WAGES AND WORKING CONDITIONS OF NON-IRISH NATIONALS IN IRELAND

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Department of Children, Equality, Disability, Integration and Youth

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ESRI ECONOMIC & SOCIAL RESEARCH INSTITUTE

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FOREWORD

Ireland is a multi-ethnic and multi-cultural nation. According to 2016 Census figures, almost 12% of our population has a nationality other than Irish, while 17% of us were born abroad. In terms of nationality, ethnicity, language, culture and religion, our population is growing more diverse every year. Ireland is an attractive destination for migrants – we have a world-renowned higher education sector as well as a growing economy. We are seeing evidence of a long-term social network effect following growing immigration to Ireland over the last 30 years, where people move to Ireland to join family and friends who already live here. In addition, many migrants have moved here to seek refuge from war or persecution. Whatever their reasons for coming, a diverse cultural heritage benefits us all.

Regrettably, there remains a significant difference between the treatment of migrants and the majority population in a number of areas. This is particularly evident in the migrant wage gap. This report compares wage data between migrants and Irish workers, exploring the drivers of differences in wages between the groups. It also looks at differences based on gender, nationality, types of work and educational background.

As evidenced by this research, despite the diversity of Irish society, racism exists in Ireland. Some people who live here feel its impact on their day-to-day lives in a variety of ways, including in their wages and working conditions. My Department is currently working towards publishing a National Action Plan Against Racism in early 2023. The plan was developed by the independent Anti-Racism Committee established by the Government in 2020. The Committee consulted widely across Irish society in carrying out its work, and it was important that those from affected communities participated in these consultation events. The groups consulted by the Committee represented a broad cross-section of the public, in an effort to ensure that all those affected by racism had a voice in the process.

As Irish society continues to change, so should public policy and service provisions. My Department was involved in creating the Migrant Integration Strategy, which ran from 2017 to 2021. The Strategy was adopted by the Government to promote the integration of all migrants and their Irish-born children, and reflect this in public policy. The Strategy contains actions that aim to enhance diversity, inclusion and equity for migrants across all aspects of Irish society. As well as this, the Strategy focuses on social inclusion measures and improved access to public services. It aims to address racism and xenophobia and support integration and social cohesion at a local level. Consultation for the successor to this strategy will begin in 2023, and this research will be useful in making evidence-based policy decisions as part of the process.

I welcome this report on wages and working conditions of non-Irish nationals, which has been produced under the ESRI's Equality and Integration Research Programme, and funded by my Department. I am pleased to support this research, which provides essential evidence for integration policy. I would strongly encourage employers in the private and public sectors to read this report, consider their own recruitment practices, and take action. It is my hope that together we can bridge this divide.

Roderic O'Gorman, TD

Minister for Children, Equality, Disability, Integration and Youth

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GLOSSARY AND ABBREVIATIONS

CSO	Central Statistics Office
CTA	Common Travel Area
DCEDIY	Department of Children, Equality, Disability, Integration and Youth
EEA	European Economic Area, which comprises the EU Member States plus Iceland, Liechtenstein and Norway.
EFTA	European Free Trade Association
Ethnicity	Self-defined ethnic group based on Irish Census classification of ethnicity.
ESOL	English for speakers of other languages
ETBI	Educational and Training Boards Ireland
EU-East	EU Member States that joined the EU in 2004 (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia), 2007 (Bulgaria and Romania) and 2013 (Croatia).
EU-LFS	European Union Labour Force Survey
EU-West	'Old' EU Member States, excluding Ireland and the UK: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Spain and Sweden.
EU-13	The 13 countries added to the EU since 2004: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.
GNI	Gross national income
HIC	High-income country
ICT	Information and communication technology
IHREC	Irish Human Rights and Equality Commission
ILO	International Labour Organization
ILPC	Irish Low Pay Commission
ISCO	International Standard Classification of Occupations
LFS	Labour Force Survey
LFSEAADS	Labour Force Survey Earnings Analysis using Administrative Data Sources
Migrant	Typically refers to someone born outside their country of residence.
MRCI	Migrant Rights Centre Ireland
Nationality	Respondents are asked if they are an Irish citizen. If they are not an Irish citizen, they are asked for their nationality.
NES	National Employment Survey

Occupation	Occupation refers to the role a worker plays in an organisation. Jobs are classified in terms of their skill level and content using the ISCO codes.
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary least squares
PES	Principal economic status (as defined by the respondent)
PUP	Pandemic Unemployment Payment
QQI	Quality and Qualifications Ireland
Rest of Europe:	This category consists of EFTA countries such as Iceland, Lichtenstein, Norway, and Switzerland; countries who are candidates for EU membership; and all other European countries.
Rest of the World:	This category consists of countries within Central America, the Caribbean, South America, Near and Middle East, as well as all other countries not included in the other categories.
Sector	The economic activity of a business, based on the European industrial activity classification (NACE Rev.2) classification scheme.
SILC	Survey on Income and Living Conditions
Wage penalty/premium	A gap in the average earnings between groups, where a group earns less (penalty) or more (premium) than their comparison group. For example, a migrant wage penalty (or premium) is where migrants earn, on average, less (or more) than non-migrants.

EXECUTIVE SUMMARY

Migrants make a significant contribution to Ireland and its economy, and increasingly form a key portion of the Irish workforce. For migrants, jobs are an important source of income, and their integration into a country's labour market is a key indicator of their broader social integration into society. However, international research finds significant inequalities in migrants' employment experiences; in particular, that migrants often experience lower earnings than non-migrants (known as the 'migrant wage gap') and tend to be over-concentrated in jobs with poorer working conditions.

This report uses high-quality Office of the Revenue Commissioners administrative data on wages matched to the Central Statistics Office's (CSO) Labour Force Survey (LFS) data on job characteristics and workers' skills to investigate the earnings and working conditions of different non-Irish migrant groups and how these compare to Irish workers in the period 2011–2018. The main objective of the study is to explore whether non-Irish nationals face distinct employment outcomes, in terms of the quality of the jobs they work in and the wages they earn compared to Irish nationals. The report examines: i) what might drive any differences in earnings between Irish and non-Irish nationals; ii) whether there are differences in the migrant wage gap between men and women; iii) whether the migrant wage gap is larger or smaller for more or less educated non-Irish nationals; and iv) whether the size of the migrant wage gap has changed over time (i.e., between 2011–2013 and 2016–2018).

The matched earnings data used in this study is known as the Labour Force Survey Earnings Analysis using Administrative Data Sources (LFSEAADS) data. It provides a unique opportunity to study the experiences of non-Irish nationals in the Irish labour market as: i) it contains a very large sample of non-Irish nationals, thus allowing a more detailed distinction of migrant groups than is usually the case; ii) it provides detailed and accurate information on the earnings of Irish and non-Irish employees; and iii) it includes detailed information on employees' socio-demographics and job characteristics.

KEY FINDINGS

Job quality

- Job quality is challenging to measure. Nevertheless, this report presents a number of indicators that allow us to capture several important dimensions of job quality, in addition to wages. As a whole, non-Irish nationals are generally more likely to be found in lower quality jobs. For example, they are less likely to work in professional/managerial occupations (33 per cent compared to 44 per cent of Irish nationals) and are less likely to have supervisory

responsibilities in their role (27 per cent compared to 33 per cent of Irish nationals). They are also more likely to be in shift work (28 per cent compared to 16 per cent).

- Non-Irish nationals are much less likely to be members of trade unions or staff associations (13 per cent compared to 34 per cent), and more likely to have been in their jobs for a shorter duration (on average 5.4 years compared to 10.7 years among Irish nationals). By contrast, non-Irish and Irish nationals have similarly high rates of employment on permanent contracts (93 per cent and 94 per cent respectively).

- These patterns of job quality vary significantly depending on country of origin. People from Asia, North America, Australia and Oceania, EU-West countries and the UK (including Northern Ireland) actually have more advantageous working conditions across several job quality indicators compared to their Irish counterparts. By contrast, people from EU-East countries, the Rest of Europe (non-EU-East countries), Africa, and the Rest of the World (mainly Central and South America) have, on average, lower quality jobs compared to Irish nationals. Among Africans, in particular, employment rates are also low.

Wages

- A 'migrant wage gap' exists in Ireland. In the period 2011–2018, non-Irish nationals earned, on average, 22 per cent less per hour than Irish nationals – for every €1 an Irish worker earned, a non-Irish worker earned 78 cent. However, this gap in earnings differs significantly, depending on country of origin.

- Nationals from EU-East countries report the largest migrant wage gap, earning 40 per cent less per hour than their Irish counterparts. Part of their wage gap can be explained by differences in their social and demographic characteristics (e.g., education level), the kinds of jobs that they do, and firms for which they work. However, when we control for these characteristic differences in our regression analyses, eastern Europeans still earn 20.5 per cent less than Irish nationals.

- Other groups of non-Irish nationals differ only slightly in their hourly earnings compared to Irish nationals. For example, nationals from EU-West countries only earn 1 per cent less than Irish nationals, while those from North America, Australia and Oceania earn 1 per cent more. However, when we control for socio-demographic, job and firm characteristic differences between these nationality groups and Irish nationals, EU-West nationals earn 7 per cent less than Irish nationals, while those from North America, Australia and Oceania earn 3 per cent less. UK (including Northern Ireland) nationals actually earn slightly more than their Irish counterparts, both before (6 per cent more) and after (2 per cent more) controlling for characteristic differences.

- Non-Irish women experience a double earnings penalty: for being female and for being migrant. Non-Irish women earn 11 per cent less than non-Irish men,

and non-Irish men earn 18 per cent less than Irish nationals. In fact, non-Irish women earn 30 per cent less than Irish men.

- Considering all non-Irish nationals together, the migrant wage penalty is higher for those with third-level qualifications than those with less than third-level qualifications. In particular, highly educated nationals from EU-West, EU-East and Africa all experience a larger wage penalty than their lower educated co-nationals. Highly educated EU-East nationals earn 28 per cent less than highly educated Irish nationals, even after controlling for differences in their characteristics, compared to lower educated EU-East nationals, who earn 14 per cent less than lower educated Irish nationals.

- For non-Irish nationals as a whole, the size of the wage gap has become smaller over time. In 2011–2013, just after the Great Recession, non-Irish nationals earned 25.5 per cent less than Irish nationals. This gap shrunk by seven percentage points to 18.7 per cent less in 2016–2018, a period when Ireland's economy was growing again. Part of this wage gap reduction is explained by changes in the socio-demographic, job and firm characteristics of non-Irish nationals, although a significant 2.5 percentage point reduction in the wage gap over time remains unexplained by observed factors in the models. Unobserved factors contributing to this wage gap reduction could be changes in the duration of residency in Ireland and English language skills of non-Irish nationals, alongside socio-demographic changes that could not be accounted for in our regression models.

IMPLICATIONS FOR POLICY AND RESEARCH

This study highlights how some non-Irish national groups are experiencing a wage penalty, in some cases a substantial one, and that this is persisting over time. One potential driver of this finding may be that the educational qualifications of those concerned do not receive equal recognition by employers in Ireland. Specifically, it may be that the recognition of qualifications is more framed in the context of the Irish educational system as opposed to the labour market. Thus, greater efforts may be needed to improve qualification recognition among employers, along with awareness raising and more effective implementation of the Quality and Qualifications Ireland (QQI) system. A detailed analysis of overeducation among migrants in Ireland could inform any such changes.

The wage premium found among members of trade unions/staff associations alongside the very low level of membership of such bodies among migrants suggests that this institutional factor, whether through collective bargaining or other trade union/staff representative mechanisms, might contribute to lowering the migrant wage gap. Trade unions and staff associations may need to make greater efforts to raise awareness of their activities among migrants within organisations. In addition, employers may need to facilitate recognition of staff associations and trade unions to ensure all workers have the option of being represented.

x|Wages and working conditions of non-Irish nationals in Ireland

This report was unable to explicitly address the role of English language skills, but the fact that the wage gap is largest for non-Irish groups with the poorest language skills, combined with findings from previous research showing that job quality is clearly related to self-assessed English language skills, suggests measures to improve English language skills are likely to reduce the wage gap. Current evidence points to a lack of coordinated approach to English language learning for adult learners in Ireland.

In light of previous research, discrimination on the basis of nationality or ethnicity is also a likely factor in explaining the gap in wages that remains even after controlling for various socio-demographic, employment and firm characteristic differences between non-Irish and Irish nationals (see McGinnity et al., 2021b, for a review). The persistence of the migrant wage gap identified in this report suggests that while Ireland has robust anti-discrimination legislation, specific measures to combat labour market discrimination may be required. In this respect, the current development of an anti-racism strategy in Ireland is very important (Anti-Racism Committee, 2021). Wage subsidies in particular, if carefully targeted, can incentivise employers to hire migrants who have not been successful in obtaining work experience in their host country, in this case Ireland.

This report demonstrates the importance and potential of collecting high-quality, reliable data for analysing differences in earnings between Irish and non-Irish nationals. In turn, this demonstrates the potential of linking earnings data to survey data for understanding other aspects of wage policy, such as the operation of the national minimum wage (Redmond and McGuinness, 2022), the gender pay gap (Doorley et al., 2021) and the public–private sector wage gap (CSO, 2019). Timely and accessible data on earnings can thus play a key role in both research and policy on wages in Ireland and allow for the best use of the considerable resource it represents.

CHAPTER 1

Introduction

1.1   MOTIVATION FOR THE REPORT

Employment plays an essential role for the social inclusion and integration of migrants within their host country. Employment also offers migrants and non-migrants alike financial independence, social standing, a sense of identity and a means to contribute to and meaningfully participate in society (McGinnity et al., 2021a). The ability of migrants to fully participate in the labour market without facing barriers is therefore critical to their economic and social wellbeing. The economic and skill contributions of migrants are also essential to labour markets and labour market composition, particularly in countries within western Europe (Taran, 2012). Migrant labour adjusts the composition of the national labour market. For example, migrant labourers can respond to the changing demands for skills or personnel caused by technological advances, industry developments or changes in labour market conditions. In countries with ageing populations – which is a common characteristic of western European states – migrant workers can introduce a younger cohort of workers to the workforce (Amo-Agyei, 2020; Taran, 2012). Consequently, migrants contribute to, and support the maintenance of, a level of economic activity that might otherwise be unachievable.

Migrant employment therefore benefits both migrants and the wider economy. However, the wages and working conditions experienced by migrants provide not just an indication of the quality of their employment but also important insights into migrant integration across society more broadly. The employment gap between native and migrant workers is quite substantial.[1] In addition, migrants are often found in less well-paid occupations and are more likely to be in part-time or temporary contracts when compared to natives (Dustmann and Frattini, 2011). Furthermore, past research on earnings in European states has revealed that migrants, on average, receive a lower return to their qualifications in comparison with native workers (Amo-Agyei, 2020), a phenomenon commonly termed the 'wage gap'. Earlier studies conducted in Ireland, based on data from 2006 and 2009, have also found evidence of a wage gap between migrants and Irish workers (Barrett et al., 2016). Amo-Agyei (2020) estimate a penalty for Ireland as part of a comparative report, using the Survey on Income and Living Conditions (SILC) data.

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[1]   Within the broader migrant integration literature, the terms 'native' and 'migrant' are used to differentiate either (a) those born in a host country from those born outside of the host country ('migrants'), or (b) individuals who hold citizenship of the host country from those who do not hold citizenship ('migrants') (see glossary for further details). When discussing prior research in this area, we will use the term 'native' to denote either those born in the host country or those with host country citizenship. In our own analysis, we compare experiences of those with and without Irish nationality; therefore, we use the terms 'Irish nationals' and 'non-Irish nationals' ('migrants').

However, no detailed study of migrant wages in Ireland has been conducted using data from the last decade.

An important consideration in any study of migrant wages is that migrants do not comprise a homogenous group; different wage gaps can arise within the migrant population, depending on country of origin. Dustmann and Frattini (2011) propose that individuals from non-EU countries who migrate to the EU may face additional cultural and institutional barriers to accessing the labour market; thus, they may be more vulnerable to larger migrant wage gaps. In research conducted in Ireland, based on data from 2006 and 2009, the largest earnings gap was found to occur among migrants from the ten EU Member States who joined during the 2004 enlargement process (Barrett et al., 2016).

There remains a lack of data as to *how* migrants from different regions of origin are affected by the migrant wage penalty in Ireland, and the *extent* to which they are affected. Furthermore, with evidence of a gender pay gap within the Irish labour market (Doorley et al., 2021), there is also a strong possibility that migrant women experience a 'double disadvantage' when it comes to the earnings gap. This study examines these issues, and also considers whether the migrant wage penalty is largest among migrants with higher or lower educational qualifications. Data from more recent years allows us to examine to what extent migrant wages recovered as the Irish labour market emerged from the 2008 Great Recession.

This study draws on Office of the Revenue Commissioners earnings data matched to the Central Statistics Office's LFS, data that are commonly referred to as the Labour Force Survey Earnings Analysis using Administrative Data Sources (LFSEAADS). These data comprise a rich, and novel, resource for examining hourly earnings of Irish and non-Irish nationals while comparing key job characteristics (e.g., contract type, length of tenure, typical hours worked, shift work and union membership), as the data contain a large sample of Irish and non-Irish workers. At the time the study was conducted, data were only available for the years 2011–2018; thus, we were unable to capture the impact of the COVID-19 pandemic. Nevertheless, as our primary objective is to understand potential differences between the wages and working conditions of Irish and non-Irish groups, and how the wage gap has evolved since 2009, the available data yield important insights.

As originally argued by Barrett and McCarthy (2007), Ireland forms a unique case study to explore the labour market experience of migrants relative to other countries. Firstly, in the early 2000s, Ireland experienced a rapid increase in its migrant population, triggered in part by the unprecedented economic growth of that period (Barrett and McCarthy, 2007) and the opening of migration pathways for new Member States acceding to the European Union in 2004. Many of these newly-arriving migrants were highly educated. This was then followed by the economic crash and recession of 2008, triggering a period of net emigration (of

both Irish and non-Irish nationals) (Barrett et al., 2016). This period was followed by economic recovery, to the present day, and a return to net immigration.

In the next section (Section 1.2), we examine migrant flows to Ireland between 1987 and 2020. We then provide the labour market context to this study in Section 1.3. Section 1.4 gives an overview of labour market policy and migrants in Ireland, while an outline of the remainder of the report is presented in Section 1.5.

1.2   MIGRATION FLOWS AND POLICY IN IRELAND

Migration is dynamic. Push factors include a lack of economic opportunity, poverty or political conflict in migrants' countries of origin. Pull factors include economic opportunity, prospects for personal development and education in the host country (Massey, 1990). In addition, migration is responsive to the changing demands of the labour market in the host country, which can affect the composition and numbers of migrants at a given point in time.[2] Furthermore, past research indicates that migrants from different countries of origin differ with respect to their labour market outcomes (McGinnity et al., 2020b). Additionally, the labour market is affected by the emigration of native workers to other countries.

For these reasons, it is important to consider the nature and extent of migrant flows to Ireland in order to understand the composition of migrant workers living in the country. Figure 1.1 below illustrates estimated immigration, emigration and net migration figures for Ireland for the period 1987–2020.

For much of the twentieth century, Ireland was a country of emigration. This changed during the economic boom, a period known as the 'Celtic Tiger' (mid-1990s to 2007), when immigration increased. This is illustrated in Figure 1.1, which shows a particularly sharp increase in migration to Ireland between 2004 and 2007, after the accession of new Member States to the EU in 2004.

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[2]   For Ireland, Bergin et al. (2017) show that migration flows are the largest determinant of population projection differences in the COSMO economic forecasting model, especially for those of working age. However, predicting future migration flows is inherently difficult given the multitude of interacting factors at play that drive changes in the numbers of migrants to Ireland.

FIGURE 1.1   ESTIMATED IMMIGRATION, EMIGRATION AND NET MIGRATION, IRELAND (IN THOUSANDS)
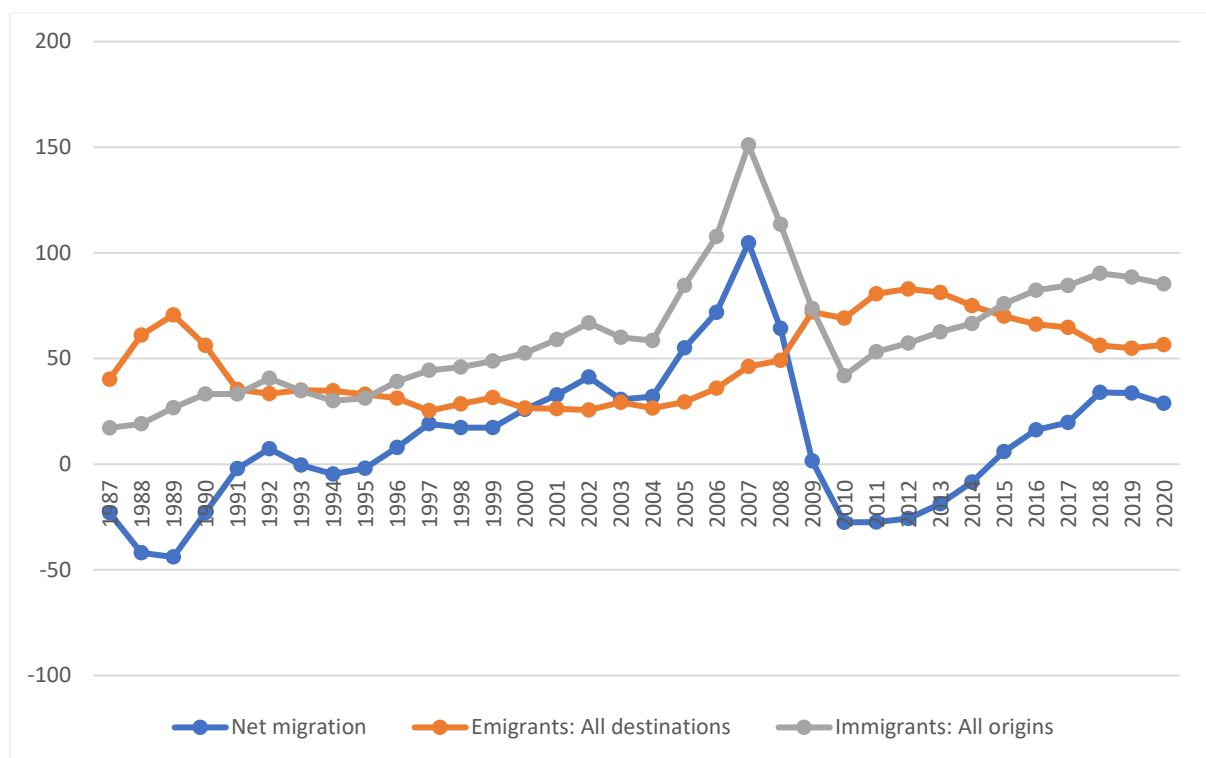
Source: CSO Statbank figures, series PEA03.
Note: Year to April of reference year.

Barrett et al. (2016) note that Ireland was one of only three Member States that allowed the then new Member States access to their labour market from 1 May, 2004, without restrictions. The pace at which the proportion of non-Irish nationals in Ireland grew was quite dramatic. According to the 2002 Census, non-Irish nationals accounted for 2 per cent of the Irish population, but by the 2006 Census this proportion had grown to 10 per cent (Barrett and McCarthy, 2007). With the onset of the recession in 2008, and the corresponding collapse in the construction sector, immigration to Ireland experienced a significant decline. By 2010, immigration was just under 42,000 – less than one-third of its peak three years earlier, in 2007 (150,000). As a result, Ireland experienced net emigration, with the number of people leaving the country greater than those arriving in Ireland. In 2010–2012, net migration was around -26,000. Since the recovery, immigration has been steadily increasing and in 2015, for the first time since the Great Recession, it outpaced emigration (see Figure 1.1). By 2018 (the last year of our survey data observation), immigration was at around 90,000.

Based on the most recent Census in 2016, non-Irish nationals comprised 11.6 per cent of the usually resident population. The majority of migrants have come to Ireland from either EU or European Economic Area (EEA) countries: using data from the 2016 Census, McGinnity et al. (2020b) find that 70 per cent of migrants who were born abroad were born in EU countries or the UK.[3] Based on the Treaty of the

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[3]   The EEA includes the countries of the European Union plus Iceland, Norway and Lichtenstein.

Functioning of the European Union, and the Common Travel Area (CTA) arrangement, such individuals may move to Ireland and take up residence, education and employment without restriction.

Ireland also receives a substantial number of migrants from the UK. This is because of the long history of migration between the two countries, as well as the CTA arrangement, which grants citizens of both states the right to live, work, travel and study within the CTA. McGinnity et al. (2020b) report that one-third of migrants recorded in the 2016 Census were from the UK.

Non-EEA nationals need permission to reside and to work in Ireland. Labour migration policy in Ireland is designed to meet most labour market needs from within the EEA and relies on the employment permit system to meet skill shortages, mostly in high-skilled occupations, so low-skilled migration from outside the EEA is extremely restricted. The employment permit system has been revised a number of times and permits differ, but broadly speaking the system requires many non-EEA nationals to have an employment permit for a specific job with a specific employer before entering the country.[4] There are nine types of permit, the two most common of which are the **critical skills permit** and the general employment permit.[5] The critical skills permit is linked to occupations that the Irish government has recognised as essential for the growth or the Irish economy, as well as to occupations facing a skills shortage. This includes occupations in information and communications technology, engineering and healthcare. This permit is intended to attract highly skilled workers to the Irish labour market and to encourage them to reside permanently in the State, as after two years they can be issued with a residence permission to work in the State without an employment permit. Jobs linked to recognised skills shortages must offer remuneration of at least €32,000 per year and relevant qualifications are required.[6]

Table 1.1 below shows the breakdown of critical skills and total employment permits for the years 2011–2018, which maps to the period covered by the data used in this study. The period spans a rapid increase in total work permits issued from a low of 5,200 in 2011, which was just after the Great Recession, to 13,398 in 2018, when the economy had returned to growth.

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[4]   The most recent substantial revision to the work permits system was the enactment of the Employment Permit (Amendments) Bill in 2014. The discussion in this report, and the data in Table 1.1, focuses on the main permit type, the critical skills employment permit.
        For more details on the nine permit types, see https://enterprise.gov.ie/en/What-We-Do/Workplace-and-Skills/Employment-Permits/Permit-Types/.

[6]   Migrants seeking employment in sectors outside the critical skillset can be awarded a critical skills permit if the job offers a minimum remuneration of €64,000 per year and is not on the ineligible list of occupations (https://enterprise.gov.ie/en/what-we-do/workplace-and-skills/employment-permits/employment-permit-eligibility/ineligible-categories-of-employment/). All salary thresholds quoted refer to regulations at the time of writing (October 2022).

Another striking change over this period relates to the number of the more advantageous critical skills permit permits that were issued. This rose from 17.5 per cent of all work permits issued in 2011 (when they were known as green cards) to almost half (44-45 per cent) in the latter period that we analyse in this study (2017–2018). This growth in the proportion of critical skills permits issued between 2011 and 2017–2018 may have implications for any wage changes observed for non-EEA nationals over the period: this will be examined in greater detail in Chapters 4 and 5.

TABLE 1.1   CRITICAL SKILLS AND TOTAL EMPLOYMENT PERMITS ISSUED (2011–2018)

Year	Critical skills employment permits	Total employment permits	Critical skills as share of all permits (%)
2011	909	5,200	17.5
2012	1010	4,007	25.2
2013	1466	3,863	38.0
2014	1784	5,495	32.5
2015	2458	7,253	33.9
2016	3596	9,373	38.4
2017	5110	11,361	45.0
2018	5863	13,398	43.8

Source: Figures obtained from Department of Enterprise, Trade and Employment.

The second most common form of employment permit offered to non-EEA nationals is the **general employment permit**, which is a less flexible type of employment permit. In comparison to the critical skills permit, occupations of all kinds are eligible for consideration. However, the permit is contingent on the applicant having received a job offer. The minimal annual remuneration required by work permits of this kind is approximately €30,000 per year.[7] General employment permit holders may apply for an extension of their work permit for a further two years, and then subsequently for a further three years. After this point, the individual may apply for long-term residency through the Department of Justice.

The Migrants Rights Centre Ireland (MRCI, 2015) has noted several constraints of the employment permit system. Both permit types require the worker to remain with their initial employer for at least 12 months. In the instance that the individual wishes to change employer, this requires undertaking a change of employment permit with associated fees and application costs (MRCI, 2015; Arnold et al., 2019). The conditions attached to the general employment permit, such as the salary threshold and ineligible categories of employment, may also inhibit labour market mobility. And, of course, the number of employment permits issued varies with the

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[7]   There are slightly lower remuneration thresholds for some occupations, for example healthcare assistants. See https://enterprise.gov.ie/en/what-we-do/workplace-and-skills/employment-permits/permit-types/general-employment-permit/. In contrast to the critical skills permit, spouses, partners and dependents must apply for an employment permit in their own right.

economic cycle. For example, the total number of residence permissions issued for the purposes of work (remunerated activities) fell during the recession period, from around 33,000 in 2010 to 16,000 per year in 2013–2014. The number rose again to around 30,000 in 2018, which are trends that follow the pattern of employment permits issued.[8]

Until relatively recently, migrants who arrived in Ireland through the international protection system were not eligible to work in Ireland. Since June 2018, however, international protection applicants can apply for permission to work if they have not received a first decision regarding international protection within six months (IHREC, 2021a). Nevertheless, McGinnity et al. (2020b) find that migrants who arrive in Ireland from countries that are associated with high numbers of protection applicants are more likely to fare worse in terms of unemployment and occupational attainment than migrants from other countries, even after controlling for educational attainment, English language skills, age, ethnicity, gender and duration of residence. McGinnity et al. (2020b) attribute this difference in labour market outcomes to the trauma and disruption experienced prior to and during the migration process, as well as the time spent by protection applicants outside of the labour market.

Third-level students comprise a major group for immigration flows to Ireland. Indeed in 2019 they formed the largest category of non-EEA migrants arriving in Ireland each year, coming ahead of labour migrants and other groups since 2013. Groarke and Durst (2019) comment on the active attempts of the Irish government to attract international students to Ireland during this period. By 2015, for example, 38 per cent of residence permissions in Ireland were issued for education.[9] Since January 2011, non-EEA students on degree or language programmes with a Stamp 2 permission are permitted to work up to 20 hours per week during the academic term and up to 40 hours per week during holiday periods (Department of Education and Skills and Department of Justice and Equality, 2014). However, interviews conducted by Arnold et al. (2017) with staff at the MRCI indicate that students commonly work in excess of the hours set out by the student work concession. Ireland also allows non-EEA students with an honours degree or higher to remain in the State for 12 to 24 months after their studies to look for work under the Third Level Graduate Programme (Groarke and Durst, 2019). This is uncommon among other EU countries and is designed to retain high-skilled international graduates in Ireland (*ibid.*).

Finally, it is important to note that nationality, which affects people's right to reside and work in Ireland, and place of birth are not the same. In addition, nationality can change over time through naturalisation. Any data or analysis based on

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[8]   Note these residence permission figures count those on critical skills permits who no longer need a permit but still have a residence permission to work in the country.

[9]   See Eurostat (table: migr_resvalid).

nationality will not capture people from a migrant background (born abroad) who are Irish citizens, either by naturalisation, birth (in Northern Ireland) or descent (by having Irish parents or grandparents). This in turn can lead to a degree of underrepresentation when seeking to understand the experiences and labour market outcomes of people with a migrant background. Barrett et al. (2017) report that between the years 2005 and 2015, over 120,000 non-Irish nationals became Irish citizens through naturalisation. Citizenship acquisition was particularly marked among non-EEA born migrants: by 2016, an estimated 45 per cent of those born in non-EEA countries resident in Ireland were Irish citizens.[10]

1.3   LABOUR MARKET CONTEXT

This section provides context on the Irish labour market in the years contemporaneous to our data analysis. The Irish economy underwent significant growth in the 1990s and mid-2000s under the 'Celtic Tiger' growth era. Barrett et al. (2011) report that employment grew by over 30 per cent between 1999 and 2007, from 1.6 million people in employment to 2.1 million. Over this same period, the unemployment rate averaged at just 4.4 per cent, and average income was among the highest in the world. Ireland also experienced high rates of immigration, as illustrated in Figure 1.1, attributed in part to the attractiveness of the Irish labour market in terms of jobs and wages at that time, as well as government expansion of the work permit system and accession of eastern European countries to the EU in 2004 (see Section 1.2) (Barrett et al., 2011).

The Irish economy experienced a significant downturn in 2008. Figure 1.2 depicts quarterly trends in employment alongside modified gross national income (GNI*) over the period 1995–2019.[11] The graph conveys that modified GNI (GNI*) began to decline in 2008 and continued to do so until 2012: the level of those in employment also fell substantially over this period. Russell et al. (2014) note that not all sectors were affected by the recession in the same way. Private sector employers tended to respond to the crisis by cutting jobs, not wages. The construction sector was most adversely affected by job losses, along with manufacturing and administration and support services. By contrast, the health sector and the information–communication sector experienced expansion, and the education and financial sectors were not majorly affected (Russell et al., 2014).

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[10]   See McGinnity et al. (2020a), Appendix Table A4.1. While one-third of migrants born in other EEA countries (including the UK) were Irish nationals in the 2016 Census, we assume a greater proportion of these are Irish citizens by birth/descent, as naturalisation figures are not so high for this group (McGinnity et al., 2020a; see also Groarke et al., 2020, for further discussion).

[11]   Modified GNI (GNI*) is considered to be a more accurate reflection of economic growth for Ireland: the indicator is designed to exclude globalisation effects that are disproportionally impacting the measurement of the size of the Irish economy. Specifically, GNI* adjusts GNI for Ireland with respect to: factor income of redomiciled companies, depreciation on R&D service imports and trade in IP, and depreciation on aircraft leasing. For further discussion on this issue, see: https://www.cso.ie/en/releasesandpublications/ep/p-nie/nie2018/mgni/.

In 2009, however, austerity measures were introduced on foot of a rapid deterioration in public finances, resulting in cuts to public sector pay. The public sector pension levy resulted in cuts to net pay of up to 8 per cent, and in 2013 the Haddington Road Agreement led to a further set of emergency adjustments in the public sector (see Russell et al. (2014) for discussion). Given the sectors most affected by job loss, men were more adversely affected by unemployment than women, as were young people and immigrants. For example, in 2012, 17.8 per cent of men were unemployed compared to 12.8 per cent of women (Bergin et al., 2020).

FIGURE 1.2   MODIFIED GNI* AND EMPLOYMENT RATES, IRELAND (1995-2019)
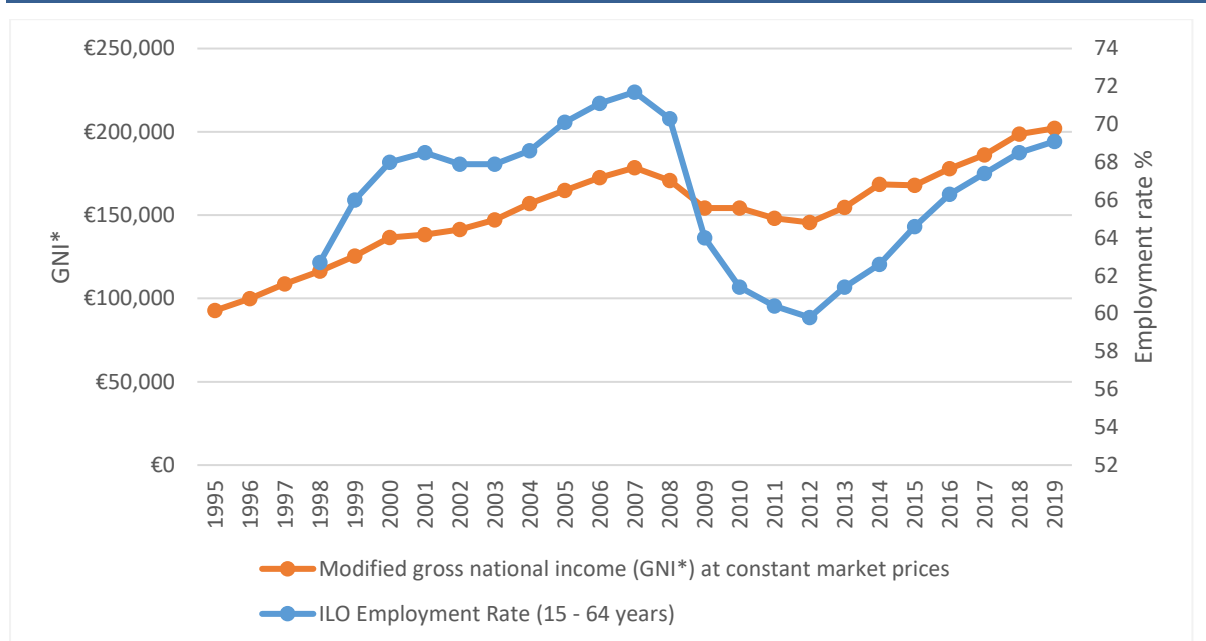
Source: Figures for GNI* were taken from PxStat Table N1925. Figures for employment rates were taken from PxStat Table QLF18.
Notes: GNI* is modified gross national income at constant market prices (chain linked annually and referenced to year 2018).

As mentioned, evidence suggests that migrant workers, like men and young people, were particularly affected by the effects of the recession. Comparing unemployment rates in 2007 with those of 2012, McGinnity et al. (2014) found that unemployment was disproportionately experienced by non-Irish nationals. Among Irish nationals the unemployment rate increased from 4 per cent in 2007 to 14 per cent in 2012, compared to it rising from 6 per cent in 2007 to 20 per cent in 2012 for non-Irish nationals. A study by Barrett and Kelly (2010) reported that migrants were not uniformly affected by the recession. Their findings reveal that, overall, migrants were statistically less likely to be employed than Irish nationals during the recession. In particular, their findings note that migrants from the new EU Member States – in comparison to migrants from the UK, EU-13 and other countries outside the EU – were the only migrant group with a lower likelihood of employment when compared to Irish nationals during the recession.

Economic growth returned in Ireland in 2013. This, coupled with increased emigration, helped to lower the unemployment rate. By 2019, the employment rate was 70 per cent, approximating the pre-recession rate (see Figure 1.2).

1.4   LABOUR MARKET POLICY AND MIGRANTS

Several elements of labour market policy and legislation may shape the experiences of migrants in the Irish labour market. All individuals who are granted permission to work in Ireland are entitled to the same protections under employment rights law as Irish citizens. Under the Organisation of Working Time Act 1997, the maximum average working week (typically calculated over the preceding four months) should not exceed 48 hours. The Employment Equality Acts 1998–2005 sets out that it is illegal to discriminate against persons on the grounds of gender, civil status, family status, age, disability, race, sexual orientation, religious belief and membership of the Traveller community. In general, discrimination can be direct or indirect, and with regards to employment it is something that can occur at any point during the process – recruitment, training, while working, promotion processes, pay negotiation and termination (MRCI, 2020). Such legislation should also engender equal opportunities for participation in the labour market among migrants (alongside opportunities to progress within jobs) by providing equal rights and protections and making discrimination against migrants illegal.

Trade unions and associations provide staff representation for collective bargaining in order to negotiate improved wages and conditions of employment. The Irish Constitution enshrines the right of citizens to form associations and unions, though there is no legislative right for trade unions to be recognised in the workplace for the purposes of collective bargaining, so employers cannot be compelled to engage with collective bargaining efforts. Ireland's collective bargaining system is largely decentralised and occurs mostly at the firm level. Using data from the Labour Force Survey (LFS), McGinnity et al. (2021a) find that 29 per cent of workers in Ireland are members of a trade union or staff association. This is lower than that observed in other European states such as Denmark, France and Germany. The extent to which migrants are equally able to join trade unions and associations, or are concentrated in jobs and sectors that are more/less likely to have unions or associations, could therefore shape their experiences in the Irish labour market and parity of earnings with natives (Amo-Agyei, 2020).

A minimum wage can affect wages at the bottom of the wage distribution by setting a minimum threshold. Since April 2000, all workers over the age of 18 in Ireland, including migrants, must receive at least the national minimum wage rate (Redmond, 2020).[12] The national minimum wage had risen to €8.65 per hour by 2007, but, with the onset of the recession and high unemployment, did not increase further over the period 2008–2015 (Redmond, 2020). Upon entering economic recovery, the Irish Low Pay Commission (ILPC) was established in 2015 to annually examine minimum wage conditions. In 2016, the ILPC recommended

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[12]   There are some exceptions in the case of workers undertaking internships, apprenticeships or voluntary positions (MRCI, 2020).

Government to raise the minimum wage from €8.65 to €9.15 per hour, which was the first increase to minimum wage since the economic downturn. Based on recommendations by the ILPC, this was further raised in 2017 to €9.25 per hour and was raised again in 2018 to €9.55 per hour (Redmond, 2020).[13] Such minimum wage legislation is likely to protect migrant workers from being paid less than Irish-born workers, at least at the lower end of the wages distribution (Barrett et al., 2012).

The *Migrant Integration Strategy: A Blueprint for the Future* is a key government strategy document which establishes actions by which migrants can be supported to actively participate in Irish communities and workplaces (Department of Justice and Equality, 2017). The strategy document spanned the period 2017–2021 and its successor is currently in development. The strategy identifies the labour market as a principal area for integration policy. Ten explicit actions are set out under the heading 'Employment and Pathways to Work' for the purpose of supporting migrants to navigate the Irish labour market and to obtain employment or self-employment. The responsibility for the implementation of these actions is spread across a number of government departments and agencies.

A mid-term review of the strategy showed that many actions were underway but that difficulties were being encountered for some of them (Department of Justice and Equality, 2019). The labour market actions include four of particular relevance to migrants' participation in the labour market:

- implementation of further education and training programmes to meet the specific needs of migrants (Action 39; responsibility of SOLAS and Education Training Boards);

- ensuring that programmes specific to unemployed migrants with language difficulties provide a language component (Action 40; responsibility of SOLAS and Education Training Boards);

- promotion of the Quality and Qualifications Ireland (QQI) system in order to widely recognise vocational skills that have been accredited in other countries (Action 43; responsibility of QQI); and

- proactive outreach and support to increase the number of persons with a migrant background working within all levels of the civil service and the wider public sector (Action 44; responsibility of the Public Appointments Service).

By providing language support, systems to improve the recognition of migrants' overseas qualifications, opportunities for training and further education and active recruitment policies into the civil service, this integration strategy has the capacity to reduce many of the obstacles migrants face in terms of entering employment

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[13]   At time of writing (April 2022), the current national minimum wage rate stands at €10.50 per hour. Details on the national minimum wage are available at: https://www.gov.ie/en/campaigns/6fc06b-low-pay-commission/?referrer=http://www.lowpaycommission.ie/.

and progressing out of lower-skilled work. It also has the capacity to minimise over-qualification for jobs among migrants. Such measures, if fully implemented, may assist in addressing some of the migrant wage gaps observed in this study (see Chapters 4 and 5).

1.5   REPORT OUTLINE

Chapter 2 provides an overview of the existing literature on the migrant wage gap within Ireland and Europe. It summarises key studies in this area, providing important contextualisation for this research. Chapter 3 describes the methodologies adopted in this research. It also outlines the data used in this report – the LFSEAADS data – as well as the key variables of interest and the analytical steps undertaken. Analytical findings are presented in Chapters 4 and 5. Specifically, Chapter 4 provides a descriptive profile of workers' demographic characteristics and working conditions, comparing Irish and non-Irish nationals. Chapter 5 presents findings on wages and the migrant wage penalty in Ireland for different groups, including by gender, educational attainment, and over time. Finally, Chapter 6 provides a summary of the research findings and discusses their implications in relation to policy.

CHAPTER 2

Migrant wages and working conditions: Previous literature

2.1   INTRODUCTION

Previous research has shown that in many countries, migrant groups often exhibit persistently worse employment outcomes relative to their non-migrant counterparts, in terms of lower employment rates and higher unemployment and inactivity rates (Van Tuebergen et al., 2004; Heath and Cheung, 2007). This is also true for some migrant groups in Ireland, though not for other groups (McGinnity et al., 2020b). However, while having a job is important, even after entering employment, evidence suggests migrants continue to see inequalities in the quality of the jobs that they hold.

Wages are a key indicator of job quality, though other indicators are also important; for example, security and stability, hours involved, scheduling of work, and whether workers' interests are represented by trade unions or staff associations (Eichhorst et al., 2018). Job quality is important not just because it is often related to wages but also because it can shape people's broader quality of life, such as their mental health and wellbeing.

When talking about job quality, it is important to note that jobs differ in terms of the skill levels required to carry out tasks and the content of the work, and these factors will be determined by the main activity of the employer. For example, working in software development is very different from working in a meat processing plant or as an office cleaner. Thus, measures of job quality are also likely to differ across such jobs.

This chapter considers firstly international research on migrant wages and job quality, and then focuses more closely on previous evidence on these topics from Ireland.

2.2   MIGRANT EMPLOYMENT AND THE WAGE GAP: INTERNATIONAL EVIDENCE

Both occupation (the role a worker plays within an organisation) and sector (the economic activity) are linked to job quality, and tend to differ between migrant and non-migrant groups.[14] Certain occupations have a greater share of migrants than others. In the EU, occupations such as 'cleaners and helpers' are composed of a

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[14]   So, for example, an organisation that processes food will be considered part of the manufacturing sector, but will comprise a whole range of occupations, which could include plant and machine operatives, clerical staff, managers and technicians.

higher share of migrants (38 per cent), alongside labourers in mining and construction (23 per cent), stationary plant and machine operators (20 per cent) and personal care workers (19 per cent) (Fassani and Mazza, 2020). This is compared to more skilled occupations, where the share of migrants varies from 8 per cent among teaching professionals to 14 per cent among information and communication technology (ICT) professionals.

Key differences emerge between EU and non-EU origin migrants. Specifically, non-EU migrants are more concentrated among 'cleaners and helpers' and 'personal care workers' compared to EU migrants, although EU migrants are also over-represented in these occupations relative to nationals. EU migrants, however, are more likely than non-EU migrants to be working in higher-skilled occupation categories, such as 'teaching professionals', 'health professionals' and 'science and engineering professionals' (Fassani and Mazza, 2020).

There is also, on average, an uneven distribution of migrants and non-migrants in different labour market sectors across the EU (Amo-Agyei, 2020). Migrant workers tend to be disproportionally represented in agriculture, fishing and forestry (2.5 per cent compared to 1.5 per cent of nationals), and mining and quarrying; manufacturing; electricity, gas and water; and construction (26.8 per cent of migrants compared to 20.8 per cent of nationals). At the same time, across high-income countries (HICs), they are generally under-represented in the services sector compared to nationals (70.7 per cent of migrants and 77.7 per cent of nationals) (Amo-Agyei 2020).

Jobs also vary in terms of how stable and secure they are, and this can impact income security and wellbeing (Kalleberg, 2011). Temporary, or 'limited-time', jobs include fixed-term contracts, which can include seasonal, daily or even non-contractual occasional workers, for example, those on zero-hour contracts. In many European countries, 1.8 per cent more EU migrants are on temporary contracts than natives; the corresponding figure is 5.3 per cent for non-EU migrants (Fassani and Mazza, 2020). Generally, therefore, EU and non-EU migrants tend to be overrepresented on short-term contracts, relative to nationals, but only somewhat more so for EU migrants (the difference being relatively small compared to natives). These figures do differ across countries, however, with EU migrants in Slovakia, Ireland, Austria, Hungary and Slovenia being somewhat less likely to be on temporary contracts. These differences between EU and non-EU migrants, and between countries, cannot be solely explained by the social and demographic characteristics of migrant groups relative to natives, such as their gender, educational level, age, occupations or migration status (Fassani and Mazza, 2020).

Migrants are also more likely to be informally employed compared to non-migrants in Europe, although again the extent of this can vary by country (Hazans, 2011). Informal employment is diverse, but as it falls outside labour market protections,

it may be associated with poorer working conditions among employees, such as low pay, job insecurity and sometimes even exploitation (ILO, 2018).

2.2.1 Migrant wages

Another key dimension of job quality is the income workers earn from their employment. Wages are the key source of income for most people, shaping their current income situation and thus their ability to obtain material goods, establish and provide for families, attain housing security, as well as participate fully in society (Leschke and Watt, 2020). Wages also have longer-term impacts over people's lives; for example, by affecting future financial security through their pensions. A frequent finding from the literature is that employed migrants report, on average, lower wages than non-migrants, otherwise known as the migrant wage gap (Barrett et al., 2016; Amo-Agyei, 2020; Fassani and Mazza, 2020; Cupák et al., 2021). Although wage differentials between migrants and non-migrant workers can be conceived in different ways, in the present report we draw on the International Labour Organization (ILO) definition: 'the difference in average wages between all non-migrant workers and all migrant workers who are engaged in paid employment' (Amo-Agyei, 2020, p. xvi).

Based on this definition, the ILO has undertaken critical research into the presence and scale of the migrant wage gap across countries. The ILO focuses on wages or earnings received by waged employees including basic pay and additional allowances.[15] Based on the most recent ILO estimates of mean wages, migrants in HICs earn about 12.6 per cent less per hour than non-migrant workers, and 8.6 per cent less per hour across the EU Member States (Amo-Agyei, 2020).[16]

Migrant wage gaps also emerge in monthly earnings compared to hourly wages. For example, looking at median wages across the EU, migrants earn 14.1 per cent less per hour than non-migrants and 16.8 per cent less per month. The smaller gap for hourly wages over monthly earnings suggests that inequalities in working time may play a role (see Box 2.1 for details on differences in measuring income and inequalities in income from employment).

The migrant wage gap, however, is not consistent for all migrants. Firstly, there is variation across host countries (ILO, 2014; Amo-Agyei, 2020; Cupák et al., 2021; Cantalini et al., 2022). For example, the wage gap is highest in Cyprus, where migrant workers earn 42.1 per cent less than non-migrant works (mean hourly

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[15] In this sense, it differs from other sources of income from labour market participation, such as self-employment; thus, in essence, for cleaner estimates they focus solely on migrants/nationals in wage employment (Amo-Agyei, 2020).

[16] High income studies included in the estimates are: Argentina, Australia, Austria, Belgium, Canada, Chile, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, the UK and the US (Amo-Agyei, 2020). The World Bank defines these as high-income countries, with a gross national income (GNI) per capita exceeding US$12,375 as of July 2019 (for which data were available).

pay), compared to Slovakia where migrants actually earn 12.6 per cent more than non-migrants (mean hourly pay) (Amo-Agyei, 2020). Secondly, there is variation in the hourly wage gap depending on where migrants are along the wage distribution (Barrett, et al., 2012; Muckenhuber et al., 2022). In some countries (e.g., Austria and Cyprus), the wage gap appears largest at the lower (less well-paid) deciles of the distribution. In other countries (e.g., the Netherlands and the US), however, the largest pay gap is in the middle deciles of the wage distribution, but smaller at the bottom and top deciles (Amo-Agyei, 2020).

BOX 2.1   MEASURING INCOME FROM EMPLOYMENT

A typical measure of income from employment is **hourly wages**, with higher hourly wages being associated with higher job quality.

Weekly or monthly earnings are also used if the purpose is to assess total income from employment. The difference is primarily related to number of hours worked per week.

Typically, **gross earnings**, before taxes or transfers, are compared because this best represents the characteristics of the job rather than the efforts of the State to effect redistribution.

It is common to compare and analyse **mean wages or earnings** of different groups, such as migrant and non-migrant groups. Sometimes the **median wage** is used, which measures the midpoint of the distribution of wages, as this is less sensitive than the mean to outliers (for example, very high wages). Similarly, an analysis of **wage deciles** divides the distribution of wages into ten equal parts, with the tenth decile capturing the highest earners. This is used if the interest is the wage gap at different points in the wage distribution (or level of earnings).

The **raw, descriptive** or **unadjusted** wage penalty or gap refers to group-level differences in wages before any adjustment or statistical modelling; the **modelled** or **adjusted** wage gap is the gap after accounting for group-level differences in characteristics likely to be linked to wages. The factors accounted for vary across studies but typically include age, gender, skills and sometimes job or firm characteristics.

The migrant wage gap can differ across occupational groups. Some countries (e.g., the Netherlands and the US) see migrants in low-skilled and unskilled occupations experience a larger wage gap. In other countries (e.g., Greece and Italy) the wage gap appears largest in managerial and professional occupations (Amo-Agyei, 2020).

Looking at differences in the wage gap across sectors of employment, in most countries it is particularly high in the care and agriculture sectors. For example, '[i]n some high-income countries migrant care workers earn over a fifth less than non-migrant care workers' (Amo-Agyei, 2020, p.iii).

Critically, the size of the migrant wage gap differs across men and women. Specifically, in many HICs, 'migrant women earn less than migrant men (who in turn earn less than non-migrant workers)', the result being migrant women are 'doubly discriminated against' when it comes to pay (Adsera and Chiswick, 2007; Donato et al., 2014; Amo-Agyei, 2020, p. 70). This suggests that in HICs women appear to experience a double earnings penalty: for being women and for being migrants (Amo-Agyei, 2020; OECD, 2020b). In part, this reflects their concentration in the care sector/economy. Not only is this an often 'undervalued' (low-paid) sector (frequently including domestic and personal care workers, and care workers in non-care sectors), the migrant wage gap is often larger in this sector compared to the average migrant wage gap across all sectors. In other words, migrant workers in the care sector report particularly lower earnings than their non-migrant counterparts. This sector is also characterised by a high incidence of informal work (ILO, 2018).

The experiences of migrants may also differ, depending on country of origin (Barrett et al., 2012; Amo-Agyei, 2020; Fassani and Mazza, 2020). This is keenly shown in a study by Fassani and Mazza (2020) of 'key workers' in the 2018 EU Labour Force Survey (EU-LFS).[17] This study separately examined the low-pay experiences of EU mobile citizens (workers born in an EU Member State other than the one in which they currently work and reside) and Extra-EU migrants (workers born outside of the EU and the UK), compared to natives (anyone born in their current country of residence) (Fassani and Mazza, 2020). The likelihood of being found in the lowest four wages deciles compared to natives is higher for non-EU migrants than EU migrants (53 per cent and 48 per cent respectively).

The migrant wage gap may also change over time, and some effort has been made to see whether the gap is larger or smaller in different periods, and whether and where it might be increasing or decreasing. Comparing results from the ILO's 2014–2015 *Global wage report* (ILO, 2014) with recent ILO estimates (data from 2015 onwards), the migrant wage gap appears to have increased in most countries over time (including in Ireland, as we will discuss in more detail below), declining in only a select few (Argentina, Denmark, Estonia, Greece, Iceland and Spain). Even prior to the COVID-19 pandemic, inequalities in pay were significant and even widening, with concerns that such gaps may have become worse with the onset of the pandemic (Amo-Agyei, 2020).

2.3   EXPLAINING THE MIGRANT WAGE GAP

Studies have sought to explain differences in earnings between migrants and non-migrants, testing various theories as to why migrants tend to earn lower wages

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[17]   This is a broad category of occupations, from 'science and engineering professionals' to 'cleaners and helpers' and 'refuse workers' (see Fassani and Mazza, 2020, for full details). However, it looks like it excludes occupations like hospitality workers.

than non-migrants. Skills and experience are closely associated with wages, and one possible explanation is that migrants differ from non-migrants in these characteristics that are known to predict earnings (Barrett et al., 2012; Barrett et al., 2016; Hofer et al., 2017; Amo-Agyei, 2020). For example, lower wages may be explained, at least in part, by a lower level of educational qualifications among migrants, or a lower level of work experience in the countries in which they now reside (Cantalini et al., 2022). Host-country language skills, while not typically counted as human capital, have been shown by many studies to be key to labour market success (Chiswick and Miller, 1995). Migrants with poor language skills will tend to be in lower-quality jobs and may not be able to use their skills or experience effectively. In testing these ideas, studies aim to examine the extent to which the migrant wage gap can be accounted for (that is, it diminishes or disappears) after we account for any differences between migrants and non-migrants in these characteristics.

Other explanations focus on the types of jobs migrants work in, the characteristics of their jobs, and the kinds of firms they work for. One explanation for lower pay among migrants is that they work, on average, in lower paid jobs or sectors (Hofer et al., 2017; Cantalini et al., 2022). As outlined above, migrants tend to be concentrated in lower-skilled occupations across nearly all countries. In Italy, for example, while 3 per cent of the managerial workforce are migrants, nearly 30 per cent of workers in unskilled occupations are migrants (Amo-Agyei, 2020). Such differences in the occupational distribution of migrants could therefore also partly explain their wage gaps with natives. Another driver of the wage gap is that migrants may also be under- or un-represented through 'collective representations structures' (e.g., unions), both because of difficulties in organising but also because such structures tend to be dominated by nationals, which can potentially lead to the exclusion of migrants, especially when migrants are perceived as a low-wage employment threat (Rubery, 2003).

In analysing what accounts for the gap in wages between migrants and non-migrants, studies often apply modelling techniques which 'decompose' the wage gap into an 'explained' portion and an 'unexplained' proportion, such as Oaxaca-Blinder approaches (Blinder, 1973, Oaxaca, 1973). The 'explained' portion of the migrant wage gap shows how much of the difference in wages between migrants and natives can be accounted for by differences in those characteristics, outlined above, that we know impact people's wages, such as qualifications, occupations and language skills. The 'unexplained' portion shows how much of the migrant wage gap cannot be explained by such differences. This might instead be driven by factors such as discrimination in the labour market or unmeasured elements of people's talent or ability.

2.3.1   International evidence on what drives the migrant wage gap

The ILO (2014) explored whether differences in characteristics of the individual worker, such as labour market experience and education, influence wages. They also considered whether job-related characteristics – occupational category (managerial, highly skilled, semi-skilled, low-skilled and unskilled), economic activity (from manufacturing to services, including public administration), location (urban, rural) and work intensity (hours worked) – could explain the gap. Generally speaking, migrants' labour market characteristics explain part of the migrant wage gap: the reason some migrants earn less than nationals is due to a lower level of 'human capital'. However, in the majority of countries, a significant gap in earnings remains even after accounting for such differences in human capital between migrants and non-migrants. Decomposition analyses show the 'explained' portion of the migrant wage gap is normally smaller than the 'unexplained' portion. For example, across HICs, around 82 per cent of the migrant wage gap remained unexplained by migrant/native differences in factors like their education, occupation and age (ILO, 2014; Amo-Agyei, 2020).[18] Such results of persistent migrant wage gaps even after adjusting for the composition of groups represent an empirical regularity in the literature (e.g., Barrett and McCarthy, 2007; Barrett et al., 2012; ILO, 2014; Amo-Agyei, 2020; Fassani and Mazza, 2020; Laible and Brenzel, 2021).

In some cases, the wage gap actually gets larger after accounting for differences in levels of human capital between migrants and non-migrants. This essentially means that in some cases migrants have better human capital than nationals, and yet still earn less, pointing to an even wider raw migrant wage gap (ILO, 2014). However, the share of the migrant wage gap that remains 'unexplained' can vary across HICs, with a larger 'unexplained' portion in countries like Spain (87 per cent) and the Czech Republic (79 per cent), and a smaller portion in countries like Germany (34 per cent) and the US (34 per cent) (Amo-Agyei, 2020; Cupák et al., 2021).[19]

What then explains the persistent (or even growing) migrant wage gap after accounting for the skills and job characteristics of migrants? Potentially, the human capital that migrants have acquired in their origin country (e.g., their education) may be less valued in their host country's labour market, leading to different wage returns; for example, if employers are unsure about the equality of qualifications acquired abroad (Barrett et al., 2012; Zwysen 2018; Cantalini et al., 2022). The same may be true of experience: experience gained in the host country may be

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[18]   The specific characteristics tested include age, education, years of experience, working time, contractual conditions, occupation, industry of work, size of enterprise, public/private sector, regional location, urban/rural location, formal/informal employment, gender and race.

[19]   In Austria, Canada, Luxembourg, Norway, Portugal, Slovenia, the UK and the US, observed labour market characteristics can explain larger portions of the migrant wage gap than they can in other HICs (although a significant unexplained gap still exists) (Amo-Agyei, 2020).

valued more by employers there than experience gained in the origin country (McGinnity et al., 2018).

Migrants may also experience employer discrimination; that is, unfair treatment on the basis of their migrant or ethnic minority status (Hofer et al., 2017). This may be because employers/recruiters consider the group as whole to be less productive ('statistical discrimination') or because they prefer to hire from their own national or ethnic group ('taste-based discrimination'). Whatever the cause, this means that regardless of migrants' skillset and experience, they will be placed in lower-quality jobs (OECD, 2013). This discrimination may occur during the allocation of jobs (recruitment), it may concern allocation of roles within occupations (with migrants being given lower-paying roles), it may concern promotion prospects (with migrants being disadvantaged in promotion) and it may even relate to pay itself (with migrants being paid less for doing the same job or work of equal value within an organisation, known as 'pay discrimination').

A substantial body of research focuses on hiring discrimination using field experiments (e.g., Zschirnt and Ruedin, 2016; Quillian and Midtbøen, 2021). These studies show that discrimination in recruitment on the basis of ethnicity or migrant status is a pervasive international phenomenon, although the extent of this discrimination varies strongly by minority group, occupations selected and countries tested (Quillian and Midtboen, 2021). Migrants or ethnic minority groups may also be disadvantaged when it comes to promotion and advancing to senior positions (Pager and Shephard, 2008). There is even experimental evidence from Greece which indicates that when employers do invite migrant applicants to a job interview, the wages they offer them is lower than that offered to host-country counterparts (Drydakis and Vlassis, 2010).

Migrants may also face structural forms of discrimination in a society, where laws and cultural institutions impose different rules for different groups of migrants (Kingston et al., 2015). For example, in many EU countries EU migrants can freely choose where to work while non-EU migrants may be tied to particular jobs and unable to find new employment with better pay.

Not all of the migrant/native wage gap that remains after accounting for things like skillset and human capital characteristics may be due to discrimination: as noted above, some job-relevant skills may be unobserved in surveys of wages, like host-country language skills. To the extent that such factors differ between migrants and native-born, these may partly explain the remaining difference in earnings. Motivations for migration may also affect labour market outcomes, given that some groups of migrants may be less motivated in terms of maximising labour market outcomes, including wages (Zwysen, 2018).

Recent work in Germany has shown that part of the unexplained difference in wages of migrants versus natives can be accounted for by differences in personality traits that are known to be linked to wages, such as extraversion or neuroticism (Laible and Brenzel 2021). In addition, migrants may not know the 'rules of the game' in their host country (Esser, 2004), in terms of how to apply for a job, or pass a job interview. Finally, migrants may lack social networks to help them find work. For example, research has found that people from migrant and ethnic minority backgrounds tend to have fewer contacts with people in higher social positions and get fewer job leads (McDonald et al., 2009; see also McGinnity et al., 2021b, for further discussion). We will return to some of these issues in the conclusions chapter.

The drivers of the 'unexplained' part of the migrant wage gap may also differ depending on where the gap exists on the wage distribution. Gaps at the lower end (among lower paid workers) could suggest employers are not complying with minimum wage legislation, or that they are not applying this legislation in the case of migrant workers. This could also involve migrants working predominantly in sectors with minimum wage exemptions in some countries (e.g., seasonal workers).[20] In some contexts, migrants may be less likely to be in a union or to benefit from a collective agreement covering their sector of employment. Gaps in the middle of the distribution may stem more from an underrepresentation of migrant workers in 'collective representation structures'. However, studies applying decomposition techniques on a sample of HICs find labour market characteristics explain similarly small portions of the migrant wage gap, irrespective of position in the wage distribution (Amo-Agyei, 2020).

2.4 MIGRANT WAGES AND WORKING CONDITIONS: IRISH EVIDENCE

Looking at migrant working conditions and job quality, migrants in Ireland, as in most HICs, are more likely to be represented within unskilled and low skilled occupations than in higher-skilled (managerial and professional) occupations. For example, around 25 per cent of unskilled workers in Ireland are migrants, whereas around 11 per cent of managers are migrants, as are 6 per cent of professional workers (Amo-Agyei, 2020). Compared to other HICs, Ireland has a somewhat lower share of migrants in high-skilled jobs, a larger share in semi-skilled jobs, a slightly lower share in low-skilled jobs, and a higher share in unskilled jobs. There are some differences between genders in the types of job migrants have in Ireland, with migrant women being slightly more likely to be in high-skilled jobs than migrant men, while migrant men are more likely to be in semi-skilled and low-skilled jobs, and both genders appearing equally represented in unskilled jobs (Amo-Agyei, 2020). Notwithstanding these differences, in Ireland the share of

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migrants working in the primary, secondary and tertiary sectors is not too dissimilar to the average share found across HICs (Amo-Agyei, 2020).[21]

On broader measures of labour market experiences (e.g., occupational status), there is more information on differences between migrant-origin groups, as extensively documented elsewhere (McGinnity et al., 2020b; McGinnity et al., 2020a; McGinnity et al., 2021b). For example, Irish nationals have a lower rate of employment in professional or managerial jobs (34 per cent) compared to migrants born in EU-West countries (41 per cent), the UK (40 per cent), and countries outside the EU (40 per cent). At the same time, eastern European born migrants have far lower rates of professional/managerial employment – just 14 per cent – potentially reflecting lower rates of third-level qualifications, education qualification recognition issues and/or poorer English-language skills (McGinnity et al., 2020a).

Unlike many HICs, a similar proportion of migrants in Ireland are on temporary contracts as non-migrants (Amo-Agyei, 2020). This holds for both men and women. Similarly, contrary to the experiences of many HICs, migrant wage workers in Ireland possess, on average, a higher level of education – higher proportions with secondary education and university education (Amo-Agyei, 2020). A more detailed breakdown of differentials in temporary work contracts by country of origin demonstrates further differences among the EU migrant group. Compared to Irish nationals (9 per cent of whom report being on temporary contracts), the lower rate among migrants is driven by EU-East migrants (5 per cent of whom are on temporary contracts) (McGinnity et al., 2021). This study finds that non-EU migrants are indeed more likely to be on temporary contracts than Irish nationals (11 per cent).

Marked differences also exist in terms of union membership. Compared to Irish-born residents (29 per cent of whom have union membership), Western/Eastern EU migrants have lower rates of membership (9 per cent), as do non-EU migrants, though to a lesser extent, at 16 per cent (McGinnity et al., 2021).

2.4.1 The migrant wage gap in Ireland

The ILO estimates that in 2015 migrant workers earned as much as 20.6 per cent less than non-migrant workers (mean raw hourly migrant pay gap) (ILO, 2014; Amo-Agyei, 2020).[22] If the median hourly wage gap is looked at then migrant workers in Ireland earn 23 per cent less than their national counterparts.

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[21]   'Primary sector jobs' refers to: agriculture; fishing; and forestry. 'Secondary sector jobs' refers to: mining and quarry employment; manufacturing; electricity, gas and water; and construction. 'Tertiary sector jobs' refers to services (Amo-Agyei, 2020).

[22]   EU-SILC data for 2015.

The size of the Irish migrant wage gap puts Ireland in the top ten high-income countries (HIC) surveyed in the ILO report. The Irish mean hourly wage gap is considerably higher than the EU mean hourly wage gap of 8.6 per cent, as is the Irish median hourly wage gap compared to the EU median hourly wage gap (14.1 per cent). This migrant wage gap also existed during Ireland's booming economy years. In 2004, studies show that migrants (as a whole) earned 18 per cent less than nationals (mean hourly wage),[23] controlling for education and years of work experience (Barrett and McCarthy, 2007), while the mean hourly raw migrant wage gap stood at 21.2 per cent in 2006 (Barrett et al., 2012).[24] Other low wage indicators show non-Irish nationals are also more likely to be on the national minimum wage, and for longer, than Irish nationals, and also that they work in lower paying sectors (Redmond et al., 2018; Cross and Turner, 2022).

As seen across HICs as a whole, a key question is whether this wage gap differs across the earnings distribution. In Ireland, the migrant wage gap appears largest in the middle deciles of the mean hourly wage distribution, at the fourth decile, and is actually smallest at the first (lowest) and tenth (highest) deciles (Amo-Agyei, 2020). Barrett et al. (2012) identified a somewhat similar pattern for migrants from the 2004 ten new Member States – Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia – using the 2006 National Employment Survey (NES). They find again that the migrant wage gap is smallest at the lowest deciles of the earnings distribution. However, this increases up to the 60th percentile before levelling out (with the highest wage gap at the highest decile). Therefore, contrary to the more recent ILO findings, where the penalty was highest among those at the middle deciles, in 2006 it was highest at the upper deciles of the distribution (Barrett et al., 2012). This may reflect differences in the period studied (2006 versus 2015), but also differences in the composition of the migrant groups studied (Barrett et al., 2012). Regardless, in both cases, the lowest wage gap is among migrants/nationals in the lowest earnings percentiles. This may reflect a bottoming out effect (pay can only be so low before someone does not take the job) or minimum wage legislation (see Chapter 1 of Chiswick 1978; Barrett et al., 2012).

When the most recent work in this area was undertaken, using 2006 NES data, Barrett et al. (2012) found that the migrant wage gap in Ireland appeared to vary across education levels between New Member States migrants and their Irish counterparts. This suggests some migrants may receive a different return to education (on the assumption education was obtained in their origin country), relative to Irish nationals. Firstly, there is no migrant wage gap among those with primary education only. The wage gap then increases somewhat for secondary level education (migrants earning 6 per cent less), before increasing again for a

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[23]   Calculated using the 2004 EU-SILC data.
[24]   Calculated using the 2006 National Employment Survey.

post-secondary qualification (15 per cent less), tertiary education (10 per cent less) and a post-graduate qualification (14 per cent less) (Barrett et al., 2012). The highest wage gap, at the post-secondary level, may reflect the fact that this includes technical and vocational qualifications, for which precise national comparisons may be difficult, leading to greater uncertainty among employers regarding the transferability of migrants' qualifications. In addition, Cupák et al. (2021) found that the length of time migrants had lived in Ireland affected the size of their wage gap, with migrants who had lived in Ireland for 0 to 15 years reporting earning, on average, between 12 per cent and 14 per cent less than natives, compared to those residing more than 15 years, who reported earning 5 per cent less.

Barrett et al. (2012) also identified several firm-level factors which drive heterogeneity in the migrant wage gap in Ireland. Migrants (EU-West and non-EU/non-English speaking migrants) employed in heavily unionised firms earn more than their counterparts in less unionised firms. Migrants (from New Member States, non-EU/English speaking, non-EU/non-English speaking) in more training-intensive workplaces actually reported *higher* wage gaps than their counterparts in less training-intensive workplaces, though this might reflect the fact that workers for firms engaging in a high level of training for migrants might include a greater number of more recently arrived migrants (Barrett et al., 2012).

The migrant wage gap also differs by gender in Ireland. Comparing migrant/non-migrant men, the raw mean hourly wage gap in Ireland is 14.5 per cent, which is slightly under the EU average of 14.7 per cent. Migrant women in Ireland (compared to non-migrant women), however, experience a wage gap almost twice the size: 26 per cent (Amo-Agyei, 2020).

In Ireland, the available evidence suggests that the labour market experiences of migrants, in particular regarding the migrant wage gap, differs by country of origin. Barrett and McCarthy (2007) show variation in the wage gap between migrant groups during the boom years of 2004, specifically migrants from English and non-English speaking countries. They found that migrants from English-speaking countries reported slightly lower mean hourly earnings than Irish nationals, although the difference was not significant. Migrants from non-English speaking countries, however, reported a 31 per cent wage gap relative to natives: this was after controlling for characteristic differences between the two groups, such as gender, years worked and education. Within this non-English speaking group, it was migrants from the EU-10 (Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia) who reported the largest wage gap (45 per cent). However, those from the EU-West (less Ireland and the UK: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Spain and Sweden) also reported a substantial wage gap (27 per cent), which was similar to non-EU, non-English speaking countries (27 per

cent). This biggest wage disadvantage among the EU-10 group is also demonstrated elsewhere, as compared to the smaller wage gap for migrants from both the EU-13 and from non-EU/non-English speaking countries, as well as the absence of any wage gap for migrants from the UK and non-EU/English-speaking countries (Barrett et al., 2012).

There is some evidence of differences in the wage gap across the earnings distribution for different migrant groups (Barrett et al., 2012) – albeit these findings are based on data from 2006. For both 'non-EU English-speaking groups' and 'non-EU non-English-speaking groups', the wage gap appears largest around the middle deciles (as identified in the more recent ILO report for the 'all migrant group'). However, for migrants from new Member States (EU-East), the gap increases over the distribution and is highest at the top deciles. Again, the New Member States/EU-East migrants appear the most disadvantaged in earnings, but here those at the highest deciles are most affected. More recent available estimates, up to 2016, confirm the persistence of these group-level differences in adjusted wage gap estimates, especially the particular earnings disadvantage among eastern European migrants in Ireland (Cantalini et al., 2022).

Alternative analyses of wage differentials among natives and migrants in Ireland have looked at wage thresholds, either median pay or two-thirds of median pay (one definition of low pay). Using the 2018 EU-LFS, Fassani and Mazza (2020) show that both EU and non-EU migrants have a lower probability of having take-home pay above the median compared to nationals in Ireland.[25] However, non-EU migrants have an even lower probability of above median take-home pay than EU migrants. This finding across country of origin is mirrored in a more detailed breakdown of the wage gap between different migrant groups (measured as those earning less than two-thirds of median hourly gross earnings) by McGinnity et al. (2021a). Compared to Irish-born individuals (21 per cent of whom are 'low paid employees'), UK- and EU-West-born individuals are less likely to be on low pay (although the difference is not significant), while non-EU individuals are more likely to be 'low-paid employees' (25 per cent), but the difference is not significant, and EU-East-born individuals are much more likely to be low paid (38 per cent). In other words, in Ireland, migrants who were born in eastern European Member States are most disadvantaged in terms of pay, at least based on low-pay measures. Non-EU-born residents also appear more likely to be on low pay, although the likelihood is lower than it is for eastern Europeans, often not significant, and may be driven more by number of hours worked rather than pay per hour. UK- and EU-West-born individuals appear to see no difference in earnings, and in some cases even have higher earnings than their Irish counterparts (McGinnity et al., 2021a).

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[25] The EU-LFS contains information on monthly take-home pay in deciles, though the information is limited and calculating a wage gap is not possible.

Several studies have explored to what extent the migrant wage gap in Ireland is caused by differences between migrants and natives in terms of qualifications, job type and occupation. As discussed, this involves applying techniques such as the Blinder-Oaxaca decomposition to see how much of the migrant wage gap can be explained by such personal and employment characteristics. On the whole, as in many developed economies, only a relatively small proportion of the wage gap is accounted for by characteristics like workers' age, gender, education, work experience, family composition, sector of employment or occupation, with most of the difference in wages remaining unexplained (Amo-Agyei, 2020; Cupák et al., 2021).

In terms of trends over time, in particular whether the wage gap changes in periods of economic growth or recession, Barrett et al. (2016) found the 2008 Great Recession played a role in increasing the raw hourly migrant wage gap in Ireland, from around 10 per cent in 2006 up to 29 per cent in 2009 (Barrett et al., 2016). This was driven, in part, by native earnings rising over the period (by over 7 per cent) and migrant earnings falling (by 8 per cent). However, interestingly, this widening appeared to be largely driven by the changing composition of the migrant group. In particular, a fall in the share of migrants with degrees and those in the relatively well-paid public sector occupations explains a substantial part of the change in the wage gap (Barrett, et al. 2016). Changes in the composition and characteristics of migrants in Ireland will thus be important in examining any changes over time since the recession. Looking at the longer term, Cupák et al. (2021) found the mean raw migrant wage gap in Ireland was also smaller in the past, standing at 5.4 per cent between 1995 and 2000, 5.3 per cent between 2001 and 2010, and then rising to 15.8 per cent between 2011 and 2016. Chapter 5 will consider the evolution of the wage gap between 2011 and 2018 in more detail.

2.5   SUMMARY

This chapter shows how in many HICs the nature of work differs between migrants and non-migrants. In general, migrants tend to be disadvantaged in terms of the jobs they do – they are more likely to work in lower-skilled jobs with temporary contracts, are less likely to be trade union/staff association members, and are more likely to work in the informal economy. In many countries, migrants from other EU countries are less disadvantaged than those from non-EU countries. Yet patterns vary considerably across host countries; it can depend on the migrants' origin country and, in particular, in terms of their skills profile. In Ireland, some migrant groups are highly educated, so this affects their job quality (although there can also be an occupational mismatch between some migrants' qualifications and occupational status). Previous work has found that some migrant groups (those from the UK, EU-West, non-EU) are actually more likely to work in professional managerial jobs than their Irish counterparts and in contrast to EU-East migrants, and this is likely to influence wages.

The chapter documents how in many HICs migrant wages are typically lower, on average, than those of natives. This difference may be reduced after controlling for the skill profile and job characteristics of migrant workers, but generally a sizeable unexplained penalty remains. Previous work has also found a wage penalty in Ireland, though detailed analysis is from the early recession period. This report offers an opportunity to both update wage estimates using high quality data and to consider how both the jobs and wages of a large number of non-Irish groups living in Ireland differ. The next chapter considers the evidence base for the analysis, and the methods used.

CHAPTER 3

Methodology

3.1   INTRODUCTION

In this chapter, we outline the data used to conduct the analyses contained in this report, along with the methodologies employed. The main data source utilised was the Central Statistic Office's (CSO) Labour Force Survey Earnings Analysis using Administrative Data Sources (LFSEAADS) data. This dataset, which is described in detail in Section 3.2, was compiled by the CSO using a combination of survey and administrative data sources. We also use the CSO's Labour Force Survey (LFS) data to: a) crosscheck the LFSEAADS nationality distribution; and b) perform some labour market analyses; namely, employee employment rates for each migrant group, including Irish employees (Section 3.3.2). In terms of methodology, both unadjusted (descriptive) and adjusted (modelled) estimates are produced in this report. The techniques used, along with any restrictions made to the data for the analyses conducted in the study, are outlined in Section 3.3.

3.2   THE LFSEAADS DATA

Available data from the CSO's LFSEAADS covers the period 2011 to 2018,[26] and is compiled by the CSO using a combination of survey data from the LFS and administrative data from the Office of the Revenue Commissioners P35L datafile.[27] The P35L is a dataset of employee annual earnings based on employer end-of-year returns.[28] Specifically, the LFSEAADS data is derived by matching the individual characteristics of LFS respondents in employment with corresponding earnings data for each individual employee from the Office of the Revenue Commissioners P35L datafile.[29] Given the use of the P35L datafile, the LFSEAADS data contain earnings information for employees only. Thus, self-employed individuals and

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[26]   The microdata for 2019 and 2020 were not available at the time of the analyses contained in this report.

[27]   The Office of the Revenue Commissioners is Ireland's tax collection authority.

[28]   For years 2011–2018 of the LFSEAADS data, the employee income data came from employer end-of-year returns (P35L), submitted to the Office of the Revenue Commissioners. The P35L was completed by all registered employers after the tax year end. However, since 1 January 2019, the Office of the Revenue Commissioners has operated real-time reporting of payroll, known as 'PAYE Modernisation' (PMOD). This means that employers now report their employees' pay in real time to the Office of the Revenue Commissioners every time that they operate payroll, so data is provided to the Office of the Revenue Commissioners at the individual payslip level. The earnings data in the LFSEEADS dataset from 2019 onwards have been based on this new PMOD system.

[29]   An individual's PPS number, which is a unique number that allows individuals to access social welfare benefits, personal taxation, and other public services in Ireland, was used by the CSO (an encrypted version of it, CSOPPSN) to undertake their survey and administrative data matching exercise to create the LFSEAADS datafile.

those in informal employment, are not included in the analyses contained in this report.[30]

The variables derived from the P35L datafile for the LFSEAADS dataset are: (a) gross annual earnings; (b) weeks worked in the year for all employments; (c) weekly earnings;[31] (d) public/private sector status;[32] and (e) economic sector of employment (NACE). The variables obtained from the LFS to create the LFSEAADS datafile are a combination of both personal and work-related characteristics, specifically: (a) gender; (b) age, (c) nationality; (d) marital status; (e) province in which a person usually resides; (f) educational attainment; (g) supervisory responsibilities; (h) occupation (UK SOC); (i) firm size; (j) length of time since person started work with current employer (tenure); (k) usual hours worked per week; (l) actual hours worked per week; (m) contract type (permanent or temporary); (n) full-time/part-time work status; (o) shift work status; and (p) trade union membership. Country of birth information is not available on the LFSEAADS datafile.

When the CSO are creating the LFSEAADS data, they exclude the following records:

- cases that earn less than €500 per annum;
- employments where the duration is less than two weeks in the year;
- employments with extremely high or low earnings;
- employments with activity in NACE sectors A (Agriculture),[33] T (Household activities) and U (Activities of extra-territorial organisations); and
- missing employer and employee reference numbers.[34]

In addition, given that some individuals have multiple employments across more than one sector/occupation,[35] the CSO identify an individual's principal

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[30] No equivalent dataset to the LFSEAADS exists for self-employed people, for whom the concepts of 'wages' and many of the working conditions captured are very different. It is also not feasible to capture administrative earnings data on those working in the informal economy as they do not declare their income for taxation. Such individuals may also not report employment in surveys such as the LFS.

[31] Weekly earnings are derived by dividing gross annual earnings, as declared to the Office of the Revenue Commissioners, by the number of weeks worked in the year for each job.

[32] In this study, we use a dichotomous public/private sector variable, with commercial semi-state employees classified as public sector employees.

[33] The exclusion of agricultural workers from the data could lead to more conservative estimates of the migrant wage gap. Workers in the agricultural sector are more likely to be low paid and migrants are often over-represented in the agricultural sector. However, any bias may be marginal, given that the size of the agricultural worker sample in the data is likely to be relatively small.

[34] When creating the LFSEAADS datafile, only observations with valid unique employee/individual identifiers can be linked. Based on information provided by the CSO, approximately two-thirds of employees in any quarter of the LFS have the unique identifier required for the data matching process to create the LFSEAADS datafile.

[35] In 2018, for example, these secondary employments were mainly in the wholesale and retail sector, administrative and support services, and the health sector.

employment, which is what the LFSEAADS dataset is based upon,[36] by selecting the employment with the highest annual earnings.[37]

The LFSEAADS dataset also contains a grossing factor, taken from the LFS but calibrated to the P35L administrative earnings data population. This adjusts the data to be representative of the total population, to account for any matches that cannot be made, for example due to missing employer/employee reference numbers.

For the most part, the LFSEAADS data are used by the CSO to examine public/private sector pay differentials in Ireland.[38] The data are also used to study the gender pay gap (Doorley et al., 2021) and the impact of the minimum wage (Redmond and McGuinness, 2022). Key strengths of these data for such policy-related analyses include its large annual sample size, as shown in Table 3.1, and the reliability of its earnings data, which is due to the fact that they are derived from an administrative earnings data source, rather than being self-reported (P35L). These strengths will be marshalled to benefit the nationality wage analyses conducted in this report.

The level of detail available on nationality is also a strength of the LFSEAADS data. The nationality categories that are available in the data are as follows: (a) Ireland; (b) United Kingdom (UK); (c) EU-West;[39] (d) EU-East;[40] (e) Rest of Europe;[41] (f) North America; (g) Australia and Oceania; (h) Africa; (i) Asia; and (j) rest of world. For sample size reasons, North America and Australia and Oceania were combined for the analyses conducted in this study. Comparing the nationality distribution in the LFSEAADS data with that in the LFS, as a check on the representativeness of the LFSEAADS data (given it is a sub-sample of the LFS data),[42] we found that, while there were some minor discrepancies in the distributions between the two data sources,[43] the working age employee data in the LFSEAADS are, on the whole, representative of the underlying LFS data.

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[36] One employment record only.

[37] Respondents in the data with missing values for any of the key variables were not retained in the LFSEAADS dataset. Furthermore, there was restriction of respondents' inclusion in the dataset based on the size of firms in which they were employed.

[38] Such analysis was the reason for the creation of the LFSEAADS dataset as there was no structural earnings data, like the former NES, available.

[39] Also known as EU-13: EU-15, less Ireland, and the UK.

[40] Also known as EU-28, less EU-15.

[41] Excludes EU-East (EU-28).

[42] There is not a unique identifier on the LFS for all individuals. Therefore, the matched LFSEAADS datafile is a subset of LFS employees. Given this, the proportions in each nationality group in the two data sources will not necessarily match. In addition, the proportions may differ because the LFS grossing factors are adjusted so that the LFSEAADS data are weighted and calibrated to the administrative earnings (P35L) totals, not the LFS totals, and nationality group is not included as a calibration factor.

[43] Irish are marginally over-represented in the LFSEAADS data for the time period examined (2011–2018): the range is between 1.3 per cent (2012) and 3.3 per cent (2016). EU-East are marginally under-represented, ranging from 0.1 per

Defining migrants based on their nationality is consistent with the series of reports on monitoring integration in Ireland (McGinnity et al., 2020a). However, the definition based on nationality does not count second-generation immigrants (those born in Ireland to immigrant parents), nor does it separately identify those born abroad who are Irish citizens, either through descent or naturalisation (see McGinnity et al., 2020a, for further discussion).

TABLE 3.1   LFSEAADS DATA SAMPLE SIZE INFORMATION: 2011–2018

Year	Sample size
2011	21,988
2012	21,549
2013	17,700
2014	16,782
2015	14,655
2016	13,485
2017	18,117
2018	14,727
Total	139,003

Source: CSO LFSEAADS RMF Codebook.

3.3   METHODOLOGY

3.3.1   Sample selection

In addition to the restrictions imposed on the LFSEAADS data by the CSO in creating this dataset, we also applied the following two restrictions.

1. We restricted our sample to those working between 7 and 60 hours per week. Based on the data on hours worked in the LFSEAADS, some individuals were working as few as one hour per week and, while others were working more than 90 hours. In order to remove the impact that such extremes might have had on the earnings results, we removed the top and bottom 1 per cent of the hours worked distribution, which led us to focus on those working between 7 and 60 hours per week.[44] This is standard practice in the analysis of wages.

2. We wanted to focus the analysis on those for whom 'employed' was their main economic status. A high proportion of both Irish and non-Irish students in Ireland work while studying.[45] Thus, those on employer

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cent (2012) to 1.3 per cent (2016). For all other nationality groups, the difference between the LFSEAADS and LFS data is less than 1 per cent.

[44]   This 'hours worked' restriction had very little, if any, impact on average earnings. For example, when we imposed this restriction on pooled 2011–2013 LFSEAADS data, average earnings for the working age population (aged 15-64) fell from €19.92 to €19.91.

[45]   Non-EU nationals are allowed to work up to 20 hours during term-time and 40 hours in holidays while studying as part of their immigration permission, with no restriction on occupations etc., and many do work while studying (see

payrolls and paying tax would be captured in the LFSEAADS data as employees. There is no student marker in the LFSEAADS data that would enable the elimination of such individuals. Therefore, our only way of trying to ensure that our analysis was based on those in employment only was to impose an age restriction, which we did by restricting our sample to those aged 25-64.

3.3.2 Approach to analyses conducted

The analyses conducted in this study are undertaken using pooled LFSEAADS data for 2011–2018,[46] with, as mentioned in Section 3.3.1, the sample restricted to those aged between 25 and 64 years and working between 7 and 60 hours per week. This gave rise to a sample size of 122,378 employees, 63,940 of whom are women and 58,438 men. All analyses undertaken are weighted, applying the LFS grossing factor mentioned previously, to ensure that our results are representative of the population of working-age employees, specifically those aged between 25 and 64.

In relation to our approach, we utilise both descriptive and econometric techniques in the study. As we focus on the nature of jobs, all the analysis in the report only includes those in dependent employment (employees), so those not in paid work and the self-employed are excluded.

What proportion of each national group is in dependent employment? As can be seen in Table 3.2, the overall employee rate among the working age population in Ireland for the 2011–2018 time period was 50.9 per cent, with the rate higher among non-Irish nationals, at 57.9 per cent compared to 50.3 per cent. However, there is considerable variation across nationality groups, with the rate highest among EU-East (66.3 per cent) and EU-West (63.8 per cent) individuals, and lowest among those from Africa (37.5 per cent), the UK (46.5 per cent) and North America, Australia and Oceania (47.4 per cent). These patterns broadly reflect those presented in the report series on monitoring integration (e.g. McGinnity et al., 2020a), though the time period and national groups captured are somewhat different. Employment rates among Africans are very low, relative to other groups, but previous research shows that the jobs that they have are not so disadvantaged

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Chapter 1). Some national groups have a high proportion of students (see McGinnity et al., 2022, Appendix Table A3.2).

[46] The data were pooled in order to ensure that we had enough observations for each nationality group examined. Given that the LFS is collected from each sample household over five successive quarters, it is possible that an individual appears in more than one matched annual LFSEAADS datafile. It was not possible for us to remove such duplicate cases from the data as the variables needed to do so are not available in the datafiles provided to us by the CSO for this study. However, we removed duplicate cases from the LFS data that were used in this study to derive employee employment rates for each nationality group. When we did this, we found that it had very little impact on the derived results.

in comparison to other nationality groups, such as EU-East individuals (McGinnity et al., 2021a).

TABLE 3.2 EMPLOYEE EMPLOYMENT RATES BY NATIONALITY GROUP: 2011–2018

	Per cent
All	50.9
Irish	50.3
Non-Irish	57.9
Nationality:	
UK (including Northern Ireland)	46.5
EU-West – excluding Ireland and the UK	63.8
EU-East – excluding EU-West	66.3
Rest of Europe (excludes EU-East)	54.1
North America, Australia and Oceania	47.4
Africa	37.5
Asia	53.6
Rest of world	44.9

Source: Constructed using data from the LFS from 2011 to 2018.[47]
Notes: Proportion of the working age population (aged 15-64) who are employees.

In addition to descriptively examining the working conditions of employees in Ireland according to nationality, we also examine their socio-demographic characteristics (Chapter 4).

A key focus of this study is to examine individuals' earnings and, in particular, whether earnings vary by employees' nationality: whether there is a migrant wage gap. This work is undertaken in Chapter 5 using a combination of descriptive and econometric techniques.

In terms of our econometric approach, we begin by estimating standard ordinary least square (OLS) earnings regressions. To examine the impact of nationality and explore how far we can explain any differences between natives and migrants we initially estimate a model in which we include only a dummy variable capturing whether someone is Irish or not, along with year controls (Model 1). We then estimate a second specification (Model 2) in which we replace the Irish dummy variable with the following nationality group dummy variables: (a) UK (including Northern Ireland); (b) EU-West; (c) EU-East; (d) Rest of Europe; (e) North America; Australia and Oceania (NAAO); (f) Africa; and (g) Asia. 'Irish' is the reference category against which the various nationality group results are compared. Year controls are again included in this specification. In Model 3, various socio-demographic characteristics (gender, age, educational attainment, residence location and marital status) are added to the nationality group dummy variable and year controls specification (i.e., Model 2). A fourth specification builds on Model 3

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[47] Repeated observations (i.e., where the same person was surveyed more than once in the LFS between 2011 and 2018) are removed from this examination.

by adding job quality controls (job tenure, contract type, full-time/part-time work status, shift worker, supervisory responsibilities and trade union membership). Finally, in Model 5 firm characteristics (public/private sector employment and firm size) are added to Model 4 (the job quality model).

In general, the estimated earnings equation can be written as follows:

$$W_i = \beta X_i + \gamma nationality_i + \varepsilon_i \qquad (1)$$

where W_i is the log hourly earnings of employee i;[48] X_i is a set of controls for socio-demographic, job quality and firm-level characteristics; β measures the return to each of the characteristic controls; $nationality_i$ is a dummy variable that captures if the employee is Irish or not in Model 1, and the nationality group that the employee belongs to in Models 2 to 5; and γ measures the return to the employee's nationality; that is, the migrant wage penalty/premium.

The use of log earnings is standard in studies of this kind as earnings data can often be skewed and log transforming the earnings variable helps to reduce the impact of outliers. In order to facilitate an ease of interpretation in the coefficient results produced by this log transformation, we exponentiate each coefficient result, subtract one from the derived number and multiply by 100. This then gives the per cent increase or decrease in hourly earnings for every one unit increase in the independent variable. For example, the coefficient of the non-Irish dummy variable in Model 1 in Chapter 5 is '-0.246'. When this coefficient is exponentiated ('(exp(-0.246)-1)*100') the result is '-21.8'. This tells us that non-Irish nationals earn 21.8 per cent less than Irish nationals.[49]

Looking at whether the coefficients for our nationality group dummy variables increase or decrease between Models 2 to Model 5 demonstrates how much their wage gaps with Irish workers can be explained by their personal and job characteristics.[50]

We also examine whether the wage penalty/premium identified for different nationality groups varies by: (a) gender (employee is a man or a woman); (b) educational attainment (non-third-level/third-level); and (c) time period, with the latter comparing the wage gap after the Great Recession (2011–2013) with a more recent economic growth period wage gap (2016–2018). We undertake formal

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[48]   Our hourly wage variable was created in the LFSEAADS data by dividing gross weekly earnings by the number of usual hours worked per week. The analyses are based on nominal hourly earnings as there was very little change in inflation over the period covered in this study (see Table CPM02 on PxStat, which can be accessed at the following link: https://www.cso.ie/en/releasesandpublications/ep/p-cpi/consumerpriceindexseptember2022/).

[49]   This transformation in the coefficient results has been undertaken for the results presented in the body of the report only. The results in the appendix tables have not been transformed and can be interpreted as log differences in wages.

[50]   Future analysis will apply Oaxaca-Blinder decomposition techniques to more formally estimate the share of the gap that is 'explained' and 'unexplained', and which characteristics explain the greatest portion of the wage gap.

testing (via interaction terms) of whether any identified differences in the size of the wage gap by gender, educational attainment or time period are statistically significant and report these findings in the text (full model results are available in the appendices), following the approach undertaken in the literature (see Kelly et al., 2016; McGuinness et al., 2011). In relation to the time period model, the interaction terms tell us whether any observed changes in the size of the wage gap for different nationality groups between 2011–2013 and 2016–2018 are significantly different from one another. For the models examining differences in the migrant wage gap between more and less educated employees, the interaction terms will tell us whether those with third-level qualifications experience a significantly higher or lower wage penalty than those with upper secondary qualifications or less. For models examining differences in the migrant wage gap between men and women, the interaction terms will tell us whether men experience a significantly higher or lower wage penalty than women.

CHAPTER 4

Working conditions of non-Irish nationals: A descriptive profile 2011–2018

4.1   INTRODUCTION

Chapter 3 demonstrated how employment rates vary between different nationality groups. In this chapter, we look at the working conditions of employees in Ireland and whether these differ between Irish and non-Irish nationals, and within nationality groups.

Understanding the working conditions of Irish and non-Irish nationals is important for two key reasons. Firstly, the working conditions of jobs play a key role in their health and well-being, social inclusion and, for migrants in particular, processes of social integration into the host society (McGinnity, et al., 2021a). Prior research has shown that at least some migrant groups tend to be concentrated in lower quality jobs with poorer working conditions (Dustmann and Frattini, 2011; OECD, 2018; Fassani and Mazza, 2020). As such, understanding the working conditions of non-Irish nationals in Ireland is important if we want to see whether they may be facing particular disadvantages relative to Irish nationals in work and society.

The second reason it is important to explore Irish/non-Irish differences in working conditions is that working conditions are closely tied to wages. For example, indicators such as lower-skilled occupations, part-time employment, shift work and insecure contracts are all associated with lower wages. Factors such as trade union membership may help to buffer wages against the negative effects associated with such lower wage work characteristics. To understand the source of any gaps in wages between Irish and non-Irish nationals, we therefore need to know whether non-Irish nationals are disproportionately concentrated in the kinds of jobs that tend to have lower wages, as well as trade union membership levels. These factors could account for some of the wage differences between Irish nationals and non-nationals.

This chapter focuses on the key characteristics of the jobs of non-Irish nationals, comparing them to those of Irish nationals – concentrating on employees only (and not self-employed individuals or those in informal employment). In particular, we examine differences in:

- skill levels (professional/non-professional occupations);
- employment sector (public versus private and sector activity, such as construction, education, etc.);
- firm size;
- whether their position has supervisory responsibilities;

- membership of a trade union/staff association;

- type of employment contract (permanent or temporary);

- working hours (full-time or part-time); and

- shift work.

First, we will present the social and demographic make-up of Irish and non-Irish nationals.

4.2 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF IRISH AND NON-IRISH NATIONALS

To understand differences in wages and working conditions between Irish and non-Irish nationals, it is important to first understand whether these groups also differ in terms of their social and demographic make-up, including their gender, age, marital status, education and where they live in Ireland. Research shows that social and demographic characteristics are strongly associated with wages and working conditions (Barrett et al., 2016; Russell et al., 2014). Women, younger workers, single people, those with low educational attainment and those living outside of Dublin all tend to earn lower wages and/or be over-represented in work with poorer working conditions and lower job quality. At the same time, it is well known that migrants also tend to differ from non-migrants in respect of their social and demographic composition. For example, compared to non-migrants, research by the Organisation for Economic Co-operation and Development (OECD) has shown how migrants are generally younger and tend to be single and to live in cities (OECD, 2018).

TABLE 4.1   SOCIO-DEMOGRAPHIC CHARACTERISTICS OF IRISH AND NON-IRISH NATIONAL EMPLOYEES: 2011–2018

Profile: 2011–2018	% Women	% Aged 25-34 years	% Married	% Third-level qualification	% Living in Dublin[*]	Observations (n)
All	50.2	33.2	58.1	52.2	30.3	122,378
Irish	51.3	30.5	58.3	51.3	28.9	109,052
Non-Irish	43.6	48.7	57.5	56.8	38.5	13,326
UK (incl. NI)	42.5	19.2	62.1	60.4	28.7	2,068
EU-West	43.8	44.2	43.3	82.6	53.1	1,557
EU-East	44.9	57.9	55.3	43.5	33.3	7,057
Rest of Europe	37.4	51.6	64.0	62.0	43.2	351
North America, Australia, and Oceania	52.5	41.3	61.9	78.2	46.9	306
Africa	37.0	44.7	63.9	57.6	49.3	494
Asia	40.8	53.9	75.4	83.6	55.3	1,264
Rest of world	42.2	59.1	51.0	69.8	57.3	229

Source: 2011–2018 LFSEAADS.
Note: [*] Descriptive statistics for % living in Dublin based on a smaller sample size (n=117,340) due to 4% missing data on this variable.

By way of illustration, Table 4.1 shows selected socio-demographic indicators of Irish and non-Irish nationals in dependent employment,[51] as well as the composition of different non-Irish national groups based on their region of origin (EU-East, EU-West, Asia, Africa, etc.).[52]

Non-Irish national employees as a whole differ in some key respects to Irish national employees. They tend to be younger, with nearly 50 per cent of them aged 25-34 compared to only 31 per cent of Irish employees. They are also less likely to be women (44 per cent compared to 51 per cent of Irish employees) and more likely to be living in Dublin (39 per cent compared to 29 per cent of Irish employees). Interestingly, in contrast with many other European countries, foreign national employees in Ireland are somewhat more likely to be more highly educated than their Irish counterparts, with 57 per cent having a third-level qualification compared to 51 per cent of Irish employees. There is little difference in the proportions of each group who are married (58 per cent).

Important differences exist between different groups of non-Irish nationals. Those from Asia, North America, Australia, Oceania and EU-West countries are generally much more highly educated than migrants as a whole, with around 80 per cent holding third-level qualifications. By contrast, migrants from EU-East are much less likely to hold a third-level qualification (44 per cent). Those from EU-East countries, Asia and the Rest of the World are also more likely to be younger than migrants generally, with over 54 per cent being 25-34 years old. Employees from the UK (including Northern Ireland), on the other hand, are generally much older, with only 19 per cent aged 25-34. There are also notable differences in rates of marriage between migrant groups, with those from the Rest of Europe, Africa and Asia in particular exhibiting high rates of marriage (64-75 per cent). In contrast, EU-West employees are much less likely to be married (43.3 per cent) than migrant employees as a whole (57.5 per cent).[53]

Important differences also exist in the gender make-up of different migrant groups. A much smaller proportion of employees from Africa and the Rest of Europe are women (37 per cent for each group) when compared to migrants as a whole (43.6 per cent), while among employees from North America, Australia and Oceania more than half are women (53 per cent). Some migrant groups are also disproportionately concentrated in Dublin, such as those from EU-West countries (53 per cent), Asia (55 per cent) and the Rest of the World (57 per cent). At the same time, employees from the UK (including Northern Ireland) and, to a lesser extent, EU-East countries are less likely to be found in Dublin (29 per cent and 33

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[51]   This refers to any employment that is not self-employment.
[52]   Note that Table 4.1 presents the profile of Irish and non-Irish *employees,* which is not the same as comparing all Irish and non-Irish nationals (see for example McGinnity et al., 2020, Appendix Tables A1.1–A1.3).
[53]   This is broadly consistent with partnership rates for all heads of household aged 25-54 from these migrant groups living in Ireland in 2016 (see McGinnity et al., 2022, Chapter 5, using 2016 Census microdata).

per cent respectively) compared to migrants as a whole (39 per cent) (see also Fahey et al., 2019).

These findings show that the make-up of non-Irish national employees differs quite significantly on several socio-demographic dimensions from Irish national employees. They also show differences occur between migrant groups. Accounting for these differences is therefore critical for understanding any migrant wage gap, including differences in wages and working conditions between migrant groups.

4.3   WORKING CONDITIONS OF IRISH AND NON-IRISH NATIONALS

We turn now to explore the working conditions of non-Irish employees, and whether and how these conditions differ from those of Irish employees. We begin by looking at two well-known indicators of job quality and status: the proportion in higher occupations (i.e., those working as 'managers, directors and senior officials', in 'professional occupations', and in 'associate professional and technical occupations'); and the proportion who have supervisory responsibilities in their role. As we will later see, some of these indicators also have a strong association with wages.

FIGURE 4.1   PERCENTAGE OF EMPLOYEES IN PROFESSIONAL/MANAGERIAL OCCUPATIONS: 2011–2018
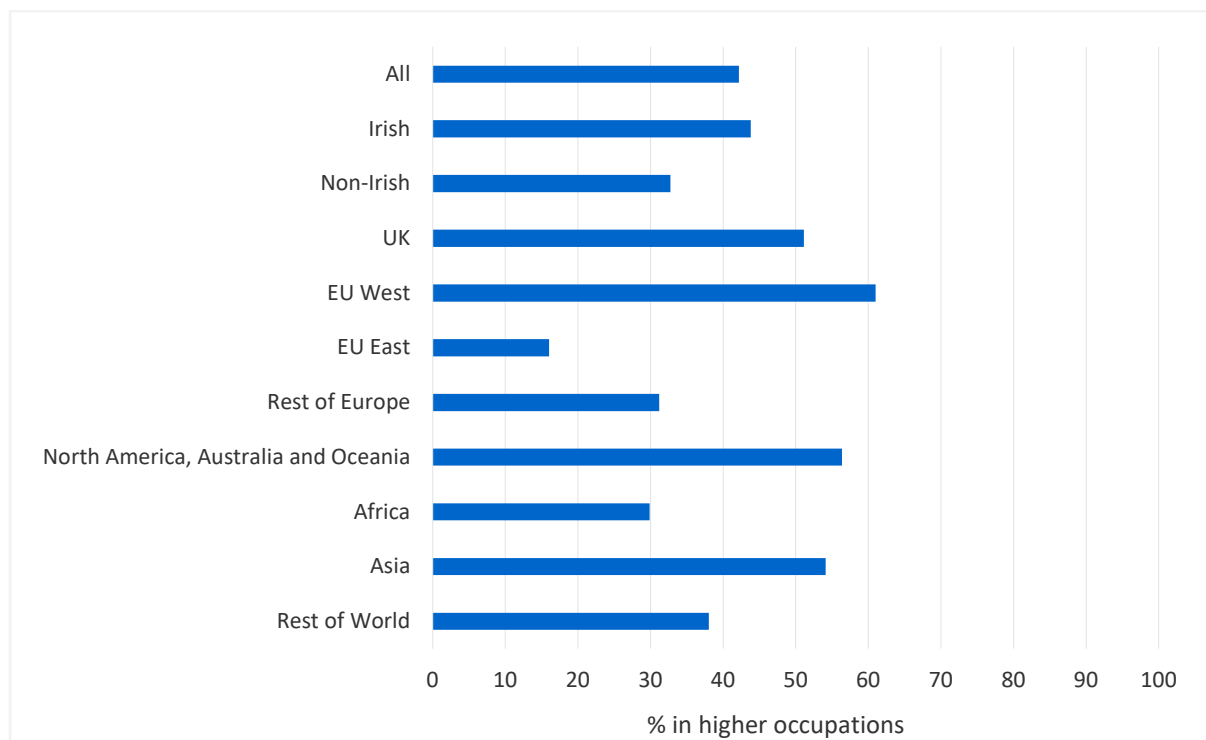
Source: 2011–2018 LFSEAADS (N=122,378).
Note: Professional/managerial occupations category consists of 'managers, directors and senior officials', 'professional occupations', and 'associate professional and technical occupations' combined. EU-West excludes Ireland and the UK.

Figure 4.1 shows the proportions of Irish nationals, all non-Irish nationals and different non-Irish national subgroups working in a higher occupation. On the whole, a smaller proportion of non-Irish national employees are employed in higher occupations, at 33 per cent compared to 44 per cent of Irish national employees. However, large differences exist across migrant groups in terms of the proportion in higher occupations. Some non-Irish national groups have a larger percentage employed in higher occupations than Irish nationals. This includes employees from the UK (including Northern Ireland) (51 per cent), Asia (54 per cent), North America, Australia and Oceania (56 per cent), and EU-West (excluding Ireland and the UK) (61 per cent). EU-West employees have the largest percentage in higher occupations of all nationalities, including Irish employees. Other migrant groups, however, are less likely to be found in higher occupations than Irish nationals. This includes nationals from the rest of the World (38 per cent), but particularly those from Africa (30 per cent) and the Rest of Europe (31 per cent), with migrants from EU-East being the least likely to be found in higher occupations (16 per cent).

A similar pattern can be observed when looking at the proportion of groups with supervisory responsibilities in their role (Figure 4.2). On the whole, non-Irish national employees are somewhat less likely to have supervisory responsibilities (27 per cent) compared to their Irish counterparts (33 per cent). Again, however, migrants from the UK (including Northern Ireland) (39 per cent), EU-West countries (37 per cent) and North America, Australia, and Oceania (39 per cent) are all more likely to have supervisory responsibilities than Irish nationals. At the same time, migrants from Africa (28 per cent) and the Rest of the World (26 per cent) are less likely to have supervisory duties, while migrants from EU-East countries (20 per cent) and the Rest of Europe (18 per cent) are particularly underrepresented in supervisory roles. Only Asians differ regarding their relative representation in high occupations, with the same proportion of Asians reporting supervisory duties in their role (33 per cent) as Irish nationals.

FIGURE 4.2   PERCENTAGE OF EMPLOYEES WITH SUPERVISORY RESPONSIBILITIES: 2011–2018
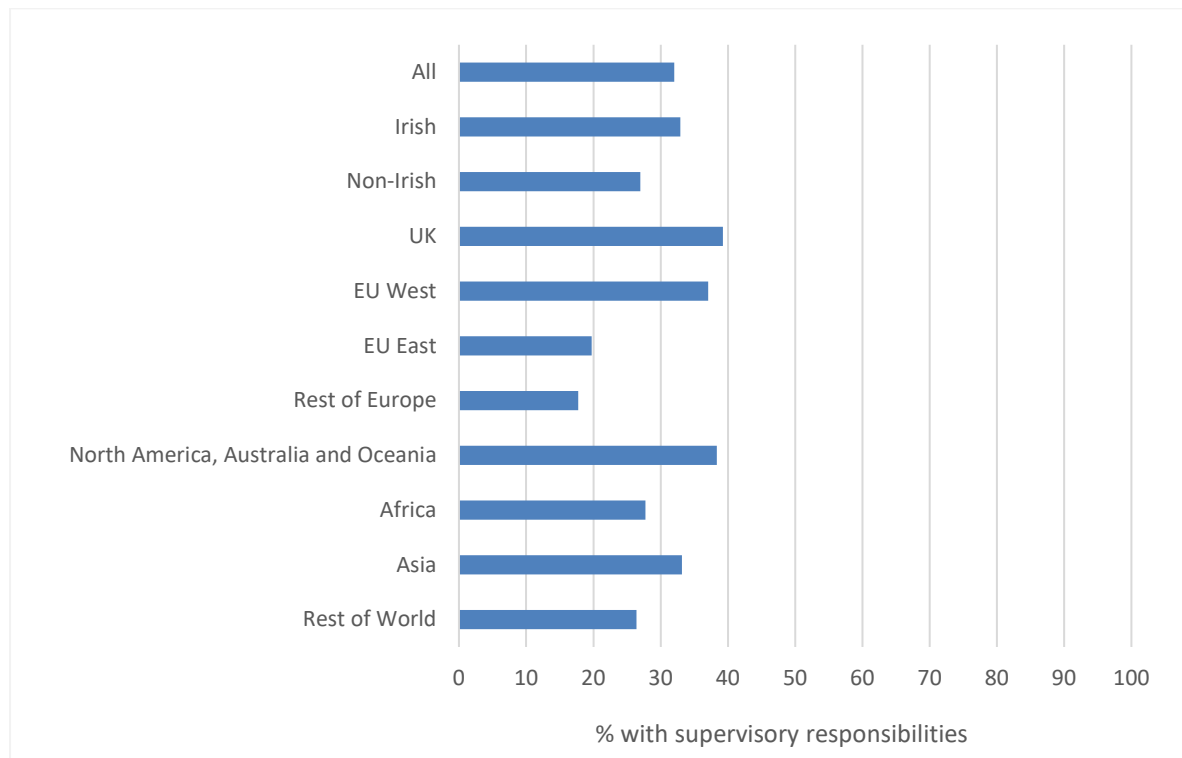
Source: 2011–2018 LFSEAADS (N=122378).
Notes: EU-West excludes Ireland and the UK.

Working conditions and wages can relate to firm characteristics, in particular, whether it is private or public sector, and the size of the firm. Although there is significant variation in job quality within the private and public sectors, the latter tends to offer, on average, higher wages and, in particular, greater job stability (Kelly et al., 2009).

Figure 4.3 shows the proportion of Irish and non-Irish nationals employed in the private sector and in smaller firms (defined as those containing 1 to 99 employees). Non-Irish nationals as a whole are much more likely to be employed in the private sector (92 per cent) compared to Irish nationals (73 per cent). In fact, a greater proportion of every migrant group is found in private sector employment compared to Irish nationals; however, some differences do exist between them. Levels of private sector employment are particularly high for migrants from EU-East countries, who are nearly all employed in private sector jobs (98 per cent), as well as migrants from the Rest of Europe (96 per cent) and the Rest of the World (94 per cent). Migrants from EU-West countries and African countries also have comparatively high rates of private sector employment, at 90 per cent and 87 per cent respectively, whereas migrants from Asia (78 per cent), the UK (including Northern Ireland) (81 per cent) and North America, Australia and Oceania (80 per cent) have the lowest rates of private sector employment among migrant groups, albeit at least 6 percentage points higher than Irish nationals.

When it comes to firm size, however, non-Irish nationals overall are slightly less likely to be employed in small firms (62 per cent) compared to Irish nationals (65 per cent). This pattern is consistent for most migrant groups, who are generally slightly less likely to work in small firms than Irish nationals, including those from the UK (including Northern Ireland) (63 per cent), the Rest of Europe (63 per cent), North America, Australia and Oceania (63 per cent), Africa (60 per cent) and the Rest of the World (61 per cent). Two groups are particularly unlikely to work in smaller firms: Asians (55 per cent) and EU-West nationals, less than half of whom are in small firms (42 per cent). The only exception to this pattern is EU-East migrants, who comprise the only group more likely to be working in small firms (68 per cent) than Irish nationals.

Taken together, some migrants therefore appear comparatively more concentrated in jobs associated with lower wages, such as EU-East migrants who have the highest rates of private sector and small firm employment of any non-Irish national group. Other migrant groups, by comparison, tend to be more concentrated in employment associated with higher wages. Asians, for example, have the lowest rate of private sector employment of any migrant group (78 per cent) and the second lowest rate of small firm employment (55 per cent), after EU-West migrants (42 per cent).

FIGURE 4.3   PERCENTAGE OF EMPLOYEES IN PRIVATE SECTOR EMPLOYMENT AND SMALLER FIRMS: 2011–2018
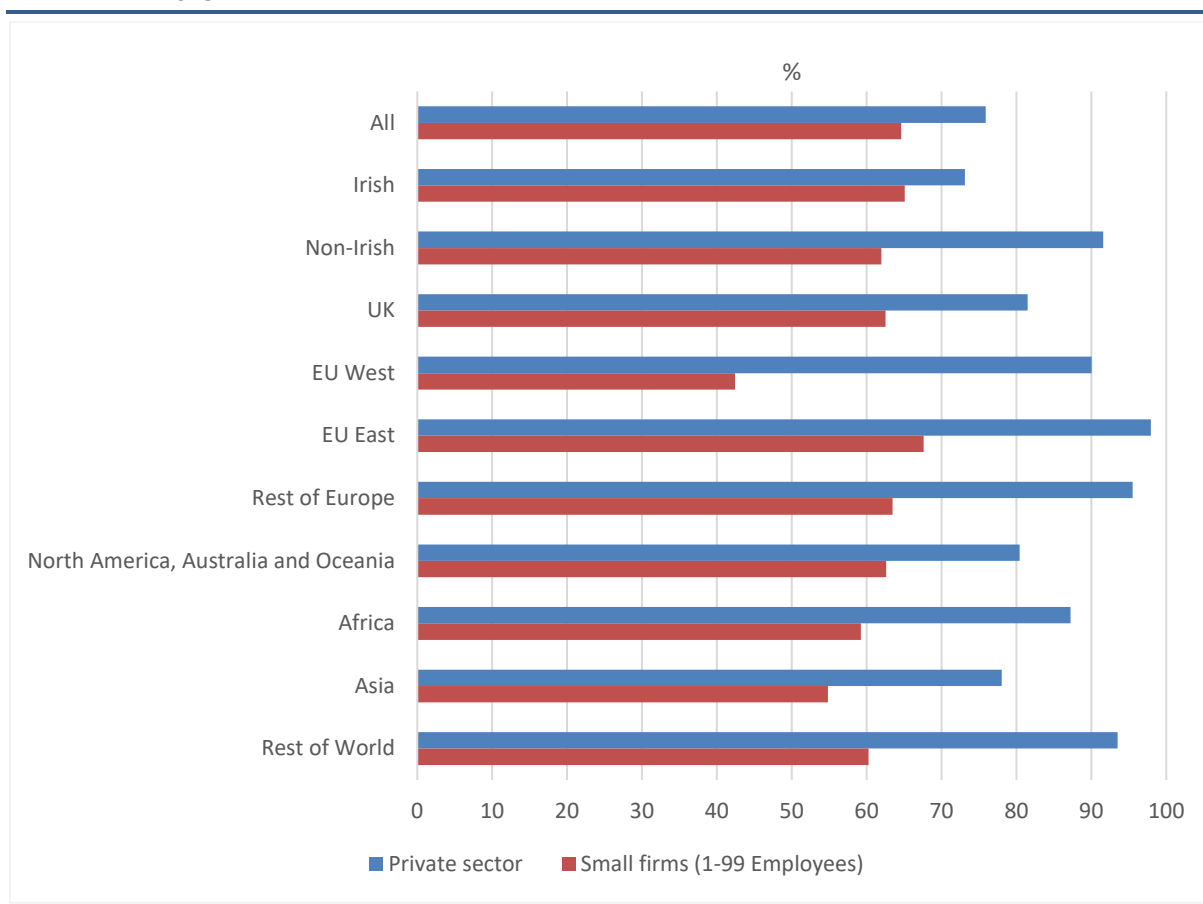
Source: 2011–2018 LFSEAADS (N=122378).
Notes: For details on measurement of public and private sector employment see Chapter 3. EU-West excludes Ireland and the UK.

Table 4.2 shows how Irish and non-Irish nationals are distributed across different employment sectors. Although there is a large amount of variation in roles and working conditions within different sectors, certain sectors are, on average, associated with lower quality working conditions. For example, the 'accommodation and food services activity' sector often involves less secure contracts and more shift work, in smaller, private sector firms, with fewer supervisory roles and lower wages. By contrast, jobs in the education, information and communication and financial services sectors have some of the highest hourly wages in Ireland.[54]

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[54] See https://www.cso.ie/en/releasesandpublications/er/elcq/earningsandlabourcostsq32021finalq42021preliminaryestimates/ (Figure 4).

TABLE 4.2   SECTOR OF EMPLOYMENT CHARACTERISTICS OF IRISH AND NON-IRISH NATIONALS: 2011–2018

Sector – NACE (%)	Industry	Construction	Wholesale and retail	Transportation and storage	Accommodation and food service	Information and communication	Obs. (n)
All	12.57	4.07	15.66	4.28	6.98	4.73	122,378
Irish	12.25	4.19	15.32	4.51	5.12	4.32	109,052
Non-Irish	14.35	3.35	17.58	2.93	17.60	7.05	13,326
UK (incl. NI)	9.86	3.23	17.18	3.65	6.40	7.27	2,068
EU-West	9.90	*	14.01	[1.99]	10.34	19.37	1,557
EU-East	19.15	4.66	20.62	3.57	22.65	2.85	7,057
Rest of Europe	18.28	*	16.59	*	[15.82]	[12.73]	351
North America, Australia and Oceania	*	*	[14.14]	*	*	[9.94]	306
Africa	[7.04]	*	11.03	*	21.98	[8.07]	494
Asia	4.51	*	11.05	*	17.29	10.98	1,264
Rest of World	16.36	*	*	*	[21.24]	*	229

TABLE 4.2   (CONTD.) SECTOR OF EMPLOYMENT CHARACTERISTICS OF IRISH AND NON-IRISH NATIONALS: 2011–2018

| Sector – NACE (%)	Financial and insurance	Professional, scientific and technical	Administrative and support services	Education	Human health and social activities	Other (categories O & R-S)	Obs. (n)
All	6.38	5.07	6.34	9.47	14.39	10.06	122,378
Irish	6.74	5.26	5.54	10.44	15.15	11.15	109,052
Non-Irish	4.36	4.01	10.90	3.96	10.08	3.83	13,326
UK (incl. NI)	7.86	6.00	6.67	9.21	16.66	6.00	2,068
EU-West	9.30	6.85	12.20	7.09	5.36	[2.82]	1,557
EU-East	2.41	2.47	12.49	1.18	4.43	3.53	7,057
Rest of Europe	*	*	*	*	*	*	351
North America, Australia and Oceania	*	*	*	[14.23]	[14.23]	*	306
Africa	*	*	14.9	*	22.24	*	494
Asia	[3.5]	5.73	6.93	[4.11]	32.20	[2.78]	1,264
Rest of world	*	*	*	*	*	*	229

Source: 2011–2018 LFSEAADS.

Note: * signifies that the results have been suppressed due to the low number of observations within that cell (<30 individuals). Values within [ ] are based on samples of between 30-49 individuals and should be treated with caution. EU-West excludes Ireland and the UK.

In many sectors, Irish and non-Irish nationals do not differ substantially. For example, in industry, only 2 percentage points more non-Irish nationals are employed than Irish nationals, while the equivalent figure is: 1 percentage point fewer for 'construction'; 2 percentage points more for 'wholesale & retail trade'; 2 percentage points fewer for 'transportation & storage'; 3 percentage points more for 'information & communication'; 2 percentage points fewer for 'financial, insurance & real estate'; and 1 percentage point fewer for 'professional, scientific & technical'. Non-Irish nationals, however, are somewhat less likely to be employed in Education (6 percentage points fewer non-Irish nationals are in Education employment compared to Irish nationals), Human health & social activities (5 percentage points fewer), and the 'Other' sector (7 percentage points fewer). Non-Irish nationals are more likely to be concentrated in administrative and support services (5 percentage points more non-Irish nationals are in this sector), and, in particular, accommodation and food service activities, where 18 per cent of non-Irish nationals are employed compared to 5 per cent of Irish nationals – a difference of 13 percentage points.

Some notable differences in sector of employment between different groups of non-Irish nationals are worth highlighting (though the small numbers of some migrant groups in our data mean certain information has been suppressed for reliability reasons). For example, Asian nationals are highly concentrated within the human health and social activities sector (32 per cent). African nationals are more concentrated in accommodation and food service activities (22 per cent) and human health and social activities (22 per cent). Nationals from North America, Australia and Oceania are more likely than other groups to be concentrated in the education sector (14 per cent). EU-West nationals are more concentrated than other groups within the information and communication sector (19 per cent). Migrants from the EU-East tend to be more concentrated in accommodation and food service activities (23 per cent), wholesale and retail trade (21 per cent) and industry (19 per cent).

Whether a job involves shift work or regular hours is another important component of working conditions, as well as being closely associated with people's earnings. Figure 4.4 shows that, as with the other indicators of working conditions so far, non-Irish national employees are again over-represented in jobs involving shift work (28 per cent) compared to their Irish national counterparts (16 per cent). As with private sector employment, every migrant group is more likely to be found in shift work jobs. For some groups, this difference is small, such as for UK (including Northern Ireland) nationals and EU-West migrants (18 per cent), whereas higher percentages of migrants from the Rest of Europe (20 per cent) and the Rest of the World (21 per cent) undertake shift work. However, some groups exhibit much higher rates of employment in shift work; for example, the rate is 31 per cent for those from EU-East, 39 per cent for those from Asia and 40 per cent for those from Africa.

FIGURE 4.4   PERCENTAGE OF WORKERS ENGAGED IN SHIFT WORK: 2011–2018
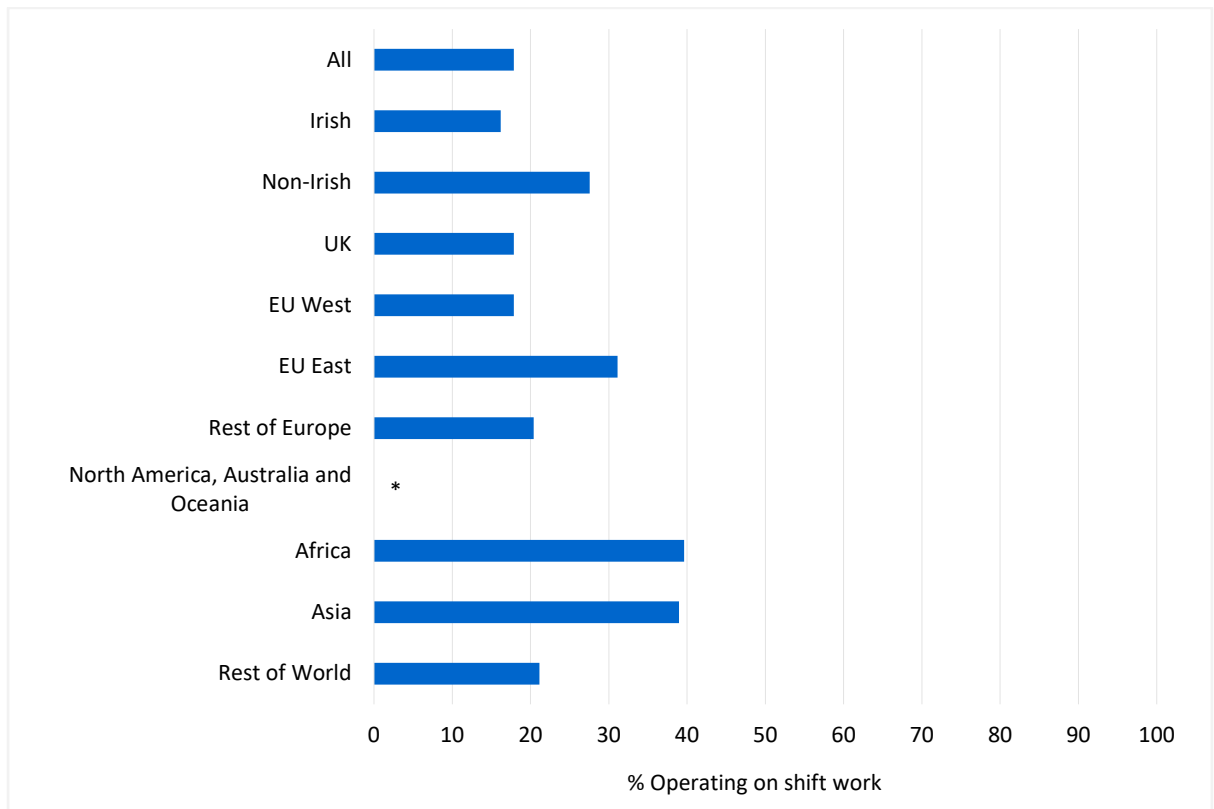
Source: 2011–2018 LFSEAADS (N=122378).
Notes: * The results for migrants from 'North America, Australia and Oceania' are suppressed due to the low number of observations (<30 individuals). EU-West excludes Ireland and the UK.

Another important dimension of working conditions is whether workers are represented by a trade union or similar organisation that stands for their interests. Indeed, some would argue that collective bargaining – negotiations between trade unions and employers, or employer organisations, to set wages and working conditions – is a key labour market institution and important labour right (Eichhorst et al., 2018). Trade union membership often affords workers a greater degree of job security, better working conditions and, as we will see later, higher wages than their non-unionised counterparts (Eichhorst et al., 2018). Figure 4.5 presents the proportion of each national group who are members of a trade union or staff association, though note some workers can be covered by trade union agreements while not actually being members themselves.[55] Irish nationals (33 per cent) are much more likely to be members of a union than non-Irish nationals (13 per cent); nearly three times as much, even if only one-third of all Irish employees are thus represented. This pattern holds across all non-Irish national groups. However, important differences again emerge between non-Irish national groups. UK (including Northern Ireland) nationals and, interestingly, those from Asian countries have the highest rates of union membership among migrant groups, at 22 per cent and 24 per cent respectively, which is only about 10 percentage points

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[55]   See McGinnity et al. (2021), Chapter 5, for a discussion of some of the limits of this measure, both in terms of conflating trade union and staff association membership and in not providing insight into union coverage.

less than Irish nationals. However, rates for EU-West (10 per cent), EU-East (9 per cent) and African migrants (14 per cent) are considerably lower. In fact, as can be seen from Figure 4.6, membership is so low for some migrant groups (rest of the world, North America, Australia and Oceania and rest of Europe) that their results are suppressed due to the low number of individuals in our data who are members of a union.

FIGURE 4.5   PERCENTAGE OF EMPLOYEES WHO ARE MEMBERS OF A TRADE UNION/STAFF ASSOCIATION: 2011–2018
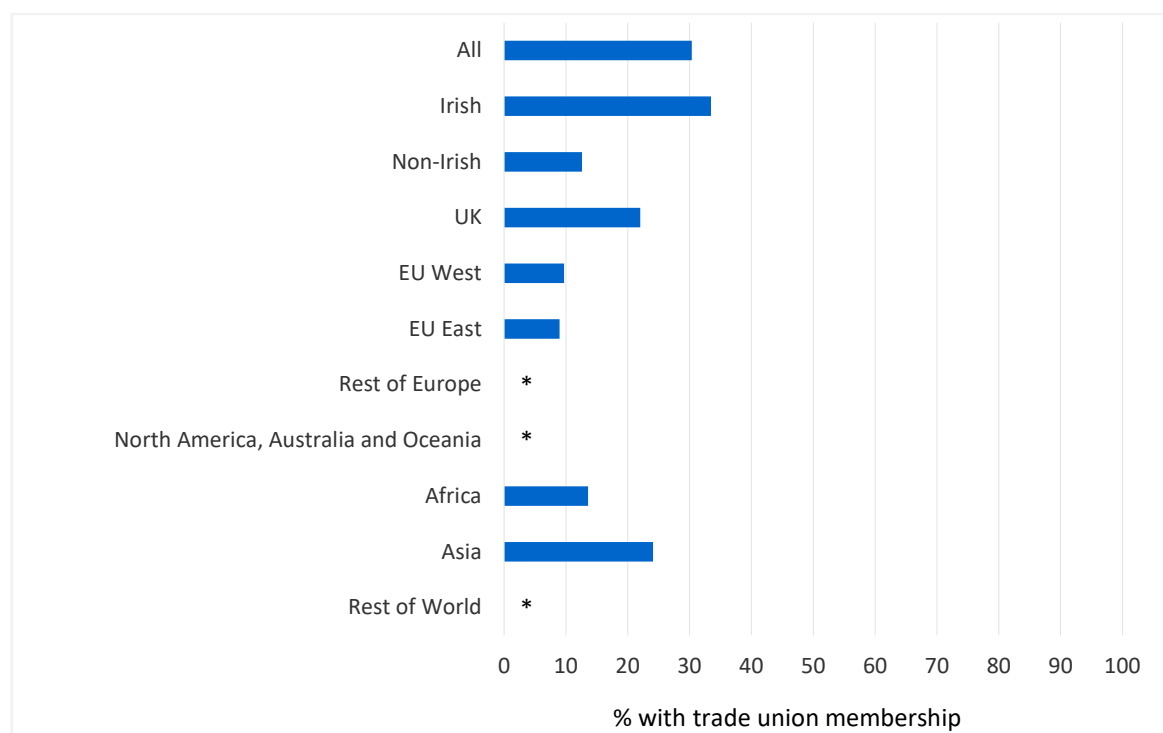
Source: 2011–2018 LFSEAADS (N=122378).
Notes: * The results for migrants from 'North America, Australia and Oceania', the Rest of Europe and the Rest of the World are suppressed due to the low number of observations (<30 individuals). EU-West excludes Ireland and the UK.

Workers who have been in their job longer tend to have higher wages and more favourable working conditions (Russell et al., 2014). We might expect non-Irish nationals to be disadvantaged in this respect compared to Irish nationals, given they simply may not have been in the country, and thus their job, long enough to have built up a long tenure with their employer.[56] Migrants may also spend more time on short-term contracts or moving between several jobs, at least when newly arrived, which may further disadvantage them in terms of job tenure. Indeed, we find that the average number of years non-Irish national employees have spent in their current job (5.4 years) is half that of Irish national employees (10.7 years) (see Appendix A4.1 for full results). Interestingly, this pattern is similar across all non-Irish national groups, where migrants from EU-West (5.0 years), EU-East (5.2 years), the Rest of Europe (4.1 years), North America, Australia and Oceania (5.0 years), Africa (4.4 years) and Asia (4.9 years) all report average tenures within

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[56]   There is no information on duration of residence in the dataset used. See McGinnity et al. (2018) (Table A1.4) for duration of residence for all non-Irish nationals in 2017.

around one year of one another. There are two exceptions to this. UK (including Northern Ireland) nationals have longer tenures (7.8 years) in their current jobs, while migrants from the Rest of the World have much shorter tenures in their current jobs (3.2 years).

In other areas of working conditions, differences between Irish and non-Irish nationals appear much less pronounced (see Appendix A4.1 for full results). Looking at the types of contracts on which groups are employed, and whether they are permanent or temporary, the vast majority of both Irish (94 per cent) and non-Irish (93 per cent) national workers are on permanent contracts. This holds true across all migrant groups, with the only notable exceptions being workers from North America, Australia and Oceania (87 per cent) and workers from Africa (85 per cent), with those from both groups being somewhat less likely to be on permanent contracts.

Generally speaking, non-Irish nationals are somewhat more likely to be in full-time work (83 per cent) than Irish nationals (80 per cent), although the difference is quite small. However, some groups exhibit much higher rates of full-time employment than Irish nationals, including workers from North America, Australia and Oceania (86 per cent), Asia (86 per cent) and particularly those from EU-West countries (91 per cent). Most other groups generally have similar rates of full-time employment as Irish nationals, including migrants from the UK (including Northern Ireland) (80 per cent), EU-East (82 per cent) and migrants from the Rest of Europe (83 per cent). However, two groups are less likely than Irish nationals to be in full-time work: migrants from Africa (77 per cent) and, in particular, migrants from the Rest of the World (74 per cent).

Both Irish national and non-Irish nationals work a similar number of hours per week: 35 and 36 hours respectively. This holds when we look at different migrant groups, with most only deviating from Irish nationals by 1 or 2 hours maximum. Only those from North America, Australia and Oceania, Asia and EU-West countries deviate more from this pattern, usually working 37.2, 36.6 and 38.3 hours per week respectively.

It is important to note that working full time and working more hours per week are not always advantageous. For some workers, having too few hours is the problem, and is linked to lack of income and financial insecurity. However, others have too much work and not enough time for rest and leisure, or time with their family. This is especially true when workers find themselves needing to work a high number of hours to support their family, due to low wages. From these data, unfortunately, we do not know whether lower working hours occur because an individual cannot find a full-time job, or because the individual is a full-time student for example and thus does not want to work full-time, or that they cannot take a full-time job because of caring responsibilities.

4.4 GENDER DIFFERENCES IN WORKING CONDITIONS OF IRISH AND NON-IRISH NATIONALS

The working conditions of migrants might not only differ by their nationality but also by their gender. As outlined in Chapter 2, migrant women are often over-represented (like women in general) in certain occupations (e.g., care work) or part-time employment. In this section, we explore how the working conditions of migrant men and migrant women differ (see Appendix A4.2 and A4.3 for the full profiles of men and women).

Looking at the socio-demographic characteristics of non-Irish migrants as a whole, both men and women tend to be similarly distributed geographically across Ireland. However, migrant women are somewhat younger (5 percentage points more are aged 25-34), more educated (10 percentage points more have third-level qualifications) and slightly more likely to be single (3 percentage points more). Turning to their working conditions, both men and women are similarly represented in higher occupations (33 per cent) and have been in their jobs a similar amount of time (5–6 years on average).

However, differences do emerge on other dimensions. Women are slightly less likely to have supervisory responsibilities (26 per cent compared to 28 per cent of men), slightly more likely to work for smaller firms (63 per cent compared to 61 per cent), less likely to be working in the private sector (88 per cent compared to 94 per cent) and work, on average, 4 hours less per week. Migrant men and women are also different in terms of the sectors they work in. Migrant men are much more likely to be employed in industry (18 per cent compared to 9 per cent of women) and construction (5 per cent compared to 1 per cent of women), while migrant women are more likely to be working in human health and social activities (16 per cent compared to 6 per cent).

Some differences from this general gender pattern do emerge among migrants from particular countries. Compared to the gender pattern for all migrants, migrant men from Africa and the Rest of Europe tend to be younger than women; African men are more likely to be single than African women; and migrant men from the UK (including Northern Ireland) are slightly more educated than women. Migrant men from the UK (including Northern Ireland), EU-West countries and the Rest of Europe are more likely to reside in Dublin than their migrant women counterparts, while women from North America, Australia and Oceania and the Rest of the World are more likely to live in Dublin than migrant men from these regions.

Turning to working conditions, we previously saw that equal proportions of migrant men and women were found to be in higher occupations. However, migrant men from the UK (including Northern Ireland), EU-West countries, North America, Australia and Oceania and the Rest of the World are more likely to be in

higher occupations than women from these countries, whereas women from Asia and the Rest of Europe are more likely to be working in higher occupations than migrant men from these regions. Slight differences also occur regarding the overall gender pattern in terms of supervisory responsibilities and firm size. Compared to all migrants, women from the Rest of the World are more likely to be in the private sector compared to men from this region, and women from Asia are more likely to be working in larger firms and have supervisory responsibilities compared to Asian men.

Given the small number of observations for some of our migrant groups and the large number of job sector categories, a detailed examination of gender differences in economic sector of employment across different migrant groups could not be undertaken. However, some key gender differences do emerge across sectors. African migrant women and, in particular, Asian migrant women are highly concentrated in the human health and social activities sector, at 37 per cent and 50 per cent respectively. Migrant women from EU-East countries are more concentrated in accommodation and food services (27 per cent). Men from EU-East, however, are more concentrated within industry (25 per cent) and the wholesale and retail trade sector (20 per cent), while Asian men are more concentrated in the accommodation and food services sector (20 per cent).

4.5   SUMMARY

This chapter sought to explore differences in working conditions between Irish and non-Irish national employees. Taken together, non-Irish national workers are generally more likely to have less advantageous working conditions than their Irish counterparts, including being less likely to be working in a professional/managerial occupation; less likely to be in a supervisory role; more likely to be engaged in shift work; less likely to be trade union/staff association members; and more likely to be working in the private sector and to have shorter job tenure. Somewhat surprisingly, rates of permanent contracts are similar for Irish and non-Irish nationals. The only indicators on which non-Irish nationals appear to have more advantageous working conditions are that they are slightly more likely to be working full-time, usually work more hours per week, and are more likely to be working for large firms (100+ employees).

Important differences exist across groups of non-Irish nationals. Some migrant groups actually have more positive working conditions compared to their Irish counterparts across several dimensions. This includes nationals from Asia, North America, Australia and Oceania, EU-West countries and the UK (including Northern Ireland). These migrants are generally more likely to be found in higher occupations, and are more likely to have supervisory responsibilities, to be employed full-time, with longer usual working hours, and to be working for larger firms. At the same time, some groups of non-Irish nationals have worse working

conditions than Irish national employees. This includes migrants from EU-East countries, the Rest of Europe and, in particular, Africa and the Rest of the World. These groups are less likely to have high status occupations or roles with supervisory duties, and are more likely to be on shift work. They are less likely to be members of a trade union, and more likely to be in the private sector and to have shorter job tenures. In addition, migrants from Africa and the Rest of Europe are less likely to be in full-time work, and they work fewer hours per week compared to Irish nationals, while EU-East migrants are less likely to be found working for large firms.

CHAPTER 5

Understanding the wage penalty for non-Irish nationals

5.1 INTRODUCTION

Across the vast majority of high-income countries (HICs), research shows that foreign nationals earn less, on average, than their native-born counterparts (Amo-Agyei, 2020). This remains a persistent source of disadvantage among migrants relative to native-born workers that can continue over their entire lives (Cricco, 2021). As outlined in Chapter 2, this migrant wage gap may have several origins. Foreign nationals may have lower education, their qualifications may not be recognised within the host country, or they may have less employment experience or poorer host-country language skills; all factors that affect wages, termed 'human capital' explanations. Another explanation is that non-nationals may be over-represented in lower paid positions, and it is features of the jobs or the firms they work for which drives their lower pay, such as working in low skilled and unskilled employment, poorer paid sectors (such as hospitality), working part-time, undertaking shift work, having a temporary contract of employment, or being a member of a union or staff association. At the same time, migrants may also face discrimination from employers because of their background, something that not only pushes migrants into lower paid jobs, but also leads to less pay for doing the same job and poorer promotion prospects.

Migrants, however, are not a homogeneous group. People migrate for different reasons (work, family, international protection; see Chapter 1). Migrants from different countries and regions also have different skills, and skills that are more or less transferrable, and may also face different levels of discrimination based on their ethnic and cultural backgrounds, which shape their relative experiences in the labour market. The presence and depth of migrant pay gaps with Irish nationals could therefore differ significantly, depending on country of origin (Barrett et al., 2012; Amo-Agyei, 2020).

This chapter investigates the migrant wage gap in Ireland using the Labour Force Survey Earnings Analysis using Administrative Data Sources (LFSEAADS) data described in Chapter 3 to compare mean hourly earnings, raw and adjusted, of Irish and non-Irish nationals. It explores whether there are any differences in the size of the 'wage gap' among migrants from different countries. It also seeks to examine how far any differences in earnings between nationals and non-nationals can be explained by differences in their socio-demographic profile (e.g., their education, age or gender), the quality of their jobs (e.g., whether they are on permanent or temporary contracts, or working in professional occupations or not), or the characteristics of the firms they work for (e.g., public/private sector). As we saw in Chapter 4, non-Irish nationals differ significantly from Irish nationals across several

of these dimensions, which may drive important differences in earnings between them.

This chapter explores whether any migrant wage gaps vary based on the characteristics of migrants themselves. Chapter 2 saw how migrant women experience a 'double earnings penalty': for being women and for being migrants (Amo-Agyei, 2020; OECD, 2020b). We will therefore examine whether the migrant wage gap differs at all between migrant men and migrant women. Chapter 2 also revealed how the size of any difference in earnings between nationals and non-nationals can differ depending on the education of workers; for example, some research shows that the size of the migrant wage gap appears to be larger among more educated workers (Barrett et al., 2012; Amo-Agyei, 2020). We therefore also test whether the migrant wage gap differs by level of education. Most of the econometric analyses are based on pooled data from 2011–2018 to facilitate migrant group comparisons. However, as discussed in Chapter 1, the Irish labour market has undergone substantial changes over the past 15 years: a recession lasting from 2008 until 2012, a subsequent period of strong recovery, and then a period of relatively stable growth from 2016 to early 2020, which was then disrupted by the COVID-19 pandemic (see Figure 1.3). These macroeconomic changes may have affected differences in earnings between Irish and non-Irish nationals in Ireland (Barrett et al., 2016), and year controls are included in our models to help control for these business cycle fluctuations. We also, however, examine how any migrant wage gap has changed over time; specifically, between a period of recession and slight recovery (2011–2013) to a period when Ireland had returned to stable economic growth again (2016–2018).

5.2 COMPARING WAGES OF IRISH AND NON-IRISH NATIONALS

5.2.1 Unadjusted hourly wages (2011–2018)

This section looks at differences in unadjusted average hourly earnings between Irish and all non-Irish nationals in employment. It examines whether any earnings differences are experienced equally by all non-Irish nationals or whether migrants from different countries/regions experience larger or smaller 'wage gaps'.

Figure 5.1 shows that the raw average hourly earnings of Irish nationals in the period 2011–2018 was €21.80. Non-Irish nationals, however, earned, on average, almost €5.00 less, at €16.90 per hour. Non-Irish nationals therefore earned 22 per cent less per hour than Irish nationals over this period.

Behind the raw average 'wage gap' seen among all non-Irish and Irish nationals, Figure 5.1 shows notable differences in unadjusted average hourly earnings for different migrant groups. While most groups do earn less per hour than Irish nationals, this can differ substantially according to nationality. For example, Asians at €19.30 per hour earn 11 per cent less than Irish nationals. Those from the Rest

of Europe, Africa and the Rest of the World generally earn around 18–20 per cent less than Irish nationals, at €17.80 per hour, €17.70 per hour, and €17.40 per hour respectively. However, at €13.20 per hour, hourly wages among EU-East nationals are considerably lower than Irish nationals; nearly 40 per cent so.

Some migrant groups see little difference in hourly earnings from Irish nationals, with EU-West nationals earning only €0.20 less per hour. Other groups, such as nationals from North America, Australia and Oceania and nationals from the UK (including Northern Ireland) actually have slightly higher hourly pay than their Irish counterparts, earning €0.50 and €1.40 more per hour, respectively.

FIGURE 5.1   UNADJUSTED MEAN HOURLY WAGES BY NATIONALITY GROUP (2011–2018)
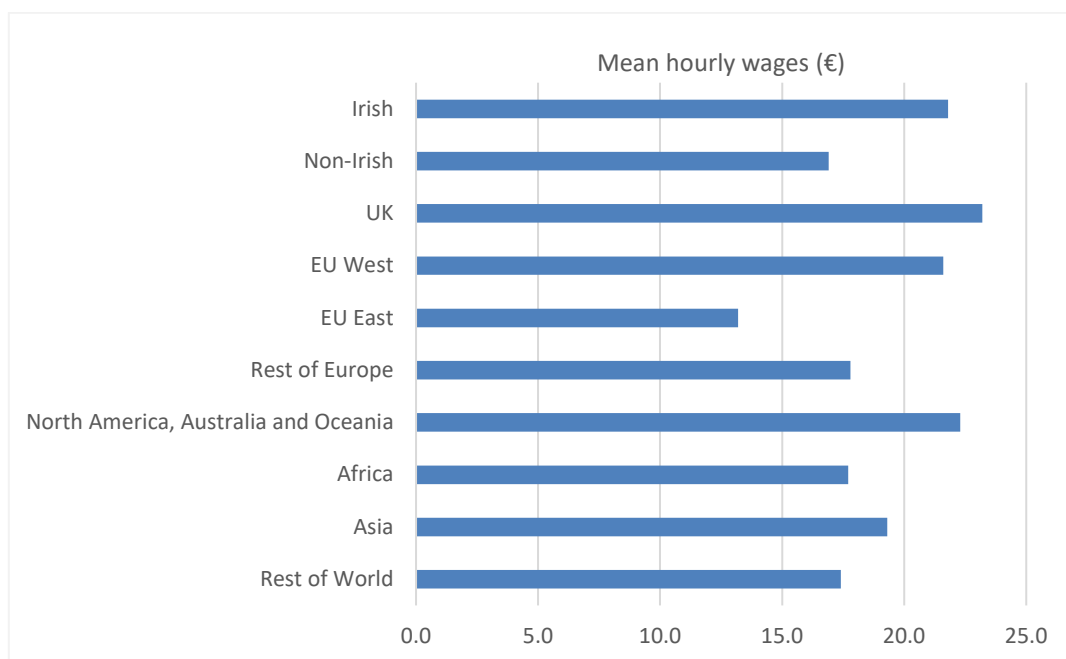
Source: LFSEAADS (2011-18); observations=122378.
Note: EU-West excludes Ireland and the UK.

5.2.2   Adjusted hourly wages (2011–2018)

Hourly pay is shaped by a host of factors, including the worker's educational attainment, the sector they work in (public/private), type of contract (temporary/permanent), and number of years working in a job (work experience). As we saw in Chapter 4, non-Irish employees differ from Irish nationals across many of these socio-demographic, job quality and firm characteristics. Such differences may help explain the variations seen in earnings between Irish and non-Irish nationals. In order to account for such characteristic differences, and identify the adjusted (as opposed to unadjusted/raw) migrant wage gap, this section presents the results from ordinary least square (OLS) regression models of logged hourly earnings, examining the factors associated with hourly pay, and how far these factors can explain any earnings differences between nationals and non-nationals (Table 5.1). Based on the transformation undertaken on the OLS coefficient results

(see Chapter 3), the coefficients of the models can be interpreted as the percentage difference in earnings that one group receives compared to another. For example, based on Model 1 in Table 5.1, we can see that, on average, non-Irish nationals earn 21.8 per cent less than Irish nationals. This means that for every 1 euro an Irish national earns, non-Irish nationals earn 78.2 cent.

5.2.2.1 The association between socio-demographic, job and firm characteristics and wages

We first summarise how both the socio-demographic characteristics of workers and the characteristics of jobs and firms are associated with hourly wages. These factors generally operate as expected (Table 5.1). Model 3 demonstrates that older workers (relative to those aged 25-34), men (compared to women), those living in Dublin (relative to other regions of Ireland) and, in particular, those with a higher education (compared to those with lower secondary or less), all earn more per hour, while single people who have never been married earn considerably less than those who are married, and also less than those who have been married.

Turning to job characteristics, Model 4 shows that workers in full-time (compared to part-time) positions, those not on shift work and those with supervisory responsibilities all earn, on average, more per hour, as do those who are members of a trade union. There is no difference in hourly earnings by contract type.

Looking at the firm characteristics, Model 5 highlights how workers in the public (compared to the private) sector and workers in larger firms (100+ employees) earn more per hour (see also CSO, 2019).

5.2.2.2 Identifying and explaining the migrant wage gap

We now explore the migrant wage gap and the extent to which socio-demographic differences and job and firm differences explain differences in the wages of Irish versus non-Irish workers (Table 5.1).

Based on the baseline model, Model 1, which includes only an Irish/non-Irish nationality dummy variable and year controls, non-Irish nationals earn 21.8 per cent less per hour than Irish nationals: this is consistent with the unadjusted hourly earnings finding presented in Figure 5.1.

Model 2, which distinguishes the non-Irish group, shows that this 'wage gap' differs considerably depending on nationality. Migrants from Asia earn 9.6 per cent less than Irish nationals, migrants from Africa earn 19.9 per cent less, those from the Rest of Europe earn 20.1 per cent less and those from the Rest of the World earn 22.1 per cent less. Migrants from EU-East countries experience the biggest gap in wages, earning, on average, 34.6 per cent less per hour when compared to Irish nationals. We also see that hourly earnings of EU-West nationals and nationals

from North America, Australia and Oceania are not significantly different to those of Irish nationals, with those from the UK (including Northern Ireland) earning slightly more per hour than natives (3.7 per cent).

TABLE 5.1 **FACTORS ASSOCIATED WITH HOURLY EARNINGS FOR IRISH AND NON-IRISH GROUPS (2011–2018)**

Controls		Model 1	Model 2	Model 3	Model 4	Model 5
		Controls for year only	Controls for year only	+ Social/ demographic	+ Job quality	+ Firm characteristics
Nationality	Irish (RC)	1				
	Non-Irish	-21.8***				
Nationality groups	Irish (RC)		1	1	1	1
	UK (incl. NI)		3.7***	-4.2***	2.0**	1.9**
	EU-West		-1.3	-13.2***	-5.7***	-7.2***
	EU-East		-34.6***	-27.9***	-21.7***	-20.5***
	Rest of Europe		-20.1***	-22.0***	-12.3***	-11.8***
	N. America, Australia + Oceania		1.1	-10.5***	-2.7	-3.2
	Africa		-19.9***	-22.3***	-14.0***	-14.3***
	Asia		-9.6***	-22.0***	-16.5***	-16.6***
	Rest of World		-22.1***	-25.1***	-16.3***	-16.1***
Gender	Female (RC)			1	1	1
	Male			12.6***	10.5***	11.6***
Age	25-34 (RC)					
	35-44			20.7***	13.5***	13.1***
	45-54			30.9***	16.0***	15.3***
	55-64			30.7***	10.0***	9.1***
Education	Primary or lower secondary (RC)			1	1	1
	Third level honours degree or above			87.2***	73.2***	64.5***
	Third level non honours degree			43.5***	34.9***	31.4***
	Post Leaving Certificate			17.9***	16.0***	15.1***
	Higher secondary			18.4***	14.0***	12.9***
Region	Dublin (RC)			1	1	1
	Rest of Leinster			-7.9***	-7.0***	-6.2***
	Munster			-10.1***	-9.8***	-8.3***
	Connacht			-13.2***	-12.2***	-11.1***
	Ulster			-17.6***	-16.2***	-14.5***

TABLE 5.1   (CONTD.) FACTORS ASSOCIATED WITH HOURLY EARNINGS FOR IRISH AND NON-IRISH GROUPS (2011–2018)

		Model 1	Model 2	Model 3	Model 4	Model 5
		Controls for year only	Controls for year only	+ Social/ demographic	+ Job quality	+ Firm characteristics
Marital status	Single (RC)			1	1	1
	Married			14.2***	11.4***	10.8***
	Widowed			2.2*	2.6**	2.2**
	Divorced			1.5**	2.0***	2.1***
Job tenure	No. of years in job				1.0***	0.9***
Contract type	Temporary (RC)				1	1
	Permanent				0.7	3.5***
Full-time/part-time	Part-time work (RC)				1	1
	Full-time work				6.8***	3.9***
Shift worker	No (RC)				1	1
	Yes				-3.0***	-5.1***
Supervisory responsibilities	No				1	1
	Yes				14.9***	15.4***
TU membership	No				1	1
	Yes				21.2***	10.5***
Sector	Private					1
	Public					18.2***
Firm size	100+ employees					1
	1-99 employees					-13.6***
	Observations	122,378	122,378	122,378	122,378	122,378
	R-squared	0.028	0.048	0.298	0.384	0.411
	F	436.6	410.1	1678	2007	2136

Source: LFSEAADS, 2011–2018 pooled.

Notes: Adjusted OLS model coefficients showing percentage difference in earnings between groups. Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Year dummy variables included in all models but not presented. Model also includes a dummy for missing on location and missing on contract type (not presented). EU-West excludes Ireland and the UK. Results based on OLS logged hourly earnings model, where the adjusted coefficients presented have been exponentiated for ease of interpretation (see Chapter 3). NI=Northern Ireland.

In Model 3 we introduce the socio-demographic characteristics of workers known to be important in determining people's wages. When such factors are controlled for, we find that the wage gap for most groups of migrants (those from Africa, Asia, 'the Rest of Europe' and the Rest of the World) gets larger, while migrants from North America, Australia and Oceania now see a significant wage gap emerge, with those in this group earning 10.5 per cent less than Irish nationals. For UK (including Northern Ireland) migrants, their previous 'wage premium' now decreases and becomes a significant 'wage penalty', with those in this group earning 4.2 per cent less than Irish national employees.

Differences in the socio-demographic make-up of non-Irish groups therefore does little to explain migrant wage gaps. In fact, finding that the wage gap between these national groups and Irish nationals increases suggests that migrants should have higher hourly wages to what they are receiving given their socio-demographic make-up. One important reason for this is that, as we saw in Chapter 4, migrant groups are generally more likely to have a third-level qualification than Irish nationals, and are also more (or just as) likely to be men and living in Dublin, characteristics associated with higher hourly earnings. Therefore, accounting for most migrants' over-representation in these categories compared to Irish nationals actually increases the migrant wage gap.

The exception to this pattern concerns employees from EU-East countries, whose wage gap gets smaller after accounting for their socio-demographic make-up, from earning 34.6 per cent less than Irish employees to 27.9 per cent less. A large part of the reason for this is because EU-East employees are, on average, less educated than Irish employees, alongside being one of the youngest migrant groups. These factors go some way towards explaining the lower hourly wages of this group, though even accounting for these differences, EU-East migrants continue to see the largest migrant wage gap.

In Model 4 we introduce measures of job characteristics. After accounting for these, the migrant pay gap gets smaller for all migrant groups. Migrants from the Rest of Europe, the Rest of the World and Africa see the largest reductions in their wage gaps (the size of the pay gap is reduced by between 8 and 10 percentage points), while those from North America, Australia and Oceania, EU-West countries, EU-East countries and Asia see similar reductions (the size of their pay gap becomes 6 and 8 percentage points smaller), with UK (including Northern Ireland) nationals seeing the smallest change.

In Chapter 4, we saw how migrants are more likely to have several job characteristics associated with lower hourly earnings. For example, all migrant groups are more likely to be in shift work, to have been working in the job for shorter periods (shorter job tenure) and are less likely to have union membership. In addition, nationals from EU East countries, the 'Rest of Europe', Africa and the

Rest of the World, are less likely to have supervisory responsibilities, while those from Africa and the Rest of the World are also less likely to be working full-time and work fewer usual hours. These differences in job characteristics thus go some way towards explaining their lower hourly earnings compared to Irish nationals. In fact, once we account for differences in job characteristics, the hourly wage gap disappears completely for North America, Australia and Oceania migrants, while UK (including Northern Ireland) migrants now earn significantly more per hour than their Irish counterparts i.e., a migrant wage premium. However, nationals from all other regions continue to see a wage gap with Irish nationals, even after accounting for job characteristics, suggesting the latter is only part of the explanation behind their comparatively lower pay.

In the last model (Model 5, Table 5.1), we add characteristics of the firms in which workers are employed. These account for much less of the migrant wage gap (with the size of the gap only changing by between -1.5 and 1.5 percentage points). The lack of change when accounting for firm characteristics is possibly due to the two such factors included in our model cancelling each other out and because a range of other factors have already been controlled. All migrant groups are more likely to be found working in the private sector compared to Irish nationals (ranging from 5 per cent of Asians to 25 per cent of EU-East nationals), where workers earn less per hour (Table 5.1). At the same time, with the exception of EU-East nationals, all migrants are more likely to be working in larger firms (from 2 per cent of nationals from the 'Rest of Europe' to 23 per cent of EU-West nationals), where workers earn more per hour (Table 5.1). Thus, migrants generally appear both advantaged and disadvantaged regarding these firm characteristics.

Figure 5.2 summarises how much of the total gap in wages between Irish and non-Irish nationals can be accounted for by differences in the socio-demographic make-up of groups and the characteristics of their jobs and firms. Specifically, this figure shows the migrant wage gap (that is, the percentage difference in hourly wages between migrants and Irish nationals) for each migrant group before (Model 2, Table 5.1) and after (Model 5, Table 5.1) controlling for such characteristics. It also shows the difference in earnings before and after controls for all non-Irish nationals together (Model 1, Table 5.1).

Looking at non-Irish nationals as a whole, a large portion of their wage gap with Irish nationals can be explained by their socio-demographic and job/firm characteristics, reducing the wage penalty from earning 22 per cent less per hour to 14 per cent less per hour. However, this pattern depends on nationality. Controlling for socio-demographic and job/firm characteristics also accounts for part of the lower wages reported by nationals from the Rest of the World (from 22 per cent less to 16 per cent less per hour), Africa (20 per cent to 14 per cent less), 'the Rest of Europe' (20 per cent to 12 per cent less), and, in particular, EU-East nationals, with their wage gap shrinking from 35 per cent less to 21 per cent.

However, even after accounting for all these factors, it can be seen that all these groups continue to earn significantly less per hour than Irish nationals.

The wage gap for the remaining migrant groups actually *increases* after all socio-demographic and job/firm characteristics are controlled for. Asian nationals see their gap increase from earning 10 per cent less than Irish nationals before controls to 17 per cent less after the various controls are included. EU-West nationals, who had no significant difference in wages before controls, see a significant wage gap emerge after controls are added into the regression model (earning 7 per cent less than Irish nationals). In other words, comparing the socio-demographic make-up and the job/firm characteristics of these migrant groups to Irish nationals, we would expect their hourly wages to be comparatively higher than they actually are. Groups such as UK (including Northern Ireland) nationals and those from North America, Australia and Oceania see no significant 'wage penalty' either before or after adding controls. In fact, UK (including Northern Ireland) nationals report a 'migrant wage premium' (earning 2 per cent more than Irish nationals) even after accounting for socio-demographic and job/firm differences.

FIGURE 5.2   PERCENTAGE DIFFERENCE IN MEAN HOURLY WAGES OF NON-IRISH GROUPS COMPARED TO IRISH NATIONALS, WITHOUT CONTROLS AND WITH FULL CONTROLS
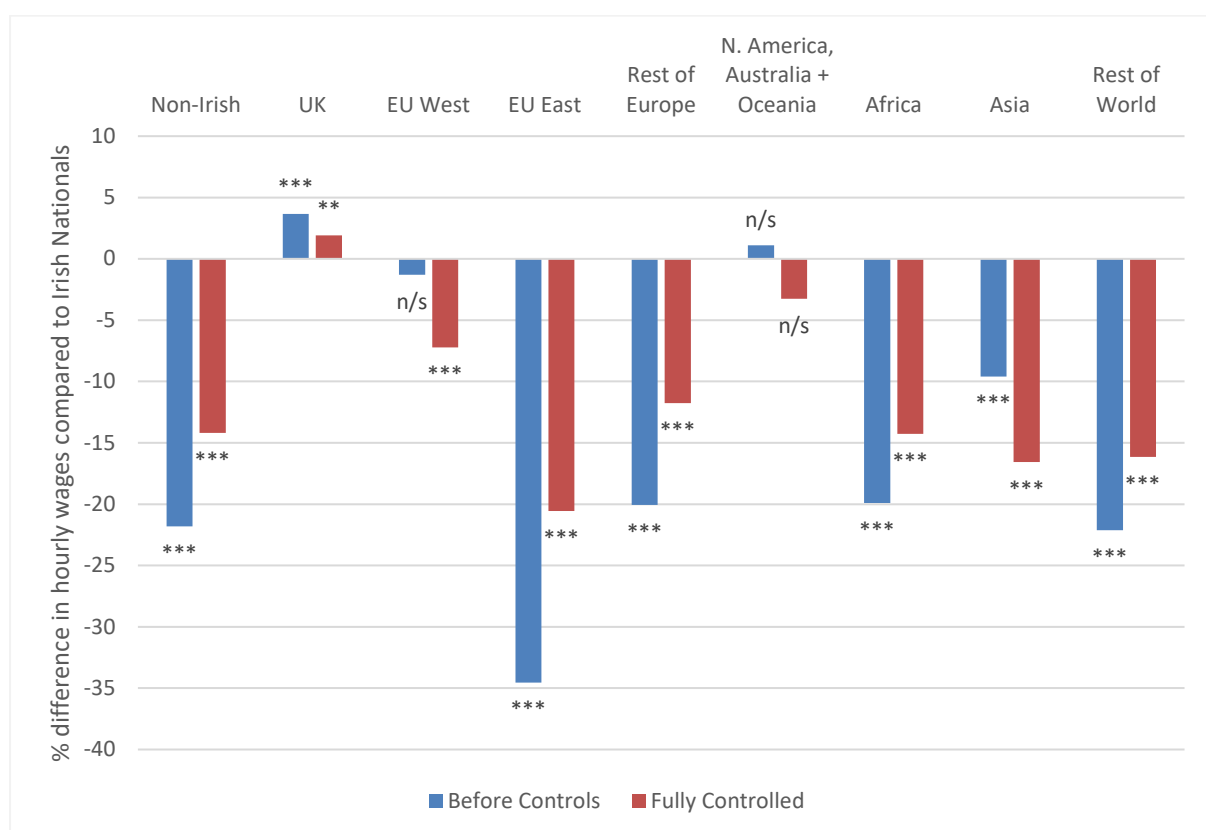
Source: LFSEAADS, 2011–2018 pooled.

Notes: Significance of mean hourly wage gap from Irish nationals group denoted by *** p<0.01, ** p<0.05, * p<0.1; coefficients derived from Table 5.1 (apart from fully controlled non-Irish coefficient modelled separately); 'Before controls' models include dummy variables for year. EU-West excludes Ireland and the UK. Results based on OLS logged hourly earnings model, where the adjusted coefficients presented have been exponentiated for ease of interpretation (see Chapter 3).

5.3   DOES THE WAGE PENALTY VARY BY GENDER?

5.3.1 Unadjusted hourly wages (2011–2018) across gender and nationality

Migration background clearly plays a key role in pay in Ireland, with many groups experiencing a migrant wage penalty. Extensive work also shows that gender is an important determinant of earnings, with women earning less than men, both internationally (Boll et al., 2016; Redmond and McGuinness, 2019) and in Ireland (Doorley et al., 2021). This can be seen in the previous analysis (Table 5.1): even after adjusting for differences in socio-demographics, job quality and firm characteristics, women continue to earn less than men (11.6 per cent less per hour). Chapter 2 discussed how the intersection of having a migrant background and being a woman can result in a 'double penalty', resulting in lower pay for being both a woman and a migrant (Amo-Agyei, 2020). More specifically, migrant women are paid less than migrant men who, in turn, are paid less than non-migrant workers.

This section investigates whether differences in earnings between Irish and non-Irish nationals – the migrant wage gap – might also vary by gender. Specifically, we want to know whether the wage gaps that have been identified for different migrant groups (Section 5.2.2.2) exist among both migrant men and migrant women, and whether they differ in size between genders. In particular, is the size of any migrant wage gap in earnings between Irish and non-Irish *men* larger or smaller than any gap between Irish and non-Irish *women*?

Figure 5.3 looks at the unadjusted mean hourly wages of Irish nationals, non-Irish nationals and different non-Irish national groups, looking at earnings separately for men and women. It shows that women are paid, on average, less than men: Irish women receive €1.90 per hour (or 8 per cent) less than Irish men, while migrant women receive €2.00 per hour (or 11 per cent) less than migrant men. It also shows that, on average, non-Irish national women indeed experience a 'double penalty' in Ireland, being paid less than migrant men (8 per cent less) who are themselves paid less than Irish nationals (earning 20 per cent less than Irish men and 10 per cent less than Irish women). Comparing migrant women and Irish men in particular, we therefore see that migrant women earn 30 per cent less than Irish men. The gender pay gap (of women earning less than men) is visible among almost all non-Irish nationality groups. The only exception is Asian migrant women who actually earn 9 per cent more than Asian migrant men.

Interestingly, the size of the wage gap in unadjusted earnings between Irish and non-Irish nationals as a whole is broadly similar for men and women: while non-Irish national men earn around 22 per cent less per hour than their Irish counterparts, non-Irish national women earn around 24 per cent less than Irish women. However, notable differences exist in the nature of this migrant wage gap

among men and women from different migrant groups. For most migrant groups, women experience a larger migrant wage gap than men. This includes migrant women from the Rest of the World (who earn 23 per cent less than Irish women, while migrant men from these regions earn 20 per cent less than Irish men); women from Africa (a -24 per cent earnings gap, compared to -18 per cent for African men); and women from 'the Rest of Europe' (a -26 per cent earnings gap, compared to -16 per cent among men from 'the Rest of Europe').

For other migrant groups, we find that while migrant women experience an earnings penalty compared to Irish women, migrant men from these groups experience an earnings premium, or no difference in earnings, compared to Irish men. Women from North America, Australia and Oceania have a -7 per cent earnings gap compared to Irish women, while men from North America, Australia and Oceania see an earnings premium of +12 per cent compared to Irish men. Women from the UK (including Northern Ireland) have a -2 per cent earnings gap, compared to a premium of +11 per cent among UK men. Finally, women from EU-West countries have a -2 per cent earnings gap, compared to no difference in earnings between EU-West men and Irish men. Interestingly, only one group sees men and women reporting a similar migrant wage gap: men and women from EU-East countries both earn 39 per cent less per hour than Irish men and women. These findings highlight an interesting point: some groups of migrant men actually have the same or higher unadjusted hourly earnings than Irish men. This includes men from EU-West countries, North America, Australia and Oceania, as well as the UK (including Northern Ireland). However, women from every migrant group have lower unadjusted hourly earnings compared to their Irish women counterparts.

FIGURE 5.3   UNADJUSTED MEAN HOURLY WAGES OF IRISH AND NON-IRISH NATIONALS BY GENDER (2011–2018)

Source: LFSEAADS, 2011–2018. Men (n=58,438) and women (n=63,940).
Note: EU-West excludes Ireland and the UK.

5.3.2   Adjusted hourly wages (2011–2018) across gender and nationality groups

As we have seen, the migrant wage gap differs quite substantially between migrant men and migrant women from different countries – generally, migrant women experience a larger migrant wage gap than migrant men. Chapter 4 outlined how migrant women differ from men across a range of socio-demographic and job/firm characteristics that are known to affect earnings. These factors could explain part of the differences observed in the migrant wage gap among migrant men and migrant women. For example, the greater proportion of migrant men in 'higher occupations' from the UK (including Northern Ireland), EU-West countries and North America, Australia and Oceania could help explain why their wage gap with Irish men is smaller than the wage gap between women from these regions and their Irish female counterparts, where the differences in the proportion in higher occupations is smaller between these groups.

To explore this question, we again estimate OLS regression models where we control for all socio-demographic, job quality and firm characteristics, but this time we estimate separate models for men and women. Figure 5.4 summarises the results from this OLS modelling of logged mean hourly earnings work (see

Appendix 5.1 for full tables). As previously noted, the model coefficients have been transformed (see Chapter 3) so that the coefficients reported in Figure 5.4 can be interpreted as the percentage difference in earnings that a migrant group receives compared to Irish nationals.

Looking first at all non-Irish nationals together compared to Irish nationals, before accounting for their socio-demographic and job/firm characteristics, migrant women earn 24 per cent less per hour than Irish women (the migrant wage gap for women) whereas migrant men earn 22 per cent less per hour than Irish men (the migrant wage gap for men). In other words, the migrant wage gap for women is slightly larger than that for men. After accounting for their socio-demographic and job/firm characteristics, the migrant wage gap among women is now -14 per cent and the migrant wage gap among men is also -14 per cent: migrant women and migrant men experience, on average, the same migrant penalty, once we control for differences in their socio-demographic and job/firm characteristics.

Turning to particular migrant groups, among EU-East nationals, even after full socio-demographic and job/firm controls are accounted for in the OLS regression model, the wage penalty for men and women is similar (gaps of -20 per cent for men and -21 per cent for women, see Figure 5.4). Among migrants from the Rest of the World and 'the Rest of Europe', the migrant wage gap among women remains larger than among migrant men. This migrant wage gap for women from 'the Rest of the World 'is 3 percentage points larger than the migrant wage gap for men from this region (although the difference is not statistically significant), and the migrant wage gap for women from 'the Rest of Europe' is 9 percentage points larger than among men from this regions (a statistically significant difference). Migrant women from Asia, however, see a statistically significant smaller migrant wage gap than migrant men from Asia (their migrant wage gap is 14 percentage points smaller than the migrant wage gap among Asian men).

Among EU-West and African nationals, we previously saw women exhibiting larger migrant wage gaps than migrant men from these regions (Figure 5.3). However, after accounting for their socio-demographic and job/firm characteristics, African women now exhibit a slightly smaller (but not statistically significant) migrant wage gap than men, while EU-West women now exhibit a statistically significant smaller migrant wage gap than EU-West men (4 percentage points smaller). Migrant women from North America, Australia and Oceania continue to see a significant wage penalty (earning 9 per cent less per hour than Irish women), while migrant men from this region see no significant difference in their earnings from Irish men. Moreover, this difference in the size of the migrant wage gaps between men and women from North America, Australia and Oceania is statistically significant. Among UK (including Northern Ireland) nationals, women report no significant difference in their earnings compared to Irish women, whereas men report a migrant wage premium (2 per cent more per hour); however, this difference in the

migrant wage gaps for men and women from the UK (including Northern Ireland) is not statistically significant.

Taken together, after adjusting for the socio-demographic make-up and the job/firm characteristics of workers, we see that women from 'the Rest of Europe' and from North America, Australia and Oceania experience a significantly greater wage penalty than migrant men from these regions. Women from EU-West countries and Asia actually experience a significantly smaller wage penalty than migrant men from these regions. Among all other groups, any differences in the migrant wage gap of men and women are not statistically significant.

FIGURE 5.4 PERCENTAGE DIFFERENCE IN MEAN HOURLY WAGES OF NON-IRISH, AND DIFFERENT NATIONALITIES, COMPARED TO IRISH NATIONALS, AMONG MEN AND WOMEN (FULLY CONTROLLED)
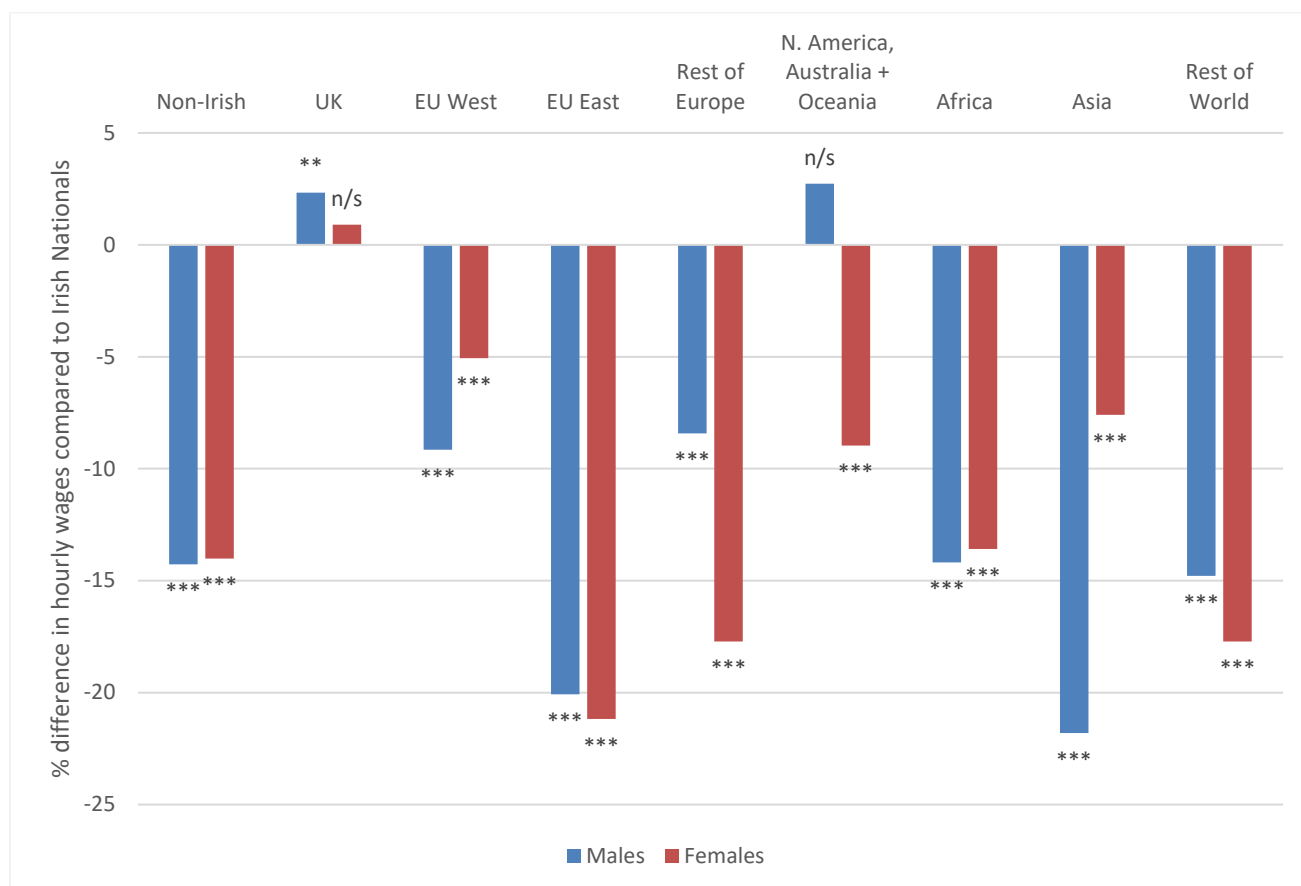
Source: LFSEAADS, 2011–2018. Men (n=58,438) and women (n=63,940).

Notes: All coefficients based on models including full controls; significance of mean hourly wage gap from Irish nationals group denoted by *** p<0.01, ** p<0.05, * p<0.1; ; 'n/s' denotes that the difference in mean hourly wages when compared to Irish nationals is not significant; coefficients derived from Appendix 5.1; the non-Irish findings are derived from one model, and the findings for all migrant sub-group are derived from a second model. See Appendix Table 5.1 for full results table. EU-15 and EU-28 exclude Ireland the UK. Results based on OLS logged hourly earnings model, where the adjusted coefficients presented have been exponentiated for ease of interpretation (see Chapter 3).

5.4 DOES THE PENALTY DIFFER BY LEVEL OF EDUCATION?

5.4.1 Unadjusted hourly wages (2011–2018) by nationality and highest level of education

We turn next to examining whether the migrant wage gap is larger or smaller among migrants with higher or lower levels of education. As discussed in Chapter 2, one reason for the migrant wage gap is that migrants might not be rewarded equally for their qualifications (Barrett et al., 2012). If this was the case, we would expect larger gaps in earnings among more highly educated migrants. This could be because employers place greater importance on qualifications earned in the host country at the upper ends of earnings and skills distribution, or that employers may fail to recognise the value of migrants' qualifications due to a lack of information on their true value (Barrett et al., 2012; Amo-Agyei 2020). If a difficulty of transferring human capital between countries does help explain the migrant

wage gap, we would expect to see the gap most pronounced among more educated migrants.

Figure 5.5 looks at the unadjusted mean hourly wages of Irish nationals, non-Irish nationals and different non-Irish national groups by whether an employee has a 'third-level qualification or above' or 'less than a third-level qualification'. Qualifications that are lower than a third-level qualification include 'Post Leaving Certificate', 'higher secondary level' and 'primary or lower secondary level'. Third-level qualifications include 'third-level honours degrees' and 'third-level non-honours degrees' (that is, qualifications from 'higher education in universities and colleges, and further education on Post Leaving Certificate and other courses'). Education is frequently divided this way in the literature, as differences in wages and job quality are most salient between these two groups.

Comparing Irish nationals with all non-Irish nationals, more highly educated Irish nationals earn, on average, €28.30 per hour while highly educated non-Irish nationals earn almost €7.00 less at €21.50 per hour – that is, 24 per cent less per hour than highly educated Irish nationals. Less educated Irish nationals earn, on average, €18.00 per hour, while less educated non-Irish nationals earn just over €4.00 less at €13.90 per hour – that is, 23 per cent less per hour than their Irish counterparts. The migrant wage gap is therefore quite similar between the two education groups, being just 1 percentage point higher among more educated migrants.

When examining differences between migrant groups, however, important differences can be observed. For some migrant groups, we observe larger migrant wage gaps among the more educated. Among nationals from the Rest of the World, for example, the higher educated earn 16 per cent less than their higher educated Irish counterparts, while the lower educated earn only 5 per cent less. Among nationals from North America, Australia and Oceania, the higher educated earn 12.4 per cent less, and the lower educated earn just 3.3 per cent less. Among EU-West nationals, the higher educated earn 16 per cent less, and the lower educated earn 5 per cent less. Among Asian nationals, the higher educated earn 25 per cent less and lower educated earn 13 per cent less. The largest migrant wage gap between higher and lower educated groups is among EU-East nationals, with the higher educated earning 45 per cent less and lower educated earning 15 per cent less.

Among nationals from 'the Rest of Europe', the migrant wage gap is actually larger among lower educated groups, with the higher educated earning 18 per cent less while the lower educated earn 27 per cent less. Higher and lower educated African nationals experience the same gap in earnings; both education groups earn 19 per cent less.

By contrast, higher and lower educated UK (including Northern Ireland) nationals earn the same, or more, on average, than their Irish counterparts. More educated UK (including Northern Ireland) nationals earn 7 per cent more compared to higher educated Irish nationals while lower educated UK nationals essentially earn the same as lower educated Irish nationals (earning 1 per cent more).

FIGURE 5.5   UNADJUSTED MEAN HOURLY WAGES OF NATIONAL GROUPS BY LEVEL OF EDUCATION: 2011– 2018
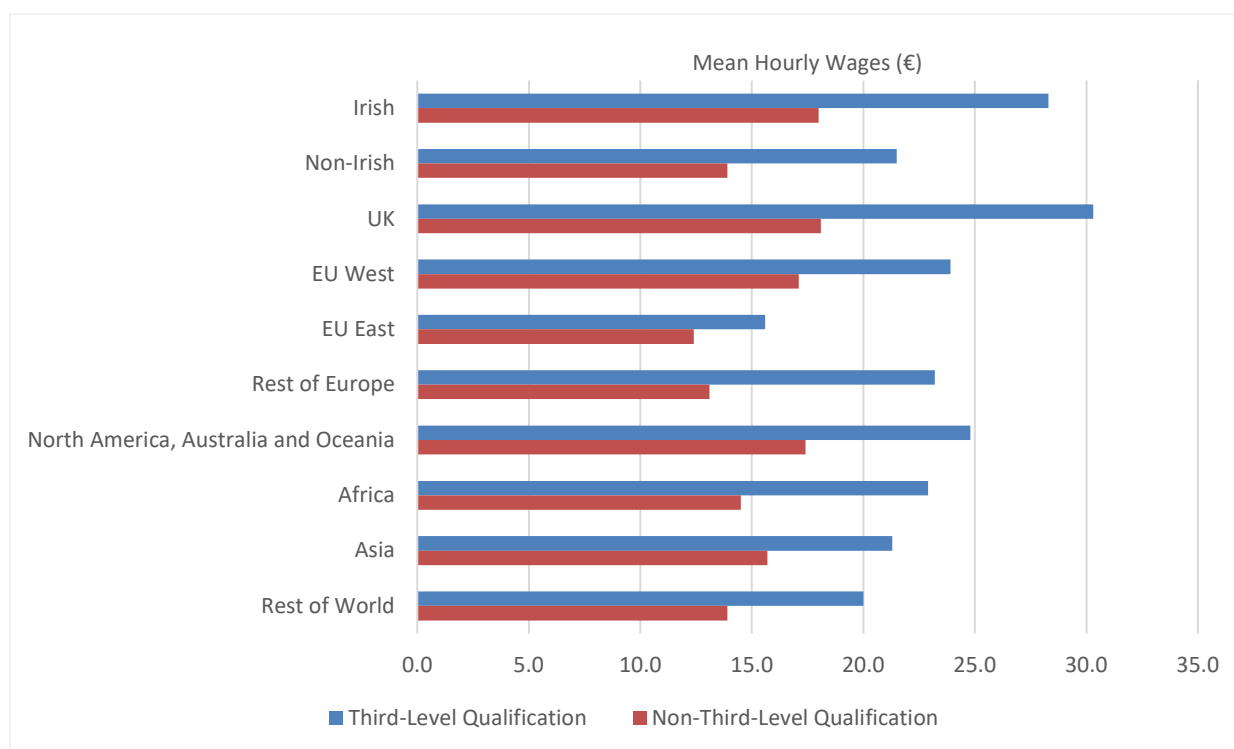
Source: LFSEAADS, 2011–2018. Third-level qualification (n=41,900) and non-third-level qualification (n=80,478)
Note: EU-West excludes Ireland and the UK.

5.4.2   Adjusted hourly wages (2011–2018) by nationality and education

For the majority of migrant groups, the unadjusted migrant wage gap is larger among more educated migrants. This difference could stem from socio-demographic differences. It could also stem from the kinds of jobs highly education migrants do or firms for which they work. For example, more educated migrants may not be able to translate their qualifications into the same kinds of higher paid jobs as Irish nationals. In this section, we examine whether differences in the size of the wage gap between higher/lower educated migrants and higher/lower educated Irish nationals that have been observed for unadjusted hourly earnings (Section 5.4.2) persist after accounting for the socio-demographic and job/firm characteristics of workers.

To examine this question, we run a series of OLS logged mean hourly earnings regression models controlling for all available socio-demographic, job quality and firm characteristics; we do this separately for higher educated and lower educated employees. This provides estimates of the migrant wage gaps among more

educated workers and less educated workers, after controlling for their socio-demographic composition and their job/firm characteristics. Figure 5.6 summarises the results for highly educated and lower educated employees (see Appendix 5.2 for full table results). As in our previous regression models, the estimated coefficients have been transformed (see Chapter 3) so that the coefficients reported in Figure 5.6 can be interpreted as the percentage difference in earnings that a migrant group receives compared to Irish nationals.

Among some migrant groups, even after we account for their socio-demographic and job/firm characteristics, more educated workers continue to see a larger gap in their earnings relative to their Irish counterparts compared to the gap that exists for less educated migrant and non-migrant workers.

Looking first at the migrant wage gap between more/less educated Irish nationals and the non-Irish national group as a whole, we see a statistically significant larger migrant wage gap among more educated non-Irish nationals (earning 16 per cent less than more educated Irish nationals) compared to less educated non-Irish nationals (earning 10 per cent less than less educated Irish nationals). For EU-West nationals, after adjusting for socio-demographic and job/firm characteristics, while the more educated group earn 7 per cent less than more educated Irish nationals, there is no significant difference in earnings between less educated EU-West and Irish nationals. This difference in the wage gaps between more and less educated EU-West nationals is statistically significant. Similarly, for EU-East nationals, the larger migrant wage gap among the more educated exists (earning 28 per cent less than more educated Irish workers, compared to a gap of 14 per cent for less educated EU-East nationals). Again, this difference in wage gaps is statistically significant. Therefore, the higher migrant wage penalty among more educated EU-West and EU-East nationals is not driven by differences in socio-demographic make-up or job/firm characteristics.

Among African migrants, we previously saw that both higher and lower educated migrants reported a similar raw wage penalty with their Irish counterparts. However, accounting for their socio-demographic and job/firm characteristics, we now find that higher educated migrants report a larger wage penalty (earning 18 per cent than higher educated Irish nationals) compared to lower educated African migrants (who earn 7 per cent less), with this difference being statistically significant.

For Asians, by contrast, the migrant wage gap is significantly larger among lower educated workers. Specifically, lower educated Asian migrants experience a statistically significant larger wage penalty, earning 17 per cent less compared to 13 per cent less among higher educated Asians.

For several migrant groups, after accounting for their socio-demographic and job/firm characteristics, there is no significant difference in the size of migrant wage gap between more and less educated workers ('Rest of Europe' and 'Rest of the World').

Highly educated nationals from the EU-West, EU-East and Africa therefore all experience a significantly larger migrant wage penalty than their lower educated counterparts, while more educated UK (including Northern Ireland) nationals see a lower wage premium. Only more educated Asian nationals see a significantly smaller wage penalty than their lower educated counterparts. Among all other groups (those from North America, Australia, and Oceania nationals, 'the Rest of Europe', and the Rest of the World), there is no significant difference in the size of the migrant wage gap between more or less educated workers.[57]

FIGURE 5.6 PERCENTAGE DIFFERENCE IN MEAN HOURLY WAGES OF NON-IRISH, AND DIFFERENT NATIONALITIES, COMPARED TO IRISH NATIONALS, AMONG MORE AND LESS EDUCATED GROUPS
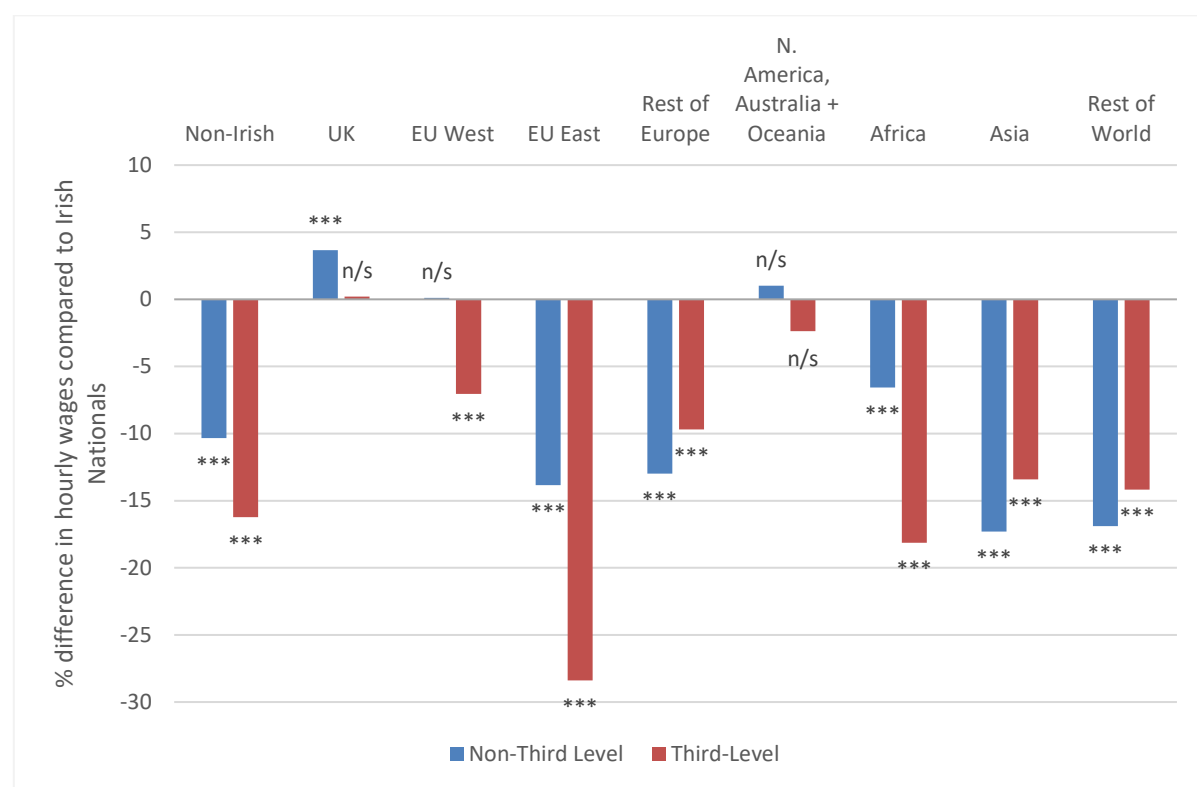
Source: LFSEAADS, 2011–2018.
Notes: Third-level qualification (n=41,900) and non-third-level qualification (n=80,478).
All coefficients based on models including full controls; significance of mean hourly wage gap from Irish nationals group denoted by *** p<0.01, ** p<0.05, * p<0.1; coefficients derived from Appendix 5.2; the non-Irish findings are derived from one model, and the findings for all migrant sub-groups (UK to 'rest of the world') are derived from a second model. See Appendix Table 5.2 for full results. EU-West excludes Ireland and the UK. Results based on OLS logged hourly earnings model, where the adjusted coefficients presented have been exponentiated for ease of interpretation (see Chapter 3).

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57 Differences in wage gaps between those with third-level and non-third-level qualifications could suggest important heterogeneity in pay gaps depending on the different types of qualifications that employees hold, such as the specific level of qualification (e.g., undergraduate, post-graduate, further education, pre-16, post-16, etc.) or the specific subject a qualification is held in (e.g., vocational, science, arts, etc.). Future research will seek to explore whether differences exist in the migrant wage gap across more detailed educational categories.

5.5   HAS THE MIGRANT WAGE GAP CHANGED OVER TIME?

5.5.1 Unadjusted hourly wages by nationality from a period of recession/early recovery (2011–2013) to a period of stable economic growth (2016–2018)

In this section, we explore whether the migrant wage gap in Ireland may have changed between a period of recession/beginnings of recovery (2012–2013) to a period of stable economic growth (2016–2018). Figure 5.7 shows the raw mean hourly wages of Irish nationals, all non-Irish nationals, and different non-Irish national groups, during 2012–2013 and the more recent period of 2016–2018.

Looking at the situation of all non-Irish nationals, we see that, over time, the migrant wage gap has decreased: in 2011–2013 migrants earned, on average, €16.10 per hour while Irish nationals earned €21.60 per hour, a difference of €5.50; migrants therefore earned 25.5 per cent less than Irish nationals in 2011–2013. However, migrants' average earnings increased at a faster rate than Irish nationals between 2011–2013 and 2016–2018, standing at €18.00 per hour compared to €22.10 per hour among Irish nationals in 2016–2018, a difference of €4.10. Migrants in 2016–2018 therefore earned 18.7 per cent less. The migrant wage gap had thus shrunk by around 7 percentage points.

FIGURE 5.7   UNADJUSTED MEAN HOURLY WAGES BY NATIONAL GROUPS IN 2011–2013 AND 2016–2018
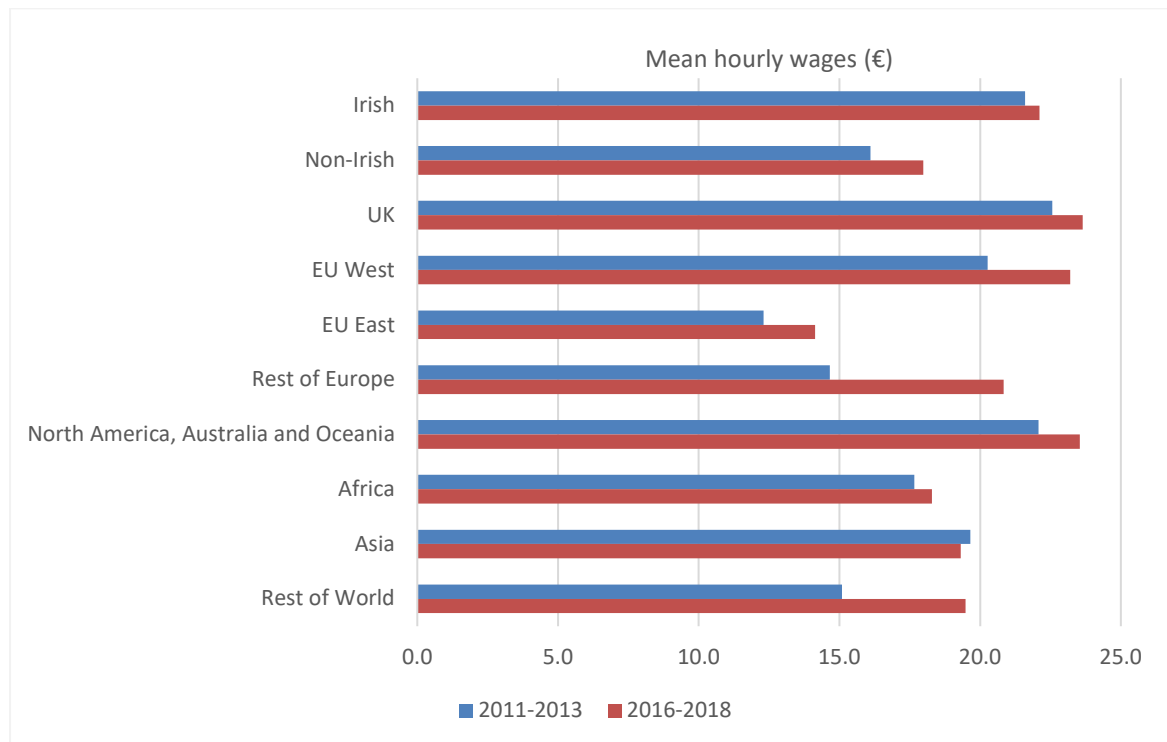
This pattern of a shrinking raw wage gap has occurred across most migrant groups, although the size of the fall varies across groups. The largest declines have been

among nationals from 'the Rest of Europe', who saw their wage gap with Irish nationals decrease by 26 percentage points (from earning 32 per cent less per hour to 6 per cent less); and nationals from the Rest of the World (who saw their wage gap decrease by 18 percentage points). Other groups saw a somewhat smaller shrinking of their wage gaps. Nationals from EU-West countries saw their wage gap with Irish nationals decrease by 11 percentage points while those from EU-East countries saw their wage gap decrease by 7 percentage points. Migrants from Africa, on the other hand, saw little change in their wage gap with Irish nationals: a decrease of only 1 percentage point.

We previously saw that employees from the UK (including Northern Ireland) and those from North America, Australia and Oceania actually experienced a migrant wage premium, earning more per hour than their Irish national counterparts. For these groups, their wage premium has increased over time. UK (including Northern Ireland) nationals earned 4.5 per cent more per hour than Irish nationals in 2011–2013 and this increased to earning 7 per cent more in 2016–2018 (an increase of 2.5 percentage points). Similarly, migrants from North America, Australia, and Oceania, who earned 2.2 per cent more per hour in 2011–2013, were earning 6.5 per cent more in 2016–2018 (an increase of 4.3 percentage points).

Only one group actually saw their earnings gap with Irish nationals increase over time: Asian nationals earned 9 per cent less per hour than Irish nationals in 2011–2013, but by 2016–2018 this gap had increased to 12.6 per cent less per hour (an increase of 3.6 percentage points).

5.5.2 Adjusted hourly wages by nationality from a period of recession/early recovery (2011–2013) to a period of stable economic growth (2016–2018)

Most non-Irish employees saw their raw migrant wage gap with Irish employees narrow over time (or saw their wage premiums increase even more). In this section we examine whether these changes might be explained by changes in the socio-demographic composition of Irish and non-Irish nationals over time, or changes in the kinds of jobs they do or the types of firms they work for. For example, if migrants in 2016–2018 were more highly educated or more likely to be in jobs with supervisory responsibilities compared to migrants in 2011 – 2013, this may account for why wage gaps with Irish nationals have narrowed for some groups over time.

To examine this question, we, like in the previous sections, estimate OLS logged mean hourly earnings regression models controlling for all socio-demographic, job quality and firm characteristics in the model, but this time we estimate separate models for the periods 2011–2013 and 2016–2018. This approach provides two sets of estimates: the migrant wage gaps for all non-Irish nationals, and different non-Irish groups, in the recession/recovery period and their equivalent wage gaps in the stable economic growth period. Figure 5.8 reports the results from this work

(see Appendix 5.3 for full tables). Again, the model coefficients have been transformed (see Chapter 3) so that the results reported in Figure 5.8 can be interpreted as the percentage difference in earnings that a migrant group receives compared to Irish nationals. We also test to see if any observed change in a migrant group's wage gap between 2011–2013 and 2016–2018 is statistically significant after accounting for changes in the socio-demographic and job/firm characteristics of migrants between the two periods examined (Appendix 5.3).

The findings indicate that, even after accounting for the socio-demographic, job and firm characteristics of workers, non-Irish nationals saw their wage gap with Irish nationals shrink between 2011–2013 and 2016–2018: they went from earning 15.4 per cent less per hour in 2011–2013 to earning 12.9 per cent less in 2016–2018, a statistically significant reduction in the wage gap of 2.5 percentage points.

Different patterns are found, however, when we look at migrants from different nationalities. After accounting for potential changes over time in the characteristics of migrants and their jobs, nationals from EU-West countries saw a decrease in their wage gap with Irish nationals of 6 percentage points. Employees from 'the Rest of Europe' experienced one of the largest wage gap reductions, a 23 percentage points decline. This group's wage gap decline was so pronounced that in 2016–2018 they no longer reported statistically significant lower earnings to Irish nationals. However, this group is quite small in Ireland and, consequently, is also small in the data, and this is something that needs to be borne in mind when interpreting this result.

For EU-East migrants, after accounting for their socio-demographic and job/firm characteristics, the size of the decline in their migrant wage gap becomes slightly smaller: from a 7-percentage point decline in their raw earnings to only a 1.2 percentage point reduction. Furthermore, after adjusting for employees' characteristics, this 1.2 percentage point decline is no longer statistically significant.

Employees from the Rest of the World saw their wage gap with Irish employees increase over time, from earning 16.8 per cent less per hour in 2011–2013 to earning 18.9 per cent less in 2016–2018. As with employees from the 'Rest of Europe', the number of employees from the 'Rest of the World' in Ireland is very small, and so the sample in the data is small, which needs to be kept in mind when interpreting this result.

Asian nationals were the one group to see its raw wage gap increase over time (by 3.7 percentage points, see Section 5.5.1). However, from Figure 5.8 we see that once we control for socio-demographic and job/firm characteristics the increase in the gap is only 0.6 percentage points. Furthermore, testing shows the wage gaps in 2011–2013 and 2016–2018 are now no longer statistically significantly different

from one another i.e., the change over time is not statistically significant (established from the interaction model in Appendix Table 5.3). This suggests that the widening raw wage gap over time largely comes from changes in their socio-demographic and job/firm characteristics.

Lastly, we find that the wage gap among UK (including Northern Ireland) nationals has remained stable over time: in both 2011–2013 and 2016–2018 there is no significant difference in wages between UK (including Northern Ireland) and Irish nationals after controlling for socio-demographic, job and firm characteristics.

FIGURE 5.8 PERCENTAGE DIFFERENCE IN MEAN HOURLY WAGES OF NON-IRISH, AND DIFFERENT NATIONALITIES, COMPARED TO IRISH NATIONALS, 2011–2013 AND 2016–2018
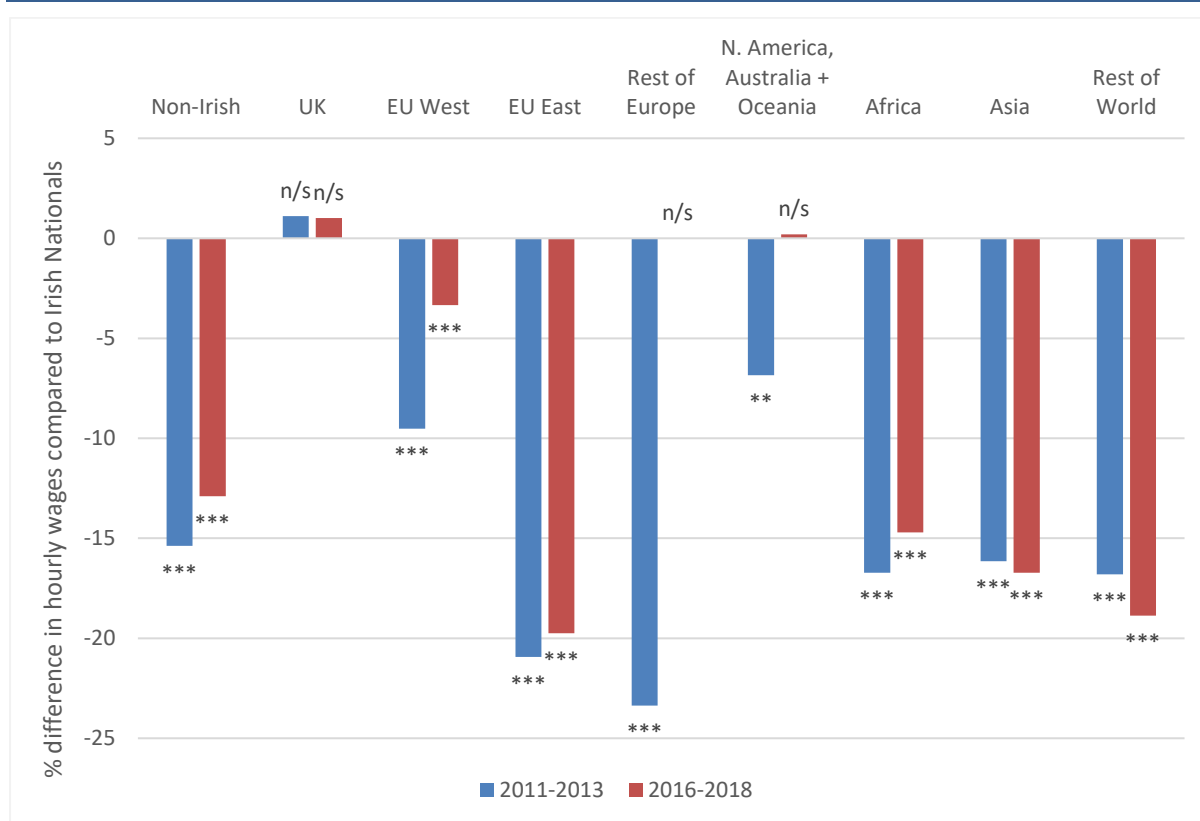
Source: LFSEAADS, 2011–2013 (n=54,095) and 2016–2018 (n=40,350).
Note: All coefficients based on models including full controls; significance of mean hourly wage gap from Irish nationals group denoted by *** p<0.01, ** p<0.05, * p<0.1; coefficients derived from Appendix 5.3; the non-Irish findings are derived from one model, and the findings for all migrant sub-groups (UK to 'rest of the world') are derived from a second model. See Appendix Table 5.3 for full results. EU-West excludes Ireland and the UK. Results based on OLS logged hourly earnings model, where the adjusted coefficients presented have been exponentiated for ease of interpretation (see Chapter 3).

In summary, after accounting for changes in the socio-demographic composition of migrants and nationals, as well as changes in their job and firm characteristics, we find that quite a number of migrant groups have seen their wage gaps with Irish nationals narrow between 2011–2013 and 2016–2018; these wage gap reductions are statistically significant.

What are the possible reasons behind the fall in the non-Irish wage penalty from migrants earning 15.4 per cent less than Irish employees in 2011–2013 to 12.9 per cent less in 2016–2018 – a 2.5 percentage point reduction?

The data are not longitudinal, so we are not following the same individuals over time. Thus, it is possible that changes in migration patterns over the period, leading to possible compositional changes in the migrant groups, partly explains the change in the migrant wage gaps observed. Figure 1.1 showed how migration patterns changed over the period, which could have been accompanied by compositional changes in those migrating into and out of Ireland.

Chapter 1 discusses how the number of employment permits issued to non-EEA nationals rose considerably between 2011 and 2018. In particular, it was shown that the number and proportion of the most advantageous employment permit associated with high wages and high skills, the critical skills permit, rose as a proportion of total work permits issued. Thus, in additional to compositional changes in the migrant groups, the work permit system may be another factor explaining the fall in the observed migrant wage gap, and gaps for certain groups, between 2011–2013 and 2016–2018.

It could also be the case that some non-Irish nationals in the later period (2016–2018) had been living in Ireland longer, as we do not observe duration of residence, a known factor in understanding migrant wages (see Chapter 2). Other factors we do not observe, such as English language ability, may also differ between non-Irish nationals in the recession and recovery periods and be contributing to the observed wage gap results.

A fall in wage inequality overall might also be contributing to a narrowing of the wage gap, though there is no evidence to support this: wage inequality is high in Ireland and grew in the period 1995–2017 (Roantree and Redmond, 2021; Roantree, 2020).

In conclusion, there has been a narrowing in the migrant wage gap over time. However, it is still important to note that quite a large migrant wage gap continues to be observed in the most recent period for which we have available earnings data (2016–2018). When we examine the gap by migrant group, we see that in 2011–2013, a significant migrant wage gap existed for seven groups, while in the 2016–2018 period a significant migrant wage gap exists for five groups.

5.6   SUMMARY

This chapter analyses wage differences between Irish and non-Irish nationals and among different non-Irish groups, both raw and adjusted differentials. The key findings are that the wage gap is largest among EU-East employees, and the raw

gap is substantial (on average 40 per cent lower). This is partly accounted for by lower skills and poorer quality jobs, though a penalty of 21 per cent remains, even accounting for all controls. Conversely, UK (including Northern Ireland) nationals actually earn slightly more than their Irish counterparts and EU-West migrants, while those from North America/Oceania only differ slightly in hourly earnings after controlling for socio-demographic and job/firm characteristic differences between these migrant groups and Irish nationals.

Asian nationals are unusual in that their raw wage penalty is lower before controlling for characteristics differences (11 per cent), mainly because they are highly skilled and work in advantaged jobs – professional managerial jobs in large organisations. When we account for these differences, the adjusted gap in their wages and those of their Irish counterparts is larger (their wages are 17 per cent lower).

Non-Irish national women as a whole experience a 'double penalty' in Ireland, being paid less than migrant men (8 per cent less) who are themselves paid less than Irish nationals (earning 20 per cent less than Irish men). Indeed, migrant women are found to earn 30 per cent less than Irish men. The size of the migrant wage gap between Irish and non-Irish nationals is similarly sized for wages among men and women when it is modelled separately. However, because women earn less than men, this leaves non-Irish women with the lowest wages. The size of the migrant wage gap among men and women does differ across migrant groups, even after controls. While women from 'the Rest of Europe' see the biggest migrant wage penalty compared to men from this region, Asian men actually see a much bigger migrant wage penalty compared to Asian women.

The non-Irish wage penalty is similar overall among those with third-level qualifications and among those with upper secondary education or less. However, while lower educated EU-East migrants earn 14 per cent less than lower educated Irish nationals, higher educated EU-East migrants earn 28 per cent less than their higher educated Irish counterparts (and this is after controlling for socio-demographic and job/firm characteristics). Similarly, lower educated African nationals earn only 7 per cent less compared to lower educated Irish, whereas higher educated African employees earn 18 per cent less compared to highly educated Irish employees. One possibility for these education results is that certain migrant groups are less able to translate their qualifications into better paid occupations; for example, if employers do not recognise, or understand fully, their qualifications within Ireland.

Our current models do not adjust for occupational differences between groups (such as whether someone is in a professional or unskilled occupation); occupation is highly correlated with education and standard practice within the wages research literature is to not include both factors in the same model as it can give

rise to biased results.[58] However, in an additional model specification, we controlled for occupational differences between Irish and non-Irish nationals (see Appendix 5.4). This demonstrates that the migrant wage gap is reduced by an additional 6 percentage points for EU-East nationals and 5 percentage points for African nationals. This suggests that certain migrant groups may not be able to translate their qualifications into higher level occupations, though further investigation is required to confirm this is the case. The data used in the study do not measure English language skills, which is likely to be a factor contributing to all the observed migrant wage gap results.

The analysis shows that the non-Irish wage penalty declined between 2011–2013 and 2016–2018, and a number of reasons have been put forward for this decline, such as changes in factors such as the composition of the migrant flows over the period, the employment permit system, and the length of residency in Ireland.

It is as yet unclear how the migrant wage penalty has evolved since 2018, particularly in light of labour market restructuring associated with the COVID-19 pandemic: we return to this issue in the next chapter.

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[58] The high correlation that exists between education and occupation can give rise to bias in the results if both are included in the same specification.

CHAPTER 6

Conclusions and policy recommendations

6.1   SUMMARY OF FINDINGS

Jobs are an important source of income for migrants, and labour market integration is a key dimension of broader social integration. This report uses high-quality data from the Office of the Revenue Commissioners on wages matched to Labour Force Survey data on job characteristics and worker skills to investigate the working conditions and wages of different non-Irish groups and how these compare to Irish workers. The focus is on hourly wages as the best indicator of job quality, though noting this is different from either weekly or monthly wages, which also depend on hours worked, and household income, which counts income from other sources. The data period covered (2011–2018) allows us to update previous research on migrant wages during the recession and consider whether migrant wages have recovered.

Several factors are in operation in Ireland that likely lead to the interesting patterns in wage gaps across different migrant groups. Migrants from other EU countries and the UK (including Northern Ireland) are free to live and work in Ireland without restrictions. Many come primarily to work, and their employment rates are very high, particularly among EU-West and EU-East nationals (although less so among UK nationals). The skills profile and quality of jobs differ dramatically between groups, however. EU-West and UK (including Northern Ireland) nationals are generally more likely to be found in higher and professional occupations, more likely to have supervisory responsibilities, have longer usual working hours, and are more likely to be working for larger firms than Irish nationals. UK (including Northern Ireland) nationals earn slightly more than their Irish counterparts, both before (6 per cent more) and after (2 per cent more) controlling for socio-demographic and job/firm characteristic differences between both groups. EU-West nationals have very similar average earnings to Irish nationals, though experience a modest penalty after controlling for characteristic differences (7 per cent lower). EU-East nationals, by contrast, while exhibiting high employment rates, tend to work in low-skilled jobs, on shift work, in smaller companies and in the private sector. Moreover, EU-East nationals have a very large hourly wage penalty, earning 40 per cent less than their Irish peers. This is almost halved to 21 per cent when differences in socio-demographic and job/firm characteristics between Irish and EU-East nationals are accounted for. Nevertheless, this is still a substantial wage gap for this migrant group.

A key lesson from this study for future research on migrants and non-Irish nationals is that a distinction needs to be made between EU-East and EU-West nationals, as differences were found regarding the skills profile and job quality of these respective groups. This helps explain how, in comparative terms, the overall

migrant wage gap in Ireland is quite large (see Chapter 2), as EU-East migrants make up a large share of the non-Irish population and experience the largest migrant wage gap.

Among non-EU nationals, we see lower employment rates, partly because some either do not come to work in Ireland or do not have permission to work in the country (Chapter 1). As discussed in Chapter 1, the work permit system is designed to primarily attract highly skilled workers, while student visas are designed to attract students to Ireland – many non-EU nationals are on student visas. The data used in this report count all employment above certain earnings and hours thresholds (see Chapter 3 for details) and, as we cannot explicitly identify full-time students in the data, we selected to base the analyses contained in the study on workers aged 25-64 to the reduce the likelihood of counting student jobs. Sensitivity analysis also considers those aged 30-64. Through these adjustments, we can be more confident that the non-EU nationals in our study are less likely to be students and that their main motivation for being in the country is to work.

Variation in job quality is marked among the non-EU group. Nationals from Asia and North America, Australia and Oceania are more advantaged than Irish nationals: they are more likely to be found in higher occupations, to have supervisory responsibilities, to be employed full-time, to have longer usual working hours, and to be working for larger firms. The wages of nationals from North America, Australia and Oceania do not differ from Irish nationals. For Asians, their initial raw wage penalty (11 per cent) is modest, though once we control for the fact that this is a highly skilled group working in mostly high-quality jobs, the adjusted wage penalty is larger, at 17 per cent, suggesting that this group may not be receiving full returns to their skills and qualifications, or experiencing other obstacles to better pay.

Those from 'the Rest of Europe' (non-EU European countries), and especially migrants from Africa and the Rest of the World (primarily Latin America), have greater employment disadvantage. These groups are less likely to have high status occupations or to be in roles with fewer supervisory duties. They are more likely to be doing shift work, to be in the private sector, to have shorter job tenures, and are less likely to be members of a trade union or staff association. Based on the unadjusted wage analysis, these groups earn between 18 and 20 per cent less than Irish nationals, though once we control for skills and the nature of their jobs, the adjusted wage penalty falls to 12 per cent (Rest of Europe), 14 per cent (Africa) and 16 per cent (Rest of the World).

The report also considers whether non-Irish women earn less than non-Irish men. Overall, non-Irish men earn less than Irish men, and non-Irish women earn less than non-Irish men. This leaves non-Irish women doubly disadvantaged – for being women and for being migrants. The gender gap in wages is particularly large among

nationals from North America, Australia and Oceania and nationals from the Rest of Europe, though the lowest paid women in Ireland are EU-East nationals. One striking deviation from this pattern of double disadvantage is for Asian nationals: here the penalty is much larger for Asian men than women. This may be partly due to the fact that around half of Asian women work in the health and social care sector, and are more likely to work in larger firms and to have supervisory roles than Asian men.

Overall, the wage penalty is similar for non-Irish nationals with third-level qualifications and those with below third-level qualifications. However, we do find migrant group differences in this regard. Highly educated nationals from EU-West, EU-East and Africa all experience a higher wage penalty than their lower educated co-nationals. For example, highly educated eastern Europeans earn 28 per cent less than highly educated Irish, even after controlling for characteristic differences between the groups, whereas lower educated eastern Europeans only earn 14 per cent less than lower educated Irish nationals, again this gap is after we control for characteristic differences between the two groups. However, highly educated Asians experience a lower penalty than their low educated co-nationals, suggesting their job match may be better.

The period considered spans a turbulent period in the Irish labour market, from 2011 when the unemployment rate rose to 16 per cent (2011, Q4) to 2018, when the unemployment rate was 5.5 per cent (2018, Q4).[59] Previous research found that migrant wages were harder hit during the Irish recession, widening the migrant wage gap. In this report we find evidence of a modest recovery in wages, for most non-Irish groups. The overall unadjusted wage penalty for non-Irish nationals fell significantly, by 6.8 percentage points, from 25.5 per cent in the earlier period of 2011–2013 to 18.7 per cent in 2016–2018, which is when the country had returned to economic growth. More than half of this relates to the skills profile of non-Irish nationals, and the jobs they do: after controlling for the fact that the socio-demographic, job and firm profile of non-Irish nationals was more advantageous in the latter period, the adjusted wage penalty was 15.4 per cent in the 2011–2013 period and 12.9 per cent in the 2016–2018 period. Thus there was an estimated 2.5 percentage point drop in the adjusted wage gap. As discussed in Chapter 5, there may be other changes in the characteristics of non-Irish nationals that we do not observe between the groups, but it is salient that the gap has narrowed in a period of economic recovery. For non-EEA nationals, this period also coincides with a period of rapid increase in the number of work permits issued, especially critical skills permits, which are associated with higher paying occupations (see Chapter 1).

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59   ILO, quarterly unemployment rate. Source: CSO, Series QLF18,
      https://statbank.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?Maintable=QLF18&Planguage=0.

On the whole, even after controlling for differences in the social and demographic make-up of Irish and non-Irish nationals and job/firm characteristics, most non-Irish nationals continue to have lower earnings than Irish nationals, including those from EU-West (earning 7 per cent less), EU-East (21 per cent less), the Rest of Europe (12 per cent less), Africa (14 per cent less), Asia (17 per cent less) and the Rest of the World (16 per cent less). These remaining wage differences could relate to other characteristics or sources of human capital important for wages which are not measured: how long non-Irish nationals have been living in Ireland, or their English language skills, a point we discuss below. Migration motives are diverse, of course, and while most migrants to Ireland are labour migrants, others come for other reasons; even labour migrants may not be focused on maximising their wages. Non-Irish nationals may also lack the social networks useful for getting a job and better paid jobs (McGinnity et al., 2021b; Majerski, 2019). There may also be some discrimination on the part of Irish employers (McGinnity et al., 2018; McGinnity et al., 2021b). While we cannot address these issues directly in the report, they are relevant for the policy implications.

6.2   IMPLICATIONS FOR POLICY

High-quality, reliable data are crucial for estimating the migrant wage penalty. This study demonstrates both the potential and also the importance of having such data, in the form of the Central Statistics Office's (CSO) Labour Force Survey Earnings Analysis using Administrative Data Sources (LFSEAADS), so as to inform understanding and policy. Indeed, these wage data are necessary for broader policy relating to wages, not just for the analysis of the migrant wage gap and migrant integration policy, but other aspects of wage policy such as the operation of the national minimum wage (Redmond and McGuinness, 2022), the gender pay gap (Doorley et al., 2021) and the public–private wage gap (CSO, 2019). Having these data available for research in a timely fashion, while continually developing and improving it, is important for both research and policy on wages in Ireland, and for making the best use of the considerable resource it represents.

The fact that certain migrant groups are experiencing a wage penalty, in some cases a substantial one, suggests that the issue of qualifications recognition may be playing a role in their job quality and wages. While many migrants may apply to have their qualifications recognised through the Quality and Qualifications Ireland (QQI) system, Arnold et al. (2019) note that awareness of the service is limited among employers and that soft barriers have been identified, such as a lack of familiarity with either qualifications or educational institutions abroad. It may be the case that qualification recognition is more geared towards, or developed for, the needs of the Irish educational system than for the labour market, suggesting that more may need to be done to improve qualifications recognition specifically among employers. In this context, Canada operates a system that provides an exact equivalent of a person's qualifications, and this may be a more useful approach for those seeking work than translating their qualification to a specific level on the QQI

framework. In cases where specific skills and qualifications are not recognised, some migrants may work in jobs for which they are overqualified, sometimes substantially so. Not only does this result in poorer outcomes for the individual; it also means that potential skills are being underutilised in the Irish labour market. More detailed analysis of the nature and extent of overeducation, described below, might be useful to corroborate this and identify the groups and jobs in which overeducation is more prevalent, with a view to designing measures to address it.

While this report was unable to explicitly address the role of English language skills, we know from Census 2016 microdata that the English language skills of EU-East Europeans are low relative to other migrant groups. For example, only one-third of Poles of working age in Ireland reported that they had very good English language skills, as did a similar proportion of Latvians, Lithuanians and Romanians (McGinnity et al., 2020b). A similar proportion (around 35 per cent) of Brazilians, the single largest country group in the 'Rest of the World' category, report very good English language skills *(ibid.*). For many Africans and Asians in Ireland, particularly those from large sending countries to Ireland (India, the Philippines, Nigeria and South Africa), self-rated English language skills are much better, though there is considerable variation within these two regions (McGinnity et al 2020b). The finding that the wage gap is largest for non-Irish groups with the poorest language skills, combined with analysis using Census microdata showing that employment chances and job quality are clearly related to self-assessed English language skills (McGinnity et al., *ibid*., Chapter 5), suggests measures to improve English language skills are likely to reduce the migrant wage gap. However, evidence points to a lack of a coordinated approach to English language learning for adult learners in Ireland. Specifically, a report published by SOLAS and Educational and Training Boards Ireland (ETBI) found that the provision of English for speakers of other languages (ESOL) programmes has developed in the absence of a national strategy on ESOL provision and that the need for training far exceeded provision (Kett, 2018). Arnold et al. (2019) also report that many government departments, service providers and migrants themselves are unaware of the relevant services providing English language classes in Ireland. ESOL provision was also recognised as being a policy priority in the Migrant Integration Strategy going forward (Department of Justice and Equality, 2019). On this point, it is of note that some international evaluations have found that host country language training may be most effective for labour market outcomes such as wages if it is coordinated with employment or focused on job-related communication (OECD, 2007; see below for a discussion).

Given the persistent adjusted wage gap for some groups, and in light of previous research using a range of research methods such as self-reports and experiments, it is likely that discrimination on the basis of nationality or ethnicity is also a factor in explaining the gap in wages, which remains after controlling for socio-

demographic and job/firm characteristics (see McGinnity et al., 2021b, for a review). Discrimination in access to work may mean the non-Irish or ethnic minority candidate is forced to accept a lower paying job. Discrimination while in work may also mean these workers are passed over for promotion, allocated lower-paying roles, or even that they receive lower wages for the same job (direct wage discrimination). McGinnity et al. (2018) examined the experience of recruitment discrimination among minority national/ethnic groups compared to 'White Irish' using large identical national surveys of the experience of discrimination in Ireland.[60] They found that minority groups tended to experience less recruitment discrimination, relative to 'White Irish', in the early recovery period (2014) compared to recession (2010). This is consistent with the idea that there is less discrimination in a tight labour market,[61] and is also consistent with the findings in this report that the wage gap fell in the period.

Ireland has robust anti-discrimination legislation but specific measures to combat labour market discrimination may be required. In this respect, the current development of an anti-racism strategy in Ireland is very important (Anti-Racism Committee, 2021). McGinnity et al. (2021b), in their review of international literature on measures to combat discrimination and increase diversity in the labour market, suggest multiple actions may be required, which would need to be introduced and then monitored for effectiveness.

Based on international research, carefully targeted wage subsidies can be effective at improving labour market outcomes for disadvantaged labour market groups, including migrants (OECD, 2020b; Butschek and Walter, 2014). Wage subsidies can incentivise employers to hire migrants who do not have work experience in their host country (Anderson and Huang, 2019). A meta-analysis of evaluations of active labour market policies found that wage subsidies comprised the only programme with a clear significant impact on subsequent employment chances (Butschek and Walter, 2014). Anderson and Huang (2019) highlight that programmes that combine, say, host country language training with job search assistance and wage subsidies are also very effective.

It may also be that non-Irish nationals lack the relevant social networks to inform them about job openings, or how best to gain skills and experience. Many organisations fail to recruit non-Irish nationals because they receive no applications from these groups (OECD, 2020b). Measures to combat low application rates can include outreach to schools and universities to 'recruit'

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[60] Discrimination is understood in this study as a situation in which individuals are treated less favourably due to their membership of a specific group. The surveys followed best practice in asking questions about the experience of discrimination (see McGinnity et al., 2018).

[61] A tight labour market is one in which unemployment is very low; the demand for workers roughly equals the supply of workers. This results in a labour market in which employers compete for workers.

minorities to apply for posts, as well as internships and traineeships (OECD, 2020b; McGinnity et al., 2021b).

The wage premium found among union members (Chapter 5), alongside the very low level of unionisation among migrants (Chapter 4), suggests that support for trade union/staff association representation and recognition, and consequently tools such as collective bargaining, might contribute to lowering the wage gap. Further analysis would be helpful to investigate whether low levels of union membership are due to the sectors migrants work in, lower job tenure or perhaps migrants not being aware that they can join a union, particularly if their language skills are poor and/or there is no tradition of trade unions in their country of origin. International research suggests that country-specific measures, such as the way unions organise workers in a country and the overall rate of trade union membership, are also important in understanding the migrant–native membership gap (Kranendonk and De Beer, 2016). It may be that trade unions and staff associations need to make greater efforts to raise awareness of their activities among migrants within organisations, as well as employers' facilitating staff associations and trade unions to ensure all workers are represented.

Some argue that part of the reason pay gaps exist is because they are hidden. On this basis, a number of countries have recently focused on pay transparency laws to promote equal pay. In Ireland, the Gender Pay Gap Information Act 2021 is underway, with employers with over 250 employees required to report on their gender pay gap this year (2022). A study of the effects of introducing very similar pay transparency policies in the UK in 2017 found that it was associated with a reduction in the gender wage gap (Blundell, 2021).[62] As yet, no countries have introduced mandatory ethnicity or nationality wage gap reporting, though the introduction of mandatory ethnicity reporting has been called for by several bodies in the UK (IHREC, 2021b). Given the existence of gender pay gap reporting, there may be potential to extend pay reporting requirements to other groups such as migrants. It could also be that an increase in pay transparency more generally in larger firms in Ireland may have an impact on the non-Irish wage penalty, though this remains to be seen.

Previous research has shown how those who have come through the protection system experience greater difficulties in the labour market, potentially because of the trauma experienced as a result of their situation or a prolonged period in the protection system (McGinnity et al., 2020a). As discussed in Chapter 1, the White Paper published in 2021 represents a major policy shift in policy towards protection applicants. It follows from this that consideration should be given to

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62   The UK study compared the changes in wages before and after the introduction of the new reporting requirements in firms above the 250 employee threshold and those below (where pay transparency did not apply). They found a 1.6 percentage point increase in women's hourly wages relative to those of men; i.e., a decline in the relative wage gap from 8.6 per cent to 7 per cent in affected firms.

including protection applicants in the successor to the Migrant Integration Strategy 2017–2021. In addition, initiatives to follow-up and monitor the labour market outcomes of refugees would be valuable, both to assess the impact of the policy change, but also in light of the large number of Ukrainian refugees currently coming to Ireland. It is currently not possible to follow up the labour market, or indeed any other outcomes, of refugees in Ireland (McGinnity et al., 2020a).

6.3 LIMITATIONS AND AVENUES FOR FUTURE RESEARCH AND DATA COLLECTION

English language skills are not measured in the Labour Force Survey (LFS), so are not considered in this report, but we know from other research that English language skills matter for labour market outcomes (e.g., McGinnity et al., 2020b). Accounting for language skills in understanding wages differences is an obvious avenue for future research, given language difficulties may be a key obstacle to better jobs and higher earnings. Unfortunately, such data are not available in the data used in the current study, nor, as mentioned, are they available in the LFS. Any subsequent analysis of migrant wages would need to match information on language skills from elsewhere, or, if it was feasible, for the LFS to commence the collection of such data.

McGinnity et al. (2020b) also show how ethnicity matters for labour market outcomes, with Black migrants more likely to be unemployed and somewhat less likely to be working in a high-skilled occupation than White migrants. This is suggestive of discrimination on the basis of ethnicity, as McGinnity et al. (2020b) controlled for country of origin, education and English language skills in their study. Having ethnicity measured in the LFS would allow us to analyse this and monitor ethnic discrimination in the labour market, in line with the objectives of the Anti-Racism Committee (Anti-Racism Committee, 2021).

Much research on the wage penalty considers different points on the wage distribution, using quantile regression analysis. This strategy was not pursued here, primarily because the focus was on migrant group differences, and further detailed analysis by quantile was beyond the scope of the report. Further research could examine the hourly migrant wage gap for the bottom ten per cent of wage earners up to the gap for the top ten per cent. This might, among other factors, allow some investigation of the role of the minimum wage in reducing the gap at the bottom and potentially also in playing a role in the prevention of poverty. A higher gap at the top of the wage distribution might signal issues with qualification recognition, whereby migrants' qualifications are unrecognised or under-recognised in their destination country, among other issues (Amo-Agyei, 2020).

Overeducation – the extent to which a worker's skills exceed the skill requirements of the job – is likely to play a role in understanding the migrant wage penalty in

Ireland, given that migrants are more prone to overeducation than natives (OECD, 2018). Biagi et al. (2019) examined overeducation in 24 EU countries using EU-LFS data for the period 2011–2016, similar to the period covered in this study. They found that in almost all the countries examined migrants are more likely to be overqualified than non-migrants (including Ireland). While non-EU migrants are more likely to be overqualified for their job in most countries, in Ireland overqualification rates are similar among EU and non-EU nationals. It would be interesting to distinguish groups further; for example, EU-East and EU-West nationals, and also to investigate whether it is overeducated workers who experience the largest wage penalties.

We could not explicitly exclude student employment from the analysis, as there was no measure in the data capturing individuals for whom studying was their primary economic status. However, we tried to minimise the inclusion of student employment by restricting the sample to those aged 25 and over. Nevertheless, there is still a possibility that some student employment is captured in the analyses conducted and, therefore, there is a risk we overestimate the wage penalty for certain national groups; for example, those national groups who have over-representations of student employees. If principal economic status was available in the LFSEAADS data, in the format that it is in the LFS data, then it would be possible to investigate whether excluding employees who are full-time students affects estimates of the wage penalty. In addition, if the LFS captured information on the duration a migrant has resided in Ireland, this would considerably enhance our understanding of wage assimilation.

We may also underestimate the migrant wage penalty for certain nationality groups, given informal work is not accounted for in our analysis, and some migrant groups may be more likely to be involved in informal employment. Arnold et al. (2017) note that caring positions, particularly eldercare, and cleaning work are more commonly associated with informal employment, as well as work in fast food restaurants and take-aways. Informal employment is typically associated with high turnover, low wages and low working hours.

Finally, due to limitations of data available at the time of this study, the analyses conducted do not cover the period of the COVID-19 pandemic, which severely disrupted the Irish labour market, along with many other labour markets in the OECD (Fassani and Mazza, 2020; OECD, 2020a). COVID-19 shone a spotlight on some 'decent work' deficits, such as the lack of statutory sick pay and conditions of work among the heavily migrant-dominated meat processing sector. We also know that eastern Europeans, particularly women within this group, experienced a much greater drop in employment than Irish nationals; non-Irish nationals were also more likely to be on pandemic-related supports such as the Pandemic Unemployment Payment (PUP) in Ireland (Enright et al., 2020). Non-EU nationals and western Europeans (including the UK and Northern Ireland) experienced a

similar drop in employment to Irish nationals; these groups were also more likely to be working in occupations that could be done from home (Enright et al., 2020). Of course, it may be that those receiving COVID-related supports and working in the worst affected sectors will have been displaced from their jobs; earlier research in Ireland has shown displaced workers typically experience a wage penalty (McCarthy and Wright, 2018). The two-tier labour market in Ireland which emerged during the pandemic (O'Toole, 2020) may persist, with migrants working in the technology and pharmaceutical industries relatively unaffected, while those working or who had worked in other areas of the economy, particularly in accommodation and food, alongside the tourism industry, seeing wages fall. The impact of the pandemic on the wages of non-Irish workers compared to Irish workers will also be impacted by migration trends. Immigration of non-Irish nationals to Ireland fell sharply in the 12 months prior to April 2021, likely a result of the COVID-19 pandemic: net migration was positive, though small, (3,900 more individuals came to Ireland than left).[63] The proportion of non-Irish nationals in the population thus did not drop, but we do not know whether those who came differed in their job-related characteristics relative to those who left, and we saw in this study that the wage gaps observed after the Great Recession period (between 2011–2013 and 2016–2018) may have been impacted by such compositional changes in the migrant flows that followed from the Great Recession. In the context of these very significant changes, it is important that the working conditions and wages of migrants are monitored regularly.

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[63]   In 2021, 35,000 non-Irish nationals came to Ireland and 31,200 emigrated abroad, resulting in positive net migration of 3,900. This was a decrease from 2020, when net migration of non-Irish nationals was from 28,300. See: https://www.cso.ie/en/csolatestnews/presspages/2021/populationandmigrationestimatesapril2021/.

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APPENDIX 1

Additional tabular data

TABLE A4.1   DESCRIPTIVE STATISTICS OF RESPONDENTS ON TENURE, CONTRACT TYPE, PART-TIME WORK, AND USUAL HOURS WORKED PER WEEK, 2011–2018

	All	Irish	Non-Irish	UK	EU-West	EU-East	Rest of Europe	North America, Australia and Oceania	Africa	Asia	Rest of world
Tenure (mean number of years in job)	9.910	10.70	5.44	7.82	5.02	5.16	4.08	4.97	4.35	4.87	3.16
% Temporary contract	6.13	6.05	6.60	5.84	7.78	5.08	*	*	14.56	9.85	*
% Working part-time	19.43	19.87	16.95	20.34	9.35	17.51	17.29	13.87	23.16	13.87	26.38
Usual hours worked per week	35.18	35.01	36.15	35.30	38.29	36.00	35.81	37.21	34.32	36.63	34.83

Source: 2011–2018 (LFSEAADS).
Note: * signifies that the results have been suppressed due to the low number of observations within that cell (<30 individuals). Values within [ ] are based on samples of between 30-49 individuals. EU-West excludes Ireland and the UK.

TABLE A4.2 DESCRIPTIVE STATISTICS OF RESPONDENTS - WOMEN, 2011–2018

	All	Irish	Non-Irish	UK (incl. NI)	EU-West	EU-East	Rest of Europe	NAAO	Africa	Asia	Rest of world
Age											
25-34 years	33.3	30.6	51.5	23.2	48.5	60.4	47.5	49.5	41.3	54.8	62.2
35-44 years	31.1	31.0	32.0	29.0	37.7	30.4	36.7	35.9	44.9	33.6	*
45-54 years	22.4	23.9	12.0	30.1	11.8	7.0	*	*	*	10.7	*
55-64 years	13.2	14.5	4.5	17.7	*	2.3	*	*	*	*	*
Marital status											
Single	37.3	37.2	38.2	30.6	54.9	39.8	[30.9]	46.4	25.8	22.0	[48.1]
Married	54.5	54.8	52.4	54.0	39.2	50.7	57.2	51.2	64.1	73.6	[45.5]
Widowed	1.7	1.8	1.2	*	*	[1.1]	*	-	*	*	-
Divorced/Legally separated	6.4	6.2	8.2	13.1	[5.1]	8.3	*	*	*	*	*
Geographic location											
Dublin	30.0	28.9	37.8	24.8	51.0	34.0	[39.4]	50.7	47.2	54.6	[63.1]
Rest of Leinster	25.5	25.9	22.8	24.2	16.8	25.0	*	*	25.8	19.0	*
Munster	27.4	27.7	25.4	29.1	25.8	26.1	[33.07]	[24.5]	[17.3]	17.4	*
Connacht	11.1	11.3	9.8	15.3	[5.7]	10.3	*	*	*	[5.6]	*
Ulster (Part of)	6.0	6.3	4.2	[6.6]	*	4.6	*	*	*	*	*
Educational attainment											
Third level honours degree or above	40.3	39.8	44.0	38.4	70.8	34.7	61.4	73.7	33.2	61.1	65.6
Third level non honours degree	16.9	16.7	18.5	20.2	13.5	17.8	*	*	27.9	25.3	*
Post Leaving Certificate	14.1	14.5	11.2	13.7	[5.0]	13.4	*	*	[15.3]	*	*
Higher secondary	19.8	19.5	21.8	17.3	9.9	29.9	*	*	[19.6]	[6.8]	*
Primary or lower secondary	8.9	9.6	4.5	10.5	*	4.2	*	*	*	*	*

TABLE A4.2   (CONTD.) DESCRIPTIVE STATISTICS OF RESPONDENTS - WOMEN, 2011–2018

	All	Irish	Non-Irish	UK (incl. NI)	EU-West	EU-East	Rest of Europe	NAAO	Africa	Asia	Rest of world
Occupation											
Higher occupations	42.1	43.5	32.8	45.5	59.2	16.9	37.3	54.0	29.3	66.5	[33.4]
Sector											
Private	70.5	67.8	88.4	74.7	84.8	97.3	93.2	76.2	83.5	66.6	94.3
Public and commercial semi-states	29.5	32.2	11.6	25.3	15.2	2.7	*	[23.8]	[16.6]	33.5	*
Sector – NACE											
B-E Industry	7.1	6.8	9.3	[5.1]	8.9	12.4	*	*	*	*	*
F Construction	0.9	0.9	[0.70]	*	*	*	*	*	*	*	*
G Wholesale & retail trade; Repair of motor vehicles and motorcycles	15.5	15.1	18.3	20.0	12.8	22.0	[19.5]	*	*	[6.9]	*
H Transportation and storage	1.9	2.0	1.7	*	*	1.9	*	*	*	*	*
I Accommodation and food service activities	7.3	5.5	19.5	[7.1]	[7.5]	27.6	*	*	*	12.9	*
J Information and communication	3.3	3.0	5.5	*	17.5	2.5	*	*	*	*	*
K-L Financial, insurance and real estate	7.0	7.3	4.6	7.18	8.7	3.1	*	*	*	*	*
M Professional, scientific and technical.	5.2	5.4	4.1	[4.5]	[6.5]	3.3	*	*	*	*	*
N Administrative and support services	5.2	4.4	10.1	*	12.5	12.3	*	*	*	*	*
P Education	13.8	15.1	5.3	12.1	9.5	1.7	*	*	*	*	*
Q Human Health and Social Activities	23.0	24.1	16.0	25.6	9.9	8.0	*	[19.2]	37.3	50.0	*
Other (O, R & S)	9.8	10.5	5.6	7.5	*	11.6	*	*	*	*	*

TABLE A4.2   (CONTD.) DESCRIPTIVE STATISTICS OF RESPONDENTS - WOMEN, 2011–2018

	All	Irish	Non-Irish	UK (incl. NI)	EU-West	EU-East	Rest of Europe	NAAO	Africa	Asia	Rest of world
Firm size											
1-99 employees	66.9	67.5	63.1	64.4	47.6	68.0	66.6	62.8	60.0	51.7	61.1
100+ employees	33.1	32.5	36.9	35.6	52.4	32.0	[33.4]	37.3	40.0	48.3	[38.9]
Supervisory responsibilities											
Yes	29.8	30.4	25.6	32.9	32.3	20.5	*	31.3	25.8	36.7	*
Tenure (mean)											
Tenure in years	9.8	10.5	5.5	8.3	5.0	5.1	4.3	4.0	4.0	5.3	3.0
Usual hours (mean)											
Usual hours worked	31.8	31.6	33.5	30.8	36.5	33.3	32.5	35.8	32.2	36.4	32.6

Source: LFSEAADS Data 2011–2018, n = 63,940 participants.
Note: Higher occupations category consists of 'managers, directors & senior officials', 'professional occupations', and 'associate professional and technical'.

TABLE A4.3   DESCRIPTIVE STATISTICS OF RESPONDENTS – MEN, 2011–2018

	All	Irish	Non-Irish	UK (incl. NI)	EU-West	EU-East	Rest of Europe	NAAO	Africa	Asia	Rest of World
Age											
25-34 years	33.1	30.3	46.5	16.2	40.9	55.8	54.0	[32.2]	46.7	53.3	56.9
35-44 years	32.2	31.4	35.7	35.2	39.4	35.0	32.4	39.2	36.7	36.2	36.7
45-54 years	21.7	23.5	13.3	32.7	15.9	7.3	[11.5]	[23.6]	[14.9]	8.5	*
55-64 years	13.0	14.8	4.4	15.9	[3.9]	1.9	*	*	*	*	*
Marital status											
Single	34.4	34.3	34.6	25.9	50.3	37.2	[26.6]	*	31.1	21.2	43.6
Married	61.8	61.9	61.4	68.2	45.4	58.9	68.0	73.8	63.8	76.6	55.1
Widowed	0.6	0.7	*	*	*	*	-	-	-	*	-
Divorced/Legally Separated	3.2	3.1	3.7	5.2	*	3.5	*	*	*	*	*
Geographic location											
Dublin	30.6	28.9	39.0	31.5	54.8	32.8	45.4	42.6	50.5	55.8	[52.82]
Rest of Leinster	26.1	26.9	22.2	26.4	12.1	25.5	[17.7]	*	17.3	14.5	*
Munster	27.3	27.7	25.2	28.7	24.6	26.7	23.8	[22.6]	24.2	15.9	*
Connacht	10.4	10.5	9.5	9.4	7.6	10.4	*	*	*	9.7	*
Ulster (Part of)	5.6	5.9	4.1	[4.2]	*	4.6	*	*	*	*	*

TABLE A4.3   (CONTD.) DESCRIPTIVE STATISTICS OF RESPONDENTS – MEN, 2011–2018

	All	Irish	Non-Irish	UK (incl. NI)	EU-West	EU-East	Rest of Europe	NAAO	Africa	Asia	Rest of World
Educational attainment											
Third level honours degree or above	33.3	32.6	36.4	43.7	63.9	20.5	36.9	56.4	40.7	65.8	49.4
Third level non honours degree	13.8	13.4	16.0	18.0	17.3	15.6	[15.6]	*	14.9	15.8	*
Post Leaving Certificate	14.1	13.7	15.8	12.8	5.4	22.0	*	*	[12.8]	[5.3]	*
Higher Secondary	23.5	23.0	26.1	16.0	11.0	36.0	[25.5]	*	26.4	11.2	[24.0]
Primary or Lower Secondary	15.4	17.3	5.7	9.5	*	5.9	*	*	*	*	*
Occupation											
Higher occupations	42.2	44.2	32.7	55.3	62.4	15.4	27.5	59.1	30.2	45.6	41.4
Sector											
Private	81.3	78.7	94.0	86.5	94.1	98.5	96.9	85.1	89.4	85.9	92.9
Public & Commercial Semi-States	18.7	21.3	6.0	13.5	5.9	1.5	*	*	[10.6]	14.1	*
Sector – NACE											
B-E Industry	18.1	18.0	18.3	13.4	10.6	24.7	22.9	*	[9.7]	[5.6]	[23.1]
F Construction	7.3	7.7	5.4	[4.9]	*	7.9	*	*	*	*	*
G Wholesale & retail trade; Repair of motor vehicles and motorcycles	15.8	15.6	17.0	15.1	15.0	19.5	*	*	[11.7]	13.9	*
H Transportation and Storage	6.6	7.2	3.9	5.3	*	5.0	*	*	*	*	*

TABLE A4.3 **(CONTD.) DESCRIPTIVE STATISTICS OF RESPONDENTS – MEN, 2011–2018**

	All	Irish	Non-Irish	UK (incl. NI)	EU-West	EU-East	Rest of Europe	NAAO	Africa	Asia	Rest of World
I Accommodation and food service activities	6.6	4.7	16.1	5.9	12.6	18.7	*	*	27.7	20.3	*
J Information and communication	6.1	5.7	8.2	9.7	20.9	3.1	*	*	*	14.2	*
K-L Financial, insurance and real estate	5.8	6.1	4.2	8.4	9.8	1.9	*	*	*	*	*
M Professional, scientific and technical.	4.9	5.1	3.9	7.1	7.1	1.8	*	*	*	[5.8]	*
N Administrative and support services	7.5	6.7	11.5	8.3	12.0	12.6	*	*	[17.0]	[9.6]	*
P Education	5.1	5.6	2.9	7.1	5.3	*	*	*	*	*	*
Q Human Health and Social Activities	5.7	5.8	5.5	10.0	*	1.6	*	*	[13.4]	19.9	*
Other (O, R & S)	10.4	11.9	3.0	9.8	*	2.6	*	*	*	*	*
Firm size											
1-99 Employees	62.3	62.5	61.1	61.1	38.4	67.2	61.6	62.4	58.8	57.0	59.6
100+ Employees	37.7	37.5	38.9	38.9	61.6	32.8	38.5	37.6	41.2	43.0	40.4
Supervisory responsibilities											
Yes	34.3	35.5	28.0	44.0	40.8	19.1	[18.9]	46.3	28.9	30.7	[33.1]
Tenure (Mean)											
Tenure in years	10.0	11.0	5.4	7.5	5.0	5.2	4.0	6.0	4.5	4.6	3.3
Usual hours (mean)											
Usual Hours Worked	38.5	38.6	38.2	38.6	39.6	38.2	37.8	38.8	35.6	36.8	36.4

Source: LFSEAADS Data 2011-2018, *n* = 63,940 participants.
Note: Higher Occupations category consists of 'Managers, Directors & Senior Officials', 'Professional Occupations', and 'Associate Professional and Technical'

TABLE A5.1   HOURLY EARNINGS 2011-2018 OLS MODELS FOR (1) MEN; (2) WOMEN; AND (3) MEN AND WOMEN INTERACTION TERM

		Model 1: Women only	Model 2: Men only	Model 3: Interaction	Model 1: Men	Model 2: Women	Model 6: Interaction
Nationality DV	Migrant	-0.151*** (0.005)	-0.154*** (0.005)	-0.151*** (0.005)			
	Migrant # Man			-0.003 (0.007)			
Nationality groupings	UK (incl. NI)				0.009 (0.011)	0.023** (0.011)	0.009 (0.012)
	UK (incl. NI) # Man						0.015 (0.016)
	EU West				-0.052*** (0.013)	-0.096*** (0.013)	-0.052*** (0.014)
	EU West # Man						-0.044** (0.018)
	EU East				-0.238*** (0.007)	-0.224*** (0.006)	-0.238*** (0.007)
	EU East # Man						0.013 (0.009)
	Rest of Europe				-0.195*** (0.030)	-0.088*** (0.025)	-0.195*** (0.031)
	Rest of Europe # Man						0.107*** (0.039)
	NAAO				-0.094*** (0.027)	0.027 (0.031)	-0.094*** (0.028)
	NAAO # Man						0.122*** (0.041)
	Africa				-0.146*** (0.025)	-0.153*** (0.021)	-0.146*** (0.026)
	Africa # Man						-0.007 (0.033)

TABLE A5.1   (CONTD.) HOURLY EARNINGS 2011-2018 OLS MODELS FOR (1) MEN; (2) WOMEN; AND (3) MEN AND WOMEN INTERACTION TERM

		Model 1: Women only	Model 2: Men only	Model 3: Interaction	Model 1: Men	Model 2: Women	Model 6: Interaction
Age categories	Asia				-0.079*** (0.015)	-0.246*** (0.014)	-0.079*** (0.016)
	Asia # Man						-0.167*** (0.021)
	Rest of the World				-0.195*** (0.034)	-0.160*** (0.031)	-0.195*** (0.035)
	Rest of the World # Man						0.035 (0.046)
	35-44	0.128*** (0.004)	0.129*** (0.005)	0.128*** (0.005)	0.122*** (0.004)	0.119*** (0.005)	0.122*** (0.005)
	35-44 # Man			0.001 (0.006)			-0.003 (0.006)
	45-54	0.134*** (0.005)	0.174*** (0.006)	0.134*** (0.005)	0.123*** (0.005)	0.155*** (0.006)	0.123*** (0.005)
	45-54 # Man			0.040*** (0.008)			0.032*** (0.008)
	55-64	0.107*** (0.007)	0.094*** (0.007)	0.107*** (0.007)	0.095*** (0.007)	0.075*** (0.007)	0.095*** (0.007)
	55-64 # Man			-0.013 (0.010)			-0.020** (0.010)

TABLE A5.1   (CONTD.) HOURLY EARNINGS 2011-2018 OLS MODELS FOR (1) MEN; (2) WOMEN; AND (3) MEN AND WOMEN INTERACTION TERM

		Model 1: Women only	Model 2: Men only	Model 3: Interaction	Model 1: Men	Model 2: Women	Model 6: Interaction
Educational attainment	Third level honours degree or above	0.519*** (0.007)	0.480*** (0.006)	0.519*** (0.007)	0.517*** (0.007)	0.476*** (0.006)	0.517*** (0.007)
	Third level honours degree or above # Man			-0.040*** (0.009)			-0.042*** (0.009)
	Third level non honours degree	0.289*** (0.007)	0.257*** (0.007)	0.289*** (0.007)	0.289*** (0.007)	0.255*** (0.007)	0.289*** (0.007)
	Third level non honours degree # Man			-0.033*** (0.010)			-0.034*** (0.010)
	Post Leaving Cert	0.126*** (0.007)	0.150*** (0.007)	0.126*** (0.007)	0.127*** (0.007)	0.152*** (0.007)	0.127*** (0.007)
	Post Leaving Cert # Man			0.024** (0.010)			0.025*** (0.010)
	Higher secondary	0.132*** (0.007)	0.107*** (0.006)	0.132*** (0.007)	0.136*** (0.007)	0.110*** (0.006)	0.136*** (0.007)
	Higher secondary # Man			-0.025*** (0.009)			-0.026*** (0.009)
Geographical location	Rest of Leinster	-0.064*** (0.005)	-0.066*** (0.005)	-0.064*** (0.005)	-0.064*** (0.005)	-0.068*** (0.005)	-0.064*** (0.005)
	Rest of Leinster # Man			-0.002 (0.007)			-0.004 (0.007)
	Munster	-0.090*** (0.004)	-0.086*** (0.005)	-0.090*** (0.005)	-0.090*** (0.004)	-0.088*** (0.005)	-0.090*** (0.005)
	Munster # Man			0.004 (0.006)			0.002 (0.006)
	Connacht	-0.109*** (0.006)	-0.128*** (0.006)	-0.109*** (0.006)	-0.110*** (0.006)	-0.128*** (0.006)	-0.110*** (0.006)
	Connacht # Man			-0.018** (0.009)			-0.018** (0.009)
	Ulster	-0.143*** (0.007)	-0.174*** (0.008)	-0.143*** (0.008)	-0.144*** (0.007)	-0.176*** (0.008)	-0.144*** (0.008)
	Ulster # Man			-0.031*** (0.011)			-0.031*** (0.011)

TABLE A5.1 (CONTD.) HOURLY EARNINGS 2011-2018 OLS MODELS FOR (1) MEN; (2) WOMEN; AND (3) MEN AND WOMEN INTERACTION TERM

		Model 1: Women only	Model 2: Men only	Model 3: Interaction	Model 1: Men	Model 2: Women	Model 6: Interaction
Marital status	Married	0.056*** (0.004)	0.134*** (0.004)	0.056*** (0.004)	0.060*** (0.004)	0.141*** (0.004)	0.060*** (0.004)
	Married # Man			0.078*** (0.006)			0.082*** (0.006)
	Widow	-0.009 (0.013)	0.034 (0.022)	-0.009 (0.013)	-0.005 (0.013)	0.042* (0.022)	-0.005 (0.013)
	Widow # Man			0.043* (0.025)			0.047* (0.025)
	Divorce	-0.002 (0.007)	0.036*** (0.011)	-0.002 (0.008)	0.002 (0.007)	0.041*** (0.011)	0.002 (0.008)
	Divorce # Man			0.038*** (0.013)			0.039*** (0.013)
Tenure in years	Tenure	0.009*** (0.000)	0.009*** (0.000)	0.009*** (0.000)	0.009*** (0.000)	0.009*** (0.000)	0.009*** (0.000)
	Tenure # Man			-0.000 (0.000)			-0.000 (0.000)
Contract type	Permanent	0.023*** (0.007)	0.043*** (0.008)	0.023*** (0.007)	0.024*** (0.007)	0.045*** (0.008)	0.024*** (0.007)
	Permanent # Man			0.020* (0.010)			0.021** (0.010)
Full-time / part-time	Full-time	0.018*** (0.004)	0.056*** (0.007)	0.018*** (0.004)	0.019*** (0.004)	0.056*** (0.007)	0.019*** (0.004)
	Full-time # Man			0.038*** (0.008)			0.037*** (0.008)
Shift work	Shift Worker	-0.052*** (0.005)	-0.061*** (0.004)	-0.052*** (0.005)	-0.047*** (0.005)	-0.055*** (0.004)	-0.047*** (0.005)
	Shift worker # Man			-0.010 (0.006)			-0.008 (0.006)
Supervisory responsibilities	Yes	0.128*** (0.004)	0.165*** (0.004)	0.128*** (0.004)	0.125*** (0.004)	0.160*** (0.004)	0.125*** (0.004)
	Yes # Man			0.037*** (0.005)			0.035*** (0.005)

TABLE A5.1   (CONTD.) HOURLY EARNINGS 2011-2018 OLS MODELS FOR (1) MEN; (2) WOMEN; AND (3) MEN AND WOMEN INTERACTION TERM

		Model 1: Women only	Model 2: Men only	Model 3: Interaction	Model 1: Men	Model 2: Women	Model 6: Interaction
Trade union membership	Yes	0.097*** (0.004)	0.101*** (0.005)	0.097*** (0.005)	0.096*** (0.004)	0.099*** (0.005)	0.096*** (0.005)
	Yes # Man			0.004 (0.007)			0.003 (0.007)
Sector	Public	0.221*** (0.005)	0.107*** (0.005)	0.221*** (0.005)	0.217*** (0.005)	0.106*** (0.005)	0.217*** (0.005)
	Public # Man			-0.114*** (0.007)			-0.111*** (0.007)
Firm size	1-99 People	-0.112*** (0.004)	-0.182*** (0.004)	-0.112*** (0.004)	-0.110*** (0.004)	-0.181*** (0.004)	-0.110*** (0.004)
	1-99 People # Man			-0.070*** (0.005)			-0.071*** (0.005)
	Constant # Man			0.046*** (0.006)			0.046*** (0.006)
Year	2011	0.017*** (0.006)	-0.021*** (0.007)	0.017*** (0.007)	0.016** (0.006)	-0.021*** (0.007)	0.016** (0.007)
	2012	-0.000 (0.006)	-0.041*** (0.007)	-0.000 (0.007)	-0.001 (0.006)	-0.040*** (0.007)	-0.001 (0.007)
	2013	-0.018*** (0.006)	-0.045*** (0.007)	-0.018*** (0.007)	-0.018*** (0.006)	-0.045*** (0.007)	-0.018*** (0.007)
	2014	-0.041*** (0.006)	-0.053*** (0.007)	-0.041*** (0.007)	-0.041*** (0.006)	-0.052*** (0.007)	-0.041*** (0.007)
	2015	-0.025*** (0.006)	-0.041*** (0.007)	-0.025*** (0.007)	-0.024*** (0.006)	-0.041*** (0.007)	-0.024*** (0.007)
	2016	-0.032*** (0.006)	-0.039*** (0.007)	-0.032*** (0.007)	-0.031*** (0.006)	-0.039*** (0.007)	-0.031*** (0.006)
	2017	-0.009 (0.006)	-0.010 (0.007)	-0.009 (0.006)	-0.009 (0.006)	-0.009 (0.007)	-0.009 (0.006)

TABLE A5.1   (CONTD.) HOURLY EARNINGS 2011-2018 OLS MODELS FOR (1) MEN; (2) WOMEN; AND (3) MEN AND WOMEN INTERACTION TERM

		Model 1: Women only	Model 2: Men only	Model 3: Interaction	Model 1: Men	Model 2: Women	Model 6: Interaction
Year	2011 # Man			-0.038*** (0.009)			-0.037*** (0.009)
	2012 # Man			-0.040*** (0.010)			-0.039*** (0.009)
	2013 # Man			-0.027*** (0.009)			-0.027*** (0.009)
	2014 # Man			-0.012 (0.009)			-0.012 (0.009)
	2015 # Man			-0.016* (0.009)			-0.016* (0.009)
	2016 # Man			-0.008 (0.009)			-0.008 (0.009)
	2017 # Man			-0.001 (0.009)			-0.000 (0.009)

Source: LFSEAADS Data 2011–2018.
Note: Standard error appears in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

TABLE A5.2 **HOURLY EARNINGS OLS MODELS FOR: (1) NON THIRD-LEVEL EDUCATION (2) THIRD-LEVEL EDUCATION AND (3) INTERACTION WITH NATIONALITY**

		Model 1: Non third-level	Model 2: Third-level	Model 3: Interactions model	Model 1: Non third-level	Model 2: Third-level	Model 3: Interactions model
Nationality DV	Irish	1	1	1			
	Migrant	-0.109*** (0.005)	-0.177*** (0.005)	-0.109*** (0.005)			
	Migrant # Third level			-0.068*** (0.007)			
Nationality groupings	UK (incl. NI)				0.036*** (0.011)	0.002 (0.011)	0.036*** (0.012)
	UK (incl. NI) # Third level						-0.034** (0.016)
	EU West				0.001 (0.020)	-0.073*** (0.011)	0.001 (0.022)
	EU West # Third level						-0.074*** (0.024)
	EU East				-0.149*** (0.006)	-0.334*** (0.007)	-0.149*** (0.006)
	EU East # Third level						-0.185*** (0.009)
	Rest of Europe				-0.139*** (0.028)	-0.102*** (0.026)	-0.139*** (0.031)
	Rest of Europe # Third level						0.037 (0.039)
	NAAO				0.010 (0.040)	-0.024 (0.025)	0.010 (0.044)
	NAAO # Third level						-0.034 (0.050)
	Africa				-0.068*** (0.023)	-0.200*** (0.023)	-0.068*** (0.025)
	Africa # Third level						-0.132*** (0.033)

TABLE A5.2 **(CONTD.) HOURLY EARNINGS OLS MODELS FOR: (1) NON THIRD-LEVEL EDUCATION (2) THIRD-LEVEL EDUCATION AND (3) INTERACTION WITH NATIONALITY**

		Model 1: Non third-level	Model 2: Third-level	Model 3: Interactions model	Model 1: Non third-level	Model 2: Third-level	Model 3: Interactions model
Nationality groupings (contd.)	Asia				-0.190*** (0.023)	-0.144*** (0.012)	-0.190*** (0.025)
	Asia # Third level						0.047* (0.027)
	Rest of the World				-0.185*** (0.038)	-0.153*** (0.030)	-0.185*** (0.042)
	Rest of the World # Third level						0.032 (0.050)
Gender	Man	0.109*** (0.003)	0.091*** (0.004)	0.109*** (0.004)	0.109*** (0.003)	0.087*** (0.004)	0.109*** (0.004)
	Man # Third level			-0.018*** (0.005)			-0.022*** (0.005)
Age categories	35-44	0.067*** (0.005)	0.155*** (0.005)	0.067*** (0.005)	0.061*** (0.005)	0.145*** (0.005)	0.061*** (0.005)
	35-44 # Third level			0.088*** (0.007)			0.084*** (0.007)
	45-54	0.067*** (0.005)	0.199*** (0.006)	0.067*** (0.006)	0.057*** (0.005)	0.180*** (0.006)	0.057*** (0.006)
	45-54 # Third level			0.132*** (0.008)			0.124*** (0.008)
	55-64	0.017*** (0.006)	0.132*** (0.008)	0.017** (0.007)	0.006 (0.006)	0.112*** (0.008)	0.006 (0.007)
	55-64 # Third level			0.116*** (0.010)			0.106*** (0.010)

TABLE A5.2 **(CONTD.) HOURLY EARNINGS OLS MODELS FOR: (1) NON THIRD-LEVEL EDUCATION (2) THIRD-LEVEL EDUCATION AND (3) INTERACTION WITH NATIONALITY**

		Model 1: Non third-level	Model 2: Third-level	Model 3: Interactions model	Model 1: Non third-level	Model 2: Third-level	Model 3: Interactions model
Geographical Location	Rest of Leinster	-0.051*** (0.004)	-0.087*** (0.005)	-0.051*** (0.005)	-0.052*** (0.004)	-0.087*** (0.005)	-0.052*** (0.005)
	Rest of Leinster # Third level			-0.036*** (0.007)			-0.035*** (0.007)
	Munster	-0.064*** (0.004)	-0.109*** (0.005)	-0.064*** (0.005)	-0.065*** (0.004)	-0.110*** (0.005)	-0.065*** (0.005)
	Munster # Third level			-0.045*** (0.007)			-0.044*** (0.007)
	Connacht	-0.098*** (0.006)	-0.141*** (0.006)	-0.098*** (0.007)	-0.100*** (0.006)	-0.140*** (0.006)	-0.100*** (0.006)
	Connacht # Third level			-0.043*** (0.009)			-0.041*** (0.009)
	Ulster	-0.154*** (0.007)	-0.167*** (0.009)	-0.154*** (0.008)	-0.155*** (0.007)	-0.169*** (0.009)	-0.155*** (0.008)
	Ulster # Third level			-0.013 (0.011)			-0.014 (0.011)
Marital status	Married	0.087*** (0.004)	0.109*** (0.004)	0.087*** (0.004)	0.091*** (0.004)	0.114*** (0.004)	0.091*** (0.004)
	Married # Third level			0.022*** (0.006)			0.022*** (0.006)
	Widow	0.021 (0.013)	-0.023 (0.022)	0.021 (0.014)	0.025** (0.013)	-0.017 (0.021)	0.025* (0.014)
	Widow # Third level			-0.044* (0.025)			-0.042* (0.024)
	Divorce	0.030*** (0.007)	-0.026*** (0.010)	0.030*** (0.008)	0.033*** (0.007)	-0.018* (0.010)	0.033*** (0.008)
	Divorce # Third level			-0.056*** (0.012)			-0.051*** (0.012)

TABLE A5.2   (CONTD.) HOURLY EARNINGS OLS MODELS FOR: (1) NON THIRD-LEVEL EDUCATION (2) THIRD-LEVEL EDUCATION AND (3) INTERACTION WITH NATIONALITY

		Model 1: Non third-level	Model 2: Third-level	Model 3: Interactions model	Model 1: Non third-level	Model 2: Third-level	Model 3: Interactions model
Tenure of contract	Tenure	0.008*** (0.000)	0.009*** (0.000)	0.008*** (0.000)	0.008*** (0.000)	0.009*** (0.000)	0.008*** (0.000)
	Tenure # Third level			0.001* (0.000)			0.001*** (0.000)
Contract type	Permanent	0.006 (0.007)	0.031*** (0.008)	0.006 (0.008)	0.007 (0.007)	0.034*** (0.008)	0.007 (0.008)
	Permanent # Third level			0.025** (0.011)			0.026** (0.011)
Full-time / Part-time	Full-Time	0.016*** (0.004)	0.095*** (0.006)	0.016*** (0.005)	0.017*** (0.004)	0.095*** (0.006)	0.017*** (0.005)
	Full-Time # Third level			0.079*** (0.007)			0.079*** (0.007)
Shift worker	Yes	0.006 (0.004)	-0.159*** (0.005)	0.006 (0.005)	0.008* (0.004)	-0.148*** (0.005)	0.008* (0.004)
	Yes # Third level			-0.165*** (0.006)			-0.155*** (0.006)
Supervisory responsibilities	Yes	0.147*** (0.004)	0.163*** (0.004)	0.147*** (0.004)	0.143*** (0.004)	0.158*** (0.004)	0.143*** (0.004)
	Yes # Third level			0.017*** (0.006)			0.014** (0.006)
Trade union membership	Yes	0.131*** (0.004)	0.068*** (0.005)	0.131*** (0.005)	0.130*** (0.004)	0.068*** (0.005)	0.130*** (0.005)
	Yes # Third level			-0.063*** (0.007)			-0.061*** (0.007)
Sector	Public	0.154*** (0.005)	0.216*** (0.005)	0.154*** (0.006)	0.153*** (0.005)	0.207*** (0.005)	0.153*** (0.005)
	Public # Third level			0.062*** (0.007)			0.054*** (0.007)

TABLE A5.2   **(CONTD.) HOURLY EARNINGS OLS MODELS FOR: (1) NON THIRD-LEVEL EDUCATION (2) THIRD-LEVEL EDUCATION AND (3) INTERACTION WITH NATIONALITY**

		Model 1: Non third-level	Model 2: Third-level	Model 3: Interactions model	Model 1: Non third-level	Model 2: Third-level	Model 3: Interactions model
Firm size	1-99 people	-0.147*** (0.004)	-0.155*** (0.004)	-0.147*** (0.004)	-0.146*** (0.004)	-0.151*** (0.004)	-0.146*** (0.004)
	1-99 people # Third level			-0.008 (0.005)			-0.005 (0.005)
	Constant # Third level			0.084*** (0.005)			0.084*** (0.005)
Year	2011	-0.027*** (0.006)	-0.018** (0.007)	-0.027*** (0.007)	-0.026*** (0.006)	-0.020*** (0.007)	-0.026*** (0.007)
	2012	-0.040*** (0.006)	-0.035*** (0.007)	-0.040*** (0.007)	-0.039*** (0.006)	-0.036*** (0.007)	-0.039*** (0.007)
	2013	-0.044*** (0.006)	-0.052*** (0.007)	-0.044*** (0.007)	-0.043*** (0.006)	-0.052*** (0.007)	-0.043*** (0.007)
	2014	-0.046*** (0.006)	-0.050*** (0.007)	-0.046*** (0.007)	-0.045*** (0.006)	-0.049*** (0.007)	-0.045*** (0.007)
	2015	-0.037*** (0.006)	-0.037*** (0.007)	-0.037*** (0.007)	-0.036*** (0.006)	-0.036*** (0.007)	-0.036*** (0.007)
	2016	-0.036*** (0.006)	-0.043*** (0.007)	-0.036*** (0.007)	-0.036*** (0.006)	-0.041*** (0.007)	-0.036*** (0.007)

TABLE A5.2 (CONTD.) HOURLY EARNINGS OLS MODELS FOR: (1) NON THIRD-LEVEL EDUCATION (2) THIRD-LEVEL EDUCATION AND (3) INTERACTION WITH NATIONALITY

Year (contd.)	2017	-0.019***	-0.005	-0.019***	-0.019***	-0.004	-0.019***
		(0.006)	(0.007)	(0.007)	(0.006)	(0.007)	(0.007)
	2011 # Third level			0.009			0.007
				(0.010)			(0.010)
	2012 # Third level			0.005			0.003
				(0.010)			(0.010)
	2013 # Third level			-0.008			-0.009
				(0.010)			(0.010)
	2014 # Third level			-0.005			-0.004
				(0.010)			(0.009)
	2015 # Third level			-0.001			0.000
				(0.009)			(0.009)
	2016 # Third level			-0.007			-0.005
				(0.009)			(0.009)
	2017 # Third level			0.014			0.015
				(0.009)			(0.009)
	Constant	2.544***	2.777***	2.544***	2.545***	2.780***	2.545***
		(0.010)	(0.010)	(0.011)	(0.010)	(0.010)	(0.010)
	Observations	57,753	64,625	122,378	57,753	64,625	122,378
	R-squared	0.287	0.316	0.394	0.291	0.326	0.400
	F	801.5	1031	1347	656.6	867.7	1118

Source: LFSEAADS Data 2011–2018.

Note: Standard error appears in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Unknown cases in Contract Type and Geographical Location controlled for in the estimated specifications but not   shown.

TABLE A5.3   HOURLY EARNINGS OLS MODELS FOR: (1) PERIOD 2011-2013 (2) PERIOD 2016-2018 AND (3) INTERACTION WITH PERIOD

		(1) 2011–2013	(2) 2016–2018	(3) Interactions model	(1) 2011–2013	(2) 2016–2018	(3) Interactions model
Nationality DV	Irish	1	1	1	1	1	1
	Migrant	-0.167*** (0.005)	-0.138*** (0.006)	-0.167*** (0.006)			
	Migrant # period 2016–2018			0.031*** (0.008)			
Nationality groupings	UK (incl. NI)				0.011 (0.012)	0.010 (0.013)	0.011 (0.013)
	UK (incl. NI) # period 2016–2018						0.000 (0.018)
	EU-West				-0.100*** (0.014)	-0.034** (0.015)	-0.100*** (0.016)
	EU-West # period 2016–2018						0.068*** (0.021)
	EU-East				-0.235*** (0.007)	-0.220*** (0.008)	-0.235*** (0.008)
	EU-East # period 2016–2018						0.016 (0.011)
	Rest of Europe				-0.266*** (0.029)	-0.000 (0.031)	-0.266*** (0.033)
	Rest of Europe # period 2016–2018						0.270*** (0.043)
	NAAO				-0.071** (0.033)	0.002 (0.032)	-0.071* (0.037)
	NAAO # period 2016–2018						0.074 (0.047)
	Africa				-0.183*** (0.021)	-0.159*** (0.030)	-0.183*** (0.024)
	Africa # period 2016–2018						0.028 (0.036)
	Asia				-0.176*** (0.014)	-0.183*** (0.019)	-0.176*** (0.015)

TABLE A5.3   (CONTD.) HOURLY EARNINGS OLS MODELS FOR: (1) PERIOD 2011-2013 (2) PERIOD 2016-2018 AND (3) INTERACTION WITH PERIOD

	(1) 2011–2013	(2) 2016–2018	(3) Interactions model	(1) 2011–2013	(2) 2016–2018	(3) Interactions model
Asia # period 2016–2018						-0.006 (0.022)
Rest of the World				-0.184*** (0.033)	-0.209*** (0.040)	-0.184*** (0.038)
Rest of the World # Period 2016–2018						-0.025 (0.051)
Observations	54,095	40,350	94,445	54,095	40,350	94,445
R-squared	0.423	0.397	0.409	0.427	0.402	0.414
F	1417	947.2	1189	1152	773.6	965.3

Source: LFSEAADS data 2011–2018.

Note: Standard error appears in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Models control for gender, age, educational attainment, geographical location, marital status, job tenure, contract   type, full-time/part-time, shift worker, supervisory responsibilities, trade union membership, sector, firm size, and year dummies, but not shown in the table.

TABLE A5.4   HOURLY EARNINGS OLS MODELS WITH OCCUPATION

		(1) Nationality	(2) Individual	(3) Job	(4) Firm	(5) Occupation
Nationality groupings	Irish (RC)	1	1	1	1	1
	UK (incl. NI)	0.036*** (0.010)	-0.043*** (0.008)	0.020** (0.008)	0.019** (0.008)	0.010 (0.007)
	EU-West	-0.013 (0.012)	-0.141*** (0.010)	-0.059*** (0.009)	-0.075*** (0.009)	-0.062*** (0.009)
	EU-East	-0.424*** (0.006)	-0.327*** (0.005)	-0.245*** (0.005)	-0.230*** (0.005)	-0.161*** (0.005)
	Rest of Europe	-0.224*** (0.024)	-0.249*** (0.021)	-0.131*** (0.019)	-0.125*** (0.019)	-0.080*** (0.018)
	North America, Australia, Oceania	0.011 (0.026)	-0.111*** (0.022)	-0.027 (0.021)	-0.033 (0.021)	-0.020 (0.020)
	Africa	-0.222*** (0.020)	-0.252*** (0.017)	-0.151*** (0.016)	-0.154*** (0.016)	-0.100*** (0.015)
	Asia	-0.101*** (0.013)	-0.249*** (0.011)	-0.180*** (0.010)	-0.181*** (0.010)	-0.167*** (0.010)
	Rest of the World	-0.250*** (0.029)	-0.289*** (0.025)	-0.178*** (0.023)	-0.176*** (0.023)	-0.127*** (0.022)
Year	2011	-0.048*** (0.006)	0.018*** (0.005)	-0.007 (0.005)	-0.003 (0.005)	-0.015*** (0.005)
	2012	-0.059*** (0.006)	-0.002 (0.005)	-0.025*** (0.005)	-0.020*** (0.005)	-0.031*** (0.005)
	2013	-0.058*** (0.006)	-0.012** (0.005)	-0.034*** (0.005)	-0.032*** (0.005)	-0.038*** (0.005)
	2014	-0.063*** (0.006)	-0.034*** (0.005)	-0.050*** (0.005)	-0.047*** (0.005)	-0.048*** (0.004)
	2015	-0.051*** (0.006)	-0.021*** (0.005)	-0.033*** (0.005)	-0.032*** (0.005)	-0.034*** (0.004)
	2016	-0.044*** (0.006)	-0.023*** (0.005)	-0.035*** (0.005)	-0.035*** (0.005)	-0.040*** (0.004)
	2017	-0.026*** (0.006)	-0.006 (0.005)	-0.016*** (0.005)	-0.009** (0.005)	-0.011** (0.004)
	2018 (RC)	1	1	1	1	1

TABLE A5.4   (CONTD.) HOURLY EARNINGS OLS MODELS WITH OCCUPATION

Gender	Female (RC)	1	1	1	1	
	Man		0.119*** (0.003)	0.100*** (0.003)	0.110*** (0.003)	0.099*** (0.003)
Age categories	25-34 (RC)		1	1	1	1
	35-44		0.188*** (0.003)	0.127*** (0.003)	0.123*** (0.003)	0.119*** (0.003)
	45-54		0.269*** (0.004)	0.148*** (0.004)	0.142*** (0.004)	0.145*** (0.004)
	55-64		0.268*** (0.005)	0.095*** (0.005)	0.087*** (0.005)	0.094*** (0.005)
Educational attainment	Third level honours degree or above		0.627*** (0.005)	0.549*** (0.004)	0.498*** (0.004)	0.309*** (0.005)
	Third level non honours degree		0.361*** (0.005)	0.299*** (0.005)	0.273*** (0.005)	0.165*** (0.005)
	Post Leaving Certificate		0.165*** (0.005)	0.148*** (0.005)	0.141*** (0.005)	0.105*** (0.005)
	Higher secondary		0.169*** (0.005)	0.131*** (0.004)	0.121*** (0.004)	0.087*** (0.004)
	Primary or lower secondary (RC)		1	1	1	1
Geographical region	Dublin (RC)		1	1	1	1
	Rest of Leinster		-0.082*** (0.004)	-0.073*** (0.003)	-0.064*** (0.003)	-0.062*** (0.003)
	Munster		-0.107*** (0.004)	-0.103*** (0.003)	-0.087*** (0.003)	-0.080*** (0.003)
	Connacht		-0.141*** (0.005)	-0.130*** (0.004)	-0.118*** (0.004)	-0.111*** (0.004)
	Ulster		-0.194*** (0.006)	-0.177*** (0.006)	-0.157*** (0.006)	-0.150*** (0.005)

TABLE A5.4   (CONTD.) HOURLY EARNINGS OLS MODELS WITH OCCUPATION

Marital status	Single (RC)		1	1	1	1
	Married		0.133*** (0.003)	0.108*** (0.003)	0.103*** (0.003)	0.088*** (0.003)
	Widow		0.022* (0.012)	0.026** (0.012)	0.022** (0.011)	0.016 (0.011)
	Divorce		0.015** (0.007)	0.020*** (0.006)	0.021*** (0.006)	0.023*** (0.006)
Job tenure (in years)	Tenure			0.010*** (0.000)	0.009*** (0.000)	0.009*** (0.000)
Contract type	Permanent			0.007 (0.005)	0.034*** (0.005)	0.038*** (0.005)
	Temporary (RC)			1	1	1
Full-time / Part-time	Full-time			0.066*** (0.003)	0.038*** (0.003)	0.001 (0.003)
	Part-time (RC)			1	1	1
Shift worker	Yes			-0.030*** (0.003)	-0.052*** (0.003)	-0.023*** (0.003)
	No			1	1	1
Supervisory responsibilities	Yes			0.139*** (0.003)	0.143*** (0.003)	0.086*** (0.003)
	No (RC)			1	1	1
Trade union membership	Yes			0.192*** (0.003)	0.100*** (0.003)	0.102*** (0.003)
	No (RC)			1	1	1
Sector	Public				0.167*** (0.003)	0.126*** (0.003)
	Private (RC)				1	1
Firm size	1-99 employees				-0.146*** (0.003)	-0.139*** (0.003)
	100+ employees (RC)				1	1

TABLE A5.4   (CONTD.) HOURLY EARNINGS OLS MODELS WITH OCCUPATION

Occupation	Managers					-0.059*** (0.005)
	Associate professional					-0.132*** (0.004)
	Administrative and secretarial					-0.293*** (0.004)
	Skilled trades					-0.275*** (0.005)
	Caring, leisure and other service occupations					-0.371*** (0.005)
	Sales and customer service					-0.391*** (0.005)
	Process, plant and machine operatives					-0.308*** (0.006)
	Elementary occupations					-0.428*** (0.005)
	Professional occupations (RC)					1
	Constant	2.973*** (0.004)	2.387*** (0.006)	2.262*** (0.008)	2.371*** (0.008)	2.746*** (0.008)
	Observations	122,378	122,378	122,378	122,378	122,378
	R-squared	0.048	0.298	0.384	0.411	0.459
	F-Value	410.1	1678	2007	2136	2159

Source: LFSEAADS Data 2011–2018.

Note: Standard error appears in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Unknown cases in contract type and geographical location controlled for in the estimated specifications but not shown.

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