

# The impact of acquiring unrestricted work authorization on A2 migrants' labour market outcomes and use of welfare benefits in the UK

21<sup>st</sup> March 2017

Martin Ruhs \* and Jonathan Wadsworth\*\*

Forthcoming, *Industrial and Labor Relations Review*  
(This version is “post-refereeing” and before copy-editing)

## Abstract.

When Romania and Bulgaria (the so-called “A2 countries”) joined the European Union in 2007, the UK imposed temporary restrictions on the employment and welfare entitlements of A2 citizens that lasted until 1<sup>st</sup> January 2014. This paper analyses the impact of the removal of these restrictions on the labour market outcomes and use of welfare benefits of A2 migrants. Applying difference-in-difference analysis to data from the UK’s Labour Force Survey, we find that acquiring unrestricted work authorization had a significant negative impact on A2 migrants’ propensity to work as self-employed. At the same time, we do not find any discernible effects of acquiring full work rights on A2 migrants’ other labour market outcomes or their receipt of a range of welfare benefits. The paper discusses potential explanations for these results.

\*Department for Continuing Education and Centre on Migration, Policy and Society (COMPAS), University of Oxford, [martin.ruhs@conted.ox.ac.uk](mailto:martin.ruhs@conted.ox.ac.uk)

\*\*Economics Department, Royal Holloway, University of London and Centre for Economic Performance at the London School of Economics, Cream UCL, IZA Bonn, [j.wadsworth@rhul.ac.uk](mailto:j.wadsworth@rhul.ac.uk)

Notes:

For their helpful comments, we would like to thank Eliza Galos, Bernard Ryan, the editor and two anonymous referees.

The Labour Force Survey data used in this study were made available through the UK Data Service, produced by the Office for National Statistics (ONS) and supplied under Special Licence by the UK Data Service. The data are Crown Copyright and reproduced with the permission of the controller of HMSO and Queen’s Printer for Scotland. The use of the data in this work does not imply the endorsement of ONS or the UK Data Archive in relation to the interpretation or analysis of the data.

## Introduction

On 1<sup>st</sup> January 2007, Romania and Bulgaria (the so-called “A2 countries”) became members of the European Union (EU). This meant that all Romanian and Bulgarian citizens acquired the right to travel and move without restrictions to the UK and other EU member states. Acquiring EU status did not, however, automatically imply an unrestricted right for A2 citizens to work across the EU. The EU Accession Treaties allowed the 25 existing member states to impose “transitional controls” that limited access to the labour market and welfare benefits of Romanian and Bulgarian nationals for a maximum of seven years. Along with many other EU member states, the UK imposed these transitional controls for the full seven years. The UK was different from much of the EU in that it had not imposed similar transitional restrictions on nationals of the ten new member states, including the so-called “A8 countries” in central and eastern Europe, who acceded to the EU in 2004.<sup>1</sup>

In essence, the imposition of transitional controls on A2 nationals meant that, during the period 2007-2013, Romanians and Bulgarians could work as self-employed but they were obliged to obtain work authorisation (in the form of an “accession worker card”, a type of work permit) if they wanted to take up jobs as employees in the UK. Accession worker cards were only issued for employment in a limited set of occupations that were open to A2 nationals (and any other non-EU workers) before accession and which continued to be open after accession. Furthermore, A2 migrants’ entitlements to unemployment and other forms of social assistance were restricted in various ways depending on specific status (e.g. self-employed, accession worker card holder). On 1<sup>st</sup> January 2014, seven years after the A2 countries joined the EU, all these restrictions had to be lifted meaning that Romanians and

---

<sup>1</sup> The A8 countries comprise the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia. Two other countries, Cyprus and Malta, made up the ten accession countries in 2004.

Bulgarians acquired unrestricted work authorization and wider access to the welfare state in the UK and all other EU member states.

EU enlargement in 2007 led to considerable increases in the number of A2 citizens in the UK, especially from Romania which has a much larger population than Bulgaria (20 million and 7.2 million, respectively). Data from the UK's Labour Force Survey (LFS) suggest that the number of A2 nationals (aged 16+) in the UK increased by a factor of 10 over the decade since accession, from about 25,000 in late 2006 to 180,000 in late 2013 (i.e. just before employment restrictions were lifted), and 260,000 (including 190,000 Romanians) in 2015 (see Figure A1 in the Appendix). The increase was quite gradual between 2006 and late 2011 with a sharper rise in 2012 and another after the second half of 2014.

The rise in Romanian and Bulgarian migrants in the UK, especially since the lifting of employment restrictions in January 2014, has led to heated public debates – and considerable interest in new research – about the impacts of A2 immigration on the UK's labour market and welfare state. There has been particular public concern about the effects of A2 migrants – and before that migrants from the previous EU accession countries – on the possible labour market outcomes of low-wage workers in the UK and about A2 nationals' access to “in-work tax credits” and social housing benefits which are means-tested, non-contributory welfare benefits available to all British citizens and “non-transitional” EU workers on low-incomes in the UK. Analysis of media reports on Romanians and Bulgarians in the UK press in 2013 reveals a considerable increase in media coverage of A2 immigration as well as a focus on the expected scale and effects of A2 migrants on poverty, welfare and crime in the UK (Migration Observatory 2014a). These public perceptions and concerns about East European

immigration played an important role in the UK's referendum vote in June 2016 to leave the European Union ("Brexit").<sup>2</sup>

This paper focuses on the impact of the removal of employment restrictions on A2 nationals *who were already living and mostly also working in the UK before 1<sup>st</sup> January 2014*. More specifically, the paper analyses the impact of the change in the legal work status that A2 nationals experienced on 1<sup>st</sup> January 2014 (from "EU national with restricted work rights" to "EU national with full and unrestricted work authorization" in the UK) on their labour market outcomes and receipt of welfare benefits. To address this, we consider the lifting of all work restrictions on 1<sup>st</sup> January 2014 as a quasi "natural experiment" which changed the legal work status of A2 migrants but did not affect the work status of other central and eastern European migrants (from the A8 countries) in the UK, who were never subject to transitional controls and who serve as a control group in our analysis.

Using pooled cross-section data from the UK's LFS, we employ difference-in-difference estimators to assess whether and how the change in A2 migrants' legal work status affected their labour market outcomes and use of benefits. We consider a large range of labour market outcomes (labour market participation; hours workers; earnings; the nature of the job such as propensities of self-employment, temporary work and manual work) and welfare benefits (unemployment benefits, housing benefits, in-work tax credits, child benefit and income support). The paper adds to the research literatures on the effects of migrants on labour markets and the welfare state and on the role of immigration and employment status as determinants of migrants' outcomes in the labour market and their use of welfare benefits.

---

<sup>2</sup> As Britain leaves the EU over the next few years, it is likely — although not certain at the time of writing — that the majority of EU migrants currently in the UK will be given permanent residence status, thus retaining their current employment rights and access to the welfare state.

**Gaining full work authorization:  
What effects can we expect for A2 nationals in the UK?**

**Types of immigration status and associated rights to work and welfare in the UK before 2014**

A2 citizens who were already in the UK in late 2013 must have had one of the five types of legal immigration and employment status shown in Table 1 below:

TABLE 1 HERE

There are a number of ways in which A2 citizens could have been legally resident in the UK before 2014. For example, under EU rules they could have been legally resident as ‘students’ or ‘family members of an EEA national<sup>3</sup> (incl. A2 citizens) with a right to reside in the UK’. They could also have been legally resident if they were employed on ‘accession worker cards’ (a type of work authorisation specifically for A2 nationals – see the discussion further below), self-employed, or “self-sufficient”. The latter two categories were explicitly exempted from the temporary employment restrictions facilitated by the EU Accession Treaties. A self-sufficient person is defined as somebody who “... has sufficient resources for themselves and their family members not to become a burden on the social assistance system of the host Member State, and has comprehensive<sup>3</sup> sickness insurance cover” (Gower and Hawkins 2013, p. 3). Some Romanians and Bulgarians may also have been legally resident purely based on UK laws, e.g. as long-term immigrants with “indefinite leave to remain” (“permanent residence”) or UK citizenship, or as spouses of British citizens or non-EU immigrants with permanent residence status. A2 migrants who did not meet any of these

---

<sup>3</sup> The EEA (European Economic Area) includes all countries of the EU plus Iceland, Liechtenstein and Norway.

conditions would, in all likelihood, have had no legal right to reside in the UK in 2013 (for more detailed discussion, see Ryan 2008; and Gower and Hawkins 2013)

A2 nationals who were legally resident in late 2013 could have been not working (S1), working legally (S2) or working illegally (S3). A2 migrants working legally could have included, for example, students working part-time (up to the legal maximum of 20 hours a week), dependents (most of whom enjoy unrestricted work rights in the UK), self-employed persons, and migrants with ‘accession worker cards’ which authorized employment in the UK. Authorization of employment as a worker (“employee”) was limited to A2 migrants who met the criteria for admission under the UK’s existing work permit schemes for non-EU workers (in the form they existed on 1<sup>st</sup> January 2007).<sup>4</sup> Employment under most of these schemes was restricted to a specific employer. Non-compliant A2 workers (and their employers) were liable for prosecution. Under the transitional controls, before 2014 any A2 migrant with an accession worker card who worked in the UK legally and without interruption for a period of 12 months became exempt from the authorisation requirement and thus acquired unrestricted employment rights.

The combination of “legal residence and illegal work” (status S3 in Table 1) is a potentially important and greatly under-researched status that Ruhs and Anderson (2010) defined and analysed as “semi-compliance”. In the context of A2 nationals in the UK before 2014, it could involve a wide range of different people and situations including, for example, a student working for more hours than legally allowed, an accession worker card holder who has been in the UK for less than 12 months and is working for an employer who is different

---

<sup>4</sup> These existing schemes comprised: a) the ‘Highly Skilled Migrant Programme’ (HSMP); the skilled work permit programme for employment in “graduate” jobs after an employer has demonstrated trying to fill the vacancy with other workers from within the EU within which all potential A2 migrants had to compete with applicants from the rest of the world; the b) Sector Based Scheme (SBS) which covered food processing jobs and issued permits for a maximum of 12 months; and the Seasonal Agricultural Workers Scheme (SAWS) which allowed fruit and vegetable growers to employ migrant workers as seasonal workers for up to six months at a time.

from that specified on the accession worker card, and “false self-employment” (a key issue in the context of this paper which will be discussed in more detail further below).

The multitude of potential statuses of A2 migrants who were in the UK in late 2013 means that the removal of employment restrictions on 1st January 2014 could have had different effects on different people. For example, for those residing illegally<sup>5</sup> in 2013, removal of the employment restriction implied a legalization of their residence and work status. For those residing legally but working illegally in 2013, there was a legalization of employment status. For A2 citizens legally working as self-employed persons or as authorized workers (i.e. with accession worker cards) for less than 12 months, the removal of employment restrictions on 1<sup>st</sup> January 2014 meant that they were now free to legally work for any employer and carry out any type of work in the UK.

The different types of possible immigration and work statuses of A2 migrants before 2014 were also associated with different restrictions on access to welfare benefits (see Kennedy 2015; Gower and Hawkins 2013). For example, A2 migrants who were employed as authorised workers could claim in-work benefits (including tax credits and housing benefits) but they were not eligible for means-tested out-of-work benefits during the first 12 months of their authorised employment. After 12 months of legal and uninterrupted employment, authorised A2 workers acquired the same access to welfare benefits as other EEA workers. Self-employed A2 nationals’ had access to means-tested in-work benefits, but they could not claim out of work benefits if they stopped working. A2 migrants residing and/or working illegally in the UK during 2007-2013 had no access to welfare benefits.

---

<sup>5</sup> There is debate about whether “illegal residence” is appropriate terminology (legally speaking) when it comes to describing the situation of EU nationals who reside in another EU country without authorisation. In this paper, we use the term “illegal residence” for linguistic convenience.

On 1<sup>st</sup> January 2014, all these restrictions on A2 migrants' access to welfare benefits in the UK were lifted. Since 2014, A2 migrants who qualify as “workers” have enjoyed the same access to the UK's welfare state as other EEA workers.<sup>6</sup> This access is somewhat more restricted than that for UK nationals living in the UK. In late 2013 the government announced a tightening of access to benefits for all EEA nationals coming to the UK. For example, under the new rules (most of which became effective in early 2014) newly arrived job seekers from the EEA have no access to Housing Benefit and can only claim out-of-work benefits after 3 months of proven job search. The new measures also included a “strengthening” of the habitual residence test (including stricter interviews) for EEA migrants claiming means-tested benefits (for more detail, see Kennedy 2015).

### **Research on immigration/work status, labour market outcomes and use of welfare benefits**

The research literature on the effects of immigration status on migrants' labour market outcomes and use of welfare benefits has focused on the impacts of two types of status: ‘illegal residence’ and ‘legal but temporary residence and employment status’. We briefly review the potential mechanisms of impact and empirical findings of the existing research below.

#### *Theoretical considerations: illegal status*

Illegally resident migrants are subject to removal and their employers are subject to fines. Their “deportability” can put illegally resident migrants in a vulnerable position in the host country (De Genova 2002). Some employers may offer illegally resident migrants lower

---

<sup>6</sup> To be considered a worker by EU law, a person must pursue “effective” and “genuine” economic activity. This broad definition leaves some limited room for further specification by member states.

wages and inferior employment conditions, either because they take advantage of migrant's deportability and/or simply to account for the increased risk associated with employing migrants without legal residence rights. Taylor (1992) argues that cost-minimising employers will allocate illegally resident migrants to jobs where the expected cost of apprehension is lowest, and that such jobs are likely to be lower skilled jobs. Employers may also take advantage of the potentially lower elasticity of labour supply of illegally resident migrants which would make them less likely than other workers to quit their jobs in response to a reduction in wages (Hotchkiss and Quispe-Agnoli 2013). If employers enjoy monopsonistic power in the labour market (see, for example, Manning 2011), migrants without legal status may receive lower wages.

Deportability may also impact on migrants' labour market outcomes through mechanisms that are not directly related to employer discrimination. Illegal residence status may alter migrants' behavior in the labour market in various different ways (Kossoudji and Cobb-Clark 2002). Migrants without the right to reside may, for example, have lower reservation wages than workers with the right to legal residence. The fear of being deported could also discourage some migrants from investing in the development of host-country specific human capital (Chiswick 1984). At the same time, the risk of deportation could increase illegally resident migrants' work effort compared to workers with legal status (Stark 2007). Illegal residence status could also impact on the types of social networks that migrants access, which, in turn could affect migrants' access to well-paying jobs (Massey 1987). A more general point is that illegal status usually constrains migrants' choice of employment in the host country and thereby prevents migrants from maximizing the returns to their human capital (Calavita 1992).

Illegally resident migrants often have very limited access to welfare benefits. In many countries, including the UK, access to welfare benefits requires proof of legal residence (in

addition to having to meet other eligibility criteria). Illegally resident migrants with fake or other people's residence permits may be able to circumvent this barrier. This means that the effect of illegal residence status on migrants' access to benefits will critically depend on the national context including for example, on the ease of availability of fake residence permits and efficacy of enforcement against such practices (see Papademetriou et al. 2004).

*Theoretical considerations: temporary residence permits*

Although not at constant risk of removal, migrants employed on legal temporary work permits may also experience worse labour market outcomes because of their immigration status. Temporary work permits (including the accession work cards issued to newly arrived A2 nationals for authorised employment in the UK during 2007-13) typically restrict migrants' employment to the sector and employer specified on the work permit. Changing employers requires an application for a new work permit by the new employer. By restricting migrants' choice of employment in the labour market, this requirement reduces workers' bargaining power and may make it difficult to leave jobs offering adverse employment conditions (Lowell and Avato 2007). Whether and to what degree migrants employed on legal temporary permits have a stronger or weaker bargaining position vis-a-vis their employers is an empirical question. Apgar (2015) suggests that illegally employed migrants may have some advantages over migrants who are legally employed on temporary work permits, e.g. in terms of their job mobility and opportunities for improvement in occupational standing.

With regard to impacts on use of welfare services, most types of legal temporary residence status are associated with restricted access to the welfare state. There are, however, considerable cross-country variations in temporary migrants' access to welfare benefits (see Ruhs 2013) as well as differences between the welfare rights associated with different types of temporary status within countries (e.g. between high- and low-skilled work permit holders,

self-employed persons ). Regardless of the specific type of restrictions, however, changes in status from temporary resident to permanent resident is typically associated with increased legal access to welfare benefits. In most countries, including the UK, the rights of migrants with permanent residence status are very similar to those of citizens (with the important exception of the right to vote in national elections).

### *Empirical findings*

In the UK and elsewhere, empirical analysis of the relationship between legal migration status and migrants' labour market outcomes and receipt of welfare benefits has been hampered by a lack of data. Labour force surveys and other large scale surveys usually do not record respondents' immigration status. Migrants residing illegally may be less likely to participate in government surveys. Empirical research has focused on responses to policy shifts such as legalisation programmes. Most of this research has investigated the impacts of changes in immigration status on migrants' employment outcomes rather than their use of welfare benefits.

Much of the empirical research relevant to this paper has been carried out in the US, especially in the aftermath of the 1986 Immigration Reform and Control Act (IRCA). US research on the relationships between immigration status and labour market outcomes may be relevant to the UK because the two countries are both liberal market economies (Hall and Soskice 2001) whose labour markets share a number of institutional and other characteristics (see, for example, Gautie and Schmitt 2010).

IRCA gave an amnesty (including eventual permanent residence status) to undocumented immigrants – about 1.7 million outside agriculture<sup>7</sup> – who could prove

---

<sup>7</sup> A separate legalization programme for agriculture – the Special Agricultural Workers (SAW) program – legalized an additional 1.3 million people who could prove 90 days of employment in the perishable crop sector in the year before IRCA, or more than 30 days in

continuous residence in the US since 1982. To help assess the impact of IRCA, a random sample of legalized migrants was surveyed in 1989 and in a follow up survey in 1992. A number of studies used the data taken from these legalization processes to explore the impact of legal status on migrants' labour market outcomes. Borjas and Tienda (1992) found that legal immigrants earned more than undocumented immigrants from the same regional origins. Due to data limitations the authors could not assess how much of this gap was due to differences in socio-economic characteristics rather than other factors such as discrimination due to lack of legal status. Rivera-Batiz (1999) found that illegal status adversely affects migrants' earnings even when controlling for migrants individual characteristics. This contradicted results from earlier (pre-IRCA) studies many of which concluded that the wage differential between legal and illegal immigrants could be mostly accounted for by differences between the characteristics and human capital of the two groups (see, for example, Bailey 1985; Massey 1987). Comparing legalized migrants' earnings before and after legalization based on data from the 'Legalized Population Survey' (LPS), Rivera Batiz (1999) further concluded that legalization generated significant wage growth for legalized migrants.

Kossoudji and Cobb-Clark (2000) use LPS data to analyse the occupational concentration and mobility of Mexican migrants legalized under IRCA. They found that legalization changed the mobility patterns of the legalised population creating new opportunities to move up the occupational ladder. In a later paper that uses data on legalized migrants from the LPS as well as data on a comparison group of Latino men taken from the National Longitudinal Survey of Youth, Kossoudji and Cobb-Clark (2002) find that IRCA had positive earnings effects for legalized migrants. Kossoudji and Cobb-Clark suggest that much of the wage growth following legalization can be attributed to increased returns to

---

each of the previous three years (Papademetriou et al. 2004). The 'SAW program' in the US should not be confused with the 'SAWS' programme in the UK.

human capital (also see Tienda and Singer 1995). Focusing on the agricultural labour market, Pena (2010) finds that legal status has a positive but relatively small effect on the earnings of migrant workers.

Recent research suggests that the wage effects of legalization may have changed considerably over time and could now be much smaller than during the immediate aftermath of IRCA in the late 1980s and early 1990s. Using data from the New Immigrant Survey in the US, Lofstrom et al. (2013) carry out analyse that is quite similar – in terms of research questions and the type of data available – to the one conducted in this paper. They analyse the changes in wages and occupational mobility of migrants who obtained legal permanent resident status in 2003 and who had previously worked in the US either without authorization or with authorization as temporary work/residence permit holders. They find very limited or no impacts of legalization on labour market outcomes, especially for low-skilled migrants. Any wage increases and upward occupational mobility due to legalization are limited to highly skilled migrants. Lofstrom et al. argue that the lack of a large effect of legalization on wages can potentially be explained by the widespread use of false employment authorisation documentation which, arguably, has undermined the threat and effectiveness of employer sanctions, especially in lower-skilled occupations.<sup>8</sup>

One problem that surrounds analysis of the outcome of legalization programmes is to what extent any observed changes are due to a causal effect of legal status or rather to the differences in the process of self-selection into legal status. Fasani (2015) summarises the latest evidence for the USA and Europe of the effect of various legalization programmes with an emphasis on establishing the causal effect of such policies. The causal studies in Fasani's

---

<sup>8</sup> The analysis of Lofstrom et al. (2013) covers a period before the introduction of the “E-Verify” program which requires employers to check workers’ right to work in the US via a free online system marinated by the federal government. E-Verify has been mandated in some but not all US states. Orrenius and Zavodny (2015) find that the introduction of E-Verify reduces the average hourly earnings among likely unauthorised male Mexican immigrants.

overview typically appear to find limited effects of legalization on earnings, employment and occupational quality.

Drawing on longitudinal survey data on legal and illegal immigrants in Italy spanning an amnesty in 2002, Fasani (2015) also provides new evidence on the relationships between different types of immigration status (distinguishing between illegal status, legal temporary status and legal permanent status) and migrants' labour market outcomes. Fasani finds that migrants with a more stable residence status in the host country tend to have better labour market outcomes. However, he also finds that the causal effects of the 2002 legalization on migrants' employment, earnings and occupational quality of migrants were small. Fasani suggests this may be partly explained by the study's focus on short run effects (two years after legalization) as well as the design of the amnesty, which required amnesty applicants to be in employment at the time of applying for legal status (which makes it different from legalization under IRCA in the US).

In the UK, there has been only one study of the impacts of changing immigration status on the labour market outcomes of migrants. Using a research design similar to that employed in this paper, Ruhs (2017) analysed the impact of gaining EU status with immediate full work rights on the earnings of A8 migrants, i.e. East European workers whose countries joined the EU on 1<sup>st</sup> May 2004, and who were already working in the UK before that date – legally or illegally. The results of this exploratory analysis suggest a significant positive impact of acquiring EU status on earnings. The data further indicate that, in part, this effect was brought about by A8 workers gaining the right to freely change jobs after EU enlargement.

In contrast to this paper, the analysis in Ruhs (2017) focused on earnings only and based on a relatively small sample of survey data (not LFS). The analysis in this paper is the first study of the impacts of acquiring unrestricted work authorisation on a wide range of

labour market outcomes of East European migrants in the UK, and the first analysis of the effects for Romanians and Bulgarians. It is also the first study that uses large scale data from the UK's Labour Force Survey to conduct a plausibly causal analysis of the impacts of changing legal work and immigration status on labour market outcomes *and* welfare use of migrants in the UK.

Existing studies on the links between changing immigration status and migrants' use of welfare benefits in high-income countries are limited. There is a relatively long-standing body of research on migrants' participation in the welfare system, with considerable cross-country variations in empirical findings (for a review, see Kerr and Kerr 2011). Largely due to limitations in the available data, this literature usually employs broad distinctions between "migrants" and "natives" (and sometimes also between migrants from different countries) without investigating the specific effects of (changing) immigration status on migrants' receipt of welfare benefits. For example, Borjas and Trejo's (1991) analysis of immigrant participation in the US welfare system, based on Census data from 1970 and 1980, finds that the longer an immigrant household has been in the United States, the more likely it is to receive welfare. While the analysis cannot directly observe immigration status in the data, Borjas and Trejo investigate changes in immigrants' welfare use after 5 years of residence in the US, to proxy the potential effects of the acquisition of permanent residence status or citizenship. They conclude that their finding of an "assimilation into welfare" over time cannot be fully explained by immigrants' increasing benefit eligibility over time (e.g. as they transfer from temporary to permanent residence status).

Hansen and Lofstrom (2003) use longitudinal data to study welfare participation in Sweden during 1990-1996, distinguishing between migrants (foreign-born people) and natives, and also between refugees and "nonrefugee immigrants". They find that immigrants

use welfare to a greater extent than natives but that they (especially refugees) assimilate out of welfare over time (without, however, reaching parity with natives, even after 20 years).

In the UK, research on migrants' use of welfare has been similarly constrained by a lack of data that would allow an analysis of the effects of different types of immigration status, and of changing status over time. Drinkwater and Robinson (2013) use data from the Labour Force Survey to examine the determinants of welfare participation of immigrants in the UK during 2004-2009. Distinguishing between seven immigrant groups based on areas of origin (including 'A8 countries' as a distinct group), Drinkwater and Robinson's analysis explores the effects of a range of personal characteristics on welfare participation. Due to data limitations they are, however, unable to control for the immigration status and the associated welfare rights and restrictions of the migrants in their sample. Drinkwater and Robinson find that five out of the seven immigrant groups analysed (including A8 nationals) are significantly less likely to claim benefits than natives (i.e. UK-born people) in the UK. However, their analysis also shows that welfare benefits claims vary considerably across both immigrant groups and types of welfare benefits which makes it hard to generalise about welfare participation of immigrants. For example, A8 migrants were significantly less likely to claim unemployment related benefits, income support and sickness benefits than the UK-born but significantly more likely to claim housing benefits and tax credits.

In their review of welfare assimilation studies, Kerr and Kerr (2011) argue that a limitation of most existing research is the lack of separation between welfare eligibility and welfare usage. This is a result of the inability of most existing studies to identify immigration status and the associated restrictions on access to welfare of the migrants in the data. This paper addresses this limitation by focusing on the impacts of a change in legal status and welfare eligibility of a specific group of migrants (A2 nationals) in the UK.

### **The specific case of A2 nationals gaining unrestricted employment rights in the UK**

How might we expect the removal of work restrictions on 1<sup>st</sup> January 2014 to affect A2 migrants' labour market outcomes and use of welfare benefits in the UK? On the one hand, one could argue that the lifting of work restrictions is likely to have positive effects on the labour market outcomes for Romanians and Bulgarians in the UK. For example, it is likely to increase their labour market participation and probability of working as an employee (rather than self-employment), and it can be expected to have positive effects on job/occupational mobility and earnings. As regards welfare benefits, we may expect an increase in the take-up of certain benefits, specifically of those benefits for which A2 citizens became eligible after 1<sup>st</sup> January 2014. The change in benefit eligibility varied across A2 migrants with different types of immigration and work status in late 2013.

At the same time, there are at least two reasons why gaining unrestricted work rights may *not* have had large effects on existing A2 migrants' labour market outcomes and use of welfare benefits in the UK. First, while it was certainly possible for A2 migrants who were already in the UK in 2013 to be "illegally resident" and "illegally working", in practice the effects of these types of illegality (including the threat of deportation) were, arguably, relatively minor. The reason is that, although A2 migrants did not yet have full and unrestricted work authorization in 2013, their status as EU nationals meant that their deportation, and indeed many other enforcement actions against their "illegal employment", were probably not priority targets of the UK's enforcement agencies.

Second, the exemption of self-employed persons from the work restrictions imposed on A2 migrants before January 2014 meant that Romanians and Bulgarians did have the opportunity to legally work and access a wide range of benefits in the UK as long as they arranged and presented their work as "self-employment". The UK has had a long-standing problem with "false" (or "bogus") self-employment, especially (but not only) in construction

where the share of self-employed in the workforce is just under 40 percent (see Table A2 in the Appendix). False self-employment refers to a situation where a person effectively works as an employee but is formally registered (for tax and/or immigration purposes) as self-employed. The line between employment and self-employment is often unclear and frequently contested in the courts.<sup>9</sup> Trade unions have long argued for stricter regulation of self-employment in the UK's highly flexible and relatively lightly-regulated labour market. For example, until April 2014 it was possible for employment agencies to engage workers as self-employed persons (REC 2014). All this means that it is possible that A2 migrants used 'self-employment' as a way of legally accessing and working in the UK's labour market before January 2014, possibly across a wide range of occupations. As suggested earlier, the removal of employment restrictions on 1<sup>st</sup> January 2014 did not involve a large change in self-employed A2 migrants' legal access to Britain's welfare state.

There are also potential factors that might lead to a decline in A2 nationals' use of welfare benefits after the removal of employment restrictions in January 2014. For example, if the acquisition of unrestricted work rights leads to A2 nationals moving into better and higher paid occupations in the UK, they may no longer be eligible for certain means-tested benefits.

So, there are potentially countervailing considerations and effects, which make it impossible to formulate a clear expectation/hypothesis about the impacts of changing status on A2 migrants based on theoretical consideration alone. This means that the presence, direction and magnitude of the impact of gaining the right to unrestricted employment on A2 migrants' labour market outcomes and use of welfare benefits in the UK is an open question for empirical research.

---

<sup>9</sup> See, for example, the recent dispute about the employment status of Uber taxi drivers: <https://www.ft.com/content/e6231ad6-45a6-11e5-af2f-4d6e0e5eda22> (accessed on 10 October 2016)

## **Data and descriptives**

### **UK Labour Force Survey**

The analysis in this paper uses data from the UK's Labour Force Survey (LFS). The LFS is a household survey carried out on a quarterly basis. About 60,000 households are surveyed every quarter. All LFS respondents are interviewed in five consecutive waves, with data on earnings collected in wave 1 and wave 5 only. The LFS does not record legal immigration status but data on country of birth and nationality are available – along with a rich set of variables relating to individual characteristics and labour market outcomes.

Given the difference-in-differences (DiD) approach of this study, we use data on working-age A2 migrants<sup>10</sup> (the treatment group) and A8 migrants (the control group) from quarterly surveys in the four quarters of 2013 (“before”) and 2014 (“after”). These pooled cross-sectional data make use of all observations of A2 and A8 migrants in these eight quarters.<sup>11</sup> This sample includes approximately 900 A2 and 4,700 A8 migrants interviewed in 2013 and similar numbers in 2014.<sup>12</sup> To facilitate robustness checks including ‘placebo’ DiD, we make use of a larger selection of the LFS data, ranging from Q1-2007 (when Romania and Bulgaria joined the EU) to Q4-2015.

The LFS also provides an “individual identifier” variable that allows the matching of individuals who live at the same address across quarters thus effectively creating a longitudinal panel dataset. So for some 20 percent of migrants in our dataset, specifically those interviewed for the first time in either q1, q2, q3 or q4 of 2013 and who remained in the same residence, we have information relating to time before and after 1<sup>st</sup> January 2014. The

---

<sup>10</sup> We define migrants by place of birth. Acquiring citizenship typically takes a minimum of 5 years in the UK. Working age is 16-64 inclusive.

<sup>11</sup> As explained later, most of our analysis focuses on individuals who have been in the UK for at least one year, thus excluding migrants who arrived after 2013.

<sup>12</sup> In practice due to the rolling panel design of the LFS, around 20 percent of individuals could appear in both the before and after samples. The standard errors in what follows are clustered at the individual level.

panel dataset is much smaller, consisting of just 73 A2 migrants and 500 A8 migrants who were interviewed in both 2013 and 2014. For this reason we confine our estimates from the panel data set to the appendix.

## **Descriptives**

Table 2 below provides an overview of the “pre-treatment” characteristics (i.e. based on 2013 data) of the sample of A2 migrants and A8 migrants used in our analysis. To facilitate broader comparisons, we also include the characteristics of all other immigrants and UK-born individuals of working age in the LFS in that year. Table A1 in the appendix includes times series data on these variables (spanning 2007-2015).

TABLE 2 HERE

During 2013/14 the UK economy was beginning to emerge from the Great Recession. As a result aggregate employment grew by 700,000 over the year and self-employment by some 300,000, raising the national share of self-employed in the working population by 0.6 points. As shown in Table A1 and Figure A1 in the appendix, employment among A2 and A8 nationals was also rising during this period.

The unemployment shares of A2 migrants, A8 migrants and other working-age individuals were similar in 2013 and very close throughout the period after 2007. In contrast, there were considerable differences across groups in terms of their employment rates and especially their self-employment rates before 2014. In 2013, the employment rate of A2 was lower than that of A8 migrants but higher than that of other individuals. This was true for most years during 2007-2013. The difference between self-employment rates are however striking: 43 percent of all working age A2 migrants were self-employed in 2013 compared to

12 percent among A8 migrants and 9 percent among others. A2 migrants in the UK were considerably more likely to be self-employed than other people in the UK, even within occupation and sector.<sup>13</sup> So for example, a relatively large share of A2 migrants were employed in construction, a sector where self-employment is considerably higher than elsewhere. This sectoral concentration is not enough however to explain the very high self-employment rates of A2 migrants in 2013. A2 migrants also had high rates of self-employment in various other occupations and sectors that were typically associated with much less self-employment. In the administration sector, 75 percent of A2 workers were self-employed compared to 20 percent of UK-born workers. Within occupations, 66 percent of A2 workers in elementary occupations were self-employed compared to 7 percent of others employed in elementary occupations. Similarly 77 percent of A2 workers in skilled manual occupations were self-employed compared to 33 percent of other skilled manual workers. This suggests that self-employment may have been a strategic outcome between A2 migrants and employers that enabled them to work legally in the UK before the removal of work restrictions in January 2014. Table A2 gives the changes in the self-employment share within each sector for A2, A8 and others over time. The table shows that in 2013 A2 migrants were more likely to be self-employed than other persons in all of the industries listed. It is also clear from table A2 (and from Figure A1) that there were sharp falls in the self-employment share for A2 workers after 2013 that were not observed among other groups of workers.

LFS data on use of welfare benefits in 2013 suggest considerable differences across A2 migrants and A8 migrants. Specifically, A2 migrants' use of child benefits, tax credits and housing benefits in 2013 was considerably lower than that of A8 migrants and very similar to that of other individuals of working-age. Only 11 percent of A2 migrants in the

---

<sup>13</sup> Results available on request.

UK received means-tested tax-credits in 2013, although almost half worked in “elementary” and “processing” occupations where earnings are relatively low.

What can we say about the legal immigration and work status of the A2 workers in our sample? While the LFS does not include specific questions about these issues, the data allow three basic observations. First, just under half (43%) of A2 nationals in the LFS sample for 2013 reported to be in “self-employment” which allowed them to reside and work legally in the UK. Second, a considerable share (31%) of A2 nationals reported working as “employees”. As discussed in section 2, there were three major ways in which A2 nationals could be legally working as employees in the UK in 2013, namely, as ‘students’ legally working part-time, ‘dependents’ with permission to work, or as “accession card holders”. As shown in Table 2, only one percent of our A2 sample were students in 2013. According to administrative data from the UK Home Office (2014), there were 17,300 accession worker cards issued to A2 nationals in the UK during 2007-2014. This figure represents cumulative annual inflows, so it does *not* capture the stock of accession worker card holders in 2013 (since the total of 17,300 ignores outflows during 2007-13, e.g. of A2 migrants admitted to the UK under temporary schemes such as the Sector-based Scheme). Given that there were an estimated 180,000 A2 nationals of working age in the UK in 2013, it is unlikely that many of the A2 migrants in our LFS sample would have been legally employed on accession worker cards in 2013.<sup>14</sup> The UK’s provisional Long-term International Migration Estimates (LTIM), which are based on international passenger survey data, suggest that over 60 percent of A2 nationals entering the UK during 2007-2013 did so for work-related reasons, about 25 percent

---

<sup>14</sup> The LFS is unlikely to pick up migrants employed on short temporary schemes such as the Sector-based Scheme (SBS) and the Seasonal Agricultural Workers Scheme (SAWS) if living in communal establishments while employed. The latter admitted 20,000 A2 nationals in 2013.

for study, and the rest for other reasons including “joining/accompanying a family member.”<sup>15</sup> Considered together, these data suggest that a considerable number of A2 nationals in 2013 may have been working illegally, or at least in “semi-compliance” with immigration rules (i.e. combining legal residence with illegal work).

### **Estimation methods: difference-in-difference**

Our statistical analysis of the impacts of acquiring unrestricted work rights on the labour market outcomes and use of welfare benefits of A2 migrants in the UK employs the “difference-in-difference” (DiD) approach. DiD estimation requires a “treatment group” of individuals affected by the policy and a “comparison group” of individuals unaffected by the policy. In this analysis, the “policy change” is the granting of unrestricted work rights. The treatment group consists of A2 migrants in the UK both before and after 1<sup>st</sup> January 2014. As a comparison group, we use migrants from the A8 countries who were also in the UK before and after 1<sup>st</sup> January 2014. As mentioned earlier, A8 migrants have enjoyed unrestricted work rights in the UK since their countries joined the EU in May 2004.

The DiD estimator ( $\delta$ ) is defined as the average difference in an outcome (denoted by Y in equation 1 below) in the “treatment group” (A2) before and after the treatment (t=0, t=1, respectively) minus the difference in average outcomes in a comparison group (A8) before and after the treatment.

$$(1) \hat{\delta} = \left( \bar{Y}_1^{A2} - \bar{Y}_0^{A2} \right) - \left( \bar{Y}_1^{A8} - \bar{Y}_0^{A8} \right)$$

---

<sup>15</sup> See Office of National Statistics (ONS), <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/datasets/migrationstatisticsquarterlyreportprovisionallongterminternationalmigrationtimestimates> (accessed on 8th February 2017).

We conduct DiD estimation using both pooled cross-sections and panel-data. *Given pooled cross sectional data* taken from before (t=0) and after (t=1) the treatment, the DiD can be estimated using simple regression as

$$(2) \quad Y_{it} = \beta_0 + \beta_1 A2 + \beta_2 After + \delta(A2 * After) + X_{it}B + u_{it}$$

where: “y” denotes the outcome variables in our analysis (a range of labour market outcomes and use of welfare benefits); “i” denotes the respondents and “t” denotes the time period;  $A2 = 1$  if the respondent is an A2 national (i.e. in the treatment group), and 0 otherwise;  $After = 1$  if the observation is in the second time period (i.e. t=1), and 0 otherwise;  $A2 * After = 1$  if the respondent is an A2 national and the observation occurs in the second time period, and 0 otherwise;  $X_{it}B$  are individual-level variables and time-varying controls, and  $u$  is a normally distributed error term.<sup>16</sup>

Since most of the estimations use the sample populations of working age the list of plausibly exogenous controls is somewhat restricted (since they have to apply to both working and non-working individuals and be exogenous with respect to the rules that determine the outcome variables).<sup>17</sup> The set of controls used in all regressions includes dummy variables for age, gender, educational attainment, region of residence and years living in the UK along with seasonal dummies.

The validity of the DiD exercise rests on the parallel trend assumption, i.e. that there were no before-treatment trends in the outcome variables that might otherwise contribute to a significant effect on the estimated interaction term. Table A3 in the appendix gives estimates

---

<sup>16</sup> A key advantage of the panel-data variant of the DiD approach is that it eliminates time-constant unobserved heterogeneity.

<sup>17</sup> For example we cannot include presence of children since this could affect receipt of certain welfare benefits and vice versa. The “employed only” regressions are augmented with controls for industry and occupation.

of these before-treatment trends (the interaction of year dummies with the A2 variable for every year relative to a default base year of 2007 – the year the A2 were allowed to enter the UK with transitional restrictions) for several of the outcome variables of interest.<sup>18</sup> As can be seen the interactions with respect to 2007 for A2 self-employment are not significant for all years up to 2013. This provides additional evidence in support of the general DiD identification and estimation strategy with regard to self-employment. This finding also applies to the majority of the other outcome variables we use i.e. the pre-treatment trends do not appear to be significant. There are, however, exceptions (specifically receipt of unemployment benefits, incidence of social housing, labour force participation and manual working) where the common trends assumption appears to be violated. Closer inspection reveals that labour force participation and manual working appear to have common trends beginning in 2008 (so the accession year of 2007 appears to matter for some other outcomes – as we might expect). Unemployment benefits and social housing however do not appear to have common trends and so the credibility of the estimation identification strategy is questionable for these two outcomes. As discussed below, we also carry out a range of robustness checks including ‘placebo’ difference –in–difference analysis for the years 2007-2013, i.e. a period when there was no change in legal work status for Romanians and Bulgarian in the UK.

## **Results and discussion**

### **Results**

Our results suggest that the removal of work restrictions on 1<sup>st</sup> January 2014 had a negative impact on the incidence of self-employment among A2 migrants in the UK. Table 3

---

<sup>18</sup> We estimate equations for all outcome variables pooled over 7 years of pre-treatment data (as in, for example, Autor 2003) with A2 interacted with year dummies.

$Y_{it} = \gamma_t + \lambda * A2 + \delta_t A2 * D_t + X_{it} B + e_{it}$  Results for all outcomes are available on request.

reports the results of difference-in-difference analysis using the pooled cross-sectional data. The coefficient of interest – the “DiD estimator” - is “AfterA2”. We present estimates from seven different models: without any controls (model 1); with controls including age, education, gender, years in the country, quarter of observation and region (2); only for those individuals who have been resident in the UK for more than one year i.e. excluding migrants arriving after 2013 (model 3); widening the control and treatment windows to 2 years i.e. using 2014 *and* 2015 as the period “after” the treatment (model 4); and ‘employed only’ with and without industry and occupation controls (models 5 to 7).

The DiD estimator in all these models is highly statistically significant and negative. The magnitude of the estimated impact of the removal of work restrictions on self-employment of A2 migrants is similar across the models, ranging from -8 to -12 percentage points. These differences in estimated effects are not statistically significant from each other. The point estimates, however, are always larger for the wider window, suggesting the impact of the change is ongoing (see also Figure A1). Columns 5 and 7 in Table 3 restrict the sample to those in employment (employees and self-employed) and add both sector and occupation (1 digit) dummies. It is clear from these regressions that the difference-in-difference effect for A2 workers remains, suggesting that the relative (and absolute) shift away from self-employment was within sectors for a given occupation. We are unable to establish from the data we have whether this is because people switched employers to change self-employment status or changed self-employment with the same employer.<sup>19</sup>

Placebo analysis of the DID model with controls (as in model 3 in Table 3) for the years 2007/8 to 2012-2013 do not show any systematic effects, which again supports our

---

<sup>19</sup> There may also have been a heterogeneous response to legalisation. We have explored this issue further but sample sizes restrict us somewhat. We do find that the A2-year interaction point estimates in the diff-in-diffs are higher for A2 women, the less educated and those A2 living outside London – but the effects are not significantly different from the point estimates of other groups in the sample.

claim that the treatment effect we have identified for 2013-14 is genuine (see Figure A2 in the Appendix). Our finding of a negative effect on A2 self-employment is further strengthened by the fact that the average self-employment rate for all workers in the UK *rose* between 2013 and 2014, which suggests that the decline in the self-employment rates of A2 nationals cannot be explained by a change in broader structural features of the labour market (such as changes in supply of and demand for goods and output markets that involve self-employed workers).

Our results do indicate that A2 migrants remain more likely to be self-employed than other East European migrants even after the change in legal work status, but that the differential narrowed significantly after 1<sup>st</sup> January 2014. In Table 3, combining the main effect of being an A2 national (“A2”) with the interaction effect of being an A2 national after the change in legal work status (“A2After”) still gives a positive and relatively large A2 self-employment propensity. Again it is important to see this in context of a fall in absolute numbers A2 self-employment over this period, when nationally self-employment numbers and self-employment as a share of total employment were both rising.<sup>20</sup>

TABLE 3 HERE

We next investigate the impact of removing work restrictions on a wide range of other labour market outcomes of A2 migrants in the UK using the same procedure as for self-employment. The outcomes include labour force participation, propensities to hold temporary jobs or manual jobs, earnings and hours worked. In contrast to the results for self-

---

<sup>20</sup> Table A4 in the Appendix shows the results of the DiD analysis of self-employment based on the panel data. The DID estimate is negative but not statistically significant in any of the models. The absence of statistical significance in the panel data model is likely to be a result of the sample size which is around 10 times smaller than that in the pooled cross sections.

employment, as shown in Table 4, we do not find statistically significant effects of the removal of work restrictions on any of these outcomes.

TABLE 4 HERE

Table 5 repeats the exercise to look for any effects of the removal of work restrictions on A2 migrants' use of welfare benefits. Again, we do not identify any significant DiD estimates. While row 1 indicates that A2 nationals are less likely than A8 migrants to access welfare benefits there is no evidence that this changed after the removal of work restrictions in January 2014.<sup>21</sup>

TABLE 5 HERE

## **Discussion**

There are two key findings of the empirical analysis in this paper. First, acquiring unrestricted employment rights on 1<sup>st</sup> January 2014 had a significant negative impact on the self-employment rates of A2 migrants in the UK. Second, there is no evidence that the removal of employment restrictions had a significant impact on a range of other labour market outcomes and use of welfare benefits of A2 migrants in the UK. These results, especially the absence of significant effects on a range of labour market outcomes and use of welfare benefits, may at first seem counter-intuitive. They certainly go against the grain of public debate and concerns around the time when the employment restrictions on A2 citizens were lifted.

---

<sup>21</sup> These outcomes are tested using the same set of robustness tests as in Table 3 with essentially no change in the estimates. Results are available on request.

How can we explain these results? An important part of the answer may be found in the link between our two key findings. The negative impact of the removal of employment restrictions on self-employment among A2 migrants who were already in the UK before 2014 suggests that a considerable number of Bulgarian and Romanian citizens used self-employment status as a way of working legally in the UK while employment restrictions were in place (i.e. during 2007-2013). The fact that the removal of employment restrictions encouraged a switch to employment as an “employee” in 2014 suggests that self-employment in 2013 was a way, for workers and firms, to comply with existing immigration rules and employment restrictions rather than necessarily a requirement or reflection of the work/job done in the UK. The possibility of legal work via self-employment gave A2 migrants considerable freedom in the UK labour market before 2014. Critically, this freedom included the right to choose, accept and end different types of work in the UK. Although there are rules that define and distinguish between the nature of the work performed by employees and self-employed persons, in practice there was very little effective enforcement of these rules (HM Revenue and Customs 2013). Furthermore, as mentioned in section 2, until April 2014 it was legally possible for employment agencies to hire workers as self-employed persons. All this means that A2 migrants who were self-employed before 1<sup>st</sup> January 2014 may have found themselves in similar situations and employment relations (with similar bargaining power vis-à-vis employers) as A2 migrants who worked as employees after the removal of employment restrictions. Consequently, gaining the formal right to unrestricted employment in the UK had little impact on the labour market outcomes of self-employed A2 citizens in the UK.

This explanation of our “zero-effects” results of acquiring full work rights – via (partly “false”) self-employment – is similar to the reasons given by Lofstrom et al. (2013) to explain their finding that legalization did not lead to any noticeable wage gains for previously

undocumented migrants in the US. Lofstrom et al. argue that the lack of a large effect of legalization on wages can potentially be explained by the widespread use of false employment authorization documentation such as false Social Security numbers which, arguably, undermined the threat and effectiveness of employer sanctions. In our case, it was the (ab)use of self-employment status rather than fake documentation that, we argue, may have generated a similar effect.

As discussed earlier in the paper, although our data do not allow us to identify individual immigration status, it is likely that a large share of A2 migrants who were not self-employed but still working in the UK in 2013 did so illegally, or at least in “semi-compliance” with immigration rules (i.e. combining legal residence with illegal work). If so, why did the switch from illegal working in 2013 to legal employment in 2014 not result in a positive impact on other labour market outcomes? At least part of the answer may be found in the low levels of enforcement against A2 migrants working illegally during 2007-2014.<sup>22</sup> As EU nationals, A2 migrants in the UK were under limited threat of deportation and enforcement against their employment was, arguably, not a priority of the UK’s immigration and enforcement agencies. Consequently, the risks of semi-compliance, i.e. violation of legal restrictions of the right to work, perceived by workers and employers are likely to have been quite limited. As a result, A2 migrants who were illegally employed before 2014 may not have been in a significantly weaker bargaining position vis-a-vis their employers than workers legally employed after employment restrictions were lifted in January 2014.<sup>23</sup>

---

<sup>22</sup> During 2007-13, only three employers were proceeded against for employing accession state nationals without authorisation to work in the UK. One employer was found guilty (ONS, <https://www.gov.uk/government/publications/immigration-statistics-january-to-march-2016/list-of-tables#detention>).

<sup>23</sup> It is also possible that the absence of statistically significant impacts of the removal of work restrictions on the labour market outcomes and use of welfare benefits of A2 migrants in our analysis can be explained, at least in part, by the small sample size.

Our finding of a lack of a discernible impact of the removal of work restrictions on A2 migrants' use of welfare benefits in the UK may have a number of potential explanations. We argue that one important reason is likely to be the relatively limited change in welfare eligibility for many (although clearly not all) A2 nationals in our sample. As discussed earlier, A2 migrants who were self-employed before 2014 – who constitute a substantial share of A2 nationals in our sample – had access to similar elements of the UK's welfare state as A2 migrants after 1<sup>st</sup> January 2014, meaning that the removal of work restrictions did not significantly affect their legal entitlements (and hence their use) of welfare benefits. Moreover the new restrictions on welfare access that all non-UK EU citizens faced after 2013 may have helped keep numbers of welfare claimants low for both A2 and A8 nationals.

Finally, how can we explain the finding that A2 migrants remain more likely to be self-employed than other East European migrants even after acquiring full work rights in the UK? We cannot answer this question with certainty in this paper. However, Eurostat (2011) data show that the self-employment shares of employment in the A2 countries and A8 countries are very similar, at around 19 percent, higher than the numbers we observe for the UK. So while it could be argued that migrants from central and eastern Europe have a greater propensity to work as self-employed, there is no evidence that A2 citizens' propensity to work as self-employed is intrinsically higher than that of A8 nationals.<sup>24</sup> Our data suggest that A2 migrants' move out of self-employment after the removal of work restrictions in the UK happened with a lag. We consider this an important area for future research.

---

<sup>24</sup> The Eurostat data show that Poland and Romania have the highest self-employment rates at home while the other A2 and A8 countries have lower rates than the UK. See [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa\\_egaps&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_egaps&lang=en)

## Conclusion

The enlargement of the European Union in 2004 (when the “A8 countries” joined) and 2007 (“A2 countries”) generated heated policy debates about the effects of migrants from the new Member States on the labour markets and welfare state of the existing EU countries, especially in the UK which has experienced much more rapid growth of East European migrants since 2004 than most other Member States. Most existing research on A8 and A2 migrants in the UK has focused on the effects of “newcomers”, i.e. of new arrivals after May 2004 (when A8 workers acquired the unrestricted right to live *and* work in the UK), January 2007 (when A2 citizens acquired the right to freely move but not work in the UK), and January 2014 (when employment restrictions on A2 migrants were lifted). In contrast, this paper contributes to research and our understanding of the effects of these changes in the legal immigration/employment status of A8 and A2 citizens on those East European migrants who were already in the UK before the changes occurred.

Specifically, the paper analysed the impact of the removal of employment restrictions on A2 nationals who were already living and mostly also working in the UK before 1<sup>st</sup> January 2014. Applying difference-in-difference analysis to data taken from the UK’s LFS, we found that the removal of employment restrictions had a significant negative impact on A2 migrants’ incidence of self-employment. At the same time, we could not identify any discernible effects on A2 migrants’ other labour market outcomes and use of welfare benefits in the UK. We argue that one reason why acquiring full work rights may not have had a large impact is that considerable numbers of Bulgarian and Romanian citizens used self-employment status as a way of working legally in the UK before January 2014, including in jobs typically done by “employees”. This is an example of how the ‘nature of work’ is, at least to a degree, endogenous to the nature of controls. Low levels of enforcement against such practises meant that A2 citizens may have enjoyed considerable freedoms in the UK

labour market – as well as formal rights to access welfare benefits – while employment restrictions were still in place. Limited enforcement against illegal working of A2 nationals (other than those falsely self-employed) may also explain why the removal of employment restrictions did not lead to a large change in the labour market outcomes of migrants who switched from illegal working in 2013 – a practice that likely involved considerable numbers – to legal employment in 2014.

In addition to contributing to research on a greatly under-studied issue, the paper raises at least two important issues for policy debates. First, the paper shows that not all changes in the legal status of migrant workers will automatically lead to changes in labour market outcomes and/or use of welfare benefits. Our analysis suggests that the effects critically depend on the specific change in status involved (e.g. change in legal immigration and/or work status) as well as the national context, especially with regard to the enforcement of immigration and employment laws. This has important implications for the design of legalization programmes around the world, highlighting the need for country-specific policies that are aware of the national institutional context and its role in shaping the effects of different types of legalization policies.

A second implication relates to policy debates about the design, activation and operation of transitional employment restrictions for citizens from new EU member states. Transitional controls, which individual member states can choose to impose or not, have been common features of the accession treaties between existing Member States and new countries joining the EU. The analysis in this paper suggests that the role and effectiveness of these employment controls – in terms of regulating the actual employment, outcomes and impacts of workers from new EU member states – can be critically influenced by the exemption of self-employed persons, the characteristics of the national labour market (e.g. the incidence of self-employment across sectors and occupations of the economy), and the degree of

enforcement against false self-employment. While the exemption of self-employed persons from employment restrictions affects all member states that opt to impose the transitional controls, the nature of the labour markets and degrees of enforcement vary across countries and over time. In other words, the effectiveness of transitional controls as tools that enable EU countries to tightly regulate the labour market outcomes and effects of migrants from new Member States is always likely to be limited as well as variable across countries and over time.

## References

Anderson, B. and Ruhs, M. (2010) “Migrant workers: who needs them? A framework for the analysis of shortages, immigration and public policy”, Chapter 2 in Ruhs, Martin, and Bridget Anderson eds. 2010. *Who needs migrant workers?* Oxford: Oxford University Press.

Anderson, B., Ruhs, M., Rogaly, B. and S. Spencer (2006) *Fair enough? Central and East European migrants in low-wage employment in the UK*, Report published by the Joseph Rowntree Foundation (JRF)

Apgar, L. 2015. ‘Authorized status, limited returns. The labour market outcomes of temporary Mexican workers’, EPI Briefing paper, Economic Policy Institute, Washington DC

Autor, D., (2003), “Outsourcing at Will: The Contribution of Unjust Dismissal Doctrine to the Growth of Employment Outsourcing”, *Journal of Labor Economics*, Vol. 21, No. 1, pp. 1-42.

Bailey, T. 1985. ‘The influence of legal status on the labor market impact of immigration’, *International Migration Review*, vol. 19(2), pp. 220-238

Bansak, C. 2005. ‘The differential wage impact of the Immigration Reform and Control Act on Latino ethnic subgroups’, *Social Science Quarterly*, vol. 86 (supplement), pp. 1279-1298

Bansak, C. and S. Raphael. 2001. ‘Immigration reform and the earnings of Latino workers: Do employer sanctions cause discrimination?’, *Industrial and Labor Relations Review*, vol. 54(2), pp 275-295

Borjas, G. and M. Tienda. 1993. ‘The Employment and Wages of Legalized Immigrants’, *International Migration Review* 27: 712-747.

Borjas, G. and S. Trejo. 1991. ‘Immigrant Participation in the Welfare System’, *ILR Review*, vol. 44(2), pp. 195-211

- Calavita, K. 1992. *Inside the State: The Bracero Program, Immigration and the INS*, Routledge, New York
- Chiswick, B. 1984. 'Illegal aliens in the United States labor market: An analysis of occupational attainment and earnings', *International Migration Review*, vol.18, pp 714-32
- Costello, C. and E. Hancox. 2014. 'The UK, EU Citizenship and Free Movement of Persons', Migration Observatory Policy Primer, COMPAS, Oxford
- DeGenova, N. 2002. 'Migrant 'illegality' and deportability in everyday life', *Annual Review of Anthropology*, vol. 31, pp419-47
- Drinkwater, S. and C. Robinson. 2013. 'Welfare participation by immigrants in the UK', *International Journal of Manpower*, vol. 34(2), pp. 100-112
- Eurostat (2011) "Labour Market Statistics", doi:10.2785/15405, European Union, Luxembourg.
- Fasani, F. 2015. 'Understanding the Role of Immigrants' Legal Status: Evidence from Policy Experiments', *CESifo Economic Studies*, Volume 61, Issue 3-4, pp. 722-763.
- Gautie, J. and J. Schmitt eds. 2010. *Low-Wage Work in the Wealthy World*, Russel Sage
- Gower, M. and O. Hawkins. 2013. Ending of transitional restrictions for Bulgarian and Romanian workers, Research Briefing, SN/HA/06606, House of Commons Library, London
- HM Revenue and Customs. 2013. 'Onshore Employment Intermediaries: False Self-Employment. Consultation Document.', London
- Hansen, J. and M. Lofstrom. 2003. 'Immigrant Assimilation and Welfare Participation: Do Immigrants Assimilate into or out of Welfare?', *The Journal of Human Resources*, vol. 38 (1), pp 74-98
- Home Office. 2014. 'Immigration statistics, January to March 2014'. London
- Hotchkiss, J. and M Quispe-Agnoli. 2013. 'The Expected Impact of State Immigration Legislation on Labor Market Outcomes.' *Journal of Policy Analysis and Management* 32 (1): 34-59
- Kennedy, S. 2015. "Measure to Limit Migrant's Access to Benefits", House of Commons Library Briefing paper No. 06889
- Kerr, S. and W. Kerr. 2011. 'Economic Impacts of Immigration: A Survey', NBER Working Paper 16736, Cambridge, MA.
- Kossoudji, S. and D. Cobb-Clark. 2002. 'Coming out of the shadows: Learning about legal status and wages from the legalized population', *Journal of Labor Economics*, vol. 20(3), pp 598-628

Kossoudji, S. and D. Cobb-Clark. 2000. 'IRCA's Impact on the Occupational Concentration and Mobility of Newly-Legalized Mexican Men', *Journal of Population Economics*, vol. 13(1), pp 81-98

Lofstrom, M., Hill, L. and J. Hayes. 2013. 'Wage and mobility effects of legalization: Evidence from the new immigrant survey', *Journal of Regional Science* 53(1): 171-197

Lowell, B.L. and J. Avato. 2007. 'The wages of skilled temporary migrants: Effects of visa pathways and job portability', Paper presented at a meeting of the Population Association of America, New York.

Manning, A. 2011. 'Imperfect competition in the labour market', in Ashenfelter, O. and D. Card (eds), *Handbook of Labor Economics*, Elsevier, Oxford

Massey, D. 1987. 'Do undocumented migrants earn lower wages than legal immigrants? New evidence from Mexico', *International Migration Review*, vol. 21(2), pp 236-274

Massey, D. and K. Gentsch. 2015. 'Undocumented migration to the United States and the wages of Mexican Immigrants', *International Migration Review*, vol. 48(2), pp. 482-499

MAC. 2011. "Review of the transitional restrictions on access of Bulgarian and Romanian nationals to the UK labour market", Migration Advisory Committee, Home Office available at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/257232/transitional-restrictions.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/257232/transitional-restrictions.pdf)

Migration Observatory. 2014a. 'Bulgarians and Romanians in the British National Press' available at [http://www.migrationobservatory.ox.ac.uk/wp-content/uploads/2016/04/Report-Bulgarians\\_Romanians\\_Press\\_0.pdf](http://www.migrationobservatory.ox.ac.uk/wp-content/uploads/2016/04/Report-Bulgarians_Romanians_Press_0.pdf)

Migration Observatory. 2014b. 'Costs and benefits: Benefits tourism – what does it mean?', Commentary available at <http://www.migrationobservatory.ox.ac.uk/commentary/costs-and-%E2%80%98benefits-%E2%80%99-benefits-tourism-what-does-it-mean>

Migration Observatory. 2014c. 'Romanians and Bulgarians coming to the UK in 2014: Influx or Exaggeration?', available at <http://migrationobservatory.ox.ac.uk/commentary/romanians-and-bulgarians-coming-uk-2014-influx-or-exaggeration>

Orrenius, P. and M. Zavodny. 2015. 'The impact of E-Verify mandates on labor market outcomes', *Southern Economic Journal*, vol. 81(4), pp. 947-959

Papademetriou, D., O'Neil, K. and M. Jachimowicz. 2004. 'Observations on regularization and the labor market performance of unauthorized and regularized immigrants', Paper prepared for the European Commission, DG Employment and Social Affairs, Brussels

Pena, A. 2010. 'Legalization and immigrants in US agriculture', *The BE Journal of Economic Analysis & Policy*, vol. 10(1), Article 7

Phillips, J. and D. Massey. 1999. 'The new labor market: Immigrants and wages after IRCA', *Demography*, vol. 36(2), pp 233-246

REC, The Recruitment and Employment Confederation. 2014. 'Changes to tax legislation from 6 April 2014', available at:

[https://www.rec.uk.com/\\_data/assets/pdf\\_file/0004/140098/Tax-and-NICs-changes-6-April-2014-REC-briefing-note-1-28-03-14.pdf](https://www.rec.uk.com/_data/assets/pdf_file/0004/140098/Tax-and-NICs-changes-6-April-2014-REC-briefing-note-1-28-03-14.pdf)

Rivera-Batiz, F. 1999. 'Undocumented workers in the labor market: An analysis of the earnings of legal and illegal Mexican immigrants in the United States', *Journal of Population Economics*, vol. 12, pp 91-116

Ruhs, M. 2017. 'The impact of acquiring EU status on the earnings of East European migrants in the UK: Evidence from a quasi-natural experiment"', *British Journal of Industrial Relations (Early View)*

Ruhs, M. 2013. *The Price of Rights: Regulating International Labor Migration*, Princeton University Press

Ruhs, M. and B. Anderson. 2010. "Semi-compliance and illegality in migrant labour markets: An analysis of migrants, employers and the state in the UK", *Population, Space and Place*, vol. 16 (3), pp 195-215

Ryan, B. 2008. 'The Accession (Immigration and Workers Authorisation) Regulations 2006', *Industrial Law Journal*, vol. 37(1), pp 75-88

Stark, O. 2007. 'Work effort, moderation in expulsion, and illegal migration', *Review of Development Economics*, vol. 11(4), pp 585-590

Taylor, E. 1992. 'Earnings and mobility of legal and illegal immigrant workers in agriculture', *American Journal of Agricultural Economics*, vol. 74(4), pp 889-896

Tienda, M. and A. Singer. 1995. 'Wage mobility of undocumented workers in the United States', *International Migration Review*, vol. 29(1), pp 112-38

Trade Union Congress. 2006. 'Working on the edge: A TUC report on agency workers', TUC, London

Trade Union Congress. 2007. 'Agency workers: Counting the cost of flexibility', TUC

**TABLES IN TEXT (Tables 1-4)**

Table 1: Overview of possible types of immigration and legal work status of A2 migrants in the UK before 2014

	Legally resident	Illegally resident
Not working	S1	S4
Working legally	S2	x
Working illegally	S3	S5

Table 2: Characteristics of A2 migrants, A8 migrants and others, 2013

	A2	A8	Other Immigrants	UK-Born
Population, 16-64. ('000s)	180	880	5,260	33,980
<i>Employment</i>				
Employees (%)	31.4*	67.2	56.4	63.1
Self-Employed (%)	42.7*	11.9	9.8	9.3
Unemployed (%)	6.1	6.2	6.7	5.9
<i>Occupation</i>				
% Managers, Profs, Ass. Profs	18.1*	14.6	49.2	44.4
% Admin., skilled manual, caring	39.7*	30.0	25.5	24.2
% Sales, processing, elementary	42.2*	55.5	25.3	24.2
<i>Sector</i>				
% Manufacturing	4.5*	21.4	7.7	10.0
% Construction	30.3*	9.0	4.3	7.6
(of which % self-employed)	84.7*	61.6	40.3	38.0
% Administration	13.1*	7.7	5.3	4.5
(of which % self-employed)	75.1*	18.6	14.2	20.3
% Health	10.2	6.9	17.1	13.3
Other sectors	41.9*	55.0	65.6	64.6
<i>Benefits</i>				
UI (%)	0.5*	2.6	3.1	3.4
Sickness Benefits (%)	0.4*	1.3	4.2	7.0
Child Benefits (%)	18.6*	28.2	21.3	18.5
Tax Credits (%)	11.1*	20.3	13.6	11.5
Housing Benefit (%)	7.3*	10.2	10.3	8.4
<i>Demographics</i>				
Female (%)	50.4	53.2	51.4	49.9
Age	33.4*	32.7	39.1	39.9
Graduates (%)	37.0	36.1	45.1	21.8
Live in London (%)	54.7*	21.8	39.3	9.1
Students (%)	1.3	1.6	1.7	3.0

Source: Labour Force Survey, 2013; also see Appendix Table A1. Note sample sizes A2=921, A8=4963, Other immigrants=30,223, UK-Born=212,217. \* denotes significantly different A2 v A8 at 5% level.

Table 3: Difference in Difference Estimates: A2 v A8: Self-Employment

	(1) no controls	(2) with controls	(3) with controls reside>1 year	(4) with controls reside>1 year 2012-2015	(5) Employed only reside>1 year 2013-2014	(6) Employed only reside>1 year+ industry, occ. 2013-2014	(7) Employed only reside>1 year+ industry, occ. 2012-2015
A2	0.333** (0.028)	0.251** (0.028)	0.253*** (0.029)	0.232** (0.023)	0.322** (0.033)	0.238** (0.030)	0.236** (0.023)
After	-0.014 (0.009)	-0.022** (0.008)	-0.022** (0.008)	-0.006* (0.007)	-0.031** (0.010)	-0.027** (0.009)	-0.013** (0.007)
After*A2	-0.101** (0.033)	-0.082** (0.032)	-0.079** (0.033)	-0.113*** (0.028)	-0.098** (0.038)	-0.068** (0.034)	-0.122** (0.026)
Constant	0.113** (0.007)	0.173 (0.056)	0.175 (0.057)	-0.078 (0.149)	0.170** (0.070)	0.044** (0.022)	0.003 (0.070)
Observations	11,841	11,841	11,625	22,299	9,544	9,544	19,652
R-squared	0.081	0.174	0.178	0.154	0.209	0.367	0.354

Samples are poled cross-sections. Robust standard errors in parentheses clustered at individual level \*\* p<0.05. All regressions include controls for age (9 dummy variables), gender, region (18 dummy variables), education (3 dummy variables), years living in the UK, and quarter (3 dummy variables). In addition column 7 includes industry (16) and occupation (10) dummy variables

Table 4: Difference in Difference Estimates A2 v A8 2013-2014: Other Dimensions (residence &gt; 1 year)

	Lab. Force Participation	Temporary Job	Manual Job	Log Hourly Wage	Hours worked >0
A2	-0.029 (0.021)	-0.013 (0.014)	-0.060** (0.028)	0.100 (0.060)	0.365 (0.910)
After	0.006 (0.009)	0.003 (0.006)	0.029** (0.012)	-0.004 (0.015)	0.175 (0.280)
After*A2	-0.010 (0.025)	-0.001 (0.015)	-0.034 (0.033)	0.063 (0.073)	0.028 (1.022)
Constant	1.013** (0.073)	0.151** (0.049)	0.958** (0.098)	2.098 (0.084)	45.073** (2.549)
Observations	11,625	11,625	11,625	2,076	9,390
R-squared	0.089	0.026	0.121	0.219	0.187

Estimates include full set of controls. Robust standard errors in parentheses clustered at individual level \*\* p<0.05. Wage data only available for 40% of employees in each sample.

Table 5: Difference in Difference Estimates: A2 v A8 2013-14: Welfare Benefits (residence &gt; 1 year)

	Unemployment Benefit	Income Support	Sickness Benefit	Child Benefit	Tax Credits	Housing Benefit	Social Housing
A2	-0.021** (0.005)	-0.005 (0.003)	-0.004 (0.005)	-0.078** (0.024)	-0.097** (0.020)	-0.057** (0.018)	-0.067** (0.014)
After	-0.004 (0.004)	-0.005** (0.002)	-0.003 (0.003)	-0.014 (0.012)	-0.019 (0.011)	-0.015 (0.008)	-0.005 (0.009)
After*A2	0.010 (0.006)	0.006 (0.005)	0.002 (0.005)	0.031 (0.028)	0.025 (0.025)	0.003 (0.019)	0.002 (0.016)
Constant	0.031 (0.035)	-0.012 (0.099)	0.034 (0.021)	-0.526** (0.085)	-0.075 (0.079)	0.059 (0.071)	0.455** (0.098)
Observations	11,625	11,625	11,625	11,625	11,625	11,625	11,625
R-squared	0.029	0.015	0.039	0.182	0.066	0.031	0.114

Estimates include same set of controls as in Table 3 column 3. Robust standard errors in parentheses clustered at individual level, \*\* p<0.05

**TABLES IN APPENDIX (Tables A1-A4)**

Table A1 Characteristics of A2 migrants, A8 migrants and other individuals in the UK's Labour Force Survey, 2007-2015

	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Population 16-64 (000s)								
A2	40	60	80	110	130	140	180	210	260
A8	530	610	610	690	810	870	880	1050	1150
Others	35,300	35,300	35,400	35,500	35,400	35,500	35,300	35,300	35,200
	Employed %								
A2	86.7	83.6	77.7	77.6	77.4	74.3	74.1	78.6	77.7
A8	82.3	82.8	82.0	82.3	82.0	79.8	79.1	81.6	84.2
Others	72.6	72.4	70.7	70.3	70.2	70.8	71.5	72.6	73.4
	Self-Employed %								
A2	38.1	35.0	45.0	31.0	29.0	36.9	42.7	35.9	22.1
A8	9.5	9.8	10.3	8.4	10.6	11.5	11.9	10.3	11.6
Others	9.1	9.0	8.9	9.1	9.1	9.4	9.4	10.0	10.0
	Unemployed %								
A2	2.6	2.5	3.1	6.5	5.5	5.3	6.1	4.5	4.8
A8	5.1	3.7	4.2	4.8	5.1	6.1	6.2	4.5	3.3
Others	4.2	4.5	6.0	6.2	6.4	6.3	6.0	4.9	4.3
	Unemployment Benefit								
A2	0.1	1.0	1.4	1.3	0.4	0.9	0.5	0.5	0.5
A8	0.2	0.5	1.1	1.1	1.3	2.0	2.6	2.0	0.8
Others	1.8	1.9	3.0	3.3	3.3	3.4	3.3	2.3	1.7
	Sickness Benefit %								
A2	0.8	0.3	1.6	0.6	0.8	0.9	0.4	0.3	0.4
A8	0.4	0.7	0.3	1.1	0.9	1.1	1.3	1.3	1.2
Others	6.8	6.7	6.8	7.0	6.9	6.7	6.6	6.2	6.4
	Child Benefit %								
A2	7.1	13.1	14.3	12.4	16.0	17.3	18.6	20.2	18.5
A8	15.1	19.2	21.8	24.4	23.8	31.1	28.2	27.6	26.6
Others	20.5	20.4	20.6	21.0	20.5	20.6	18.9	18.4	17.7
	Tax Credits %								
A2	1.8	7.2	6.6	8.3	11.7	15.0	11.1	11.1	11.7
A8	11.0	14.9	18.3	20.3	20.5	22.9	20.3	18.8	16.5
Others	14.5	14.9	15.7	16.5	15.3	13.2	11.8	11.3	10.6
	Housing Benefit %								
A2	0.1	1.0	2.8	2.2	5.6	5.2	7.3	5.8	8.7
A8	2.5	3.4	5.1	6.2	8.0	9.8	10.2	9.6	7.4
Others	6.7	6.8	7.4	8.2	8.5	8.8	8.7	8.5	8.4

Source: UK Labour Force Survey, 2007-2015 (pooled quarters)

Table A2: Self-Employment Percentage by industry (%), 2012-2015

	2012	2013	2014	2015
<b>A2</b>				
Manufacturing	20.3	17.7	13.4	3.2
Construction	87.3	84.7	78.1	71.1
Retail/Hotels	26.2	37.3	15.4	10.1
Admin	77.5	75.1	73.5	48.8
Health	14.2	23.7	18.3	6.2
Other	48.5	59.6	54.9	34.5
<b>A8</b>				
Manufacturing	4.1	2.0	2.0	2.9
Construction	63.0	61.6	58.2	63.6
Retail/Hotels	4.1	5.3	4.8	3.0
Admin	27.8	18.6	21.8	26.6
Health	6.7	17.6	7.7	7.2
Other	17.7	19.9	16.5	19.1
<b>Others</b>				
Manufacturing	6.2	6.8	6.4	7.0
Construction	38.2	38.2	38.6	38.1
Retail/Hotels	9.2	8.9	8.8	8.7
Admin	20.7	19.5	21.3	20.3
Health	6.9	7.1	7.1	7.1
Other	15.9	15.5	16.9	16.1

Source: UK Labour Force Survey. Standard error of sample proportions in the order of 1, 0.5 and 0.1 % points for A2, A8 and Others respectively.

Table A3: Tests for Before-Treatment Trends: A2 v A8 2007-2013

	(1) Self- Employment	(2) Sickness benefits	(3) Child Benefit	(4) Lab. Force participation	(5) Unemployment Benefit
A2	0.214** (0.049)	0.002 (0.007)	-0.104** (0.030)	-0.034 (0.027)	0.001 (0.002)
A2*2008	-0.041 (0.054)	-0.009 (0.008)	0.031 (0.035)	-0.026 (0.032)	0.005 (0.009)
A2*2009	0.036 (0.060)	0.005 (0.013)	0.030 (0.041)	-0.048 (0.037)	-0.000 (0.009)
A2*2010	-0.046 (0.056)	-0.008 (0.008)	0.013 (0.038)	-0.055 (0.033)	-0.002 (0.007)
A2*2011	-0.081 (0.055)	0.006 (0.011)	0.026 (0.037)	-0.068** (0.034)	-0.011** (0.004)
A2*2012	-0.010 (0.056)	-0.002 (0.010)	-0.032 (0.037)	-0.083** (0.035)	-0.012** (0.005)
A2*2013	0.032 (0.055)	-0.012 (0.008)	0.010 (0.036)	-0.059 (0.033)	-0.026** (0.005)
Observations	31,990	31,990	31,990	31,990	31,990
R-squared	0.173	0.028	0.097	0.092	0.015

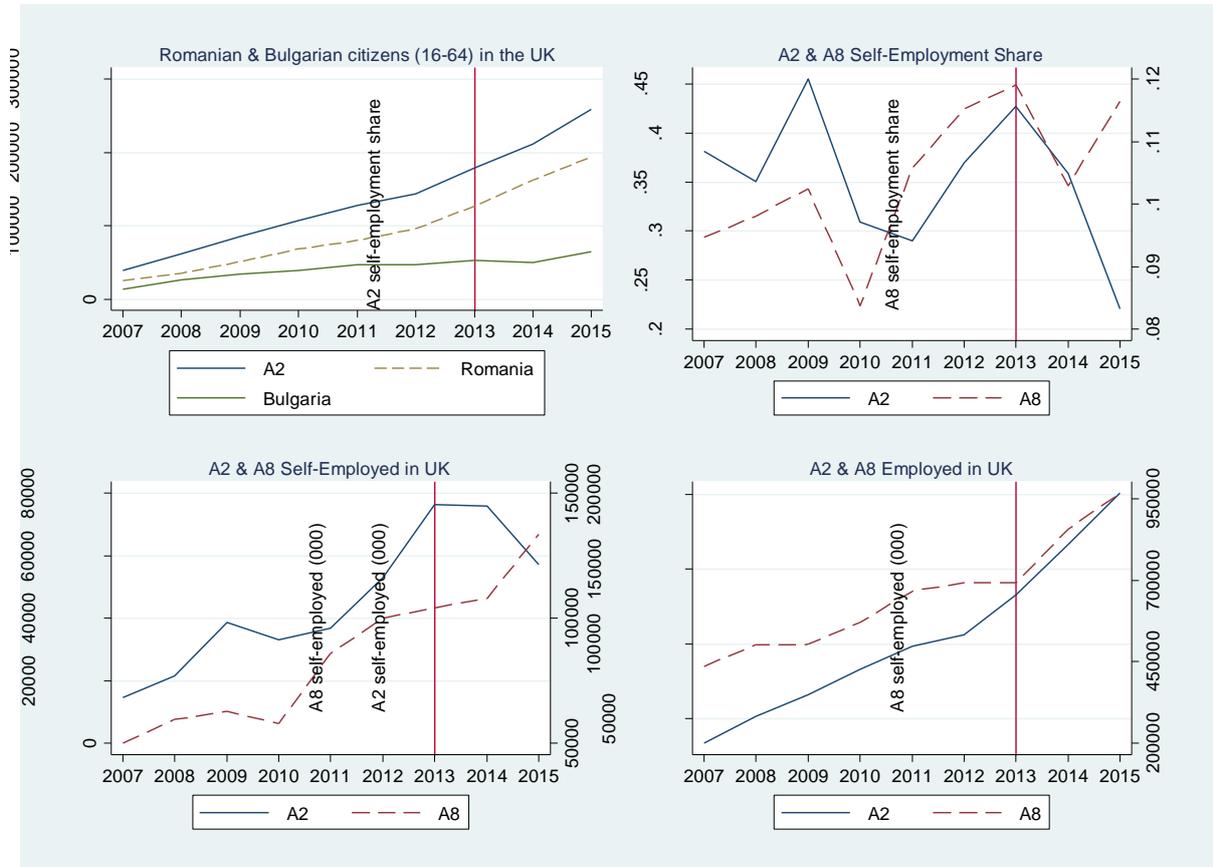
Table A4: Difference in Difference Estimates A2 v A8 2013-2014 Panel: Self-Employment

VARIABLES	(1)	(2)	(3)	(4)
	no controls	with controls	no controls res>1 year	with controls res>1 year
A2	0.344** (0.060)	0.257** (0.061)	0.344** (0.059)	0.256** (0.061)
AFTER	0.039** (0.011)	0.028* (0.012)	0.040** (0.012)	0.029** (0.012)
AFTER*A2	-0.025 (0.045)	-0.022 (0.047)	-0.026 (0.045)	-0.023 (0.047)
Constant	0.085** (0.015)	0.087 (0.141)	0.087** (0.013)	0.092 (0.142)
Observations	1,118	1,118	1,110	1,100
R-squared	0.102	0.220	0.100	0.219

Robust standard errors in parentheses clustered at individual level \*\*\* p<0.01, \*\* p<0.05

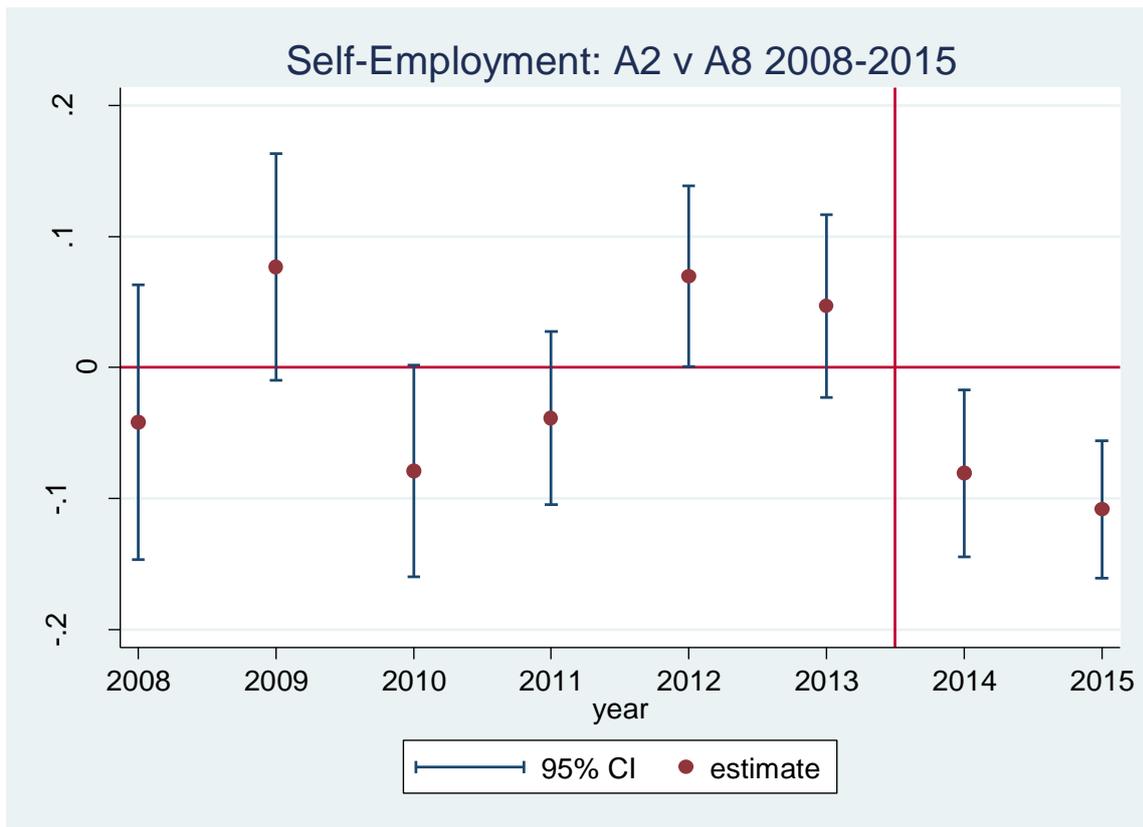
**FIGURES IN APPENDIX (Figures A1-A2)**

Figure A1: A2 and A8 immigrants (aged 16+) in the UK, 2007-2015



Source: Labour Force Survey, authors' calculations

Figure A2: Difference-in-Difference Estimates of Self-Employment 2007/8 -2014/15



Note: Estimated coefficients on difference in difference variable and 95% confidence interval from rolling 2 year window samples. Estimates use same set of controls as in Table 3 column 2