UCD GEARY INSTITUTE FOR PUBLIC POLICY
DISCUSSION PAPER SERIES

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

Elish Kelly
Economic and Social Research Institute, Dublin

Seamus McGuinness
Economic and Social Research Institute, Dublin

Philip J. O'Connell
Geary Institute for Public Policy, University College Dublin

Alberto González Pandiella
OECD, Paris

David Haugh
OECD, Paris

Geary WP2015/13
July 7, 2015

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

Abstract: Much research has been undertaken to study the effects of the Great Recession on overall labour market dynamics, but less is known about the impact on immigrants and how it has evolved over the business cycle. Understanding how immigrants were affected is particularly important for Ireland given the important role migrants play in the labour market. This paper attempts to fill this gap by identifying the labour market impact of the Great Recession on immigrants compared to natives and how this relationship has evolved since the downturn. In particular, we compare both groups' likelihood of being employed and their risk of unemployment pre (2006), at the start of (2008) and during the depth of the employment crisis (2010 and 2012), and as the economy begun to recover (2014). In our analyses, we separately identify the impact of the recession on immigrants who have gained Irish citizenship through naturalisation, from those that retained their country of birth nationality. The main findings of the paper are twofold:

i) The employment penalty suffered by immigrant workers, relative to native workers, increased significantly over the Irish recession and subsequent recovery. Differences in labour market outcomes between immigrants and natives were accentuated by the recession, when the employment penalty was the highest. The penalty narrowed in the recovery, although it remains higher than before the crisis;

ii) The more recent evolution of the employment penalty appears to be related to a composition effect, as many refugee immigrants with weak labour market attachment became naturalised citizens during the recession. This suggests that the difficulties that some immigrants experience in the labour market would be under-estimated without taking due account of naturalisation processes, as is done in this paper for the first time in Ireland.

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 migrants than for the native-born in the majority of OECD countries (OECD, 2012). One of the main reasons for this is that immigrants tend to work in the economic sectors that are most sensitive to business cycles. In addition to the increase in unemployment, immigrants have also ended up in part-time and temporary employment more often than native-born youth or adult immigrants in many OECD countries (OECD, 2012).

The Irish recession was particularly severe. Reflecting the sharp decline in GDP, employment contracted by 14 % between the peak of the business cycle in 2007 and the trough in 2012, and, with economic recovery, increased by almost 5 % in the following two years. Immigration plunged precipitously after 2007 and emigration, which was already on the rise from about 2005, increased steadily throughout the crisis period. Between April 2008 and April 2014, total immigration amounted to 338,000 while emigration was 489,000 -- a net outward migration of 142,000 over the 6 years. Irish nationals were the single largest mobile group: 228,000 Irish nationals emigrated during the crisis and 108,000 returned, resulting in net out-migration of 120,000 Irish nationals between 2008 and 2014.

The burst of the construction bubble coincided with a further strengthening of foreign investment in Ireland, which is reflected in a complex pattern of migration. While there was a substantial migratory outflow during the Great Recession, this was partially offset by an inflow of immigrants, particularly among those from outside the EU. This can be seen in the data on the number of foreign residents in Ireland, which peaked in 2008 (see Table 1). Their numbers declined during the Recession but recovered slightly in 2014. The single largest group of non-nationals is from the EU-New Member States (EU-NMS), i.e. nationals from the Central and Eastern European countries acceding the European Union after 2004. The size of this group contracted during the Recession, but increased again in 2014. The number of immigrants from other EU countries has sharply declined. Nationals from the Rest of the World (outside Europe) have increased

in number since 2010: this is likely to be related to the influx of highly skilled immigrants to meet skill demands in particular sectors, particularly information technology and health.

[See Table 1]

Using data from the Quarterly National Household Survey (QNHS) 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' pre, during and as the Irish economy has recovered from the downturn. In particularly, we investigate the impact that the recession has had on both groups' likelihood of employment and their unemployment risk. We also examine how the effect varies by length of residency in Ireland and nationality. Furthermore, we separately identify the impact that the recession has had on immigrants that have gained Irish citizenship through naturalisation from those that retained their country of birth nationality, which is the first time that this distinction has been made in the immigrant research that has been undertaken in Ireland. In undertaking this work, we investigate how the Irish citizenship results 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 the role that immigrants play. 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 % between the end of 2007, at the peak of the boom, and the end of 2012. While employment among Irish nationals fell by 13 %, it fell by 21 % among non-Irish nationals. Employment among NMS nationals contracted by over 26 %

between 2007 and 2012, and by 18 % among UK nationals. The biggest employment losses occurred in construction, in the wholesale and retail trade, and in accommodation and food services: these sectors had expanded substantially, and with large increases in migrant labour, during the boom years.

In 2006, during the boom, there was substantial variation around the average national employment rate of 69.1 %.[1] Nationals of the EU-NMS showed the highest employment rate, at 85 %, followed by EU-13 nationals at 80 %. Nationals of African countries had the lowest employment rate (44.5 %), followed by the diverse group from the Rest of the World (62.1 %) and UK nationals (63.6 %).

[See Table 2]

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 and the smallest in respect of EU-13 nationals, although it should be kept in mind that the EU-13 population declined by over 10 % between 2008 and 2012.

The national employment rate increased by 3 percentage points in the recovery, between 2012 and 2014. During the recovery, the largest growth in the employment rate occurred among nationals of North America, Australia and Oceania (NAAO) countries, sufficient to return almost to the employment rate for that group observed in 2006, before the recession. Similarly, there was strong growth in the employment rate of nationals of African countries.

Concerning unemployment, trends, the average unemployment rate among non-Irish nationals was 7.2 % in 2006, about 3 percentage points higher than the national unemployment rate. Unemployment among nationals of African countries was much higher: 22.4 %. Previous research has argued that the very low employment rate and excessive unemployment rate among this group reflects the scarring effects of the

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

exclusion of many African asylum seekers from participation in the Irish labour market while they awaited a decision on their asylum claim (Kingston, O'Connell and Kelly, 2013). Nationals of the NAAO countries showed an unemployment rate of less than 1 %.

[See Table 3]

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 NAAO 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 % in 2014, and to 13.5 % among non-Irish nationals. The largest decline was among African nationals, but this was only enough to return them to their pre-crisis high. There were also strong reductions in unemployment rates among nationals of the NAAO countries and those from the Rest of the World. Nationals of the EU-13 countries showed unemployment rates well below the national average, although as we have seen (Table 1), their population continued to decline.

Given these aggregate trends in the labour market, 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 and duration of residence in Ireland. We are particularly interested in the varying fortunes of different migrant groups and in examining the role of naturalisation in employment and unemployment: are naturalized immigrants more or less likely to be integrated in the Irish labour market?

III Literature Review

There is a vast literature analysing the impact the recession had on labour market outcomes, but few papers attempt to track down the potentially different impact that it may have had on domestic workers and on foreign workers in a given labour market. There are also few attempts to identify how these effects have changed over the

economic cycle. 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 has changed over the 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 who were more likely to gain employment in 2011 than non-nationals. Similarly, Veenman and Bijwaard (2012) document that in the Netherlands native individuals leave unemployment faster than immigrant workers.

Significant changes in the scale and composition of migration flows have been found over the recession in Spain as well (Izquierdo et al., 2015), a country that, as Ireland, underwent a severe economic crisis.

De la Rica and Polonyankina (2014) also found evidence 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 impact negatively the employment levels of earlier immigrants.

Differences have been found also across workers different nationalities. This translates into different degrees of integration and assimilation. For example in Spain, earnings assimilation is faster for South-American and European (new accession countries to EU) immigrants compared to Africans (Izquierdo et al, 2009). In Ireland, even before the crisis workers from Central and Eastern EU countries were less likely to be in high-level occupations, controlling for factors such as age and education, than natives or workers from other nationalities (Barrett and Duffy, 2007).

Differences have also been found depending on the ethnic background or gender, indicating that some particular groups within the immigrant's community may have been disproportionately affected. This is particularly relevant for Ireland, where some ethnic groups and nationalities face particular difficulties to access the labour market (Kingston *et al.*, 2010, McGinnity *et al.*, 2014). Male immigrants coming from Central and Eastern EU countries have also been found to be particularly affected, being less likely to be employed compared to their Irish counterparts and also compared to their female compatriots (Barrett and Kelly, 2012).

Concerning other OECD countries, in the United States, Hispanic immigrants faced a higher probability of unemployment than native workers during the recession, while Asian immigrants seemed to suffer a less severe impact (Papademetru and Terrazas, 2010). In the United Kingdom, immigrants from Africa, Pakistan or Bangladesh were highly affected, while Indians seemed to cope with the recession better (Sumption, 2010). In France, North Africans are found to be particularly prone to unemployment (Simon and Steichen, 2014). Also in Italy, gender, nationality or country of origin, length of stay and legal status are all found to explain the large variation that is found in the labour market situation of immigrants (Riva and Zanfrini, 2014).

The issue of how naturalisation processes affect the labour market status of immigrants has remained relatively unexplored. Pastor and Scoggins (2012) find that earnings for naturalised workers can rise significantly in the United States. DeVoretz and Pivnenko (2004) also found significant economic benefits, in terms of earnings, of citizenship in Canada. A decomposition analysis attributed this benefit to self-selection, namely only the more productive immigrants tend to become Canadian citizens. Bevelander and Pendakur (2011) explore the link between citizenship and employment probability for immigrants in Sweden. They find that citizenship acquisition has a positive impact for a number of immigrant groups, particularly non-EU and non-North American immigrants. Refugees also appear to experience substantial gains from citizenship acquisition in Sweden, while immigrants from Asia and Africa face the lowest employment prospects, with the immigrant population, serving as an employer of last resort, buffering the impact of possible discrimination by the majority population.

IV Data and Methodology

The analyses undertaken in this paper are based on the Quarterly National Household Survey (QNHS) longitudinal data file. This dataset is compiled by the Central Statistics Office (CSO), which is Ireland's national statistical collection organisation. 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 % between consecutive quarters and 20 % between the same quarters in consecutive years. While participation in the QNHS is voluntary, the response rate is quite high (approximately 85 % in recent years).[2]

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, which was during the height 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 was used for each of the selected years.

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.[3] 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.

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 whose nationality is non-Irish. 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.

As can be seen from Table 4, there has been a big increase in naturalisation since 2012, particularly 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

[2] Information provided by the CSO.
[3] Specifically, individuals with missing education, length of residency and sector information were excluded.

abroad with an Irish nationality in our estimated models. This 'naturalised Irish citizen' variable is made up of a very diverse group; thus, in one of our specification we break out this variable into the naturalised individuals' countries of birth.

[See Table 4]

We estimated binary probit models for each labour market status examined – employment and unemployment. 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[4]), 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 four different immigrant specifications. Specifically, the first specification consisted of a dummy variable to capture non-Irish relative to natives. The second model included a length of residency variable, which we divided into two categories - recently arrived immigrants (i.e., arrived in Ireland in the last two years) and earlier arrived immigrants (i.e., resident in Ireland for more than two years) relative to Irish. The third specification also consisted of the length of residency variable, along with the individual country of births of the naturalised Irish citizens - UK, EU-13, EU-NMS, Africa, Asia, North America, Australia and Oceania, and Rest of Europe/World relative to Irish. Finally, the fourth specification included the specific nationalities of immigrants - UK, EU-13, EU-NMS, Africa, Asia, North America, Australia and Oceania, and Rest of Europe/World compared to Irish.

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.

[4] Except for students.

V Results

Employment Models

As can be seen from Table 5, the impact of most of the covariates that we examined in our employment probability model for Ireland remained relatively stable between 2006 and 2014, although the size of the effects has evolved over the period examined. The probability of employment increased among all age groups relative to those aged 55-64, with the probability gap increasing over the recession. The gap has somewhat receded in 2014 (with respect to 2012), but it is still larger than it was in 2006. The finding that young people have a greater probability than older workers to be employed is most likely because students have been excluded from the analysis, while the inactive category 'carers', which is a role that is more prominent amongst older individuals, are included.

More significant changes have been obtained concerning the impact of educational attainment on employment probabilities. The advantage of holding a medium- or high-level qualification over a low-level qualification increased substantially during the recession, but it had fallen during 2014. High education continues to provide better employment probabilities in 2014, relative to low education, although the effect is smaller than the one observed in 2010 or 2012, in the midst of the recession. On the contrary, the positive effect of medium education over low education has become insignificant in 2014, while it was statistically significant in 2010 and 2012.

The advantage of being a male on an individual's employment probability dropped during the economic crisis period and, as of 2014, has not recovered during the upturn in the economy. In addition, the relative employment advantage of being located in Dublin increased over the period.

The employment penalty for non-naturalised immigrants fluctuated somewhat over the period, falling from 5.7 to 4.3 % between 2006 and 2008, before increasing to 7.9 % at the height of the recession in 2010 and falling back again in 2014, this time to 6.2 % (Table 5). However, it would appear from the data that any study focusing on non-naturalised migrants provides a potentially incomplete picture of the extent of

disadvantage as the level of the employment penalty will fall if high numbers of disadvantaged migrants become naturalised Irish citizens. The data would seem to confirm this as the employment penalty for naturalised Irish citizens increased from 4.4 % in 2006 to 6.2 % in 2014. This followed a marked increase in naturalisations of mostly non-EEA nationals after the election of the new Government in 2011. Many of the newly naturalised citizens were of African origin (see Table 4), a large share whom had originally entered as asylum seekers and been denied access to the labour market for extended periods as they awaited recognition as refugees (Kingston *et al*., 2013).

[See Table 5]

When we separate out the Non-Irish migrant grouping according to time since arrival (Table 6, *Length of Residency* results),[5] we found that while the relative level of disadvantage between recent and old arrivals was broadly similar in 2006, the employment penalty for recently arrived non-Irish immigrants was approximately twice that experienced by established migrants in both 2010 and 2014. The relative disadvantage of the two groups was approximately equal during 2012, albeit the effect for recently arrived immigrants was not significant: this result is likely to be strongly related to much lower inflows of new migrants during that period.

In terms of country of origin of immigrants (Table 6, *Detailed Nationality* results),[6] it would appear that the non-Irish migrant employment penalty throughout the period has been largely driven by the lower employment probabilities of non-Irish migrants of British and African origin.

We also find that the penalty observed among naturalised Irish citizens (Table 6, *Naturalised Irish Country of Birth* results)[7] is largely attributable to lower employment probabilities among naturalised persons from African and British origins. These results highlight the fact that the naturalisation process potentially masks disadvantage and

[5] The results for the other covariates included in this model are available from the authors on request.
[6] The results for the other covariates included in this model are available from the authors on request.
[7] The results for the other covariates included in this model are available from the authors on request.

that focusing on the non-Irish population per se potentially under-estimates the level of disadvantage faced by certain naturalised immigrant labour market participants.

We tested for specific gender effects by including a series of gender Non-Irish/Naturalised Irish Citizen interaction terms in our *Nationality* specification (Table 6, *Gender Interactions* results)[8] and found that Irish females had the lowest likelihood of employment relative to Irish males in 2006. This was followed by non-Irish females, non-Irish males and naturalised Irish males. This penalty for Irish females continued to be observed at the height of the recession (2010) and during the recovery period (2014); however, the size of the penalty has fallen over time. The employment penalty to non-Irish males increased during the recession (2010), but has fallen back slightly during the recovery period. Interestingly, there is no difference in the employment probabilities of non-Irish females and Irish males since 2006, whereas the penalty for naturalised Irish males has got stronger during the recovery period (2014).

[See Table 6]

Unemployment Models

With respect to the models describing the determinants of unemployment between 2006 and 2014 (Table 7), we found that the risk of unemployment 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 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, Midlands and West regions.

With respect to migrants, the results from the unemployment models strongly reflect those of the employment equations. The unemployment risk among non-Irish migrants was observed to increase somewhat between 2010 and 2012 before falling back to its pre-recession level of approximately 2.5 % in 2014 (Table 7). Conversely, we observe

[8] The results for the other covariates included in this model are available from the authors on request.

that the unemployment risk of naturalised Irish citizens increased from 1.3 % in 2006 to 3.1 % in 2014.

[See Table 7]

Separating out non-Irish migrants by time since arrival (Table 8, *Length of Residency* results),[9] we found that the unemployment risk of recently arrived migrants rose substantially above that of established migrants in 2010 before falling to zero relative to the Irish national base case from 2012 onwards. The penalty associated with established migrants rose marginally during 2010 and 2012 before falling back to below its pre-recession level in 2014.

It would appear that the higher unemployment risk among both non-Irish migrants and naturalised Irish citizens is again being predominantly driven by higher likelihoods of unemployment among individuals of British and African origin (Table 8, *Detailed Nationality* and *Naturalised Irish Country of Birth* results).[10] New Member State (NMS) immigrants also suffer higher unemployment compared to natives, but only during the depths of the crisis (2010 and 2012).

[See Table 8]

VI Conclusions

Using a unique longitudinal dataset, this paper examines how the likelihood of being employed and the risk of unemployment have evolved over the Great Recession depending on nationality, naturalisation and other characteristics. The results show that the employment penalty suffered by immigrant workers, relative to native workers, increased significantly over the Irish recession, and fell only slightly during the subsequent recovery. The penalty increased strongly at the height of the recession. It has fallen back in 2014, although it remains higher than before the crisis. However, this recent evolution is largely driven by the high numbers of disadvantaged migrants becoming naturalised Irish citizens. As the number of disadvantaged migrants becoming

[9] The results for the other covariates included in this model are available from the authors on request.
[10] The results for the other covariates included in this model are available from the authors on request.

naturalised Irish citizens increased, the overall level of immigrant's 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 naturalisation process (i.e. more productive workers tend to acquire host nationality), in Ireland naturalisation tends to be more prevalent among refugees, a group which was systematically excluded form participation in the labour market for extended periods of time after their initial entry to the country.

The paper also assesses how nationality and gender interact, as concerns begin to emerge with respect to how immigrants' prospects of regaining employment in the recovery vary by gender. Irish females have a persistently lower likelihood of employment when compared with Irish males, although the size of this penalty is falling over time. There is no significant evidence that non-Irish females experience a higher penalty than non-Irish males. On the contrary, the penalty suffered by naturalised Irish males is significant and has got stronger during the recovery period.

Beyond the impact of nationality, the paper also provides an empirical assessment of how other characteristics impact employability and risk of unemployment, and how those impacts have evolved during the recession and recovery. The impact of some characteristics has remained relatively stable. However, others have changed and remain significantly different relative to the pre-crisis period. For example, workers above 54 now have an even higher penalty in terms of employment probabilities relative to younger workers than they had before the recession started. The same is true for lone parents in comparison with couples with no children, suggesting Ireland's structurally low employment rate for lone parents by international comparison may have worsened further. The advantage of being a male steadily fell during the economic crisis period and has not recovered during the recent upturn, which may partly reflect the still low levels of construction activity. Conversely, the relative employment advantage of being located in Dublin has increased over the period under examination.

The impact of some of the other characteristics examined significantly evolved during the recession, but as the economy recovers are reverting to their pre-crisis situation. This is particularly the case in relation to high-levels of educational attainment and the advantage that it conferred in relation to low education. The advantage of this educational qualification strongly increased during the recession. In 2014, the advantage of having a high-level qualification remained statistically significant, but the size of the effect had reverted to a level similar to the one prevalent in 2006. The advantage of having a medium-level qualification over a low-level also increased over the recession period, but there was no difference between both of these qualifications in 2014. This result could be temporary due to a "queuing effect" in a slack labour market, whereby the high-qualified take jobs normally destined for the medium-qualified; or it may be evidence of further skills-biased technical change in Ireland and a hollowing out of jobs in the mid-range of the skill distribution.

References

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 Ravi P. (2011). "Citizenship, Co-ethnic Populations, and Employment Probabilities of Immigrants in Sweden." International Migration & Integration. 13: 203–222.

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

Barrett, A. and Kelly, E, (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 Duffy, D., (2007). "Are Ireland's Immigrants Integrating into its Labour Market?," IZA Discussion Papers 2838, Institute for the Study of Labor (IZA).

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 Polonyankina, T., (2014). The Impact of Immigration on Occupational Specialisation among Natives in Spain: Does the Business Cycle Matter? Revista de Economía Aplicada, n. 63 (vol. XXI), pp: 51-75, 2014

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

Izquierdo, M., J. F. Jimeno and A. Lacuesta (2015), "Spain: from immigration to emigration". Documentos de Trabajo No. 1503. Banco de España.

Izquierdo, M., A. Lacuesta and R. Vegas (2015) "Assimilation of immigrants in Spain: A longitudinal analysis". Labour Economics 16 (2009) 669–678.

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". Dublin: The Equality Authority and ESRI.

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

OECD (2012), "OECD International Migration Outlook"

Papademetru, 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's, 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

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.

Tables

Table 1: Total Population in Ireland Classified by Nationality: 2006 to 2014

	2006	2008	2010	2012	2014	% change 2008-12	2012-14
	Numbers (1,000s)					%	%
Irish	3802.4	3909.5	3994.7	4035	4045.3	3.2	0.3
Total Non-Irish	430.6	575.6	560	550.4	564.3	-4.4	2.5
UK	115.5	117.9	115.9	113	114.9	-4.2	1.7
Old EU 13	43.8	50.8	52.4	45.5	38.1	-10.4	-16.3
EU New Member States	132.5	247.7	233	229.4	230.7	-7.4	0.6
Rest of World	138.8	159.2	158.7	162.5	180.5	2.1	11.1
Total Population	4232.9	4485.1	4554.8	4585.4	4609.1	2.2	0.5
	Percent (%)						
Irish	89.8	87.2	87.7	88	87.8		
Total Non-Irish	10.2	12.8	12.3	12	12.2		
UK	2.7	2.6	2.5	2.5	2.5		
Old EU 13	1	1.1	1.2	1	0.8		
EU New Member States	3.1	5.5	5.1	5	5		
Rest of World	3.3	3.5	3.5	3.5	3.97		
Total Population	100	100	100	100	100		

Source: *Population and Migration Estimates, April 2013*, Central Statistics Office (2013)

Table 2: Employment Rates: 2006 – 2014

	2006			2008			2010			2012			2014		
	Overall	**Males**	**Females**	**Overall**	**Males**	**Females**	**Overall**	**Males**	**Females**	**Overall**	**Males**	**Females**	**Overall**	**Males**	**Females**
National	69.1	78.3	59.7	67.5	74.8	60.2	59.8	64.0	55.7	59.0	63.2	55.0	62.2	67.6	57.0
Irish	68.6	77.5	59.7	67.0	74.1	60.0	59.9	63.8	56.1	59.0	62.8	55.2	62.3	67.2	57.4
Non-Irish	72.6	83.4	60.1	70.3	78.6	61.6	59.4	65.2	53.6	59.5	65.6	53.8	62.1	70.2	54.4
Of which:															
UK	63.6	78.3	49.2	62.2	72.7	51.7	56.5	63.0	49.8	53.5	60.0	46.8	55.7	67.1	44.9
EU-13	80.0	86.4	74.3	73.9	81.6	68.0	66.5	75.7	59.1	72.0	80.1	65.3	75.8	82.2	66.7
EU-NMS	85.0	92.9	73.0	77.8	84.5	69.9	63.0	67.5	58.4	67.1	71.4	63.0	69.0	74.9	63.3
Africa	44.5	59.1	30.6	45.4	61.0	30.3	43.8	54.7	33.8	35.9	41.4	30.6	44.3	54.0	35.9
Asia	71.3	77.9	64.5	69.6	75.0	63.5	61.6	63.8	59.3	58.8	65.2	53.0	58.1	71.2	44.1
North America, Australia, Oceania	72.1	85.9	60.2	72.6	76.1	69.9	56.5	60.3	52.9	60.1	76.4	44.0	71.0	[63.6]	74.3
Rest of Europe/World	62.1	74.6	46.7	58.3	70.4	46.7	53.4	61.2	44.3	46.3	57.0	37.5	51.2	57.0	46.4

Source: Calculations based on the *Quarterly National Household Survey Longitudinal* microdata, CSO
Note: Rates based on individuals aged 15 to 64
[] Rate based on a sample of 30-49 persons; thus the rate has a wider margin of error and should be treated with caution

Table 3: Unemployment Rates: 2006 – 2014

	2006			2008			2010			2012			2014		
	Overall	**Males**	**Females**	**Overall**	**Males**	**Females**	**Overall**	**Males**	**Females**	**Overall**	**Males**	**Females**	**Overall**	**Males**	**Females**
National	4.8	4.9	4.6	7.1	8.1	5.8	14.1	17.1	10.4	15.0	17.8	11.5	11.3	12.5	9.8
Irish	4.4	4.7	4.1	6.7	7.8	5.2	13.5	16.5	9.7	14.5	17.6	10.7	10.9	12.2	9.3
Non-Irish	7.2	6.5	8.4	9.4	9.6	9.2	17.9	20.5	14.5	17.5	19.0	15.8	13.5	14.1	12.7
Of which:															
UK	7.8	6.7	9.4	8.7	8.9	8.5	17.6	20.4	13.5	18.6	19.1	17.9	16.3	15.1	18.1
EU-13	5.2	4.2	6.2	8.1	8.1	8.0	11.4	11.5	11.3	9.0	8.3	9.7	7.2	7.2	7.3
EU-NMS	6.1	4.7	8.7	9.2	9.7	8.6	20.0	23.7	15.1	18.1	20.6	15.2	13.1	14.4	11.6
Africa	22.4	19.8	26.7	23.3	17.7	32.3	22.3	21.6	23.4	33.6	35.6	30.8	23.0	27.1	16.7
Asia	6.5	8.6	3.6	4.9	5.9	3.6	10.4	12.1	8.4	9.4	10.2	8.5	11.3	9.8	13.7
North America, Australia, Oceania	0.7	1.3	0.0	4.9	4.2	5.5	13.3	13.6	13.0	13.7	8.5	21.4	6.9	16.7	2.1
Rest of Europe/World	9.3	8.6	10.5	14.7	14.3	15.3	22.6	23.3	21.4	21.5	22.0	20.9	14.9	15.3	14.6

Source: Calculations based on the *Quarterly National Household Survey Longitudinal* microdata, CSO
Note: Rates based on individuals aged 15 plus

Table 4: Former Citizenship of Naturalised Irish

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Europe	852	1,210	555	794	1,025	1,306	1,869	4,030	3,974
Africa	868	1,088	721	1,179	1,522	2,366	3,005	9,157	9,142
America	1,181	1,928	2,240	169	235	265	380	729	720
Asia	765	919	671	965	1,633	2,321	5,050	10,768	10,264
Oceania	413	618	462	58	81	76	105	154	124
Others	0	0	0	80	45	67	300	191	38
Total	4,079	5,763	4,649	3,245	4,541	6,401	10,709	25,029	24,262

Source: *Acquisition of Citizenship by Former Citizenship* - Eurostat Database (June 2015)

Table 5: Probit Model of Employment – Nationality Status: 2006 to 2014

	2006	2008	2010	2012	2014
Male	0.157***	0.133***	0.135***	0.119***	0.125***
	(0.006)	(0.006)	(0.008)	(0.008)	(0.008)
Ref: Aged 55-64					
Age 15-19	0.126***	0.126***	0.185***	0.237***	0.187***
	(0.005)	(0.008)	(0.020)	(0.014)	(0.013)
Age 20-24	0.137***	0.116***	0.179***	0.181***	0.203***
	(0.005)	(0.008)	(0.011)	(0.011)	(0.006)
Age 25-34	0.134***	0.145***	0.213***	0.237***	0.220***
	(0.006)	(0.008)	(0.011)	(0.010)	(0.009)
Age 35-44	0.116***	0.129***	0.189***	0.204***	0.203***
	(0.005)	(0.006)	(0.010)	(0.010)	(0.008)
Age 45-54	0.126***	0.134***	0.197***	0.204***	0.182***
	(0.004)	(0.005)	(0.009)	(0.009)	(0.007)
Ref: Married					
Single	0.042***	0.036***	-0.019*	-0.053***	-0.041***
	(0.007)	(0.008)	(0.011)	(0.011)	(0.011)
Widowed	0.014	0.047**	-0.043	-0.068*	-0.090**
	(0.018)	(0.019)	(0.037)	(0.037)	(0.039)
Divorced	0.006	-0.009	-0.037*	-0.081***	-0.008
	(0.012)	(0.014)	(0.019)	(0.020)	(0.018)
Ref: Couple, No Children					
Couple, Children	-0.049***	-0.056***	-0.090***	-0.071***	-0.051***
	(0.006)	(0.007)	(0.010)	(0.010)	(0.009)
Lone Parent	-0.154***	-0.199***	-0.219***	-0.199***	-0.172***
	(0.014)	(0.015)	(0.018)	(0.018)	(0.018)
Not in Family Unit, Lives Alone	-0.052***	-0.090***	-0.059***	-0.054***	-0.057***
	(0.014)	(0.015)	(0.017)	(0.017)	(0.017)
Not in Family Unit, Lives with Others	0.036***	0.032***	0.036**	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***	0.013
	(0.005)	(0.006)	(0.009)	(0.009)	(0.010)
High	0.138***	0.152***	0.218***	0.254***	0.111***
	(0.005)	(0.007)	(0.010)	(0.010)	(0.008)
Ref: Dublin					
Border	-0.023***	-0.044***	-0.059***	-0.085***	-0.073***
	(0.008)	(0.010)	(0.014)	(0.015)	(0.014)
Midlands	0.012	-0.044***	-0.060***	-0.077***	-0.086***
	(0.009)	(0.013)	(0.016)	(0.016)	(0.017)
West	-0.010	-0.037***	-0.021	0.001	-0.033**
	(0.010)	(0.011)	(0.014)	(0.013)	(0.014)
Mid-East	-0.000	-0.017	-0.004	-0.020	-0.028**
	(0.008)	(0.010)	(0.012)	(0.013)	(0.012)
Mid-West	0.005	-0.042***	-0.035***	-0.043***	-0.032**
	(0.008)	(0.011)	(0.014)	(0.014)	(0.015)
South-East	0.008	-0.019**	-0.055***	-0.076***	-0.068***
	(0.007)	(0.009)	(0.013)	(0.013)	(0.014)
South-West	0.012*	-0.003	-0.003	-0.005	-0.050***
	(0.007)	(0.008)	(0.011)	(0.011)	(0.012)

Table 5: Continued

	2006	2008	2010	2012	2014
Ref: Irish					
Non-Irish	-0.057***	-0.043***	-0.079***	-0.059***	-0.062***
	(0.011)	(0.010)	(0.012)	(0.012)	(0.013)
Naturalised Irish Citizen	-0.044***	-0.044***	-0.040**	-0.061***	-0.062***
	(0.012)	(0.013)	(0.016)	(0.016)	(0.015)
Ref: Industry					
Agriculture, Forestry and Fishing	-0.073***	-0.063***	0.047*	-0.010	-0.020
	(0.020)	(0.024)	(0.024)	(0.029)	(0.029)
Construction	-0.017*	-0.144***	-0.366***	-0.386***	-0.317***
	(0.009)	(0.013)	(0.015)	(0.016)	(0.019)
Wholesale and Retail	-0.034***	-0.041***	-0.038***	-0.073***	-0.062***
	(0.009)	(0.010)	(0.013)	(0.014)	(0.014)
Transportation and Storage	0.000	-0.005	0.036**	0.015	-0.043**
	(0.012)	(0.014)	(0.017)	(0.018)	(0.020)
Accommodation and Food Storage	-0.096***	-0.102***	-0.077***	-0.140***	-0.128***
	(0.014)	(0.015)	(0.017)	(0.019)	(0.020)
Information and Communication	-0.027*	-0.037**	-0.005	0.021	-0.042**
	(0.015)	(0.018)	(0.020)	(0.020)	(0.021)
Financial, Insurance and Real Estate	0.037***	0.030**	0.072***	0.065***	-0.004
	(0.010)	(0.013)	(0.016)	(0.017)	(0.017)
Professional, Scientific and Technical	0.018	-0.009	-0.043**	-0.068***	-0.030
	(0.012)	(0.015)	(0.020)	(0.021)	(0.019)
Administrative and Support Services	-0.074***	-0.089***	-0.097***	-0.118***	-0.112***
	(0.015)	(0.017)	(0.021)	(0.022)	(0.025)
Public Administration and defence	0.064***	0.090***	0.163***	0.100***	0.079***
	(0.008)	(0.009)	(0.011)	(0.014)	(0.014)
Education	0.036***	0.008	0.116***	0.003	-0.005
	(0.009)	(0.012)	(0.013)	(0.016)	(0.015)
Health and Social Work	0.046***	0.037***	0.120***	0.058***	0.034***
	(0.007)	(0.010)	(0.011)	(0.013)	(0.013)
Creative, Arts and Entertainment	0.006	-0.029	-0.059**	-0.037	-0.127***
	(0.019)	(0.023)	(0.029)	(0.030)	(0.033)
Other Services	-0.060***	-0.107***	-0.104***	-0.114***	-0.172***
	(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	0.158	0.162	0.124

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 6: Probit Model of Employment: 2006 to 2014

	2006	2008	2010	2012	2014
Nationality: (Reference - Irish)					
Non-Irish	-0.057***	-0.043***	-0.079***	-0.059***	-0.062***
	(0.011)	(0.010)	(0.012)	(0.012)	(0.013)
Naturalised Irish Citizen	-0.044***	-0.044***	-0.040**	-0.061***	-0.062***
	(0.012)	(0.013)	(0.016)	(0.016)	(0.015)
	2006	**2008**	**2010**	**2012**	**2014**
Length of Residency: (Reference - Irish)					
Non-Irish: Recent Arrival	-0.050***	-0.045***	-0.151***	-0.056	-0.108***
	(0.015)	(0.016)	(0.031)	(0.037)	(0.036)
Non-Irish: Old Arrival	-0.064***	-0.042***	-0.068***	-0.060***	-0.055***
	(0.014)	(0.012)	(0.013)	(0.012)	(0.013)
Naturalised Irish Citizen	-0.044***	-0.044***	-0.040**	-0.061***	-0.062***
	(0.012)	(0.013)	(0.016)	(0.016)	(0.015)
	2006	**2008**	**2010**	**2012**	**2014**
Naturalised Irish Country of Birth: (Reference - Irish)					
UK	-0.048***	-0.044***	-0.040**	-0.056***	-0.078***
	(0.014)	(0.015)	(0.019)	(0.019)	(0.019)
EU-13	-0.116	-	-	-0.140	0.097
	(0.085)	-	-	(0.100)	(0.064)
NMS	-	-	-0.021	0.059	-0.005
	-	-	(0.088)	(0.067)	(0.050)
Africa	-0.105	-0.173**	-0.043	-0.155**	-0.156***
	(0.085)	(0.078)	(0.074)	(0.063)	(0.049)
Asia	-0.121	-0.065	0.018	-0.009	0.020
	(0.088)	(0.087)	(0.087)	(0.053)	(0.036)
North America, Australia, Oceania	-0.006	0.001	-0.119*	-0.045	-0.018
	(0.039)	(0.045)	(0.065)	(0.058)	(0.055)
Rest of Europe/World	0.013	-0.021	-0.025	-0.153**	-0.119*
	(0.045)	(0.082)	(0.081)	(0.069)	(0.070)
	2006	**2008**	**2010**	**2012**	**2014**
Detailed Nationality: (Reference - Irish)					
UK	-0.125***	-0.112***	-0.115***	-0.130***	-0.165***
	(0.022)	(0.023)	(0.028)	(0.030)	(0.033)
EU-13	0.009	-0.044	-0.004	0.026	0.024
	(0.026)	(0.031)	(0.036)	(0.037)	(0.030)
NMS	0.069***	0.027*	-0.026	-0.009	-0.021
	(0.014)	(0.014)	(0.016)	(0.015)	(0.016)
Africa	-0.206***	-0.177***	-0.322***	-0.279***	-0.044
	(0.050)	(0.056)	(0.049)	(0.049)	(0.061)
Asia	-0.017	-0.042	-0.069*	-0.001	-0.065
	(0.030)	(0.031)	(0.035)	(0.037)	(0.043)

Table 6: Continued

North America, Australia, Oceania	0.017	-0.065	-0.071	-0.019	0.032
	(0.036)	(0.054)	(0.067)	(0.071)	(0.066)
Rest of Europe/World	-0.060*	-0.107**	-0.065	-0.231***	-0.093*
	(0.034)	(0.042)	(0.059)	(0.053)	(0.056)
Recent Arrival	-0.064***	-0.030*	-0.091***	-0.012	-0.058*
	(0.021)	(0.018)	(0.031)	(0.034)	(0.034)
Naturalised Irish Citizen	-0.039***	-0.043***	-0.039**	-0.062***	-0.061***
	(0.012)	(0.013)	(0.016)	(0.016)	(0.015)

	2006	**2010**	**2014**
Gender Interactions: (Reference - Irish Males)			
Irish Females	-0.151***	-0.130***	-0.120***
	(0.006)	(0.009)	(0.008)
Non-Irish Males	-0.032**	-0.065***	-0.044***
	(0.014)	(0.017)	(0.017)
Non-Irish Females	-0.043**	-0.027	-0.032
	(0.020)	(0.022)	(0.024)
Naturalised Irish Males	-0.033*	-0.036	-0.068***
	(0.019)	(0.023)	(0.020)
Naturalised Irish Females	-0.018	-0.008	0.011
	(0.023)	(0.031)	(0.025)

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
- results not presented due to estimates based on small sample

Table 7: Probit Model of Unemployment – Nationality Status: 2006 to 2014

	2006	2008	2010	2012	2014
Male	0.004	0.017***	0.036***	0.036***	0.013***
	(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***	-0.042***
	(0.009)	(0.014)	(0.023)	(0.017)	(0.013)
Age 20-24	0.016**	0.047***	0.034**	0.022	-0.037***
	(0.007)	(0.011)	(0.014)	(0.014)	(0.007)
Age 25-34	0.014**	0.020***	0.024**	-0.001	-0.018**
	(0.006)	(0.007)	(0.010)	(0.009)	(0.008)
Age 35-44	0.014**	0.014**	0.016*	-0.003	-0.016**
	(0.005)	(0.006)	(0.009)	(0.008)	(0.007)
Age 45-54	0.007	0.011*	0.008	-0.002	-0.014**
	(0.005)	(0.006)	(0.009)	(0.008)	(0.007)
Ref: Married					
Single	0.019***	0.019***	0.041***	0.061***	0.054***
	(0.004)	(0.004)	(0.007)	(0.007)	(0.007)
Widowed	-0.008	-0.021**	-0.024	0.003	-0.013
	(0.010)	(0.010)	(0.021)	(0.025)	(0.020)
Divorced	0.028***	0.030***	0.055***	0.103***	0.039***
	(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	0.018***	0.035***	0.082***	0.063***	0.072***
	(0.006)	(0.008)	(0.013)	(0.013)	(0.013)
Not in Family Unit, Lives Alone	0.005	0.017**	0.024**	0.039***	0.041***
	(0.006)	(0.008)	(0.012)	(0.013)	(0.012)
Not in Family Unit, Lives with Others	-0.012***	-0.012**	-0.009	-0.015	-0.012
	(0.004)	(0.005)	(0.010)	(0.010)	(0.009)
Ref: Low Education					
Medium	-0.017***	-0.031***	-0.040***	-0.045***	0.006
	(0.002)	(0.003)	(0.005)	(0.006)	(0.006)
High	-0.027***	-0.038***	-0.080***	-0.092***	-0.037***
	(0.003)	(0.004)	(0.006)	(0.007)	(0.005)
Ref: Dublin					
Border	0.007*	0.008	0.007	0.030***	0.014
	(0.004)	(0.005)	(0.009)	(0.010)	(0.009)
Midlands	-0.007*	0.008	0.024**	0.034***	0.038***
	(0.004)	(0.007)	(0.011)	(0.011)	(0.011)
West	0.006	0.020***	0.018*	0.014	0.023**
	(0.005)	(0.007)	(0.009)	(0.009)	(0.009)
Mid-East	-0.008**	-0.002	0.004	0.012	0.009
	(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)

Table 7: Continued

Table 7: Probit Model of Unemployment – Nationality Status: 2006 to 2014

	2006	2008	2010	2012	2014
Ref: Dublin					
South-East	-0.002	0.007	0.034***	0.048***	0.040***
	(0.004)	(0.005)	(0.009)	(0.010)	(0.009)
South-West	-0.008***	-0.000	0.006	-0.006	0.009
	(0.003)	(0.004)	(0.007)	(0.007)	(0.007)
Ref: Irish					
Non-Irish	0.027***	0.022***	0.046***	0.041***	0.024***
	(0.006)	(0.006)	(0.009)	(0.008)	(0.008)
Naturalised Irish Citizen	0.013**	0.018**	0.040***	0.036***	0.031***
	(0.007)	(0.008)	(0.012)	(0.012)	(0.010)
Ref: Industry					
Agriculture, Forestry and Fishing	-0.009	0.014	-0.038***	-0.010	-0.029**
	(0.007)	(0.013)	(0.013)	(0.017)	(0.013)
Construction	0.002	0.080***	0.279***	0.282***	0.171***
	(0.004)	(0.009)	(0.016)	(0.017)	(0.017)
Wholesale and Retail	-0.002	0.007	-0.002	-0.001	-0.002
	(0.004)	(0.005)	(0.008)	(0.008)	(0.007)
Transportation and Storage	-0.008	-0.005	-0.020**	-0.017	0.005
	(0.005)	(0.007)	(0.010)	(0.011)	(0.011)
Accommodation and Food Storage	0.016**	0.018**	0.000	-0.001	0.021**
	(0.006)	(0.008)	(0.010)	(0.010)	(0.011)
Information and Communication	-0.003	0.003	-0.016	-0.027**	-0.003
	(0.006)	(0.009)	(0.012)	(0.011)	(0.011)
Financial, Insurance and Real Estate	-0.017***	-0.017***	-0.042***	-0.051***	-0.015
	(0.004)	(0.006)	(0.009)	(0.009)	(0.010)
Professional, Scientific and Technical	-0.017***	0.002	0.026*	0.016	-0.014
	(0.004)	(0.008)	(0.014)	(0.013)	(0.010)
Administrative and Support Services	0.017**	0.021**	0.033**	0.029**	0.035**
	(0.007)	(0.009)	(0.014)	(0.014)	(0.014)
Public Administration and defence	-0.025***	-0.036***	-0.092***	-0.084***	-0.055***
	(0.003)	(0.003)	(0.005)	(0.006)	(0.006)
Education	-0.007	-0.005	-0.054***	-0.014	-0.010
	(0.005)	(0.007)	(0.008)	(0.010)	(0.009)
Health and Social Work	-0.016***	-0.020***	-0.066***	-0.055***	-0.036***
	(0.003)	(0.004)	(0.006)	(0.007)	(0.006)
Creative, Arts and Entertainment	-0.004	0.010	-0.003	-0.011	0.013
	(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	0.0606	0.111	0.173	0.155	0.0956

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 8: Probit Model of Unemployment: 2006 to 2014

	2006	2008	2010	2012	2014
Nationality: (Reference - Irish)					
Non-Irish	0.027***	0.022***	0.046***	0.041***	0.024***
	(0.006)	(0.006)	(0.009)	(0.008)	(0.008)
Naturalised Irish Citizen	0.013**	0.018**	0.040***	0.036***	0.031***
	(0.007)	(0.008)	(0.012)	(0.012)	(0.010)

	2006	2008	2010	2012	2014
Length of Residency: (Reference - Irish)					
Non-Irish: Recent Arrival	0.022***	0.023**	0.067***	0.018	0.014
	(0.008)	(0.009)	(0.023)	(0.026)	(0.019)
Non-Irish: Old Arrival	0.034***	0.022***	0.043***	0.044***	0.026***
	(0.009)	(0.007)	(0.009)	(0.009)	(0.009)
Naturalised Irish Citizen	0.013**	0.018**	0.040***	0.036***	0.031***
	(0.007)	(0.008)	(0.012)	(0.012)	(0.010)

	2006	2008	2010	2012	2014
Naturalised Irish Country of Birth: (Reference - Irish)					
UK	0.015**	0.017**	0.033**	0.016	0.020*
	(0.007)	(0.008)	(0.013)	(0.013)	(0.012)
EU-13	-0.007	-	-	0.146	-0.045
	(0.026)	-	-	(0.100)	(0.032)
NMS	-	-	0.083	-0.036	0.012
	-	-	(0.071)	(0.034)	(0.031)
Africa	-	0.156**	0.071	0.169***	0.151***
	-	(0.069)	(0.067)	(0.056)	(0.041)
Asia	0.133*	0.028	0.083	0.051	-0.010
	(0.073)	(0.051)	(0.074)	(0.047)	(0.023)
North America, Australia, Oceania	0.001	-0.014	0.069	0.018	0.035
	(0.020)	(0.021)	(0.053)	(0.039)	(0.039)
Rest of Europe/World	0.010	-	0.053	0.156**	0.085
	(0.030)	-	(0.060)	(0.063)	(0.053)

	2006	2008	2010	2012	2014
Detailed Nationality: (Reference - Irish)					
UK	0.044***	0.043***	0.054***	0.079***	0.090***
	(0.014)	(0.014)	(0.021)	(0.024)	(0.025)
EU-13	0.018	0.024	0.016	-0.011	-0.012
	(0.015)	(0.020)	(0.024)	(0.025)	(0.017)
NMS	-0.007	-0.002	0.027**	0.027***	0.013
	(0.007)	(0.008)	(0.011)	(0.010)	(0.010)
Africa	0.142***	0.135***	0.180***	0.193***	0.049
	(0.043)	(0.047)	(0.047)	(0.047)	(0.042)

Table 8 : Continued

Asia	0.008	0.022	0.045	0.014	0.011
	(0.015)	(0.019)	(0.028)	(0.027)	(0.027)
North America, Australia, Oceania	-	0.018	0.062	0.050	-0.013
	-	(0.030)	(0.058)	(0.059)	(0.039)
Rest of Europe/World	0.045*	0.042*	0.047	0.046	-0.001
	(0.023)	(0.025)	(0.042)	(0.037)	(0.027)
Recent Arrival	0.013	0.011	0.027	-0.005	0.002
	(0.009)	(0.009)	(0.020)	(0.021)	(0.018)
Naturalised Irish Citizen	0.012*	0.018**	0.039***	0.036***	0.030***
	(0.006)	(0.008)	(0.012)	(0.012)	(0.010)

	2006	**2010**	**2014**
Gender Interactions: (Reference - Irish Males)			
Irish Females	-0.006**	-0.040***	-0.013**
	(0.003)	(0.006)	(0.005)
Non-Irish Males	0.019***	0.036***	0.023**
	(0.007)	(0.010)	(0.010)
Non-Irish Females	0.015	0.021	0.003
	(0.010)	(0.015)	(0.013)
Naturalised Irish Males	0.013	0.038**	0.033**
	(0.009)	(0.015)	(0.013)
Naturalised Irish Females	0.001	0.004	-0.004
	(0.010)	(0.020)	(0.015)

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
- results not presented due to estimates based on small sample