

Quarterly Economic Commentary

David Duffy

Joseph Durkan

Eddie Casey

Summer 2012

The forecasts in this Commentary are based on data available by 11 June 2012.
Draft completed 15 June 2012

Research Notes

Eddie Casey

Joseph Durkan and Niall O'Hanlon (CSO)

Pete Lunn

Special Articles

David Duffy and John FitzGerald

Research Bulletin

12/2

A subscription to the Quarterly Economic Commentary costs €350 per year, including VAT and postage. This includes online access to the full text on the day of publication.

Research Notes

The Impact of Recession on Migration: A Preliminary Analysis of *Census 2011*

Pete Lunn, ESRI¹

This research note presents a preliminary analysis of data relating to migration from the earliest statistical releases of *Census 2011* (Central Statistical Office, 2012). The aim is to exploit the new data to draw inferences about the extent and composition of net migration associated with Ireland's deep recession, which began almost midway through the intercensal period of 2006-2011. It is hoped that the analysis offers some insight into the impact of the recession on different sections of Irish society, at least with respect to people's decisions to relocate to and from Ireland.

The method employed is to infer net migration from differences in the size of matched subgroups of the population in successive Censuses. The intention is to exploit the comprehensive coverage of the Census. Its immunity to many sampling issues means that the quantitative picture produced by the Census may be a more reliable guide than attempts to track migration through smaller sample surveys. The downside, however, is that while the patterns described below offer insights, they are limited to calculations of net migration over five years, i.e. it is not possible to separate the relative contribution of immigration and emigration, or to compare non-Census years. This is important, because during this five-year period Ireland changed from a country with net inward migration to one with net outward migration (Central Statistics Office, 2011).² The results reported can only reveal the combined effect. Thus, while the method illuminates aspects of recent migration, it would be a mistake to interpret the findings as latest or, worse, ongoing trends.

Net Migration by Single Year of Age, 2006-2011

The basic method is exemplified by Figure 3.1, which shows the population of Ireland by single year of age as enumerated in *Census 2011* and, for comparison, the population enumerated in 2006 aged by five years, i.e. with the population

¹ *Acknowledgements:* I thank Alan Barrett, Adele Bergin, David Duffy, Joe Durkan, John FitzGerald, Petra Gerlach, Stefanie Haller, Philip O'Connell and an anonymous referee for helpful comments.

² Estimates of population and migration by single year are contained in this CSO release, but it is recognised that the estimates do not match the results of Census 2011. The discrepancy may reflect the difficulty of using a sample survey to estimate migration (the Quarterly National Household Survey is the primary source for the annual figures), or may be due to improvements in the Census coverage between 2006 and 2011. Resolving this issue is beyond the scope of this short note, which limits itself to the comparison of Census data. Revised annual figures are expected to be published by the CSO later this year.

profile recorded in 2006 shifted five years to the right.³ The difference between the two profiles therefore represents population change by single year cohort.

FIGURE 3.1 Population Enumerated in *Censuses 2006 and 2011*, Matched by Single Year of Age in 2011



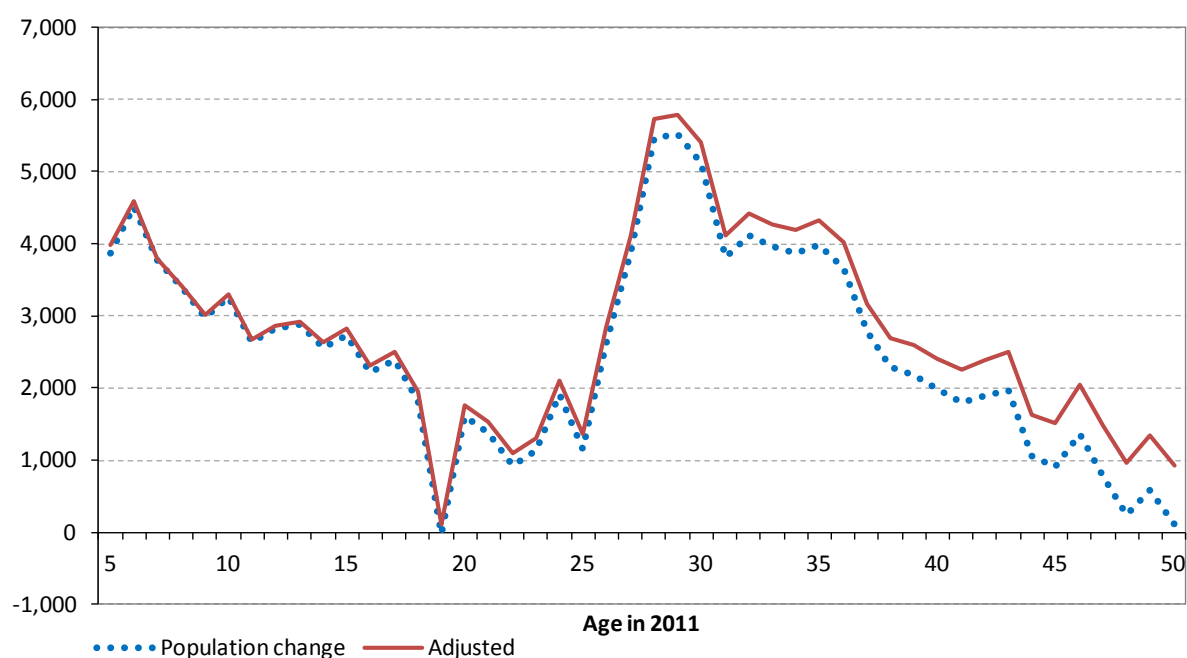
Before proceeding to a more detailed comparison between the two profiles, Ireland's unique population profile is worthy of note. The sharp peak at approximately 30 years is in part due to historic patterns of family formation and fertility, but was accentuated by the age profile of immigrants during the boom, who were mostly in their twenties and early thirties. The scale and sharpness of this peak is truly striking. In 2011, Ireland had around 63,000 45 year-olds, 83,000 30 year-olds, yet just 57,000 15 year-olds. Hence, the 30 year-old cohort is 32 per cent and 44 per cent larger again than the cohorts just 15 years older and younger respectively. Since immigration of young adults may be less likely in the future than in the recent past, the potential consequences of this steep fluctuation being maintained in the population profile merit consideration. Most obviously, while the profile explains the recent surge in the number of births, it strongly suggests that the number will fall again in coming years too. Over coming decades, it may also have implications for, among other things, the composition of tax revenues, the funding of pensions, and the demand for various health services.

³ The population used for this analysis is the *de facto* population, which includes visitors on Census night. In comparison with the size of the effects reported here, the inclusion of visitors makes only a very marginal difference to the population profile by age, especially with respect to changes in the population profile between successive Censuses.

Notwithstanding marginal changes in the accuracy of Census coverage, once matched by cohort, population change is down to two factors: net migration and deaths. Since the aim here is to use population change to estimate the former, the potential impact of the latter needs to be understood. Deaths mean that any increase in the enumerated population is an underestimate of net inward migration. But by how much? Figure 3.2 uses data on death rates from the CSO's *Vital Statistics* series to compare raw population change, i.e. the difference between the curves in Figure 3.1, with an estimate of inward net migration that adjusts conservatively for the possible impact of deaths.⁴ Hence true net migration, which cannot be determined with perfect accuracy, lies somewhere between the two lines. The chart reveals that population change for cohorts up to 50 years in 2011 is dominated by net migration – deaths have only a marginal effect. Beyond age 50 the two lines would separate rapidly and the method used here would be inappropriate. Given this marginal impact of deaths, for the remainder of this analysis population change is employed as an estimate of net inward migration for cohorts up to 50 years, while recognising that the estimate is marginally on the low side among those over 30 years.

Figure 3.2 reveals population growth for almost all cohorts, as the number of immigrants exceeded the number of emigrants. The highest net inward migration occurred among adults aged between their late twenties and late thirties in 2011, with the difference in net migration between people in their mid-twenties and those in their late twenties being particularly sharp. This age is the most likely time in the life-course to form long-term partnerships. Net inward migration was also high among children. Thus, while migration during the period was doubtless primarily driven by labour market conditions, family structures may have mattered too. The data suggest that, in the face of economic adversity, young families were either less likely to leave Ireland, more likely to arrive, or both, compared with the rest of the population. Families may be less inclined than single people to uproot and leave, though it is possible also that the higher net inward migration was partly caused by partners and children relocating to join family members who had arrived previously to work.

⁴ The adjustment overestimates the impact of deaths because it employs a linear interpolation based on death rates by ten-year age categories in 2009. In reality, the probability of death accelerates with age, so ignoring the acceleration slightly widens the gap between the two data series in Figure 2. Hence the assumption is conservative in the present context and true net migration lies between the two series. An alternative adjustment employing an approximation of the number of deaths derived from the CSO's Life Tables produces an almost identical result.

FIGURE 3.2 Estimated Net Inward Migration by Single Year Cohort, With and Without Adjustment for Estimated Death Rate, 2006-2011

Net Migration by Single Year of Age, 1996-2011

Greater insight into migration in recent times can be had by performing a similar analysis for the three most recent intercensal periods: 1996-2002, 2002-2006, 2006-2011. This is done in Figures 3.3 and 3.4. The changing population profiles in Figure 3 show how the peak in the cohort aged around 30 years in 2011 was evident in the number of 15 year-olds in 1996, but was made much steeper by immigration. The chart also underlines the mobility of those who were relatively young workers during the boom. The separation between the lines, mostly indicating strong net inward migration, is greatest among this cohort and their children.

Nevertheless, this cohort were not always net immigrants. Figure 3.4 replots the data as estimated net migration, similarly to Figure 2 above. (The delayed 2001 Census, postponed to 2002 because of foot-and-mouth disease, necessitates a slight presentational change, such that the figures given are average annual net migration for each intercensal period.) The cohort who were teenagers in 1996 had in fact shrunk by 2002, corresponding to net emigration, but then expanded dramatically between 2002 and 2006, boosted by a combination of new immigrants and returning emigrants. This period included the entry to Ireland's labour market in 2004 of workers from the then new EU accession states. It is notable that the scale of net inward migration among working-age adults fell back considerably during the 2006-2011 period, compared with the 2002-2006 period, although less so among children.

FIGURE 3.3 Population Enumerated in Censuses 1996, 2002, 2006 and 2011, Matched by Single Year Cohort (single year of age in 2011)

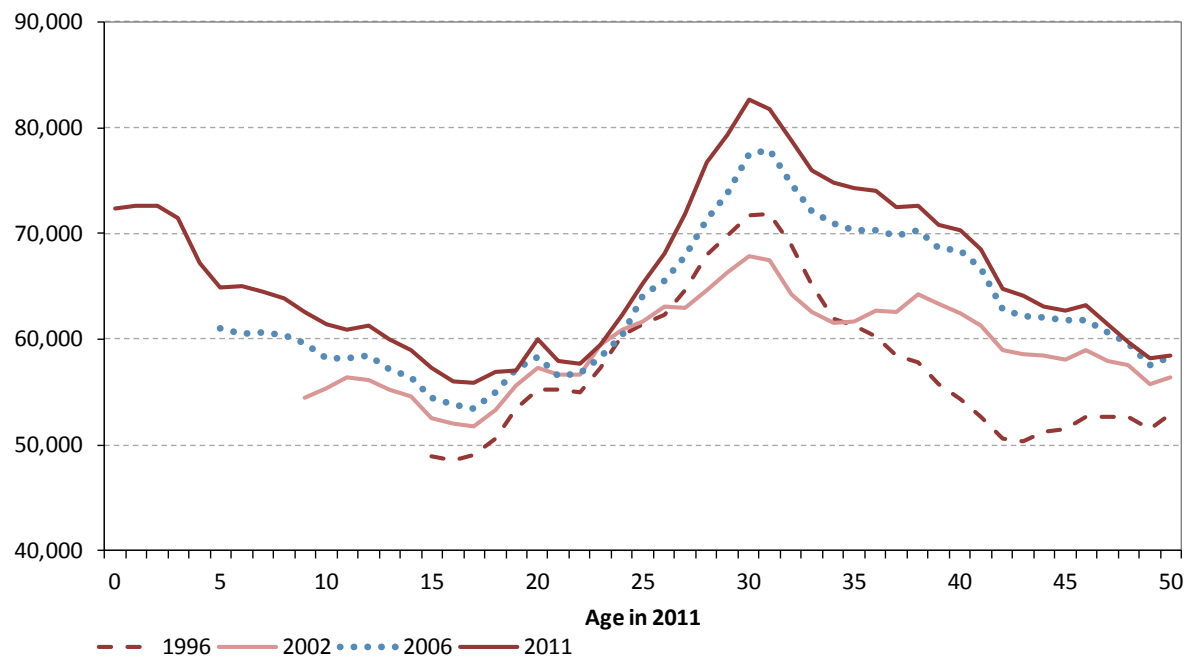


FIGURE 3.4 Estimated Annual Average Net Inward Migration by Single Year Cohort, 1996-2002, 2002-2006 and 2006-2011

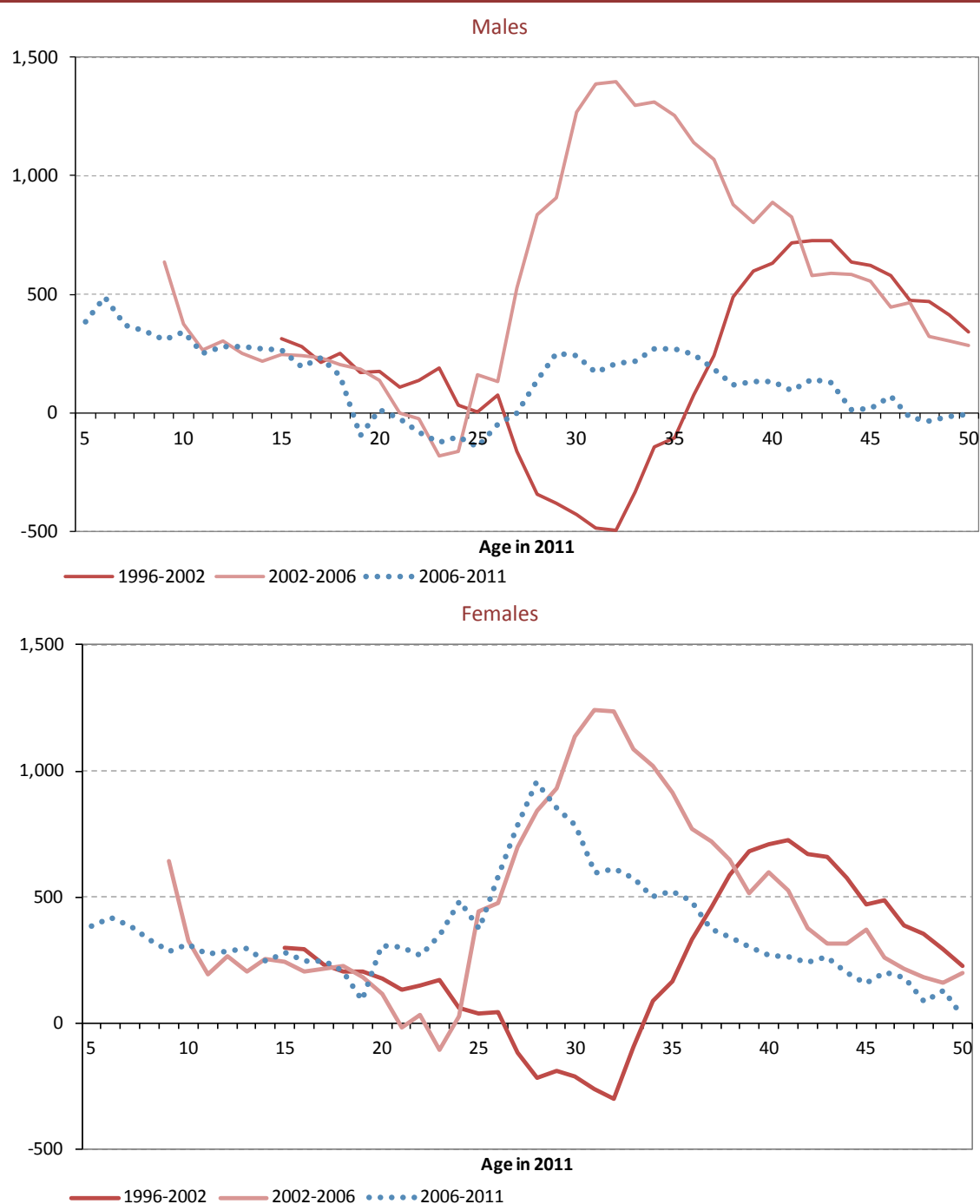


Net Migration by Gender, 1996-2011

The available data make it possible to conduct the same analysis separately by gender. Figure 3.5 shows that the most recent intercensal period saw a change in the relationship between migration and gender. For the two periods 1996-2002 and 2002-2006, gender differences were small. Among the cohort aged 27-35

years in 2011, marginally more men had left towards the end of their teenage years (dotted line) and/or arrived in their early twenties (dashed line), but the overall patterns for men and women differed little for the earliest two periods. Between 2006 and 2011, however, the pattern altered. Net inward migration among working-age men fell substantially, with those in their twenties becoming net emigrants. Yet net migration among women changed far less. They remained net immigrants at almost all ages, but especially at 25-35 years. Net inward migration among women in their early twenties actually increased.

FIGURE 3.5 Annual Average Net Inward Migration by Single Year Cohort and by Gender, 1996-2002, 2002-2006 and 2006-2011



It is not possible with the present data to test hypotheses regarding the cause of this differential pattern of migration by gender. Yet the obvious candidates are the concentration of job-losses in the construction sector and the tendency for family members to come to Ireland to join those immigrant workers who were faring well despite the recession.

Net Migration by Ethnicity, 2006-2011

It seems likely that incentives and disincentives to migrate during the recession might differ considerably between the long-term native Irish population and more recent arrivals. The published *Census 2011* tables permit some insight into this issue, because they provide a breakdown of broad ethnicity by five-year age groups, allowing cohorts again to be matched between 2006 and 2011.⁵ The Census records ethnicity in three main categories with further subdivisions: White (subdivided into Irish, Irish Traveller or Other); Black or Black Irish (subdivided into African or Other), Asian or Asian Irish (subdivided into Chinese or other); and Other. While ethnicity and immigration history in Ireland are not coterminous, they are highly correlated. Figure 3.6 compares the size of population subgroups enumerated in 2006 and 2011 for White-Irish, White-Other and the four Black and Asian categories combined. (Note that while the results for the two White groups are plotted on the same scale, the positive scale for the combined Black or Asian group is four times smaller).

⁵ The definition of the population employed in this section is no longer the de facto population, but the population of usual residents. Again, this makes only a marginal difference to the analysis.

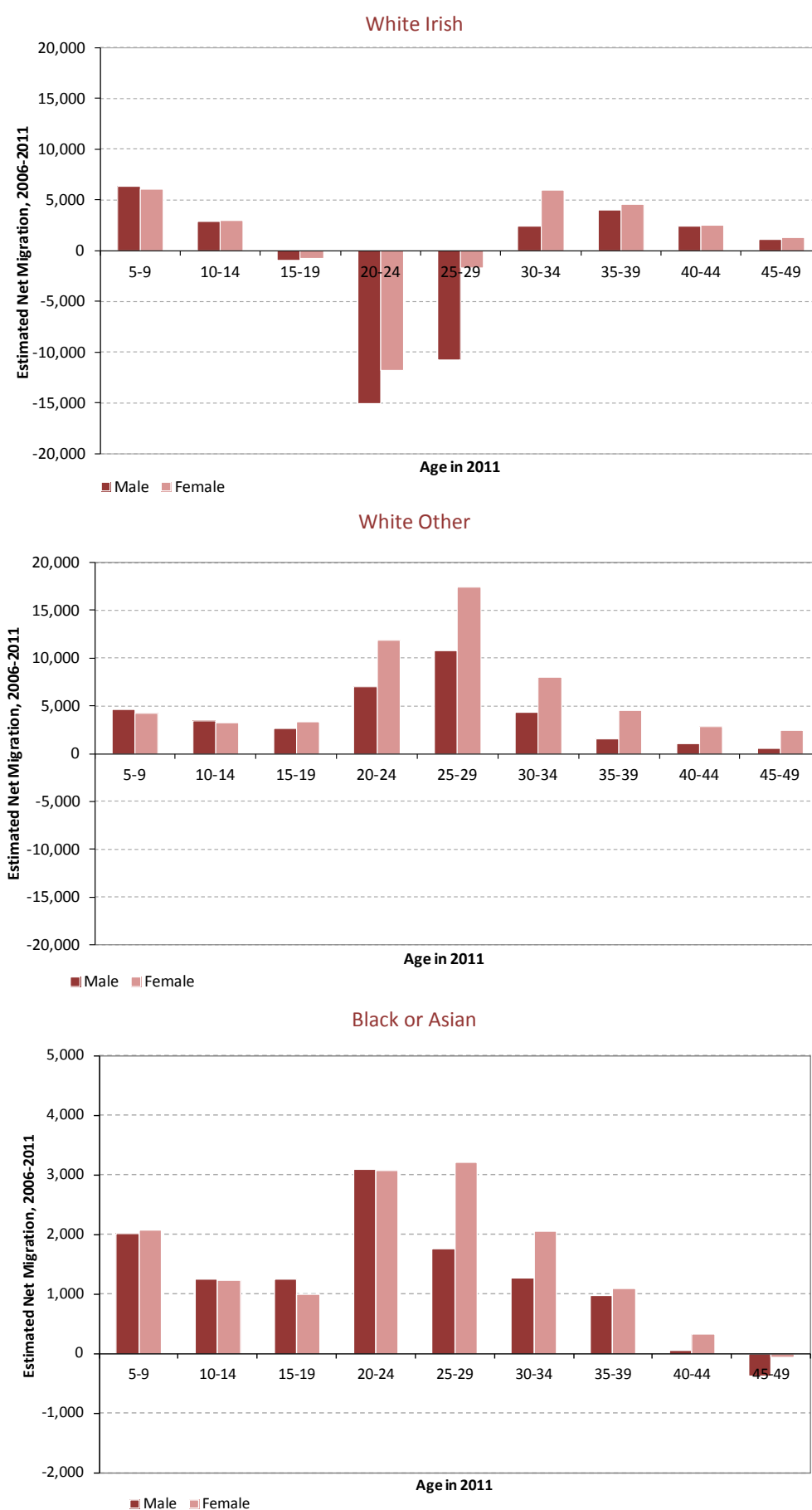
FIGURE 3.6 Estimated Net Inward Migration by Five-Year Age Cohort and Ethnicity, 2006-2011

Figure 3.6 reveals a contrasting picture. Members of the long-term native Irish population in their twenties in 2011 were substantial net emigrants; especially (but far from exclusively) the men. Between 2006 and 2011, almost 40,000 more of them left the country than arrived, equivalent to 10 per cent of men and 5 per cent of women aged 20-29 years. Note that this does not equate to one-in-ten men and one-in-twenty women in this group emigrating during the period, because the figures correspond to net migration and are thus reduced by any immigration for this cohort. Thus, substantially more than one-in-ten and one-in-twenty emigrated.

The comparison with the other ethnic groups is striking. New arrivals in the White-Other group were overwhelmingly immigrants from Eastern Europe. Immigration dominated emigration for this group and for the Black-Asian group. Furthermore, the age profile of net migration for these two groups is radically different from that for the White-Irish group. Much of the difference is due to substantially higher immigration in these groups between 2006 and 2008, rather than to the pattern of emigration following recession. However, the latter may have played a role too. Although likely to be revised (see footnote 1), the annual figures in the *Population and Migration Estimates* (Central Statistics Office, 2011) suggest that Irish nationals accounted for roughly half of net outward migration between 2009 and 2011, despite evidence showing that recent immigrants experienced higher levels of job loss (Barrett and Kelly, 2012). Considering this pattern alongside the large differences by ethnicity apparent in Figure 6, it is possible that factors outside the labour market were also important. The family situations and expectations of young adults who arrived in Ireland from elsewhere during the boom may have been quite different from those of their native counterparts. Most non-Irish immigrants to Ireland originate from countries with considerably lower per capita incomes and from cultures where people are inclined to marry and to have children at a younger age (Lunn and Fahey, 2011). Thus, despite their more recent arrival in Ireland, some incentives faced by non-Irish immigrants may have made them less inclined to leave than young Irish adults.

Conclusions

Despite the deep recession, for the period 2006 to 2011 as a whole, Ireland experienced further net inward migration. Net inward migration was higher among those between their late twenties and late thirties, as well as among children. In addition to labour market incentives, therefore, family circumstances may have been important in migration decisions.

From 1996 to 2006, the migration patterns of men and women were similar. In contrast, 2006-2011 witnessed a strong gender difference, with net inward migration higher among women. One cause was doubtless changed job prospects in male dominated industries, especially construction, which boomed in the two previous intercensal periods but contracted sharply after 2007 when the property bubble burst. But this may not be the only cause. Family members arriving in Ireland to join working immigrants who had established themselves may also have contributed.

Recent years have seen marked differences too between people of different ethnicity. In the White-Irish category, those aged 20-29 were significant net emigrants over the five year intercensal period, in contrast to any other age group of any other ethnicity. Within this native ethnic group in their twenties, more than one-in-ten men and one-in-twenty women emigrated between 2006 and 2011.

References

- Barrett, A. And Kelly, E. (2012). The Impact of Ireland's Recession on the Labour Market Outcomes of its Immigrants. *European Journal of Population*, 28, 91-111.
- Central Statistics Office (2012). "This is Ireland: Highlights from Census 2011, Part 1". <http://www.cso.ie/en/media/csoie/census/documents/census2011pdr/Census%202011%20Highlights%20Part%201%20web%2072dpi.pdf>
- Central Statistics Office (2011). "Population and Migration Estimates, April 2011". <http://www.cso.ie/en/media/csoie/releasespublications/documents/population/current/Population%20and%20Migration%20Estimates%20April%202011.pdf>
- Lunn, P and Fahey, T. (2011). *Households and Family Structures in Ireland: A Detailed Statistical Analysis of Census 2006*. Dublin: Family Support Agency/ESRI.