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# Labour Market Regulation and Migration in Ireland*

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*Abstract:* We demonstrate that a disproportionately large fraction of migrants in Ireland enter sectors with regulated wages and working conditions. There is a substantial wage penalty associated with being a migrant that varies across migrant groups but disappears within regulated sectors.

## I INTRODUCTION

A substantial proportion of Irish workers are covered by legally binding sectoral wage agreements.[1] These agreements are made by Joint labour committees (JLC's) which set minimum wages and working conditions for workers in low wage sectors who are considered to have weak bargaining power.[2] In addition, Registered Employment Agreements can be enforced where employee and employer representatives in a sector or firm mutually

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[1]As part of its 2010 bailout agreement with the IMF/EU, the Irish government recently carried out a review of these agreements (Duffy and Walsh, 2011). Following on from this and also in response to legal challenges to the agreements the Industrial Relations (Amendment) Act 2012 has substantially reformed the way these agreements operate and puts them on a stronger legal footing.

[2] When a JLC is formed in a sector workers representatives (usually Trade Union officials who represent some workers in that sector) are nominated to represent worker interests. A set of procedures are laid out which the employer and employee representatives must follow to reach an agreement which is legally binding on all firms in the sector. Arguably these procedures, which are discussed in detail in Duffy and Walsh (2011), increase workers bargaining power.

agree that a binding agreement should be imposed.[3] Duffy and Walsh (2011) estimated that these agreements covered over 20 per cent of private sector employees between 2007-2009.

Under European law any legally binding regulation that applies in any European country applies to all workers, whatever their country of origin.[4] In particular since regulations imposed by JLC's and REA's are legally binding, any migrant worker or foreign contractor supplying migrant labour from other EU countries would have to abide by these regulations for any work carried out in Ireland. This means that while there is free movement of labour for workers from other European countries, migrants from European countries with lower wage rates could not come to Ireland and offer to work for less than the regulated wage or indeed that firms such as construction contractors from low wage EU countries could not undercut domestic contractors by bringing labour from lower wage countries to work in Ireland at rates lower than the minimum wage. If migrant workers are mostly in professional or high skill jobs which are mostly in unregulated sectors of the economy, regulation would possibly have little importance for migrant workers. We show that in fact non-Irish workers are substantially more likely to be in a regulated employment compared to Irish workers.

Barrett *et al.* (2012) and Barrett and McCarthy (2007) document a native wage premium in Ireland and show that this is smaller for workers from countries where English is the native language. Barrett *et al.* (2012) also show, using data from the *2006 National Employment Survey* that the average wage penalty for migrants is particularly large for workers from the countries that joined the EU in 2004. Looking across the wage distribution they show that this pattern persists across the wage distribution except that the penalties for workers from non-English speaking and 2004 accession countries are much smaller at the lower end of the distribution. For example, at the tenth percentile there is a wage penalty of 4 per cent for workers from 2004 accession countries while at the ninetieth percentile the penalty is 16 per cent. The penalty for non-EU/non-English speaking countries is smaller but also falls at lower percentiles of the distribution. The results in Barrett *et al.* (2012) are consistent with the International literature. Dustmann and Fabbri (2003) provide evidence from the UK that migrants with local language skills are more successful than other migrants and discuss a range of studies providing similar evidence from the US, Canada, Australia, Israel and Germany.

[3] Construction and Electrical workers are the main REA's in Ireland. REA's can be agreed at the firm level also.

[4] See Duffy and Walsh (2011), pp. 56-57.

The data we use in this paper allow us to cast some light on the trends in the wage penalty described above. First, we can categorise workers into sectors where wages are regulated and those where wages are unregulated. If minimum wages are binding for covered workers in JLC/REA sectors, wage levels for workers in the same job should not differ by nationality. Given this we might expect that wage differentials by nationality would be smaller in covered sectors. Chiswick *et al.* (2008) look at the migration penalty/premium across the wage distribution using data from the US and Australia and show that the results are consistent with minimum wages compressing wage differentials between natives and migrants. Antecol *et al.* (2006) using data from Australia, Canada and the US find that labour market institutions such as wage setting mechanisms which compress the wage distribution tend to slow migrants assimilation in terms of wages. In the US, a country with a lot of wage dispersion, migrants assimilate faster in terms of wage growth relative to the other countries. Since we will show that over half of migrants in low skill occupations are covered by wage regulation and that there are typically no statistically significant wage penalties within the group of regulated workers, the existence of these regulated sectors may help explain the absence of a wage penalty at the lower end of the distribution discovered by Barret *et al.* (2012).

Chiswick (1978) suggested that country specific learning might be an important determinant of the migrant wage penalty and presented evidence from the US that the penalty falls with years in the US. Many other studies have shown similar evidence and of course the literature discussed above which emphasises the importance of local skills such as language skills in explaining the migrant wage penalty is closely related to this idea. A feature of the data we use in this paper is that some years of the survey contain a variable telling us how long migrants have been in Ireland. Using this variable we can control for the possibility that migrants overcome any country specific skill deficiencies as they stay longer in the country over time. Additionally, this variable allows us to categorise workers by whether they were affected by two important legislative changes that affected the ease at which migrants could come to Ireland and look for work, and when they found work the extent to which they were tied to a particular employer by a work permit scheme. These legislative changes were the 2004 accession to the EU of a large number of European states and the 2006 *Employment Permits Act* which restricted the ability of workers from outside the European Economic Area and Switzerland to qualify for a work permit to work in the Irish economy. As we discuss below it turns out to be difficult to separate cohort effects associated with different types of workers responding to these legislative changes from the time in Ireland variable.

## II DATA

The data we use here are from the *EU Survey on Income and Living Conditions 2007-2010*. The CSO website www.cso.ie gives the following description of the *SILC* data:

> The *Survey on Income and Living Conditions* (*SILC*) is an annual survey conducted by the Central Statistics Office (CSO) to obtain information on the income and living conditions of different types of households. The survey also collects information on poverty and social exclusion. A representative random sample of households throughout the country is approached to provide the required information.

We limit the sample to private sector employees aged over 15 and under 70. That is we exclude the self-employed, those who work in the public sector, workers in community employment schemes and workers assisting relatives. We also exclude workers who claimed they usually worked more than 80 hours a week, with weekly earnings of less than €30 euros or greater than €100,000, with job tenure of 60 or over,[5] a small number who had more than one job,[6] those who said the reported wage was not their usual wage and those with missing values for any of the explanatory variables used in the analysis.

Because coverage of JLC's and REA's are somewhat arbitrary, identifying workers who are covered by these agreements is typically very difficult. We are fortunate to have occupation and industry variables where the worker gives a verbal description of where they work and what their job is in sufficient detail to code whether the job is covered by a JLC or REA with reasonable accuracy. For example those who list their occupation as barman will often give an additional description such as "Barman in public house" as against "barman in hotel" or "barman in restaurant". The first would be uncovered, the second covered by the catering JLC and the third by the hotel JLC as long as they work outside Dublin. Where they do not give this level of detail in the occupation code the detailed verbal description of the industry usually gives a description such as "pub trade", "hotel" or "restaurant". As we might expect there were some ambiguities as discussed in Duffy and Walsh (2011), p. 104 but these were small in number.

Summary statistics for non-JLC/REA and for JLC/REA workers are given in Table 1. We see that JLC/REA workers have much lower average wages as

[5] These observations were not consistent with the reported age.
[6] The hours worked variable is for the main job and is usual hours worked.

Table 1: *Summary Statistics*

| | *JLC/REA* | | *Non-JLC/REA* | |
|---|---|---|---|---|
| | *Mean* | *St. Dev.* | *Mean* | *St. Dev.* |
| Weekly wage | 483 | 1,435 | 771 | 1,084 |
| Born in Ireland | 0.750 | 0.433 | 0.843 | 0.364 |
| Born in developed English speaking country | 0.056 | 0.231 | 0.076 | 0.265 |
| Born in EU except UK | 0.157 | 0.363 | 0.056 | 0.230 |
| Born in non-EU Europe | 0.002 | 0.039 | 0.001 | 0.033 |
| Born in Africa | 0.011 | 0.102 | 0.009 | 0.093 |
| Born Americas except USA Canada | 0.004 | 0.061 | 0.001 | 0.036 |
| Born in Near/Middle East or Asia | 0.017 | 0.130 | 0.014 | 0.115 |
| Born in other | 0.003 | 0.055 | 0.000 | 0.014 |
| Born in 2004/7 accession states | 0.147 | 0.355 | 0.038 | 0.191 |
| Legislators, senior officials, managers | 0.038 | 0.190 | 0.235 | 0.424 |
| Professionals | 0.005 | 0.067 | 0.148 | 0.355 |
| Technicians, associate professionals | 0.011 | 0.102 | 0.091 | 0.287 |
| Clerks | 0.078 | 0.267 | 0.163 | 0.369 |
| Service worker and shop and market sales workers | 0.386 | 0.487 | 0.136 | 0.343 |
| Skilled agricultural and fishery workers | 0.023 | 0.151 | 0.001 | 0.024 |
| Craft and related | 0.171 | 0.376 | 0.075 | 0.264 |
| Plant and machine operators and assemblers | 0.028 | 0.165 | 0.072 | 0.258 |
| Elementary occupations | 0.262 | 0.440 | 0.080 | 0.271 |
| Agriculture, hunting and forestry | 0.054 | 0.226 | 0.006 | 0.074 |
| Mining and quarrying | 0.001 | 0.027 | 0.004 | 0.064 |
| Manufacturing | 0.040 | 0.196 | 0.207 | 0.405 |
| Electricity, gas and water supply | 0.002 | 0.047 | 0.006 | 0.076 |
| Construction | 0.236 | 0.424 | 0.057 | 0.232 |
| Wholesale trade | 0.009 | 0.095 | 0.090 | 0.286 |
| Retail trade | 0.207 | 0.405 | 0.106 | 0.308 |
| Hotels and restaurants | 0.226 | 0.419 | 0.041 | 0.199 |
| Transport, storage and communication | 0.006 | 0.077 | 0.069 | 0.254 |
| Financial intermediation | 0.007 | 0.082 | 0.112 | 0.315 |
| Real estate, renting and business activities | 0.124 | 0.330 | 0.135 | 0.341 |
| Education | 0.012 | 0.109 | 0.023 | 0.149 |
| Health and social work | 0.021 | 0.144 | 0.081 | 0.274 |
| Other community, social and personal service activities | 0.054 | 0.226 | 0.057 | 0.231 |
| Private households with employed persons | 0.001 | 0.027 | 0.007 | 0.084 |
| Border | 0.077 | 0.266 | 0.080 | 0.271 |
| Midlands | 0.053 | 0.225 | 0.041 | 0.198 |
| West | 0.043 | 0.203 | 0.060 | 0.237 |
| Dublin | 0.267 | 0.443 | 0.343 | 0.475 |
| Mid-East | 0.087 | 0.282 | 0.129 | 0.335 |
| Mid-West | 0.106 | 0.308 | 0.078 | 0.269 |
| South-East | 0.154 | 0.361 | 0.097 | 0.295 |
| South-West | 0.212 | 0.409 | 0.173 | 0.379 |

Table 1: *Summary Statistics (contd.)*

| | *JLC/REA* | | *Non-JLC/REA* | |
|---|---|---|---|---|
| | *Mean* | *St. Dev.* | *Mean* | *St. Dev.* |
| Health very good | 0.503 | 0.500 | 0.567 | 0.495 |
| Health good | 0.421 | 0.494 | 0.372 | 0.483 |
| Health fair | 0.069 | 0.254 | 0.056 | 0.230 |
| Health bad | 0.006 | 0.077 | 0.004 | 0.065 |
| Health very bad | 0.000 | 0.000 | 0.001 | 0.027 |
| Live in urban area | 0.687 | 0.464 | 0.707 | 0.455 |
| Age | 39.022 | 13.194 | 40.404 | 11.817 |
| Usual number hours worked main job | 30.919 | 12.374 | 35.584 | 11.071 |
| Male | 0.500 | 0.500 | 0.521 | 0.500 |
| No formal education | 0.005 | 0.067 | 0.002 | 0.041 |
| Primary education | 0.169 | 0.374 | 0.073 | 0.260 |
| Secondary ed1. (Group, inter. and junior) | 0.236 | 0.425 | 0.146 | 0.353 |
| Transition year education | 0.007 | 0.082 | 0.003 | 0.051 |
| Secondary ed2. (Leaving etc.) | 0.281 | 0.449 | 0.261 | 0.439 |
| Technical/Vocational education | 0.095 | 0.293 | 0.101 | 0.301 |
| Higher education Cert. Diploma | 0.081 | 0.272 | 0.098 | 0.298 |
| Primary degree | 0.052 | 0.222 | 0.112 | 0.315 |
| Professional degree | 0.016 | 0.125 | 0.067 | 0.251 |
| Postgraduate certificate/diploma | 0.020 | 0.139 | 0.056 | 0.230 |
| Postgrad degree | 0.006 | 0.077 | 0.043 | 0.204 |
| Doctorate | 0.007 | 0.082 | 0.027 | 0.161 |
| Other | 0.028 | 0.165 | 0.011 | 0.104 |
| Currently married | 0.470 | 0.499 | 0.575 | 0.494 |
| 5 or less workers | 0.217 | 0.413 | 0.164 | 0.370 |
| 5-10 workers | 0.162 | 0.368 | 0.125 | 0.330 |
| 11-19 workers | 0.126 | 0.332 | 0.112 | 0.315 |
| 20-49 workers | 0.192 | 0.394 | 0.168 | 0.374 |
| Over 50 workers | 0.302 | 0.460 | 0.432 | 0.495 |
| Experience | 17.223 | 12.690 | 19.343 | 12.117 |
| Tenure years | 6.535 | 7.455 | 9.071 | 9.519 |
| Observations | 1,329 | | 5,404 | |

we might expect (€483 versus €771), are less likely to be Irish (75 per cent versus 84 per cent), are concentrated in low skill industry, occupation and education categories and have shorter number of years of job tenure (6.5 versus 9.1).

Given the importance of being a native English speaker suggested by the results in Barrett and McCarthy (2007), we created an English category comprising workers from the UK, USA, Canada and Australia Oceania. Summary statistics for this and the other categories: EEA (European Economic Area) except UK, non-EEA Europe, Africa, Americas except

USA/Canada, Near Middle East/Asia and finally other countries are given in Table 1. In addition we have a category for countries that acceded to the EU in 2004 or 2007.[7] We apply population weights to calculate proportions in Tables 1 and 2 below and list the number of observations to give a sense of the sample size.

## III RESULTS

### 3.1 *Share of Non-Irish/Irish Workers in Regulated Sectors*

Table 2 demonstrates that a substantial percentage of migrants are in covered jobs (26 per cent for JLC and 7 per cent for REA jobs) and that a much smaller 12 per cent of Irish workers are in JLC jobs while 6 per cent of Irish workers are in REA jobs. We see in low skilled occupations such as Services and Elementary occupations that 66 per cent and 52 per cent of migrants who work in these sectors are in jobs where the wage is regulated.

Table 2: *Share in JLC/REA Jobs by Occupation and Migrant Status*

| | *Percentage JLC Not Irish (%)* | *Percentage REA (%)* | *Observations* | *Percentage JLC Irish (%)* | *Percentage REA (%)* | *Observations* |
|---|---|---|---|---|---|---|
| Total | 26 | 7 | 1,180 | 12 | 6 | 5,553 |
| Professional and Manager | 1 | 0 | 421 | 2 | 0 | 2,207 |
| Clerical | 7 | 2 | 117 | 10 | 1 | 867 |
| Services | 65 | 1 | 272 | 32 | 2 | 972 |
| Skilled | 3 | 38 | 112 | 6 | 33 | 557 |
| Elementary | 38 | 14 | 255 | 20 | 9 | 950 |

### 3.2 *The Migrant Wage Penalty*

The remainder of the results are based on linear regressions where the log of gross weekly wage for the workers main job is regressed on a wide range of worker and job characteristics. The regressions also include various indicators of migrant status that are used to measure the migrant penalty and are discussed in more detail below. All regression results in the tables below report robust p values in parentheses. Significance at the 5 per cent level is indicated by * and significant at the 1 per cent level by **. Other controls included in all regressions but not reported are seven region dummies, an

[7] This is an additional category in that this category is a subset of the EU except UK category.

urban dummy, year and month dummies, four health status dummies, age, age squared and married dummies, usual weekly hours worked and hours worked squared, twelve education dummies, four firm size dummies, years of labour market experience and experience squared, years of tenure on the job and tenure squared and a male dummy.[8]

Table 3a documents that when a wide range of worker and job characteristics are controlled for and we focus on non-JLC/REA workers there is a migrant wage penalty of 11.9 per cent but this falls to 3.9 per cent and is not statistically significant for JLC/REA workers. When we look at Table 3b which reports the results from a regression that allowed the migrant wage coefficient to vary by country group we see that the size of the migrant wage penalty varies substantially for non-covered workers. It is 5.2 per cent for workers from developed English speaking countries, 16.4 per cent for non-UK EEA workers but 21.4 per cent for non-EEA European workers. The penalty for African and Near Eastern/Asian workers is between these at 17.3 per cent and 21 per cent respectively. Workers from the non-English speaking Americas have a very large penalty and from the "other" category of countries a very large wage premium, but we note from Table 1 that these are both very small groups of workers. We also note that when we include a dummy variable for being in a country that acceded to the EU in 2004 or 2007 this variable is small and not statistically significant.[9] This is in contrast to Barrett *et al.* (2012) who find a substantially larger negative premium for workers from 2004 accession states relative to other EU member states using *2006 National Employment Survey* data.

When we focus on JLC/REA workers or JLC workers only in the third and fourth columns the coefficients are substantially smaller within each category and are never statistically significant. While JLC/REA jobs differ substantially from non-covered jobs we hope that our control variables will take care of this. The results are consistent with the hypothesis suggested by Chiswick *et al.* (2008) for Australia and the US; that is that minimum wage regulations compress wages and prevent differentials arising between workers with similar characteristics doing similar jobs. In a similar vein we note that the male premium is 11.5 per cent and statistically significant for non-JLC/REA workers but around 4.3 per cent and not statistically significant for JLC/REA workers suggesting that regulation reduces the gender pay gap for similar jobs.

[8] The male dummy is reported for some of the regressions.

[9] This group are a subset of the EEA except UK category so the coefficient measures the additional effect on the wage of being in an accession state relative to other EEA countries except the UK.

Table 3a: *Log Weekly Wage Regressions Coefficient for All Migrants*

| | *All Workers Log Weekly Wage* | *Non-JLC/REA Log Weekly Wage* | *JLC/REA Log Weekly Wage* | *JLC Only Log Weekly Wage* |
|---|---|---|---|---|
| All Migrants | –0.107 | –0.119 | –0.039 | –0.029 |
| | (0.000)** | (0.000)** | (0.210) | (0.332) |
| Male | 0.113 | 0.117 | 0.041 | 0.048 |
| | (0.000)** | (0.000)** | (0.167) | (0.110) |
| R-Squared | 0.724 | 0.708 | 0.720 | 0.725 |
| Observations | 6,733 | 5,404 | 1,329 | 968 |
| R-Squared | 0.724 | 0.708 | 0.720 | 0.725 |

Table 3b: *Log Weekly Wage Regressions by Region of Birth*

| | *All Workers* | *Non-JLC/ REA* | *JLC/ REA* | *JLC Only* |
|---|---|---|---|---|
| Born in developed English speaking country | –0.042 | –0.052 | –0.014 | 0.009 |
| | (0.049)* | (0.033)* | (0.757) | (0.864) |
| Born in EEA except UK | –0.147 | –0.164 | –0.024 | –0.052 |
| | (0.006)** | (0.005)** | (0.753) | (0.390) |
| Born in non-EEA Europe | –0.217 | –0.214 | –0.043 | 0.044 |
| | (0.016)* | (0.068) | (0.763) | (0.750) |
| Born in Africa | –0.140 | –0.174 | 0.055 | 0.003 |
| | (0.001)** | (0.000)** | (0.456) | (0.970) |
| Born Americas except USA, Canada | –0.327 | –0.439 | –0.138 | –0.089 |
| | (0.000)** | (0.000)** | (0.138) | (0.385) |
| Born in Near/Middle East or Asia | –0.209 | –0.210 | –0.118 | –0.099 |
| | (0.001)** | (0.009)** | (0.077) | (0.150) |
| Born in Other | 0.023 | 0.508 | –0.089 | 0.008 |
| | (0.874) | (0.000)** | (0.109) | (0.946) |
| Born in 2004/2007 Accession Country | –0.009 | –0.032 | –0.024 | 0.008 |
| | (0.882) | (0.616) | (0.745) | (0.892) |
| Male | 0.113 | 0.115 | 0.043 | 0.050 |
| | (0.000)** | (0.000)** | (0.160) | (0.107) |
| Observations | 6,733 | 5,404 | 1,329 | 968 |
| R-squared | 0.725 | 0.710 | 0.721 | 0.725 |

The 2009/10 waves of the data have information on the number of years since migrants came to Ireland. We use this variable to address two issues. First, does the migrant wage penalty fall with years in Ireland as suggested by the hypothesis that migrants may acquire country specific skills and knowledge over time. The second issue is whether there are composition/

cohort affects. For example, when a large number of countries joined the EU in 2004, workers from these countries no longer had to have a work permit to work in Ireland. This led to a surge of inward migration to Ireland from these countries. These legislative changes possibly lowered the costs of migrating, but also possibly affected expected earnings over time by easing migrant workers ability to switch amongst employers. The importance of these effects may differ across migrants with different abilities/characteristics so that we might reasonably expect that the pre-accession workers may have different unobserved characteristics to the post-accession migrants. Similarly, a green card system was introduced for migrants from countries outside the European Economic Area (EEA) and Switzerland in 2007. This imposed fairly strict restrictions on the skill of workers who could get work permits and the circumstances in which this could happen, arguably making it more difficult for these workers to migrate. While we look at the impact of years in Ireland and years in Ireland squared on the migrant penalty we also create dummy variables for migrants who are five years or less in Ireland, between five and ten years in Ireland and over ten years.[10] We also create dummy variables for migrants who came from 2004 accession states before 2004 and after 2004 and also for migrants from outside the EEA before and after 2007. Given the smaller sample size with only two waves of data and these additional variables, we do not distinguish between migrants from different regions in this part of the analysis.

Table 4a presents the migrant coefficient for the 2009/10 subsample and we see that the basic migrant penalty for this subsample is similar to the penalty estimated using the full sample in Table 3a. One difference is that there is a migrant penalty of 8.7 per cent for JLC/REA workers in this data that is significant at the 5 per cent level. The penalty is small and statistically

Table 4a: *Log Weekly Wage Regressions Coefficient for All Migrants 2009/10 Data*

| | *All Workers Percentage of Sample* | *All Workers Log Weekly Wage* | *Non-JLC/REA Log Weekly Wage* | *JLC/REA Log Weekly Wage* | *JLC Only Log Weekly Wage* |
|---|---|---|---|---|---|
| All Migrants | 0.202 | –0.112 | –0.108 | –0.087 | –0.046 |
| | | (0.000)** | (0.000)** | (0.015)* | (0.207) |
| Observations | | 3,067 | 2,510 | 557 | 448 |
| R-squared | | 0.763 | 0.740 | 0.796 | 0.840 |

[10] While it would be interesting to look at the migrant penalty for new arrivals, five years or less was the smallest interval that gave a reasonable sample of migrants falling into the category.

Table 4b: *Log Weekly Wage Regressions Coefficient for All Migrants 2009/10 Data*

| | *All Workers Log Weekly Wage* | *Non-JLC/REA Log Weekly Wage* | *JLC/REA Log Weekly Wage* | *JLC Only Log Weekly Wage* |
|---|---|---|---|---|
| Migrant | –0.191 | –0.202 | –0.130 | –0.022 |
| | (0.000)** | (0.000)** | (0.003)** | (0.662) |
| Years in Ireland | 0.005 | 0.006 | 0.004 | –0.010 |
| | (0.000)** | (0.000)** | (0.101) | (0.136) |
| R-squared | 0.765 | 0.742 | 0.797 | 0.842 |

Table 4c: *Log Weekly Wage Regressions Coefficient for All Migrants 2009/10 Data*

| | *All Workers Log Weekly Wage* | *Non-JLC/REA Log Weekly Wage* | *JLC/REA Log Weekly Wage* | *JLC Only Log Weekly Wage* |
|---|---|---|---|---|
| Migrant | –0.194 | –0.226 | –0.074 | –0.022 |
| | (0.000)** | (0.000)** | (0.143) | (0.662) |
| Years in Ireland | 0.006 | 0.010 | –0.009 | –0.010 |
| | (0.116) | (0.031)* | (0.168) | (0.136) |
| Years in Ireland squared | –0.000 | –0.000 | 0.000 | 0.000 |
| | (0.843) | (0.323) | (0.026)* | (0.023)* |
| R-squared | 0.765 | 0.742 | 0.798 | 0.842 |

Table 4d: *Log Weekly Wage Regressions Coefficient by Time in Ireland 2009/10 Data*

| | *All Workers Percentage of Sample* | *All Workers Log Weekly Wage* | *Non-JLC/REA Log Weekly Wage* | *JLC/REA Log Weekly Wage* | *JLC Only Log Weekly Wage* |
|---|---|---|---|---|---|
| In Ireland | 0.090 | –0.158 | –0.179 | –0.099 | –0.039 |
| 0-5 years | | (0.000)** | (0.000)** | (0.019)* | (0.342) |
| In Ireland | 0.044 | –0.166 | –0.161 | –0.120 | –0.101 |
| 5-10 years | | (0.000)** | (0.000)** | (0.074) | (0.109) |
| In Ireland more | 0.068 | –0.031 | –0.024 | –0.029 | –0.018 |
| than 10 years | | (0.341) | (0.501) | (0.651) | (0.824) |
| R-squared | | 0.764 | 0.742 | 0.796 | 0.840 |

insignificant for JLC workers who account for 80 per cent of this group.[11] Table 4b has a dummy variable for migrant status as well as the number of years the migrant is in Ireland. The time in Ireland variable is small and positive but statistically significant for non-covered workers indicating that on average a year in Ireland reduces the migrant penalty by about half of one per cent. For JLC workers the migrant penalty and time in Ireland coefficients are close to zero and statistically insignificant. Table 4c allows for non-linearities by introducing a squared years in Ireland term but the results from this are unclear. For uncovered workers the coefficient on years in Ireland is still small but significant at the 5 per cent level while there is a small insignificant negative squared term. Overall the years in Ireland variable appears to have little impact on uncovered workers using this specification. For covered workers the migrant penalty is small and not significant (particularly for JLC workers). While there is an insignificant negative years in Ireland coefficient and a positive but significant squared coefficient, even if we believe both coefficients they would not predict a change in the migrant penalty of more than a few percentage points for about 85 per cent of covered migrants who have time in Ireland of less than ten years. In summary, time in Ireland seems to have little impact on the migrant penalty for any group of workers using the above specification.

Table 4d presents the migrant penalty for workers who are 0-5, 5-10 or more than 10 years in Ireland respectively where Irish workers are the excluded category.[12] Uncovered workers who are in Ireland up to ten years have a statistically significant migrant penalty of 16-18 per cent while the penalty is small and not significant for workers more than ten years in Ireland. We note that across all groups, workers who are more than ten years in Ireland are indistinguishable from Irish workers in terms of wages. While it is tempting to attribute this to workers acquiring human capital from being in Ireland longer, almost 81 per cent of these workers are from the developed English speaking countries. Of the sample of workers who are in Ireland up to five years, 69 per cent of them are from the new accession states. Given these proportions it may be difficult to separate the effect of time in Ireland from the cohort effect of being from an English speaking country for migrants here

[11] REA workers are primarily construction workers and 2009/10 was a period of dramatic decline in the construction industry in Ireland. While we could speculate that this may be associated with the emergence of a migrant penalty for this group of workers we do not have enough data to go beyond speculation.

[12] While it would be interesting to focus on workers who have just come to Ireland a year or two earlier the number of observations in this category falls sharply when we reduce the first category to less than 0-5 years. Similarly the second category of 5-10 years was chosen to give a reasonable sample size.

more than ten years, or from the cohort effect of coming from a new accession state after accession. With these caveats the coefficients are broadly consistent with the hypothesis that workers here more than ten years do not have a wage penalty whereas there is a large statistically significant wage penalty for non-JLC/REA workers in particular. This penalty is similar for workers between 0-5 years in Ireland and 5-10 years in Ireland. The coefficients are smaller for JLC/REA workers and very small and never statistically significant for JLC workers.

Table 5 includes a coefficient for all migrants as well as dummy variables indicating the additional effect on the wage if the worker arrived before 2004 from a country that acceded to the EU in 2004 and a separate dummy indicating that the worker came from these countries after 2004. Also there is a dummy indicating the additional effect on the wage of being a migrant from a non-EEA (Swiss) worker before 2007 when the stricter work permit legislation was enacted and a separate dummy for after 2007.[13] While statistical tests for the equality of the pre- and post-2004 dummies and a

Table 5: *Log Weekly Wage Regressions Including Migrant and Cohort Dummies (2009/10 Data)*

| | *All Workers Percentage of Sample* | *All Workers Log Weekly Wage* | *Non-JLC/REA Log Weekly Wage* | *JLC/REA Log Weekly Wage* | *JLC Only Log Weekly Wage* |
|---|---|---|---|---|---|
| All Migrants | 0.203 | –0.040 | –0.031 | –0.058 | –0.051 |
| | | (0.152) | (0.312) | (0.302) | (0.438) |
| Came to Ireland after 2004 from 2004 accession country | 0.067 (0.003)** | –0.118 (0.002)** | –0.164 (0.600) | –0.035 (0.780) | 0.020 |
| Came to Ireland before 2004 from 2004 accession country | 0.005 (0.001)** | –0.209 (0.000)** | –0.274 (0.543) | –0.095 (0.739) | 0.054 |
| Not born in EEA came to Ireland after 2007 | 0.004 (0.058) | –0.158 (0.045)* | –0.121 (0.586) | –0.096 (0.746) | –0.054 |
| Not born in EEA came to Ireland before 2007 | 0.041 (0.002)** | –0.144 (0.006)** | –0.150 (0.628) | –0.039 (0.571 | –0.046 |
| Observations | | 3,067 | 2,510 | 557 | 448 |
| R-squared | | 0.764 | 0.742 | 0.796 | 0.840 |

[13] Workers from Romania and Bulgaria are also included in this category.

separate test for the pre- and post-2007 dummies always reject the null hypothesis that the coefficients are equal, in terms of economic significance there is very little difference between the wage of workers who came from non EEA countries into non-JLC jobs before and after 2007. More recent migrants from accession countries do substantially better than pre 2004 migrants. The hypothesis that migrants acquire country specific skills the longer they stay in Ireland implies the wage differential should be lower for recent migrants. The fact that more recent migrants from accession countries and EEA countries do substantially better indicates the importance of compositional/cohort effects as well as country specific skill effect in explaining the pattern of wages.

The results above indicate that for uncovered workers both length of time in Ireland and cohort/compositional effects that are correlated with when the worker came may be important determinants of the wage penalty for uncovered workers. Table 6 includes both time in Ireland dummies, and the cohort dummies included in Table 5. The results provide some support for the country specific capital explanation of the migrant penalty for covered workers but controlling for cohort effects reduces the size of the penalty for workers who are in Ireland 5-10 years. We see that for covered workers who are 0-5 years in Ireland there is a statistically significant penalty of 11.5 per cent, for

Table 6: *Log Weekly Wage Regressions With Time in Ireland and Cohort Dummies (2009/10 Data)*

| | *All Workers Log Weekly Wage* | *Non-JLC/REA Log Weekly Wage* | *JLC/REA Log Weekly Wage* | *JLC Only Log Weekly Wage* |
|---|---|---|---|---|
| In Ireland 0-5 years | –0.115 | –0.115 | –0.106 | –0.077 |
| | (0.009)** | (0.026)* | (0.107) | (0.279) |
| In Ireland 5-10 years | –0.084 | –0.070 | –0.105 | –0.130 |
| | (0.099) | (0.210) | (0.291) | (0.200) |
| In Ireland more than 10 years | –0.007 | 0.002 | –0.028 | –0.021 |
| | (0.831) | (0.957) | (0.686) | (0.813) |
| Came to Ireland after 2004 from 2004 accession country | –0.049 | –0.088 | 0.012 | 0.045 |
| | (0.332) | (0.158) | (0.869) | (0.536) |
| Came to Ireland before 2004 from 2004 accession country | –0.167 | –0.238 | –0.047 | 0.135 |
| | (0.030)* | (0.007)** | (0.789) | (0.448) |
| Not born in EEA came to Ireland after 2007 | –0.090 | –0.047 | –0.051 | –0.029 |
| | (0.304) | (0.503) | (0.774) | (0.863) |
| Not born in EEA came to Ireland before 2007 | –0.123 | –0.133 | –0.009 | –0.002 |
| | (0.019)* | (0.026)* | (0.918) | (0.985) |
| Observations | 3,068 | 2,511 | 557 | 448 |
| R-squared | 0.765 | 0.743 | 0.796 | 0.841 |

workers 5-10 years in Ireland this falls to 7 per cent and is not statistically significant while for workers who are more than ten years in Ireland the migrant penalty is 0.2 per cent and not significant. Table 7 includes time in Ireland and time in Ireland squared along with the cohort dummies. While there is a large statistically significant migrant penalty the squared term is small and not statistically significant. Arguably the time in Ireland dummies in Table 6 are more flexible and do better at capturing the non-linearity in the migrant penalty. The results in Table 6 strongly suggest that the migrant penalty falls with time in Ireland in contrast to the results from Table 7. The results in Tables 6 and 7 also re-enforce the finding in Table 5 that workers from 2004 accession countries who came to Ireland before 2004 have a substantially larger migrant wage penalty than workers from the same group of countries who came after 2004.

Summarising the results across Tables 2-7 above there is evidence of a substantial migrant penalty for uncovered workers from non-English speaking countries. There is evidence that the penalty falls with time in Ireland but it is difficult to separate this from cohort effects. An interesting feature of the results from the cohort dummies is that migrants from 2004 accession countries who came to Ireland before 2004 suffered a large

Table 7: *Log Weekly Wage Regressions With Time In Ireland And Cohort Dummies (2009/10 Data)*

| | *All Workers Log Weekly Wage* | *Non-JLC/REA Log Weekly Wage* | *JLC/REA Log Weekly Wage* | *JLC Only Log Weekly Wage* |
|---|---|---|---|---|
| All Migrants | –0.151 | –0.156 | –0.087 | –0.092 |
| | (0.005)** | (0.012)* | (0.241) | (0.216) |
| Years in Ireland | 0.006 | 0.008 | –0.009 | –0.007 |
| | (0.184) | (0.123) | (0.202) | (0.338) |
| Years in Ireland squared | –0.000 | –0.000 | 0.000 | 0.000 |
| | (0.697) | (0.410) | (0.030)* | (0.062) |
| Came to Ireland after 2004 from 2004 accession country | –0.035 | –0.074 | 0.019 | 0.077 |
| | (0.495) | (0.248) | (0.792) | (0.256) |
| Came to Ireland before 2004 from 2004 accession country | –0.153 | –0.220 | –0.009 | 0.138 |
| | (0.022)* | (0.005)** | (0.955) | (0.408) |
| Not born in EEA came to Ireland after 2007 | –0.068 | –0.024 | –0.070 | –0.023 |
| | (0.450) | (0.744) | (0.693) | (0.888) |
| Not born in EEA came to Ireland before 2007 | –0.106 | –0.115 | 0.033 | 0.025 |
| | (0.033)* | (0.045)* | (0.677) | (0.753) |
| Observations | 3067 | 2510 | 557 | 448 |
| R-squared | 0.765 | 0.743 | 0.798 | 0.843 |

statistically significant wage penalty relative to Irish workers and relative to workers who came from these countries after 2004. This suggests that the implied monopsony power in the more restrictive work permit scheme that existed before 2004 may have deterred more able workers from migrating from these countries. A striking feature of the results is that across all specifications, wage regulation, especially the JLC system of regulation is associated with no migrant penalty. The fact that a substantial gender pay gap for uncovered workers disappears for covered workers also suggests that regulation is acting to compress wages across different types of workers doing similar jobs.

## IV CONCLUSION

We document that migrants are much more likely than natives to be in jobs covered by JLC/REA agreements where wages and working conditions are regulated and that migrants account for a substantial proportion of workers in these sectors. While there is a migrant wage penalty and this varies substantially across different groups this is small and typically not statistically significant for workers covered by JLC/REA agreements and even smaller for JLC workers. This is consistent with the international literature. The work of Antecol *et al.* (2006) and Chiswick *et al.* (2008) discussed earlier suggests that minimum wages and wage setting mechanisms compress the wage distribution and that this lowers the migrant wage differential for affected workers. In terms of the literature on Ireland the absence of a wage penalty for migrant workers in low wage JLC sectors provides a rationale for the small migrant wage effects observed by Barret *et al.* (2011) at the lower end of the wage distribution and is also consistent with the evidence in McGuinness *et al.* (2010) which finds that Irish firms covered by wage setting mechanisms have lower within firm wage dispersion.

If these wage setting mechanisms do reduce the migrant wage penalty for low wage workers as the results suggest, the broader implications for the labour market depends on the nature of the wage penalty. For example, the absence of a penalty for workers from developed English speaking countries may suggest that country specific skills are important and that migrants who suffer a wage penalty do so because they have lower country specific skills/productivity. If this is so, given the free mobility of labour within EU countries, one possibility is that wage floors may limit the inward migration of lower skill migrants who employers may be slow to hire at the minimum wage. If on the other hand, the migrant wage penalty reflects discrimination rather than differences in productivity and the absence of a penalty for

workers from developed English speaking countries reflects the fact that workers from counties that are more different suffer more severe discrimination, the regulation may act to prevent such discrimination against vulnerable migrants and perhaps encourage migrant workers to seek employment in Ireland.

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