ECONSTOR
Make Your Publications Visible.

A Service of

ZBW Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Barrett, Alan; McCarthy, Yvonne

Working Paper

The earnings of immigrants in Ireland: results from the 2005 EU survey of income and living conditions

IZA Discussion Papers, No. 2990

Provided in Cooperation with:
IZA – Institute of Labor Economics

Suggested Citation: Barrett, Alan; McCarthy, Yvonne (2007) : The earnings of immigrants in Ireland: results from the 2005 EU survey of income and living conditions, IZA Discussion Papers, No. 2990, Institute for the Study of Labor (IZA), Bonn

This Version is available at:
https://hdl.handle.net/10419/34690

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

WWW.ECONSTOR.EU

Mitglied der Leibniz-Gemeinschaft

DISCUSSION PAPER SERIES

IZA DP No. 2990

The Earnings of Immigrants in Ireland: Results from the 2005 EU Survey of Income and Living Conditions

Alan Barrett
Yvonne McCarthy

August 2007

Forschungsinstitut
zur Zukunft der Arbeit
Institute for the Study
of Labor

The Earnings of Immigrants in Ireland: Results from the 2005 EU Survey of Income and Living Conditions

Alan Barrett
Economic and Social Research Institute
and IZA

Yvonne McCarthy
Central Bank and Financial Services Authority of Ireland,
formerly of the Economic and Social Research Institute

Discussion Paper No. 2990
August 2007

IZA

P.O. Box 7240
53072 Bonn
Germany

Phone: +49-228-3894-0
Fax: +49-228-3894-180
E-mail: iza@iza.org

Any opinions expressed here are those of the author(s) and not those of the institute. Research disseminated by IZA may include views on policy, but the institute itself takes no institutional policy positions.

The Institute for the Study of Labor (IZA) in Bonn is a local and virtual international research center and a place of communication between science, politics and business. IZA is an independent nonprofit company supported by Deutsche Post World Net. The center is associated with the University of Bonn and offers a stimulating research environment through its research networks, research support, and visitors and doctoral programs. IZA engages in (i) original and internationally competitive research in all fields of labor economics, (ii) development of policy concepts, and (iii) dissemination of research results and concepts to the interested public.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

IZA Discussion Paper No. 2990
August 2007

ABSTRACT

The Earnings of Immigrants in Ireland: Results from the 2005 EU Survey of Income and Living Conditions

This paper has three objectives. First, a review of the developing body of work on the economics of immigration in Ireland is provided. Second, the analysis undertaken by Barrett and McCarthy (forthcoming) of earnings of immigrants in Ireland is updated. Third, the earnings of immigrant women are assessed to see if they experience a "double disadvantage". Among other findings, the review of the emerging literature points to immigrants faring less well in the Irish labour market relative to native employees. As regards the analysis conducted in this paper, we find that immigrants were earning 15 percent less than comparable natives employees in 2005. For immigrants from non-English speaking countries, the wage disadvantage was 20 percent. The corresponding figure for immigrants from the EU's New Member States was 31 percent. A double disadvantage is found for immigrant women, with the earnings of female immigrants found to be 14 percent less than those of comparable native female employees. This double disadvantage is concentrated among female immigrants with third level degrees.

JEL Classification: J61

Keywords: immigrants' earnings, Ireland

Corresponding author:

Alan Barrett
Economic and Social Research Institute
Whitaker Square
Sir John Rogerson's Quay
Dublin 2
Ireland
E-mail: Alan.Barrett@esri.ie

The Earnings of Immigrants in Ireland: Results from the 2005 EU Survey of Income and Living Conditions

Section 1: Introduction

In recent years, immigration has become one of the most important economic and social issues facing Ireland. Over a remarkably short time-span, Ireland went from being a country with relatively few immigrants to one with an immigrant share of population similar to the EU average. The presence of this immigrant population has given rise to a wide range of research questions, relating to issues such as the experiences of immigrants in Ireland and their impacts. In this paper, we address one of the emerging research questions, namely, the earnings of immigrants in Ireland relative to natives. Earnings are obviously an indicator of labour market success so it is important that we know how the earnings of immigrants compare to those of natives. Significant differences in wages between natives and immigrants can point to efficiency losses for the economy if those lower wages reflect a sub-optimal use of immigrant human capital. Wage differences can also have unfavourable distributional implications.

We conduct our analysis using data from the 2005 wave of the European Union Survey of Income and Living Conditions (EU-SILC). In undertaking this analysis, we have two objectives. First, we want to update the findings in Barrett and McCarthy (forthcoming) in which data from the 2004 wave of the EU-SILC were used. Our second objective is to develop the analysis in Barrett and McCarthy and in particular to consider the earnings of immigrants by gender. Given that the Barrett and McCarthy paper contains the only analysis of immigrants' earnings in Ireland that is based on a representative sample, there is clearly a value in adding to the store of knowledge on this important issue.

The paper is structured as follows. In Section 2, we provide an overview of research on the economic dimensions of immigration in Ireland. In so doing, we aim to achieve another goal for the paper. Although a number of papers have now been written on the economics of immigration in Ireland, no overview has been provided. In Section 3, we describe the data on which the analysis is based, we present some descriptive statistics and then we present the results from the regression analysis. In Section 4, we

compare the results from the 2005 data with those from the 2004 data. In Section 5, we offer some conclusions.

Section 2: Research on the Economics of Immigration in Ireland

Although immigration into Ireland is a recent phenomenon, the research community in Ireland has been able to draw on a vast literature on the topic from other countries in setting research questions. Here, we provide a brief note on each question, with some examples of relevant papers. Our focus is purely on the economic dimensions.

1. *What determines the size of migration flows?* A typical approach under this line of research is to consider the relative economic positions of two countries or regions (such as incomes per head) and to relate this to population flows. One recent example is Bauer and Zimmermann (1999) who sought to forecast possible population movements following the expansion of the EU in May 2004.

2. *What are the characteristics of migrants, for example, in terms of human capital?* There are many examples of papers looking at this issue, with one of the best-known being Borjas (1987). Borjas showed how immigrants in the US differed in their human capital across countries of origin. In particular, he showed how the shift towards a greater concentration of Latin American immigrants in the inflow after the mid-1960s, and away from Europeans who had higher levels of education, led to a less educated immigrant population in the US.

3. *What are the experiences of migrants in their host countries? For example, how do they perform in the labour market?* Chiswick (1978) was one of the earliest and most influential papers on this topic. He appeared to show that immigrants earned less on average than comparable natives when they arrived in the US but that their earnings converged on those of natives over time, as they acquired "location-specific human capital". Much work has followed this line and has looked at dimensions of the immigrant experience other than earnings such as occupational attainment (Chiswick et al 2005) and welfare participation (Hansen and Lofstrom, 2003).

4. *What are the economic impacts of migrants on variables such as GNP, earnings and the public finances?* The measurement of impacts is a more controversial area

than those just mentioned. Some studies have used variations in immigrant concentrations across geographic areas to assess impacts and have found the impact to be minor. However, Borjas et al (1997) suggest that this approach may be flawed and that a model-based simulation approach is needed. The results from the Borjas et al approach tend to show immigration having a relatively minor impact on average incomes but with more significant distributional implications.

We will now look at the recent Irish research under each heading. A number of papers addressed the question of migration flows between Ireland and the UK (Geary and McCarthy, 1976; Honohan, 1984 and 1992). The approach was to relate changes in relative incomes and relative unemployment rates between Ireland and the UK to population flows between the two economies. These papers clearly belong to a time when such flows were the dominant component in Ireland's migratory experience. Since the beginning of the era of large-scale inward migration, only one paper has looked at the determinants of more recent flows. Duffy et al (2005) consider how inward migration has tended to contribute to increasing the price of houses and how this increase, in turn, reduces the attractiveness of migrating to Ireland. The authors conclude that this house price/migration link reduces potential migration and so lessens the potential for migration to dampen wage pressures in Ireland.

Starting with Barrett and Trace (1998), a number of papers have looked at the characteristics of immigrants (Barrett et al 2006; Minns 2005). Barrett and Trace showed that immigrants in the mid-1990s were a highly educated group, with levels of education that significantly exceeded those of the native population. One of the hypotheses explaining this observation was that the immigrants of the 1990s were "early movers" and may have had access to more information on Ireland. This gave rise to an expectation that the level of education among immigrants would fall as inward migration continued and increased.

The later analyses of immigrant characteristics continued to show immigrants as being a highly educated group, based on both the Quarterly National Household Surveys (Barrett et al, 2006) and the Census 2002 (Minns, 2005). It was also shown that immigrants had higher rates of labour force participation and higher employment rates. Barrett and Duffy (2007) did show that the level of education among

immigrants was lower among the more recent arrivals. Even so, the most recently arrived cohort (as of 2005) still had higher levels of education than the native population. Another paper on this issue of characteristics is Duffy (2007). He looks at the housing tenure of immigrants and finds that they are less likely to be owner-occupiers.

On the issue of how migrants are performing in the Irish labour market, the evidence suggests that they do less well than the native population. Ruhs (2005) provided the first study on earnings but his data was limited to work permit holders and so omitted the many EU nationals who were living in Ireland at the time of his analysis. Barrett and McCarthy (forthcoming) is the first, and only, analysis of earnings that is based on a nationally representative dataset. They show that immigrants earn 18 percent less, on average, relative to native workers, controlling for factors such as education and length of labour market experience. For immigrants from non-English speaking countries, this wage gap is 31 percent. Barrett and McCarthy also show that the wage gap is biggest for the more highly educated immigrants, relative to comparable native employees.

The issue of labour market performance is also addressed in Barrett et al (2006) and Barrett and Duffy (2007). As these papers use the CSO's Quarterly National Household Survey, the sample sizes are larger than that used by Barrett and McCarthy. However, as the QNHS does not include information on earnings, the analyses in these papers use occupational attainment rather than wages as a measure of labour market outcomes. Both papers show how immigrants are less likely to be in higher-level occupations, controlling for factors such as age and education, and label this as an "occupational gap". Barrett and Duffy (2007) also show how this "occupational gap" is largest for immigrants from the EU's New Member States and how the gap does not seem to decline for this group as they spend longer in Ireland. Based on this finding, Barrett and Duffy conclude that there is an absence of evidence of increased labour market integration of immigrants over time.

The question of economic impacts has been addressed in Barrett et al (2002), Barrett et al (2006), Barrell et al (2007) and Bergin and Kearney (forthcoming). All four papers follow the simulation approach to measuring immigration impacts, as

promoted by Borjas et al (1997). Given the high-skilled nature of the immigrant inflow into Ireland, Barrett et al (2002) and Bergin and Kearney (forthcoming) see immigration dampening wage pressures at the high-paid end of the labour market and thereby allowing increased demand for such labour to translate into increased high-skilled employment and output. Barrett et al (2002) link this process to an observation of a reduced tendency towards increasing earnings inequality in Ireland after 1997. Barrett et al (2006) take account of the fact that immigrants, although highly educated, experience an occupational gap (defined above). This leads them to show that immigration may also have contributed to dampening wage pressures at the lower end of the distribution as immigrants competed with lower-skilled native employees. Barrell et al (2007) model immigration into Ireland in the broader context of population movements within the EU, following enlargement in 2004, and estimate what the on-going impact might be out to 2015. Ireland is shown to be the largest gainer from EU movements (in proportionate GDP increases). As part of the same exercise, the accession states are shown to experience losses in GDP.

In summary, the main lessons from the economics literature on immigration in Ireland are as follows. Immigration into Ireland has been notable for the high level of education among the immigrant inflow and also the high levels of labour force participation and employment. In spite of the high levels of education, immigrants in Ireland from non-English-speaking countries have been shown to experience labour market disadvantages relative to natives in terms of occupational attainment and wages. The impact of immigration has been shown to be positive for GNP but negative for average wage growth. Given the greater controversy that surrounds the measurement of impacts, it is important to note that findings with respect to impacts could be less pronounced if different methods were used.

Section 3: Data, Descriptives and Regression Results

We now turn to our analysis of immigrant earnings in Ireland. The data on which the analysis below is based come from the EU Survey on Income and Living Conditions (EU-SILC) for 2005. A full description of the sampling methodology can be found in Central Statistics Office (2006) but here we will set out the broad features of the survey. The EU-SILC is a voluntary survey of private households and is carried out under EU legislation. To date, it has been used mainly to provide information on the

rates of poverty and deprivation in Ireland (CSO, 2006). The survey seeks to provide a nationally representative sample of households. It does so by first creating a sample of 2600 small areas and then selecting a random sample of households within each block. About 130 households were surveyed each week during the twelve months of 2005, resulting in a sample of 6,085 households and 15,539 individuals.

For each individual, the survey contains information on variables such as age, education, labour force status and earnings. Crucially for our purposes, the place of birth and citizenship of each respondent is provided and we use these to identify the immigrants in the sample. If an individual reports themselves as having been born in Ireland and as being an Irish citizen, we code them as being a native. If an individual reports that they were born outside of Ireland and that they are not Irish citizens, we code them as being immigrants. In addition, we take their reported citizenship to describe where they are from[3]. It should be borne in mind that the immigrants we observe in the sample will have entered Ireland through a number of routes. For citizens of the EU, there are no restrictions on movement to Ireland and on working there. Other admission routes include work permits and family re-unification measures.

One weakness of the data that should be noted is that we have no information on the length of time that immigrants have been in Ireland. For this reason, we are not able to look at wage growth over time and to address the issue of whether any immigrant wage gap falls as immigrants acquire location-specific human capital. There is a longitudinal component in the data in that 44 percent of households that were interviewed in 2005 were also interviewed in the 2004 wave of the EU-SILC. Unfortunately, only 31 percent of immigrants were interviewed in both 2004 and 2005. This leaves too small a sample for any dynamic analysis to be conducted. And even if the sample were larger, one year would probably represent too short a time span over which to capture wage convergence.

[3] One group that we exclude from the analysis are people who are Irish citizens but who were not born here.

We now turn to the descriptive statistics. In Table 1, we show the age distribution of immigrants in the sample and also that of the native population[4]. The familiar picture emerges of immigrants being relatively younger than the native population, with almost 50 percent aged between 20 and 44. In Table 2 we show the labour force status of the immigrant and native populations and, again, some features emerge that have been seen in some of the papers discussed above. Immigrants have higher employment and participation rates relative to the native population and also a higher unemployment rate.

Table 1 here

Table 2 here

In Table 3, we focus on labour force participants and present the distribution of educational qualifications for native and immigrants. The high level of educational attainment of Ireland's immigrants is shown again, with over 40 percent having third level degrees or better.

Table 3 here

We now move on to consider the earnings of immigrants relative to natives. We use hourly wages as our measure because our main interest is in how the human capital of immigrants is valued in the labour market rather than in the total resources they command through employment. On average, the data show that native workers earn €20 per hour whereas immigrants earn €18. This implies an unadjusted wage differential of around 10 percent. However, given the higher education levels of immigrants it is clear that the adjusted differential might be higher so we turn to regression analysis to investigate this point.

[4] We should note that immigrants make up 5 percent of the sample. This is an undercount as Census 2006 showed 10 percent of the population to be non-national. A similar degree of under-representation of non-nationals in the 2004 EU-SILC was found by Barrett and McCarthy. They used the Quarterly National Household Survey for 2004, with its much larger sample size, to assess whether the under-representation of non-nationals was systematic along any observable dimension. No major bias was detected and so the same should hold for the 2005 data.

In Table 4, we present a series of regression results. The model in each case is the standard Mincer wage equation, where the dependent variable is the log of hourly wages and the independent variables capture earnings-related characteristics such as education, length of labour market experience and gender. We also include dummy variables indicating immigrants generally and different groups of immigrants. We will briefly discuss the coefficients on the other variables before looking more closely at the coefficients on the immigrant dummy variables.

The coefficient of the gender variable suggests that men earn 12 percent more than women, a result that is in line with other studies of the gender wage differential in Ireland. The "years worked" variable can be interpreted as saying that earnings rise by 4 percent for each additional year worked. The two variables relating to education are dummy variables indicating (a) those with leaving certificates or equivalent and (b) those with third level degrees. The omitted category is "less than leaving certificate" and the coefficients should be interpreted as the earnings of each group relative to those in the omitted category. Given this, the signs, significance and relative magnitudes of the coefficients make sense.

Turning to the immigrant dummy variables, the coefficient on "immigrant" in Model 1 indicates that immigrants, on average, earn 15 percent less than natives controlling for gender, education and experience. While this is an interesting finding, Barrett and McCarthy (forthcoming) show that the 15 percent figure might hide differences across different immigrant group. For this reason, we follow Barrett and McCarthy and re-estimate Model 1 looking within the group.

In Model 2, we create two immigrant dummy variables – one indicating immigrants from English speaking countries and the other indicating immigrants from non-English-speaking countries. The coefficients on each can be interpreted as showing the earnings gap between the two groups and natives. In the case of immigrants from English-speaking countries, the point-estimate shows immigrants earning less than natives. However, as the estimate is not statistically significantly different from zero, we are not finding evidence of a difference between the earnings of these immigrants and natives.

In the case of immigrants from non-English speaking countries, the point estimate of 0.20 is statistically significant and so we can conclude that this group earns 20 percent less than comparable natives. In Model 3, we look within the immigrants from non-English speaking countries and uncover some further differences. For immigrants from the EU-13 (i.e. the EU-15, prior to May 2004, less Ireland and the UK), we do not find an earnings difference relative to natives that is statistically different from zero. However, for immigrants from the EU-10 (i.e. the 2004 New Member States) and for immigrants from non-English speaking countries outside of the EU, the earnings gap relative to natives is in the region of 30 percent.

Table 4 here

Part of the explanation often given for lower immigrant earnings is lower returns on education and labour market experience acquired in the home- as opposed to the host-country (see for example, Friedberg, 2000). Our data do not include information on where these forms of human capital were acquired. However, we attempt to provide some insight on this point by following Barrett and McCarthy and re-estimating Models 1 and 2 from Table 4 but this time including interactions between the immigrants dummy variables and the education and labour market experience variables. If it is the case that immigrants acquired their human capital outside of Ireland, these interactions may capture the lower returns.

In Model 1 of Table 5, we look at all immigrants and include a third level education/immigrant interaction. The first point to note is that, relative to Model 1 of Table 4, the coefficient on the immigrant dummy variable is no longer statistically significant. The education/immigrant coefficient is, however, significant thereby suggesting that much of the immigrant wage disadvantage is concentrated among third level graduates. In Model 2 of Table 5, we add the experience/immigrant interaction but little of substance changes in the move from Models 1 and 2.

In Model 3 of Table 5, we focus on the immigrants from non-English-speaking countries. As with Model 1, the introduction of the education/immigrant interaction produces a statistically significant coefficient on the interaction itself and a loss in significance for the immigrant dummy variable. So again, we appear to be finding that

the immigrant wage disadvantage is concentrated among third level graduates. As with Model 2 of Table 2, the addition of the experience/immigrant interaction has little substantive impact. The coefficient on the immigrant dummy variable does change but remains statistically insignificant as we move from Model 3 to 4.

Table 5 here

At this point, we look to extend the analysis in two directions. The first of these extensions is to control for occupations in the wage regressions. As noted in Section 2, Barrett et al (2006) and Barrett and Duffy (2007) have shown that immigrants tend to be in lower level occupations given their education levels, relative to natives. For this reason, it could be the case that the earnings disadvantage of immigrants is explained by the occupational gap, with immigrants earning the same as natives within occupational categories. We can test for this by adding occupations to the regressions and by seeing whether the sign and significance of the immigrant dummy variables is altered. The results are presented in Tables 6 and 7.

If we compare the coefficients on the immigrant dummy variables in Table 6 with those in Table 4, we can see that the inclusion of controls for occupation produces little change and certainly no changes that are statistically significant. Looking, for example, at Model 2 in both tables, the earnings disadvantage for immigrants from non-English speaking countries falls from 20 percent to 16 percent but a test for a difference between the coefficients shows that they are statistically the same. Given that the cell sizes are now getting very small as we cut the data more finely, it could be that the failure to find an impact from the inclusion of occupations is related to the limitations of the data as opposed to the actual absence of such an effect. For this reason, we can only say that we are not finding an effect; we cannot conclude that lower immigrant wages are unrelated to some form of occupational segmentation.

Table 6 here

In Table 7, we add the occupation controls to the regressions with the education/immigrant interactions. If we compare the immigrant dummy coefficients with those in Table 5 (Models 3 and 4), we again see a fall in the point estimates. For

example, the coefficient on the immigrant/third level interaction term in Model 3 falls from minus 27 percent to (in Table 5) to minus 19 percent in Table 7. However, these point estimates are not statistically different and so the results can only be described as suggestive and not conclusive.

Table 7 here

Our next extension moves the analysis beyond the earlier work of Barrett and McCarthy and concerns the analysis of immigrant earnings by gender. It is well known that a gender pay gap exists in Ireland, whereby women earn less than men and we have shown above that immigrants earn less than natives. It is of interest to see if immigrant women suffer a "double disadvantage", in the sense of experiencing both the gender and immigrant pay gaps. This issue has been addressed for Canada (Beach and Worswisck, 1993) and for the US (Duleep and Dowhan, 2002) but not for Ireland.

In order to see why a double disadvantage might apply, it is useful to think in terms of the family migration model proposed by Mincer (1978). It is often the case that the migration decisions of women are closely linked with those of male partners. Although the family's migration may be income maximising, this could arise if the income gain to the male partner exceeds an income loss for the female partner. Hence, female immigrants may find themselves in unfavourable labour market situations and this could be reflected in the double disadvantage phenomenon[5].

In exploring this issue, we divided the sample into male and female sub-samples. As expected, the immigrant women have lower participation rates than the immigrant men (48.9 percent as opposed to 66.5 percent). We then selected employees and re-ran the regressions in Table 4 above. Splitting the sample in this way and focussing on employees leads to small cell sizes and our female-focused analysis is based on 95 immigrants, 65 of whom are from non-English speaking countries. In spite of the small sample, we do find results that are statistically significant.

[5] Another possible explanation for a double disadvantage would be the existence of discrimination on the grounds of both gender and immigrant status.

Within the female group, a finding of a negative and significant coefficient on the immigrant dummy would point to the existence of a double disadvantage. In Table 8, we see that this is indeed the case. Immigrant women earn 14 percent less than native women. As women earn about 12 percent less than men (according to Table 4), the double disadvantage is clear.

From Table 8, we can also see that the pattern of relative outcomes between immigrants and natives shows similarities across the genders, with no significant earnings penalty for immigrants from English speaking countries or from the EU-13. The earnings disadvantages are concentrated among the immigrants from the EU-10 and those from outside of the EU. The point estimates suggest some difference across the genders with respect to the relative size of the wage disadvantages between these two national groupings, with immigrants from the EU-10 having the largest wage disadvantage among women but immigrants from outside of the EU having the largest disadvantage among men. Within each gender group, the coefficients on the EU-10 and non-EU immigrant dummy variables are not statistically different from each other so nothing definitive can be read into that pattern.

We found earlier that for immigrants as a group, the earnings disadvantage was particularly evident for immigrants with third level qualifications. Table 8 suggests that this effect is actually much more a feature of the female immigrant experience relative to that of male immigrants. For women, the immigrant/education interaction term is negative and significant but this is not the case for men. It is also substantial in quantitative terms for women, at minus 38 percent. This suggests that there exist particular difficulties for immigrant women in having qualifications either recognised and/or rewarded.

Table 8 here

This finding is interesting in itself but it is particularly interesting in the context of an identical finding from Canada. Beach and Worswick (1993) ran similar Mincer-type wage equations on Canadian data, comparing native-born and foreign-born women. As they point out “the double-negative effect on earnings does not appear to hold across the board for all immigrant women, but is quite marked for highly-educated

women" (p38). They estimate that a foreign-born woman with a post-graduate degree earns between 9 and 7 percent less than a comparable Canadian-born woman and suggest that this finding is related to either problems surrounding the recognition of foreign credentials or discrimination against immigrant women in accessing higher-level jobs.

As noted in the discussion of family migration decisions, immigrant women may anticipate these difficulties but migrate anyway as part of family move. Nevertheless, it would still be preferable for female immigrants to be able to reach their full earnings potential. Beach and Worswick (1993) propose positive actions on increasing the information about foreign credentials so that this source of immigrant labour can be used more effectively, thereby "benefit(ing) the economy on both efficiency and equity grounds" (p47). [6]

Section 4: Comparing the 2004 and 2005 Results

In Table 9, we present the results from the 2004 data (from Barrett and McCarthy, forthcoming) and from the 2005 data. As noted above, 31 percent of the immigrants in the 2005 sample also appeared in the 2004 sample so there is some overlap. However, as the sample is almost 70 percent new, we are using a substantially different sample and so are providing a substantially new observation of immigrant earnings.

In general, the pattern of results is similar. The overall immigrant wage disadvantage was estimated to be 18 percent based on the 2004 data; based on the 2005 data, it is estimated to be 15 percent although there is no statistical difference between these estimates. In the 2005 data, we again find that the earnings disadvantage relates to immigrants from non-English speaking countries. While the point estimate from the 2004 data was higher, the 2005 estimate is statistically the same.

There are two differences between the 2004 and 2005 results. First, in 2004 immigrants from the EU-13 were found to have a wage disadvantage relative to natives but this is no longer the case in the 2005 data. The 2005 finding is more in line

[6] We re-ran the analysis to see if there were differences for married and un-married immigrants but nothing statistically significant emerged. This could well be because of the very small cell sizes at this stage of the data cuts.

with Barrett and Duffy's (2007) findings on occupational attainment and so, on that basis at least, is more believable.

The second difference between the 2004 and 2005 results concerns the immigrant/education interaction term and its impact on the immigrant dummy variable. Looking specifically at immigrants from non-English speaking countries, the addition of the (non-significant) third-level/immigrant interaction in the 2004 case left the immigrant dummy itself statistically different from zero. However, in the 2005 case, the interaction term is significantly different from zero and its inclusion led to the immigrant dummy becoming insignificant. This means that the 2005 data was showing more evidence of the wage penalty for immigrants from non-English speaking countries being concentrated among third level graduates. As Table 8 reveals, this effect seems to be particularly concentrated among female immigrants.

Table 9 here

Section 5: Conclusions

One purpose in this paper was to review the literature on the economics of immigration in Ireland. The review showed how immigrants have been found to experience labour market disadvantage relative to natives both in terms of occupational attainment and earnings. Based on the international literature, this is unsurprising, as immigrants typically fare less well than natives, especially in the earlier period of their migratory experience, before they have acquired "location-specific human capital". The one piece of work that has looked at immigrants by year of arrival is Barrett and Duffy (2007) but they do not find evidence of integration. Other findings from the emerging literature of the economics of immigration in Ireland include positive impacts on GNP, partly achieved through a dampening in wage pressures. The earlier papers saw this dampening effect at the upper end of the labour market, as a result of high-skilled immigration. However, a more recent study has taken account of the lower occupational attainment of immigrants and has suggested that the wage impact of immigrants may have been more broadly spread.

While a collection of papers is being built up on immigrants' characteristics, experiences and impacts, the volume of papers is still small. For this reason, another

purpose of the paper was to update the only previous analysis of the earnings of immigrants in Ireland that was based on a nationally representative sample, using data from 2005. In broad terms, the findings confirm those of the earlier paper. Using average hourly earnings as our measure of labour market outcomes, immigrants were found to earn 15 percent less on average than natives. The corresponding figure from the 2004 data was 18 percent which is higher, although statistically identical. As with the earlier analysis, the earnings disadvantage applies only to immigrants from non-English speaking countries. However, the 2005 differ from those of 2004 in that immigrants from the EU-13 (i.e. the EU 15 less Ireland and the UK) are not found to experience a wage gap in the 2005 data. Immigrants from the EU-10 are shown to have earnings that are over 30 percent less than comparable native workers, with immigrants from non-English speaking countries outside of the EU sharing a similar wage disadvantage.

One substantive difference between the 2004 and 2005 analyses concerns the interaction between education levels and immigrant status. The 2005 data suggest that the earnings disadvantage of immigrants from non-English speaking countries is concentrated among immigrants with third level degrees, particularly for women. Immigrants from these countries with lower level qualifications are not found to have different earnings relative to comparable natives. This suggests that the wage gap is not an immigrant effect in itself, but rather the effect of higher skilled immigrants not being able to earn returns on their educations. This finding mirrors those of Barrett et al (2006) and Barrett and Duffy (2007), where immigrants, and in particular high-skilled immigrants, are found to be in lower level occupations relative to what their educations might predict.

A third objective in the paper was to develop the analysis beyond that undertaken by Barrett and McCarthy. The analysis along gender lines showed immigrant men and immigrant women experiencing similar degrees and similar patterns of wage disadvantage relative to native men and native women respectively. Given the earnings disadvantage of native women relative to native men, this implies a double disadvantage for immigrant women. As referred to already, a deeper look at this point showed that immigrant women with third level degrees were most affected by this wage gap.

It seems that there is on-going need to add to the stock of observations on the immigrant wage gap in Ireland, preferably using different datasets. The precise source of the gap needs to be identified more clearly so that policy can be better directed. The results here suggest that the gap is not spread across all migrants but instead is more heavily concentrated among third level graduates. This suggests that a general form of discrimination is not in operation but instead that immigrants with third level qualifications are unable to exploit their educations to the fullest degree. This could be a short-run phenomenon, with the problem disappearing as immigrants acquire more "location-specific human capital". However, this needs to be monitored over time.

Table 1: Age Distribution of the Native and Immigrant Populations (%s)

Age Group (yrs)	*EU-SILC Irish*	*EU-SILC Immigrant*
0-14	21.4	16.1
15-19	7.8	5.6
20-24	5.8	8.2
25-34	7.7	21.6
35-44	12.9	19.4
45-54	13.8	11.3
55-59	6.0	4.3
60-64	5.6	4.4
65+	19.0	9.0
Total	100.0	100.0
Mean	39.4	35.6
N	**14199**	**687**

Table 2: Work Status Distribution of the Native and Immigrant Populations (%s)

	EU-SILC Irish	*EU-SILC Immigrant*
Full-time employment	36.5	45.7
Part-time employment	11.1	8.6
Unemployed but Seeking Work	2.5	4.0
Unemployed but not Currently Seeking Work	1.2	2.0
Not Economically Active	48.7	39.7
Total	100.0	100.0
Participation Rate	49.0	56.8
Unemployment Rate	4.9	6.8
N	**10912**	**564**

Table 3: Distribution of Educational Attainment for the Native and Immigrant Labour Force (%s)

	EU-SILC Irish	*EU-SILC Immigrant*
Less than Leaving Cert	35.7	16.4
Leaving Cert and Non-Degree	45.8	40.1
Third Level Degree and Above	18.4	43.5
Total	100.0	100.0
N	**5458**	**299**

Table 4: Wage Regressions (Dependent variable: log of hourly earnings)

	Model 1		**Model 2**		**Model 3**	
	Coef.	*S. E*	*Coef.*	*S. E*	*Coef.*	*S. E*
Constant	1.88	0.03	1.88	0.03	1.88	0.03
Immigrant	-0.15	0.04				
Immigrant: English Speaking Country			-0.09	0.06		
Immigrant: Non-English Speaking Country			-0.20	0.05		
Immigrant: Non-English Speaking EU-10					-0.32	0.09
Immigrant: Non-English Speaking EU-13					0.06	0.09
Immigrant: Non-English Speaking Outside EU-25					-0.29	0.08
Gender	0.12	0.02	0.12	0.02	0.12	0.02
Years Worked	0.04	0.00	0.04	0.00	0.04	0.00
(Years Worked)^2	0.00	0.00	0.00	0.00	0.00	0.00
Leaving Cert**	0.30	0.02	0.30	0.02	0.30	0.02
Third Level**	0.82	0.03	0.82	0.03	0.82	0.03
N	3493 Total Immigrants = 201 Adj. R^2 = 0.29		3493 English Speaking = 82 Non-English Speaking = 119 Adj. R^2 = 0.29		3411 EU-10 = 38 EU-13 = 35 Non-EU25 = 46 Adj. R^2 = 0.29	

Note: ** Omitted category is Primary Education or Less than Leaving Cert.

Table 5: Wage Regressions with Interactions Included (Dependent variable: log of hourly earnings)

	Model 1		**Model 2**		**Model 3**		**Model 4**	
	Coef.	*S. E*	*Coef.*	*S. E*	*Coef.*	*S. E*	*Coef.*	*S. E*
Constant	2.09	0.03	2.08	0.03	2.09	0.03	2.08	0.03
Immigrant	-0.07	0.06	0.05	0.08				
Immigrant: Non-English Speaking Country					-0.03	0.08	0.12	0.09
Gender	0.12	0.02	0.12	0.02	0.12	0.02	0.12	0.02
Years Worked	0.04	0.00	0.04	0.00	0.04	0.00	0.04	0.00
(Years Worked)^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Third Level**	0.63	0.02	0.63	0.02	0.63	0.02	0.63	0.02
Immigrant*Third Level	-0.15	0.08	-0.17	0.08	-0.27	0.10	-0.25	0.10
Immigrant* Years Worked			-0.01	0.00			-0.02	0.00
N	3493 Adj. R^2 = 0.26		3493 Adj. R^2 = 0.26		3411 Adj. R^2 = 0.25		3411 Adj. R^2 = 0.26	

Note: ** *Omitted category is less than third level degree.*

Table 6: Wage Regressions (Dependent variable: log of hourly earnings)

	Model 1		**Model 2**		**Model 3**	
	Coef.	*S. E*	*Coef.*	*S. E*	*Coef.*	*S. E*
Constant	2.00	0.04	2.00	0.04	1.99	0.05
Immigrant	-0.14	0.04				
Immigrant: English Speaking Country			-0.11	0.06		
Immigrant: Non-English Speaking Country			-0.16	0.05		
Immigrant: Non-English Speaking EU-10					-0.25	0.09
Immigrant: Non-English Speaking EU-13					0.07	0.09
Immigrant: Non-English Speaking Outside EU-25					-0.22	0.08
Gender	0.12	0.02	0.12	0.02	0.12	0.02
Years Worked	0.04	0.00	0.04	0.00	0.04	0.00
(Years Worked)^2	0.00	0.00	0.00	0.00	0.00	0.00
Leaving Cert**	0.20	0.02	0.20	0.02	0.21	0.02
Third Level**	0.53	0.03	0.53	0.03	0.53	0.03
Managers and Administrators***	0.17	0.04	0.17	0.04	0.17	0.04
Professional ***	0.33	0.04	0.32	0.04	0.33	0.04
Associate Professional and Technical***	0.15	0.05	0.14	0.05	0.14	0.05
Clerical and Secretarial***	-0.02	0.04	-0.02	0.04	-0.02	0.04
Personal and Protective Service***	-0.09	0.04	-0.09	0.04	-0.09	0.04
Sales***	-0.19	0.05	-0.19	0.05	-0.18	0.05
Plant and Machinery Operatives***	-0.10	0.04	-0.10	0.04	-0.09	0.05
Other (includes not stated) ***	-0.12	0.04	-0.12	0.04	-0.11	0.04
N	3491 Total Immigrants = 201 Adj. R^2 = 0.34		3491 English Speaking = 82 Non-English Speaking = 119 Adj. R^2 = 0.34		3409 EU-10 = 38 EU-13 = 35 Non-EU25 = 46 Adj. R^2 = 0.34	

Note: ** Omitted category is Primary Education or Less than Leaving Cert
*** Omitted category is Craft and Related

Table 7: Wage Regressions with Interactions Included (Dependent variable: log of hourly earnings)

	Model 1		**Model 2**		**Model 3**		**Model 4**	
	Coef.	*S. E*	*Coef.*	*S. E*	*Coef.*	*S. E*	*Coef.*	*S. E*
Constant	2.14	0.04	2.13	0.04	2.14	0.04	2.13	0.04
Immigrant	-0.08	0.05	0.03	0.08				
Immigrant: Non-English Speaking Country					-0.03	0.07	0.10	0.09
Gender	0.13	0.02	0.13	0.02	0.13	0.02	0.13	0.02
Years Worked	0.04	0.00	0.04	0.00	0.04	0.00	0.04	0.00
(Years Worked)^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Third Level*	0.37	0.03	0.37	0.03	0.37	0.03	0.38	0.03
Immigrant*Third Level	-0.09	0.08	-0.10	0.08	-0.19	0.10	-0.17	0.10
Immigrant*Years Worked			-0.01	0.00			-0.01	0.01
Managers and Administrators**	0.21	0.04	0.20	0.04	0.21	0.04	0.21	0.04
Professional **	0.37	0.04	0.37	0.04	0.37	0.04	0.37	0.04
Associate Professional and Technical**	0.18	0.05	0.18	0.05	0.18	0.05	0.18	0.05
Clerical and Secretarial**	0.01	0.04	0.00	0.04	0.02	0.04	0.01	0.04
Personal and Protective Service**	-0.09	0.04	-0.10	0.04	-0.09	0.04	-0.10	0.04
Sales**	-0.20	0.05	-0.20	0.05	-0.19	0.05	-0.20	0.05
Plant and Machinery Operatives**	-0.13	0.05	-0.14	0.05	-0.12	0.05	-0.13	0.05
Other (includes not stated) **	-0.17	0.04	-0.17	0.04	-0.16	0.04	-0.16	0.04
N	3491 Adj. R^2 = 0.32		3491 Adj. R^2 = 0.32		3409 Adj. R^2 = 0.32		3409 Adj. R^2 = 0.32	

*Note: * Omitted category is less than third level degree*
*** Omitted category is Craft and Related*

Table 8: Coefficients for Male and Female Immigrants

	Males		**Females**	
	Coef.	*S. E*	*Coef.*	*S. E*
Full sample				
All immigrants	-0.15	0.04	-0.14	0.05
Breaking the full sample of immigrants into those from English-speaking and non-English speaking countries				
English speaking countries	-0.12	0.08	-0.03	0.09
Non-English speaking countries	-0.19	0.08	-0.20	0.07
Further sub-dividing the sample of immigrants from non-English speaking countries				
EU-10	-0.24	0.11	-0.42	0.14
EU-13	0.23	0.14	-0.08	0.12
Outside of EU	-0.43	0.14	-0.18	0.10
Results for immigrants from non-English speaking countries when the education/immigrant interaction is added				
Immigrant	-0.09	0.10	0.04	0.11
Immigrant*Third level	-0.17	0.15	-0.38	0.14

Table 9: Comparing the coefficients of the immigrant dummy variables from the 2004 and 2005 datasets

	2004		**2005**	
	Coef.	*S. E*	*Coef.*	*S. E*
Full sample				
All immigrants	-0.18	0.04	-0.15	0.04
Breaking the full sample of immigrants into those from English-speaking and non-English speaking countries				
English speaking countries	-0.03	0.06	-0.09	0.06
Non-English speaking countries	-0.31	0.06	-0.20	0.05
Further sub-dividing the sample of immigrants from non-English speaking countries				
EU-10	-0.45	0.12	-0.32	0.09
EU-13	-0.27	0.11	0.06	0.09
Outside of EU	-0.27	0.08	-0.29	0.08
Results for immigrants from non-English speaking countries when the education/immigrant interaction is added				
Immigrant	-0.26	0.08	-0.03	0.08
Immigrant*Third level	-0.13	0.12	-0.27	0.12

References

Barrell, R., J. FitzGerald and R. Riley (2007), "EU Enlargement and Migration: Assessing the Macroeconomic Impacts, National Institute for Economic and Social Research Discussion Paper No. 292 (London)

Barrett, A. and D. Duffy, (2007), "Are Ireland's Immigrants Integrating into its Labour Market?", IZA Discussion Paper No. 2838 (Bonn)

Barrett, A. and Y. McCarthy (forthcoming), "Immigrants in a Booming Economy: Analysing their Earnings and Welfare Dependence", *Labour: Review of Labour Economics and Industrial Relations*

Barrett, A., A. Bergin and D. Duffy (2006), "The Labour Market Characteristics and Labour Market Impacts of Immigrants in Ireland", *Economic and Social Review* Vol. 37 pp. 1-26.

Barrett, A., J. FitzGerald and B. Nolan (2002), "Earning Inequality, Returns to Education and Immigration into Ireland", *Labour Economics* Vol. 9 No. 5.

Barrett, A. and F. Trace (1998), "Who is Coming Back? The Educational Profile of Returning Migrants in the 1990s", *Irish Banking Review*, Summer pp. 38-52

Bauer, T. and K. F. Zimmermann (1999), *Assessment of the Possible Migration Pressure and Its Labour Market Impact Following EU Enlargement to Central and Eastern Europe*, IZA Study for the UK Department Education and Employment

Beach, C. M. and C. Worswick (1993), "Is there a Double-Negative Effect on the Earnings of Immigrant Women?", *Canadian Public Po/icy* Vol. 19 No. 1 pp 36-53

Bergin, A. and I. Kearney, (forthcoming), "Human Capital, the Labour Market and Productivity Growth in Ireland", *Economic Modelling*

Borjas, G. (1987), "Self-selection and the Earnings of Immigrants", *American Economic Review* Vol. 77 No. 4

Borjas, G., R. Freeman and L. Katz (1997), "How Much Do Immigration and Trade Affect Labour Market Outcomes?", *Brookings Papers on Economic Activity*, Vol. 1 pp1-67.

Central Statistics Office (2006), *EU Survey of Income and Living Conditions*, Dublin: CSO

Chiswick, B. R. (1978), "The Effect of Americanisation on the Earnings of Immigrant Men", *Journal of Political Economy*, Vol. 86 No. 5 pp897-921

Chiswick, B. R., Y. Liang Lee and P. Miller (2005), "Longitudinal Analysis of Immigrant Occupational Mobility: A Test of the Immigrant Integration Hypothesis", *International Migration Review* Vol. 39 pp. 332-353

Duffy, D., J. FitzGerald and I. Kearney, (2005), "Rising House Prices in an Open Labour Market", *Economic and Social Review* Vol. 36 No. 3

Duleep, H. O. and D. J. Dowhan, (2002), "Revisiting the Family Investment Model with Longitudinal Data: The Earnings Growth of Immigrant and U.S.-Born Women", IZA Discussion Paper No. 568

Friedberg, R. M. (2000), "You Can't Take it with You: Immigrant Assimilation and the Portability of Human Capital", *Journal of Labor Economics* Vol. 18 No. 2 pp221-251

Geary, P. T. and C. McCarthy (1976), "Wage and Price Determination in a Labour Exporting Economy: the Case of Ireland", *European Economic Review* Vol. 8, pp219-233

Hansen, J. and M. Lofstrom (2003), "Immigrant Assimilation and Welfare Participation: Do Immigrant Assimilate into or out of Welfare?", *Journal of Human Resources* Vol. 38 No. 1

Honohan, P. (1984), "The Evolution of Unemployment in Ireland 1962-83", in Baker, T., Callan, T., Scott, S. and Madden, D. (eds.), *Quarterly Economic Commentary* (May), Dublin: ESRI

Honohan, P. (1992), "The Link between Irish and UK Unemployment", in Baker, T., Scott, S. and Cantillon, S. (eds.) *Quarterly Economic Commentary* (Spring), Dublin: ESRI

Mincer, J. (1978), "Family Migration Decision", *Journal of Political Economy* Vol. 86 No 5 pp749-773

Minns, C. (2005), "How Skilled Are Irish Immigrants? Evidence and Implications", paper delivered to the Statistical and Social Inquiry Society of Ireland, 24 February.

Ruhs, M. (2005), *Managing the Immigration and Employment of non-EU Nationals in Ireland*, Paper No. 19, The Policy Institute, TCD