The Psychic Costs of Migration: Evidence from Irish Return Migrants

Alan Barrett
Irene Mosca

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Alan Barrett
TILDA, Trinity College Dublin,
ESRI and IZA

Irene Mosca
TILDA, Trinity College Dublin

ABSTRACT

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Within the economics literature, the "psychic costs" of migration have been incorporated into theoretical models since Sjaastad (1962). However, the existence of such costs has rarely been investigated in empirical papers. In this paper, we look at the psychic costs of migration using alcohol problems as an indicator. Rather than comparing immigrants and natives, we look at the native-born in a single country and compare those who have lived away for a period of their lives and those who have not. We use data from the first wave of the Irish Longitudinal Study on Ageing (TILDA) which is a large, nationally representative sample of older Irish adults. We find that men who lived away are more likely to have suffered from alcohol problems than men who stayed. For women, we again see a higher incidence of alcohol problems for short-term migrants. However, long-term female migrants are less likely to have suffered from alcohol problems.

Corresponding author:

Alan Barrett
TILDA, The Irish Longitudinal Study on Ageing
Chemistry Extension Building
Trinity College
Dublin 2
Ireland
E-mail: barretal@tcd.ie

1. Introduction

Many papers in the economics literature on migration begin with the following simple behavioural model. Individuals are characterised as comparing the lifetime streams of earnings in origin and destination countries. Migration occurs (assuming no legal constraint) if the difference in the lifetime earnings streams in the country of destination and origin is greater than the costs of migration. These costs of migration are assumed to include pecuniary expenses such as travel costs but also non-pecuniary elements such as "psychic costs". This term refers to the emotional impact of leaving family and friends and having to cope with life in an unfamiliar and potentially hostile environment.[1]

A huge volume of research has been generated around the labour market experiences of immigrants, such as their earnings and occupational attainment, reflecting the importance of earnings in the basic theoretical formulation. However, the issue of psychic costs has generally received a lot less attention, at least in the economics literature.[2] The resulting research gap strikes us as being potentially important. To the extent that the psychic costs of migration differ across groups, they should help to explain patterns of migration. In addition, if the psychic costs of migration are unexpectedly high for those who have migrated, this could result in a failure on the part of migrants to succeed, for example, in the host country labour market.

In broad terms, we approach the issue in the following way. Using data from the first wave of the Irish Longitudinal Study on Ageing (TILDA), we compare Irish people who have lived outside of Ireland for a period of time (return migrants) with a group who have not done so (stayers). Using alcohol dependence as an indicator of having experienced elevated psychological stress at some point over one's life-time, we can assess the extent to which such problems are reported more frequently by return migrants relative to stayers. This approach of comparing people of the same nationality offers a big advantage relative to other studies which compare immigrants with natives in a country. The "treatment" and "control" groups here should be much more similar and so any findings on differences between the two groups are more likely to be related to migration. In addition, our data allow us to control for early traumatic events in the lives of the survey respondents such as physical or sexual abuse in childhood. As such events are likely to be correlated with both migration and psychological problems, an inability to control for them would be a weakness and could lead

to over-estimate the psychic costs of migration. We also investigate whether unobserved heterogeneity biases our results.

The remainder of the paper is structured as follows. In section 2, we review the literature on the association between (return) migration and psychological health. In section 3, we investigate historical Irish migration and, in particular, the literature on the experiences of the Irish abroad in the second half of the twentieth century. In section 4, we describe the data used in the empirical analysis. In section 5, we illustrate the methodology employed in our paper. In sections 6 and 7, we present both descriptive statistics and the results from the econometric analysis. In Section 8, we investigate whether return migrants could be 'failed migrants'. Section 9 provides some conclusions.

2. Psychic costs of (return) migration

In this paper we argue – in line with the international literature - that both first migration and return migration can impact negatively on migrants' psychological health.

Several international studies – mainly in the medical and demography literature - have investigated the association between migration and mental health by comparing mental health outcomes of the native-born population with those of the immigrant population. Anxiety, depression and an increased risk for psychotic disorders have been reported to be prevalent in some migrant populations (Odegaard, 1932; Coid et al, 2008; Silveira et al, 1997; Aichberger et al, 2010; Bhugra, 2004). These findings are explained – at least to some extent - in terms of higher social adversity, migrant stress, social isolation, depression, loneliness and poor living conditions of the migrant populations. Focusing on the experiences of Irish migrants living in Britain in the second half of the 20th century, the sociological literature has revealed high levels of social deprivation and poor health for Irish migrants, especially for men (Leavey et al, 2004; Commander et al, 1999; Harrison and Carr-Hill, 1992; Mullen et al, 1996; Pearson et al, 1991; Cochrane and Bal, 1989; and Nazroo, 1997).

Not only the first migration experience, but also return migration can be a stressful event and impact negatively on mental health. The re-adjustment experiences of return migrants in their home countries have received some attention in the sociological literature. Many studies have highlighted the sense of disappointment, isolation and feelings of alienation and not-belonging experienced by return migrants (Constable, 1999; Long and Oxfeld 2004; Christou

2006a, Cerase, 1970 and 1974). In the Irish context, three studies are of particular interests: Gmelch (1985 and 1987), McGrath (1991) and Ni Laoire (2007 and 2008).

In 1977-1978, Gmelch (1985 and 1987) and collaborators interviewed 606 Irish migrants who had lived abroad for at least two years and then settled down in small communities in the west of the country. 51% of return migrants stated that they were not satisfied with their lives back in Ireland during their first year back. This compares to 21% for those who had been back for two or more years and 17% for those who had been back for more than five years. The difficulties encountered in re-establishing relationships increased with the time spent abroad. 85% of respondents stated they felt different from stayers.

McGrath (1991) investigated the experiences of 142 return migrants who moved back to the west of Ireland. 82% of respondents returned to their home towns and 74% to their parents' house. Most returners faced a range of different re-adjustment problems, including: the poor economic situation and lack of employment opportunities; lack of variety in shopping; the unfriendly attitude of locals; and the inefficiency and slow pace of island life. Ni Laoire (2007 and 2008) collected 33 life narratives of migrants who left Ireland between the late 1970s and early 1990s and returned home in the mid 1990s/beginning of the 21th century. Ni Laoire (2008, p.40) concluded that "narratives of 'not quite belonging' recur[red] among return migrants".

3. Historical overview of Irish migration

The topic of migration has been of enormous importance for Ireland since the early part of the last century. For much of the twentieth century, emigration from Ireland was high and population decline continued until 1961. But even in the 1960s when the population grew, emigration continued. The 1970s saw unprecedented inflows but net outflows resumed in the 1980s, thereby leaving emigration as a defining feature of Ireland's demographic and economic experience.

Table 1 shows net migration flows and rates in Ireland in the period which is of most interest for our research (i.e. up to the early 1990s). Table 1 shows that, on an annual basis, net outward migration averaged 14.1 per 1,000 of the population in the 1950s and 4.6 percent 1,000 in the 1960s. These outflows were counterbalanced by net inflows in the 1970s (3.2 per 1,000). However, net outward migration averaged 5.9 per 1,000 of the population in the 1980s.

-- Table 1 around here –

With regard to the destinations of Ireland's emigrants, a major shift occurred at the beginning of the 1930s. Between 1880 and 1921, 87% of emigrants went to the United States whereas only 10 % went to Britain. However, it is estimated that by the late 1940s over 80% of the outflow went to Britain and this continued in the 1970s (Barrett, 2005). The outflow was concentrated in the 15-24-year age category and so emigration was a young person's pursuit. Also, most migrants left as single people (Leavey et al, 2004).

The literature on the Irish experience in Britain has revealed that most individuals migrated for economic reasons, although this generally co-existed with a 'push' factor of desire to escape or change (Gmelch, 1985 and 1987, Ryan, 2004 and and Leavey et al, 2004).

Turning to the occupation of migrants, Hughes and Walsh (1976) reported that a third of male migrants were 'construction workers' or 'labourers n.e.c. (not elsewhere classified)'. Nearly 60% were in the skilled, semiskilled, and unskilled manual socioeconomic group. The occupation distribution reveals a higher occupational status for Irish women in Britain than for Irish men. Walter (1989) reported that by the 1960s, 11% of all nurses recruited in hospitals in the south east of England were born in Ireland. Similarly, Daniels (1993) reported that by 1971 there were 31,000 Irish-born nurses in Britain, constituting 12% of all nursing staff.

4. Data

Data from the first wave (2009/2011) of The Irish Longitudinal Study on Ageing (TILDA) are used. This is a study of people aged 50 and over (and their spouses or partners of any age) resident in Ireland. TILDA collects detailed information on all aspects of the respondents' lives, including the economic dimension (pensions, employment, living standards), health aspects (physical, mental, service needs and usage) and the social domain (contact with friends and kin, formal and informal care, social participation). The study is closely harmonised with leading international research (e.g. The English Longitudinal Study of Ageing (ELSA); the Survey of Health, Ageing and Retirement in Europe (SHARE) which is pan-European, and the Health and Retirement Survey (HRS) conducted in the United States).

TILDA is made of three components: the computer-aided personal interview (CAPI) questionnaire; the self-completion questionnaire (SCQ), designed to explore certain areas that were considered particularly sensitive for respondents to answer directly to an interviewer;

and the health assessment component of the study, conducted both in dedicated TILDA health assessment centres and, alternatively, in respondents' homes.

The first wave of TILDA includes 8,504 respondents for the CAPI questionnaire, 7,191 for the SCQ and 6,153 for the Heath Assessment. In the CAPI questionnaire, individuals are asked about their nationality and - for the purpose of this analysis - the sample is restricted to Irish nationals only. TILDA also collects information on previous migration experiences. In particular, individuals residing in Ireland are asked if they have ever lived outside Ireland for at least six months. If they answer yes, individuals are coded as "return migrants'; if they answer no, then individuals are coded as 'stayers'.

Also, information on the total number of years spent abroad and age at first migration is collected. Using the information on the total number of years spent abroad, we divide return migrants into two categories: i) short-term return migrants and iii) long-term return migrants. We investigated different cut-off points to distinguish between short-term and long-term return migrants. In our preferred specification, short-term migrants are classified as those who lived abroad for one to nine years and long-term migrants are classified as those who lived in another country for ten years or more. However, if a lower cut-off point was to be chosen (e.g. five years), the results of our models would not change significantly.

In the TILDA sample, 24% of men and 21% of women have lived abroad for at least six months. Forty six percent of the male return migrants and 43% of female return migrants have lived abroad for at least 10 years. Sixty seven percent of men and 74% of women left Ireland for the first time when aged 16-24.

5. Methodology

TILDA includes a wide battery of questions on current mental health, with respondents being asked to describe the ways they have felt or behaved in the last week or month. Unfortunately, current mental health is not a good measure to capture psychic costs of migration, especially because many (return) migrants emigrated / returned to Ireland many years prior to the interview. We need a variable that captures possible episodes of mental health problems which may have occurred over the life time. TILDA respondents are also asked to state whether they have ever been diagnosed by the doctor with any emotional, nervous or psychiatric problems, such as depression and anxiety, and/or alcohol or substance abuse. Due to the differences in the medical systems between Ireland and other countries -

especially the United Kingdom, where most of the return migrants in our sample spent a part of their life – we argue that using a variable which focuses only on doctor diagnose of mental health problems might lead to biased results.

In our preferred specification, we focus on diagnosed / self-reported alcohol problems to model the psychic costs of migration. We begin with a standard probit model where the outcome variable is equal to one if the respondent suffers/has ever suffered from an alcohol problem, 0 otherwise. Alcohol problems are identified when the respondent:

- reports having been diagnosed with an alcohol or substance abuse problem at some stage in life. If this is the case, the respondent is asked to state when the diagnose was made. For migrants, we exclude from the sample those who were diagnosed before migration; and/or

- scores highly in the CAGE (cut-annoyed-guilty-eye) questionnaire. The CAGE questionnaire – which is a module of the SCQ in TILDA – is a screening test for alcohol problems and has been extensively validated for use in identifying alcoholism (Mayfield, McLeaod and Hall, 1974; Kitchens, 1994). It was designed as a tool for identifying 'the hidden alcoholic' and to address the tendency of physicians to omit alcohol abuse from diagnostic considerations (Ewing, 1970, 1984, 1998).[3]

The CAGE questionnaire consists of four questions evaluating alcohol patterns and behaviour. Respondents are asked to state: 1) if they ever felt that they should cut down on drinking (*cut*); 2) if people have ever annoyed them by criticizing their drinking (*annoyed*); 3) if they ever felt bad or guilty about drinking (*guilty*); 4) if they have ever taken a drink first thing in the morning to steady their nerves or get rid of an hangover (*eye-opener*). The test score varies from a minimum of zero to a maximum of four: zero if the respondent answers no to all the fours questions, four in the opposite case. As highlighted by Ewing (1998), there is not a standard cut off point to identify alcohol problems. Bernadt et al. (1982) concluded that a test scores equal or greater than two had a sensitivity of 93% and a specificity of 76% for the identification of problem drinkers. However, Bradley et al (1998) argued that for women the reasonable cut point is answering positively to one or more questions. Hence, different cut off points are investigated in our model.

Turning to the explanatory variables, we control for return migration distinguishing between short-term and long-term migration. We include two dummy variables in the model: a

dummy variable equal to 1 if the individual is a stayer, 0 otherwise (reference category); a dummy variable equal to 1 if the individual is a short-term migrant (one to nine years spent abroad), 0 otherwise; a dummy variable equal to 1 if the individual is a long-term migrant (ten or more tears spent in another country), 0 otherwise.

We then control for 'standard' socio-economic characteristics that are associated with the outcome variable. These include:

- Age (single year of age)

- Household composition, in three categories: currently lives alone; currently lives with spouse only; currently lives with others, including children, grandchildren, siblings etc.

- Educational attainment: highest qualification attained, in three categories: primary or none, secondary and third or higher[4]

- Parental education: highest qualification attained, in three categories: both parents completed primary education; education is missing for at least one parent; at least one parent completed secondary or tertiary education and education is not missing for the other parent.

- Socioeconomic status in childhood: dummy variables for whether: none of the respondent's parents ever worked outside the home when the respondent was aged less than 14; the respondent was living in a rural area at age 14; the respondent grew up in a poor family

- Health in childhood: a dummy variable for whether the respondent self-rates her health in childhood (from birth to age 14) as poor

- Current area of residence, in three categories: Dublin; town/city other than Dublin; rural area

- Current self-reported labour market status, in five categories: employed, retired; permanently sick or disabled; unemployed; and other

- Smoking, in three categories: never smoked, used to smoke but quit, currently smokes

Beside controlling for standard socio-economic characteristics and migration, we are also able to control for negative life events in childhood. The association between negative early life events and later life mental health problems is well documented in the literature. Numerous studies have shown that adult mental health consequences of negative early life events - such as childhood abuse, death of a parent and poor socioeconomic circumstances - include depression, anxiety disorders and substance abuse (Springer et al, 2003; Arnow, 2004; Batten et al, 2004; Draper et al, 2004; and Kraaij et al, 2002).

In the SCQ, TILDA respondents are asked to report whether before turning 18 they were either physically or sexually abused by either their parents or anybody else and whether their parents drank or used drugs so often that it caused problems in the family. In the CAPI, information on respondents' age at parents' death is also collected. This enables us to compute three additional dummy variables, capturing if before turning 18 the respondent: i) was physically or sexually abused; ii) was living in an household in which the parents drank or used drugs so often that it caused problems in the family; iii) lost at least one parent. Unsurprisingly, the number of missing observations for the negative early life events is significantly higher than for the other controls. To avoid losing important information, we include three dummies for each event: 1) event occurred; 2) event did not occur; 3) respondent did not provide information on the specific event (with 2) being the reference category).

A key empirical problem we are facing is the potential endogenous nature of the migration variable. The intuitive justification is that migration might be endogenous if the decision to migrate is correlated with unobservables that affect the outcome variable. If returners and stayers differ in unobservable factors that are correlated with the outcome variables, a standard probit model may generate a biased estimate of the coefficient of the migration variable. The use of negative early life events helps us to control for endogeneity. Usually information on negative early life events is not collected in (migration) surveys. As a consequence, life events are normally confined to the error term, but are a potential source of endogeneity if are correlated with both migration and the outcome variable.

However, even the inclusion of controls for negative life events may not be sufficient to account for unobservables. Hence, we also use an instrumental variable approach to explore more fully possible endogeneity problems. A key element in running this procedure is the identification of a variable which is correlated with the likelihood of being a return migrant

but not with the error term in the outcome equation. As an instrument, we use the net migration rates in the years in which the individuals in our sample would have been deciding whether to migrate or not. We believe that net migration rates are strongly correlated with the individual's decision to migrate, with the individual being more likely to migrate when emigration is high and immigration is low. However, we do not see a strong association between annual net migration rates and mental health outcomes later on in life.[5]

6. Descriptive statistics

We use variables from both the CAPI and the self-completion questionnaires and restrict our sample to respondents who have completed both. As previously mentioned, we exclude respondents who were not born in Ireland. We are left with a final sample of 2,770 men and 3,244 women. For men, 76.1% are stayers and 23.9% are return migrants. The corresponding figures for women are 78.9% and 21.1%, respectively.

6.1. Men

In Table 2 we report the mean values (and standard deviations) of all the variables used in our analysis for males. These are presented separately for: i) stayers; ii) short-term return migrants, i.e. those who lived abroad for one to nine years; and iii) long-term return migrants, i.e. those who lived in another country for ten years or more. Short-term (54%) and long-term (46%) migrants are looked at separately because - as the results of Table 2 show - there are important statistically significant differences between the two groups and in turn with stayers.

Focusing first on the outcome variables, Table 2 shows that returners are more likely to suffer/have suffered from an alcohol problem. 7.6% of stayers have/had an alcohol problem, when this is identified as having been diagnosed by the doctor with an alcohol or substance abuse problem and/or score 3 or more in the CAGE questionnaire. This compares to 15.0% for short-term return migrants and 12.5% for long-term return migrants (p<0.01). As expected, the proportion of men suffering from an alcohol problem decreases as the threshold/cut off point to identify alcohol problems is increased. It is interesting to note that a non negligible proportion of migrants (around 7%) is/has been affected by an alcohol problem when the threshold is increased to answering affirmatively to all four questions of the CAGE questionnaire.

Turning to the explanatory variables, Table 2 shows that short-term and long-term migrants have different characteristics and in turn differ across a range of variables when compared to

stayers. Long-term migrants are more likely to be older and poorly educated; have grown up in a poor family or in a rural area; and be retired or live alone. On the other hand, short-term migrants are more likely to be highly educated, come from a family in which at least one parent is highly educated and are less likely to have grown up in a rural area.

Turning finally to negative early life events, Table 2 shows that 9.3% of stayers report to have been sexually or physically abused before turning 18, compared to 15.7% of short-term return migrants (p<0.01) and 10.2% of long-term-migrants. Also, 7.5% of stayers report that their parents were drinking / taking drugs so often that it caused problems in the family, compared to 13.3% of short-term migrants (p<0.01) and 7.1% of long-term migrants. This supports the view that, although economic reasons were a key determinant of emigration from Ireland in the second half the 20th century, 'pull' factors of desire to escape or change might have also played an important role.

-- Table 2 around here --

6.2 Women

As expected, the proportion suffering from an alcohol problem is lower for women than for men so different CAGE cut off points are investigated (i.e. one, two and three). Table 3 shows that a different picture emerges for women: short-term and long-term female migrants differ in terms of alcohol problems. Compared to stayers, short-term migrants are more likely to suffer/have suffered from an alcohol problem. On the contrary, long-term migrants are less likely to be affected by this kind of problem. For example, 8.1% of stayers have/have had an alcohol problem (when this is identified as having been diagnosed with an alcohol or substance abuse problem and/or score two or more in the CAGE questionnaire). This compares to 13.4% for short-term return migrants and 3.1% for long-term return migrants (p<0.01).

Table 3 also shows that short-term and long-term female migrants have different characteristics, although these seem to be less clear-cut than for men. Compared to stayers, long-term migrants are more likely to be older, have grown up in a rural area, be retired and have no/primary education. Short-term migrants are more likely to be highly educated and come from a family in which at least one parent is highly educated.

Table 3 also shows that 36.2% of stayers fall into the labour market category "other", which mostly includes women who are looking after home or family. This compares to 25.5% for

short-term migrants and 21.2% for long-term migrants. Similarly, 26.3% of stayers, 32.6% of short-term migrants and 49.8% of long-term migrants are retired. This supports the view that the majority of women who left Ireland in their youth were "economic agents" and spent time in employment as opposed to inactivity when living abroad. This seems to be particularly the case for long-term migrants.

As was the case for men, short-term migrants are also more likely to report having been sexually or physically abused before turning 18 (8.3% of stayers, compared to 12.6% of short-term migrants (p<0.01) and 7.8% of long-term migrants.

-- Table 3 around here --

7. Results

7.1 Men

We first investigate the model in which alcohol problems are identified when the respondent has been diagnosed with an alcohol or substance abuse problem and/or scores 3 or more in the CAGE questionnaire. As explained above, we include two dummy variables in the model: a dummy variable equal to 1 if the individual is a stayer, 0 otherwise (reference category); a dummy variable equal to 1 if the individual is a short-term migrant, 0 otherwise; a dummy variable equal to 1 if the individual is a long-term migrant, 0 otherwise.[6] Results are presented in Table 4. Marginal effects and standard errors are reported.

Both short-term and long-term migrants are more likely to suffer/have suffered from an alcohol problem. The marginal effects are 0.062 and 0.037, respectively. This means that the probability of suffering/have suffered from alcohol problems is 6.2% points higher for short-term migrants than for stayers. It is 3.7% points higher for long-term migrants. Given that a relatively small proportion of the male population is affected by alcohol problems, this is a substantial difference. Put it in other terms, compared to stayers, short-term (long-term) migrants are 81.6% (32.7%) more likely to suffer/having suffered from an alcohol problem.

Turning to the other controls, as expected those who were physically or sexually abused in childhood or grew up in families where the parents had alcohol or drug problems, are more likely to suffer/have suffered from an alcohol problem. Alcohol problems also seem to affect particularly men who live alone, are retired and are current or past smokers.

As a robustness check, we also investigate two additional models, in which the CAGE cut off points are set to two and four, respectively. Results are presented in Appendix 1 (see Tables A.1 and A.2). The results are consistent with the findings of Table 4.

-- Table 4 around here --

As explained in the methodology section, we also control for endogeneity using the instrumental variable approach. As an instrument, we use the annual net migration rate for the year in which a migrant left and for the year in which a stayer was most likely to decide whether or not to migrate. For stayers, this is not observed so we need to estimate the year. Based on those who did migrate, we compute the average age at migration - stratified by sex and educational attainment - and use it to estimate the age at which stayers were most likely to migrate. For example, the average age at migration for men with primary or no education was 19 years of age. For male stayers with primary or no education, we compute the migration rate for the year in which they turned 19. This is the year 'stayers were most likely to migrate', although they actually decided not to leave Ireland. Also, we were able to collect information of net migration rates only from 1946 onwards. Thus, we had to exclude those who either migrated before 1946 or were 'most likely to migrate' before 1946 when implementing the instrumental variable approach. This results in a loss of 3.0% of observations for men and 3.4% of observations for women.

Since both return migration - the potentially endogenous variable - and the outcome variable are binary, the model estimation strategy is not a straightforward choice. Following Wooldridge (2002, section 15.7.3, p. 477) and Morris (2007) we use a bivariate probit model.[7] This specification allows us to account for the binary nature of both return migration and the outcome variable. It also allows us to deal with the issue of endogeneity by allowing the error terms in both the outcome and return migration equations to be correlated. Evidence of exogeneity of the return migration variable is found if one fails to reject the null hypothesis that the error terms are independent. This is done through a Wald test of the rho parameter - the correlation between the error terms in the outcome and migration equations. To test for the relevance/non-weakness of the instrument, we check its significance in the return migration equation.

We run a bivariate probit model where the outcome variable is defined as in Table 4: doctor diagnose of alcohol/substance abuse and/or CAGE score greater than or equal to three. In this model, the net migration rate variable is significant at 1% level in the return migration

equation. This supports our initial assumption that the correlation between annual net migration rates and the return migration variable is high and confirms the relevance/non-weakness of the instrument. We find no evidence of endogeneity of the return migration variable: we fail to reject the hypothesis that error terms are independent (the p value of the rho parameter is 0.752). This means that the probit model results are unbiased and the probit model that includes both 'standard' regressors, negative early life events and return migration is the preferred specification to use.[8]

7.2 Women

Given that prevalence of alcohol problems is lower for women, we first investigate the model in which alcohol problems are identified when the respondent has been diagnosed with an alcohol or substance abuse problem and/or scores two or more in the CAGE questionnaire. Results are presented in Table 5. Marginal effects and standard errors are reported.

For women, a different picture emerges. Short-term return migrants are more likely to suffer/have suffered from an alcohol problem. The marginal effect is 0.037 ($p<0.01$). On the contrary, long-term migrants are less likely to suffer/have suffered from an alcohol problem. The marginal effect is -0.045 ($p<0.01$). This finding is in line with the conclusions of previous studies that depict a positive image of Irish women who settled down in England (i.e. long-term migrants). For example, Ryan (2007) interviewed twenty-six Irish nurses in Britain, who migrated in the 1950s to 1970s. Most nurses interviewed worked in hospitals where Irish women were in the majority or at least a sizeable minority and this helped them to feel part of community or less socially isolated. Also, the study from Ryan (2004) shows that being in employment, economically independent and able to send remittances home was a source of pride and self-esteem for the women interviewed.

Turning to the other controls, the impact of negative early life events on the likelihood of having alcohol problems later on in life seems to be stronger for women than for men. Women who were victim of physical or sexual abuse and grew up in families where the parents had drug or alcohol problems are more likely to suffer/have suffered from an alcohol problem (the marginal effects are 0.097 and 0.049, respectively).

As with men, we also investigate two additional models, decreasing and increasing the CAGE cut off points (set to one and three, respectively). Results are presented in Appendix 1 (see Tables A.3 and A.4). The results are consistent with the findings of Table 5. Finally, we

control for endogeneity also for women but find no evidence that the return migration variable is endogenous.

-- Table 5 around here –

8. Are return migrants 'failed migrants'?

According to the results of our model, short-term and long-term male return migrants and short-term female return migrants are more likely to suffer/have suffered from alcohol problems than stayers. One could argue that the higher prevalence of alcohol problems for Irish return migrants is due to the fact that those who returned home are "failed migrants", i.e. those who were not able to settle down / build a new life abroad and hence returned to Ireland. In the first wave of TILDA, return migrants were not asked why they returned home. Hence, we do not have information on the reasons that triggered their return to Ireland.

Ideally, we would include a third category of migrants in our analysis: 'migrants who did not return to Ireland' and compare mental health outcomes of: Irish stayers; Irish return migrants; and Irish non-returning migrants. Unfortunately, to our knowledge a dataset which includes both a sufficiently high number of older Irish migrants living abroad and the variables employed in our model is not available.

However, we can use information from the 1997, 1998, 1999 and 2004 waves of The Health Survey for England (HSE). The HSE is an annual survey designed by the Department of Health aimed at providing regular information on various aspects of the English population's health. In the 1997, 1998, 1999 and 2004 waves respondents were asked if they were born in Ireland. 27 Irish men and 28 Irish women aged 50 and above were interviewed in 1997, compared to 47 men and 60 women in 1998, 90 men and 125 women in 1999 and 114 men and 138 women in 2004.

Drinking patterns is one of the HSE survey's core topics. The CAGE questionnaire was included in the 1997 and 1998 waves of the survey. Unfortunately, the small number of Irish-born men and women interviewed in 1997 and 1998 does not allow a thorough investigation of the CAGE module for Irish non-returning migrants living in England. However, we can still use information on alcohol consumption and frequency. In the HSE, respondents are asked whether they drink alcohol or not. If they do, they are asked about how often they have had an alcoholic drink of any kind in the last twelve months. Similar questions are asked in TILDA.

In Table 6 below, we compare the shares of Irish stayers, Irish return migrants and Irish non-returning migrants aged 50 and above who report to be drinking an alcoholic drink almost every day; at least three times per week or once per month at the most. The table shows that the shares of those drinking almost every day / at least three times per week are highest for both male and female non-returning migrants and lowest for Irish stayers. Similarly, the shares of those drinking at the most once per month are highest for Irish stayers and lowest for Irish non-returning migrants. According to these findings, the assumption that the prevalence of alcohol problems is higher for Irish return migrants because they are "failed migrants" does not hold.

-- Table 6 around here –

9. **Conclusions**

Our objective in this paper was to explore whether or not we could find evidence of the existence of psychic costs of migration. Using alcohol dependence as an indicator of psychological stresses and problems over the life course, we compared older Irish adults living in Ireland and found the following. For men, former migrants were found to exhibit a greater likelihood of having had alcohol problems at some stage relative to stayers. This was also found for women who had lived away for ten years or less. However, women who had lived away for ten years or more were *less* likely to have suffered from alcohol problems. This seems to suggest that for women who lived abroad for a long period of time migration implied 'psychic benefits' rather than psychic costs. Given that we were able to control for traumatic events earlier in life, the findings for men do appear to support the notion that migration did cause stress in the lives of these men which led to a higher level of alcohol dependence when compared to men who stayed in Ireland. The findings for women who lived away for ten years or more offer a fascinating contrast. Their lower levels of alcoholism suggest a very favourable migration experience relative to Irish women who remained in Ireland.

The presence of psychic costs for migrants can have many implications and may help to explain some of the research findings on immigrants. At the most basic level, our findings help to explain why outward migration is often a lot lower than might be expected given income differentials between countries. Return migration is often higher than might be explained by standard models. This return migration can be explained in part using the psychic costs argument, if such costs are under-estimated ex ante.

A constant finding in the economics literature on migration is the lower earnings of immigrants and generally poorer labour market outcomes. Clearly, mental health problems tend to work against success in the labour market and so may add to whatever other obstacles that migrants face. Finally, for countries such as Ireland with a large proportion of former migrants, the presence of mental stress among this group will have implications for public health delivery.

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Table 1: Net migration flows and rates in Ireland, 1926-1991 (annual averages)

Intercensal period	Net migration			Net migration rate over 1,000 average population
	Males	Females	Total	
1926-1936	-7,255	-9,420	-16,675	-5.6
1936-1946	-11,258	-7,453	-18,711	-6.3
1946-1951	-10,309	-14,075	-24,384	-8.2
1951-1961	-21,786	-19,091	-40,877	-14.1
1961-1971	-6,236	-7,215	-13,451	-4.6
1971-1981	+5806	+4583	+10389	+3.2
1981-1991	-8,283	-6,094	-14,377	-5.9

Source: 1926-1986 taken from NESC (1991); 1986-91 from Sexton (1996).

Table 2: Descriptive statistics – male stayers, short-term migrants and long-term migrants

			Migrants			
	Stayers	**St. Dev.**	**Short-term migrants**	**St. Dev.**	**Long-term migrants**	**St. Dev.**
Outcome variable(s): alcohol problem						
Doctor-diagnose and/or CAGE>=2	0.159	0.366	0.257***	0.438	0.214**	0.411
Doctor-diagnose and/or CAGE>=3	0.076	0.265	0.150***	0.357	0.125***	0.331
Doctor-diagnose and/or CAGE=4	0.033	0.178	0.069***	0.253	0.074***	0.263
Explanatory variables:						
Age	63.285	9.983	62.671	0.435	65.019***	8.574
Household composition:						
Lives alone	0.199	0.399	0.169	0.376	0.306***	0.461
Lives with spouse only	0.390	0.488	0.431	0.496	0.451*	0.498
Lives with other	0.411	0.492	0.400	0.490	0.244***	0.430
Education:						
None/primary	0.405	0.491	0.300***	0.459	0.509***	0.501
Secondary	0.439	0.011	0.396	0.490	0.354***	0.479
Third/higher	0.156	0.363	0.304***	0.460	0.137	0.344
Parental education:						
Both parents low education	0.688	0.463	0.581***	0.494	0.694	0.462
At least one parent second./tert. educ.	0.230	0.421	0.313***	0.464	0.230	0.422
One parent missing education	0.082	0.274	0.106	0.308	0.076	0.265
Socioeconomic status in childhood:						
Neither parent worked	0.056	0.231	0.060	0.237	0.072	0.259
Grew up in rural area	0.622	0.485	0.604	0.490	0.704***	0.457
Grew up in poor family	0.241	0.428	0.257	0.438	0.386***	0.488
Poor health in childhood	0.053	0.224	0.065	0.248	0.064	0.245
Current place of residence:						
Dublin	0.227	0.419	0.262	0.440	0.109***	0.313
Town or city other than Dublin	0.272	0.445	0.326**	0.469	0.306	0.462
Rural area	0.499	0.500	0.412***	0.493	0.581**	0.494
Labour market status:						
Retired	0.407	0.491	0.412	0.493	0.481**	0.500
Employed	0.456	0.498	0.449	0.498	0.314***	0.465
Permanently sick or disabled	0.050	0.218	0.052	0.223	0.082*	0.275
Unemployed	0.073	0.260	0.053	0.224	0.098	0.298
Other	0.014	0.119	0.033**	0.180	0.025	0.156
Smoking:						

Currently smokes	0.167	0.373	0.190	0.393	0.257***	0.438
Used to smoke	0.440	0.496	0.503**	0.501	0.516**	0.501
Never smoked	0.393	0.489	0.307***	0.462	0.227***	0.420
Negative early life events						
Parents had alcohol/drug problem	0.075	0.263	0.133***	0.340	0.071	0.257
Parents had NO alc./drug problem	0.903	0.296	0.855**	0.353	0.894	0.309
Missing information	0.022	0.147	0.012	0.110	0.036	0.185
Physically or sexually abused	0.093	0.290	0.157***	0.364	0.102	0.303
NOT physically or sexually abused	0.880	0.325	0.824***	0.381	0.875	0.331
Missing information	0.027	0.162	0.019	0.137	0.024	0.152
Parent(s) died when resp. <18	0.141	0.349	0.132	0.339	0.128	0.335
Parents did NOT die when resp. <18	0.792	0.406	0.807	0.395	0.738**	0.441
Missing information	0.067	0.250	0.061	0.240	0.134***	0.342
N	2,067		400		303	

Notes: ***p<0.01 **p<0.05 *p<0.10. Data is weighted.

Statistically significant differences between short-term migrants and stayers and long-term migrants and stayers are reported.

Table 3: Descriptive statistics – female stayers, short-term migrants and long-term migrants

			Migrants			
	Stayers	**St. Dev.**	**Short-term migrants**	**St. Dev.**	**Long-term migrants**	**St. Dev.**
Outcome variable(s):alcohol problem						
Doctor-diagnose and/or CAGE>=1	0.146	0.353	0.225***	0.418	0.110	0.313
Doctor-diagnose and/or CAGE>=2	0.081	0.273	0.134***	0.341	0.031***	0.175
Doctor-diagnose and/or CAGE>=3	0.033	0.177	0.046	0.211	0.013*	0.112
Explanatory variables:						
Age	64.333	10.608	64.821	9.829	67.455***	9.471
Household composition:						
Lives alone	0.232	0.422	0.288**	0.453	0.327***	0.470
Lives with spouse only	0.356	0.479	0.386	0.487	0.422*	0.495
Lives with other	0.412	0.492	0.327***	0.469	0.252***	0.435
Education:						
None/primary	0.390	0.488	0.292***	0.455	0.447*	0.498
Secondary	0.457	0.498	0.395**	0.489	0.353***	0.479
Third/higher	0.153	0.360	0.313***	0.464	0.200**	0.401
Parental education:						
Both parents low education	0.682	0.466	0.554***	0.498	0.675	0.469
At least one parent sec./tert. educ.	0.222	0.416	0.339***	0.474	0.221	0.416
One parent missing education	0.095	0.294	0.107	0.309	0.104	0.306
Socioeconomic status in childhood:						
Neither parent worked	0.057	0.232	0.052	0.223	0.051	0.220
Grew up in rural area	0.641	0.480	0.641	0.480	0.741***	0.439
Grew up in poor family	0.193	0.395	0.163	0.369	0.220	0.415
Poor health in childhood	0.071	0.256	0.073	0.261	0.092	0.290
Current place of residence:						
Dublin	0.243	0.429	0.267	0.443	0.118***	0.323
Town or city other than Dublin	0.271	0.445	0.295	0.456	0.289	0.454
Rural area	0.484	0.500	0.436	0.496	0.593***	0.492
Labour market status:						
Retired	0.263	0.440	0.326**	0.469	0.498***	0.501
Employed	0.295	0.456	0.314	0.465	0.212***	0.410
Permanently sick or disabled	0.052	0.222	0.072	0.258	0.059	0.237
Unemployed	0.029	0.167	0.033	0.180	0.018	0.134
Other	0.362	0.481	0.255***	0.436	0.212***	0.410

Smoking:						
Currently smokes	0.179	0.383	0.170	0.376	0.185	0.389
Used to smoke	0.285	0.451	0.384***	0.487	0.413***	0.493
Never smoked	0.537	0.499	0.446***	0.498	0.402***	0.491
Negative early life events						
Parents had alcohol/drug problem	0.075	0.263	0.092	0.289	0.071	0.258
Parents had NO alc./drug problem	0.903	0.297	0.878	0.328	0.913	0.282
Missing information	0.022	0.148	0.031	0.173	0.015	0.123
Physically or sexually abused	0.083	0.275	0.126***	0.332	0.078	0.268
NOT physically or sexually abused	0.886	0.318	0.827***	0.378	0.842**	0.366
Missing information	0.031	0.174	0.047	0.212	0.080***	0.272
Parent(s) died when resp. <18	0.149	0.356	0.147	0.354	0.150	0.357
Parents did NOT die when resp. <18	0.762	0.426	0.797	0.403	0.754	0.431
Missing information	0.089	0.285	0.057	0.232	0.096	0.296
N	2,495		449		300	

Notes: ***p<0.01 **p<0.05 *p<0.10. Data is weighted.

Statistically significant differences between short-term migrants and stayers and long-term migrants and stayers are reported.

Table 4: Marginal effects (and standard errors) of probit model of alcohol problems (doctor diagnose of alcohol/substance abuse and/or CAGE score >=3), men only

	Marginal Effects	Standard Errors
Age	-0.005***	0.001
Secondary education	0.034**	0.015
No/primary education	0.022	0.019
Lives alone	0.045**	0.018
Lives with others	-0.008	0.013
Lives in Dublin	0.026	0.017
Lives in a town/city other than Dublin	0.003	0.014
Grew up in rural area	-0.013	0.014
Poor health in childhood	0.007	0.024
Grew up in a poor family	0.002	0.013
Neither parent worked when respondent was a child	0.025	0.024
Both parents low education	0.000	0.012
One parent missing education	-0.034*	0.017
Currently smokes	0.092***	0.023
Used to smoke	0.055***	0.014
Retired	0.055***	0.018
Unemployed	0.042	0.026
Permanently sick or disabled	0.046	0.032
Other	0.085	0.058
Parents had an alcohol problem or used drugs	0.057**	0.023
Missing information on parents alcohol/drugs problem	0.046	0.072
Physically or sexually abused	0.036*	0.020
Missing information on physical or sexual abuse	0.024	0.060
Parent(s) died before respondent turned 18	0.016	0.017
Missing information on parents' death	0.001	0.024
Short-term migrant	0.062***	0.021
Long-term migrant	0.037*	0.021
N	2,770	

Notes: ***p<0.01 **p<0.05 *p<0.10. Data is weighted

Reference categories are: third/higher level of education; lives with spouse only; lives in a rural area; at least one parent has/had secondary/tertiary education; never smoked; in employment; parents did not have an alcohol problem or used drugs; not physically or sexually abused; parents did not die before respondent turned 18.

Table 5: Marginal effects (and standard errors) of probit model of alcohol problems (doctor diagnose of alcohol/substance abuse and/or CAGE score >=2), women only

	Marginal Effects	Standard Errors
Age	-0.004***	0.001
Secondary education	-0.004	0.011
No/primary education	0.002	0.014
Lives alone	0.011	0.014
Lives with others	-0.002	0.011
Lives in Dublin	0.047***	0.015
Lives in a town/city other than Dublin	0.023*	0.013
Grew up in rural area	-0.015	0.011
Poor health in childhood	0.006	0.019
Grew up in a poor family	-0.018	0.012
Neither parent worked when respondent was a child	0.011	0.023
Both parents low education	-0.019*	0.012
One parent missing education	-0.023	0.014
Currently smokes	0.097***	0.019
Used to smoke	0.057***	0.012
Retired	-0.010	0.014
Unemployed	-0.016	0.022
Permanently sick or disabled	-0.008	0.019
Other	-0.019*	0.012
Parents had an alcohol problem or used drugs	0.097***	0.022
Missing information on parents alcohol/drugs problem	0.023	0.043
Physically or sexually abused	0.049***	0.018
Missing information on physical or sexual abuse	0.030	0.035
Parent(s) died before respondent turned 18	-0.020*	0.012
Missing information on parents' death	0.040	0.026
Short-term migrant	0.037**	0.016
Long-term migrant	-0.045***	0.012
N	3,244	

Notes: ***p<0.01 **p<0.05 *p<0.10. Data is weighted

Reference categories are: third/higher level of education; lives with spouse only; lives in a rural area; at least one parent has/had secondary/tertiary education; never smoked; in employment; parents did not have an alcohol problem or used drugs; not physically or sexually abused; parents did not die before respondent turned 18.

Table 6: Frequency of alcohol consumption, Irish stayers, non-returning-migrants and return migrants aged 50+

	Men			Women		
	Almost every day	At least 3 days per week	Once per month maximum	Almost every day	At least 3 days per week	Once per month maximum
HSE non-returning migrants (1997-1999 & 2004)	17.3%	37.2%	24.2%	8.3%	20.5%	42.5%
HSE non-returning migrants (2004 only)	14.0%	32.5%	28.1%	11.6%	26.8%	39.9%
TILDA return migrants (2009-2011)	10.1%	30.2%	26.2%	5.6%	19.2%	40.2%
TILDA stayers (2009-2011)	7.4%	26.0%	32.1%	3.2%	15.1%	45.2%

Sources: 1997, 1998, 1999 and 2004 waves of Health Survey for England; TILDA wave 1.

Appendix 1:

Table A.1: Probit models of alcohol problems (doctor diagnose of alcohol/substance abuse and/or CAGE score >=2), men only

	Marginal Effects	Standard Errors
Age	-0.009***	0.001
Secondary education	0.014	0.018
No/primary education	-0.020	0.022
Lives alone	0.070***	0.023
Lives with others	0.000	0.017
Lives in Dublin	0.037*	0.021
Lives in a town/city other than Dublin	0.003	0.018
Grew up in rural area	-0.037**	0.019
Poor health in childhood	-0.025	0.032
Grew up in a poor family	0.000	0.017
Neither parent worked when respondent was a child	0.001	0.029
Both parents low education	0.006	0.017
One parent missing education	-0.026	0.028
Currently smokes	0.147***	0.027
Used to smoke	0.096***	0.017
Retired	0.072***	0.022
Unemployed	0.013	0.030
Permanently sick or disabled	0.031	0.039
Other	0.046	0.061
Parents had an alcohol problem or used drugs	0.061**	0.029
Missing information on parents alcohol/drugs problem	-0.028	0.074
Physically or sexually abused	0.058**	0.025
Missing information on physical or sexual abuse	0.142	0.095
Parent(s) died before respondent turned 18	0.008	0.021
Missing information on parents' death	-0.022	0.030
Short-term migrant	0.075***	0.025
Long-term migrant	0.054**	0.026
N	2,770	

Notes: ***p<0.01 **p<0.05 *p<0.10. Data is weighted

Reference categories are: third/higher level of education; lives with spouse only; lives in a rural area; at least one parent has/had secondary/tertiary education; never smoked; in employment; parents did not have an alcohol problem or used drugs; not physically or sexually abused; parents did not die before respondent turned 18.

Table A.2: Probit models of alcohol problems (doctor diagnose of alcohol/substance abuse and/or CAGE score=4), men only

	Marginal Effects	Standard Errors
Age	-0.003***	0.001
Secondary education	-0.005	0.009
No/primary education	-0.001	0.012
Lives alone	0.039***	0.014
Lives with others	-0.011	0.009
Lives in Dublin	0.006	0.012
Lives in a town/city other than Dublin	-0.005	0.010
Grew up in rural area	0.004	0.010
Poor health in childhood	0.013	0.017
Grew up in a poor family	-0.002	0.009
Neither parent worked when respondent was a child	-0.005	0.014
Both parents low education	0.007	0.009
One parent missing education	-0.009	0.014
Currently smokes	0.066***	0.020
Used to smoke	0.027**	0.011
Retired	0.048***	0.015
Unemployed	0.012	0.017
Permanently sick or disabled	0.046	0.028
Other	0.053	0.051
Parents had an alcohol problem or used drugs	0.044**	0.018
Missing information on parents alcohol/drugs problem	0.125	0.091
Physically or sexually abused	0.015	0.013
Missing information on physical or sexual abuse	-0.033**	0.013
Parent(s) died before respondent turned 18	0.017	0.012
Missing information on parents' death	0.010	0.017
Short-term migrant	0.025	0.015
Long-term migrant	0.022	0.014
N	2,770	

Notes: ***p<0.01 **p<0.05 *p<0.10. Data is weighted

Reference categories are: third/higher level of education; lives with spouse only; lives in a rural area; at least one parent has/had secondary/tertiary education; never smoked; in employment; parents did not have an alcohol problem or used drugs; not physically or sexually abused; parents did not die before respondent turned 18.

Table A.3: Probit models of alcohol problems (doctor diagnose of alcohol/substance abuse and/or CAGE score >=1), women only

	Marginal Effects	Standard Errors
Age	-0.007***	0.001
Secondary education	-0.028**	0.014
No/primary education	-0.034**	0.017
Lives alone	0.001	0.018
Lives with others	-0.016	0.014
Lives in Dublin	0.063***	0.018
Lives in a town/city other than Dublin	0.016	0.016
Grew up in rural area	-0.040***	0.015
Poor health in childhood	-0.007	0.024
Grew up in a poor family	-0.005	0.017
Neither parent worked when respondent was a child	-0.006	0.027
Both parents low education	-0.044***	0.015
One parent missing education	-0.054***	0.018
Currently smokes	0.120***	0.022
Used to smoke	0.081***	0.015
Retired	-0.004	0.019
Unemployed	0.047	0.040
Permanently sick or disabled	0.000	0.027
Other	-0.029*	0.016
Parents had an alcohol problem or used drugs	0.085***	0.024
Missing information on parents alcohol/drugs problem	0.054	0.061
Physically or sexually abused	0.080***	0.023
Missing information on physical or sexual abuse	0.040	0.045
Parent(s) died before respondent turned 18	-0.031**	0.015
Missing information on parents' death	0.057*	0.032
Short-term migrant	0.049**	0.019
Long-term migrant	-0.019	0.020
N	3,244	

Notes: ***p<0.01 **p<0.05 *p<0.10. Data is weighted

Reference categories are: third/higher level of education; lives with spouse only; lives in a rural area; at least one parent has/had secondary/tertiary education; never smoked; in employment; parents did not have an alcohol problem or used drugs; not physically or sexually abused; parents did not die before respondent turned 18.

Table A.4: Probit models of alcohol problems (doctor diagnose of alcohol/substance abuse and/or CAGE score>=3),women only

	Marginal Effects	Standard Errors
Age	-0.002***	0.001
Secondary education	0.007	0.008
No/primary education	0.014	0.011
Lives alone	0.020*	0.011
Lives with others	0.012	0.008
Lives in Dublin	0.031***	0.012
Lives in a town/city other than Dublin	0.007	0.009
Grew up in rural area	0.008	0.007
Poor health in childhood	-0.001	0.012
Grew up in a poor family	-0.005	0.007
Neither parent worked when respondent was a child	0.015	0.018
Both parents low education	-0.009	0.008
One parent missing education	-0.019**	0.008
Currently smokes	0.063***	0.015
Used to smoke	0.029***	0.010
Retired	0.000	0.010
Unemployed	0.005	0.018
Permanently sick or disabled	0.022	0.017
Other	-0.004	0.008
Parents had an alcohol problem or used drugs	0.032**	0.015
Missing information on parents alcohol/drugs problem	0.071*	0.041
Physically or sexually abused	0.031**	0.013
Missing information on physical or sexual abuse	-0.019**	0.009
Parent(s) died before respondent turned 18	0.004	0.009
Missing information on parents' death	0.015	0.016
Short-term migrant	0.012	0.010
Long-term migrant	-0.017*	0.009
N	3,244	

Notes: ***p<0.01 **p<0.05 *p<0.10. Data is weighted

Reference categories are: third/higher level of education; lives with spouse only; lives in a rural area; at least one parent has/had secondary/tertiary education; never smoked; in employment; parents did not have an alcohol problem or used drugs; not physically or sexually abused; parents did not die before respondent turned 18.

[1] Faini and Venturini (2010) refer to the related concept of "home bias" and the "highly idiosyncratic preferences that have been formed while living in (the) area of origin".

[2] As discussed in the literature review below, papers have appeared in the medical literature which look at the mental health status of immigrants relative to natives. However, the approach here offers a number of advantages relative to this earlier work and also places the work more firmly in the economics literature.

[3] For example, in a national survey of 648 primary care physicians carried out by the National Center of Addiction and Substance Abuse (2000), physicians were given case records of patients with a history typical of alcohol abuse. Physicians were asked to list five possible diagnoses. Whilst most physicians listed ulcer and irritable bowel syndrome, only 6.2% correctly identified substance abuse as one of the five possible diagnoses.

[4] In TILDA, education is measured by the highest level of formal education achieved. Irish-specific levels are reclassified into three categories: primary/none (not complete or primary or equivalent), secondary (intermediate/junior/group certificate or equivalent and leaving certificate or equivalent) and third/higher (diploma/certificate, primary degree and postgraduate/higher degree).

[5] Barrett and Goggin (2010) use unemployment rates in the year individuals left full time education as an instrument in an analysis of the wages of return migrants relative to stayers. They argue that this capture economic conditions and hence is likely to influence migration decisions. Our use of net outward migration rates is similarly motivated.

[6] The alternative solution was to run two different models, one including short-term migrants and stayers; the other including long-term migrants and stayers. However, the result of the likelihood ratio test (which we ran as a test for structural stability as a counterpart to the Chow test for linear models) showed that there are not statistically significant differences in

the impact of short-term and long-term migration on alcohol problems. Hence, our preferred specification is one single model in which we control for short-term and long-term migration.

[7] We use the biprobit command in STATA but implement it as an IV (instrumental variable) estimation.

[8] Results are not reported here but can be made available on request. The validity of the instrument can in general not be tested, especially when there is only one instrument. However, as a further robustness check, we run an additional regression in which the outcome variable is defined as in Table 4. Beside the standard controls and early negative life events, we also add the instrument (annual net migration rate) as an additional explanatory variable. We find that the instrument does not have any impact on alcohol problems (p value is equal to 0.581). Although these results are encouraging, one needs to remember that this is not a formal test of the validity of the instrument. Similar conclusions apply when investigating different models in which the CAGE cut off point is decreased to two or increased to four.