

# **Assimilation of the migrant work ethic**

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# Assimilation of the “Migrant Work Ethic”

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## Abstract

*Over the last decade the UK has experienced unprecedented increases in migration associated with the 2004 A8 expansion of the EU. This paper studies the work ethic of these recent migrants by analysing worker absence data from the Labour Force Survey for the period 2005-2012. The results show that when A8 migrant workers first arrive in the UK they have substantially lower absenteeism than native workers, but importantly migrant absence levels assimilate within 4-7 years. If UK employers use this information to make hiring decisions, then unusually productive native workers will suffer, this is however only likely to occur in the short term.*

Keywords: Migration, assimilation, absenteeism

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## 1. Introduction

On 1 May 2004 the European Union was expanded to include the A8 nations of Central and Eastern Europe. Since their entry into the UK labour market, workers from these nations have been lauded by employers, and much of the popular press, as having what has been described as a stronger “work ethic” than similar workers from the UK. Within the academic literature, recent qualitative evidence studying managers’ views of the migrant work ethic, through observations on sickness absence and overtime hours worked, suggest that the work ethic of migrants was perceived by these managers to be higher than that of native workers (see, for example MacKenzie and Forde 2009; Matthews and Ruhs 2007; Tannock 2013; Wills et al. 2009). Despite these qualitative findings and media attention, quantitative evidence on the migrant work ethic is scant.

Using data on worker absence from the UK Quarterly Labour Force Survey (QLFS) covering the period 2005 to 2012, this paper investigates the work ethic of recent A8 migrants compared to UK natives. It is argued that the weaker labour market power of A8 migrants provides an incentive for these workers to supply more effort. In particular, recent migrants are likely to face certain disadvantages in the UK labour market relative to comparable natives, which serves to lower their labour market power. Firstly, recent migrants have limited labour market information about the host country; while on the demand side UK employers are unaware of the value of migrant characteristics, such as education and other work-related characteristics, if obtained outside of the UK (Clark and Drinkwater 2008). Secondly, the lower levels of English language proficiency possessed by recent migrants will hinder labour market outcomes, as migrants are unable to obtain employment that adequately reflects their particular skills. In this view, language skills are seen as complementary to job related skills and both are needed in order to match workers with jobs that reflect their skill set (Dustmann et al. 2008; Eckstein and Weiss 2004). A particular consequence of these disadvantages and information asymmetries is that migrants are unable to signal *ex ante* their underlying productivity to employers through the traditional channels, such as education (Spence 1973) and labour market experience. As such, recent migrants have an incentive to find new *ex post* methods of signalling productivity to employers in order to progress from low skilled, low paying roles and into employment positions that better reflect their skill sets. In this view, migrant workers signal productivity through a stronger work ethic and, within the context of this study, through lower absenteeism. This signalling of effort will be over and above that required to signal underlying productivity when UK employers are fully informed about migrant characteristics.

According to the migrant assimilation model pioneered by Chiswick (1978), increased migrant residency in the host country is associated with increased labour market information, skills and language acquisition specific to industries in the host nation. Moreover, employers will have greater information concerning the work-related characteristics of these migrant workers. Consistent with this view, increased migrant residency in the host country will increase the labour market power of migrants and therefore their employment prospects. The assimilation of migrants in host countries has received considerable attention by academics, usually corroborated through the use of wages (Clark and Lindley 2009; Dickens and McKnight 2008) and, to a lesser extent, unemployment propensity (Blau and Kahn 2007; Chiswick et al. 1997). In line with the predictions of the migrant assimilation model, this study also assesses the assimilation of the migrant work ethic. In short, if increased residency in the UK increases the labour market power and employment outcomes of migrants, then

these migrants will no longer have the incentive to signal productivity through higher effort levels and lower absenteeism.

In summary, we find that A8 migrants are on average less likely to take work absence than UK natives, thus providing empirical support for the perceived ‘migrant work ethic’. However, what is a particularly interesting finding is that as the UK residency of A8 migrants increases their work ethic becomes comparable with UK natives. Consistent with this finding, evidence from our data reveals that A8 migrants have approximately a 50% wage disadvantage with native born counterparts when first arriving in the UK and that this wage penalty declines but, importantly, does not fully assimilate with increased migrant residency in the UK. This suggests that the assimilation of the migrant work ethic may also be attributable to other factors, such as cultural assimilation and/or the migrant ‘frame of reference’ when making wages expectations. These alternative explanations are discussed throughout the paper.

The remainder of this paper is structured as follows. Section 2 presents the background to the questions at hand, whilst section 3 reviews the related literature. Section 4 describes the data source we use and develops the empirical methodology. Section 5 presents the results of the empirical analysis and provides a brief discussion, while section 6 presents the conclusions.

## 2. Background

The current UK context following the A8 EU expansion of 2004 makes the UK a suitable arena for the study of the links between migration and perceived work ethic. The issue of migrant labour has become particularly important in the UK following the A8 expansion of 2004, where eight Central and Eastern European (CEE) nations joined an expanded EU. These countries are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia. Sweden, the Republic of Ireland and the United Kingdom were the only three EU member states to allow full access to workers from the A8 nations to work without restriction, whereas other member states imposed restrictions of up to seven years. The UK government’s decision was influenced by an original predicted figure of increased migration as a result of the expansion of between eight and thirteen thousand (Dustmann et al. 2003), and as such the only requirement for A8 migrants to take work in the UK was to register on the Worker Registration Scheme (WRS). Under this scheme, all A8 migrants intending to take work in the UK had to register on the scheme, at a cost of £50 initially (gradually rising to £90 over the following years), with the intention that this would aid in the monitoring of migration inflows (Dustmann et al. 2010). By the time this scheme was closed in April 2011, seven years since the A8 expansion, over a million people had registered. Clark and Drinkwater (2008) show that these changes saw the proportion of the total number of migrants and immigrants to the UK from the A8 countries rising from 4.1% of the total in 2000-2003 to 36.5% of the total in 2004-2007. By comparison, when Bulgaria and Romania acceded to the EU in 2007, the UK placed the maximum seven years of work restrictions on these nations, which then expired in January 2014.

## 3. Theoretical Framework and Empirical Literature

One of the key themes that have emerged from workplace studies of migrant workers is a preference amongst managers for migrant workers over native workers (see e.g. MacKenzie and Forde 2009; Hopkins 2009; Tannock 2013). In particular, migrant workers are cited by

managers as having a stronger work ethic than native workers. But what is this work ethic? Managers repeatedly pointed to low absence in particular, with Hopkins' (2014) study of absence management finding that managers consider A8 migrants to take less sickness absence than their UK colleagues. The evidence from industrial studies, such as those of MacKenzie and Forde (2009) and Tannock (2013), is that managers propose a link between this work ethic and migration and, as a result, there is strong evidence that managers prefer migrants. Matthews and Ruhs (2007) suggest that in lower skilled roles employers will actually prefer a 'good work ethic' over more recognisable qualifications or skills. This creates complex hierarchies amongst potential recruits, where "workers are often – and in some cases primarily – distinguished and recruited on the basis of their nationality." (Matthews and Ruhs 2007: 29). These findings in the UK match with previous research in other countries, for example that of Chiswick (1978) and Waldinger and Lichter (2003), who find a preference for migrant workers amongst US managers. Waldinger and Lichter (2003: 176) find that managers reported that they preferred Latino migrants as they "liked to work", while African Americans were reported to be too "Americanized" and thus more likely to demand higher wages and better conditions. Many managers in this study cited differences in work ethic between migrant and native workers.

Within the context of this paper, it is argued that the stronger migrant work ethic is directly linked to migrant labour market power and, in particular, low levels of English language skills and issues around the portability of qualifications. Firstly, migrants may endeavour to negate these issues by being more compliant to the demands of employers, which is often termed by these employers as the 'migrant work ethic' (see, for example, Hopkins 2009). Secondly, a particular consequence of lower migrant labour market power is that migrants are forced to supply labour in low paying, low skilled employment positions which don't adequately reflect their particular skills. More specifically, Clark and Drinkwater (2008) find that recent migrants from the A8 countries have the lowest returns to their skills, and relate this to the issue of English language proficiency. Green et al. (2007a: 11) find that "On coming to the UK they [A8 migrants] had taken the first job they could find, had found that opportunities were restricted by their limited English or had found it difficult to find similar work to that done previously". Green et al. (2007b) note that A8 migrants felt that they had to develop their English language skills in order to advance their careers from the jobs that they had taken, or even to get back to the kinds of jobs that they had been employed in while in their home country. Dustmann and Fabbri (2005) find that language proficiency is lowest among those groups that have the largest disadvantages in the labour market. However, this lower level of English language skills must also be considered in conjunction with lack of portability of qualifications (Dustmann and Fabbri 2005; Dustmann et al. 2008; Eckstein and Weiss 2004).

Friedberg (2000) argues that another reason for this poor ability to obtain higher skilled roles is a lack of portability of skills and qualifications between countries, with managers unaware of the value of these if they are earned outside the host nation (see also Chiswick and Miller 2008; Clark and Drinkwater 2008). Dustmann and Fabbri (2005) find that the immigrant workforce in the UK is better qualified than the native UK workforce – for example, whilst 18 percent of the UK workforce had a degree, this was true for 23 percent of the immigrant workforce. This is a contributory factor in the majority of recent migrant workers in the UK taking low skill jobs (Curries 2007; Datta et al. 2007), despite their relatively high levels of formal education (Drinkwater et al. 2009). These findings in the UK match those from studies elsewhere – Kaushal (2011), for example, notes the wage differentials between US-born and foreign-born college graduates.

In line with these views, a stronger migrant work ethic, for example through lower absence, enables migrants to signal their underlying productivity to employers. Whilst signalling usually takes place *ex ante*, i.e. before an individual is employed (e.g. Spence 1973), as UK employers are not fully informed of the value of migrant qualifications (Clark and Drinkwater 2008; Friedberg 2000), then migrants will have to find an alternative way of demonstrating their skills and commitment *ex post*, and signalling this through, for example, lower levels of absence. This signalling can therefore be seen as an attempt by individuals to overcome asymmetries of information and for high-productivity migrant workers to demonstrate to employers that they truly are more productive in order to be reallocated into more highly-skilled roles which adequately reflect their particular skill sets. Datta et al. (2007) note the reasons for this low labour market power (that requires this signalling) as being a combination of discrimination, low levels of English language skills, and lack of portability of qualifications. In a recent paper, Bradley et al. (2012) show that those on a probationary contract will demonstrate a superior work ethic through lower absence in an attempt to increase their chances of gaining a permanent contract.

### *3.1. The Assimilation Model*

The (im)migrant assimilation model noted by Chiswick (1978) and Chiswick and Miller (2008; 2011) begins with the assumption that people moving from one country to another do not have a set of skills that are directly transferrable to a higher income economy owing to a number of factors. Chiswick and Miller (2008) note that these factors may include schooling, on-the-job training, and customs and cultural characteristics. Other factors noted, which are found to be important in this study, are language, labour market information, and credentials, particularly foreign-gained qualifications. When an individual moves countries, the individual is incentivised to invest in destination-specific skills, either explicitly, for example by gaining a qualification, or implicitly, for example by learning-by-living. If any of these skills are not easily and readily transferrable, then the individual's earnings will not be as high as those of native workers when they move.

The longer a migrant spends in their host nation, it may be expected that labour market power is increased as information, skills and language acquisition specific to roles in the host nation are gained. As a result, migrant wages would be expected to converge with those of natives (Clark and Lindley 2009; Dickens and McKnight 2008). In addition, wage expectations will alter as migrants now frame these wage expectations in their host nation, rather than comparing wages with their home nation as posited by dual labour market theory (Piore 1979). In addition, migrants may culturally assimilate into their host nation and behave more like natives (see, for example, Waldinger and Lichter 2003). As this occurs, migrants will no longer have an incentive to signal productivity through the supply of additional effort, and therefore their reliance on signalling through, for example, lower absence levels, will lessen.

McGovern (2007) notes that, under these assimilation models, it might be expected that migrants would follow a straight line assimilation model, pointing to the work of Gordon (1964). Chiswick (1978), using this assimilation model, finds that there was equality of earnings for immigrants in the US after ten to fifteen years, although this varied across ethnicities, with Mexican-born immigrants performing less well. Chiswick (1978) also finds that although education has a positive effect for migrants, this effect is lower than that for natives (see also Dustmann et al. 2003; Portes and Rumbaut 2006). In particular, Chiswick (1978) notes that the ability of immigrant workers to exceed the wages of the native

population indicate the “greater ability, work motivation [i.e. work ethic], or investments in training” of these immigrants.

However, McGovern (2007) notes that contemporary research has found that the labour market performance of migrants may not converge to that of natives as language proficiency and labour market knowledge increase over time. One argument put forward by McGovern (2007) for this lack of convergence is that migrants and native workers may not compete for the same jobs, with migrants moving into roles shunned by the native workforce. Rose (2005) notes a ‘despondency thesis’ related to UK workers, particularly with the number of hours worked and the work itself. This may explain why migrant workers move into the low paid jobs that natives do not want to do. A further reason for this crowding is the role of social networks in people taking jobs (Granovetter 1974; Waldinger and Lichter 2003). Piore (1979) notes that work also marks the social status of the individual, and this can explain the crowding of migrants into low and semi-skilled roles, while native workers attempt to move away from these roles.

Returning to the qualitative evidence presented earlier, it is clear that managers, in line with the assimilation model, believe that the behaviour of migrant workers changes over time. For example, the General Manager at MacKenzie and Forde’s (2009: 150) “Glassfix” stated that “There was a tail off in the Balkan staff, then all of a sudden there was an influx of Poles...50 percent of the accession nationalities are Poles. They are very good”, with the managing director agreeing that “they have a good work ethic”. However, as the Balkan staff had been in the UK for a longer period of time, the managing director of “Glassfix” found that “The Balkan workers were sharper when it came to money and benefits, a lot of the Kosovans had been around a long time, they were more ‘Westernized’. They knew about benefits, knew it was better to draw off benefits – like the English.” This has been recently noted by managers about A8 migrant workers as well (see for example Hopkins 2009; 2011). As a result, these managers stated that “We are looking forward to the next round of accession states” and “We’ll be picking up new nationalities” (MacKenzie and Forde, 2009: 149), showing that this perception of work ethic amongst different nationalities and over time, affects organisations’ recruitment behaviours. Again, these findings in the UK mirror earlier findings from other countries. Waldinger and Lichter (2003:176) found that US managers reported that they felt African Americans were too “Americanized”, and thus more likely to demand higher wages and better conditions (see also Chiswick 1978).

This study presents the first empirical investigation into the migrant work ethic, using work absence data which have previously been identified by managers within the qualitative research as being an important measure of work ethic. Absence from work has also been extensively used as a measure of work effort in the efficiency wages/work discipline approach within the labour economics literature (see Barmby et al. 1994; Drago and Wooden 1992; Engellandt and Riphahn 2005; Bradley et al. 2013). Following the predictions of the assimilation models presented above, and the qualitative findings, we also investigate the pattern of assimilation of the migrant work ethic with increased migrant residency in the UK.

## 4. Data and Descriptive Statistics

### 4.1. *Data source and sample*

In order to study the A8 migrant work ethic, we utilize data drawn from the UK Quarterly Labour Force Survey (QLFS) for the years 2005-2012. The QLFS is particularly rich in information concerning working hours and absence from work and this information can be used to construct absence measures that proxy the work ethic of individuals working in the UK. The QLFS has a rotating panel structure, where each household member of the sample is interviewed for 5 consecutive quarters/waves. In our final sample we only include the individuals that are observed in their first or fifth wave in the survey.<sup>1</sup> We further restrict our sample to private sector employees that are either UK or A8 nationals. In the latter group, we only include migrants that arrived in the UK in or after 2004 in order to specifically study the wave of migration from the A8 countries after the enlargement of the EU in that year. We exclude workers that are full-time students, those that are under 16 years of age or above the state pension age (64 for men, 59 for women), and those that report over 80 usual weekly hours to get rid of extreme and/or invalid information. We also exclude proxy responses, since their inclusion would introduce substantial measurement error for some of the variables included in our analysis.<sup>2</sup>

In our estimations we consider four work absence measures as dependent variables: (1) the *sickness absence probability*, (2) the *sickness absence rate*, (3) the *overall absence probability*, and (4) the *overall absence rate*. To construct these measures, we follow the procedure outlined in Barmby et al. (2004), Ercolani (2008) and Veliziotis (2010). First, we calculate an absence rate for each individual in the sample as follows: let  $UH_i$  denote the usual hours the employee  $i$  works in a week, excluding any overtime work. This is assumed to correspond to the hours the individual is contracted to work.  $AH_i$  denotes the actual hours the same employee worked in the reference week of the survey, again excluding any overtime. Those respondents who reported working fewer hours than usual during the reference week were asked a follow-up question regarding the reason for this. The exact wording of the QLFS question is as follows:

“What was the main reason that you did fewer hours than usual/were away from work in the week ending Sunday the .....?”

1. Number of hours worked/overtime varies
2. Bank holiday
3. Maternity or paternity leave
4. Parental leave
5. Other leave/holiday
6. Sick or injured
7. Attending a training course away from own workplace

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<sup>1</sup> Earnings data are only collected for individuals in their first and fifth waves in the QLFS. Consequently, since later in the paper we examine the wage assimilation of A8 migrants in the UK labour market, in our final sample we only keep individuals observed in these two waves. Although this leads to the inclusion of repeated observations for some individuals in the final sample, it was a necessary choice in order to increase the number of A8 migrants in it. We also note from the beginning that the results were very similar when we restricted our sample to observations in either their first or their fifth wave in the survey.

<sup>2</sup> Dropping proxy responses reduces our sample by around 30%, without substantially affecting our conclusions though.



8. Started new job/ changed jobs
9. Ended job and did not start new one that week
10. Laid off/short time/work interrupted by bad weather
11. Laid off/short time/work interrupted by labour dispute at own workplace
12. Laid off/short time/work interrupted by economic and other causes
13. Other personal/family reasons
14. Other reasons”

(Source: QLFS questionnaire, 2012)

We then create a dummy variable  $s_i$  which takes the value of 1 if the individual’s response was *sick or injured* (option 6) in the question above, and 0 otherwise. For the case of overall absence,  $s_i = 1$  if the individual’s response was either *sick or injured*, *other personal/family reasons* (option 13) or *other reasons* (option 14), and 0 otherwise.<sup>3</sup>

By using all the above variables, we finally construct the sickness or overall absence rate,  $R_i$ , for each individual  $i$  as follows:

$$R_i = \frac{(UH_i - AH_i)s_i}{AH_i(1 - s_i) + UH_i s_i}, \quad i = 1, \dots, N \quad (1)$$

where  $0 \leq R_i \leq 1$  for each  $i$ . This variable measures the proportion of weekly hours lost due to the reasons mentioned above and it is our *sickness absence rate* and *overall absence rate* depending on how we calculate  $s_i$ . By using this rate, we can also construct our *sickness* and *overall absence probability* measures. These are discrete variables taking the value of 1 if the respective absence rate is positive (and 0 otherwise) and they effectively measure the incidence of at least one hour of absence in the reference week.

In our multivariate analysis we estimate linear models for our four dependent variables to investigate whether A8 migrants record more or less absence from work than UK nationals.<sup>4</sup> As well as including a dummy variable indicating whether the individual is an A8 migrant, we also include interactions of this with a variable that measures the number of years an A8 migrant has resided in the UK since migration (in a non-linear quadratic form). These latter variables are included to measure the assimilation of the migrant work ethic relative to natives.

In order to account for the heterogeneity in both personal and labour market circumstances between our A8 migrants and UK nationals, we include a standard barrage of control variables in our multivariate analysis. In particular we include a range of basic demographic

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<sup>3</sup> Of course, employees that *did not* work fewer hours than usual in their reference week do not answer this question. Hence,  $s_i = 0$  for these individuals.

<sup>4</sup> Though the appropriate models would be non-linear ones (binary choice models) in the case of the discrete dependent variables, we choose to present the results from linear models estimated by OLS in order to keep the presentation of estimates simple and easy to interpret. The estimation of non-linear models for the two binary dependent variables gave qualitatively and quantitatively very similar results to the ones presented below. Moreover, it should be noted that the two fractional dependent variables (the absence rates) can also cause problems in standard econometric analysis. However, the estimation of fractional probit or logit models, proposed by Papke and Wooldridge (1996), also gave very similar results. All these alternative estimates are available from the authors on request.

characteristics including gender, age (and its square), education (in years)<sup>5</sup>, marital status, number of dependent children under 16 years old, and age of the youngest dependent child. Health status, an important variable in all work absence studies (see e.g. Garcia-Serrano and Malo 2008; Leigh 1991), is also included and is captured by two dummies indicating (1) whether the respondent suffers from a long-term health problem, and (2) if that problem affects the amount of work for the employee. A series of region of work and month-year dummies are also included to control for regional and seasonal variations in weather conditions and other relevant variations by place and time. Finally, housing tenure and receipt of any state benefits or tax credits are included in the models in order to capture access to the welfare state.<sup>6</sup> These are important controls since A8 migrants were not eligible for tax credits before registering with the WRS, while they also could not claim any income-related benefits before having worked continuously for one year (Dustmann et al. 2010: 6). This limited access to the welfare state is, in turn, expected to affect migrant work effort.

We also include various job and labour market characteristics as key mediating influences on worker absence. Labour market characteristics are likely to play an important role in absence behaviour and sick-reporting, through both the demand (e.g. through their impact on the monitoring costs of employers) and the supply side (employees' incentives for absence) (Barmby et al. 2004). Labour market heterogeneity, thus, is captured through a series of control variables including: usual basic weekly hours worked, paid and unpaid overtime hours, whether the employee has a second job, a permanent contract, a managerial or supervisory status, whether the employee works at home (or in the same building as his/her home), tenure with current employer and establishment size. A series of occupational and industry dummies are also included in the models.<sup>7</sup>

Job dissatisfaction is a much studied variable in the work absence literature, since it is very closely related to the motivation of individual employees to attend work (Steers and Rhodes 1978; Lechmann and Schnabel 2013). However, the QLFS does not include a direct question about overall job satisfaction or satisfaction with specific aspects of the job. We, thus, try to proxy individual job dissatisfaction with a series of closely related variables: (1) a variable that captures dissatisfaction with current working hours ("Fewer hours desired"), which is crucial in accounting for demand determined constraints in contracted working hours that make the individual employee work more hours than desired; (2) a dummy indicating whether the employee is looking for an extra job, which serves the opposite purpose; and (3) a dummy taking the value of one if the respondent is looking for a new job, which is used as a proxy for overall job dissatisfaction.

All the above variables are included in our final model with their corresponding descriptive statistics available in Table 1.<sup>8</sup> After dropping individuals with missing observations for any

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<sup>5</sup> Education is captured as a continuous variable, computed from the age an individual left full-time education minus six. The QLFS does provide an alternative coding framework based on the UK education system, this was not however used owing to the difficulties in reconciling international education systems (Drinkwater et al. 2009).

<sup>6</sup> Benefits include: income support (not as an unemployed person), sickness or disability benefits, family related benefits, child benefits, housing/council tax benefits or rent rebate, tax credits or other.

<sup>7</sup> Note that we do not include a wage variable in our final models. The reasons for this are explained in a later footnote.

<sup>8</sup> Controls for union status and flexible working arrangements, that are important determinants of work absence (see *inter alia* Allen 1981; Veliziotis 2010; and Mastekaasa 2013), are only available in specific quarters of the QLFS each year and their inclusion would substantially reduce our sample. Nevertheless, when we re-estimated

of the dependent or independent variables of our models, we end up with a sample of 174,596 observations. 171,382 of these (98.2 percent of the total) correspond to UK nationals and 3,214 (1.8 percent) to A8 nationals. The average UK residency of A8 migrants in our sample is approximately 3.2 years. The full distribution of migrant UK residency in our sample is presented in Figure 1.

[Insert Figure 1 here]

#### 4.2. Descriptive Statistics

Before presenting the OLS coefficient estimates, we briefly consider the raw differences in work absence and important mediating influences between our native and migrant samples. Table 1 presents the relevant sample means. Crucially, A8 migrants are less likely to be absent from work and also record lower levels of sickness absence than UK nationals. T-tests are performed for the difference in means between the groups; they are highly significant, confirming the differences in each case. It is important to note that these observable differences are not small; in particular, the sickness absence and overall absence rates of UK nationals are approximately 75 percent higher than for migrant workers. In sum, these raw differences indicate, *prima facie*, in favour of a better work ethic among A8 migrant workers relative to natives.

[Insert Table 1 here]

These raw differences, however, may be driven by the different personal, demographic and job characteristics of these different groups of employees. First of all, the distribution of occupations and industries differs substantially between UK and A8 nationals. In particular, around 65 percent of A8 migrants work as plant and machine operatives or in elementary occupations. The corresponding percentage for UK employees is only around 20 percent. Moreover, while approximately 40 percent of natives work as managers, professionals and associate professional, these occupations only account for approximately 11 percent of A8 migrant employment. Migrant workers in addition are much more likely than natives to work in agriculture or manufacturing. More specifically, for A8 migrants these industries account for 35 percent of employment compared with 19 percent for natives. A8 migrant workers are considerably younger than their UK national counterparts, with the mean age of A8 migrants being 30.7 years and for UK nationals 41.7 years. A8 migrants are also much less likely to be married and to have dependent children. Importantly, A8 migrant workers have higher average years of education than UK nationals; A8 migrants have on average 2.5 years more education than their UK national counterparts. Migrants are also healthier, more likely to work in a temporary full-time job (over 35 usual basic hours per week), less likely to have managerial or supervisory duties in their job and have on average a shorter tenure with their current employer than UK nationals. A8 migrants also exhibit a lower amount of dissatisfaction with current working hours, although they work substantially more hours (basic and paid overtime) than UK nationals. On the other hand, they are more likely to be looking for a new job than UK employees. Lastly, A8 migrants face a substantial hourly wage penalty (around 30 percent) relative to natives despite A8 migrants' higher levels of education.

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our models with this reduced sample of employees in order to include these controls, our results were very similar to the ones reported below.

## 5. Results

### 5.1. *A8 Migrants and Work Ethic*

In view of the above differences in personal and job characteristics between our groups, multivariate analysis is employed in order to control for these differences and therefore to compare the work ethic of observationally similar UK national and A8 migrant workers. Table 2 presents our estimates. Within these models we control for the range of characteristics that were discussed in the text above and presented in Table 1.

[Insert Table 2 here]

While our primary concern is with the differences in worker absence between our migrants and natives sample, we briefly comment on other significant effects on absence that are revealed in our estimates. Most of these results are in line with the findings of other work absence studies, while the pattern of estimates is very similar irrespective of the absence measure used. Female employees are significantly more likely to be absent and report higher absence rates than comparable men (Bridges and Mumford 2001). We also estimate a U-shaped relationship between age and absence, as Allen (1984) and Barmby et al. (2004) also do. In line with previous research, worse health is strongly and positively related to absence (García-Serrano and Malo 2008; Leigh 1991). Moreover, employees with more years in education are found to have lower absence than those reporting lower education levels. This finding can be explained by reference to either the higher opportunity costs of absence for more educated workers (Allen 1981) or to the sorting explanation of wages and education (Weiss 1995).

In line with the arguments in Winkelmann (1999) and Barmby and Stephan (2000), workers in smaller workplaces are the least likely to be absent. We also estimate a positive relationship between basic usual working hours and absence. This supports the argument made by Allen (1981), who views work absence as a rational response from the part of the employees who want to bring actual working hours in line with desired ones. However, we also find that employees working more than 48 hours per week record lower absence than similar employees working between 36-40 hours (for sickness absence only) or 41-48 hours (both for sickness and overall absence). This latter finding probably indicates an estimated selection effect, where employees with a lower propensity to be absent also tend to supply longer working hours (Barmby et al. 2004).

Workers in permanent jobs and with higher job tenure are absent more frequently, reflecting the effects of job security on effort (Engellandt and Riphahn 2005; Ichino and Riphahn 2005; Bradley et al. 2012). A final important finding is that the receipt of state benefits or tax credits increases the likelihood of worker absence. Access to public transfers may increase the understanding of the complex UK welfare system and consequently inform recipients about the safety net such transfers offer. This may therefore be further evidence of the effects of protection, or, more specifically, the understanding of government protection on effort. Finally, we estimate the expected signs for the variables capturing aspects of job satisfaction.

Looking for an extra job is negatively related to absence, while looking for a new job and desiring fewer working hours are positively related to it.<sup>9</sup>

The main focus of the paper involves the comparison of absence levels between natives and migrants and, furthermore, the assimilation of these effort levels as UK residency increases. Firstly, a common pattern can be observed in all our estimated models, confirming the conclusions drawn from the descriptive analysis presented above: A8 migrants exert substantially more effort than natives. In particular, the A8 migrant sickness absence probability is 2.5 percentage points smaller than for a UK national. Relative to the mean level of a UK national's sickness absence probability (3.8%), this difference corresponds to an almost three times lower probability of absence for A8 nationals. Substantial (and of similar magnitude) differences are also estimated for the rest of our absence measures.

However, owing to the presence of the interactions of the A8 dummy with the length of residence in the UK and its square, the above differences correspond to the comparison of a UK national with an observationally similar A8 migrant that arrived in the UK in the same year as the one that he/she is observed in the QLFS. Hence, in order to estimate how the A8-UK absence differential changes with length of residency in the UK and check for the existence of assimilation of A8 migrants with respect to their work ethic, the estimated results in Table 2 are used to estimate the A8-UK absence gap for each year of residency (along with the corresponding standard errors and confidence intervals). Figure 2 presents the relevant graph for each absence measure. It is clear that an assimilation of the migrant work ethic is observed in all four graphs. Specifically, the A8-UK absence gap gradually declines and becomes statistically insignificant at around the fourth or fifth year of continuous residency in the UK (apart from the overall absence probability measure, where the differential becomes zero in the seventh year). The key story that emerges from the evidence presented is one of a stronger migrant work ethic on entry into the UK, while this stronger migrant work ethic rapidly decreases over the first few years spent in the UK. This convergence process with natives appears to take approximately 4-7 years. These results strongly corroborate qualitative findings on the absence levels and, hence, the work ethic of recent migrants (Hopkins 2011; Tannock 2013) and its subsequent assimilation (MacKenzie and Forde 2009).<sup>10</sup>

[Insert Figure 2 here]

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<sup>9</sup> As noted above, we do not include a wage variable as a covariate in our absence equations. Although earnings should be an important determinant of absence through a standard efficiency wage or opportunity cost of absence argument (Veliziotis 2010), the inclusion of a wage variable is likely to lead to simultaneity bias since absence levels can themselves affect the earnings of employees (e.g. Ichino and Moretti 2009). See Allen (1984) for a detailed account of this argument in the context of the trade union status effect on absence from work. However, including an earnings variable in our models has a modest effect on our variables of interest. As expected, since a higher wage reduces absence rates and A8 migrants face a substantial wage penalty, the inclusion of the wage increases slightly the (absolute) size and the significance of the coefficient of the A8 migrant dummy. On the other hand, the coefficient of the benefits dummy is reduced, since workers that claim welfare state benefits or tax credits are also low-wage workers.

<sup>10</sup> The same picture emerges if the interactions of the A8 dummy with year of residency are substituted in the models with separate A8 dummies for each year of UK residency. These results are available from the authors on request.

## 5.2. *Work Ethic and Labour Market Power*

The findings presented on the work ethic of A8 migrants appear to be consistent with both the prior qualitative evidence and, importantly, the theoretical insights linked to labour market power. In this latter view, it was proposed that increased migrant residency in the host country is associated with increased labour market information, skills and language acquisition specific to industries in the UK, which in turn increases the labour market power of migrants and as such leads to the assimilation of migrant wages (Clark and Lindley 2009; Dickens and McKnight 2008). Consequently, more embedded migrants will no longer have an incentive to signal productivity through lower absenteeism. Evidence from our raw data reported in Table 1, shows that A8 migrants do face a substantial wage penalty relative to natives despite their higher levels of education, reflecting their lower levels of labour market power. Importantly, however, do the labour market outcomes of A8 migrants assimilate and henceforth help to explain the assimilation of the migrant work ethic? In addressing this question, we assess the labour market assimilation of migrants, corroborated in this section through the use of wages.

Using the same data sample, we estimate two model specifications to examine the wage assimilation of A8 migrants. The dependent variable in both specifications is the log of the real hourly wage. In our first specification, we present unadjusted wage changes for migrants with years of residency in the UK. However, since wages are determined by a number of factors that may themselves be correlated with migrant status or years of residency in the UK, we also present the results from a multivariate model of assimilation. This multivariate model assumes wages are determined by the following influences: gender, current age in quadratic form, marital status, education, health and a set of region of residence dummy variables. For A8 migrants, dummy variables for each year of entry into the UK are also included. Job characteristics such as industry and occupation are not included as these will capture part of the process through which A8 migrants increase their earnings.<sup>11</sup> In both cases, these estimates are used to compute the A8-UK wage differential for each year of migrant residency in the UK. Figures 3 and 4 present the estimates along with the corresponding confidence interval for the unadjusted and regression-adjusted wage differentials, respectively.<sup>12</sup>

Figure 3 shows that newly arrived migrants face a wage penalty of around 45% compared to UK natives. A8 migrants' wages do however seem to catch up over time; in particular, after 8 years of residency in the UK, A8 migrant wages are on average 10% lower than those of UK natives. The regression adjusted wage differential illustrated in Figure 4, suggests that on

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<sup>11</sup> We focus on hourly wage rates to avoid comparisons that depend on the different working hours between A8 nationals and natives. The results of the estimated models are available from the authors on request.

<sup>12</sup> The use of cross-sectional data when analysing the assimilation of migrant wages has come under some scrutiny in the literature (Borjas 1985; Fernández and Ortega 2008; Izquierdo et al. 2009). Firstly, migrants with different years of residency in the UK belong to different entry cohorts. If there is a decrease in the quality of migrants entering the UK over time, migrant wage growth may be upward biased (Borjas, 1985). While this typical shortcoming seems unlikely within our context where we study a short wave of migration within a 9 year period, we control for entry year cohort in our models. Secondly, poor performing migrants are typically the first to return home, consequently our sample of A8 migrants with longer residency may be a selection of better than average migrants. This phenomenon would again lead to migrant wage growth being upward biased.

arrival A8 migrants face approximately a 50% wage disadvantage, which closes to around 30% after 8 years of migrant residency in the UK.<sup>13</sup>

[Insert Figure 3 here]

[Insert Figure 4 here]

It should be noted that earnings are not the only indicator of migrant labour market assimilation. Previous studies (Amuedo-Dorantes and de la Rica 2007; Blau and Kahn 2007; Chiswick et al. 1997; Clark and Lindley 2009) have investigated the employment assimilation of migrants, measured as the migrants' ability to find employment relative to natives as residency increases. Wages are, however, likely to give a more complete picture, as employment assimilation says nothing about the quality of the jobs found by migrant workers. Moreover, consistent with the economics literature, the individual prevailing market wage rate is an indicator of labour market productivity (Dickens and McKnight 2008).

While A8 migrants' wages may not have fully assimilated to those of UK natives, these migrants may also have assimilated in other unobservable ways which may help to explain the assimilation of the migrant work ethic. Firstly, migrants may culturally assimilate into their host nation, by adopting social norms and subsequently behaving more like natives (Waldinger and Lichter 2003). Secondly, migrant wage expectations may assimilate, consistent with the dual labour market hypothesis and the migrant 'frame of reference' (Piore 1979). More specifically, suppose that everyone initially sets reservation wages with the belief that they will most likely earn the average of those with the same educational background and other observable characteristics. However, when migrants are added to the UK labour supply, their 'frame of reference' is usually the labour market in their home countries, meaning that their wage expectations are significantly lower than those of native workers. So, whilst recent A8 migrants face a substantial wage penalty relative to natives, wages may still remain significantly above expectations and may therefore be associated with higher worker effort according to a standard efficiency-wage and/or the fair wage-effort hypothesis (Barmby et al. 1994; Drago and Wooden 1992; Akerlof and Yellen 1990). This is especially likely for the most recent of A8 migrant workers who are less embedded in the UK labour market. Accordingly, as migrants' experience and knowledge of the UK labour market increase, their 'frame of reference' is likely to shift and, as such, wage expectations will adjust accordingly.

## 6. Discussion and Conclusions

The UK has experienced unprecedented increases in migration in recent years, primarily associated with the entry of the A8 accession countries into the European Union. These migrant workers arriving in the UK have been recognized by both employers and the media as having a stronger work ethic than native workers. Using worker absence data from the QLFS for the period 2005-2012 and considering migrants from the recent 2004 A8 expansion, this paper quantitatively investigates this perceived migrant work ethic. The key result from this paper is that A8 migrants are found to record around three times lower worker absence than natives in their first year of residency in the UK. What is a particularly

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<sup>13</sup> Dickens and McKnight (2008), investigating the extent to which migrants in Britain have been assimilated into the workforce, suggest it takes male migrants some 20 years for their wages to fully assimilate to those of natives.

interesting finding is that it takes migrants between 4-7 years to eradicate this difference. Therefore, we find strong evidence of the assimilation of the migrant work ethic which corroborates earlier qualitative findings based upon managers' observations (MacKenzie and Forde 2009).

It has been argued throughout this study that this migrant work ethic is mediated by the lower levels of labour market power faced by this recent group of migrants. It is this low labour market power that provides the incentive for migrant workers to supply increased effort through reduced worker absence, in order to signal to employers their underlying productivity. In line with this view and that of the traditional migrant assimilation model, it was proposed that the observed assimilation of the migrant work ethic would reflect the increasing levels of labour market power and employment prospects of more embedded migrants. Consistent with this belief, our modelling of the wage assimilation of A8 migrants suggested that these migrant workers face a substantial wage penalty relative to natives despite their higher levels of education when first arriving in the UK. Importantly, this wage penalty was found to decline in magnitude as migrant residency in the UK increased. However, whilst A8 absence rates were found to fully assimilate to those of natives, wages do not. In this view, migrants may have assimilated in other measurable and immeasurable ways. In particular, A8 migrants wage expectations may have adjusted in line with those of natives; this may explain in part the convergence of migrant effort levels. Moreover, migrants may also culturally assimilate by adopting the social norms of natives. For example, managers in Waldinger and Lichter's (2003) book refer to the 'Americanized' African American workers, whilst those in MacKenzie and Forde's (2009) study describe the 'Westernized' Kosovans.

While the evidence in this study points to the convergence of migrant effort levels over the years following arrival, there are however several limitations of the data that should be noted. Principally, the use of cross-sectional data in studies of migrant *wage* assimilation has been criticised owing to both cohort effects and the attrition of below average migrants (Borjas 1985; Izquierdo et al. 2009). The former criticism reflects the changing quality of migrants into the host nation. If, for example, there was an improvement in the quality of A8 migrants entering the UK over time, we may expect this to impact upon work effort levels observed in our sample. It does, however, seem unlikely that cohort effects are important within the context of our study, since we investigate only a short wave of migration. Moreover, when we estimated the same absence regressions with a full set of year of arrival dummies for A8 migrants, our results were not substantially different. Furthermore, if below average A8 migrants are the first to return home, it is not obvious how this migrant attrition may bias our *absence* results. On the one hand, better than average migrants may have more perseverance which is likely to be associated with lower rates of absenteeism. On the other hand, better than average migrants may be those that are more able to adapt their skill sets to the UK labour market and therefore will have a weaker incentive to signal to employers their underlying productivity through reduced absenteeism. Only with the use of longitudinal data that can track effort convergence for particular migrants could these methodological issues be addressed.

If our estimates are taken at face value, then our findings are in line with qualitative evidence based upon managers' perceptions of the migrant work ethic. If managers use this information upon which to base their hiring decisions, then unusually productive native workers will suffer. These conditions seem likely to hold particularly in low skilled, low paying industries where employers regularly use deskilled work practices which demote the



importance of English language proficiency. The raw data presented within this study report a large concentration of A8 migrants within elementary occupations, and therefore these migrants will be more likely to operate in roles where employers have a preference for a 'good work ethic' over more recognisable qualifications or skills (Matthews and Ruhs 2007). Whilst managers may distinguish among workers on the basis of readily available information such as nationality, the assimilation of the migrant work ethic will lead employers to switch away from more established migrants towards newer groups. Indeed, findings from recent qualitative investigations of A8 migrant workers in the UK, report managers stating that "We are looking forward to the next round of accession states" and "We'll be picking up new nationalities" (MacKenzie and Forde 2009: 149), showing that this perception of work ethic amongst different nationalities affects organisations' recruitment behaviours (Hopkins 2011; MacKenzie and Forde 2009; Tannock 2013). These findings imply that this form of statistical discrimination may have adverse effects for unusually productive native workers in the short run, but, importantly, this may only be a short run effect.

To conclude, these findings reveal strong evidence of the highly publicised migrant work ethic, but also its eventual assimilation. While this study reveals that A8 migrants have not fully eroded the substantial wage penalty they face relative to natives, it is left for future work to analyse whether A8 migrants do eventually assimilate in terms of their labour market outcomes, given both a longer time frame and a more stable UK labour market.

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**Table 1: Sample means by nationality**

Variable	UK Nationals	A8 Migrants
<b>Absence Measures</b>		
Sickness Absence Probability	0.038	0.023***
Sickness Absence Rate	0.028	0.016***
Overall Absence Probability	0.046	0.027***
Overall Absence Rate	0.030	0.017***
<b>Demographic characteristics</b>		
Female	0.477	0.447**
Age	41.694	30.717***
Education (years)	11.566	14.095***
Long-term Health Problem	0.262	0.091***
Long-term Health Problem Limits Work	0.063	0.027***
Married or Cohabiting	0.669	0.615***
Number of dependent children <16 y.o.	0.572	0.421***
<i>Dummy Variables for Age of youngest dependent child:</i>		
1. 0-2 years	0.086	0.126***
2. 3-4 years	0.046	0.051
3. 5-9 years	0.097	0.075***
4. 10-15 years	0.121	0.052***
5. 16-18 years	0.041	0.014***
6. No child	0.608	0.682***
<b>Job Characteristics</b>		
<i>Dummy Variables for Usual Basic Hours</i>		
1. 1-15	0.056	0.015***
2. 16-29	0.170	0.092***
3. 30-35	0.151	0.094***
4. 36-40	0.489	0.625***
5. 41-48	0.086	0.130***
6. 48+	0.047	0.043
Paid Overtime Hours	1.286	2.264***
Unpaid Overtime Hours	1.612	0.188***
Holding Second Job	0.037	0.024***
Working from Home or Same Building	0.074	0.019***
Permanent Job	0.970	0.888***
Manager/Foreman/Supervisor	0.397	0.140***
Fewer Hours Desired (Number of hours)	0.989	0.236***
Looking for New Job	0.067	0.106***
Looking for Extra Job	0.008	0.014***
<i>Dummy Variables for Establishment Size:</i>		
1. Size 1-24	0.393	0.269***
2. Size 25-49	0.132	0.135
3. Size 50-499	0.337	0.471***
4. Size 500+	0.137	0.124**

*Dummy Variables for one-digit occupation:*

1. Managers and S.O.	0.180	0.025***
2. Professionals	0.101	0.031***
3. Ass. Profess. And Technical	0.122	0.049***
4. Administrative and Secretarial	0.133	0.037***
5. Skilled Trades	0.095	0.116***
6. Personal Services	0.068	0.058**
7. Sales and Customer Services	0.102	0.037***
8. Plant and Machine Operatives	0.088	0.235***
9. Elementary	0.108	0.410***

*Tenure Dummies:*

1. 0-3 months	0.040	0.100***
2. 3-6 months	0.042	0.101***
3. 6-12 months	0.071	0.148***
4. 12-24 months	0.109	0.235***
5. 24-60 months	0.228	0.337***
6. 60+ months	0.511	0.078***

*Dummy Variables for Industries:*

1. Agriculture and Fishing	0.008	0.027***
2. Energy and Water	0.021	0.009***
3. Manufacturing	0.184	0.318***
4. Construction	0.065	0.041***
5. Distribution, Hotels and Restaurants	0.240	0.291***
6. Transport and Communications	0.097	0.112***
7. Banking, Finance and Insurance	0.212	0.106***
8. Public Admin., Education and Health	0.127	0.062***
9. Other Services	0.046	0.035***

**Hourly wage**

Real hourly wage	12.782	7.984***
Log of real hourly wage	2.354	1.997***

**Housing Tenure & Benefits**

1. Outright Owner	0.163	0.006***
2. Owned with Mortgage	0.600	0.070***
3. Private Renter	0.126	0.825***
4. Social Housing	0.110	0.099**

Claims any benefits	0.283	0.247***
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Observations	171,382	3,214
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Notes: Total sample size is 174,596 observations; asterisks refer to results from two-tailed tests of the null hypothesis that the difference between the A8 nationals' mean and the UK nationals' one is equal to zero (\*  $H_0$  rejected at the 10% significance level; \*\* at 5%; \*\*\* at 1%). All subsequent regression models also control for month-year in the survey and region of work.

**Table 2: A8 migrants and work absence**

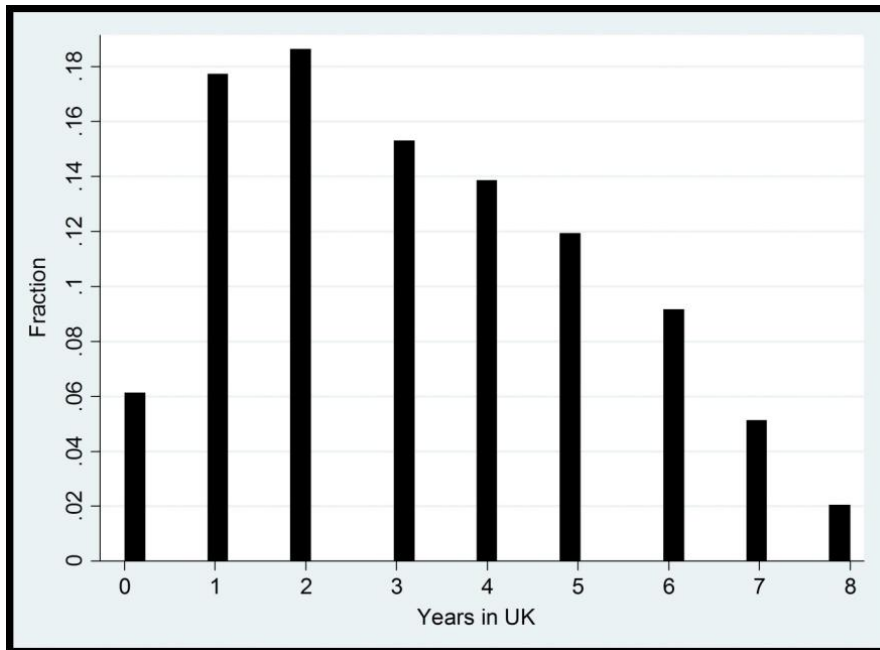
	(1) Sickness Absence Probability	(2) Sickness Absence Rate	(3) Overall Absence Probability	(4) Overall Absence Rate
A8	-0.025*** [0.005]	-0.017*** [0.004]	-0.033*** [0.006]	-0.019*** [0.004]
A8*(Years in UK)	0.006 [0.004]	0.005 [0.003]	0.007 [0.004]	0.004 [0.003]
A8*(Years in UK) <sup>2</sup>	-0.0004 [0.001]	-0.0003 [0.0004]	-0.001 [0.001]	-0.0003 [0.0004]
<b>Demographic characteristics</b>				
Female	0.005*** [0.001]	0.002* [0.001]	0.006*** [0.001]	0.002** [0.001]
Age	-0.002*** [0.0003]	-0.002*** [0.0003]	-0.003*** [0.0004]	-0.002*** [0.0003]
Age <sup>2</sup>	0.003*** [0.0004]	0.002*** [0.0003]	0.003*** [0.0005]	0.002*** [0.0003]
Married or cohabiting	0.005*** [0.001]	0.005*** [0.001]	0.005*** [0.001]	0.005*** [0.001]
Long-term health problem	0.011*** [0.001]	0.008*** [0.001]	0.013*** [0.001]	0.008*** [0.001]
Health problem limits amount of work	0.107*** [0.004]	0.099*** [0.003]	0.105*** [0.004]	0.099*** [0.003]
Education (years)	-0.001*** [0.0002]	-0.001*** [0.0001]	-0.001*** [0.0002]	-0.001*** [0.0001]
Number of dependent children under 16	-0.0002 [0.001]	0.001 [0.001]	0.0002 [0.001]	0.001 [0.001]
<b>Job characteristics</b>				
<i>Usual basic hours (base: 49+ hours)</i>				
Usual basic hours 1-15	-0.025*** [0.003]	-0.020*** [0.002]	-0.030*** [0.003]	-0.020*** [0.002]
Usual basic hours 16-29	-0.007*** [0.002]	-0.006*** [0.002]	-0.009*** [0.003]	-0.006*** [0.002]
Usual basic hours 30-35	0.003 [0.002]	0.0002 [0.002]	0.001 [0.003]	-0.001 [0.002]
Usual basic hours 36-40	0.005*** [0.002]	0.003* [0.002]	0.001 [0.002]	0.001 [0.002]
Usual basic hours 41-48	0.007*** [0.002]	0.005*** [0.002]	0.009*** [0.003]	0.005*** [0.002]
Unpaid Overtime Hours	-0.0003*** [0.0001]	-0.0002* [0.0001]	-0.001*** [0.0001]	-0.0003*** [0.0001]
Paid Overtime Hours	-0.0002* [0.0001]	-0.0001 [0.0001]	-0.001*** [0.0001]	-0.0002** [0.0001]
Permanent job	0.006** [0.002]	0.007*** [0.002]	-0.0002 [0.003]	0.005** [0.002]
Holding second job	-0.005** [0.002]	-0.006*** [0.002]	-0.002 [0.003]	-0.005*** [0.002]

	[0.002]	[0.002]	[0.003]	[0.002]
Working from home or same building	-0.004**	-0.002	0.000	0.0002
	[0.002]	[0.001]	[0.002]	[0.001]
Manager/Foreman/Supervisor	-0.003***	-0.004***	-0.002*	-0.003***
	[0.001]	[0.001]	[0.001]	[0.001]
Looking for new job	0.012***	0.006***	0.014***	0.007***
	[0.002]	[0.002]	[0.002]	[0.002]
Looking for extra job	-0.005	-0.009***	0.002	-0.007**
	[0.005]	[0.003]	[0.006]	[0.003]
Fewer hours desired (Number of hours)	0.001***	0.001***	0.001***	0.001***
	[0.0002]	[0.0001]	[0.0002]	[0.0001]
<i>Job tenure (base: 0-3 months)</i>				
Job tenure 3-6 months	0.011***	0.009***	0.008**	0.008***
	[0.003]	[0.002]	[0.003]	[0.002]
Job tenure 6-12 months	0.014***	0.012***	0.010***	0.010***
	[0.002]	[0.002]	[0.003]	[0.002]
Job tenure 12-24 months	0.015***	0.013***	0.011***	0.012***
	[0.002]	[0.002]	[0.003]	[0.002]
Job tenure 24-60 months	0.016***	0.014***	0.013***	0.013***
	[0.002]	[0.001]	[0.003]	[0.002]
Job tenure over 60 months	0.017***	0.016***	0.013***	0.015***
	[0.002]	[0.001]	[0.002]	[0.001]
<i>Establishment size (base: 500+)</i>				
Size 1-24	-0.010***	-0.011***	-0.009***	-0.011***
	[0.002]	[0.001]	[0.002]	[0.001]
Size 25-49	-0.004**	-0.006***	-0.003	-0.006***
	[0.002]	[0.001]	[0.002]	[0.002]
Size 50-499	-0.003**	-0.004***	-0.002	-0.004***
	[0.001]	[0.001]	[0.002]	[0.001]
<b>Housing tenure and benefits</b>				
<i>Housing tenure (base: social housing)</i>				
Outright owner	-0.009***	-0.007***	-0.009***	-0.007***
	[0.002]	[0.002]	[0.002]	[0.002]
Owned with mortgage	-0.007***	-0.005***	-0.007***	-0.005***
	[0.002]	[0.001]	[0.002]	[0.002]
Private renter	-0.004**	-0.003*	-0.003	-0.003*
	[0.002]	[0.002]	[0.002]	[0.002]
Claims any benefits	0.031***	0.032***	0.033***	0.032***
	[0.002]	[0.002]	[0.002]	[0.002]
Constant	0.085***	0.068***	0.095***	0.072***
	[0.009]	[0.007]	[0.010]	[0.008]

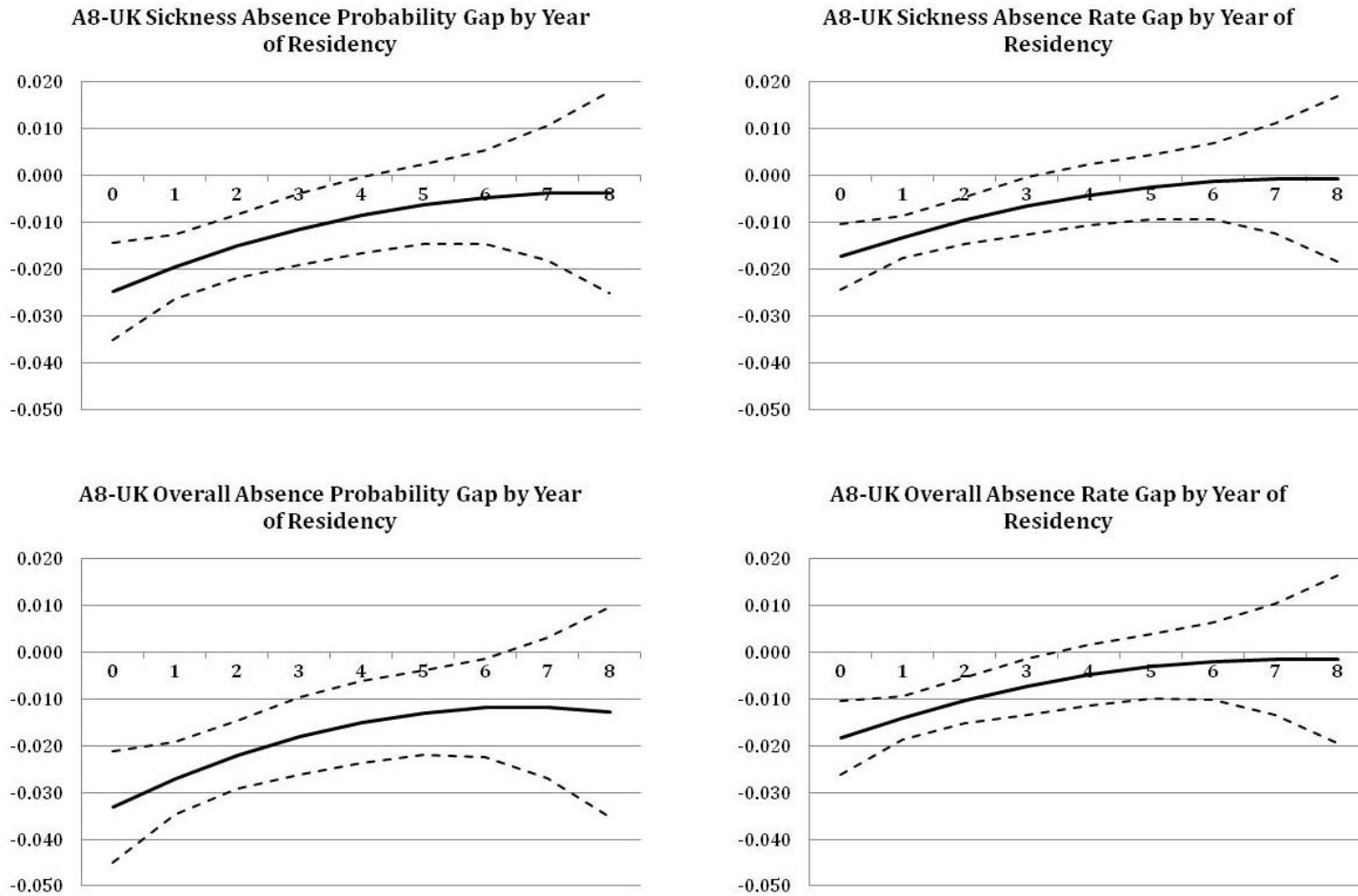
Notes: Sample size for all models is 174,596 observations; all models are estimated by OLS; Huber-White (robust) standard errors are in brackets; all models also include controls for age of youngest dependent child, industry, occupation, region of work and month-year; full results are available from the authors upon request. \*\*\* Significant at 1%; \*\* at 5%; \* at 10%.



**Figure 1: Distribution of A8 Migrants by Years of Migrant Residency in the UK**

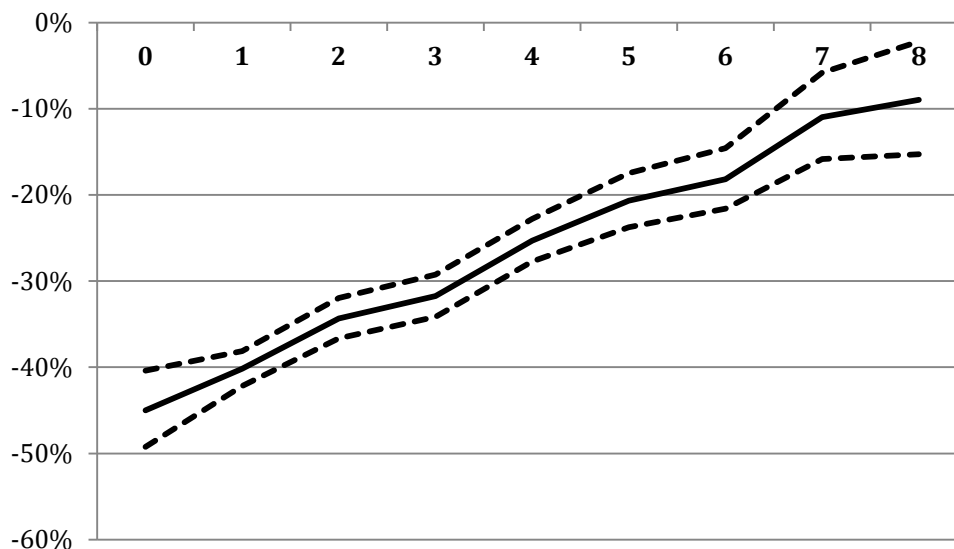


**Figure 2: A8-UK Absence Gaps by Years of Migrant Residency in the UK**



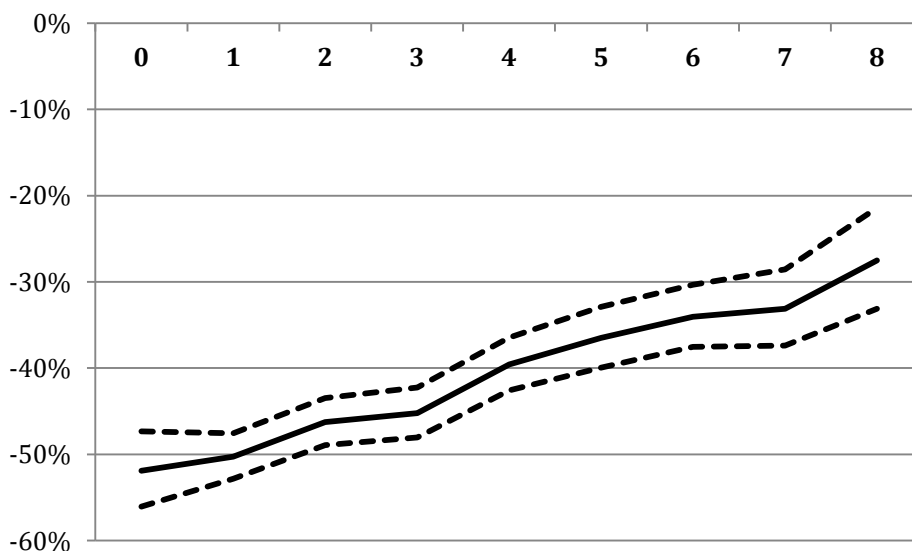
Notes: The bold lines show the estimate of the A8-UK gap for each length of residency in the UK based on the results presented in Table 2; the dashed lines indicate the 95% confidence intervals.

**Figure 3: A8-UK Wage Gap by Years of Migrant Residency in the UK - Unadjusted gap in %**



Notes: The bold lines show the estimate of the A8-UK unadjusted wage gap for each length of residency in the UK; the dashed lines indicate the 95% confidence intervals.

**Figure 4: A8-UK Wage Gap by Years of Migrant Residency in the UK - Regression adjusted gap in %**



Notes: The bold lines show the estimate of the A8-UK regression-adjusted wage gap for each length of residency in the UK; the dashed lines indicate the 95% confidence intervals.

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