Emigrants from Great Britain: what do we know about their lives?

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Abstract

Each year more than 300,000 individuals leave Great Britain to start a new life overseas. Indeed, recent estimates suggest that up to 4.7 million British nationals now live abroad. Yet, in contrast to the substantial literature on the economic and social welfare of immigrants into Great Britain, comparatively little is known about the lives of emigrants from this country. This report provides, to the author's knowledge, the first quantitative study of this important issue. Labour market and social outcomes are compared between emigrants and individuals who choose to remain in Great Britain. I find a number of significant differences between these groups, along with notable variation by country of destination. This continues to hold true for certain outcomes even when differences in observable characteristics are taken into account.

Key words: Emigration, PIAAC, PISA.

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1. Introduction: Emigrant numbers, destinations and motivation

1.1. Many people living in Great Britain dream of leaving the country to start a new life overseas. A 2006 poll[1] found that the majority of residents (53%) would consider emigrating, with approximately one in eight hoping to leave the country soon.

1.2. Figure 1.1 illustrates how many individuals press ahead with these plans. This plots Office for National Statistics (ONS) data recording long-running emigration from GB. When records began in 1964, approximately 300,000 individuals living in Britain left the country every year. This figure declined gradually to around 200,000 per annum by the mid-1980s, where it stayed until the late 1990s. At this point, both immigration into and emigration out of Great Britain increased. Since 2002, more than 300,000 individuals have left the country every year, reaching a peak of 400,000 in 2008 (the year the Great Recession began). Note that these emigration figures include possible return migration of recent immigrants into GB. For instance, figures from Murray et al (2012: figure 2) suggest that between 1992 and 2011, the emigration rate among British citizens only was essentially flat at around 150,000 individuals.

<< Figure 1.1>>

1.3. Although some of these individuals undoubtedly return to GB, many others remain abroad. Estimates from Parsons et al (2007) suggest that there are up to 4.7 million British nationals currently living abroad. Table 1.1 illustrates that the most common countries of residence are Australia (1.2 million), United States (701,000) and Canada (675,000). The main destinations of GB emigrants within Europe are Spain (411,000), Ireland (397,000), France (173,000) and Germany (155,000).

[1] http://news.bbc.co.uk/2/hi/5237236.stm

1.4. Why do emigrants choose to leave Great Britain? Sriskandarajah and Drew (2006) suggest there are four main motivating factors:

- Work – Typically skilled individuals looking to further their career overseas.
- Improved lifestyle – A mixture of families and retirees who believe they will experience a better quality of life abroad.
- Family ties – Moving to be with a partner or returning home.
- Overseas adventure – Mainly young people living abroad for a short period of time.

1.6. Figures from the ONS support the notion that work and the search for a better quality of life are the primary reasons why GB nationals move overseas. In the year ending June 2013, six in ten emigrants cited work as their primary reason for leaving the country (approximately 190,000 individuals). This compares to 40,000 individuals leaving the country for family reasons and a further 40,000 for other reasons.

1.7. The above makes clear that (i) a substantial number of people choose to leave GB every year (more than 300,000); (ii) a substantial number of British nationals now live abroad (approximately 4.7 million individuals or 7.5% of the UK population) and (iii) major motivations for leaving include employment prospects and a belief they will enjoy a better quality of life.

1.8. Yet little is actually known about the lives of GB nationals living overseas. For instance, although many report work and quality of life as a key reason why they leave GB, do these individuals actually obtain better jobs and higher pay than individuals who remain in the country? Are they more politically engaged and trusting of other individuals and do they report better levels of health?

1.9. This report attempts to answer these questions. Specifically, it uses the Organisation for Economic Co-operation and Development's Programme for International Assessment of Adult Competencies (PIAAC) dataset to investigate the following key issues:

- Are emigrants from GB more educated and do they hold higher numeracy skills than individuals who remain in GB? Are the skills lost from GB through emigration offset by the gains made through immigration?

- Are emigrants more likely to have had work over the last five years than individuals who stay in GB? How does this vary by the destination country of the emigrant? And can any variation simply be explained by differences in demographic characteristics and educational attainment?

- Do emigrants from GB earn more per month than individuals who remain in this country? Is this true for individuals with the same demographic characteristics, educational attainment and cognitive skills? How does this vary by emigrants' destination country?

- Are emigrants healthier, more politically engaged and more trusting than other individuals who remain in GB? Does this hold true even once differences in demographic characteristics have been controlled?

1.10. The report is structured as follows. Section 2 describes the PIAAC dataset, defines the key variables and discusses the empirical methodology. Section 3 then provides descriptive information on the 'emigrant' and 'stayer' (individuals who were born in GB and remain in the country) samples. Section 4 investigates differences in educational attainment and numeracy skills between these two groups, as well as considering the impact net migration has had upon the GB skill distribution. Section 5 turns to labour market outcomes, including the probability of being in employment, the chances of being over- or underqualified for the job currently held, along with labour market earnings. A wider set of outcomes are considered in section 6, including political efficacy, social trust and self-reported health. Conclusions are then presented in section 7.

2. The Programme for International Assessment of Adult Competencies (PIAAC)

Survey design

2.1. PIAAC was conducted in 2011 across 24 countries (including 22 members of the OECD). The target population was individuals who were between 16 and 65 years old, and were residing within the country in question at the time of the data collection (regardless of their nationality, citizenship or language status).

2.2. A stratified multistage clustered area sample design was used to collect nationally representative data. The study was 'self-weighting' in terms of each sample unit (person or household) having equal probability of selection. Further details can be found in Chapter 14.3 of the PIAAC technical report (OECD 2013: Chapter 14).

2.3. Response rates were generally satisfactory, ranging from 45% in Sweden to 75% in South Korea (with a median of 62%). The survey organisers have investigated possible non-response bias, and have found this to be 'minimal' to 'low' in each country. Table 2.1 provides further details.

<< Table 2.1>>

Definition of emigrants from Great Britain

2.4. All PIAAC respondents were asked to complete a background questionnaire. This included a question on country of birth.[2] Thus, within most of the other 23 PIAAC countries, one is able to identify individuals who were born in GB but who are now living abroad.[3] I use this information to define the following groups:

- GB emigrants = individuals born in GB but living outside GB in 2011
- GB stayers = individuals born in GB and living in GB in 2011[4]

[2] The country of birth variable is not available for certain countries in the PIAAC public use data files. The analysis undertaken in this paper used the restricted use data held by the OECD, which includes information on country of birth for individuals from all countries.
[3] One can observe individuals who were born in GB but are now working in Canada, for example.
[4] Note that second generation immigrants (i.e. individuals born in the country, but whose parents were migrants) are therefore considered to be part of the 'stayer' population.

- GB immigrants = individuals born outside GB but living in GB in 2011

2.5. The PIAAC dataset also includes a variable called 'imgen'. This has been derived by the survey organisers to identify respondents' migrant status. It includes the following five categories:

- 1st generation immigrants
- 2nd generation immigrants
- Non 1st or 2nd generation immigrants
- Non-immigrant and one foreign-born parent
- Not stated or inferred.

The '2nd generation immigrants', 'Non-immigrant and one foreign-born parent' and 'Not stated or inferred' groups are excluded from this analysis, as these individuals do not easily fit into the 'emigrant' and 'stayer' groups defined above. Their exclusion thus ensures a clear and homogeneous definition of the respective groups.

2.6. There are two important challenges with this approach. The first is sample selection. Although all *immigrants* into GB can be observed regardless of their country of origin, one can only observe emigrants from GB who have moved to one of the 23 other PIAAC countries. An important question is, therefore, to what extent does the information from these 23 other PIAAC countries represent all emigration from GB?

2.7. I use information from the Global Migrant Origin Database (GMOD) to investigate this issue.[5] This is a 226 x 226 matrix of origin-destination migrant stocks by country, thus providing near comprehensive information on where emigrants from GB tend to live. Table 2.2 provides a set of summary statistics produced using these data, illustrating the number and proportion of GB emigrants who are currently residing within each of the countries listed. Of the near 3.5 million GB emigrants, 1.04 million live in Australia (30%), 0.82 million in the United States (24%) and 0.62 million in Canada (18%). Overall, the GMOD data suggests that approximately 90%

[5] See www.migrationdrc.org/research/typesofmigration/global_migrant_origin_database.html

of GB emigrants (3.13 million) live in one of the other PIAAC countries.[6] Thus, despite PIAAC covering only 23 possible destination countries, it nevertheless captures a largely representative sample of GB emigrants.

<< Table 2.2 >>

2.8. In three PIAAC counties (Finland, Germany and Australia) information on country of birth has been coarsened, so even with the restricted data held by the OECD one cannot identify the exact country in which migrants were born. For instance, with respect to Germany, one can only identify whether immigrants come from GB or Ireland, rather than GB alone.

2.9. This is actually a relatively minor problem with respect to Finland and Germany. The GMOD data suggests that only 0.1% of British emigrants live in Finland, while there are only a handful of observations for British and Irish emigrants within the German PIAAC dataset. I therefore exclude the Finish data from our analysis, and assume all GB plus Irish immigrants in Germany were born in GB.[7]

2.10. Australia is more challenging. This is the most popular destination for GB emigrants (see Table 2.2) and is therefore an important country to include in the analysis. However, the country of birth variable for this country has been coarsened so that one can only identify immigrants from a 'major English-speaking country' (MESC) – which includes Great Britain, Ireland, Canada, New Zealand, South Africa and the United States. Data from the Australian Bureau of Statistics[8] suggests that the vast majority of MESC migrants to Australia were born in GB (55%) or New Zealand (25%), with only a minority from Ireland, United States, Canada and South Africa (20% combined).

[6] (New Zealand accounts for 0.22m of the 0.37m emigrants from non-PIAAC countries).
[7] I have checked the robustness of my results to making the opposite assumption: that all GB plus Irish migrants to Germany actually came from Ireland. This led to very little change in the substantive results.
[8] See http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3412.02011-12%20and%202012-13?OpenDocument table 'Estimated resident population, Country of birth, State/territory, Age and sex – 30 June 2011'

2.11. To include GB-to-Australia migrants in the analysis, I take a 55% random sample of the MESC immigrants that can be identified within the Australian PIAAC data file. The key assumption being made is that GB emigrants to Australia are not substantially different to those of all other MESC migrants to Australia. In the results section, estimates will often be presented both including and excluding this (proxy) data for emigrants to Australia. Moreover, readers should bear in mind the above when interpreting results for this particular group.

2.12. Finally, it is important to note that this report focuses upon migrant stocks at one particular point in time (2011). Although migration flows are undoubtedly of interest (e.g. including possible return migration), this issue is beyond the scope of this report.

Sample sizes

2.13. The final sample analysed in this report (after the aforementioned selection criteria have been applied) is 7,628 GB stayers, 843 immigrants into GB and 1,324 emigrants from GB (810 when emigrants to Australia have been excluded). Table 2.3 provides the unweighted sample sizes for GB emigrants by country and region of destination.

<< Table 2.3 >>

2.14. There is great variation in emigrant sample sizes by destination country. The largest figures are for Australia (514), Ireland (312) and Canada (256), with the smallest figures for Germany (4), Italy (3) and the Czech Republic (1). Note that some PIAAC countries are not included in Table 2.3 (e.g. Japan) because no respondent reported GB as their country of birth.

2.15. The left hand column of Table 2.3 ('region destination') has pooled data for Canada and the United States ('North America') and for a set of European countries (excluding Ireland). Separate estimates by the four destination regions defined in this

column (Australia, Ireland, North America and Europe) will often be presented within the results section.

Survey and replicate weights

2.16. The PIAAC dataset includes the sample weight 'SPFWT0'. This takes into account a number of elements of the complex PIAAC survey design used, including the probability of selection into the sample, eligibility adjustments, non-response adjustments, weight trimming and weight calibration. These weights thus scale the PIAAC sample to provide population estimates.

2.17. The right-hand column of Table 2.3 provides the sample size for each country when this weight has been applied. It thus demonstrates how much influence each country will have upon results for the emigrant group. A good example of how this weight influences sample sizes is via a comparison of Canada and the United States. Although the actual (unweighted) number of observations is much bigger for Canada (256 versus just eight for the United States), emigrants to these two countries will have roughly equal influence on the final results (i.e. the weighted sample sizes are very similar at 350,064 for Canada and 339,672 for the United States).[9]

2.18. To accurately calculate standard errors, one must take into account multiple elements of the complex PIAAC design, including the sample design, selection into the sample, weighting adjustments and measurements error (when using the cognitive skill variables – see below). This is done via the application of the replicate weights included in the PIAAC dataset through the user-written Stata 'piaactools' commands ('piaacdes', 'piaacreg' and 'piaactab'). See Pokropek and Jakubowski (2013) for further details. Table and figure notes indicate the few occasions where it has not been possible to use the replicate weights in the analysis.

[9] Each observation for the United States gets more weight for two reasons. Firstly, the population of the United States (approximately 320 million individuals) is around nine times bigger than the population of Canada (35 million). Secondly, Canada drew a much bigger sample (27,285) than the United States (5,010). This decreases the probability of selection into the PIAAC sample in the United States (relative to Canada) and thus increases each observation's weight.

2.19. Further details on the construction of the PIAAC sample and replicate weights can be found in chapter 15 of the PIAAC technical report (OECD 2013a).

Cognitive skills

2.20. As part of PIAAC, respondents took a two-hour test designed to measure their functional ability in three areas: numeracy (compulsory), literacy (compulsory) and problem solving in technology-rich environments (optional). This test has been explicitly designed with cross-national comparability in mind.

2.21. An item-response model has been applied by the survey organisers to scale answers to the test questions into ten 'plausible values'. These are ten different estimates of sample members' true ability in each of these areas. The intuition behind this methodology is that individuals' true skill cannot be observed (as it is a latent trait) and so must be estimated from the answers given to the test questions. The ten plausible values thus reflect the uncertainty in the true cognitive skill of each individual. I follow the survey organisers' recommended procedure for analysing these data. Specifically, I produce ten separate estimates using each of the plausible values, and then calculate the average of these estimates and their associated standard errors. Further details, including the formulae used, can be found in OECD (2013b:3). This is implemented using the 'piaactools' Stata command described in point 2.18.

2.22. The PIAAC numeracy test score has a mean of approximately 266 and standard deviation of approximately 54 across participating OECD countries (OECD 2013: Table A2.6b). Throughout this report, any participant who scores above the 75th percentile of the OECD test score distribution (304 PIAAC test points or more – see OECD 2013: Table A2.8) is defined as having high numeracy ability, with those below the 25th percentile (238 PIAAC points) defined as low numeracy ability.

2.23. It is important to note that the PIAAC test captures respondents' *current* skill levels. This has important implications for the interpretation of results. In particular,

estimates will refer to migrants' skills in 2011, rather than at the point that they entered the country. Test performance will therefore capture both skill acquisition within their home country, and possible enhancement or degeneration of these skills during their time within the host country.[10]

Earnings

2.24. Respondents' earnings have been collected in PIAAC via a series of detailed questions. These questions were designed by the survey organisers to maximise the quality of the reported information and to minimise possible item non-response. In particular, respondents could choose whether they reported hourly, daily, weekly, bi-weekly, monthly or annual earnings, or a piece rate. If the respondent was unwilling to provide an exact figure, they were asked to indicate a categorical amount. Moreover, separate questions were asked to wage earners and the self-employed, with additional information collected on bonuses. Using this information, the survey organisers derived an annual earnings variable for each PIAAC respondent via the following process:

- Converting all information into a consistent reporting period (e.g. from hourly to yearly, from monthly to yearly etc.).
- Conversion of earnings reported in broad categories into an equivalent direct amount.
- Using a Purchasing Power Parity (PPP) correction to convert earnings into equivalent amounts across countries.

Further details can be found in the PIAAC technical report (OECD 2013a: Chapter 20.4).

[10] For instance, a highly skilled migrant may enter GB but be unable to find a job that uses their skills. Their skills may therefore degenerate, and be lower at the point of the test compared to at the point of entry into the country. Alternatively, immigrants into GB may complete further education upon entry into the country, and so enhance their skills.

3. Demographic characteristics of emigrants

Summary

- The average age of GB emigrants in the PIAAC sample is 42. This compares to an average age of 41 for GB stayers. The average age of emigrants to North America (45) tends to be higher than for emigrants to Europe (39).
- 70% of emigrants from GB are native speakers within their destination country. In contrast, less than a quarter (24%) of immigrants into GB have English as their native language.
- 36% of GB emigrants have at least one parent holding a bachelor degree. This compares to just 24% of individuals who have chosen to remain in GB. Emigrants from GB thus generally come from more advantaged family backgrounds.
- One in three emigrants from GB left the country before the end of secondary school (age 16), with 70% leaving before their 25th birthday. Emigrants to North America tend to be younger and have lived abroad longer than emigrants to Europe.
- One in three emigrants from GB left the country less than ten years ago. At the other extreme, 35% of GB emigrants moved abroad prior to 1986 (more than 25 years ago).

3.1. This section focuses upon the demographic characteristics of emigrants from Great Britain, and how they compare to country stayers. It attempts to answer the following questions:

- Are individuals born in Great Britain but now living abroad older or younger than individuals remaining in the country?
- Do emigrants come from more socioeconomically advantaged backgrounds than stayers?
- At what age do most emigrants leave Great Britain for a life overseas?
- How long has the average emigrant spent living abroad?

3.2. Table 3.1 provides descriptive statistics for the GB immigrant, emigrant and stayer samples. Table 3.2 subdivides the emigrant results by destination country.

<<Table 3.1>>

<<Table 3.2>>

3.3. Table 3.1 illustrates that there is an even gender split within the GB stayer and immigrant populations. However, men contribute a slightly greater proportion (55%) to the GB emigrant stock. Interestingly, 63% of GB emigrants to North America are males, compared to little more than 50% for most other destination countries.

3.4. The mean age of GB emigrants is 42; this is little different to the average age of GB stayers (41). Table 3.1 illustrates that only 9% of GB emigrants are in the youngest age group (16–24 years old). This is notably fewer than in the stayer population (18%). However, more than a quarter (27%) of GB emigrants are in the middle age category (35–44 years old), compared to only 20% of GB stayers. The GB immigrant population has fewer individuals in the oldest two age groups (45–54 and 55 plus) than both stayers and emigrants.

3.5. The average age of emigrants to North America is 45. This is slightly above the figure for emigrants to Europe (39) and Ireland (40), and individuals who have stayed in GB (41).

3.6. Almost all stayers in GB report English as their native language (99%). The proportion of native speakers among GB emigrants is also high, standing at 70%.

3.7. This, of course, varies substantially by destination country; 100% of emigrants to Ireland and 94% of emigrants to Australia and North America report themselves as native speakers, compared to just 1% of emigrants to other European countries.

3.8. Socioeconomic status is defined in PIAAC using the highest level of education achieved by either parent. More than one in three emigrants (36%) from GB come

from the highest parental education group (at least one parent holds a bachelor degree). This is substantially more than in the GB stayer population (24%), suggesting that there is a tendency for emigrants to come from more advantaged family backgrounds. Moreover, it is interesting to note that the parental education distribution for GB immigrants and GB emigrants is very similar, with approximately one third of individuals in each of the bottom, middle and top parental education groups.

3.9. Table 3.2 also suggests that the family background of emigrants tends to vary by destination country. Half of all GB emigrants to North America come from the top parental education group and just one in five from the bottom parental education group. In contrast, just 20% of GB emigrants to Europe have at least one of their parents holding a bachelor degree, with 40% having parents with no more than upper secondary education.

3.10. Table 3.3 provides summary statistics for age of migration and the length of time migrants have spent in their host country. Note that Australian emigrants are excluded as information on age of migration is not available.

<< Table 3.3 >>

3.11. Approximately one in three GB emigrants exited the country before completion of upper secondary school (age 16). A further 30% leave the country between the ages of 21 and 25, corresponding to the point when most young people complete tertiary education. Thus the majority of emigrants from GB leave the country before their 25th birthday (70%). Just one in ten Britons living abroad left the country after turning 40.

3.12. Table 3.4 illustrates that age of emigration tends to vary by destination country. For instance, the vast majority of emigrants to North America left GB when they were young children (36% were under age 10) or young adults (31% between ages 21 and 25). Just one in five emigrants to North America left GB after age 25. In contrast, comparatively few emigrants to Europe left GB as young children (just one in ten), with 41% leaving after age 25.

<< Table 3.4 >>

3.13. The amount of time elapsed since emigrants left GB appears to follow a bimodal distribution. Approximately one in three (35%) emigrants left GB for their host country less than ten years ago. In contrast, less than one in five emigrants (18%) left GB between 16 and 25 years ago. Yet there is also evidence of substantial long-term emigration – 35% of emigrants left GB more than a quarter of a century ago. This highlights how the 'stock' of emigrants comprises of both individuals who have lived abroad for only a short time (and who may subsequently return to GB) and those who moved overseas a long time ago and are likely to remain.

3.14. Half of all emigrants to North America have now lived outside GB for more than 25 years. In contrast, most emigration to Europe is relatively short-term; two-thirds have lived outside GB for less than ten years. Emigration to Ireland seems to be characterised by a mixture of both the short- and long-term movers from GB.

4. Qualifications and numeracy skills

Summary

- Emigrants from GB score, on average, 268 points on the PIAAC numeracy test. This is very similar to country stayers (267), but well above the score for immigrants (234).
- Average PIAAC numeracy test scores are highest for emigrants to North America (290 points) and lowest for emigrants to European countries (238 points). The sizeable difference between GB stayers and emigrants to Europe (30 points) can only partially be explained by differences in language skills.
- The association between age and performance on the PIAAC numeracy test is weak for both GB stayers and emigrants. Differences in numeracy skills between younger and older generations are therefore negligible.
- There are approximately 7.1 million British stayers with high level numeracy skills. Net migration has had essentially no impact upon this stock; any gains made through immigration have been offset by losses from emigration.
- There are approximately 7.8 million British stayers with low-level numeracy skills. Net migration has added approximately 1.7 million to this number.
- Immigration into GB has therefore had its biggest impact upon the bottom end of the numeracy skill distribution; it has led to a significant increase in the supply of low-skilled workers

4.1. This section focuses upon the numeracy skills of emigrants from Great Britain. It attempts to answer the following key questions:

- Do emigrants from GB hold higher educational qualifications than GB stayers?
- How many British Science, Technology, Engineering and Math (STEM) graduates now live abroad?
- Are emigrants from Great Britain more numerate than country stayers (on average)?
- How does the distribution of numeracy skills compare for emigrants relative to country stayers?

- Are young emigrants from GB more numerate than older emigrants?
- Is the loss of individuals with high-level numeracy skills through emigration offset by gains of highly skilled individuals through immigration? (Does the same hold true for low-level skills?)

Do emigrants from GB hold higher educational qualifications than GB stayers?

4.2. Table 4.1 compares the distribution of educational attainment among GB stayers, immigrants and emigrants. Educational attainment of emigrants is reasonably similar to that of stayers, though a slightly greater proportion holds a bachelor's degree (29 versus 21%) with slightly fewer in the upper secondary category (32 versus 42%). These differences are statistically significant at the 5% level. However, this can largely be explained by differences in demographic characteristics between the stayer and emigrant groups (estimates available from the author upon request). Interestingly, immigrants into GB are significantly more likely to hold a bachelor's degree than individuals born in the country, with this gap remaining large (11% points) and statistically significant even once gender, language proficiency, age and parental education have been taken into account (estimates available from the author upon request).

<< Table 4.1 >>

4.3. Figure 4.1 illustrates how the educational attainment distribution varies by emigrant destination. There is relatively little difference between GB stayers and emigrants to either Australia or Ireland, though there are slightly more emigrants to Europe in the lowest category (37%) than for emigrants to other destinations (25% or less). Yet it is emigrants to North America that particularly stand out: just 4% have only lower secondary education, with more than 43% holding a bachelor's degree.

<< Figure 4.1 >>

4.4. Table 4.2 presents estimates from a linear probability model, where the response is coded as 0 if the respondent does not hold a degree and 1 if they do hold a degree.

The unconditional estimates in model 1 illustrate that the 22.5 percentage point gap between emigrants to North America and GB stayers (presented in figure 4.1) is statistically significant at the 5% level. However, once gender, language, age and parental education have been controlled in model 2, this difference is more than halved (to 10.8 percentage points) and is no longer significant at conventional thresholds. Thus it seems that a combination of differences in demographic characteristics and sampling variation can explain the patterns found in figure 4.1.

<< Table 4.2 >>

4.5. The subject specialism of individuals holding a tertiary qualification can be found in Table 4.3. One in three tertiary educated GB stayers is trained in the arts, education or humanities, with a further 28% in social sciences/business/law and 36% in a STEM subject. The analogous figures for emigrants are 26, 35 and 36%. Differences in subject specialism between stayers and emigrants are thus reasonably small and statistically insignificant. This holds true whether one includes emigrants to Australia or not.

<< Table 4.3 >>

4.6. Overall, there are approximately 2.1 million GB stayers who hold a tertiary STEM qualification (99% confidence interval equals 1.9 million to 2.35 million when the replicate weights have not been applied). A further 260,000 STEM graduates who were born in Britain now live overseas (99% CI without replicate weights equals 140,000 to 380,000), with approximately 110,000 in Australia, 110,000 in North America, 30,000 in continental Europe and 15,000 in Ireland.

How do PIAAC numeracy test scores compare for GB stayers, immigrants and emigrants?

4.7. Table 4.4 presents the numeracy test score distribution for GB stayers and GB emigrants. Interestingly, there seems to be relatively little difference between the two. For instance, mean numeracy test scores of GB stayers (267) is very similar to the mean score of emigrants (268). The same holds true for the 25th percentile (233 points) and 75th percentile (304 points). Thus there is little evidence that emigrants from GB are either positively or negatively selected. This finding does not change if one excludes Australian emigrants from the analysis.

<< Table 4.4>>

4.8. There does, however, seem to be some evidence of variation by destination country. Figure 4.2 plots the average PIAAC numeracy test score for emigrants to four different regions: Australia, Ireland, North America (Canada plus the United States) and Europe (excluding Ireland). Data is also presented for GB stayers. The thin black line running through the centre of these bars represents the estimated 90% confidence interval.

<< Figure 4.2 >>

4.9. The average PIAAC numeracy test score of GB emigrants to Ireland (270) and Australia (271) is very similar to that for GB stayers (267). This difference is small (little more than 0.05 international standard deviations) and statistically insignificant at conventional thresholds.

4.10. In contrast emigrants to North America score, on average, 290 points on the PIAAC numeracy test. This is substantially more than the average emigrant from GB (22 PIAAC points or 0.40 international standard deviations) and is statistical significant at the 5% level ($p = 0.01$).

4.11. At the other extreme are migrants from GB to European countries (excluding Ireland). The average PIAAC test score for this group is just 238 – approximately half an international standard deviation below the score obtained by GB stayers and the average emigrant from this country. These differences are statistically significant at the 5% level.

4.12. One potential explanation for this finding is that PIAAC respondents were required to complete the numeracy test in the host country language. For emigrants to other English-speaking countries (Ireland, Australia, North America) this would pose little problem. The same may not be true, however, for GB migrants to continental Europe. An OLS regression model is therefore estimated to examine whether the differences observed in figure 4.2 can be explained by observable characteristics (including proficiency in the test language). These results can be found in figure 4.3. Grey bars refer to differences between GB stayers and emigrants to Europe, while white bars illustrate differences between GB stayers and emigrants to North America.

<<Figure 4.3 >>

4.13. Model M1 presents the unconditional estimates previously illustrated in figure 4.2. Model M2 then adds a control for language most often spoken at home (a proxy for low proficiency in the host country language). As expected, the coefficient for emigrants to North America does not change. In contrast, the coefficient for the Europe emigrant group declines from 29 to 17 PIAAC test points – a reduction of approximately 40%. Hence it does indeed seem that low proficiency in the host country language is able to partly explain the low numeracy test performance of GB emigrants to other European countries. However, even once this factor has been taken into account, a large (0.3 international standard deviations) and statistically significant difference remains.

4.14. In models 3 to 5, controls are sequentially added for age and gender (M3), parental education (M4) and the respondents' educational attainment (M5). Interestingly, the addition of age, gender and parental education is able to explain most of the difference between GB stayers and emigrants to North America. The estimated difference falls by almost two-thirds from 0.43 international standard deviations in model M2 to 0.15 in M4, and is no longer statistically significant at even the 10% level. There is a further reduction in the parameter estimate once respondents' own education has been controlled (M5), with the difference between GB stayers and emigrants to North America almost entirely explained away. Hence

the particularly high numeracy skills of GB emigrants to North America seems to be mainly driven by differences in background characteristics.

4.15. The same is not true, however, for emigrants to Europe. Adding controls for age, gender and family background (parental education) leads to essentially no change in the parameter estimate – there remains a 17 PIAAC point (0.3 international standard deviation) difference relative to GB stayers. Indeed, even once one has controlled for respondents' own educational attainment, a large difference remains (13 PIAAC test points or 0.24 international standard deviations) which is statistically significant at the 5% level ($p = 0.03$). This is taken as strong evidence that GB migrants to other European countries tend to hold lower numeracy skills than both GB stayers and emigrants to other countries.

Are young emigrants from GB more numerate than older emigrants?

4.16. A key finding from the PIAAC study for Great Britain was that '*the differences in proficiency between younger and older generations are negligible*' (OECD 2013). GB stood out from most other countries in this respect. However, is a similar pattern found for individuals who have left GB? This issue is investigated in figure 4.4. The solid black line refers to GB stayers, while the dashed dark-grey line is for GB emigrants. The dotted grey line towards the bottom is the pattern for GB immigrants.

<< Figure 4.4 >>

4.17. None of the three lines plotted in figure 4.4 demonstrates a strong positive or negative gradient; they are all relatively flat. Consistent with the analysis of the OECD, there is evidence of relatively little difference in numeracy test scores between the youngest (16–24) and oldest (55+) generations. The original contribution of figure 4.4 is that it illustrates how this holds true for both GB stayers and GB emigrants; there is little evidence of a gradient with age even among individuals who no longer live in GB.

4.18. In figure 4.5 the sample is restricted to emigrants from GB who left the country before age 16. The plotted line thus illustrates the relationship between age and numeracy scores for individuals who left GB before completion of upper secondary school (and who have thus spent a substantial amount of time living abroad). The aforementioned finding continues to hold; there remains little evidence of generational differences in test scores, even among GB nationals who left the country at a relatively young age. Indeed, in a series of additional analyses, I find little evidence of any relationship between age, age of migration, length of time since emigration and emigrants' numeracy test scores (results available from the author upon request).

<< Figure 4.5 >>

Is the loss of individuals with high level numeracy skills through emigration offset by gains of highly skilled individuals through immigration?

4.19. Figure 4.6 presents estimates of skill gain and skill loss for individuals with low, medium and high levels of numeracy skills. These concepts are defined as follows:

$$\text{Skill gain} = \frac{I_j}{I_j + N_j} \qquad (4.1)$$

$$\text{Skill loss} = \frac{E_j}{E_j + N_j} \qquad (4.2)$$

where

I_j = Number of immigrants in numeracy skill group j

E_j = Number of emigrants in numeracy skill group j

N_j = Number of stayers in numeracy skill group j

j = Numeracy skill group where L = low (bottom international quartile on the PIAAC numeracy test), M = medium (middle 50%) and H = high (top international quartile on the PIAAC numeracy test).

4.20. Estimates of equation 4.1 therefore reveal the percent of the *resident* GB population in each skill level who are immigrants into the country. Thus, in reference to J=H, estimates of equation 4.1 will illustrate the percentage of high-skilled individuals living in GB who were born outside of the country. Similarly, estimates of equation 4.2 provide the percentage of individuals born in GB of skill level j who are now living abroad.

4.21. The grey bars in figure 4.6 illustrate the proportion of adults born in GB who are now living abroad, for each of the four numeracy skill groups (skill loss). The white bars, on the other hand, illustrate the percentage of the resident GB population within each skill group who were born abroad (skill gain).

<< Figure 4.6>>

4.22. Starting with the grey bars (skill loss) one can see that approximately one in ten highly skilled British citizens now lives overseas. However, the same seems to also hold true for the other three numeracy skill groups. For instance, one in twelve Brits with low-level numeracy skills (within the bottom international quartile) no longer lives in GB. Thus GB emigrants do not seem to be selected from any particular part of the numeracy skill distribution; high-skilled and low-skilled Brits are equally likely to live outside of the country.

4.23. The bottom half of figure 4.6 turns to the issue of skill gain. Approximately 10% of highly skilled individuals living in GB in 2011 were born outside of the country. This estimate is almost identical to that for high-skill loss (see the uppermost grey bar) indicating that gains and losses of such individuals through migration may largely offset one another. (This issue is considered in more detail below.)

4.24. However, the proportion of GB residents who are migrants increases as one moves down the skill groups. Indeed, figure 4.6 suggests that immigrants account for one in four adults living in GB with low-level numeracy skills. Consequently, immigration into GB has clearly had its biggest impact upon the bottom of the

numeracy skill distribution. It has, in other words, led to a significant increase in the supply of low-skilled workers.

4.25. Table 4.5 presents the absolute number of stayers, immigrants and emigrants for each numeracy skill group. Figures are reported in thousands. There are approximately 7.1 million British stayers with high-level numeracy skills. Immigrants add approximately 684,000 to this number, with the main contributors being Eastern Europe (141,000), South Asia (106,000) and European countries (155,000). (Appendix 1 provides a list of countries that make-up these regional groups.)

4.26. These gains from immigration must, however, be offset against the losses from emigration. Table 4.5 suggests that 684,000 high-skilled individuals born in Britain have now left the country, with Australia and North America (603,000) being the main destinations. The net impact of migration on the stock of individuals with high-level numeracy skills in GB is therefore estimated to be essentially zero.

4.27. There are approximately 7.8 million GB stayers with low-level numeracy skills (bottom international quintile). Immigration adds a substantial 2.4 million to this number, with 610,000 from South Asia, 530,000 from Africa and 490,000 from other countries. It is interesting to observe that immigration from the South Asian and African regions adds six times more low-skilled individuals to the UK labour force than high-skilled individuals. In contrast, approximately 650,000 low-skilled individuals born in GB have emigrated from the country – mainly to Southern Europe (Cyprus, Spain and Italy) and other large English-speaking countries (Australia, Canada and the United States). This is substantially below the total number of low-skill individuals who have moved into GB (2.4 million). Overall, net migration has therefore added 1.7 million low-skilled individuals to the GB population (compared to essentially no addition to the high-skilled population).

5. Labour market outcomes

Summary

- One in five emigrants to Ireland has not worked for pay over the last five years. This compares to 10% of individuals who remain in GB and just 2% of emigrants to North America. This finding can only partially be explained by differences in observable characteristics.

- The median GB stayer working full time works for 40 hours per week. This is the same as emigrants to Europe, with those moving to Australia (43 hours) and North America (50 hours) working notably more.

- The median earnings of GB emigrants to North America and Australia is US$4,000 per month, compared to US$3,600 for emigrants to Ireland. This is significantly more than the US$3,200 earned by individuals who remain in GB.

- The primary reason why GB emigrants tend to earn more than stayers is *not* due to the cognitive skills and educational qualifications that they hold. Rather, emigrants work longer hours (on average) than GB stayers – which is subsequently reflected in their higher monthly pay.

- 16% of emigrants are underqualified for the job that they hold, while 30% are overqualified. These figures are almost identical to those of individuals who stay in GB. Overqualification is slightly higher among GB emigrants to Europe, where 40% hold a higher educational qualification than their job requires.

5.1. This section focuses upon labour market outcomes of emigrants from Great Britain. It attempts to answer the following key questions:

- Who is the most likely to experience prolonged periods out of work: emigrants, immigrants or GB stayers?
- Do emigrants from GB earn more than individuals who remain?
- Are emigrants more or less likely to be 'overqualified' for their job than GB stayers?

Who is the most likely to experience prolonged periods out of work: emigrants, immigrants or GB stayers?

5.2. Table 5.1 investigates employment rates among GB stayers, immigrants and emigrants. Panel A refers to males. Approximately 76% of 16–65-year-old male GB stayers are in employment, with 7% unemployed and 17% out of the labour force. Figures are very similar for both immigrants into and emigrants out of GB (whether one includes the Australian data or not).

<< Table 5.1 >>

5.3. Panel B of table 5.1 provides analogous estimates for females. As expected, a lower percentage of women are recorded as being in employment (67%) with a greater share outside of the labour force (29%). Figures are very similar for emigrants when data from all countries are included, though the percentage in employment increases somewhat when the Australian data are excluded.

5.4. Table 5.2 turns to whether respondents have been in paid employment during: (i) the last 12 months; (ii) the last five years and (iii) ever in their life. Estimates are restricted to over-25-year-olds only. Approximately 21% of GB stayers have not worked for pay during the last 12 months, 11% over the last five years and 1% ever in their life. Figures are very similar for emigrants, though are slightly lower when the Australian data have been excluded. Likewise, broad patterns are similar for immigrants, though with a slightly higher proportion (6%) having never worked.

<< Table 5.2 >>

5.5. Figure 5.1 compares how the proportion of emigrants who have never worked differs by destination country. The grey bar provides estimates for country stayers. Approximately one in five GB emigrants to Ireland and Australia have not worked at any point in the last five years. This compares to just 2% of GB emigrants to North America and 10% to European countries (though note that the confidence interval is rather wide). Nevertheless, there does seem to be important variation in the propensity to be employed by destination country of the emigrant.

<< Figure 5.1>>

5.6. Table 5.3 provides further insight into this finding. Specifically, it presents estimates from a linear probability model explaining differences in the propensity to be employed over the last five years between stayers (reference group) and emigrants to various destination countries. Model 1 illustrates the unconditional estimates previously presented in figure 5.1. Model 2 then adds controls for demographic characteristics (age, gender, language skills and parental education). Model 3 then additionally controls for educational attainment (level and subject of highest qualification) and PIAAC numeracy and literacy skills.

5.7. The inclusion of demographic controls leads to a slight increase in the coefficient for Irish emigrants (from 8.7% to 9.8%) and a slight reduction for the North American coefficient (from -9.0% to -7.2%). However, both remain sizeable and statistically significant at conventional thresholds. The change in the coefficient for emigrants to Australia is more pronounced; a positive and statistically significant difference of 7.3% in model 1 has changed to a negative and statistically significant difference of 3.5% in model 2. Hence it seems that differences in demographic characteristics can largely explain why emigrants to Australia are more likely not to have worked over the last five years.

<< Table 5.3 >>

5.8. Estimates from model 3 reveal whether emigrants from GB are more or less likely to be found in work when they have the same demographic characteristics, the same educational qualifications and the same cognitive skills as individuals who remain in GB. Interestingly, emigrants to North America remain around five percentage points less likely not to have had work over the last five years than individuals who remain in GB. In contrast, emigrants to Ireland remain 8.5 percentage points more likely than GB stayers not to have had work over the last five years.

5.9. In figure 5.2 attention turns to the current or most recent occupation of male immigrants, emigrants and GB stayers. The shading of the bars refers to the

proportion of respondents who fall into each of the following nine International Standard Classification of Occupations (ISCO) groups:

- ISCO Group 1 = Senior officials and managers
- ISCO Group 2 = Professionals
- ISCO Group 3 = Associate professionals
- ISCO Group 4 = Clerks
- ISCO Group 5 = Service workers
- ISCO Group 6 = Skilled agriculture
- ISCO Group 7 = Crafts and trades
- ISCO Group 8 = Machine operators
- ISCO Group 9 = Elementary occupations

5.10. Darker shading refers, in general, to 'higher status' jobs. Roughly 40% of male emigrants from GB work in a professional or senior managerial job, compared to less than 30% of GB stayers. This finding continues to hold whether one includes or excludes the Australian emigrant data. Conversely, only one in ten GB emigrants works in an elementary or machine operative occupation, compared to more than one in five GB stayers. This demonstrates that emigrants from GB are more likely to work in 'high-status' professional jobs than individuals who remain in GB.

<< Figure 5.2 >>

5.11. Table 5.4 supplements figure 5.2 by presenting estimates from a linear probability regression model. This illustrates how the difference in probability between stayers and emigrants of holding a professional job changes as demographic, education and PIAAC skill control variables are included. The sample has been restricted to male respondents throughout (similar substantive results are found for females – with estimates available from the author upon request). Model 1 presents the unconditional estimates presented in figure 5.2. Demographic controls are added in model 2, with education / skill variables additionally added in model 3.

5.12. As previously noted, male emigrants from GB are around 12 percentage points more likely to hold a professional job than GB stayers. This difference is statistically significant at the 10% level. The inclusion of demographic characteristics reduces the

coefficient to approximately 10 percentage points, though also inflates the standard error, meaning statistical significance is no longer achieved at conventional thresholds. Once differences in education and skills are accounted for, the difference between emigrants and stayers has approximately halved (relative to model 1) to six percentage points. Hence it seems that, although emigrants from GB are more likely to hold professional jobs than individuals who remain, this difference can largely be explained by differences in demographic characteristics and education / skills.

Do emigrants earn more than GB stayers?

5.13. Table 5.5 presents the earnings distribution for GB stayers, immigrants and emigrants. Panel A presents figures for men and panel B for women. Estimates refer to full-time workers only (individuals working more than 30 hours per week) and have been PPP adjusted by the survey organisers into US dollars.

<< Table 5.5 >>

5.14. The median monthly salary of male GB emigrants is US$4,000. This is approximately 25% higher than the median earnings of remaining GB stayers, which stands at $3,245.

5.15. Differences in mean earnings are even more pronounced; whereas male emigrants earn, on average, US$6,514 (or $7,474 when the Australian data are excluded) the analogous figure for GB stayers is just $4,143. This difference is substantial (the equivalent of almost US$2,500 per month), but is accompanied by a large standard error (US$1,800). Further inspection of table 5.4 suggests that a few very high earners are having a large influence upon this result; the 90th percentile of the emigrant earnings distribution is US$11,676 ($32,083 excluding emigrants to Australia) compared to only US$6,391 for GB stayers.

5.16. *Female* emigrants also tend to earn more, on average, than female stayers. However, the magnitude of the earnings gap is much smaller. For instance, mean (median) earnings of female GB stayers working more than 30 hours per week is US$3,395 (2,725). This is approximately 10% lower than GB females who have moved overseas, where the mean (median) equals US$3,628 (3,065).

5.17. The bottom halves of panels A and B in table 5.5 provide information on dispersion of the earnings distribution. This suggests that the earnings of emigrants are much more unequal than the earnings of stayers. The ratio of the 90th to the 10th percentile for emigrants is 7.2 (and increases even further, to 20.9, when the Australian data is excluded). In contrast, P90/P10 for GB stayers is just 3.4. The same holds true for the standard deviation, which equals approximately US$7,800 for emigrants and US$3,700 for stayers. This is likely to be due (at least in part) to emigrants from GB living in a range of different countries with quite heterogeneous labour markets. Consequently, there is both within *and between* country variation in the emigrants' earnings distribution, leading to the large levels of inequality observed.

5.18. Figure 5.3 compares the monthly median earnings of male emigrants by destination country. The thin black line running through the centre of the bars illustrates the estimated 90% confidence interval.

<< Figure 5.3 >>

5.19. Emigrants to North America and Australia earn the most, with the median salary standing at approximately US$4,000 per month. Although the median for emigrants to Ireland is slightly lower (US$3,600) there is nevertheless evidence that emigrants to other English speaking countries earn substantially more than stayers. In contrast, GB emigrants to Europe tend to earn much less (US$2,400). Some caution is needed when interpreting this result, however, as the estimated 90% confidence interval is rather wide (ranging from US$1,500 to US$3,300).

5.20. This point is further developed in figure 5.4, which plots the distribution of log monthly full-time male earnings for emigrants to three regions (Ireland, North America and Europe). There are three points to note about this graph. First, consistent with the results presented in figure 5.3, the peak of the earnings distribution is furthest to the left (lowest) for emigrants to Europe and furthest to the right (highest) for emigrants to North America. Second, the European earnings distribution is more dispersed than that for Ireland or the United States. This is in line with results presented in table 5.4 – emigrants to Europe work in many different

countries with heterogeneous labour markets – leading to increased variability in the earnings distribution. Finally, the North American emigrants' earnings distribution has a particularly long right tail, indicating that a small number of GB emigrants to North America achieve particularly high wages. A Kolmogorov-Smirnov (KS) test has been conducted, with the null-hypothesis of no difference of the earnings distribution across emigrant destination countries rejected at the 5% level.

<< Figure 5.4 >>

5.21. There are, of course, many potential explanations as to why emigrants tend to earn more than individuals who remain in GB. Therefore a series of Ordinary Least Squares (OLS) and Qauntile Regression (QREG) models have been estimated to try and explain this difference in earnings. Note that to maximise the number of observations and statistical power, both men and women are included in the estimation sample as well as both full-time and part-time workers. The OLS model has been specified as follows:

$$Log(y_i) = \alpha + \beta.G_i + \tau.P_i + \gamma.D_i + \theta.E_i + \vartheta.H_i + \varepsilon_i \qquad (5.1)$$

where

Y = Respondents monthly earnings (in PPP adjusted US dollars)

G = A binary indicator of gender

P = Whether the individual works full or part time

D = A vector of demographic characteristics (age, gender, parental education, language)

E = Educational attainment and PIAAC numeracy / literacy skills

H = The number of hours worked per week

5.22. Five specifications of the model presented in equation 5.1 are estimated, with a range of control variables added sequentially:

- Model 1 = unconditional estimates.
- Model 2 = Model 1 + controls for gender and whether working full or part time.
- Model 3 = Model 2 + demographic controls (age, language, parental education).
- Model 4 = Model 3 + highest qualification held + subject of highest qualification + PIAAC numeracy and literacy test scores.
- Model 5 = Model 4 + hours worked per week.

5.23. Results from this analysis can be found in figure 5.5. The length of the bars illustrates the difference in log monthly earnings between GB emigrants and stayers, with the thin line running through the centre of the bars representing the estimated 90% confidence interval.

<< Figure 5.5 >>

5.24. Estimates from model 1 suggest that mean monthly earnings are approximately 0.3 log-points higher for emigrants than stayers (roughly equal to US$1,500). As anticipated, controlling for gender and part/full-time employment explains a substantial amount (roughly one-third) of this gap. The emigrant parameter estimate has declined to 0.2 log-points (equivalent to approximately US$1,000), though this is still sizable and statistically significant at the 5% level.

5.25. Interestingly, adding controls for demographic characteristics (M3) and a range of education and skill measures (M4) leads to little further reduction in the estimated earnings gap. Indeed, results from model 4 suggest that GB emigrants earn 0.2 log-points (almost $US 1,000) per month more than GB stayers, even when they hold the same educational qualifications and have the same numeracy and literacy skills. This difference remains statistically significant at the 5% level.

5.26. The final model adds an additional control for the number of hours worked per week. This leads to a halving of the estimated coefficient, which now stands at 0.08 log points (around US$300 per month), and is statistically insignificant at even the 10% level. Together, figure 5.5 suggests that the primary reason why GB emigrants tend to earn more than stayers is *not* due to the cognitive skills and educational qualifications that they hold or differential returns to these qualifications in the labour market. Rather, emigrants work longer hours (on average) than GB stayers – which is subsequently reflected in their higher monthly pay.

5.27. This point is further reflected in table 5.6, which illustrates the distribution of average weekly working hours for men who work full time. Estimates are presented separately by emigrant destination country.

<< Table 5.6 >>

5.28. The average full-time working GB male who stays in GB spends 44 hours working per week. This is the same as GB emigrants to Europe, but slightly below that for emigrants to Ireland (45 hours) and Australia (46 hours). It is, however, emigrants to North America that stand out from all other groups. GB emigrants to the United States or Canada work, on average, 55 hours per week – ten hours more than GB stayers and emigrants to other countries. Hence, although mean monthly earnings of full-time working males are higher for GB emigrants to North America (US$11,000) than for emigrants to Australia (US$5,000), Ireland (US$4,500) and Europe (US$3,900), so are the hours worked.

5.29. The OLS regression results presented in figure 5.5 refer to differences between emigrants and GB stayers *on average*. However, there may be heterogeneity across the earnings distribution; to what extent can the control factors included in models 1–5 explain differences between the *highest* earning GB emigrants and stayers? To address this issue the model presented in equation 5.1 is re-estimated using quantile regression at each decile of the earnings distribution. For instance, quantile regression estimates at P10 illustrate differences between the *lowest earning* emigrants and stayers (conditional upon the control variables included in the model). In contrast, quantile regression at P90 illustrates differences between the highest earning emigrants and stayers.

5.30. Figure 5.6 presents estimates from these quantile regression models. The solid black line refers to estimates from model 1 (unconditional estimates), the solid grey line to model 3 (demographic and full/part time employment status controls) and the dashed grey line to model 5 (model 3 plus education and skill controls plus hours worked).

<< Figure 5.6 >>

5.31. Interestingly, the lines are spread widely apart on the left hand side of figure 5.6 (P10 to P30). For instance, the difference in log earnings at P20 (between low earning emigrants and low earning stayers) declines from around 0.20 log points in model 1 to -0.05 log points in model 5. This suggests that the added control variables are able to explain the differences observed between the lowest earning stayers and lowest earning emigrants.

5.32. The same is not true, however, for high earners. For instance, note how the black and grey lines continue to overlap towards the right hand side of figure 5.6 (between P70 and P90). This illustrates that demographics, educational attainment, skills and working hours are unable to explain the gap between the highest earning emigrants and the highest earning stayers. Indeed, the highest earning emigrants continue to receive wages 0.3 log points higher than the highest earning GB stayers, even when they work the same hours, hold the same qualifications and have the same cognitive numeracy and literacy skills. Thus the attenuation of the *average* emigrant-stayer earnings gap across model specifications presented previously in figure 5.5 is clearly being driven by the control factors influencing the bottom half of the conditional earnings distribution (not the top).

Are emigrants more or less likely to be 'overqualified' for their job than GB stayers?

5.33. As part of the PIAAC background questionnaire, respondents were asked detailed questions about (a) the highest qualification that they hold and (b) the qualification that someone applying for their job today would need. Specifically, respondents were asked: 'Still talking about your current job: If applying today, what would be the usual qualifications, if any, that someone would need to GET this type of job?'

5.34. This information has been coded into 14 International Standard Classification of Education (ISCED) levels within the PIAAC dataset, which I use to form the following three groups:

- Underqualified: Qualification needed is more than the qualification held.
- Matched: Qualification needed is equal to the qualification held.
- Overqualified: Qualification needed is less than the qualification held.

5.35. Table 5.7 illustrates the incidence of qualification match and mismatch among GB stayers, immigrants and emigrants (among individuals in employment with the relevant data available). 16% of GB stayers are underqualified for their job, 30% are overqualified and 54% are matched. Figures are very similar for emigrants (whether the Australian data is included or not). Specifically, 16% of GB emigrants are underqualified, 29% are overqualified and 55% are matched. Hence it seems that emigrants are no more or less qualified for their jobs than individuals who remain in GB. In contrast, a much greater proportion of immigrants (45%) experience overqualification.

<< insert table 5.7 >>

5.36. Figure 5.7 provides further insight into emigrant mismatch by stratifying results by destination country. The black proportion of the bars present the percentage of emigrants who are underqualified, while the white proportion refers to

overqualification. There is relatively little variation between emigrants to the three English-speaking destinations (North America, Ireland and Australia). Roughly one in five GB emigrants to these countries are underqualified for their job, while around one in four are overqualified. There is, however, a notable difference with respect to emigrants to other European countries. Less than 5% of emigrants to Europe from GB are underqualified, while more than one in three (40%) is overqualified. Hence emigrants to Europe are more likely to experience overqualification than emigrants to English-speaking countries.

<< Figure 5.7>>

5.37. Finally, table 5.8 considers whether qualification mismatch varies with selected demographic characteristics of emigrants. Although there is little variation by gender, younger immigrants do seem to be less likely to be underqualified than older emigrants. One potential explanation is that more time has elapsed since older emigrants obtained their highest educational qualification. Hence, with the general rise in educational attainment over time, new entrants into their job may now be expected to hold more advanced levels of qualification. Some caution is needed when interpreting this result, however, given the small sample size.

5.38. Table 5.8 also suggests that there is an association between parental education and the propensity to be under/overqualified. For instance, whereas only one in five of the lowest (less than upper secondary) parental education group is overqualified for their job, this increases to one in three for the highest parental education (tertiary) group.

<< Table 5.8 >>

6. The health, political efficacy and social trust of emigrants

Summary

- 61% of GB stayers report that they have good or excellent health; a similar number to GB emigrants (67%). Emigrants to North America stand out from all other groups in this respect, with 86% reporting good or excellent health. This difference between emigrants to North America and GB stayers cannot be explained by differences in education, occupation, cognitive skills or demographic characteristics.

- Less than one in three GB stayers believes that they can influence the direction of government, compared to 44% of emigrants to North America. In contrast, just 15% of emigrants to Europe believe that they can influence government policy.

- There is a negative relationship between year of emigration and the political efficacy of emigrants; the longer ago the emigrant left GB, the more they believe that they can influence government. However, this result can largely be explained by differences in demographic characteristics.

- Emigrants to Australia and North America seem to have higher levels of social trust than GB stayers and emigrants to Europe. 43% of GB emigrants to North America disagree or strongly disagree with the statement that 'There are only a few people you can trust completely'. This is compared to less than 20% of GB stayers and less than 15% of emigrants to Europe.

6.1. This section focuses upon the wider social outcomes of emigrants from Great Britain. It attempts to answer the following key questions:

- Do emigrants from GB report better health than stayers? How does this vary by destination country?
- Are emigrants more likely to believe they can influence government than individuals who remain in GB? Does this vary with how long the emigrant has lived outside of GB?
- Do emigrants from GB have higher levels of social trust than GB stayers? How does this vary by destination country?

Do emigrants from GB report better health than stayers?

6.2. As part of the PIAAC study, respondents were asked the question: 'In general, would you say your health is excellent, very good, good, fair or poor?'

Answers to this question have been recoded into a binary variable, where 0 equals poor, fair or good and 1 equals very good or excellent. Table 6.1 illustrates how this variable is distributed among GB stayers, immigrants and emigrants. There is relatively little variation across these groups. 58% of GB stayers report their health as very good or excellent, compared to 65% of immigrants and 67% of emigrants (increasing to 71% when the Australian data is excluded). These differences are relatively small in magnitude, though the difference between stayers and emigrants (of six percentage points) is statistically significant at the 5% level

<< Table 6.1 >>

6.3. Table 6.2 investigates how this finding varies by emigrant destination. Model M1 provides the unconditional estimates, illustrating differences between emigrants and stayers. Demographic characteristics are added in model M2, educational attainment and PIAAC numeracy/literacy skills are added in M3, with current / most recent occupation added in M4. In all specifications, there are relatively small and statistically insignificant differences between GB stayers and emigrants to Australia, Ireland and Europe.

<< Table 6.2>>

6.4. Conversely, emigrants to North America are 26 percentage points more likely to report very good or excellent health compared to other groups. Adding the various control variables leads to only a modest reduction in this estimate (down to 23%). Interestingly, this finding continues to hold when the emigrant sample is restricted to individuals who left GB after age 15. Consequently, GB emigrants to North America are more likely to report good health than GB stayers, even when they are of the same age, gender, family background, educational attainment, cognitive skills and hold the same occupation.

6.5. Figure 6.1 also indicates that there is variation in self-reported health within the emigrant sample. In particular, there seems to be a quadratic relationship between self-reported health and year of migration. Approximately 60% of those who emigrated around 1970 reported very good or excellent health. This reaches a peak of 80% among individuals who migrated in the late 1980s, before falling back to below 60% for more recent (post 2005) emigrants. A formal test of this quadratic relationship suggests that it is statistically significant at the 5% level.

<< Figure 6.1 >>

Do emigrants from GB believe they have more influence upon government than stayers?

6.6. Respondents to the PIAAC survey were also asked about their political efficacy. They responded to the following question using a five point Likert scale, ranging from strongly agree to strongly disagree:

> 'People like me don't have any say about what the government does'

6.7. Responses to this question by emigrant status can be found in table 6.1. The top two categories (agree and strongly agree) and bottom two categories (disagree and strongly disagree) have been collapsed. There is again relatively little variation among immigrants, emigrants and stayers. 31% of stayers either disagree or strongly disagree with the statement above, compared to 34% of immigrants into GB and 30% of emigrants. These differences are small and statistically insignificant.

6.8. Figure 6.2 illustrates how this finding differs by emigrant destination country. Emigrants to North America are the most likely to disagree with this statement (44%) though the 90% confidence interval is rather wide (ranging from 30 to 60%). In contrast, only 27% of emigrants to Ireland and 15% of emigrants to other European countries show some level of disagreement with this statement. This difference in political efficacy between emigrants to North America and Europe is only slightly reduced when the sample is restricted to emigrants who left GB after age 15.

6.9. Figure 6.3 plots the probability of disagreeing (or strongly disagreeing) with the statement above by the year of emigration out of GB. Thus bigger probabilities refer to greater levels of political efficacy. Roughly 40% of individuals who left GB before

1980 disagreed that they have no influence on government. However, this proportion declines gradually up to 1990, and then substantially between 1990 and 2010. For instance, only 20% of individuals who emigrated from GB post 2000 disagree with the statement above. This negative trend is statistically significant at the 5% level.

6.10. A series of OLS regression models have been estimated to further examine this negative association between year of migration and political efficacy. Initial (unconditional) estimates suggest that a ten-year increase in year of migration is associated with an 8.6 percentage point decrease in political efficacy (as illustrated in figure 6.3). This declines, however, to around 4.5% once demographic characteristics (age, gender, parental education, language spoken) have been controlled, and is no longer statistically significant at conventional thresholds. The estimated coefficient remains of a similar magnitude (and statistically insignificant) when controls are added for education, skills and most recent occupation.

Are emigrants from GB more trusting than stayers?

6.11. Finally, the PIAAC background questionnaire also included the following two statements on respondents' social trust: 'There are only a few people you can trust completely' and 'If you are not careful, other people will take advantage of you'.

6.12. Responses were again given on a five-point Likert scale (strongly disagree to strongly agree). The top and bottom two categories have been combined, with results for stayers, immigrants and emigrants presented in table 6.1. 70% of GB stayers agreed or strongly agreed with the first statement and 74% with the second statement. Figures for immigrants (76% and 72%) and emigrants (64% and 72%) were similar, with differences statistically insignificant at conventional thresholds. Overall, levels of social trust are relatively low among all groups.

6.13. Figure 6.4 illustrates how these figures vary by emigrant destination. Panel A refers to whether respondents believed they could only trust a few people, while panel B refers to whether respondents believed other people will take advantage if you let them.

6.14. There is some evidence of variation by destination country in panel A (few people they completely trust). Less than 15% of emigrants to Ireland and Europe agree with this statement, compared to 26% of emigrants to Australia and 43% of emigrants to North America (though with the 90% confidence interval running from 25 to 60%). Nevertheless, the estimate for the North America group remains close to 40%, even when the emigrant sample is restricted to individuals who left GB after age 15 (estimates available from the author upon request). Together, this suggests that emigrants to Europe are perhaps less trusting of other people than emigrants to other English speaking countries.

6.15. There is less variation, however, in panel B. Just 11% of emigrants to Ireland disagree with the statement that 'If you are not careful, other people will take advantage of you', compared to 14% of emigrants to North America, 17% of emigrants to Europe and 18% of emigrants to Australia.

7. Conclusions

7.1. Each year, it is estimated that 300,000 Britons move in search of a new life overseas. Although some of these individuals may return, there nevertheless remains a 'stock' of more than three million British nationals who no longer live in this country.

7.2. Yet, despite these substantial figures, little is known about the lives of Britons living abroad. When leaving GB, many report a key motivation as work (Murray et al, 2012), along with a desire to boost their (and their children's) quality of life. But do

they achieve this goal? There is, to the author's knowledge, little academic, government or other public policy research on this important issue.

7.3. This report has therefore used the 2011 round of the Programme for International Assessment of Adult Competencies (PIAAC) dataset to provide the first empirical investigation of the lives of GB nationals living overseas. Specifically, it has compared the earnings, education and skills, careers, health, political efficacy and social trust of emigrants to individuals who have chosen to remain in GB. Results have been presented for both the emigrant group as a whole and separately by their destination. The following key findings have emerged.

7.4. **Demographics:** Emigrants tend to come from more advantaged family backgrounds than individuals who remain in GB (particularly emigrants to North America). The majority of Britons living abroad (70%) left the country before their 16th birthday. Although a third of emigrants have lived abroad for less than 10 years, another third moved overseas more than 25 years ago.

7.5. **Qualifications and skills:** Average numeracy skills are very similar for GB emigrants (268 PIAAC test points) and GB stayers (267 points). This, however, masks important variation by destination region of emigrants: Britons now living in North America (290 points) have much higher test scores than those in Europe (238 points).

7.6. Net migration makes no net contribution to the number of high-skilled individuals living in GB. Yet net migration has added approximately 1.7 million low-skilled workers to the GB labour force.

7.7. **Labour market outcomes:** One in five GB emigrants to Ireland has not worked for pay over the last five years, compared to just 2% of emigrants to North America.

7.8. Average (mean) earnings of male emigrants from GB who are working full time equals US$6,514 per month (median US$4,000). This compares to a mean of US$4,143 per month for men who have stayed in GB (median US$3,245). However, this difference is largely accounted for by the fact that GB emigrants tend to work longer hours.

7.9. **Wider outcomes:** Emigrants to North America report exceptionally good health; 86% report their health to be very good or excellent compared to 61% of individuals who remain in GB.

7.10. Emigrants to North America also seem to have particularly high levels of political efficacy; 44% believe that they have an influence upon the direction of government compared to 31% of GB stayers and just 15% of emigrants to Europe.

7.11. These findings should, of course, be considered in light of the limitations of this study. First, the PIAAC dataset provides a cross-sectional 'snapshot' only. Longitudinal data would perhaps be preferable as the assimilation process could be tracked and recorded over time. Such data is available for emigrants from certain other countries (e.g. Polish emigrants is Luthra, Platt and Salamońska, 2014) and could provide much more detail on the length of emigration spells out of GB, reasons for exiting and possibly returning to GB, and how emigrants' lives change with the amount of time spent abroad.

7.12. Second, PIAAC includes GB emigrants to only a selection of other countries, with only proxy data available for one particularly important emigrant destination (Australia). Thus, although PIAAC does include the main destination countries of GB emigrants, there is nevertheless likely to be under-representation of certain groups (e.g. emigrants to low- and middle-income countries). This issue is likely to be partially resolved in the future, however, as further countries participate in the PIAAC study (at least two further rounds of data collection are planned). Finally, one should bear in mind that the PIAAC study was conducted in 2011, in the midst of a deep and prolonged recession (the intensity of which varied across countries). This may have an influence upon some of the factors investigated (e.g. earnings, employment, health). It is thus important to interpret the results presented within this context.

7.13. Despite these limitations, this report has made an important contribution to our knowledge of the lives of emigrants from GB. Little was previously known about their employment, earnings or quality of life relative to individuals who choose to remain in GB. Overall, although there are some important differences in social and labour market outcomes, these are often perhaps not as pronounced as one might expect. There is thus a suggestion that, although many individuals move in search of a better life abroad, this may not always be achieved.

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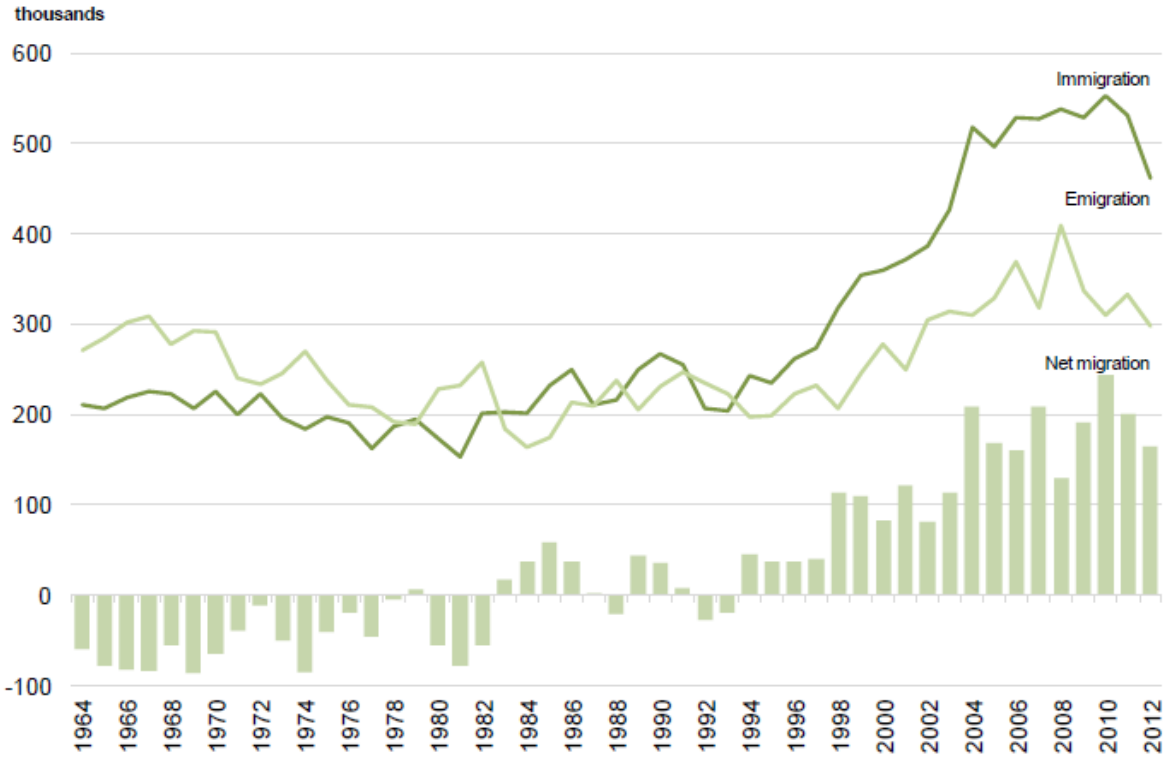
Figure 1.1. Net migration into Great Britain: 1964 – 2012



Note: See Appendix Table A3 for data.
Sources: ONS Long-Term International Migration Estimates 3 series (IPS calendar year); *ONS Annual Abstract of Statistics* (various editions)

Table 1.1. The top destinations for British nationals living abroad

Country of residence	Number of GB emigrants
Australia	1,208,000
United States	701,000
Canada	675,000
Spain	411,000
Ireland	397,000
New Zealand	268,000
France	173,000
Germany	155,000
Netherlands	46,000
Philippines	42,000

Notes: Estimates drawn from Murray et al (2012).

Table 2.1. Response rates and non-response bias analysis for the OECD PIAAC study

	Response rate	Non-response bias analysis
Korea (KR)	75	Minimal
Cyprus (CY)	73	Minimal
Ireland (IE)	72	Minimal
Australia (AU)	71	Minimal
United States (US)	70	Low
France (FR)	67	Minimal
Czech Republic (CZ)	66	Low
Finland (FI)	66	Minimal
Slovak Republic (SK)	66	Low
Estonia (EE)	63	Low
Belgium (BE)	62	Low
Norway (NO)	62	Low
Canada (CA)	59	Minimal
United Kingdom (UK)	59	Low
Poland (PL)	56	Low
Germany (DE)	55	Low
Italy (IT)	55	Low
Austria (AT)	53	Low
Russia (RU)	52	Unknown
Netherlands (NL)	51	Low
Denmark (DK)	50	Low
Japan (JP)	50	Low
Spain (ES)	48	Low
Sweden (SE)	45	Low

Notes: 'Non-response bias analysis' performed by the survey organisers for countries with response rates below 70%. Their summary of likely bias provided in the table. Non-response bias is assumed to be 'minimal' in countries where response rates are greater than 70%. See OECD (2013: Chapter 16, page 25) for further details.

Table 2.2. The stock of Great British nationals living abroad

Country	Number	% of GB nationals	PIAAC 2011
Australia	103,6245	29.6	Yes
United States of America	823,459	23.6	Yes
Canada	624,305	17.9	Yes
Ireland	248,516	7.1	Yes
Spain	107,794	3.1	Yes
France	84,494	2.4	Yes
Germany	72,000	2.1	Yes
Netherlands	45,700	1.3	Yes
Belgium	26,176	0.7	Yes
Sweden	16,428	0.5	Yes
Norway	14,335	0.4	Yes
Denmark	13,615	0.4	Yes
Austria	6,786	0.2	Yes
Poland	2,635	0.1	Yes
Finland	2,731	0.1	Yes
Czech Republic	1,445	0.0	Yes
Slovakia	91	0.0	Yes
Italy	-	-	Yes
Estonia	-	-	Yes
Japan	-	-	Yes
Korea	-	-	Yes
Russia	-	-	Yes
TOTAL to PIAAC countries	**3,126,755**	**89.5**	
New Zealand	218,394	6.2	No
Other Non-PIAAC countries	150,186	4.3	No
All emigrants from GB	**3,495,335**	**100.0**	

Notes: Author's calculation based upon the Global Migrant Origin Database (version 3) downloadable from http://www.migrationdrc.org/research/typesofmigration/global_migrant_origin_database.html

Table 2.3 Unweighted sample sizes of GB emigrants by destination region and country

Region destination	Country Destination	Unweighted n	Weighted n
Australia	Australia	**514**	**932,236**
Ireland	Ireland	**312**	**145,432**
North America	Canada	256	350,064
	United States	8	339,672
	North America total	**264**	**689,736**
Europe	Belgium	7	6,038
	Cyprus	22	2,837
	Czech Republic	1	1,219
	Denmark	57	13,313
	France	10	51,979
	Germany	4	44,584
	Italy	3	16,097
	Netherlands	15	48,477
	Norway	20	12,070
	Spain	86	423,138
	Sweden	8	13,770
	Europe total	**233**	**633,522**
	Other	1	-
	Total	**1,324**	**2,400,926**

Notes: Author's calculations using the PIAAC dataset. Sample selection criteria have been applied. 'Weighted n' refers to where the PIAAC survey weight has been applied.

Table 3.1 Demographic characteristics of GB emigrants, immigrants and stayers

	Native (%)	Immigrant (%)	Emigrant (%)	
			All	Non AU
Gender				
Male	50	49	55	56
Female	50	51	45	44
Age				
16–24	18	16	9	8
25–34	18	31	21	22
35–44	20	26	27	29
45–54	22	15	20	17
55+	21	12	23	23
Native speaker				
Yes	99	24	70	54
No	1	76	30	46
Highest level parent education				
Less than upper secondary	28	32	34	31
Upper secondary	49	30	30	34
Tertiary	24	38	36	35
n	**7,628**	**843**	**1,324**	**810**

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling weights applied. Missing data has been excluded. Emigrant (non-AU) refers to results where emigrants to Australia have been excluded.

Table 3.2 Demographic characteristics by emigrant destination country

	Australia		Ireland		North America		Europe	
	%	SE	%	SE	%	SE	%	SE
Gender								
Male	52	2.3	54	3.5	63	8.8	49	4.4
Female	48	2.3	46	3.5	37	8.8	51	4.4
Age								
16–24	12	2.8	16	2.8	5	3.3	11	2.5
25–34	18	2.6	21	3.1	13	5.7	33	4.8
35–44	23	2.5	25	2.4	36	10.0	21	3.9
45–54	25	2.7	19	2.5	12	2.9	23	4.0
55+	23	2.2	18	2.5	34	9.1	13	3.0
Native speaker								
Yes	94	2.4	100	0.0	94	1.8	1	0.8
No	6	2.4	0	0.0	6	1.8	99	0.8
Highest level parent education								
Less than upper secondary	39	2.9	36	3.0	22	9.5	39	4.5
Upper secondary	24	2.7	33	2.9	29	8.2	40	4.7
Tertiary	37	3.2	31	3.3	49	9.1	20	4.1
n	**514**		**312**		**264**		**233**	

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Missing data has been excluded. Emigrant (non-AU) refers to results where emigrants to Australia have been excluded.

Table 3.3. Age of migration and length of time in the country

	Immigrant (%)	Non-AU Emigrant (%)
Age of migration		
0–5	9	12
6–10	6	12
11–15	6	7
16–20	17	9
21–25	24	30
26–30	19	8
31–35	12	6
36–40	4	7
41+	4	10
Years in country		
0–5	32	12
6–10	21	23
11–15	13	13
16–20	5	8
21–25	9	10
25+	20	35
n	**843**	**810**

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling weights applied. Missing data has been excluded. Emigrants to Australia excluded as information on age of migration and length of spell not available.

Table 3.4 Age and length of migration by destination country of emigrants

	Ireland		North America		Europe	
	%	SE	%	SE	%	SE
Age of migration						
0–5	22	3.1	16	4.2	6	2.1
6–10	7	1.4	20	6.0	4	1.6
11–15	8	2.2	6	4.1	8	2.7
16–20	6	1.5	8	6.9	11	3.1
21–25	17	2.4	31	9.2	31	4.4
26–30	12	2.0	6	1.6	9	2.5
31–35	13	2.3	2	0.9	9	2.5
36–40	5	1.3	3	1.0	12	2.7
41+	11	1.8	8	6.8	11	2.6
Years in country						
0–5	14	2.4	4	0.9	19	3.2
6–10	18	2.7	2	0.7	46	4.4
11–15	23	2.6	17	9.4	7	1.8
16–20	11	2.2	11	7.4	4	1.7
21–25	7	1.8	12	5.6	7	2.5
25+	27	2.4	54	9.5	16	4.0

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Missing data has been excluded. Emigrants to Australia excluded as information on age of migration and length of spell not available.

Table 4.1 The educational attainment of immigrants, emigrants and GB stayers

	Stayer		Immigrant		Emigrant		Emigrant non-AU	
	%	SE	%	SE	%	SE	%	SE
Lower secondary or less	25	0.6	21	1.9	22	2.0	20	2.6
Upper secondary	42	0.8	30	2.1	32	3.0	30	4.8
Post-secondary, non-tertiary	0	0.1	0	0.2	5	0.8	6	1.1
Tertiary professional degree	12	0.6	12	1.8	12	2.3	13	3.6
Bachelor's degree or higher	21	0.4	37	2.1	29	3.2	31	4.8

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Missing data has been excluded. Emigrant (non-AU) refers to results where emigrants to Australia have been excluded.

Table 4.2 Differences in the probability of holding a bachelor's degree between stayers and emigrants by destination region

	Model 1		Model 2	
	Beta	**SE**	**Beta**	**SE**
Stayers (reference group)				
Australia	5.5	3.1	3.2	3.2
Ireland	2.6	2.9	-0.2	2.6
North America	22.5*	9.4	10.8	8.5
Europe	-1.2	4.4	-8.8	8.2
Controls				
Gender	-	-	√	√
Language	-	-	√	√
Age	-	-	√	√
Parental education	-	-	√	√

Notes: Estimates refer to percentage point differences based upon estimates from a linear probability model. * indicates statistical significance at the 5% level.

Table 4.3. The subject specialism of immigrants, emigrants and stayers who hold at least a bachelor degree

	Stayers		Immigrants		Emigrants		Emigrants non-AU	
	%	SE	%	SE	%	SE	%	SE
Education, humanities, arts	32	1.5	21	3.2	26	4.5	26	7.1
Social science, business, law	28	1.5	41	3.9	35	7.6	39	11.4
STEM + health	36	1.5	35	3.0	36	6.5	33	8.6

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Missing data has been excluded. Emigrant (non-AU) refers to results where emigrants to Australia have been excluded.

Table 4.4 The PIAAC numeracy test score distribution for GB stayers and GB emigrants

			Emigrant	
	Stayer	**Immigrant**	**All**	**Non-AU**
10	201	147	197	195
25	233	195	233	230
50	269	238	271	270
mean	267	234	268	266
75	304	281	304	301
90	332	312	339	338
n	**7,628**	**843**	**1,324**	**810**

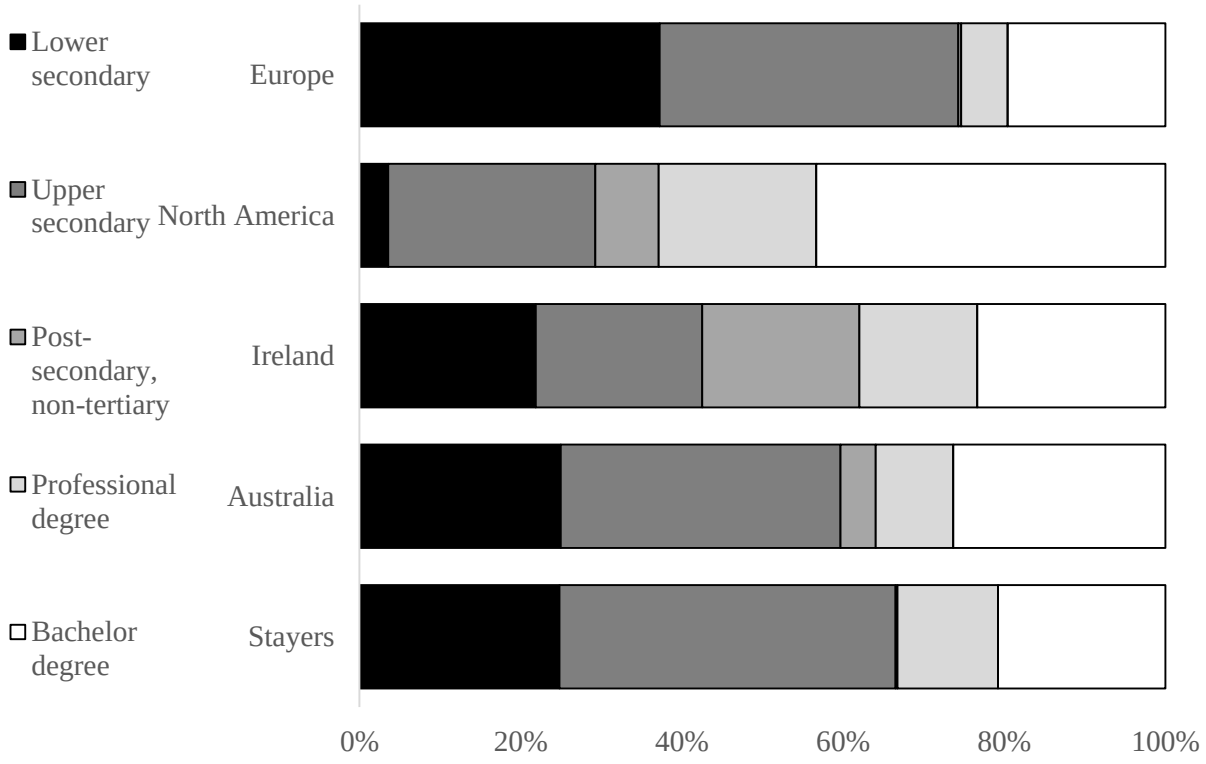
Notes: Author's calculation using the PIAAC dataset. PIAAC sampling weights applied. Missing data has been excluded. Emigrant (non-AU) refers to results where emigrants to Australia have been excluded.

Table 4.5 Number of individuals (in thousands) in each PISA numeracy quartile by stayer, immigrant and emigrant status

PIAAC Numeracy skills	Low skill	Q2	Q3	High skill	Unweight N
Stayer	7,759	7,157	6,216	7,062	7,627
Immigrants					
Immigrant (Eastern Europe)	270	182	114	141	128
Immigrant (Other Europe)	332	188	179	155	232
Immigrant (MSEC)	32	106	117	67	63
Immigrant (South Asia)	614	139	110	106	133
Immigrant (Africa)	532	143	127	84	126
Immigrant (East Asia)	86	37	25	75	39
Immigrant (Other)	492	191	62	57	119
Total immigration	*2,356*	*985*	*736*	*684*	*840*
Emigrants					
Emigrant (AUS + CAN + US)	313	367	339	603	777
Emigrant (CYP + ESP + ITA + other)	246	144	47	6	111
Emigrant (IRE)	34	35	43	33	312
Emigrant (FRA + DEU + BEL + NLD)	51	33	34	33	36
Emigrant (Scandinavia)	10	8	13	8	85
Total Emigration	*654*	*586*	*476*	*684*	*1,321*
Net gain from migration	**1,702**	**399**	**260**	**0**	

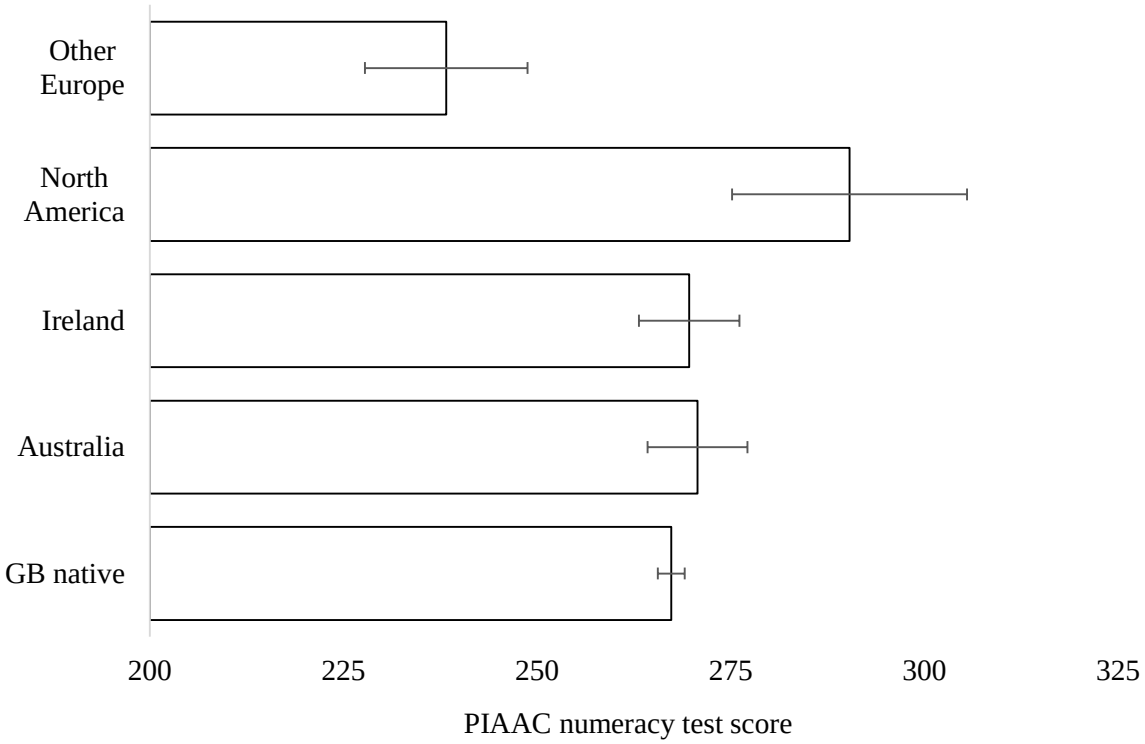
Notes: Author calculations using PIAAC dataset. PIAAC survey weight applied. Figures refer to number of individuals in thousands. See Appendix for list of countries included within the different immigrant groups. Low/high skill refers to individuals in the bottom/top international PIAAC numeracy test score quartile. Net gain refers to number of immigrants minus the number of emigrants.

Figure 4.1 The distribution of educational attainment among emigrants by destination country



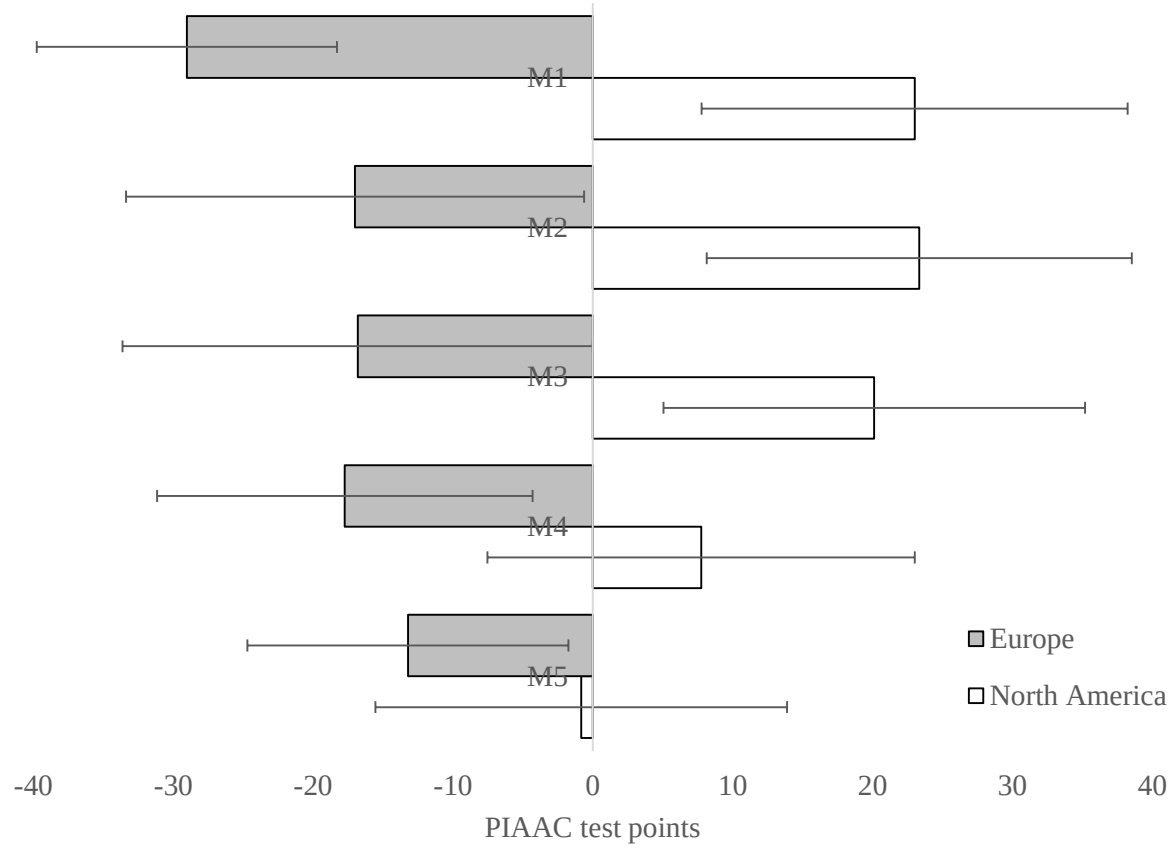
Notes: Author calculations using PIAAC dataset. PIAAC survey weight and replicate weights applied.

Figure 4.2 Average PIAAC numeracy test score of emigrants by destination country



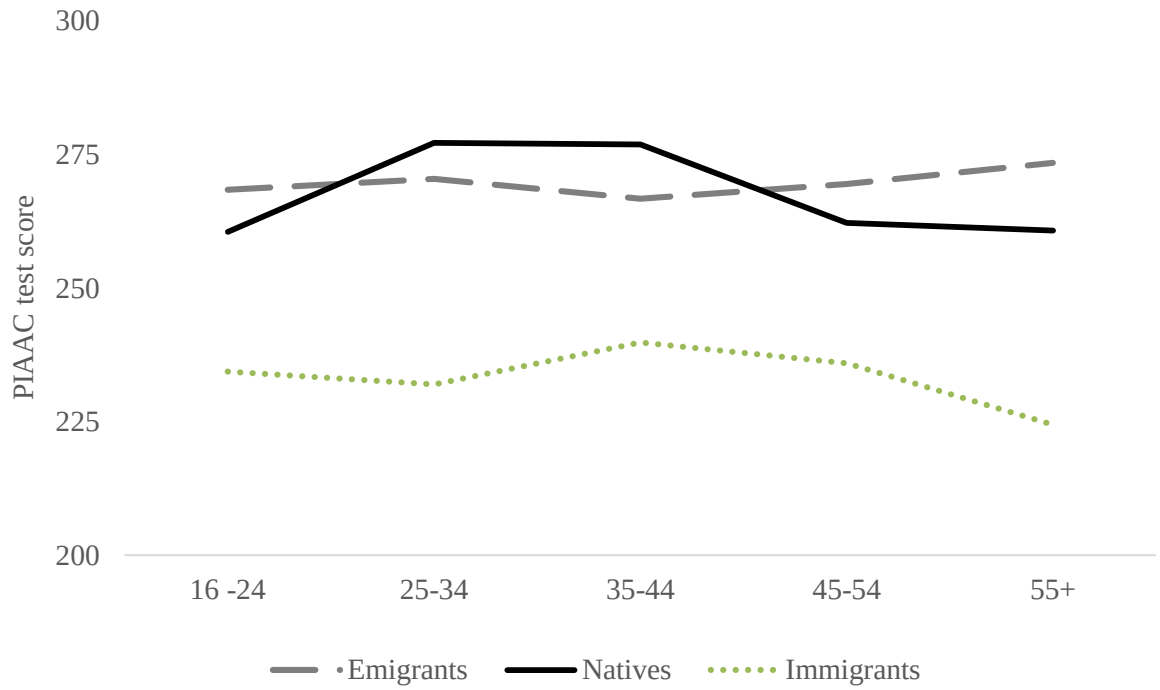
Notes: Author calculations using PIAAC dataset. PIAAC survey weight and replicate weights applied. Thin black line running through the centre of the bars refers to the estimated 90% confidence intervals.

Figure 4.3 Regression results explaining differences in PIAAC numeracy test scores between stayers and emigrant groups



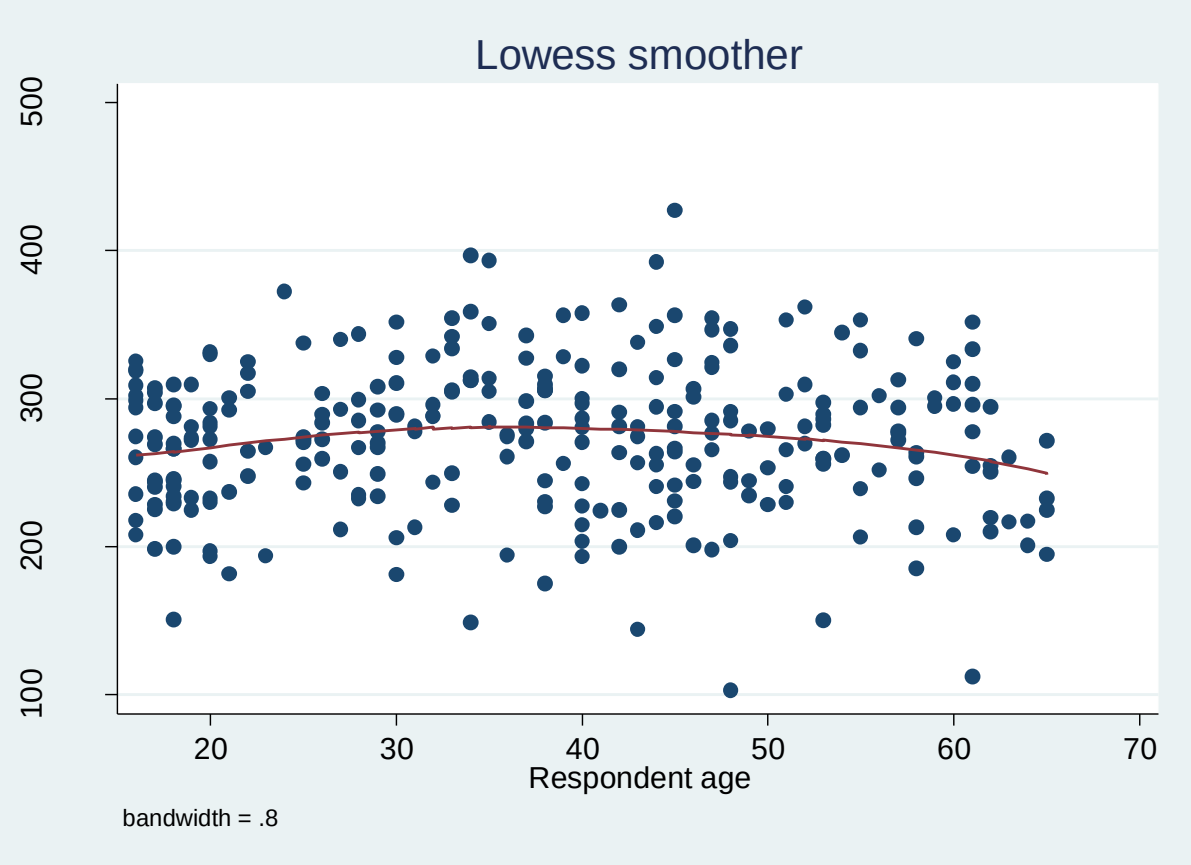
Notes: Author calculations using PIAAC dataset. PIAAC survey weight and replicate weights applied. Figures refer to differences between emigrants to Europe (grey bars) or North America (white bars) compared to country stayers (reference group). Model 1 = unconditional differences in mean. Model 2 control for language most often spoken at home. Model 3 = Model 2 + gender and age control. Model 4 = Model 3 + controls for parental education. Model 5 = Model 4 + education level achieved.

Figure 4.4 The relationship between emigrant age and average PIAAC numeracy test scores



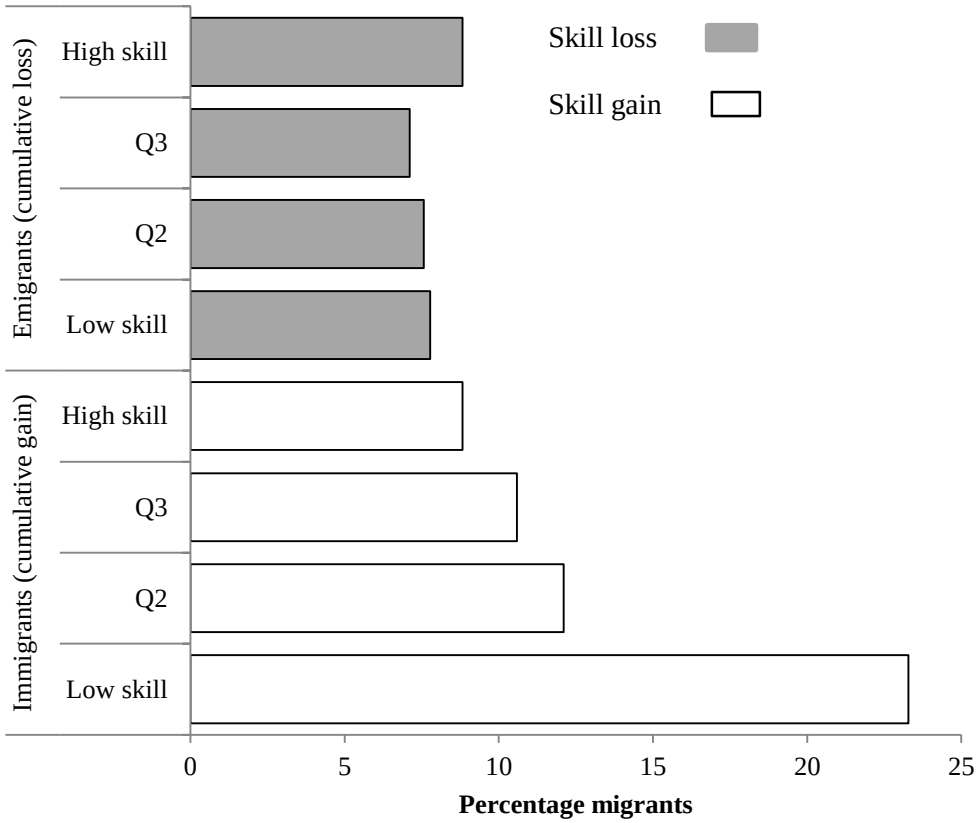
Notes: Author calculations using PIAAC dataset. PIAAC survey weight and replicate weights applied. Figures along the x-axis indicate age group of the respondent.

Figure 4.5 The relationship between age and performance on the PIAAC numeracy test for emigrants who left GB before age 16



Notes: Author calculations using PIAAC dataset. PIAAC survey weight applied. Estimates using first plausible value only. Thin red line illustrates the local weighted regression estimate, illustrating the relationship between respondent age and PIAAC numeracy test scores. Emigrants to Australia excluded as the relevant data is not available.

Figure 4.6 Estimates of numeracy skill gain and numeracy skill loss through emigration (grey bars) and immigration (white bars)



Notes: Author calculations using PIAAC dataset. PIAAC survey weight applied. Length of bars illustrates the percentage of individuals who are migrants.

Table 5.1. Current employment status of GB stayers, immigrants and emigrants

A) Males

	Stayer		Immigrant		Emigrant		Emigrant (non-AU)	
	%	**SE**	**%**	**SE**	**%**	**SE**	**%**	**SE**
Employed	76	0.6	75	2	78	3	78	4
Unemployed	7	0.4	9	2	6	1	8	2
Out of labour force	17	0.4	15	2	16	3	14	3
N	**3,202**		**344**		**653**		**408**	

B) Females

	Stayer		Immigrant		Emigrant		Emigrant (non-AU)	
	%	**SE**	**%**	**SE**	**%**	**SE**	**%**	**SE**
Employed	67	0.5	60	2	67	3	74	4
Unemployed	5	0.3	9	1	6	2	7	2
Out of labour force	29	0.5	31	2	27	3	19	3
N	**4,424**		**499**		**670**		**402**	

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Panel A refers to males and panel B to females. Emigrant (non-AU) refers to results where emigrants to Australia have been excluded.

Table 5.2 The percentage of GB stayers, immigrants and emigrants age 25 and over who have not worked for pay over a given period

	Stayer		Immigrant		Emigrant		Emigrant (No AU)	
Time period	**%**	**SE**	**%**	**SE**	**%**	**SE**	**%**	**SE**
Last 12 months	21	0.4	23	1.9	20	2.3	16	2.7
Last 5 years	11	0.4	14	1.7	12	1.5	8	1.5
Ever worked	1	0.2	6	1.4	2	0.6	2	0.8
	6,556		**745**		**1,224**		**734**	

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Sample size reduced as estimates refer to over-25-year-olds only. Emigrant (non-AU) refers to results where emigrants to Australia have been excluded.

Table 5.3 The percentage difference between GB stayers and emigrants who have not worked for pay over the last five years by destination country

	Model 1		Model 2		Model 3	
	% points	SE	% points	SE	% points	SE
Destination (Ref: GB stayer)						
Australia	7.3*	2.4	-3.5*	1.5	-4.0*	1.7
Ireland	8.7*	3.0	9.8*	2.9	8.5*	3.8
North America	-9.0*	1.3	-7.2*	1.9	-4.8*	1.8
Europe	-0.2	3.3	6.0	8.3	3.4	7.7
Controls						
Language	-		√		√	
Gender	-		√		√	
Age	-		√		√	
Parental education	-		√		√	
Educational attainment	-		-		√	
PIAAC numeracy score	-		-		√	
PIAAC literacy score	-		-		√	

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Estimates refer to percentage point differences based upon estimates from a linear probability model. Sample restricted to respondents age 25 and over. * indicates statistical significance at the 5% level.

Table 5.4 The estimated difference between male stayers, immigrants and emigrants of working in a professional job

	Model 1		Model 2		Model 3	
	% points	SE	% points	SE	% points	SE
Destination (Ref: GB Stayer)						
Emigrant	11.6+	6.6	10.4	7.6	5.9	4.1
Immigrant	-4.6	3.3	0.7	5.8	-0.8	4.8
Controls						
Language	-		√		√	
Gender	-		√		√	
Age	-		√		√	
Parental education	-		√		√	
Educational attainment	-		-		√	
PIAAC numeracy score	-		-		√	
PIAAC literacy score	-		-		√	

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Estimates refer to percentage point differences based upon estimates from a linear probability model. + indicates statistical significance at the 10% level.

Table 5.5 Earnings distribution for full-time working stayers, immigrants and emigrants

A) Males

			Emigrant	
	Stayer	**Immigrant**	**All**	**Non AU**
P10	1,877	1,475	1,629	1,536
P25	2,335	1,985	2,772	2,555
P50	3,245	2,950	4,000	4,000
Mean	4,143	4,136	6,514	7,474
P75	4,670	5,279	6,412	6,694
P90	6,391	7,200	11,676	32,083
Standard deviation	3,700	4,202	7,862	9,525
P90/P10	3.4	4.9	7.2	20.9
P90/P50	2.0	2.4	2.9	8.0
P50/P10	1.7	2.0	2.5	2.6

B) Females

			Emigrant	
	Stayer	**Immigrant**	**All**	**Non AU**
P10	1,534	1,475	1,397	1,285
P25	1,917	1,843	2,240	1,823
P50	2,725	2,787	3,065	3,063
Mean	3,395	3,106	3,628	3,489
P75	3,933	4,056	4,179	4,270
P90	5,457	5,113	5,795	5,795
Standard deviation	3,070	1,707	3,976	4,541
P90/P10	3.6	3.5	4.1	4.5
P90/P50	2.0	1.8	1.9	1.9
P50/P10	1.8	1.9	2.2	2.4

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling weight applied. Figures refer to monthly wages including bonuses (PPP adjusted US dollars) for wage and salary earners working more than 30 hours per week. Emigrant (non-AU) refers to results where emigrants to Australia have been excluded.

Table 5.6 Distribution of working hours for GB stayers and emigrants to different regions

		Emigrant			
	GB Stayer	**Australia**	**Ireland**	**North America**	**Europe**
P10	35	37	36	38	37
P25	37	38	38	40	40
P50	40	43	40	50	40
Mean	43	45	43	52	44
P75	48	50	45	60	48
P90	55	60	55	70	50

Notes: Author's calculation using the PIAAC dataset. PIAAC sampling weight applied. Figures refer to hours worked in a typical week for 'full-time' (i.e. those who work more than 30 hours per week) wage and salary earners.

Table 5.7 Incidence of qualification match and mismatch among stayers, immigrants and emigrants

All groups

	Stayer %	Immigrant %	Emigrant %	
			All	Non AU
Underqualified	16	8	16	11
Matched	54	47	55	57
Overqualified	30	45	29	32
N	**4,472**	**473**	**750**	**477**

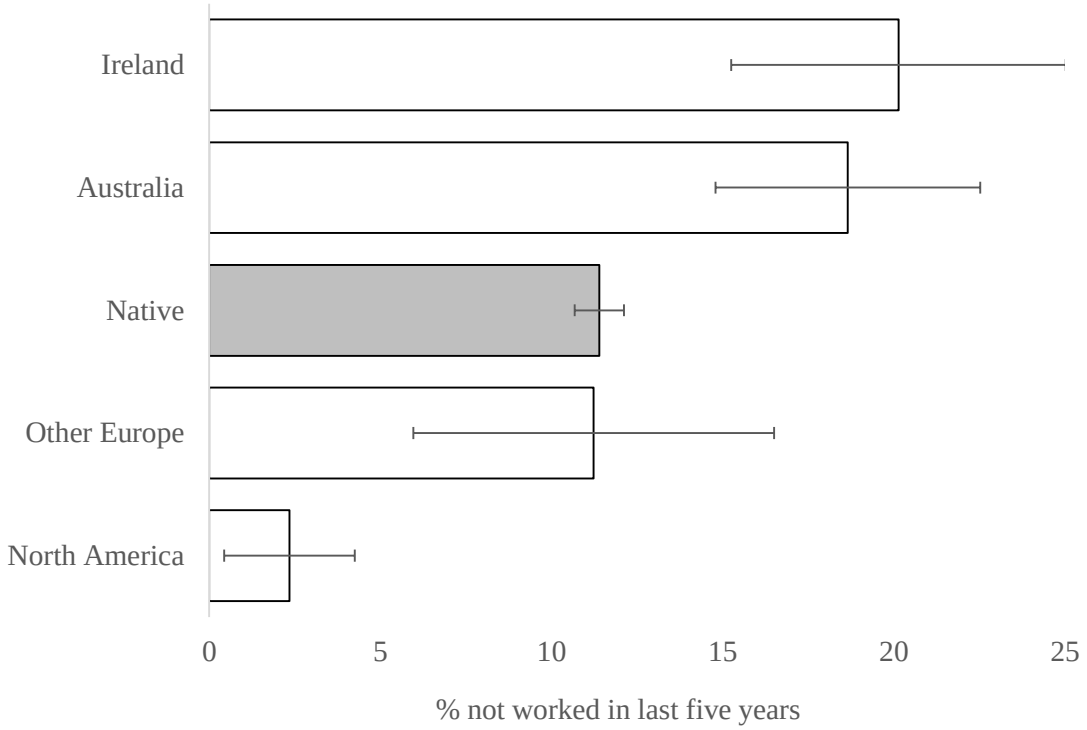
Notes: Author's calculation using the PIAAC dataset. PIAAC sampling weight applied. Sample restricted to workers only (hence reduction in sample size). Under (over) qualified is where the qualification the emigrant holds is less (more) than that needed for new entrants to the job they are working in. Matched is where the qualification held equals the qualification new entrants need. Emigrant (non-AU) refers to results where emigrants to Australia have been excluded.

Table 5.8 The incidence of over- and under-match of emigrants by selected demographic characteristics

	Underqualified		Matched		Overqualified	
	%	SE	%	SE	%	SE
Gender						
Male	17	5	55	6	28	6
Female	14	3	55	5	31	5
Age						
16–24	6	4	60	12	35	11
25–34	8	3	64	7	28	7
35–44	18	8	43	9	39	10
45–54	21	5	52	6	28	6
55+	20	7	64	11	16	6
Parental education						
Less than upper secondary	34	6	46	6	20	4
Upper secondary	10	3	62	8	28	7
Tertiary	7	2	58	8	34	9
n	118		428		204	

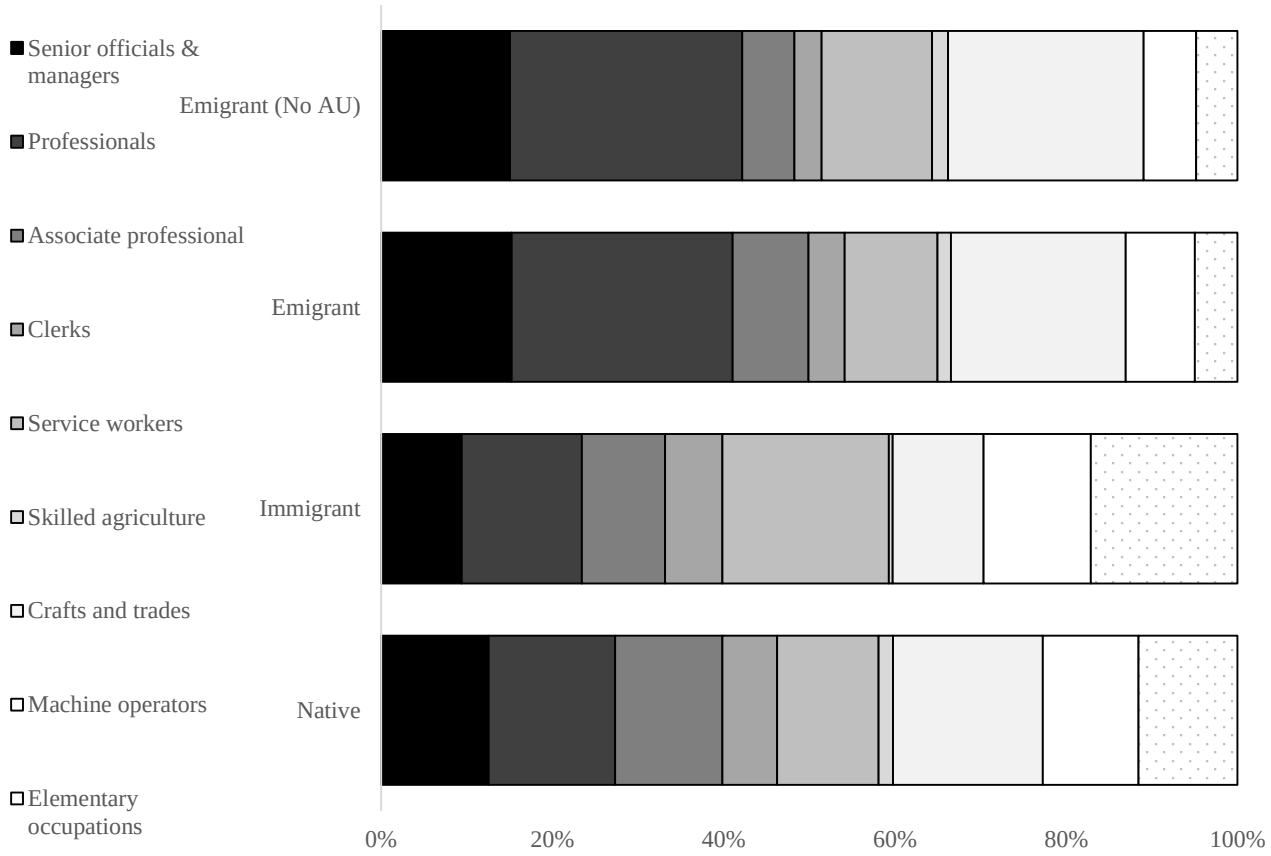
Notes: Author's calculation using the PIAAC dataset. PIAAC sampling weight applied. Sample restricted to workers only. Under (over) qualified is where the qualification the emigrant holds is less (more) than that needed for new entrants to the job they are working in. Matched is where the qualification held equals the qualification new entrants need.

Figure 5.1 The percentage of emigrants who have not worked for pay at any point over the last five years



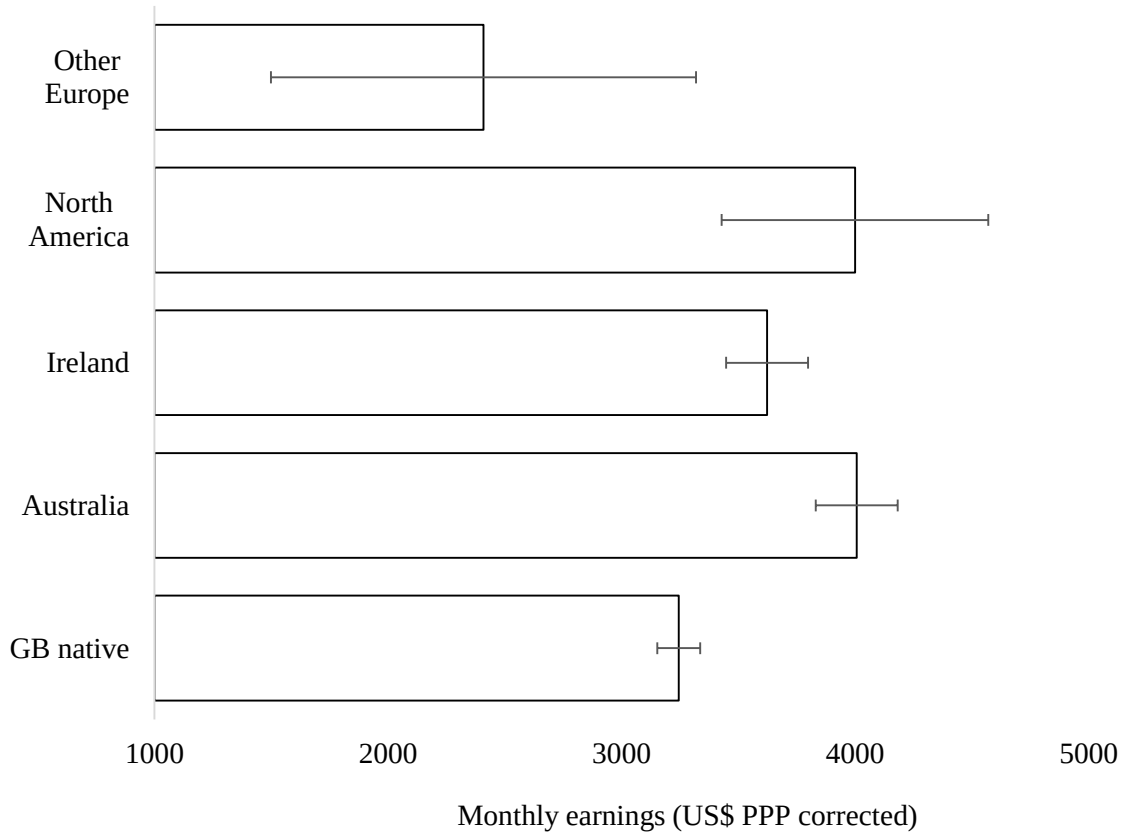
Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Thin black line running through the centre of the bars indicates the estimated 90% confidence interval.

Figure 5.2 The occupational categorisation of male stayers, immigrants and emigrants



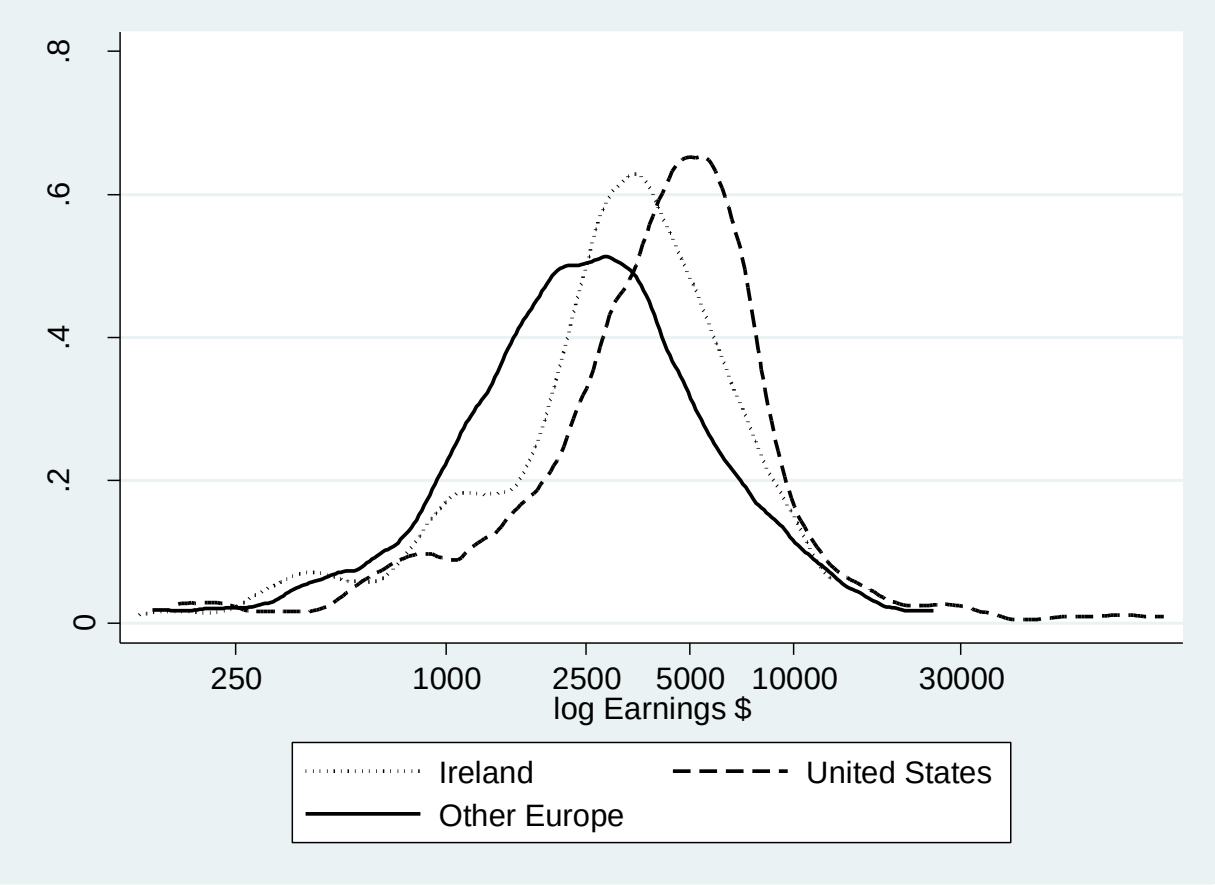
Notes: Author's calculation using the PIAAC dataset. PIAAC sampling weights applied. Figures refer to male emigrants only. Results for females available from the author upon request. Darker portion of the bars refer to higher-status occupations.

Figure 5.3 Median full-time male earnings by emigrant destination



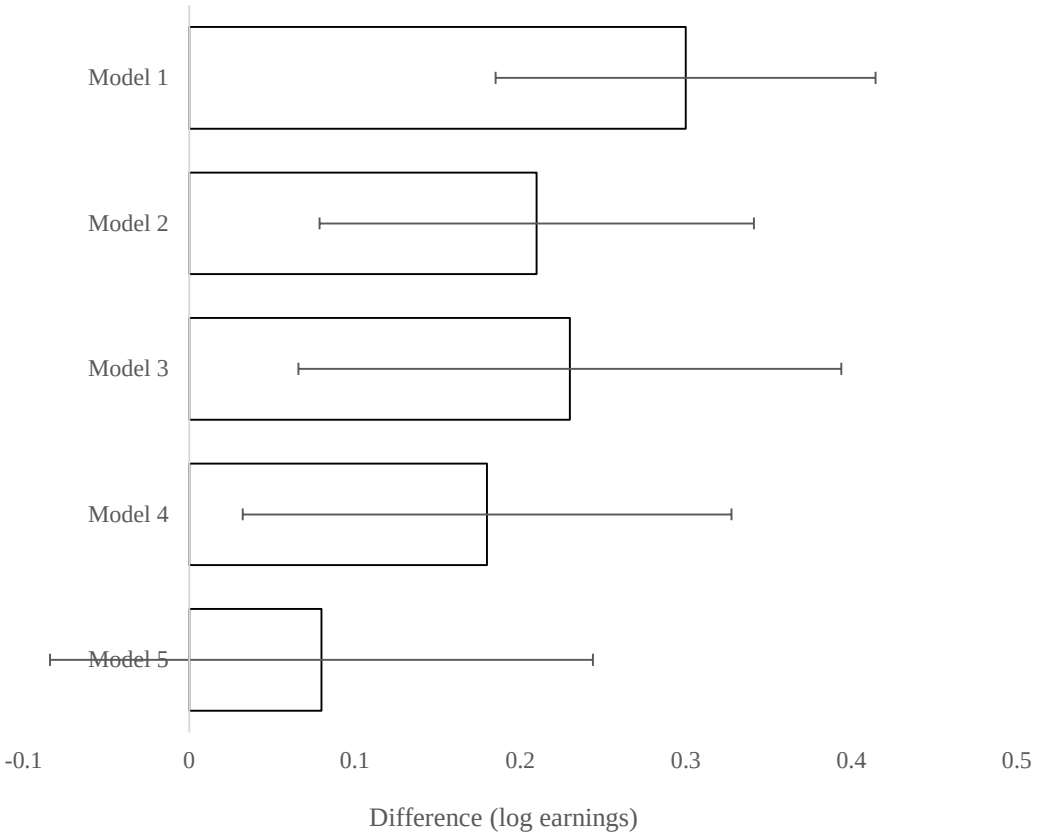
Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Thin black line running through the centre of the bars indicates the estimated 90% confidence interval. Figures refer to monthly median wages including bonuses (PPP adjusted US dollars) for wage and salary earners working more than 30 hours per week.

Figure 5.4 The log earnings distribution for GB emigrants to Ireland, North America and Europe



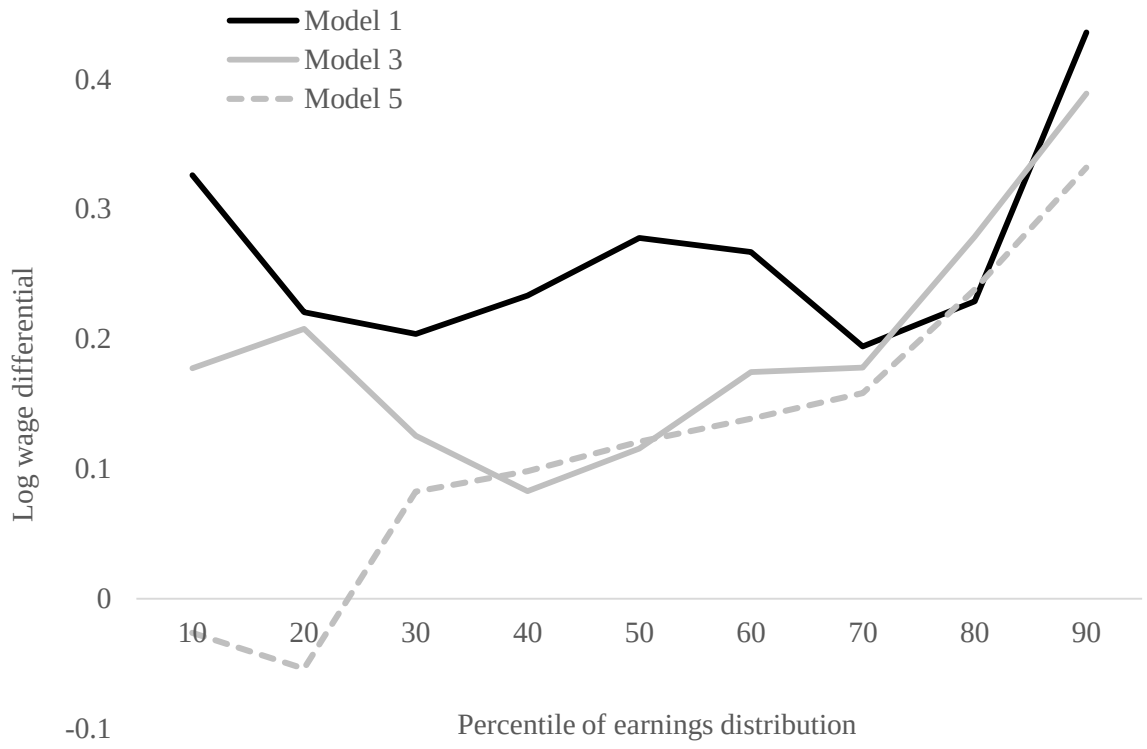
Notes: Author's calculation using the PIAAC dataset. PIAAC sampling weights applied. Figures refer to monthly wages including bonuses (PPP adjusted US dollars) for male wage and salary earners working more than 30 hours per week.

Figure 5.5 The estimated difference in mean log earnings between emigrants and stayers



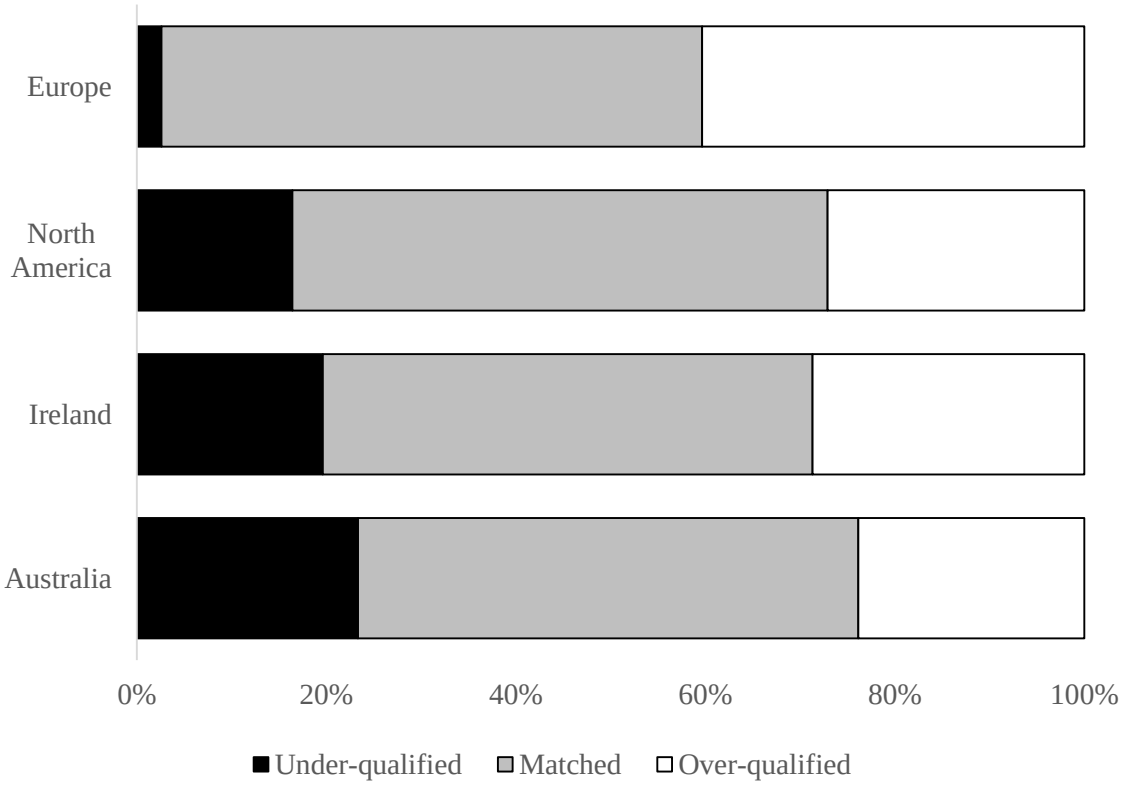
Notes: Author's calculations using the PIAAC dataset. Figures refer to differences in average log monthly wages including bonuses (PPP adjusted US dollars) between emigrants and stayers. PIAAC sampling and replicate weights applied. Thin black line running through the centre of the bars indicates the estimated 90% confidence interval. Model 1 = unconditional estimates. Model 2 controls for gender and whether working full of part time. Model 3 = Model 2 + demographic controls (age, language, parental education). Model 4 = Model 3 + education and skills (highest qualification held, subject of highest qualification, PIAAC numeracy and literacy test scores). Model 5 = Model 4 + hours worked per week.

Figure 5.6 Differences in log earnings between stayers and emigrants: quantile regression estimates



Notes: Author's calculations using the PIAAC dataset. Figures refer to differences in average log monthly wages including bonuses (PPP adjusted US dollars) between emigrants and stayers. PIAAC survey weight applied. Model 1 = unconditional estimates. Model 3 controls for whether working full or part time and a series of demographic controls (gender, age, language, parental education). Model 5 = Model 3 + education and skills (highest qualification held, subject of highest qualification, PIAAC numeracy and literacy test scores) and hours worked per week.

Figure 5.7 Incidence of qualification match and mismatch among emigrants from GB by destination country



Notes: Author's calculation using the PIAAC dataset. PIAAC sampling weight applied. Sample restricted to workers only. Under (over) qualified is where the qualification the emigrant holds is less (more) than that needed for new entrants to the job they are working in. Matched is where the qualification held equals the qualification new entrants need.

Table 6.1. Health, political and social outcomes of GB stayers, immigrants and emigrants

	Stayer		Immigrant		Emigrant		Emigrant (No AU)	
	%	SE	%	SE	%	SE	%	SE
Health								
Poor / fair / good	42	0.8	48	2.2	36	2.8	29	3.4
Excellent / very good	58	0.8	62	2.2	64	2.8	69	3.5
Political efficacy								
Strongly agree / agree	49	0.9	40	2.0	48	3.0	51	4.8
Neither	20	0.7	25	1.9	19	2.7	19	4.3
Strongly disagree / disagree	31	0.9	34	1.9	33	2.9	30	4.3
Social Trust A								
Strongly agree / agree	70	0.8	72	1.8	64	3.6	64	5.7
Neither	10	0.5	11	1.7	10	1.3	9	1.7
Strongly disagree / disagree	19	0.8	17	1.5	26	3.6	27	5.7
Social Trust B								
Strongly agree / agree	74	0.8	76	1.8	72	2.0	76	3.0
Neither	13	0.7	12	1.4	12	1.2	9	1.5
Strongly disagree / disagree	13	0.6	11	1.5	16	1.5	15	2.3

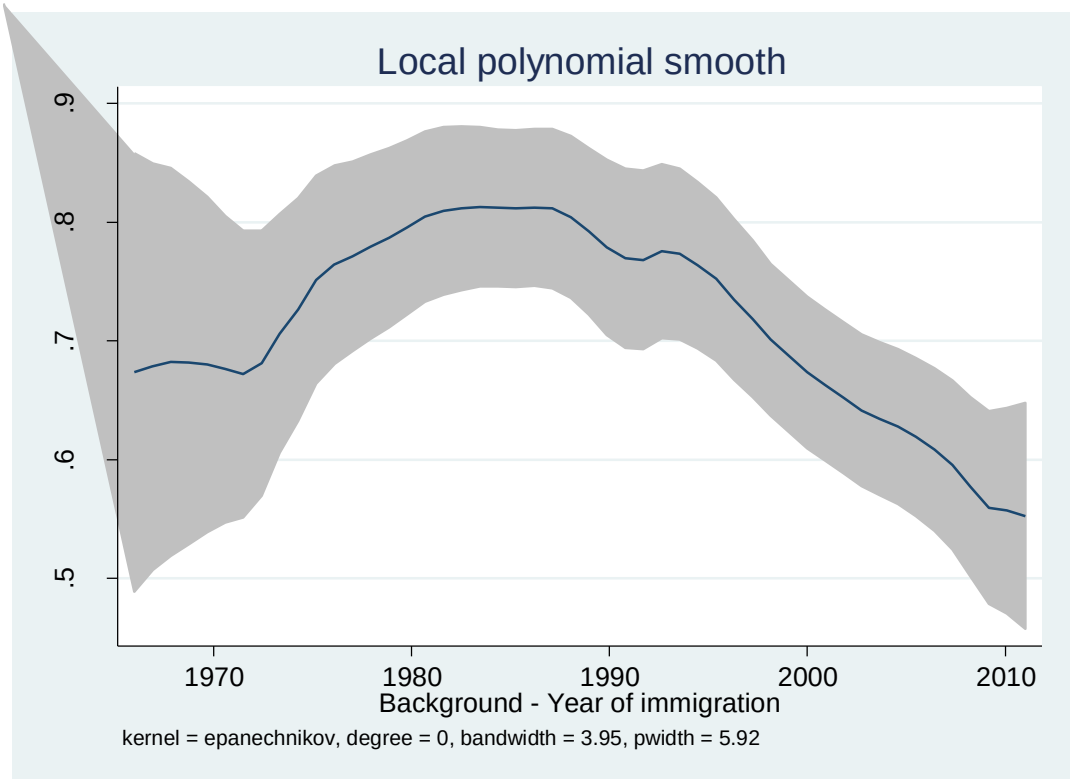
Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Emigrant (non-AU) refers to results where emigrants to Australia have been excluded. Missing data excluded.

Table 6.2. The predicted probability of reporting 'excellent' or 'very good' health by emigrant destination country

	Model 1		Model 2		Model 3		Model 4	
	%	SE	%	SE	%	SE	%	SE
Destination (Ref: GB Stayer)								
Australia	-2.2	3.1	-1.8	3.0	-1.9	2.8	-1.6	3.1
Ireland	-0.4	2.3	-0.8	2.3	-3.0	5.1	-2.3	4.6
North America	26.1*	3.3	25.8*	3.9	22.6*	3.2	22.5*	3.3
Europe	-5.9	4.9	5.0	10.5	7.1	10.0	14.9	11.3
Controls								
Language	-		√		√		√	
Gender	-		√		√		√	
Age	-		√		√		√	
Parental education	-		√		√		√	
Educational attainment	-		-		√		√	
PIAAC numeracy score	-		-		√		√	
PIAAC literacy score	-		-		√		√	
Occupation	-		-		-		√	

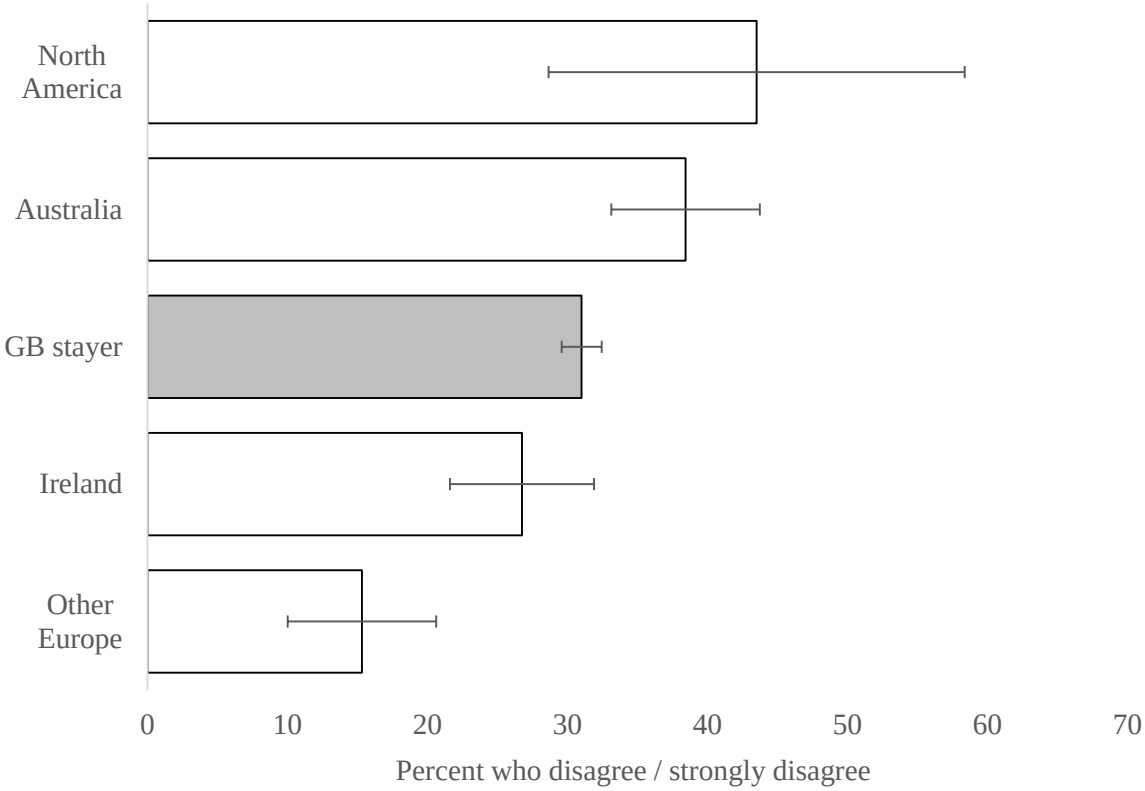
Notes: * indicates statistical significance at the 5% level. Estimates refer to percentage point differences from a linear probability model. PIAAC sampling and replicate weights applied.

Figure 6.1 The association between year of emigration and the probability of reporting good health



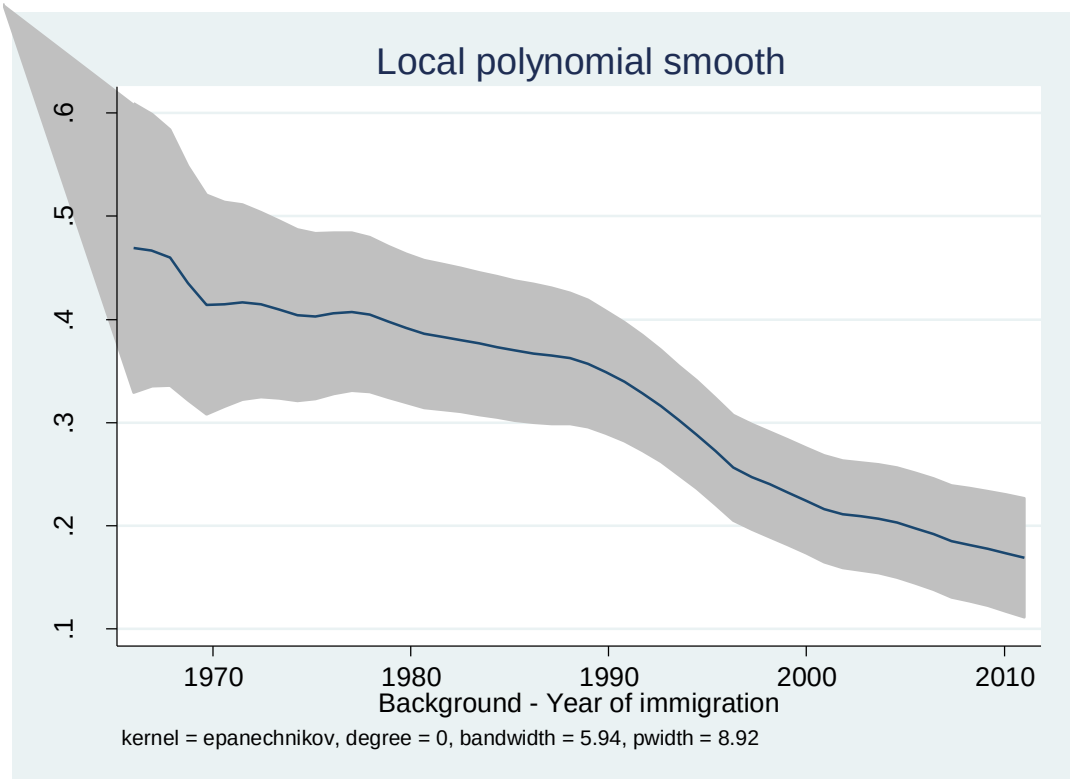
Notes: Figures on y-axis refer to the probability of disagreeing or strongly disagreeing with the statement that they have no influence on government. PIAAC sampling weight applied. Grey cloud represents the estimated 99% confidence without the PIAAC replicate weights applied. Estimates exclude emigrants to Australia where data as year of migration data not available.

Figure 6.2 The percentage of emigrants who disagree or strongly disagree that they have no influence upon government



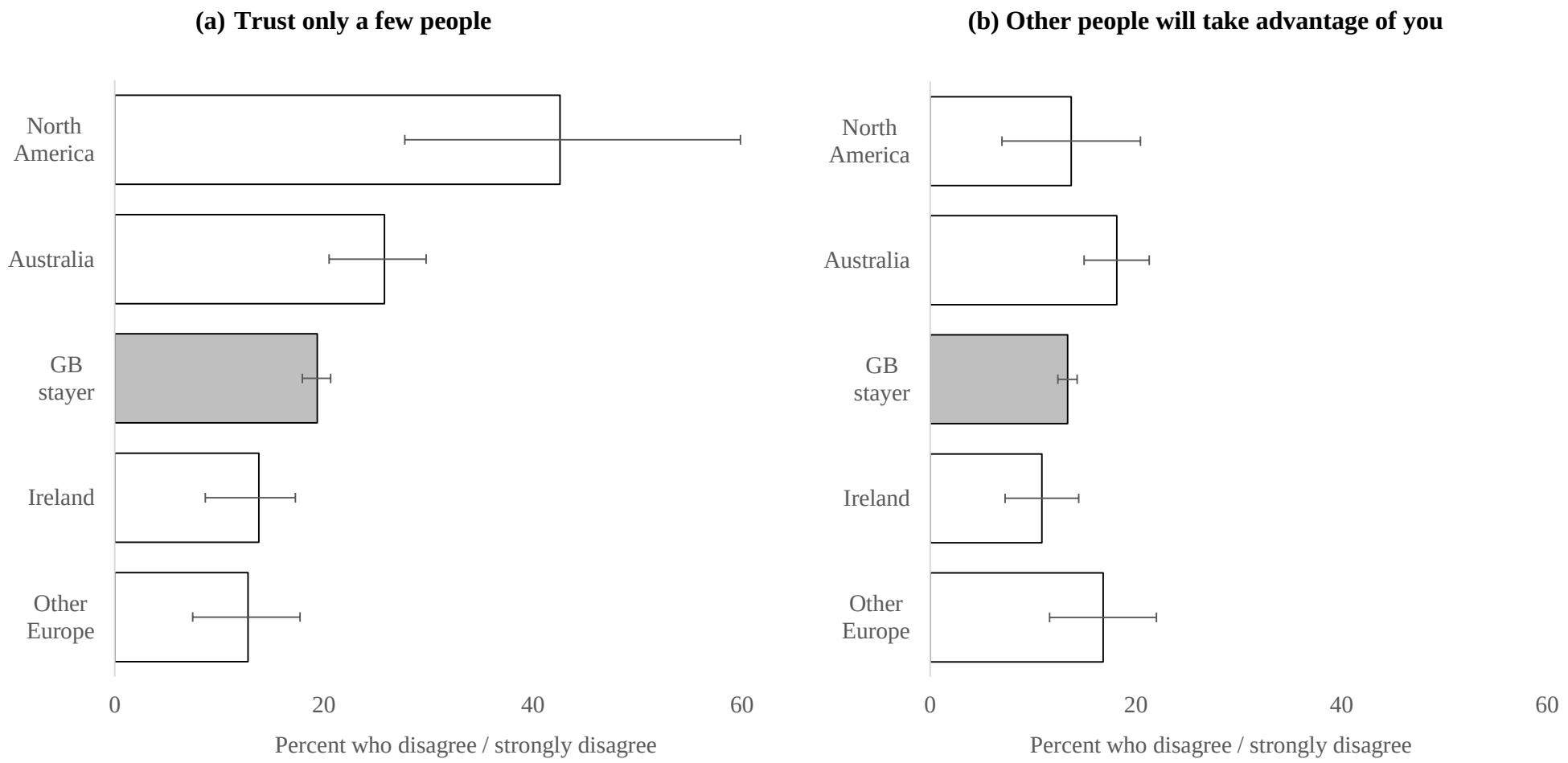
Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Thin black line running through the centre of the bars indicates the estimated 90% confidence interval.

Figure 6.3 The association between year of emigration and the probability of having high political efficacy



Notes: Figures on y-axis refer to the probability of disagreeing or strongly disagreeing with the statement that they have no influence on government. X-axis indicates the year the respondent left GB (i.e. emigrated from GB / immigrated into their new host country). PIAAC sampling weight applied. Grey cloud represents the estimated 99% confidence without the PIAAC replicate weights applied. Estimates exclude emigrants to Australia where data as year of migration data not available.

Figure 6.4. A comparison of social trust among emigrants by destination countries



Notes: Author's calculation using the PIAAC dataset. PIAAC sampling and replicate weights applied. Thin black line running through the centre of the bars indicates the estimated 90% confidence interval. Figures refer to the percent of respondents who disagree or strongly disagree with the PIAAC questions about social trust.

Appendix 1. Definition of origin regions of immigrants

Eastern Europe

```
 8 ///                                  /*** "Albania ***/
100 ///                                 /***"Bulgaria ***/
112 ///                                 /***"Belarus ***/
191 ///                                 /***"Croatia ***/
203 ///                                 /***"Czech Republic ***/
233 ///                                 /***"Estonia ***/
268 ///                                 /***"Georgia ***/
348 ///                                 /***"Hungary ***/
428 ///                                 /***"Latvia ***/
 51 ///                                 /***"Armenia ***/
 70 ///                                 /***"Bosnia and Herzegovina ***/
498 ///                                 /***"Republic of Moldova ***/
499 ///                                 /***"Montenegro ***/
616 ///                                 /***"Poland ***/
642 ///                                 /***"Romania ***/
703 ///                                 /***"Slovakia ***/
```

705 ///
/***"Slovenia ***/

688 ///
/***Serbia ***/

804 ///
/***Ukraine ***/

807
/***The former Yugoslav Republic of Macedonia ***/

Other Europe

20 ///
/*** Andorra ***/

40 ///
/*** Austria ***/

56 ///
/*** Belgium ***/

196 ///
/*** Cyprus ***/

208 ///
/*** Denmark ***/

246 ///
/*** Finland ***/

250 ///
/*** France ***/

276 ///
/*** Germany ***/

300 ///
/*** Greece ***/

352 ///
/*** Iceland ***/

372 ///
/*** Ireland ***/

380 ///
/*** Italy ***/

438 ///

/*** Liechtenstein ***/

440 ///

/*** Lithuania ***/

442 ///

/*** Luxembourg ***/

470 ///

/*** Malta ***/

492 ///

/*** Monaco ***/

234 ///

/*** Faeroe Islands ***/

248 ///

/*** Åland Islands ***/

528 ///

/*** Netherlands ***/

578 ///

/*** Norway ***/

620 ///

/*** Portugal ***/

674 ///

/*** San Marino ***/

724 ///

/*** Spain ***/

752 ///

/*** Sweden ***/

756 ///

/*** Switzerland ***/

830 ///

/*** Channel Islands ***/

831 ///

/*** Guernsey ***/

832 ///

/*** Jersey ***/

```
833
                                        /*** Isle of Man ***/
```

Main English Speaking Countries (MESC)

```
 36 ///
                                        /*** Australia ***/
124 ///
                                        /*** Canada ***/
554 ///
                                        /*** New Zealand ***/
710 ///
                                        /*** South Africa ***/
826 ///
                                        /*** United Kingdom Ireland ***/
840
                                        /*** United States of America ***/
```

India

```
 50 ///
                                        /*** Bangladesh ***/
356 ///
                                        /*** India ***/
144 ///
                                        /*** Sri Lanka ***/
524 ///
                                        /*** Nepal ***/
586
                                        /*** Pakistan ***/
```

Africa

12 ///
/*** Algeria ***/

24 ///
/*** Angola ***/

72 ///
/*** Botswana ***/

120 ///
/*** Cameroon ***/

140 ///
/*** Central African Republic ***/

148 ///
/*** Chad ***/

178 ///
/*** Congo ***/

180 ///
/*** Democratic Republic of the Congo ***/

231 ///
/*** Ethiopia ***/

270 ///
/*** Gambia ***/

288 ///
/*** Ghana ***/

384 ///
/*** Ivory Coast ***/

400 ///
/*** Jordan ***/

404 ///
/*** Kenya ***/

454 ///
/*** Malawi ***/

466 ///
/*** Mali ***/

```
108 ///                                  /*** Burundi ***/
132 ///                                  /*** Cape Verde ***/
174 ///                                  /*** Comoros ***/
175 ///                                  /*** Mayotte ***/
204 ///                                  /*** Benin ***/
226 ///                                  /*** Equatorial Guinea ***/
232 ///                                  /*** Eritrea ***/
262 ///                                  /*** Djibouti ***/
266 ///                                  /*** Gabon ***/
324 ///                                  /*** Guinea ***/
426 ///                                  /*** Lesotho ***/
450 ///                                  /*** Madagascar ***/
430 ///                                  /*** Liberia ***/
434 ///                                  /*** Libyan Arab Jamahiriya ***/
478 ///                                  /*** Mauritania ***/
504 ///                                  /*** Morocco ***/
508 ///                                  /*** Mozambique ***/
```

```
516 ///
                                    /*** Namibia ***/
562 ///
                                    /*** Niger ***/
566 ///
                                    /*** Nigeria ***/
624 ///
                                    /*** Guinea-Bissau ***/
646 ///
                                    /*** Rwanda ***/
686 ///
                                    /*** Senegal ***/
678 ///
                                    /*** Sao Tome and Principe ***/
694 ///
                                    /*** Sierra Leone ***/
706 ///
                                    /*** Somalia ***/
736 ///
                                    /*** Sudan ***/
716 ///
                                    /*** Zimbabwe ***/
732 ///
                                    /*** Western Sahara ***/
748 ///
                                    /*** Swaziland ***/
768 ///
                                    /*** Togo ***/
788 ///
                                    /*** Tunisia ***/
800 ///
                                    /*** Uganda ***/
818 ///
                                    /*** Egypt ***/
```

834 ///
/*** United Republic of Tanzania ***/

854 ///
/*** Burkina Faso ***/

894
/*** Zambia ***/

East Asia

156 ///
/*** China ***/

344 ///
/*** Hong Kong – China ***/

360 ///
/*** Indonesia ***/

392 ///
/*** Japan ***/

408 ///
/*** Democratic People's Republic of Korea ***/

410 ///
/*** Republic of Korea ***/

446 ///
/*** Macao – China ***/

458 ///
/*** Malaysia ***/

96 ///
/*** Brunei Darussalam ***/

116 ///
/*** Cambodia ***/

702 ///
/*** Singapore ***/

704 ///
/*** Vietnam ***/

764 /*** Thailand ***/

Other countries

4 /// /*** Afghanistan ***/

31 /// /*** Azerbaijan ***/

32 /// /*** Argentina ***/

52 /// /*** Barbados ***/

68 /// /*** Bolivia ***/

76 /// /*** Brazil ***/

152 /// /*** Chile ***/

170 /// /*** Colombia ***/

188 /// /*** Costa Rica ***/

84 /// /*** Belize ***/

192 /// /*** Cuba ***/

214 /// /*** Dominican Republic ***/

218 /// /*** Ecuador ***/

238 /// /*** Falkland Islands (Malvinas) ***/

```
242 ///                                 /*** Fiji ***/
275 ///                                 /*** Occupied Palestinian Territory ***/
292 ///                                 /*** Gibraltar ***/
304 ///                                 /*** Greenland ***/
320 ///                                 /*** Guatemala ***/
332 ///                                 /*** Haiti ***/
340 ///                                 /*** Honduras ***/
364 ///                                 /*** Iran, Islamic Republic of ***/
368 ///                                 /*** Iraq ***/
376 ///                                 /*** Israel ***/
388 ///                                 /*** Jamaica ***/
398 ///                                 /*** Kazakhstan ***/
417 ///                                 /*** Kyrgyzstan ***/
418 ///                                 /*** Lao People's Democratic Republic ***/
462 ///                                 /*** Maldives ***/
484 ///                                 /*** Mexico ***/
496 ///                                 /*** Mongolia ***/
```

```
16  ///                                 /*** American Samoa ***/
28  ///                                 /*** Antigua and Barbuda ***/
44  ///                                 /*** Bahamas ***/
48  ///                                 /*** Bahrain     ***/
60  ///                                 /*** Bermuda ***/
64  ///                                 /*** Bhutan ***/
90  ///                                 /*** Solomon Islands ***/
92  ///                                 /*** British Virgin Islands ***/
104 ///                                 /*** Myanmar ***/
136 ///                                 /*** Cayman Islands ***/
184 ///                                 /*** Cook Islands ***/
212 ///                                 /*** Dominica ***/
222 ///                                 /*** El Salvador ***/
254 ///                                 /*** French Guiana ***/
258 ///                                 /*** French Polynesia ***/
296 ///                                 /*** Kiribati ***/
308 ///                                 /*** Grenada ***/
```

```
312 ///
                                        /*** Guadeloupe ***/
316 ///
                                        /*** Guam ***/
328 ///
                                        /*** Guyana ***/
336 ///
                                        /*** Holy See ***/
414 ///
                                        /*** Kuwait ***/
422 ///
                                        /*** Lebanon ***/
474 ///
                                        /*** Martinique ***/
480 ///
                                        /*** Mauritius ***/
500 ///
                                        /*** Montserrat ***/
512 ///
                                        /*** Oman ***/
520 ///
                                        /*** Nauru ***/
530 ///
                                        /*** Netherlands Antilles ***/
533 ///
                                        /*** Aruba ***/
540 ///
                                        /*** New Caledonia ***/
548 ///
                                        /*** Vanuatu ***/
558 ///
                                        /*** Nicaragua ***/
570 ///
                                        /*** Niue ***/
```

574 ///

/*** Norfolk Island ***/

580 ///

/*** Northern Mariana Islands ***/

583 ///

/*** Micronesia, Federated States of ***/

584 ///

/*** Marshall Islands ***/

585 ///

/*** Palau ***/

591 ///

/*** Panama ***/

598 ///

/*** Papua New Guinea ***/

600 ///

/*** Paraguay ***/

604 ///

/*** Peru ***/

608 ///

/*** Philippines ***/

612 ///

/*** Pitcairn ***/

626 ///

/*** Timor-Leste ***/

630 ///

/*** Puerto Rico ***/

634 ///

/*** Qatar ***/

638 ///

/*** Réunion ***/

643 ///

/*** Russian Federation ***/

652 ///

/*** Saint-Barthélemy ***/

```
654 ///                                 /*** Saint Helena ***/
659 ///                                 /*** Saint Kitts and Nevis ***/
660 ///                                 /*** Anguilla ***/
662 ///                                 /*** Saint Lucia***/
663 ///                                 /*** Saint-Martin (French part) ***/
666 ///                                 /*** Saint Pierre and Miquelon ***/
670 ///                                 /*** Saint Vincent and the Grenadines ***/
682 ///                                 /*** Saudi Arabia ***/
690 ///                                 /*** Seychelles ***/
740 ///                                 /*** Suriname ***/
744 ///                                 /*** Svalbard and Jan Mayen Islands ***/
792 ///                                 /*** Turkey ***/
760 ///                                 /*** Syrian Arab Republic ***/
762 ///                                 /*** Tajikistan ***/
772 ///                                 /*** Tokelau ***/
776 ///                                 /*** Tonga ***/
780 ///                                 /*** Trinidad and Tobago ***/
```

```
784  ///
                                    /*** United Arab Emirates ***/
795 ///
                                    /*** Turkmenistan ***/
796  ///
                                    /*** Turks and Caicos Islands ***/
798  ///
                                    /*** Tuvalu ***/
850  ///
                                    /*** United States Virgin Islands ***/
858  ///
                                    /*** Uruguay ***/
860  ///
                                    /*** Uzbekistan ***/
862  ///
                                    /*** Venezuela (Bolivarian Republic of) ***/
882 ///
                                    /*** Samoa ***/
887  ///
                                    /*** Yemen ***/
```