How did Immigrants Fare in the Irish Labour Market over the Great Recession?

Elish Kelly*
The Economic and Social Research Institute, Dublin, Trinity College Dublin and Institute of Labor Economics (IZA), Bonn

Seamus McGuinness
The Economic and Social Research Institute, Dublin, Trinity College Dublin and Institute of Labor Economics (IZA), Bonn

Philip J. O'Connell
UCD Geary Institute, Dublin

Alberto González Pandiella
Organisation for Economic Co-operation and Development, Paris

David Haugh
Organisation for Economic Co-operation and Development, Paris

Abstract: This paper examines the impact of the Great Recession on labour market outcomes for Irish immigrants compared to natives and how this relationship evolved afterwards. We find that the employment chances of immigrants decreased significantly over the recession and, on average, this persisted during the recovery. We also find that their relative unemployment risk increased, while there was substantial variation in these patterns between immigrants. Immigrants from the United Kingdom fared particularly badly during the recession. Their unfavourable outcomes intensified in the recovery, particularly among non-naturalised UK immigrants. African immigrants showed the highest employment penalties and unemployment risks during the recession but in the recovery these negative outcomes

were confined to naturalised African immigrants. The recovery trends appear to be related to composition effects, as many refugees with weak labour market attachment became naturalised citizens during the recession. This suggests that the difficulties some immigrants experience in the labour market would be underestimated without taking due account of naturalisation processes.

I INTRODUCTION

The Great Recession hit immigrants hard, and almost immediately, in most OECD countries. The impact of the economic downturn on unemployment has been more pronounced for immigrants than for the native-born in the majority of OECD countries (OECD, 2012; 2015). One of the main reasons for this is that immigrants tend to work in the economic sectors that are most sensitive to business cycles. This is also the case for Ireland, where the Recession was particularly severe.

Using data from the Quarterly National Household Survey (QNHS)[1] longitudinal dataset, this paper builds on earlier work by Barrett and Kelly (2012) and McGinnity *et al.* (2014) to examine the labour market impact of the recession on immigrants relative to natives before, during and as the Irish economy recovered from the downturn. In particular, we investigate the impact that the recession has had on the chances of employment and of unemployment of natives and immigrant groups. We also examine how labour market outcomes varied by two key migration-related variables – length of residency in Ireland and nationality – identifying separately the impact that the recession has had on immigrants that have gained Irish citizenship through naturalisation compared to those that retained their country-of-birth nationality. This is the first time that this distinction has been examined in research on immigrants in the Irish labour market. In undertaking this work, we investigate how the effects of Irish citizenship vary by the naturalised individuals' countries of origin.

The remainder of the paper is structured as follows. Section II presents a brief overview of the Irish labour market and also outlines the citizenship through naturalisation process in Ireland. The literature on the impact of the crisis on immigrant's labour market performance is discussed in Section III, while the data and methodology employed in the paper are described in Section IV. Finally, the results from the analyses and the conclusions are presented in Sections V and VI respectively

II IMMIGRANTS IN THE IRISH LABOUR MARKET

The Great Recession led to a severe deterioration in the Irish labour market. Total employment fell by over 14 per cent between the end of 2007, at the peak of the

---

[1] Now known as the Labour Force Survey (LFS).

boom, and the end of 2012. While employment among Irish nationals fell by 13 per cent, it fell by 21 per cent among non-Irish nationals. In 2006, during the boom, there was substantial variation around the average national employment rate of 69.1 per cent.[2] While nationals of the EU-NMS showed the highest employment rate, at 85 per cent, nationals of African countries had the lowest employment rate (44.5 per cent).

By 2012 the national average employment rate had fallen by 10 percentage points; the decline among non-Irish nationals was greater, falling almost 14 percentage points. The largest decline occurred among EU-NMS nationals. The average unemployment rate among non-Irish nationals was 7.2 per cent in 2006, about 3 percentage points higher than the national unemployment rate. Unemployment among nationals of African countries was much higher at 22.4 per cent. Previous research has argued that the very low employment rate and high unemployment rate among nationals of African countries reflects the scarring effects of the exclusion of many asylum seekers from participation in the Irish labour market while they awaited a decision on their asylum claim (Kingston *et al.*, 2013). O'Connell (2019) finds that the risk of participation in the Irish asylum system has a negative impact on labour market outcomes for African immigrants, although a residual element of the immigrant penalty among Africans should also be attributed to discrimination on the part of employers.

The national unemployment rate increased by 10 percentage points between 2006 and 2012. The highest unemployment rate continued to be among nationals of African countries. There were also substantial increases in the unemployment rates of those from the North America and Oceania (NAO) countries and from the Rest of the World, but not among nationals of Asian countries. In the context of recovery, the national average unemployment rate fell to 11.3 per cent in 2014, and to 13.5 per cent among non-Irish nationals. The largest decline was among African nationals, but this was only enough to return them to their pre-crisis high.

2.1 Citizenship Through Naturalisation in Ireland

Foreign nationals in Ireland may apply to become an Irish citizen if they are over 18 years, or a minor who was born in the State after 1 January 2005. The applicant must have had a period of one year continuous reckonable residence in the State immediately before the date of application and at least four years residence during the previous eight years. The applicant must intend to continue to reside in the State after naturalisation. The Migration Policy Group and Immigrant Council of Ireland (2013) observes that Ireland's legal regime is more inclusive and less restrictive than in most EU countries. However, it also argues that the Minister for Justice and Equality exercises a great deal of discretion in deciding applications for naturalisation. Applicants must be of "good character", a requirement that is not

---

[2] Employment rates based on those aged 15 to 64 years of age.

clearly defined and to have been "self-supporting" i.e. not dependent on social welfare for the three years prior to application. Periods spent in Ireland, for example, as an asylum applicant or as a student are not considered when calculating reckonable residence.

Table 1: Former Citizenship of Naturalised Irish

	Europe	*Africa*	*America*	*Asia*	*Oceania*	*Others*	*Total*
2005	852	868	1,181	765	413	0	4,079
2006	1,210	1,088	1,928	919	618	0	5,763
2007	555	721	2,240	671	462	0	4,649
2008	794	1,179	169	965	58	80	3,245
2009	1,025	1,522	235	1,633	81	45	4,541
2010	1,306	2,366	265	2,321	76	67	6,401
2011	1,869	3,005	380	5,050	105	300	10,709
2012	4,030	9,157	729	10,768	154	191	25,029
2013	3,974	9,142	720	10,264	124	38	24,262
2014	4,678	6,635	988	8,639	113	51	21,104
2015	4,060	3,400	842	5,128	88	47	13,565
2016	3,927	2,050	696	3,282	68	15	10,038
2017	4,134	1,322	558	2,128	47	6	8,195
2018	4,281	1,259	543	2,089	48	3	8,223

Source: Acquisition of Citizenship by Former Citizenship - Eurostat Database (May 2020).

Following the substantial increase in immigration to Ireland in the early years of the twenty-first century, there was an increase in applications for citizenship towards the end of the first decade, although this did not immediately give rise to a substantial increase in naturalisations. Joyce (2010) notes that 70 per cent of over 25,500 applications for naturalisation processed in 2009 were rejected as ineligible or invalid on technical grounds. Of the 7,300 eligible applications, just 5,868 were granted and 1,461 were refused – mainly because the applicants were not considered to be of good character or not to have demonstrated that they were in a position to support themselves and their dependants. These problems concerning lack of clarity on criteria and discretionary decisions were compounded by lengthy processing times. However, in 2011 a series of reforms were introduced to improve the application form, provide guidance and assistance for applicants in completing the form, speed up processing times and reduce the backlog of applications (McGinnity *et al.*, 2014). The impact of the reforms can be seen in Table 1. The number of naturalisation certificates issued increased from 4,541 in 2009 to over 25,000 in 2012. The almost 50,000 naturalisations in just two years, 2012 and 2013, are equivalent to almost one-third of the estimated stock of 159,000 non-EEA nationals resident in Ireland in 2010. About 40 per cent of naturalisations in this recent wave involved Asians and another 37 per cent related to Africans. There are significant

differences between the two groups. Most of the Africans who were recorded as Irish citizens in the 2012 Quarterly National Household Survey had been resident in Ireland for a decade or more, and most appear to have entered as asylum seekers in the early 2000s – nationals of just three African countries, Nigeria, Democratic Republic of Congo, and Zimbabwe accounted for about 40 per cent of all asylum seekers in Ireland between 2002 and 2004.[3] In contrast, the majority of Asian immigrants came to work in Ireland under the employment permits system: for example, over 50 per cent of employment permits were issued to nationals of Asian countries in 2007 (O'Connell *et al.*, 2012). After 2013, the surge of naturalisations fell off, as the backlog of potential applicants and applications was dealt with, and the number of naturalisations fell, to just over 21,000 in 2014 and to about 8,200 in 2017 and 2018.

Given the substantial movements of migrants both into and out of Ireland around the years of the Great Recession and the changes in the composition of the immigrant population over that period, this paper explores the extent to which differences in employment and unemployment among migrants reflect migrant penalties in changing labour market conditions or is due to underlying differences in the composition of migrant groups, specifically in terms of such potentially influential factors as age, education, gender, region of birth, acquisition of citizenship, and duration of residence in Ireland. We are particularly interested in the varying fortunes of different immigrant groups and in examining the role of naturalisation in employment and unemployment.

III LITERATURE REVIEW

Previous research has generated a substantial body of evidence suggesting that immigrants tend to fare less well than natives in host-country labour markets. This is attributed to the tendency for immigrants to possess characteristics associated with lower productivity (including lack of familiarity with language and local networks, and possession of relevant human capital) and perhaps to information deficits or discriminatory behaviour on the part of employers. But there is also evidence of variation within immigrant populations, with ethnic minorities showing higher unemployment and lower wages. Moreover, aliens may experience lower employment or wages than naturalised citizens because they are less well integrated in host societies and economies and less likely to participate in the full range of rights in the labour market enjoyed by natives and citizens.

Early work by Chiswick (1978) showed that, upon arrival, foreign-born men earned substantially less than the native-born with similar characteristics in the US,

---

[3] Authors' calculations from 'Monthly Statistics' relating to the years 2002, 2003 and 2004, published online by the Office of the Refugee Applications Commissioner, http://www.orac.ie/website/orac/orac website.nsf/page/orac-stats_archive-en

but that their earnings increased more rapidly than native-born men as they acquired knowledge of the language and labour markets and acquired training relevant to jobs in the US. He also found variation in earnings by country of origin, and that aliens earned less than naturalised citizens, mainly because the latter, on average, had been in the US for shorter periods. Blackaby *et al*. (1997) found that foreign-born ethnic minorities in the UK had higher unemployment rates than UK-born minorities, but found no evidence that UK-born minorities fared worse than White UK-born individuals. Wheatley Price (2001) found that both White and non-White immigrants had a lower probability of being employed, compared to White UK-born individuals, and while the disadvantage decreased over time for White immigrants, it persisted among non-White immigrants. Dustmann *et al*. (2003) found that individuals of minority ethnic groups, particularly those from Indian, Pakistani, Bangladeshi, Caribbean and Black African communities, were significantly less likely to be employed than the White native-born population in the UK, as were White individuals from former Eastern Bloc European countries. In their analysis of data on employees in Sweden, Arai and Vilhelmsson (2004) found large and significant differences in unemployment risks between immigrants and natives during the period 1992-1995. The unemployment risk for non-Europeans was twice the risk for natives, with the risk for European and Nordic groups lying between the two extremes. Other papers showing that labour market outcomes of immigrants varied by country of origin include Papademetriou and Terrazas (2010) for the United States; Sumption (2010) for the United Kingdom; Simon and Steichen (2014) for France; and Riva and Zanfrini (2014) for Italy.

In Ireland, O'Connell and McGinnity (2008) found that non-nationals were significantly more likely to be unemployed than natives in Ireland in 2004, controlling for other factors such as age and education. Black individuals showed the highest rates of unemployment, but the unemployment risk was also higher for immigrants from non-English speaking countries. Barrett and Duffy (2008) found that immigrants in Ireland were less likely to be in high-level occupations, that immigrants from the New Member States of the EU (NMS) had the lowest occupational attainment, and that there was little evidence of improved occupational attainment over time among the latter group. O'Connell (2019) shows that Africans have very low employment and high unemployment rates in the Irish labour market, controlling for a range of personal characteristics. The paper also finds that while the risk of exposure to the Irish asylum system exacerbates labour market inequalities among Africans, there remains a substantial residual African disadvantage in both employment and unemployment, which may be due to discriminatory practices by employers.

The effect of naturalisation on labour market status has received greater attention in countries which have been historically large recipients of immigrants, such as the United States and Canada. In the US, Bratsberg *et al*. (2002) found that naturalisation of male immigrants facilitated assimilation into the labour market,

leading to higher wages. These gains from naturalisation were greater for immigrants from developing countries and there was no evidence to suggest that wage gains preceded naturalisation. Pastor and Scoggins (2012) also found that earnings for naturalised workers rose significantly in the United States. DeVoretz and Pivnenko (2004) found significant earnings gains associated with citizenship in Canada, although their decomposition analysis attributed this effect to self-selection: more productive immigrants tend to become Canadian citizens.

Positive effects of naturalisation on outcomes such as employment, education and earnings have been found in a number of European countries (for example, in Sweden, Bevelander and Pendakur (2012) and Engdahl (2014); in Norway, Bratsberg and Raaum (2011); the Netherlands, Bevelander and Veenman (2006) and Bijwaard and Wahba (2014); and France, Jarreau (2015) and Fougère and Safi (2009)). However, Kogan (2003), in her analysis of the impact of naturalisation on former Yugoslavian immigrants to Sweden and Austria, found no evidence that citizenship affected the probability of unemployment in Austria, or in Sweden when the period of migration was controlled for. Steinhardt (2012) found a wage premium for naturalised immigrants in Germany. For males he found increased wage growth in the years following naturalisation, consistent with the argument that naturalisation increases the labour market opportunities of immigrants. However, Steinhardt found that the wage premium for females was due to positive self-selection.

Gathmann and Keller (2014) examined the effects of policies related to citizenship and found that liberalisation of citizenship in Germany generated some benefits in the labour market, especially for males, but although those benefits were unlikely to result in full economic and social integration of immigrants in the host country. In similar vein, Ersanilli and Koopmans (2010) concluded that the positive effects of naturalisation on integration materialises when there is a requirement for a certain degree of cultural assimilation from new citizens, such as in France and Germany.

This review of the research thus suggests that migration status, country of origin, ethnicity, acquisition of citizenship and length of time in host-country all influence employment and unemployment outcomes among immigrants. The literature on whether the effects of such factors vary over the business cycle is less developed. The impact of the economic downturn on unemployment has been more pronounced for immigrants than for the native-born in the majority of OECD countries (OECD, 2015). One of the main reasons for this is that immigrants tend to work in the economic sectors that are most sensitive to business cycles, and are more likely to work in temporary or part-time jobs, and to have shorter tenure, and therefore less employment protection, than native-born workers.

De la Rica and Polonyankina (2014) found that the effects of immigration on the labour market differ over the business cycle. During recession, immigration does not affect the employment levels of natives, but it does negatively affect the

employment levels of earlier immigrants. However, Cerveny and van Ours (2013) did not find that the recession had a differential impact on the unemployment of non-Western immigrants compared to natives in the Netherlands. In Ireland, Barrett and Kelly (2012) showed that the employment probabilities of immigrants from the EU NMS were particularly badly hit in the early years of the Irish recession 2008 and 2009, and they noted that this was accompanied by significant out-migration. Also in Ireland, Kingston *et al*. (2013) and McGinnity *et al*. (2014) found that particular ethnic groups and nationalities, particularly Black Africans faced difficulties in the labour market during the recent recession. Kelly at al. (2014) focused their analysis on unemployed youths in the Irish labour market and found evidence that the impact differs depending on nationality, and that this effect changed over the recent recession. Specifically, in 2006, before the recession, unemployed non-nationals were more likely to gain employment. However, the recession turned the balance in favour of unemployed Irish youths.

IV DATA AND METHODOLOGY

The analyses undertaken in this paper are based on the Quarterly National Household Survey (QNHS)[4] longitudinal data file. This dataset is compiled by the Central Statistics Office (CSO), which is Ireland's national statistical office. The main objective of the QNHS is to provide quarterly labour force estimates. The survey is continuous and targets all private households in the State. The total sample for each quarter is approximately 39,000, which is achieved by interviewing about 3,000 households per week. Households are asked to take part in the survey for five consecutive quarters. In each quarter, one-fifth of the households surveyed are replaced and the QNHS sample involves an overlap of 80 per cent between consecutive quarters and 20 per cent between the same quarters in consecutive years. While participation in the QNHS is voluntary, the response rate is quite high (approximately 85 per cent in recent years).[5]

In order to identify the labour market impact of the recession on immigrants compared to natives, and how this relationship has evolved since the downturn, we assessed both groups' likelihood of being employed and risk of unemployment. In capturing how immigrants fared before, during and after the recession relative to natives, we conducted our analyses using five different time points. Specifically, we selected 2006 as our pre-recession time-point, toward the end of the boom in Ireland; 2008 to capture the beginning of the recession; 2010 and 2012 the midst of the recession; and 2014 as the period when the economy had started to grow again. Quarter 3 data were used for each of the selected years. The years 2012 and 2014 also include the period of a surge in naturalisations of immigrants in Ireland.

---

[4] Now known as the Labour Force Survey (LFS).
[5] Information provided by the CSO.

The analyses are based on the working age population, which we define as those aged 15 to 64; with the self-employed, students and individuals from whom key data were missing excluded from the analyses.[6] The various specifications that we estimated included controls for i) gender, ii) age, iii) marital status, iv) family status, v) education, vi) geographic location and vii) sector.[7]

In this paper, natives are defined as people born in Ireland whose nationality is Irish, while immigrants are defined as people not born in Ireland. In addition to the exclusions mentioned previously, we also excluded i) non-Irish nationals who were born in Ireland and ii) individuals who were not born in the country that they have a nationality for, except individuals not born in Ireland who reported Irish nationality.

As discussed above, there has been a substantial increase in naturalisation since 2012, particularly of African- and Asian-born individuals. To isolate this effect, and to identify the true immigrant effect, we also included a variable that captured individuals born abroad who report that they are Irish nationals in some of our estimated models (Tables 4 and 7). This 'naturalised Irish citizen' variable is made up of a very diverse group and in our specifications in which we include this characteristic we break out the variable into the naturalised individuals' countries of birth.

We estimated binary probit models for each labour market status examined – employment and unemployment. The estimates produced through probit estimation cannot be readily interpreted because of the non-linear nature of the estimation procedure. Given this, marginal effects were calculated after estimating the probit models, using the mean of the explanatory variable as the base, as marginal effects give a measure of the size of the relationship between the dependent and explanatory variable.

Our employment analysis focuses on those in full-time employment and is based on all individuals aged 15-64 (i.e. the inactive are included),[8] while our unemployment analysis is based on those aged 15-64 that are in the labour force.

For each labour market status examined (employment and unemployment), we estimated three different immigrant specifications. Model 1 simply distinguishes between Irish natives and non-Irish-born immigrants. The second model includes seven country-of-birth groups among non-Irish-born immigrants; UK, EU13, EU-NMS, Africa, Asia, North America, Oceania, and Rest of Europe/World, relative to Irish-born natives. Model 2 also adds a duration of residence variable, divided into two categories; recent arrivals who report two years residency or less,

---

[6] Specifically, individuals with missing education, length of residency and sector information were excluded.
[7] For the employment analysis, the sector of employment data relates to the respondent's current sector of employment; while for the unemployment analysis, it relates to the respondent's previous sector of employment.
[8] Except for students.

and earlier immigrants with longer residency. Model 3 further breaks down the seven country-of groups into those who had acquired Irish nationality at the time of the survey versus those who had not. Thus, for example we can examine the employment chances of Asians who had naturalised, and those who had not, with those of Irish natives, controlling for the range of other covariates in each model.

Each probit model that was estimated was weighted to ensure that the results were representative of the population in Ireland at each time point examined.

V RESULTS

5.1 Employment Models

As can be seen from Table 2, the impact of most of the covariates that we examined in our employment probability model for Ireland evolved over the period of recession and recovery. The male versus female advantage in employment probability declined between 2006 and 2012 and recovered somewhat in 2014. The probability of employment increased among all age groups relative to those aged 55-64, with the probability gap increasing over the recession. That gap had also receded somewhat in 2014 (with respect to 2012), but it is still larger than it was in 2006. The advantage of holding a medium- or high-level qualification over a low-level qualification increased substantially during the recession, but it had fallen somewhat by 2014.

Controlling for other relevant factors, foreign-born immigrants were 5 per cent less likely to be employed than native-born Irish in 2006 and this fell to 4 per cent at the end of the boom in 2008. The employment penalty increased to almost 7 per cent at the height of the recession in 2010 and almost 6 per cent in 2012. In 2014 the immigrant employment penalty remained at just under 7 per cent, suggesting that immigrants benefitted little, if at all, from the employment recovery.

The effects reported in Table 2 represent the average experiences of migrants in general. However, we know that immigrants in Ireland come from a diverse range of origin countries. Table 3 distinguishes the employment probabilities of immigrants from seven different country-of-origin groups, controlling for the covariates reported in Table 2, and shows substantial variation in employment chances. Africans stand out with particularly low employment prospects: compared to Irish-born natives, Africans were 18 per cent less likely to be employed in 2006, during the boom. This disadvantage increased to 27 per cent in 2010 and stood at 24 per cent in 2012 but fell to 11 per cent in 2014. Immigrants from the United Kingdom were 8 per cent less likely to be employed than their Irish-born counterpart in 2006 and this increased to 8.6 per cent in 2012 and to almost 12 per cent in 2014, so the employment chances of UK immigrants actually deteriorated in the recovery period.

Table 2: Probit Model 1 of Employment: Non-Irish-Born vs Irish Natives, 2006 to 2014 (Marginal Effects)

	2006	*2008*	*2010*	*2012*	*2014*
Male	0.157***	0.133***	0.135***	0.119***	0.131***
	(0.006)	(0.006)	(0.008)	(0.008)	(0.008)
Ref: Aged 55-64					
Age 15-19	0.126***	0.126***	0.184***	0.237***	0.180***
	(0.005)	(0.008)	(0.020)	(0.014)	(0.015)
Age 20-24	0.136***	0.116***	0.179***	0.181***	0.193***
	(0.005)	(0.008)	(0.011)	(0.011)	(0.007)
Age 25-34	0.134***	0.145***	0.211***	0.237***	0.205***
	(0.006)	(0.008)	(0.011)	(0.010)	(0.009)
Age 35-44	0.116***	0.129***	0.189***	0.204***	0.191***
	(0.005)	(0.006)	(0.010)	(0.010)	(0.008)
Age 45-54	0.126***	0.134***	0.197***	0.204***	0.176***
	(0.004)	(0.005)	(0.009)	(0.009)	(0.008)
Ref: Married					
Single	0.043***	0.036***	–0.018*	–0.053***	–0.039***
	(0.007)	(0.008)	(0.011)	(0.011)	(0.011)
Widowed	0.014	0.047**	–0.043	–0.068*	–0.085**
	(0.018)	(0.019)	(0.037)	(0.037)	(0.039)
Divorced	0.006	–0.009	–0.037*	–0.081***	–0.001
	(0.012)	(0.014)	(0.019)	(0.020)	(0.018)
Ref: Couple, No Children					
Couple, Children	–0.049***	–0.056***	–0.089***	–0.071***	–0.051***
	(0.006)	(0.007)	(0.010)	(0.010)	(0.009)
Lone Parent	–0.154***	–0.199***	–0.218***	–0.199***	–0.167***
	(0.014)	(0.015)	(0.018)	(0.018)	(0.018)
Not in Family, Unit Lives Alone	–0.052***	–0.090***	–0.058***	–0.054***	–0.052***
	(0.014)	(0.015)	(0.017)	(0.017)	(0.017)
Not in Family Unit, Lives with Others	0.036***	0.032***	0.034**	0.066***	0.048***
	(0.010)	(0.012)	(0.016)	(0.016)	(0.015)
Ref: Low Education					
Medium	0.084***	0.100***	0.114***	0.130***	0.112***
	(0.005)	(0.006)	(0.009)	(0.009)	(0.009)
High	0.138***	0.152***	0.218***	0.254***	0.198***
	(0.005)	(0.007)	(0.010)	(0.010)	(0.010)
Ref: Dublin					
Border	–0.022***	–0.044***	–0.057***	–0.085***	–0.066***
	(0.008)	(0.010)	(0.014)	(0.015)	(0.014)
Midland	0.012	–0.044***	–0.060***	–0.077***	–0.087***
	(0.009)	(0.013)	(0.016)	(0.016)	(0.017)

Table 2: Probit Model 1 of Employment: Non-Irish-Born vs Irish Natives, 2006 to 2014 (Marginal Effects) (Contd.)

	2006	*2008*	*2010*	*2012*	*2014*
West	−0.010	−0.037***	−0.019	0.001	−0.037***
	(0.010)	(0.011)	(0.014)	(0.013)	(0.014)
Mid-East	−0.000	−0.017	−0.003	−0.020	−0.030**
	(0.008)	(0.010)	(0.012)	(0.013)	(0.013)
Mid-West	0.006	−0.042***	−0.035***	−0.043***	−0.033**
	(0.008)	(0.011)	(0.014)	(0.014)	(0.015)
South-East	0.009	−0.020**	−0.054***	−0.076***	−0.066***
	(0.007)	(0.009)	(0.013)	(0.013)	(0.014)
South-West	0.012*	−0.003	−0.002	−0.005	−0.051***
	(0.007)	(0.008)	(0.011)	(0.011)	(0.012)
Ref: Irish					
All Non-Irish-	−0.052***	−0.042***	−0.068***	−0.059***	−0.069***
Born Immigrants	(0.008)	(0.008)	(0.010)	(0.010)	(0.010)
Ref: Industry					
Agriculture, Forestry	−0.074***	−0.063***	0.046*	−0.010	−0.008
and Fishing	(0.020)	(0.024)	(0.024)	(0.029)	(0.029)
Construction	−0.017*	−0.144***	−0.366***	−0.386***	−0.309***
	(0.009)	(0.013)	(0.015)	(0.016)	(0.020)
Wholesale and	−0.034***	−0.041***	−0.038***	−0.073***	−0.066***
Retail	(0.009)	(0.010)	(0.013)	(0.014)	(0.014)
Transportation	−0.000	−0.005	0.037**	0.015	−0.039**
and Storage	(0.012)	(0.014)	(0.017)	(0.018)	(0.020)
Accommodation	−0.097***	−0.102***	−0.078***	−0.140***	−0.131***
and Food Storage	(0.014)	(0.015)	(0.017)	(0.019)	(0.020)
Information and	−0.027*	−0.037**	−0.004	0.021	−0.054**
Communication	(0.015)	(0.018)	(0.020)	(0.020)	(0.021)
Financial, Insurance	0.037***	0.030**	0.073***	0.065***	−0.019
and Real Estate	(0.010)	(0.013)	(0.016)	(0.017)	(0.018)
Professional,	0.018	−0.009	−0.042**	−0.068***	−0.040**
Scientific and	(0.012)	(0.015)	(0.020)	(0.021)	(0.020)
Technical					
Administrative and	−0.075***	−0.089***	−0.098***	−0.118***	−0.115***
Support Services	(0.015)	(0.017)	(0.021)	(0.022)	(0.025)
Public Administration	0.064***	0.090***	0.164***	0.100***	0.064***
and Defence	(0.008)	(0.009)	(0.011)	(0.014)	(0.014)
Education	0.036***	0.008	0.117***	0.003	−0.019
	(0.009)	(0.012)	(0.013)	(0.016)	(0.016)
Health and Social	0.046***	0.037***	0.120***	0.058***	0.030**
Work	(0.008)	(0.010)	(0.011)	(0.013)	(0.013)
Creative, Arts and	0.006	−0.029	−0.059**	−0.037	−0.134***
Entertainment	(0.019)	(0.023)	(0.029)	(0.030)	(0.034)

Table 2: Probit Model 1 of Employment: Non-Irish-Born vs Irish Natives, 2006 to 2014 (Marginal Effects) (contd.)

	2006	*2008*	*2010*	*2012*	*2014*
Other Services	−0.060***	−0.107***	−0.104***	−0.114***	−0.180***
	(0.017)	(0.022)	(0.026)	(0.025)	(0.029)
Observations	27,382	23,117	19,921	19,390	16,897
Pseudo R-squared	0.141	0.126	0.157	0.162	0.133

Source: Derived using Quarterly National Household Survey Q3 microdata.
Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Table 3: Probit Model 2 of Employment, Summary Results: Detailed Country-of Birth Groups, 2006 to 2014 (Marginal Effects)

	2006	*2008*	*2010*	*2012*	*2014*
Country of Birth Group					
(Reference – Irish)					
UK	−0.079***	−0.072***	−0.070***	−0.086***	−0.117***
	(0.013)	(0.013)	(0.016)	(0.017)	(0.018)
EU13	0.005	−0.040	0.005	0.010	0.026
	(0.025)	(0.030)	(0.034)	(0.034)	(0.028)
NMS	0.076***	0.031**	−0.024	−0.006	−0.029*
	(0.013)	(0.014)	(0.016)	(0.014)	(0.015)
Africa	−0.182***	−0.173***	−0.269***	−0.239***	−0.106***
	(0.044)	(0.046)	(0.043)	(0.040)	(0.041)
Asia	−0.019	−0.041	−0.058*	−0.002	−0.040
	(0.028)	(0.029)	(0.033)	(0.032)	(0.031)
North America, Australia, Oceania	0.014	−0.033	−0.094**	−0.036	0.004
	(0.026)	(0.036)	(0.046)	(0.045)	(0.044)
Rest of Europe/ World	−0.044	−0.095**	−0.054	−0.210***	−0.099**
	(0.030)	(0.038)	(0.048)	(0.044)	(0.046)
Recent Arrival	−0.078***	−0.038**	−0.100***	−0.018	−0.058*
	(0.021)	(0.018)	(0.031)	(0.034)	(0.033)

Source: Derived using Quarterly National Household Survey Q3 microdata.
Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.
Models control for sex, age group, marital status, education, region, and industrial sector, as in Model 1.

The employment prospects of immigrants from the residual and very diverse group of Rest-of-World countries deteriorated during the recession and then recovered in 2014. In general, immigrants who had arrived within the two years prior to each survey date showed lower employment probabilities than those who had longer

duration of residency in Ireland: the size of this effect fluctuated over the course of the business cycle but was greatest in 2010.

We noted above that there was a substantial increase in naturalisation of immigrant residents in Ireland after 2011 and we have seen the research evidence from other countries that naturalised immigrants tend to fare better in the labour market than non-citizens. Table 4 disaggregates the employment effects for country-of-birth groups into naturalised citizens (in Panel A) and non-naturalised residents (in Panel B). Our main groups of interest are immigrants from the UK and Africa. Among immigrants born in the UK, naturalised Irish citizens suffer a smaller employment deficit than their non-naturalised counterparts. For example, in 2006 immigrants from the UK who had naturalised were 4 per cent less likely to be in employment, compared to 12 per cent of those who had not naturalised. This pattern is consistent with the international pattern that naturalised immigrants tend to fare better in the labour market than their non-naturalised counterparts from the same country. The disadvantage experienced by non-naturalised UK immigrants increased to 16 per cent in 2014, compared to 8 per cent among naturalised immigrants from the UK.

Among immigrants of African origin, the pattern shifts over time. In the early period and through the recession, non-naturalised Africans showed lower employment gaps, relative to native Irish, than naturalised Irish citizens of African origin. In 2012 naturalised Irish of African origin were 14 per cent less likely to be employed than native Irish, compared to 27 per cent of non-naturalised Africans. However, by 2014 the employment deficit among naturalised immigrants had increased to 16 per cent while that for non-naturalised had disappeared.

This followed a marked increase in naturalisations of mostly non-EEA nationals after the election of the new Government in 2011. As we have seen many of the newly naturalised citizens were of African origin (see Table 1). Further inspection of the QNHS data shows that almost 80 per cent of naturalised Irish of African origin had been resident in Ireland for ten or more years. Kingston *et al.* (2013) argue that a large share of African immigrants with this duration would have originally entered as asylum seekers and been denied access to the labour market for extended periods as they awaited recognition as refugees. The non-naturalised group are of much more recent arrival, just 38 per cent had been resident for ten years or more – so less of the non-naturalised group were likely to have been exposed to, and scarred by, the Irish asylum system.

5.2 Unemployment Models

Table 5 shows the models describing the determinants of unemployment between 2006 and 2014. The risk of unemployment increased sharply for men relative to women during the recession and fell in 2014, but not to pre-recession levels. Unemployment rates fell over the period for individuals in the 15-34 age groups. On the other hand, the risk of unemployment increased for individuals with medium

Table 4: Probit Model 3 of Employment, Summary Results: Detailed Country-of Birth Groups by Naturalisation 2006 to 2014 (Marginal Effects)

	2006	*2008*	*2010*	*2012*	*2014*
PANEL A: Non-naturalised Immigrants Country of Birth Group					
(Reference – Irish)					
UK	–0.120***	–0.108***	–0.111***	–0.124***	–0.164***
	(0.022)	(0.023)	(0.028)	(0.030)	(0.033)
EU13	0.013	–0.040	–0.001	0.032	0.022
	(0.026)	(0.031)	(0.035)	(0.036)	(0.030)
NMS	0.073***	0.030**	–0.023	–0.005	–0.026
	(0.013)	(0.014)	(0.016)	(0.015)	(0.016)
Africa	–0.200***	–0.172***	–0.319***	–0.273***	–0.042
	(0.050)	(0.055)	(0.049)	(0.049)	(0.061)
Asia	–0.011	–0.038	–0.065*	0.006	–0.063
	(0.029)	(0.031)	(0.035)	(0.037)	(0.043)
North America, Australia, Oceania[1]	0.022	–0.060	–0.068	–0.012	–0.036
	(0.035)	(0.053)	(0.067)	(0.070)	(0.065)
Rest of Europe/ World	–0.055*	–0.102**	–0.062	–0.224***	–0.086
	(0.034)	(0.041)	(0.059)	(0.053)	(0.056)
Recent Arrival	–0.070***	–0.033*	–0.094***	–0.018	–0.059*
	(0.021)	(0.018)	(0.031)	(0.034)	(0.034)
	2006	*2008*	*2010*	*2012*	*2014*
PANEL B: Naturalised Irish Citizens Country of Birth Group					
(Reference – Irish)					
UK	–0.040***	–0.038***	–0.027	–0.046**	–0.075***
	(0.014)	(0.014)	(0.018)	(0.019)	(0.019)
EU13	–0.107	–0.017	0.115	–0.122	0.099
	(0.083)	(0.098)	(0.079)	(0.098)	(0.063)
NMS[2]		0.047	–0.008	0.072	0.003
		(0.087)	(0.086)	(0.065)	(0.049)
Africa[3]	‾0.091	–0.160**	–0.029	–0.142**	–0.159***
	(0.082)	(0.077)	(0.073)	(0.063)	(0.049)
Asia	–0.102	–0.055	0.032	0.004	0.025
	(0.086)	(0.085)	(0.085)	(0.052)	(0.035)
North America, Australia, Oceania	0.004	0.008	–0.103	–0.037	–0.016
	(0.037)	(0.044)	(0.063)	(0.058)	(0.053)
Rest of Europe/ World[4]	0.021	–0.014	–0.012	–0.139**	–0.109
	(0.043)	(0.080)	(0.079)	(0.069)	(0.070)
Recent Arrival	–0.044***	–0.039***	–0.131***	–0.055	–0.093***
	(0.014)	(0.015)	(0.030)	(0.034)	(0.034)

Source: Derived using Quarterly National Household Survey Q3 microdata.
Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.
Models control for sex, age group, marital status, education, region, and industrial sector, as in Model 1.

levels of educational attainment, couples with children, lone parents and individuals who live alone. Relative to Dublin, the risk of unemployment increased for labour market participants residing in the South-East, Midland and West regions.

Table 5: Probit Model 1 of Unemployment: Non-Irish-Born vs Irish Natives, 2006 to 2014 (Marginal Effects)

	2006	*2008*	*2010*	*2012*	*2014*
Male	0.004	0.017***	0.036***	0.036***	0.010**
	(0.003)	(0.003)	(0.005)	(0.005)	(0.005)
Ref: Aged 55-64					
Age 15-19	0.016*	0.033**	0.012	–0.050***	–0.038***
	(0.010)	(0.014)	(0.023)	(0.017)	(0.013)
Age 20-24	0.017**	0.047***	0.034**	0.022	–0.027***
	(0.007)	(0.011)	(0.014)	(0.014)	(0.008)
Age 25-34	0.015***	0.020***	0.025**	–0.001	–0.008
	(0.006)	(0.007)	(0.010)	(0.009)	(0.008)
Age 35-44	0.014**	0.014**	0.016*	–0.002	–0.009
	(0.005)	(0.006)	(0.009)	(0.008)	(0.007)
Age 45-54	0.007	0.011*	0.008	–0.002	–0.010
	(0.005)	(0.006)	(0.009)	(0.008)	(0.007)
Ref: Married					
Single	0.018***	0.019***	0.041***	0.061***	0.052***
	(0.004)	(0.004)	(0.007)	(0.007)	(0.007)
Widowed	–0.008	–0.021**	–0.024	0.003	–0.016
	(0.010)	(0.010)	(0.021)	(0.025)	(0.020)
Divorced	0.028***	0.030***	0.055***	0.103***	0.036***
	(0.009)	(0.010)	(0.015)	(0.017)	(0.013)
Ref: Couple, No Children					
Couple, Children	0.005	0.009**	0.034***	0.029***	0.028***
	(0.003)	(0.004)	(0.006)	(0.007)	(0.006)
Lone Parent	0.017***	0.035***	0.082***	0.063***	0.070***
	(0.006)	(0.008)	(0.013)	(0.013)	(0.013)
Not in Family Unit,	0.004	0.017**	0.024**	0.039***	0.038***
Lives Alone	(0.006)	(0.008)	(0.012)	(0.013)	(0.012)
Not in Family Unit,	–0.012***	–0.012**	–0.008	–0.015	–0.013
Lives with Others	(0.004)	(0.005)	(0.010)	(0.010)	(0.009)
Ref: Low Education					
Medium	–0.017***	–0.031***	–0.040***	–0.045***	–0.037***
	(0.002)	(0.003)	(0.005)	(0.006)	(0.005)
High	–0.027***	–0.038***	–0.080***	–0.092***	–0.071***
	(0.003)	(0.004)	(0.006)	(0.007)	(0.006)
Education Ref: Dublin					
Border	0.007	0.008	0.007	0.030***	0.012
	(0.004)	(0.005)	(0.009)	(0.010)	(0.008)

Table 5: Probit Model 1 of Unemployment: Non-Irish-Born vs Irish Natives, 2006 to 2014 (Marginal Effects) (Contd.)

	2006	*2008*	*2010*	*2012*	*2014*
Midland	−0.007*	0.008	0.024**	0.034***	0.039***
	(0.004)	(0.007)	(0.011)	(0.011)	(0.011)
West	0.006	0.020***	0.018*	0.014	0.024***
	(0.005)	(0.007)	(0.009)	(0.009)	(0.009)
Mid-East	−0.008**	−0.002	0.004	0.012	0.010
	(0.004)	(0.005)	(0.008)	(0.009)	(0.008)
Mid-West	0.003	0.013**	0.034***	0.038***	0.009
	(0.004)	(0.006)	(0.010)	(0.010)	(0.009)
Ref: Dublin					
South-East	−0.002	0.007	0.034***	0.048***	0.039***
	(0.004)	(0.005)	(0.009)	(0.010)	(0.009)
South-West	−0.008***	−0.000	0.006	−0.006	0.010
	(0.003)	(0.004)	(0.007)	(0.007)	(0.007)
Ref: Irish					
All Non-Irish-Born	0.023***	0.020***	0.043***	0.039***	0.030***
Immigrants	(0.005)	(0.005)	(0.007)	(0.007)	(0.007)
Ref: Industry					
Agriculture, Forestry	−0.009	0.015	−0.038***	−0.010	−0.032***
and Fishing	(0.007)	(0.013)	(0.013)	(0.017)	(0.012)
Construction	0.002	0.080***	0.279***	0.281***	0.166***
	(0.004)	(0.009)	(0.016)	(0.017)	(0.016)
Wholesale and Retail	−0.002	0.007	−0.002	−0.001	−0.001
	(0.004)	(0.005)	(0.008)	(0.008)	(0.007)
Transportation and	−0.008	−0.005	−0.020**	−0.017	0.003
Storage	(0.005)	(0.007)	(0.010)	(0.011)	(0.011)
Accommodation and	0.016**	0.018**	0.001	−0.001	0.021**
Food Storage	(0.006)	(0.008)	(0.010)	(0.010)	(0.010)
Information and	−0.003	0.003	−0.016	−0.027**	0.001
Communication	(0.006)	(0.009)	(0.012)	(0.011)	(0.012)
Financial, Insurance	−0.017***	−0.017***	−0.042***	−0.051***	−0.012
and Real Estate	(0.004)	(0.006)	(0.009)	(0.009)	(0.010)
Professional,	−0.017***	0.002	0.025*	0.016	−0.011
Scientific and	(0.004)	(0.008)	(0.014)	(0.013)	(0.010)
Technical					
Administrative and	0.017**	0.021**	0.033**	0.029**	0.036**
Support Services	(0.007)	(0.009)	(0.014)	(0.014)	(0.014)
Public Administration	−0.025***	−0.037***	−0.092***	−0.084***	−0.052***
and Defence	(0.003)	(0.003)	(0.005)	(0.006)	(0.006)
Education	−0.007	−0.005	−0.054***	−0.014	−0.006
	(0.005)	(0.007)	(0.008)	(0.010)	(0.009)
Health and Social	−0.016***	−0.021***	−0.066***	−0.056***	−0.034***
Work	(0.003)	(0.004)	(0.006)	(0.007)	(0.006)

Table 5:　Probit Model 1 of Unemployment: Non-Irish-Born vs Irish Natives, 2006 to 2014 (Marginal Effects) (Contd.)

	2006	*2008*	*2010*	*2012*	*2014*
Creative, Arts and	−0.004	0.010	−0.003	−0.011	0.013
Entertainment	(0.008)	(0.012)	(0.016)	(0.015)	(0.016)
Other Services	−0.004	−0.005	0.001	−0.009	0.016
	(0.006)	(0.009)	(0.014)	(0.013)	(0.015)
Observations	27,962	24,086	20,422	20,189	18,126
Pseudo R-squared	0.0603	0.111	0.173	0.154	0.100

Source: Derived using Quarterly National Household Survey Q3 microdata.
Note: Robust standard errors in parentheses; *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

With respect to migrants, the results from the unemployment models strongly reflect those of the employment equations. On average, immigrants were 2 per cent more likely to be unemployed than their native Irish counterparts in 2006. This immigrant unemployment gap increased to about 4 per cent in 2010 and 2012 and fell back to 3 per cent in 2014.

Table 6 shows substantial variation around these average immigrant unemployment risks. Once again, Africans stand out as being hit particularly hard in the recession: Africans were 11 per cent more likely to be unemployed than their Irish counterparts in 2006, controlling for other relevant factors. The African unemployment gap increased to 16 per cent in 2010 and almost 19 per cent in 2012 before returning to about its pre-recession level at 10 per cent in 2014. The unemployment penalty among immigrants from the UK increased gradually but steadily, from 3 per cent in 2006 to 5 per cent in 2014, with no evidence of them benefitting from the wider labour market upturn in the latter year. Immigrants from the Rest-of-World group of countries also saw an increase in their unemployment gap, relative to Irish natives, increasing from 4 per cent in 2006 to 7 per cent in 2012 before falling to par with the native Irish rate in 2014. This latter effect may reflect selective inward migration of highly skilled non-EEA nationals to meet specific skill needs.

Table 7 shows unemployment models disaggregated by non-naturalised country of birth versus naturalised Irish by country of birth. For those of African and UK origin, the patterns mirror those found in the employment equations. Among those from the UK, the unemployment penalty mainly concerns non-naturalised residents, whose unemployment penalty increased from 4 per cent in 2006 to 9 per cent in 2014. UK-born naturalised Irish experienced similar unemployment risks as native Irish in most years, and their unemployment penalty was less than 3 per cent in 2010, in the depths of the recession. The African unemployment effects are mainly driven by non-naturalised immigrants up to 2012: their unemployment penalty, relative to Irish natives, increased from 14 per cent in 2006 to over 17 per cent in

Table 6: Probit Model 2 of Unemployment, Summary Results: Detailed Country-of Birth Groups 2006 to 2014 (Marginal Effects)

	2006	*2008*	*2010*	*2012*	*2014*
Country of Birth Group					
(Reference – Irish)					
UK	0.027***	0.027***	0.040***	0.041***	0.052***
	(0.007)	(0.007)	(0.011)	(0.012)	(0.013)
EU13	0.015	0.022	0.011	0.003	–0.012
	(0.014)	(0.018)	(0.023)	(0.025)	(0.016)
NMS	–0.010	–0.003	0.027***	0.026**	0.019**
	(0.006)	(0.007)	(0.011)	(0.010)	(0.009)
Africa	0.109***	0.137***	0.159***	0.186***	0.100***
	(0.035)	(0.039)	(0.040)	(0.037)	(0.031)
Asia	0.017	0.022	0.050*	0.023	0.008
	(0.016)	(0.018)	(0.027)	(0.023)	(0.021)
North America,	–0.021***	0.002	0.065*	0.030	0.013
Australia, Oceania	(0.007)	(0.018)	(0.039)	(0.033)	(0.029)
Rest of Europe/	0.038*	0.034	0.048	0.073**	0.022
World	(0.020)	(0.022)	(0.035)	(0.033)	(0.025)
Recent Arrival	0.017*	0.014	0.029	–0.005	–0.002
	(0.010)	(0.010)	(0.020)	(0.021)	(0.017)

Source: Derived using Quarterly National Household Survey Q3 microdata.
Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.
Models control for sex, age group, marital status, education, region, and industrial sector, as in Model 1.

Table 7: Probit Model 3 of Unemployment, Summary Results: Detailed Country-of Birth Groups by Naturalisation 2006 to 2014 (Marginal Effects)

	2006	*2008*	*2010*	*2012*	*2014*
PANEL A: Non-naturalised Immigrants: Country of Birth Group					
(Reference – Irish)					
UK	0.042***	0.041***	0.050**	0.075***	0.092***
	(0.014)	(0.014)	(0.020)	(0.023)	(0.025)
EU13	0.016	0.021	0.013	–0.014	–0.011
	(0.014)	(0.019)	(0.024)	(0.025)	(0.017)
NMS	–0.009	–0.003	0.024**	0.024**	0.015
	(0.006)	(0.007)	(0.011)	(0.010)	(0.010)
Africa	0.139***	0.131***	0.174***	0.187***	0.050
	(0.042)	(0.046)	(0.046)	(0.046)	(0.042)
Asia	0.007	0.020	0.041	0.010	0.010
	(0.015)	(0.018)	(0.028)	(0.026)	(0.027)
North America,	–	0.016	0.057	0.045	–0.014
Australia, Oceania[1]	–	(0.029)	(0.057)	(0.058)	(0.038)

Table 7: Probit Model 3 of Unemployment, Summary Results: Detailed Country-of Birth Groups by Naturalisation 2006 to 2014 (Marginal Effects) (Contd.)

	2006	*2008*	*2010*	*2012*	*2014*
Rest of Europe/	0.043*	0.039	0.043	0.042	–0.002
World	(0.023)	(0.024)	(0.042)	(0.036)	(0.026)
Recent Arrival	0.015	0.012	0.030	–0.002	0.003
	(0.010)	(0.010)	(0.020)	(0.021)	(0.018)
PANEL B: Naturalised Irish Citizens: Country of Birth Group					
(Reference – Irish)					
UK	0.011	0.013*	0.025*	0.009	0.020
	(0.007)	(0.008)	(0.013)	(0.012)	(0.012)
EU13	–0.010	0.009	–0.070**	0.130	–0.046
	(0.024)	(0.052)	(0.028)	(0.096)	(0.031)
NMS[2]	–	–0.014	0.071	–0.043	0.010
	–	(0.033)	(0.068)	(0.032)	(0.031)
Africa[3]	–	0.142**	0.059	0.155***	0.149***
	–	(0.066)	(0.064)	(0.055)	(0.041)
Asia	0.118*	0.024	0.071	0.039	–0.011
	(0.069)	(0.048)	(0.071)	(0.045)	(0.023)
North America,	–0.003	–0.016	0.058	0.012	0.034
Australia, Oceania	(0.018)	(0.020)	(0.050)	(0.038)	(0.039)
Rest of Europe/	0.004	–	0.044	0.140**	0.078
World[4]	(0.027)	–	(0.057)	(0.061)	(0.051)
Recent Arrival	0.017**	0.020**	0.056***	0.019	0.013
	(0.008)	(0.008)	(0.021)	(0.024)	(0.018)

Source: Derived using Quarterly National Household Survey Q3 microdata.
Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.
Models control for Sex, Age group, Marital status, Education, Region, and Industrial sector, as in Model 1.
[1] In 2006, North America, Australia and Oceania observations predicted failure (to be unemployed) perfectly: this resulted in these observations being dropped from the model.
[2] In 2006, NMS observations predicted failure (to be unemployed) perfectly: this resulted in these observations being dropped from the model.
[3] In 2006, African observations predicted success (to be unemployed) perfectly: this resulted in these observations being dropped from the model.
[4] In 2008, Rest of Europe/World observations predicted failure (to be unemployed) perfectly: this resulted in these observations being dropped from the model.

2010 and almost 19 per cent in 2012. However, the unemployment penalty among this group then dropped sharply and was not significantly different from the native Irish unemployment rate. Among the naturalised immigrants of African origin, the unemployment penalty was 14 per cent in 2008 and about 15 per cent in 2012 and

2014, suggesting a continuous and large unemployment penalty throughout the business cycle. By 2014, in the context of recovery, just two groups suffered an unemployment penalty relative to Irish natives: non-naturalised immigrants of UK origin and naturalised Irish citizens of African origin.

VI CONCLUSIONS

This paper examines how the likelihood of being employed and the risk of unemployment have evolved over the Great Recession depending on country of birth, acquisition of citizenship through naturalisation, timing of arrival, and other characteristics. The results show that the employment and unemployment penalties suffered by immigrant workers, relative to native workers, increased significantly over the Irish recession, and appear to have fallen only slightly during the subsequent recovery. In terms of employment, the main effect of the recession was to reduce the employment chances, relative to Irish-born citizens, of immigrants from Africa, the UK and a residual 'Rest of World' group of countries outside of the EU, Africa, Asia, and North America and Oceania. In terms of unemployment, the recession saw relative unemployment risks increase among immigrants from Africa, the UK, the EU NMS, and among naturalised immigrants for the 'Rest of World' group. Recent arrivals were less likely to be employed and more likely to unemployed during some of the recession years.

The benefits of recovery were also distributed unevenly by country of origin and citizenship. The employment chances and unemployment risks of most immigrants did not differ significantly from Irish-born citizens in 2014, suggesting that most immigrants shared in the recovery. Immigrants from the UK continued to suffer employment and unemployment gaps relative to Irish-born, and the effect was much stronger among non-naturalised UK immigrants, consistent with an expectation that naturalised citizens fare better than non-citizens. Among African immigrants, the lower employment chances and higher unemployment risks are confined to naturalised immigrants. This recent evolution is largely driven by the high numbers of disadvantaged migrants becoming naturalised Irish citizens. As the number of disadvantaged migrants becoming naturalised Irish citizens increased, the overall level of immigrants' employment penalty has fallen. This result highlights the need to take into account naturalisation processes, and the characteristics of the immigrants entering into those processes, when gauging the situation of immigrants in a labour market. Ignoring this element in Ireland would underestimate the disadvantages suffered by some immigrants in the labour market. Contrary to some other advanced economies where there is evidence of self-selection in the naturalisation process (i.e. more productive workers tend to acquire host nationality), in Ireland naturalisation, particularly among immigrants from

Africa, tends to be more prevalent among refugees, a group which was systematically excluded from participation in the labour market for extended periods of time after their initial entry to the country. These findings carry clear policy implications: preventing immigrants from accessing the labour market for extended periods of time has long-term scarring effects on their long-term labour market prospects and can result in extended periods of welfare dependency, with negative consequences for immigrants as well as the wider society.

REFERENCES

Arai and Vilhelmsson, 2004. "Unemployment-Risk Differentials Between Immigrant and Native Workers in Sweden", *Industrial Relations: A Journal of Economy and Society*, 43(3): 690-698.

Barrett, A. and E. Kelly, 2012. "The Impact of Ireland's Recession on the Labour Market Outcomes of its Immigrants", *European Journal of Population,* 28 (1): 99-111.

Barrett, A. and D. Duffy, 2008. "Are Ireland's immigrants integrating into its labour market?", *International Migration Review*, 42(3), 597-61.

Barrett, A., A. Bergin, E. Kelly and S. McGuinness, 2014. "Ireland's Recession and the Immigrant/Native Earnings Gap", IZA Discussion Papers 8459, Institute for the Study of Labor (IZA).

Beets, G. and F. Willekens, 2009. "The Global Economic Crisis and International Migration: An Uncertain Outlook". Netherlands Interdisciplinary Demographic Institute. Research Note for the European Commission (Demography Network of the European Observatory on the Social Situation and Demography).

Bevelander, P. and J. Veenman, 2006. "Naturalisation and Socioeconomic Integration: the Case of the Netherlands", IZA Discussion Papers 2153, Institute for the Study of Labor (IZA).

Bevelander, P. and R. Pendakur, 2012. "Citizenship, Co-ethnic Populations, and Employment Probabilities of Immigrants in Sweden", *International Migration & Integration,* 13: 203-222.

Bijwaard, G.E. and J. Wahba, 2014. "Do high-income or low-income immigrants leave faster?", *Journal of Development Economics,* 108 (2014) 54-68.

Bijwaard, G.E., C. Schuleter and J. Wahba, 2014. "The impact of Labour Market Dynamics on the return migration of immigrants", *The Review of Economics and Statistics*, July 2014, 96(3): 483-494.

Blackaby, D.H., S. Drinkwater, D. Leslie, P. Murphy, 1997. "A Picture of Male and Female Unemployment among Britain's Ethnic Minorities", *Scottish Journal of Political Economy*, Scottish Economic Society, Vol. 44(2), pp. 182-197, May.

Bratsberg, B. and O Raaum, 2011. "The Labor Market Outcomes of Naturalized Citizens in Norway", Chapter 7, pp. 184-205 in *Naturalisation: A Passport For The Better Integration Of Immigrants?* OECD Publishing.

Bratsberg, B., J. Ragan and Z. Nasir, 2002. "The Effect of Naturalization on Wage Growth: A Panel Study of Young Male Immigrants", *Journal of Labour Economics,* 20: 3: 568-597.

Cerveny, Jakub and J.C. van Ours, 2013. "Unemployment of Non-western Immigrants in the Great Recession", IZA Discussion Papers 7598, Institute of Labor Economics (IZA).

Chiswick, B.R., 1978. "The Effect of Americanization on the Earnings of Foreign-born Men", *Journal of Political Economy*, University of Chicago Press, Vol. 86(5), pp. 897-921, October.

Conefrey, T., 2013. "Migration in Ireland: Recent Trends in Historical Context", Central Bank of Ireland Quarterly Bulletin 01 / January 2013.

De la Rica, S. and T. Polonyankina, 2014. "The Impact of Immigration on Occupational Specialisation among Natives in Spain: Does the Business Cycle Matter?", *Revista de Economía Aplicada*, 63 (Vol. XXI), 51-75.

DeVoretz, Don J. and S. Pivnenko, 2004. "The Economics of Canadian Citizenship". Willy Brandt Series of Working Papers in *International Migration and Ethnic Relations,* 4 (3): 36.

Dustmann, C., F. Fabbri, I. Preston and J. Wadsworth, 2003. *Labour market performance of immigrants in the UK labour market*. (Home Office Online Report 05/03). Research Development and Statistics Directorate. https://discovery.ucl.ac.uk/id/eprint/14330/

Engdahl, M., 2014. "Naturalizations and the economic and social integration of immigrants", Institute for Evaluation of Labour Market and Education Policy. Working Paper 2014:11.

Ersanilli, E. and R. Koopmans, 2010. "Rewarding Integration? Citizenship Regulations and the Socio-Cultural Integration of Immigrants in the Netherlands, France and Germany", *Journal of Ethnic and Migration Studies*, 36:5, 773-791.

Fougère, D. and M. Safi, 2009. *International Journal of Manpower,* Vol. 30 No. 1/2, 2009, pp. 83-96".

Gathmann, C. and N. Keller, 2014. "Returns to Citizenship? Evidence from Germany's Recent Immigration Reforms", IZA Discussion Papers 8064, Institute for the Study of Labor (IZA).

Jarreau, J., 2015. "The Impact of Naturalizations on Job Mobility and Wages: Evidence from France", Document de travail - 2015 – 08. Aix-Marseille School of Economics.

Joyce, C., 2010. *Annual Policy Report on Migration and Asylum 2009: Ireland.* European Migration Network ESRI, Dublin.

Kelly, E., S. McGuinness, P.J. O'Connell, D. Haugh and A. Gonzalez Pandiella, 2014. "Transitions in and Out of Unemployment Among Young People in the Irish Recession", *Comparative Economic Studies*, Vol. 56, Issue 4, pp. 616-634.

Kingston, G., P. O'Connell and E. Kelly, 2013. *Ethnicity and Nationality in the Irish Labour Market: Evidence from the QNHS Equality Module 2010*. Research Series, Economic and Social Research Institute (ESRI), number BKMNEXT230, December. Dublin: The Equality Authority and ESRI.

Kogan, I., 2003. "Ex-Yugoslavs in the Austrian and Swedish labour markets: the significance of the period of migration and the effect of citizenship acquisition", *Journal of Ethnic and Migration Studies,* 29: 4: 595-622.

McGinnity, F., E. Quinn, G. Kingston and P. O'Connell, 2014. *Annual Monitoring Report on Integration, 2013*. The Integration Centre and ESRI, Dublin.

Migration Policy Group and Immigrant Council of Ireland, 2013. "Access to Citizenship and its Impact on Immigrant Integration: Handbook for Ireland". Robert Schuman Centre for Advanced Studies, European University Institute.

O'Connell, P., 2019. "Why are so few Africans at work in Ireland? Immigration policy and labour market disadvantage", *Irish Journal of Sociology*, 27: 3: 273-295.

O'Connell, P., C. Joyce and M. Finn, 2012. *International Migration in Ireland, 2011.* ESRI Working Paper.

O'Connell, P. and F. McGinnity, 2008. *Immigrants at Work: Ethnicity and Nationality in the Irish Labour Market*, Research Series, Economic and Social Research Institute (ESRI), No. BKMNEXT119, December.

OECD, 2012. *OECD International Migration Outlook 2012*. Paris: OECD.

OECD, 2015. *International Migration Outlook 2015.* Paris: OECD.

Papademetriou, D.G. and A. Terrazas, 2010. "Immigrants and the US Economic Crisis: from Recession to recovery". Migration Policy Institute. Country note in *Migration and immigrants: two years after the financial collapse: where do we stand?*

Pastor, M. and J. Scoggins, 2012. "The Economic Benefits of Naturalization for Immigrants and the Economy", Center for the Study of Immigrant Integration, University of Southern California, December 2012.

Riva, E. and L. Zanfrini, 2014. "The Labor Market Condition of Immigrants in Italy: The case of Lombardy", *Revue Interventions économiques*, 47.

Simon, P. and E. Steichen, 2014. "Slow Motion the Labor Market Integration of new Immigrants in France". Migration Policy Institute and International Labour Organization.

Steinhardt, M.F., 2012. "Does citizenship matter? The economic impact of naturalizations in Germany", *Labour Economics*, Vol. 19, Issue 6, December 2012, pp. 813-823.

Sumption, M., 2010. "Foreign workers and immigrant integration: Emerging from Recession in the United Kingdom". Migration Policy Institute. Country note in *Migration and immigrants: two years after the financial collapse: where do we stand?*

Veenman, J. and G.E. Bijwaard, 2012. "Exclusionary risks on the transitional labour market", *European Sociological Review*, pp. 1-13.

Wheatley Price, S., 2001. "The employment adjustment of male immigrants in England", *Journal of Population Economics*, Springer; European Society for Population Economics, Vol. 14(1), pp. 193-220