants are still less likely to exit towards unemployment, even during this
10 period of hardship.

11
12 Overall, in terms of job separations it seems that the crisis has increased the hazard of exiting employment
13 towards unemployment for all groups. However, while the UK natives, the EU14 migrants, and the non-
14 EU migrants seem to be affected by the crisis to the same extent (and the Second Generation migrants
15 slightly more), the A8 immigrants seem to be affected by the crisis the most, given that their hazards
16 converge to that of the natives.

17
18 The effects of the crisis on the different migrant groups seem to be very heterogeneous. One important
19 factor that could potentially partly explain this phenomenon is the transferability of migrants' skills. The
20 non-EU and EU14 migrants have similar results to those of the natives. The EU14 migrants, despite not
21 being subject to immigration restrictions, have skills that are most likely to be recognised in the UK. Non-
22 EU migrants are provided visas by the host based on their skillset, amongst other characteristics, so it is
23 likely that their skills are transferable as well. The Second Generation migrants acquire their skills in the
24 UK, which means that their skillset is fully recognised; however as they systematically seem to be exiting
25 employment at a higher rate, this might be due to discrimination or differences in networks. A very
26 interesting case is that of the A8 migrants. This group is not subject to immigration restrictions and has
27 reportedly been downgrading in the UK, meaning undertaking employment in professions where the
28 migrants' acquired skills are not used. This groups' skills do not seem to be fully transferrable in the UK.
29 Furthermore, the low skilled jobs A8 undertake might imply vulnerability in the labour market, and not
30 only at times of economic hardship. However, even when this is taken into account this migrant group out-
31 performs the natives.

32
33 Regarding the rest of the characteristics, the effects are in the direction we would expect given the non-
34 parametric presentation of the previous section. More specifically, looking at model D, the hazard of
35 exiting towards unemployment is decreasing with age, men have a higher hazard of exiting towards
36 unemployment compared to women, and the lower the educational level, the higher the hazard of exiting
37 employment. The same can also be seen for lower socio-economic status when compared to higher socio-
38 economic status; the lower the socio-economic status, the higher the hazard of exiting employment.
39 Finally, the baseline hazard is very low the first three months of employment, peaks at six months of
40 employment and then gradually decreases. All the above show that the longer an individual works for a
41 specific employer and the higher skilled their job is, the lower the hazard that this individual will
42 experience a job loss is. This is intuitively sensible, as with more experienced workers, the employer will
43 lose greater job-specific human capital and might also have to bare higher statutory redundancy costs.

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45 Another important factor when it comes to job separations is the type of contracts individuals have. Given
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4 that migrants, and especially A8 migrants, are more likely to have temporary contracts than natives, it is
5 worth exploring how the crisis affected natives and migrants with temporary jobs and how it affected those
6 with permanent jobs.

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8 In table 5 we can see the results for workers with permanent contracts and in table 6 the results for workers
9 with temporary contracts.

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TABLE 5 HERE

The results for A8 immigrants indicate that A8 migrants with permanent contracts experienced a strong impact from the crisis compared to the natives. However, it seems that the crisis did not adversely affect the hazards of A8 immigrants with temporary contracts compared to those of natives. The hazard rates of EU14 migrants with permanent contracts before and during the crisis did not differ from the hazard rates of natives with similar contracts. EU14 migrants with temporary contracts on the other hand had lower hazards of exiting employment compared to natives during the crisis. A similar pattern can be observed also for the non-EU migrants, who also seem to experience lower hazards of exiting employment compared to natives when they are on temporary contracts, even for the period before the crisis. Thus, the A8, EU14, and non-EU migrants with temporary contracts were not affected by the crisis as much as natives with temporary contracts. On the other hand, second generation migrants with permanent contracts had higher hazards of exiting employment compared to natives with similar contracts, while there was not difference in the exit hazards of this group and UK natives when individuals with non-permanent contracts are studied.

TABLE 6 HERE

One area worth exploring further is the possibility of out-migration of migrants and its effects on their documented labour market outcomes. Unfortunately, due to data limitations, there is no possibility of telling whether an individual left the country or whether they migrated internally, and whether that was the result of a job loss, or a better job opportunity, etc. Such an event may happen after the five quarters an individual is followed or during the period the individual is followed; in the latter case what we see in the sample is early attrition. One way to see whether early attrition is a factor that predominantly applies to migrants rather than natives, and if it intensified and for whom during the crisis, is to compare the mean levels of attrition of the groups and also compare them for the periods before and during the crisis. Higher attrition of migrants, especially during times of economic downturn might be an indication of flexibility of those groups to the labour market conditions.

In table 7 we see the attrition rates of natives and migrants before and during the crisis. The attrition rates are equal to the number of employed individuals who experienced early attrition divided by the number of individuals in employment. All migrant groups face higher attrition rates than natives for both periods. The A8 migrants face the highest.

TABLE 7 HERE

However, looking at table 8 we can see that the attrition rates do not differ significantly for any of the population groups when we compare the mean rates before and during the crisis, which suggests that as far

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4 as the effects of the crisis are concerned, the higher early attrition rates of the migrants did not change
5 significantly during the crisis.

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TABLE 8 HERE

6. Conclusion

This paper evaluated the effects of the recent economic crisis on the job separation rates of natives and immigrants in the UK. The significance of the crisis on job separations became evident and was recorded by various scholars [Smith, 2011]. The adverse effects of the economic downturn did not homogeneously affect all population groups. Individuals who are traditionally considered more vulnerable in the labour market were affected to a greater extent (younger, less educated, lower skilled workers). The high prevalence of some of these characteristics in the group of A8 immigrants, creates the expectation of job separation rates commensurate with the separations that are observed for those characteristics. The same holds when there is high occurrence of the opposite characteristics (for example higher socioeconomic status) in other immigrant groups (non-EU, EU14 immigrants). However, some of the findings for the A8 immigrants contradict this.

The mixed proportional hazard models showed that the A8 immigrants perform considerably better than native workers with demographic and labour market characteristics similar to theirs, by displaying lower separation rates towards unemployment. More importantly, this effect seems to be higher after specific characteristics are controlled for, with the implication that unobservable characteristics such as reservation wage, ability, motivation, networks, human capital, and more, are very important drivers of these outcomes. The second important point is the verification that the crisis increased the job separation rates significantly. This means that part of the increased unemployment observed during the crisis, is indeed due to increased job losses. While remaining the group with the lowest job separation rates, the risk of job separation of A8 immigrants was, compared to the other immigrant groups, affected particularly strongly by the crisis, leaving them more likely to exit to unemployment than before the crisis. Second-generation immigrants exhibited higher risk of job separation than the natives before and during the crisis, while the other immigrant groups did not differ from the natives significantly.

The limitations of this paper are mainly due to the lack of proper recording of possible out-migration of immigrants. The extent to which such attrition is actually creating important biases remains to be tested when administrative or more detailed longitudinal data become available. However, descriptive analysis suggests that attrition rates did not significantly increase during the crisis.

Additional sources of income (personal savings, eligibility for welfare benefits or family/household income) could be considered as another determinant of the hazard rates. This is another aspect for which immigrants might differ substantially from the natives, and it would be very informative about immigrants' choices to disentangle the effect of disposable or potential income from other determinants. To be able to understand how the labour market behaviour of migrants and natives differs, the reasons behind the job terminations (namely whether they were voluntary or forced) could also be explored. Finally, a categorisation based on

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4 income would allow us to identify whether immigrants or natives are positively or negatively selected out of
5 employment, meaning high-earners or low-earners respectively. Future research along these lines may help
6 better understand immigrant labour dynamics in the UK labour market.
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International Journal of Manpower

Table 1: Data Characteristics, Exits from Dependent Employment to Unemployment

	UK	EU14	2nd Gen.	A8	Non-EU
Number of Observations	1,909,534	60,523	115,273	85,375	268,597
Number of Individuals	90,334	3,128	5,918	4,508	13,110
% of Group in Sample	78.3	2.5	4.7	3.5	11.0
Average length in Panel	34.8	32.7	32.7	31.8	33.7
Number of Exits	3,039	74	227	59	342
% of Individuals	3.4	2.4	3.8	1.3	2.6
Number of Censored Obs.	87,295	3,054	5,691	4,449	12,768
% of Individuals	96.6	97.6	96.2	98.7	97.4
Number of Observations by year					
2005	98,841	3,125	6,337	3,682	14,430
2006	292,874	9,400	19,088	12,386	41,611
2007	402,673	12,769	25,454	19,661	56,144
2008	435,299	13,812	27,222	20,823	62,493
2009	380,490	12,028	22,606	16,382	53,800
2010	266,447	8,401	13,286	11,095	36,026
2011	32,910	988	1,280	1,346	4,093
Mean Survival time*	68.5	69.2	67.7	70.1	69.1
	(0.07)	(0.38)	(0.33)	(0.28)	(0.17)

Source: *QLFS*, 2005 *Second Quarter*- 2011 *First Quarter*.

* Calculated restricted to longest follow-up time.

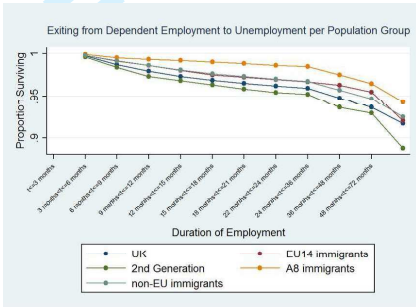
Table 2: Notes on variables used in the analysis

Country of Origin	UK	Born in the UK, British
	EU14	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden
	A8	Poland, Lithuania, Czech Republic, Hungary, Estonia, Slovakia, Slovenia, Latvia, and arrived in the UK after 2004
	2nd Gen.	Born in the UK, not British
	non-EU	All the remaining countries of origin
Education	Low	Age when completed full time education: under 16 years old
	Intermediate	Age when completed full time education: between 17 and 20 years old
	High	Age when completed full time education: over 21 years old
Industry		Agriculture & fishing Energy & water Manufacturing Construction Distribution, hotels & restaurants Transport & communication Banking, finance & insurance etc Public admin, educ & health Other Services
Socioeconomic Status	Low	Lower supervisory and technical, semi-routine occupations, routine occupations
	Intermediate	Intermediate occupations, small employers and own account workers
	High	Higher managerial and professional, lower managerial and professional

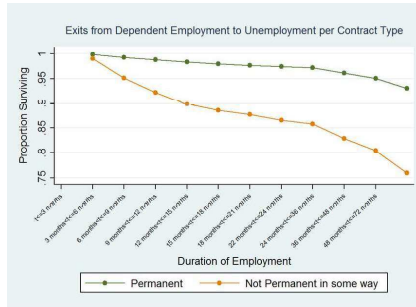
Table 3: Data Characteristics, Exits from Dependent Employment to Unemployment

	UK	EU14	2nd Gen.	A8	Non-EU
Age	37.7	36.3	33.2	31.3	37.0
Gender (% male)	0.48	0.49	0.49	0.55	0.52
Education					
Low	47.1	21.9	31.2	8.8	16.7
Intermediate	31.4	32.4	32.7	54.4	35.6
High	21.5	45.6	36.2	36.8	47.7
Number of Obs.	1,897,886	60,102	114,399	83,778	262,339
Socioeconomic Status					
Higher	40.3	53.1	47.8	9.6	45.2
Intermediate	16.0	12.8	17.0	4.4	11.6
Lower	43.5	34.0	34.9	85.7	43.0
Never Worked/Not Classified	0.2	0.1	0.4	0.3	0.2
Number of Obs.	1,909,534	60,523	115,273	85,375	268,597
Industry					
Agriculture & fishing	0.55	0.57	0.18	2.8	0.37
Energy & water	1.69	1.28	1.49	1.03	1.02
Manufacturing	9.99	9.66	7.03	31.36	8.5
Construction	6.88	3.91	4.6	4.59	3.53
Distribution, hotels & restaurants	20.34	20.86	21.09	27.98	22.26
Transport & communication	7.32	8.54	8.05	10.8	7.83
Banking, finance & insurance etc	16.93	22.99	23.02	8.48	20.73
Public admin, educ & health	30.45	26.97	29.46	8.79	31.44
Other services	5.84	5.21	5.07	4.17	4.33
Number of Obs.	1,895,051	60,126	114,255	83,969	265,571
Contract Type					
Permanent	92.64	91.35	91.44	90.76	89.96
Not permanent in some way	7.36	8.65	8.56	9.24	10.04
Number of Obs.	1,909,201	60,511	115,226	85,147	268,441

Source: *QLFS, 2005 Second Quarter- 2011 First Quarter.*

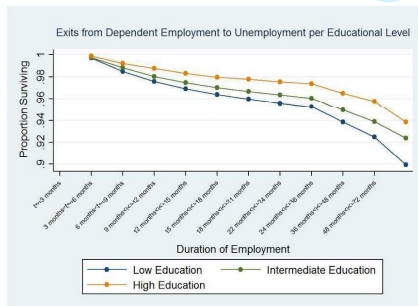


(a) Population Group

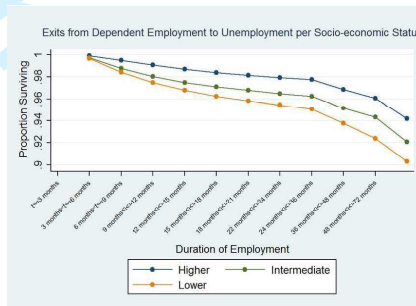


(b) Contract Type

Figure 1: Exits to Unemployment by Population Group and Contract Type



(a) Education Level



(b) Socio-economic Status

Figure 2: Exits to Unemployment by Education and Socio-Economic Status

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Table 4: Complementary log-log with Heterogeneity, Exits from Dependent Employment to Unemployment

Variables	Model A	s.e.	Model B	s.e.	Model C	s.e.	Model D	s.e.
Ref. Category: UK before Crisis								
A8 before Crisis	-1.319***	(0.28)	-1.268***	(0.28)	-1.537***	(0.28)	-1.623***	(0.29)
EU14 before Crisis	-0.057	(0.19)	0.081	(0.19)	0.059	(0.19)	0.046	(0.19)
Non-EU before Crisis	-0.190*	(0.10)	-0.008	(0.10)	-0.095	(0.10)	-0.087	(0.10)
2nd generation before Crisis	0.220*	(0.12)	0.236**	(0.12)	0.237**	(0.12)	0.249**	(0.12)
UK during Crisis	0.768***	(0.08)	0.768***	(0.08)	0.772***	(0.08)	0.785***	(0.08)
Ref. Category: UK during Crisis								
A8 during Crisis	-0.604***	(0.16)	-0.523***	(0.16)	-0.780***	(0.17)	-0.878***	(0.17)
EU14 during Crisis	-0.269*	(0.16)	-0.112	(0.16)	-0.141	(0.17)	-0.157	(0.17)
Non-EU during Crisis	-0.158**	(0.08)	0.028	(0.08)	-0.067	(0.08)	-0.055	(0.08)
2nd generation during Crisis	0.253***	(0.10)	0.274***	(0.10)	0.271***	(0.10)	0.283***	(0.10)
Baseline Hazards								
3 months	-7.703***	(0.14)	-6.767***	(0.44)	-7.798***	(0.43)	-7.603***	(0.42)
6 months	-6.389***	(0.13)	-5.438***	(0.43)	-6.448***	(0.41)	-6.254***	(0.40)
9 months	-6.617***	(0.13)	-5.651***	(0.42)	-6.639***	(0.39)	-6.445***	(0.39)
12 months	-6.928***	(0.14)	-5.951***	(0.41)	-6.925***	(0.38)	-6.732***	(0.38)
15 months	-7.147***	(0.14)	-6.162***	(0.41)	-7.125***	(0.38)	-6.933***	(0.37)
18 months	-7.498***	(0.15)	-6.505***	(0.41)	-7.460***	(0.38)	-7.269***	(0.37)
21 months	-7.597***	(0.15)	-6.599***	(0.41)	-7.549***	(0.37)	-7.359***	(0.37)
24 months	-7.715***	(0.16)	-6.714***	(0.41)	-7.660***	(0.37)	-7.472***	(0.37)
36 months	-7.789***	(0.14)	-6.770***	(0.40)	-7.706***	(0.36)	-7.522***	(0.36)
48 months	-8.012***	(0.15)	-6.972***	(0.40)	-7.899***	(0.36)	-7.719***	(0.36)
72 months	-8.045***	(0.16)	-6.984***	(0.40)	-7.897***	(0.36)	-7.718***	(0.36)
Demographic Characteristics								
Age			-0.087***	(0.01)	-0.068***	(0.01)	-0.062***	(0.01)
Age squared			0.001***	(0.00)	0.001***	(0.00)	0.001***	(0.00)
Male			0.396***	(0.04)	0.418***	(0.04)	0.280***	(0.04)
Ref. Category: High education								
Low Education			0.623***	(0.05)	0.319***	(0.06)	0.263***	(0.06)
Intermediate Education			0.353***	(0.05)	0.156***	(0.06)	0.125**	(0.06)
Ref. Category: High socio-econ. status								
Intermediate socio-econ. status					0.470***	(0.06)	0.472***	(0.06)
Low socio-econ. status					0.643***	(0.05)	0.618***	(0.05)
Ref. Category: Other services								
Agriculture & fishing							0.018	(0.22)
Energy & water							-0.500***	(0.18)
Manufacturing							0.087	(0.09)
Construction							0.064	(0.09)
Distribution, hotels & restaurants							-0.151*	(0.08)
Transport & communication							-0.169*	(0.10)
Banking, finance & insurance etc							-0.022	(0.08)
Public administration, education & health							-0.583***	(0.08)
Observations	2,393,881		2,393,881		2,393,881		2,393,881	
Number of individuals	114,565		114,565		114,565		114,565	

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Table 5: Complementary log-log with Heterogeneity, Exits from Dependent Employment to Unemployment, Workers with Permanent Contract

Variables	Model A	Model B	Model C	Model D
Ref. Category: UK before Crisis				
A8 before Crisis	-1.522*** (0.380)	-1.441*** (0.383)	-1.668*** (0.386)	-1.747*** (0.386)
EU14 before Crisis	0.0251 (0.218)	0.196 (0.223)	0.175 (0.225)	0.153 (0.224)
Non-EU before Crisis	-0.268** (0.127)	-0.0432 (0.130)	-0.125 (0.132)	-0.115 (0.132)
2nd Gen. before Crisis	0.194 (0.143)	0.224 (0.147)	0.224 (0.148)	0.239 (0.147)
UK during Crisis	0.734*** (0.0989)	0.742*** (0.101)	0.743*** (0.101)	0.757*** (0.101)
Ref. Category: UK during Crisis				
A8 during Crisis	-0.386** (0.174)	-0.280 (0.181)	-0.503*** (0.185)	-0.601*** (0.186)
EU14 during Crisis	-0.152 (0.183)	0.0396 (0.189)	0.0113 (0.191)	-0.0119 (0.190)
Non-EU during Crisis	-0.193** (0.0969)	0.0282 (0.101)	-0.0571 (0.103)	-0.0489 (0.103)
2nd Gen. during Crisis	0.270** (0.115)	0.317*** (0.121)	0.316*** (0.122)	0.330*** (0.122)
Baseline Hazard				
3 months	-8.464*** (0.201)	-7.710*** (0.508)	-8.348*** (0.506)	-8.243*** (0.495)
6 months	-7.101*** (0.185)	-6.326*** (0.488)	-6.955*** (0.484)	-6.853*** (0.475)
9 months	-7.229*** (0.186)	-6.430*** (0.472)	-7.049*** (0.467)	-6.950*** (0.460)
12 months	-7.485*** (0.188)	-6.667*** (0.462)	-7.279*** (0.456)	-7.183*** (0.450)
15 months	-7.551*** (0.189)	-6.718*** (0.455)	-7.324*** (0.449)	-7.229*** (0.444)
18 months	-7.843*** (0.194)	-6.998*** (0.451)	-7.598*** (0.445)	-7.505*** (0.441)
21 months	-8.028*** (0.199)	-7.173*** (0.449)	-7.770*** (0.444)	-7.679*** (0.439)
24 months	-8.041*** (0.201)	-7.179*** (0.447)	-7.773*** (0.441)	-7.685*** (0.438)
36 months	-8.100*** (0.186)	-7.212*** (0.434)	-7.800*** (0.429)	-7.717*** (0.425)
48 months	-8.280*** (0.196)	-7.362*** (0.432)	-7.943*** (0.426)	-7.864*** (0.423)
72 months	-8.286*** (0.206)	-7.337*** (0.429)	-7.909*** (0.424)	-7.831*** (0.422)
Other Controls				
Age, age squared and education	No	Yes	Yes	Yes
Socio-economic status	No	No	Yes	Yes
Industry	No	No	No	Yes
Observations	2,209,203	2,209,203	2,209,203	2,209,203
Number of individuals	98,391	98,391	98,391	98,391

Table 6: Complementary log-log with Heterogeneity, Exits from Dependent Employment to Unemployment, Workers with Non-Permanent Contract

Variables	Model A	Model B	Model C	Model D
Ref. Category: UK before Crisis				
A8 before Crisis	-1.302*** (0.412)	-1.447*** (0.423)	-1.744*** (0.432)	-2.024*** (0.443)
EU14 before Crisis	-0.426 (0.358)	-0.357 (0.372)	-0.310 (0.379)	-0.350 (0.395)
Non-EU before Crisis	-0.355** (0.164)	-0.304* (0.172)	-0.358** (0.176)	-0.412** (0.184)
2nd generation before Crisis	0.118 (0.198)	0.0506 (0.209)	0.0629 (0.215)	0.0469 (0.226)
UK during Crisis	0.516*** (0.137)	0.491*** (0.139)	0.483*** (0.140)	0.492*** (0.142)
Ref. Category: UK during Crisis				
A8 during Crisis	-1.678*** (0.424)	-1.935*** (0.432)	-2.259*** (0.445)	-1.553*** (0.411)
EU14 during Crisis	-0.605* (0.351)	-0.563 (0.357)	-0.641* (0.372)	-0.704** (0.337)
Non-EU during Crisis	-0.264* (0.144)	-0.315** (0.148)	-0.355** (0.156)	-0.334** (0.135)
2nd Gen. during Crisis	-0.0388 (0.185)	-0.0582 (0.191)	-0.0784 (0.202)	0.0163 (0.175)
Baseline Hazard				
3 months	-6.423*** (0.245)	-7.215*** (0.580)	-8.252*** (0.615)	-8.550*** (0.593)
6 months	-5.004*** (0.232)	-5.730*** (0.538)	-6.726*** (0.567)	-6.946*** (0.546)
9 months	-5.207*** (0.236)	-5.859*** (0.503)	-6.814*** (0.531)	-6.965*** (0.518)
12 months	-5.458*** (0.242)	-6.060*** (0.486)	-6.990*** (0.514)	-7.102*** (0.507)
15 months	-5.942*** (0.259)	-6.503*** (0.484)	-7.415*** (0.511)	-7.499*** (0.508)
18 months	-6.448*** (0.291)	-6.985*** (0.496)	-7.892*** (0.523)	-7.961*** (0.521)
21 months	-6.086*** (0.282)	-6.602*** (0.486)	-7.502*** (0.513)	-7.559*** (0.513)
24 months	-6.599*** (0.330)	-7.095*** (0.510)	-7.989*** (0.536)	-8.036*** (0.538)
36 months	-6.597*** (0.273)	-7.055*** (0.468)	-7.948*** (0.497)	-7.978*** (0.502)
48 months	-6.874*** (0.341)	-7.263*** (0.505)	-8.162*** (0.532)	-8.188*** (0.539)
72 months	-6.753*** (0.406)	-7.045*** (0.542)	-7.921*** (0.569)	-7.925*** (0.581)
Other Controls				
Age, age squared and education	No	Yes	Yes	Yes
Socio-economic status	No	No	Yes	Yes
Industry	No	No	No	Yes
Observations	184,678	184,678	184,678	184,678
Number of individuals	16,174	16,174	16,174	16,174

Table 7: Average attrition Rates of migrants and natives before and during the crisis

	Mean Migrant	Mean UK	Difference	s.e.	Period
A8	0.233	0.080	0.153**	0.012	Before Crisis
EU14	0.129	0.080	0.049	0.012	Before Crisis
Non-EU	0.131	0.080	0.052*	0.007	Before Crisis
2nd Gen.	0.110	0.080	0.030**	0.003	Before Crisis
A8	0.210	0.097	0.113**	0.019	During Crisis
EU14	0.154	0.097	0.057**	0.007	During Crisis
Non-EU	0.151	0.097	0.054***	0.002	During Crisis
2nd Gen.	0.156	0.097	0.059	0.027	During Crisis

Table 8: Average attrition Rates of all population groups before and during the crisis

	Before Crisis	During Crisis	Difference	s.e.
UK	0.080	0.097	-0.017	0.008
A8	0.233	0.210	0.022	0.021
EU14	0.129	0.154	-0.025	0.018
Non-EU	0.131	0.151	-0.020	0.013
2nd Gen.	0.110	0.156	-0.046	0.037