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Impact of the Great Recession on unemployed and NEET individuals' labour market transitions in Ireland

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Abstract

The impact that the Great Recession has had on countries' labour markets has been well documented. In Ireland, the contraction in economic activity that took place resulted in the country's overall unemployment rate increasing from 4.6 per cent in 2006 to 15 per cent in 2012. The country's youth unemployment rate rose from 9.9 per cent to 33 per cent over the same time period, while the proportion of NEETs increased from 10.1 per cent in 2006 to 18.7 per cent in 2012. Policymakers are aware of the unemployment rates of young and prime-aged people as well as the NEETs rate. However, little is known about these groups' profiles, whether their profiles have changed since the recession and also their labour market transition patterns pre and post the Great Recession. Given the importance of this information in the design of effective activation measures to assist unemployed and NEET individuals, this paper examines each of these issues in turn. Overall, the study found for all three groups examined that the rate of transition to employment fell dramatically between 2006 and 2011. The analysis showed that the drop in the groups' transition rates was not due to changes in the underlying sub-group population structures but to changes in the external environment that resulted in the impact of possessing certain characteristics changing over the recession. For example, education and nationality have become more important in finding a job in Ireland over the course of the recession, while there has been a fall in the scarring impact of unemployment durations.

Keywords: Great Recession, Ireland, Youth unemployment, Prime-aged unemployment, NEETs, Labour market transitions, Longitudinal data, Decomposition techniques

JEL classification: I21, J01, J40, J60, J64, J68

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1. Introduction

The impact that the 2009 Great Recession has had on countries' labour markets, especially in those economies that were worst affected by the downturn, is well-known. In Ireland, the contraction in economic activity that took place resulted in the country's overall unemployment rate increasing from 4.6 per cent in 2006 to 15 per cent in 2012, while the employment rate declined from 65.9 per cent to 58.8 per cent over the same time period. Some modest economic growth since 2012 (see Duffy et al., 2014) has resulted in the unemployment rate falling to 12 per cent in the first quarter of 2014 and the employment rate increasing to 60.8 per cent (see Table 1).

<insert Table 1 here>

The collapse in Ireland's property sector, which was one of the main factors underlying its economic downturn, resulted in most jobs being lost in the Construction sector, and particularly among males. McGinnity et al. (2014) report that Construction sector employment fell from 266,174 in 2007 to 103,212 in 2012, which is a decline of just over 61 per cent. All other economic sectors, apart from Information and Communication, Education, Health and the Arts, experienced smaller job losses.

The impact that the recession has had on young peoples'¹ labour market has been particularly harsh, with their unemployment rate increasing from 9.9 per cent in 2006 to 33 per cent in 2012 (see Table 2). The modest economic recovery since 2012 has resulted in this rate declining to 25.3 per cent in Quarter 1 2014. However, care should be taken when interpreting the youth unemployment rate, as many young people choose to remain in education when there is a recession, while others that lose their job often re-enter the

¹ Defined as aged 15 to 24.

education system.² Given these issues with interpreting the youth unemployment rate, many researchers now focus on the unemployment ratio, which measures unemployment as a proportion of the total youth cohort as opposed to just those in the labour market. Kelly et al. (2014) found that the youth unemployment ratio in Ireland increased from 5 per cent in 2007 to almost 13 per cent in 2011 and then, with the modest employment growth over the last two years, decreased to just under 10 per cent in 2013.

<insert Table 2 here>

Young males have been particularly hard hit by the recession, with their unemployment rate going from 9.7 per cent in Quarter 2 2006 to a peak of 38.9 per cent in Quarter 2 2012 (Table 2). Over the same time period, the female unemployment rate increased from 10.2 per cent to 26.7 per cent. One of the reasons for this differential gender impact, which holds even when we look at their unemployment ratios (see Kelly et al., 2014), is because of the concentration of male employment in the construction sector during the ‘Celtic Tiger’ boom period in Ireland. As of Quarter 1 2014, the male unemployment has fallen back to 28 per cent and the female rate to 22.2 per cent.

A disquieting development in relation to young unemployed people in Ireland since the 2009 recession has been the increase in the numbers with relatively low levels of schooling:³ this figure grew from 15.6 per cent in 2006 to 50.4 per cent in 2012, before falling back to 40.8 per cent in 2013 (Eurostat, 2014).⁴ The share of young people that are long-term unemployed increased over the economic downturn as well, rising from 26.3 per

² Research by Conefrey (2011) found that the majority of young people that exited the labour market during the recession, and remained in Ireland, returned to education.

³ These proportions relate to individuals holding a Junior Certificate or less qualification. The Junior Certificate is typically taken by 16 year old students.

⁴ Eurostat, June 2014: <http://appsso.eurostat.ec.europa.eu/nui/show.do>.

cent in 2006 to 54.6 per cent in 2012 (OECD, 2014).⁵ Another worrying trend has been the increase in the number of young people not in employment, education or training (i.e., NEETs), which grew from 10.1 per cent in 2006 to 18.7 per cent in 2012. As of 2013, this rate stood at 16.1 per cent (Eurostat, 2014).⁶

As well as the considerable growth in unemployment and the fall in employment in Ireland since the Great Recession, emigration has also been a feature of the downturn. Research by Conefrey (2013) on this issue found that most outmigration from Ireland during the recession was concentrated among the youngest age cohorts.

In addition to the evidence presented here for Ireland on the impact of recession on young people (see also McGinnity et al., 2014; and Kelly et al., 2014), a consensus exists in the international literature that young people tend to be particularly hard hit by economic downturns (e.g., Verick, 2011; Choudhry et al., 2012; O'Higgins, 2012; Bruno et al., 2013). This is often due to their concentration in temporary jobs and cyclically sensitive industries (OECD, 2009), as this makes them more exposed to unemployment during a recession. Another vulnerable group during economic downturns is young people that experience short spells of unemployment during their transition from school to work: this is a general phenomenon, but the concern is for those that get trapped in unemployment as they risk becoming long-term unemployed. Unfortunately, the likelihood of this outcome occurring is heightened during a recession, particularly for young people that left school early without basic education (see Scarpetta et al., 2010). It is known from official statistics, both national⁷ (discussed above) and international (e.g., OECD⁸), that the percentage of young people in long-term unemployment has increased since the global recession, particularly in those countries that were worst affected by the downturn.

⁵ OECD, June 2014: http://stats.oecd.org/Index.aspx?DatasetCode=DUR_I#

⁶ Eurostat, June 2014: <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>

⁷ Central Statistics Office (CSO) statistics: the CSO is Ireland's national data collection agency.

⁸ See the OECD's database on unemployment duration.

Based on previous studies of youth unemployment, specifically those that have examined young peoples' risk of becoming unemployed during the school-to-work transition period (e.g. Bradley and Taylor, 1991; Harris, 1996; Shavit and Muller, 1998; Gangl, 2001; Ryan, 2001; McVicar and Anyadike-Danes, 2002; Müller and Gangl, 2003; Dietrich and Kleinert, 2004; Audus et al., 2005; Verhofstadt and Gobel, 2006; Smyth, 2008; Vanoverbbergh et al., 2008), low levels of educational attainment have been found to be a key determinant in the likelihood of a young person becoming unemployed. In examining the factors associated with long-term unemployment risk for young people, Isengard (2003) found for Britain and Germany, and Kelly et al. (2013) for Ireland, that education was a strong determinant of this outcome occurring as well. Given this research, the importance of high levels of educational attainment for young people during a recession is likely to be heightened.

While Irish policymakers are aware of the unemployment and NEET rates of young people, little is known about the profiles of both groups,⁹ or how either compare with unemployed prime-aged individuals. In addition, no information exists on whether any of these groups' (unemployed youths, NEETs or unemployed prime-aged individuals) profiles have changed since the recession. Another unknown is in relation to their labour market transitions – i.e. the extent to which each group has transitioned from their specific labour market state into employment (or also inactivity in the case of unemployed youth and prime-aged individuals) – both pre and post the Great Recession. Given this gap in the literature, and specifically its importance in the design of effective activation measures to assist unemployed and NEET individuals, this paper aims to address the following questions:

⁹ FÁS (2008) presented a profile of NEETS in Ireland in 2008 using Irish labour force survey data, the Quarterly National Household Survey (QNHS), and also cross-country comparative NEET statistics using 2008 OECD data. The most recent research on NEETS in Ireland, which was part of a cross-country comparative study that used the 2008 wave of the European Values Survey and also 2012 Eurostat data, was conducted by Eurofound (2012).

1. What are the factors associated with being an unemployed or NEET youth, and have these changed since the Great Recession?
2. What are the labour market transition patterns of unemployed and NEET youths pre and post the economic crisis?
3. How far do changes in the composition of the unemployed or NEET youth stocks explain changes in their labour market transition rates over time?
4. To what extent do adjustments in the labour market value of various attributes account for changes in unemployed and NEET youths' labour market transition rates pre and post the Great Recession?

For comparative purposes, the same questions have been examined for unemployed prime-aged individuals.

The outline for the rest of the paper is as follows. The data and methodologies employed in the paper are set out in Section 2. The results from our analyses are presented in Section 3, while the main conclusions from the paper are outlined in Section 4.

2. Data and methodology

The analysis undertaken in this paper is based on newly available longitudinal data from Ireland's Labour Force Survey, the *Quarterly National Household Survey (QNHS)*. This dataset is compiled by the Central Statistics Office (CSO), which is Ireland's national statistical collection organisation. The *QNHS*, which provides quarterly labour force data on employment and unemployment, is a continuous survey that targets all private households. Each quarter, approximately 26,000 households are sampled.¹⁰ Households are asked to take part in the survey for five consecutive quarters. In each quarter, one fifth of the households surveyed are replaced; the *QNHS* sample involves an overlap of 80 per cent between

¹⁰ The CSO introduced a new sample in Quarter 4 2012 as a result of the 2011 Census of Population. The new sample is being introduced on an incremental basis across each quarter from Quarter 4 2012 to Quarter 4 2013. Thus, the new sample will not be fully effective until Quarter 4 2013.

consecutive quarters and 20 per cent between the same quarters in consecutive years. While participation in the *QNHS* is voluntary, the response rate is high (approximately 85 per cent).¹¹ One of the main benefits of the *QNHS* longitudinal data is that it allows researchers to track individuals for up to 5 consecutive quarters.

In this study, we focused on comparing the situation of unemployed youths, NEET youths and unemployed prime-aged individuals both pre the Great Recession and at the later stages of the economic downturn: we chose Q2 2006 as the starting point for our analysis, which was during the height of Ireland's boom; and Q2 2011 as our recessionary time point. We selected two balanced panels for each sub-group analysed. Specifically, we focused on unemployed and NEET youths (both defined as aged 15 to 24) and unemployed prime-aged individuals (defined as aged 25 to 54), who were in each of their respective labour market states on entering the panel and who remained in the panel for the next two consecutive quarters. We were not able to use the five quarters of data in the *QNHS* as the number of young people who were initially unemployed and remained present in the data for five continuous quarters during the earlier time period (2006) was too small. For comparative purposes, we then restricted the NEET and unemployed prime-aged analyses to two waves as well. Thus, in the paper we focus on the labour market transition patterns of unemployed and NEET youths, and unemployed prime-aged individuals, between Q2 and Q4 in 2006 and 2011 respectively, concentrating particularly on their transitions from unemployment into employment. To accommodate our empirical strategy, we transformed our balanced panel into a cross-sectional dataset based on the characteristics of individuals observed in Q2 2006 and Q2 2011 respectively, and incorporated their transition behaviours in Q3 and Q4 for each of the observed years. The analysis is based on individuals who remained in Ireland over the observation periods; therefore, the impacts of migration are not examined.

¹¹ Information provided by the CSO.

In terms of defining our samples, the QNHS contains two economic status variables: an International Labour Office (ILO) measure and a self-defined Principal Economic Status (PES) measure. The PES variable allows for the separate identification of students, those on home duties and those that have retired, in addition to those in employment and unemployed. For the purposes of this paper, we used the official ILO measure to create our youth and prime-aged unemployment variables. In terms of our NEET measure, we initially selected out the ILO ‘unemployed’ and ‘not economically active’ categories. We then cross-referenced this NEET measure with the PES variable to omit individuals that defined themselves as being either a student or in employment. Finally, we excluded individuals from this latter NEET measure who indicated in the QNHS that they had received formal education in the past 4 weeks. Based on these unemployed and NEET definitions, and the restriction of our data to those who were in the 2006 and 2011 panels for three consecutive quarters (i.e. Q2 to Q4), our samples for each sub-group analysed are set out in Table 3.¹²

<insert Table 3 here>

With regards to our methodology, we began by estimating separate binary probit models to identify the characteristics associated with being i) an unemployed youth, ii) a NEET youth or iii) an unemployed prime-aged individual in both 2006 and 2011. For each of these three models, the dependent variable equalled one for the subgroup being examined (e.g. unemployed youth) and zero otherwise. The characteristics investigated were as follows, with the reference group being the category given in brackets: gender (male), age (15-19), nationality (Non-Irish), educational attainment (Junior Certificate or less), and geographic location (Dublin). We also ran a series of probit models where we included year interaction

¹² We omitted individuals that did not provide education data, and those who transitioned into economic inactivity are excluded from the unemployed youth and prime-aged models.

terms to test for significant differences in the coefficients between the boom (2006) and recessionary (2011) time points.

Next, we examined the impact of various socio-economic and demographic factors on an unemployed or NEET youth's likelihood of transitioning to employment, and on unemployed prime-aged individuals as well. These analyses were undertaken by estimating separate binary probit models for 2006 and 2011, where the dependent variable equalled one if an individual transitioned to employment during the observation period and zero otherwise. The same covariates that were used in the individual sub-group determinant models were used in this analysis as well, with the inclusion of a previous unemployment duration variable: the reference category for this covariate was 1-3 months previous unemployment duration.

After this, we estimated Oaxaca-Blinder decompositions to determine the extent to which variations in the rate of transition to employment between 2006 and 2011 were related to changes in the population structure of the various groupings (i.e., the endowment effect) as opposed to changes in the return to labour market characteristics (i.e., the coefficient effect). The specific decomposition that we estimated for each subgroup examined is in line with Equation 1:

$$\bar{T}_{11} - \bar{T}_{06} = (\bar{X}_{11} - \bar{X}_{06})\hat{\beta}_{11} + (\hat{\beta}_{11} - \hat{\beta}_{06})\bar{X}_{06} + (\hat{\alpha}_{11} - \hat{\alpha}_{06}) \quad (1)$$

The term on the left-hand-side, $\bar{T}_{11} - \bar{T}_{06}$, captures the change in the transition rate to employment between 2006 and 2011. The first term on the right-hand-side is known as the endowment effect: this effect describes the extent to which the transition rate to employment in 2011 would be different if 2011 unemployed (NEET) youths possessed the same average characteristics as 2006 unemployed (NEET) youths. As such, the endowment effect captures the proportion of the change in the transition rate between 2006 and 2011 that is due to differences in the composition of unemployed (NEET) youths in both periods. The second

term in Equation 1 is known as the coefficient effect: this effect measures the extent to which the transition rate of 2011 unemployed (NEET) youths would be different if the characteristics that this group possessed were given the same weight (i.e., economic return) as when held by the 2006 unemployed (NEET) youths group. Thus, the coefficient effect is a measure of the extent to which 2006 and 2011 unemployed (NEET) youths holding similar characteristics are treated differently in the labour market. Finally, the last term denotes the factors that we cannot control for in our model that will impact on a person's transition rate to employment, such as social class, previous employment tenure, etc. (i.e., unobservables). The characteristics investigated in the probit models described above were examined in the decomposition models as well: gender (male), age (15-19), nationality (Non-Irish), educational attainment (Junior Certificate or less), previous unemployment duration (1-3 months) and geographic location (Dublin).

The decomposition models were estimated by pooling the data for each grouping for 2006 and 2011 and then decomposing differences in the employment transition rate for the group over the period. Given that our dependent variable is a dichotomous 0/1 variable, we estimated a non-linear Oaxaca decomposition.¹³

3. Results

Table 4 presents the results from our probit models on the determinants of being an unemployed or NEET youth relative to being employed in both 2006 and 2011. The same models are also shown for unemployed prime-aged individuals. The 'change' column indicates whether the movement in the coefficients between 2006 and 2011 is statistically significant.

¹³ The Stata command for this is Oaxaca.

In 2006, the characteristics that raised the probability of being an unemployed youth relative to an employed youth were being female, aged 15 to 19 (relative to being aged 20 to 24), and being educated to a Junior Certificate or less qualification. Living in the Mid-West and West, relative to Dublin, also increased a youth's likelihood of being unemployed during the boom. In the aftermath of the downturn (2011), the negative impact of having compulsory educational attainment became much stronger, with graduates 25 per cent less likely to be unemployed relative to youths with compulsory levels of schooling (compared to a 6 per cent impact in 2006). The impact of geographical location also became more pronounced. In particular, the degree of disadvantage to living outside of Dublin rose substantially for many regions. Interestingly, male youths were much more likely to be unemployed in 2011, which is likely to be linked to their concentration in the construction sector during the boom period and the subsequent collapse of the property market. Finally, the period witnessed a marked reversal in the impact of nationality on youth unemployment, with immigrant youths statistically more likely to become unemployed in 2011.

With respect to the factors impacting the probability of being NEET, as was the case with unemployed youths, being female and having compulsory schooling or less qualifications increased a youth's likelihood of being a NEET relative to being employed in 2006. However, the marginal impact of both gender and low levels of educational attainment was much stronger for NEET status compared to unemployed youths. Being aged 20 to 24 (relative to being aged 15 to 19) also increased a youth's likelihood of being a NEET during the boom, as did being a non-national. Apart from gender, the same results held post-recession, with the impact of having compulsory educational attainment or less qualifications becoming significantly stronger. In relation to gender, interestingly male youths became more likely to be a NEET following the recession. In contrast to the situation for unemployed youths, Irish nationals were less likely to be NEET during both periods.

In relation to prime-aged unemployed individuals, they shared similar traits to unemployed youths during both the boom and recession, particularly in terms of gender and educational attainment. However, the negative impact of having compulsory schooling or less qualifications was much lower for prime-aged unemployed individuals. Given the insignificance of many of the regional effects, location does not appear to be as strong a factor in determining older individuals' economic status as it is for youths.

<insert Table 4 here>

Moving on to our labour market transitions analysis, Table 5 shows the two quarter transition rates for unemployed and NEET youths and unemployed prime-aged individuals in both 2006 and 2011.

In relation to unemployed youths, 37 per cent remained continuously unemployed during the boom, while 38 per cent transitioned into employment and 25 per cent into economic inactivity. This compares with 79 per cent of NEETs remaining continuously NEET in 2006 and 21 per cent transitioning into employment. Post recession, the proportion of unemployed youths that remained continuously unemployed increased to 52 per cent, with only 17 per cent transitioning into employment and an increase in the number moving into inactivity. The percentage of NEETs that remained continuously NEET post recession also increased (86 per cent), leading to a proportionate fall in transitions into employment (14 per cent).

With regards to unemployed prime-aged individuals, similar proportions to unemployed youths remained continuously unemployed during three quarters in 2006, but less transitioned into employment (28 per cent), while a higher percentage became inactive (33 per cent). Post recession, the share of prime-aged unemployed that remained continuously

unemployed increased to 63 per cent, which represents a greater increase relative to unemployed youths. However, the same proportion transitioned into employment as unemployed youths (17 per cent), while less transitioned into inactivity (21 per cent). The latter result could reflect the possibility that a greater number of young unemployed people returned to education during the recession compared with prime-aged unemployed individuals.

<insert Table 5 here>

Our probit model results on the determinants of transitioning from unemployment in two subsequent quarters, both for youths and prime-aged, or from NEET to employment in 2006 and 2011 are presented in Table 6. During both the boom and post recessionary period in Ireland, unemployed males, both youth and prime-aged, were significantly less likely than unemployed females to transition to employment. In contrast, NEET males were more likely to transition to employment during the boom period; however, by 2011 the pattern was consistent with the other two groupings with males less likely to transition. Unemployed and NEET youths aged 20 to 24 were more likely to find a job compared to those aged 15 to 19 during 2006; however, the opposite was the case during 2011. During both 2006 and 2011, prime-aged unemployed people aged 25 to 34 were more likely to transition to employment compared to their older counterparts.

With regard to education, with a few exceptions, the general pattern indicates that higher levels of schooling increased the likelihood of an employment transition in both periods. However, in 2006 a Post-Leaving Certificate (PLC) qualification, which tends to be vocational in nature, had a stronger impact on employment transition for all three groups than a university degree, while possessing a third-level Non-Degree qualification reduced

unemployed and NEET youths' likelihoods of transitioning to employment. The strength of the PLC qualification in 2006 is likely to at least partially reflect the importance of the construction industry during this time period. By 2011, the impact of education generally followed a more standard linear pattern. Perhaps not surprisingly, the marginal impact of a PLC qualification fell off dramatically by 2011 due, presumably, to a substantial fall in the demand for vocationally qualified labour. In addition, holders of a third-level Non-Degree qualification in 2011, both unemployed and NEET youths, were more likely to find a job relative to those with a Junior Certificate or less qualification.

For all three groups, Irish nationality lowered the probability of a successful employment transition in 2006 and raised it in 2011. Previous unemployment duration emerged as another important factor in determining transitions to employment during both the boom and the recession. In terms of the order of magnitude, previous unemployment had the largest negative impact on prime-aged individuals, followed by unemployed youths and then NEETS. In 2006, for both youth unemployed and NEET individuals, the probability of an employment transition was lower the higher the duration of previous unemployment. For prime-aged individuals, the negative impact of a previous unemployment spell of between 4 and 6 months or 7 and 12 months was broadly similar in 2006; however, the likelihood of employment fell dramatically if the individual had been unemployed for more than 12 months. By 2011, the marginal impact of a previous unemployment spell fell dramatically for all three groupings. In particular, for both unemployed and NEET youths the movement was most marked at both extremes of the duration spectrum, with little change observed with respect to the 7 to 12 months duration variable. For prime-aged unemployed individuals, a substantial fall occurred in the marginal impact of all three unemployment duration variables between 2006 and 2011. The fall in the marginal impact of the 13 months and above duration

variable is most likely explained by the rapid increase in the incidence of long-term unemployment by 2011, which has resulted in a diminishing scarring effect.

<insert Table 6 here>

Next we undertook our decomposition analysis, the results from which are presented in Tables 7 and 8. The overall decomposition result from the Oaxaca non-linear decomposition is presented in Table 7, while a breakdown of the individual coefficient results is shown in Table 8.

Focussing first on the results in Table 7, the ‘Overall Difference’ result for each subgroup analysed tells us how much the transition rate to employment fell by between 2006 and 2011. For unemployed youths the rate for transitioning into employment fell by 25 percentage points; for NEETs the rate fell by just under 8 percentage points, while for unemployed prime-aged individuals it fell by just over 17 percentage points. For unemployed youths, changes in the composition of the population, the endowment effect, accounted for less than 3 percentage points of the overall fall. The vast majority of the fall in the transition rate relates to coefficient effects, which incorporate a change in the return to observable and unobservable characteristics. A similar pattern emerges for NEETS, where composition effects explain virtually none of the fall in employment transitions with the bulk of the change related to coefficient effects.

<insert Table 7 here>

The individual coefficient results presented in Table 8 tell us what the main determinants are in explaining the change in the employment transition rate for each sub-

group between 2006 and 2011. We separate these out into the impacts on observables, which measure the change in the returns to labour market characteristic over time, and unobservables, which are proxied by the value of the constant term. Both unemployed and NEET youths shared the same determinants, but the impact of each factor varied for both sub-groups. Overall, we found that being male, aged 20 to 24 (relative to aged 15-19) and possessing a Leaving Certificate or PLC qualification (relative to a Junior Certificate or less qualification) had a depreciating effect on both unemployed and NEET youths employment transition rates between 2006 and 2011, suggesting declines in the returns to such characteristics. In line with the earlier probit models, having previous unemployment duration of 7 to 12 months (relative to 1 to 3 months) also had a depreciating effect on both groups' transition rates. Possessing a third-level qualification and being Irish, on the other hand, had appreciating effects on unemployed and NEET youths' employment transition rates between 2006 and 2011, as did having previous unemployment duration of either 4 to 6 months or 13 months and above. The positive coefficient effect for both short-term and long-term unemployment may seem unusual; however, from our earlier results it is clear that the result reflects a fall in the negative impact of these unemployment durations. Similar determinants emerged for unemployed prime-aged individuals, particularly in relation to the impact of educational attainment and being Irish. However, being male had an appreciating effect on the unemployment to employment transition rate for prime-aged individuals, as did all previous unemployment durations, suggesting that the fall in unemployment scarring effect was more consistent for prime-aged individuals. For unemployed youths, changing returns to observable characteristics account for approximately half of the observed fall in their transition rate over the period. For both NEET and prime-aged unemployed individuals, the change in the return to observables increased the likelihood of labour market transitions. However, these positive impacts were more than offset by a decline in the return to

unobservables, which, presumably, relates to factors not controlled for in the model, such as the external macroeconomic environment and controls such as social class, previous employment tenure, etc.

Overall, the results from this analysis suggest that the relative fall in the unemployment/NEET to employment transition rates for unemployed and NEET youths, and unemployed prime-aged individuals, between 2006 and 2011 is not due to changes in the underlying sub-group population structures but to changes in the external environment that have had an impact on individuals possessing certain characteristics over the recession. For example, there has been an increase in the marginal impact of higher levels of educational attainment on the likelihood of transitioning from unemployment to employment. Thus, even though there have been huge changes in the macro-economic environment between 2006 and 2011, there have not been big changes in the attributes of unemployed and NEET youths, or unemployed prime-aged individuals.

<insert Table 8 here>

4. Conclusions

Using a longitudinal dataset, this paper examines the extent to which transitions to employment among youth unemployed, NEETs and prime-age unemployed individuals changed over the economic cycle in Ireland, and attempts to explain the nature of such change. The study found that for all three groupings the rate of transition to employment fell dramatically between 2006 and 2011. Overall, the results from the analysis showed that the drop in the three groups' transition rates was not due to changes in the underlying sub-group population structures but to changes in the external environment that resulted in the impact of possessing certain characteristics changing over the recession. For example, we found a rise

in the marginal value of education and Irish nationality on the probability of a successful transition from unemployment to employment, and a fall in the scarring impact of unemployment durations, among all three groups.

From a policy perspective, given the desperate labour market situation faced by young unemployed and NEET individuals that was identified in the earlier part of the paper, there is an immediate need for the implementation of the Youth Guarantee in Ireland, which is still only at the pilot stage. However, the reality is that due to resource constraints, the Youth Guarantee in Ireland, when implemented, will only be done so in a limited fashion. In addition, the policy as it currently stands makes no specific reference to NEET youths. The results from the econometric analysis would seem to support, for both young unemployed and NEET individuals, a greater emphasis on higher levels of human capital (i.e., third-level qualifications). The rapid fall off in the returns to Post Leaving Cert Level qualifications that was identified in the study would also suggest that vocational training needs to be reassigned to those areas of the labour market where there will be job growth. The establishment of the new Further Education and Training Authority in Ireland, which took place in 2013 and is known as SOLAS, will help to address this issue, as the new organisation has been tasked with delivering high-quality further education and training programmes that are responsive to the needs of learners and the requirements of a changing society (SOLAS, 2014). Finally, given that the analysis found that the level of disadvantage was much more acute for unqualified individuals by 2011, greater emphasis should be placed on policies designed to tackle early school leaving.

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Table 1. Unemployment and Employment Rates in Ireland: 2004 to 2014

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q1)
Unemployment rate %	4.6	4.7	4.6	4.8	5.7	12.2	13.9	14.6	15.0	13.9	12.0
Employment rate % (persons aged 15-64)	65.9	67.5	68.5	69.1	67.9	62.2	60.0	59.2	58.8	60.2	60.8

Source: Quarterly National Household Survey, Central Statistics Office.¹⁴

Table 2. Youth Unemployment Rates in Ireland: 2004 to 2014

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q2)	(Q1)
Aged 15-24:											
All	9.4	9.8	9.9	10.3	12.4	25.5	28.3	29.9	33.0	29.6	25.3
Males	9.7	10.6	9.7	10.7	14.9	31.9	34.4	35.8	38.9	32.6	28.0
Females	9.1	8.9	10.2	9.7	9.7	18.7	21.8	23.7	26.7	26.4	22.2

Source: Quarterly National Household Survey, Central Statistics Office.¹⁵

Table 3. Sample Information: 2006 and 2011

	2006	2011
Unemployed Youths	5,926	13,933
NEET Youths	15,430	23,389

¹⁴ <http://www.cso.ie/en/qnhs/releasesandpublications/qnhspostcensusofpopulation2011/>

¹⁵ <http://www.cso.ie/en/qnhs/releasesandpublications/qnhspostcensusofpopulation2011/>

Unemployed Prime-Aged Individuals	11,053	65,385
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Table 4. Determinants of being an Unemployed Youth, NEET or Unemployed Prime-Age Individual: 2006 and 2011

	2006 Marginal Effects	2011 Marginal Effects	Change
UE Youths:			
Reference: Female			
Male	-0.015***	0.088***	Yes
Reference: Age 15-19			
Age 20-24	-0.024***	-0.054***	No
Reference: Junior Certificate or Less			
Leaving Certificate	-0.050***	-0.216***	Yes
Post Leaving Cert Level (includes apprenticeships)	-0.052***	-0.088***	Yes
Third-level Non-Degree	-0.062***	-0.210***	Yes
Third-level Degree	-0.066***	-0.245***	Yes
Reference: Dublin			
Border	0.004	0.121***	Yes
Mid-East	-0.043***	-0.023***	Yes
Midlands	-0.011***	0.222***	Yes
Mid-West	0.015***	0.160***	Yes
South-East	-0.012***	0.035***	Yes
South-West	-0.027***	0.011*	Yes
West	0.018***	0.119***	Yes
Reference: Non-Irish			
Irish	0.005	-0.092***	Yes
NEET Youths (Reference categories as above):			
Male	-0.116***	0.018***	Yes
Age 20-24	0.029***	0.056***	No
Leaving Certificate	-0.145***	-0.291***	Yes
Post Leaving Cert Level (includes apprenticeships)	-0.132***	-0.165***	Yes
Third-level Non-Degree	-0.133***	-0.299***	Yes
Third-level Degree	-0.152***	-0.351***	Yes
Border	-0.007*	0.109***	Yes
Mid-East	-0.059***	-0.077***	Yes
Midlands	-0.034***	0.131***	Yes
Mid-West	0.020***	0.096***	Yes
South-East	-0.023***	-0.044***	No
South-West	-0.029***	-0.007	Yes
West	0.022***	0.027***	No
Irish	-0.021***	-0.078***	Yes

Table 4, continued

	2006	2011	
	Marginal Effects	Marginal Effects	Change
UE Prime-Aged (Reference categories as above):			
Male	-0.008**	0.042***	Yes
Age 35-44	-0.012***	-0.046***	No
Age 45-54	-0.010**	-0.084***	Yes
Leaving Certificate	-0.027***	-0.074***	No
Post Leaving Cert Level (includes apprenticeships)	-0.021***	-0.046***	No
Third-level Non-Degree	-0.027***	-0.107***	Yes
Third-level Degree	-0.039***	-0.150***	Yes
Border	-0.004	-0.012	No
Mid-East	-0.014**	-0.012	No
Midlands	-0.018**	-0.007	Yes
South-East	-0.007	0.034**	Yes
South-West	-0.002	0.028**	No
West	-0.007	-0.011	No
Irish	-0.004	0.013	No
	-0.034***	-0.039***	Yes

Table 5. Unemployed Youths, NEETS, and Prime-Age Unemployed Individuals' Labour Market Transition Rates: 2006 and 2011

	Continuously Unemployed	Into Employment	Into Inactivity
Youths:			
2006	37.4	38.0	24.6
2011	51.6	17.4	31.0
Prime-aged:			
2006	38.5	28.3	33.2
2011	62.9	16.6	20.6
NEETs:			
	Continuously NEET	Into Employment	
2006	78.6	21.4	-
2011	86.4	13.6	-

Source: Constructed with data from the 2006 (Q2) and 2011 (Q2) Quarterly National Household Survey longitudinal data files.

Table 6. Probit Models of the Determinants of Transitioning from Unemployment/NEET to Employment: 2006 and 2011

	2006			2011		
	UE Youths	NEET Youths	UE Prime- Aged	UE Youths	NEET Youths	UE Prime- Aged
Gender (Ref = Female)						
Male	-0.129*** (0.017)	0.077*** (0.007)	-0.210*** (0.013)	0.132*** (0.009)	-0.010** (0.004)	0.026*** (0.004)
Age (Ref = Age 15-19)						
Aged 20-24	0.224*** (0.017)	0.028*** (0.007)	- -	0.152*** (0.013)	0.104*** (0.007)	- -
Age (Ref = Age 25-34)						
Aged 35-44	- -	- -	-0.185*** (0.012)	- -	- -	0.040*** (0.003)
Age 45-54	- -	- -	-0.078*** (0.012)	- -	- -	0.079*** (0.004)
Educational Attainment (Ref = Junior Certificate or less)						
Leaving Certificate	0.341*** (0.016)	0.116*** (0.008)	0.315*** (0.015)	0.066*** (0.010)	0.016*** (0.005)	0.037*** (0.005)
Post Leaving Cert Level (includes apprenticeships)	0.408*** (0.020)	0.353*** (0.021)	0.215*** (0.022)	0.019 (0.013)	0.051*** (0.008)	0.160*** (0.006)
Third-level Non-Degree	-0.099*** (0.038)	-0.040*** (0.014)	0.001 (0.018)	0.156*** (0.023)	0.075*** (0.014)	0.163*** (0.008)
Third-level Degree	0.152*** (0.032)	0.070*** (0.020)	0.081*** (0.020)	0.468*** (0.019)	0.402*** (0.018)	0.253*** (0.008)

Table 6, continued

	2006			2011		
	UE Youths	NEET Youths	UE Prime- Aged	UE Youths	NEET Youths	UE Prime- Aged
Geographic Location (Ref = Dublin)						
Border	0.014 (0.025)	-0.023** (0.010)	0.068*** (0.017)	-0.059*** (0.010)	-0.050*** (0.005)	0.010 (0.007)
Mid-East	-0.254*** (0.025)	-0.136*** (0.005)	0.071*** (0.026)	0.010 (0.015)	-0.015* (0.008)	0.052*** (0.007)
Midlands	0.147*** (0.036)	-0.109*** (0.008)	-0.215*** (0.023)	-0.078*** (0.011)	0.030*** (0.009)	0.035*** (0.008)
Mid-West	-0.109*** (0.024)	-0.128*** (0.006)	0.013 (0.020)	0.110*** (0.015)	0.136*** (0.011)	0.101*** (0.007)
South-East	-0.072*** (0.025)	-0.012 (0.010)	-0.137*** (0.015)	-0.060*** (0.011)	-0.003 (0.007)	0.058*** (0.006)
South-West	-0.087*** (0.027)	-0.121*** (0.006)	0.212*** (0.018)	-0.024** (0.012)	0.062*** (0.008)	0.086*** (0.006)
West	-0.148*** (0.027)	-0.080*** (0.007)	0.001 (0.022)	-0.105*** (0.009)	-0.024*** (0.006)	0.098*** (0.007)
Previous UE Duration (Ref = 1-3 Months)						
4-6 Months	-0.147*** (0.024)	-0.021* (0.012)	-0.353*** (0.008)	-0.041*** (0.011)	0.084*** (0.011)	-0.066*** (0.004)
7-12 Months	-0.190*** (0.019)	-0.106*** (0.006)	-0.308*** (0.009)	-0.240*** (0.005)	-0.110*** (0.003)	-0.076*** (0.004)
13 Months and Above	-0.299*** (0.017)	-0.125*** (0.006)	-0.524*** (0.008)	-0.081*** (0.009)	0.001 (0.007)	-0.170*** (0.004)
Never had a Job	- (0.009)	-0.328*** (0.009)	- (0.009)	- (0.009)	-0.095*** (0.006)	- (0.006)
Nationality (Ref = Non-Irish)						
Irish	-0.060** (0.029)	-0.207*** (0.015)	-0.045** (0.018)	0.133*** (0.009)	0.087*** (0.004)	0.020*** (0.004)
Observations	5,926	15,430	11,053	13,933	23,389	65,385
Pseudo R2	0.204	0.244	0.321	0.215	0.174	0.0967

Table 7. Overall Decomposition Results

	Oaxaca
Unemployed Youths: Overall Difference	-25.0
Endowment Effect	-2.5
Coefficient Effect	-25.6
Interaction	3.2
NEET Youths: Overall Difference	-7.8
Endowment Effect	1.4
Coefficient Effect	-13.6
Interaction	4.4
Unemployed Prime-Aged: Overall Difference	-17.4
Endowment Effect	-0.3
Coefficient Effect	-8.8
Interaction	-8.4

Table 8. Oaxaca Individual Coefficient Effects on the Change in the Labour Market Transition Rates between 2006 and 2011

	UE Youths	NEET Youths	UE Prime- Aged
Observable Coefficient Effects:			
Male	-0.029***	-0.055***	0.157***
Aged 20-24	-0.258***	-0.130***	-
Aged 35-44	-	-	0.059***
Aged 45-54	-	-	-0.010***
Leaving Certificate	-0.077***	-0.041***	-0.086***
Pos Leaving Cert Level (includes apprenticeships)	-0.056***	-0.030***	-0.002
Third-level Non-Degree	0.012***	0.007***	0.022***
Third-level Degree	0.033***	0.016***	0.027***
Border	-0.013***	-0.010***	-0.006***
Mid-East	0.015***	0.015***	-0.000
Midlands	-0.019***	0.018***	0.026***
Mid-West	0.018***	0.032***	0.016***
South-East	-0.002	0.001	0.044***
South-West	0.004	0.034***	-0.015***
West	-0.004	0.006***	0.017***
4-6 Months	0.008***	0.010***	0.059***
7-12 Months	-0.052***	-0.017***	0.053***
13 Months and Above	0.067***	0.060***	0.312***
Never had a Job	-	0.067***	-
Irish	0.227***	0.350***	0.080***
Total:	-0.126	0.333	0.755
Unobservables:			
Constant	-0.131***	-0.470***	-0.842***
Overall Coefficient Effect:	-0.256	-0.136	-0.088