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Integration of humanitarian migrants into the host country labour market*

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Abstract

The objective of this paper is to identify the factors that influence the labour market integration of new humanitarian migrants in the host country. A number of employment outcomes are examined including access to employment, access to stable employment, the wage/earnings level and the education-occupation mismatch. By using a recently collected panel survey data in Australia, the study shows that pre-migration education, work experience, previous migration episodes, as well as English proficiency, English training, study/job training undertaken in Australia and social capital form important determinants of the labour market integration of refugees in the host country. The paper highlights the differentiated impacts of these resources on the refugees' outcomes at six months and one year after arrival.

Keywords: refugees, labour market integration, Australia
JEL: J15, J61.

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1. Introduction

The number of forcibly displaced people has risen to a record level over the past decade [UNHCR, 2015]. [1] Almost 900,000 refugees have arrived in the developed countries over the past 10 years through resettlement programmes. Given the geopolitical environment, the situation is likely to worsen still further. This flow of refugees has had a profound impact on not only those who flee persecution and war in the home country but also on the receiving countries. The settlement of refugees from diverse legal categories creates challenges for the host societies in terms of facilitating the arrival of newcomers, integrating their children into the education systems and integrating those who can enter the labour markets fairly soon after their arrival.

This paper's main objective is to identify the factors that influence the labour market integration of refugees in Australia. We add to the existing literature on refugees and the labour market in a number of ways. First, we rely on a recent survey data – Beginning a New Life in Australia: Longitudinal Study of Humanitarian Migrants (BNLA) – which was commissioned by the Australian Department of Social Services (DSS) and managed by the Australian Institute of Family Studies. The main aim of this project is to follow individuals and migrating units through their settlement journey in Australia and record information on their experiences, challenges, adaptations and outcomes over time. So far two waves, out of the five planned, have been available since September 2016. The first wave consists of interviews conducted at 6 months after arrival in Australia while the second wave interviews were conducted at 12 months after arrival. Refugees and asylum seekers were asked a number of questions that covered a range of key domains, including demographic information, housing, language proficiency, education, employment and income, pre-migration experiences, health, community support, life satisfaction and life in Australia. To the best of our knowledge, this is the first paper that utilises this data set to analyse refugees' integration in Australia.

Second, we contribute to the literature by examining a number of employment outcomes, which include access to employment, access to stable employment, the income level and the education-occupation mismatch. While most of the literature considers access to employment

[1] There were 37.5 million forcibly displaced people a decade ago, increasing to 51.2 million in 2013, 59.5 million in 2014 and 65.3 million in 2015.

as the main element of the integration process, it is important that the jobs obtained are stable and of reasonable quality. Casual jobs at the start of the labour market integration process might be considered a normal adjustment process in the new country, it could nevertheless have a persistent effect given that the education signal attenuates after an individual has gained some work experience [Belman and Heywood, 1997]. In addition, and related to quality of employment, is the education-occupation mismatch. Recently arrived immigrants are more likely to be over-educated than the native population in Australia [Green et al., 2007]. As Kiersztyn (2013) has shown, overeducation could persist overtime and may not correct itself for a long time. Furthermore, the under-utilisation of immigrant skills could have significant macroeconomic effects, including a reduced contribution to GNP [Barrett et al., 2006]. Related to all the above aspects is the income level, which is generally lower for refugees compared to other economic migrants and natives [Chiswick et al., 2005]. Capturing all of these aspects will therefore give us an indication of how efficient is the labour market in adjusting newly arrived refugees, and consequently how well Australia benefits from different levels of human capital it receives each year as part of the Humanitarian programme.

Third, we evaluate the differentiated impacts on employment outcomes at six months and one year after arrival. As there are indeed frictions in any labour market, it is possible that the newly arrived find it difficult to adjust in the new country and due to lack of information about the labour market may struggle to initially find a job, let alone a "good" job. However, as obstacles generally diminish over a period of stay in the host country, the labour market outcomes could improve and hence analysis across two time periods will help understand the adjustment process.

Finally, we include two important variables that are often absent in the literature on refugee integration, namely social capital and previous migration experience. The impact of social capital or networks has been well established in the labour economics literature, therefore using it in the analysis of refugees' integration is not surprising. In addition, previous migration experience could have varied impacts, depending on the type of experience. If the refugees have lived in another, perhaps similar, host country and worked there then they might have more information about how the labour market functions in the developed countries and might be able to utilise that information in Australia. However, if the other country experience is part of the transition process from one refugee country to the next

then that could perhaps have detrimental impact, though it could still make them less risk averse and increase unobserved abilities.

In terms of methodology, we first use a logit model to examine the probability of being employed at six months and one year after arrival. This acts as a benchmark that provides information on the evolution of refugees' labour market status over time in Australia and how previous education and work experience, migration experiences, language skills, training and social capital formed in Australia affect their assimilation process. We then use the Heckman selection model to correct for eventual sample selection bias when looking at other employment outcomes: access to stable employment, wages and the education-occupation mismatch, across the two waves.

Our results show that pre-migration education has only a short-term positive impact on the access to employment but improves access to stable employment in the long-run. Pre-migration work experience do not seem to improve the performance of refugees in the labour market. Migration experiences increase access to stable employment in the short-run. Language skills have a long-term positive effect on access to employment and wages but increase the risks of an education-occupation mismatch in the short run. English trainings also increase the risks of a mismatch in the short-run but also reduce access to employment in the long-run. Finally, social capital increases the chances to be correctly matched in the short-run and increases access to employment and stable employment in the long-run. The results obtained provide us with a unique basis of knowledge for informed policy-making and help identify the ways to facilitate the economic integration of humanitarian migrants in Australia.

The rest of the paper is organised as follows. Section 2 provides the conceptual framework for the analysis as well as reviews related literature. Section 3 introduces the database while empirical strategy and results are presented in sections 4 and 5. Finally, Section 6 summarizes the results as well as highlights some policy implications.

2. Economic integration of humanitarian migrants

The existing literature identifies forced migrants as a group at an economic disadvantage relative to other immigrants as they face more barriers to enter employment, which makes their labour force participation rates lower than other migrant groups or the natives [Connor, 2010; Hugo, 2014; Ortensi, 2015; Wauters and Lambrecht, 2008]. Given that employment plays an important role in terms of immigrant's integration in the host society, gaining

employment for refugees in particular is an important dimension of their resettlement in the host country.

Labour economic theory often cites human capital, which consists of a set of skills/characteristics that increase a worker's productivity, as the main determinant that helps explain some of the differences in employment outcomes across different types of workers. There are several sources of human capital differences, including years of schooling, school quality, training, attitudes towards work, etc. In the tradition of Becker's approach, where human capital is viewed as an input in the production process [Becker, 1962, Mincer, 1974], the theory provides evidence of significant returns to schooling. The lifecycle of the individual starts with higher investments in schooling, and then there is a period of "full-time" work, but this is still accompanied by investment in human capital and thus increasing earnings. Besides, schooling is not the only way in which individuals can invest in human capital and there is a continuity between schooling investments and other investments in human capital. The increase in earnings takes place at a slower rate as the individual ages. There is also some evidence that earnings may start falling at the very end of workers' careers. An alternative view suggested by Spence is that observable measures of human capital may be rewarded because they are signals about some other characteristics of workers [Spence, 1973, 1974]. Several studies have demonstrated that signalling is important in the case of education [Kane and Rouse, 1995, Lang and Kropp, 1986, Tyler, Murnane and Willett, 2000]. An individual can also continue to invest in his human capital after he starts employment by undertaking training, which has been found to increase the worker's productivity and earnings.

In the case of migrants, part of their human capital is from their origin country. Therefore, a key factor influencing a new immigrant's labour market performance is the extent to which their existing levels of education, experience and training are valued in the destination country [Kanas and Tubergen, 2009]. This is the issue of imperfect portability/transferability of origin country human capital, i.e., education and labour market experience acquired in the origin country are significantly less valued than human capital obtained in the host country. The limited international transferability of human capital skills results in immigrants entering into relatively low status occupations when they first enter the host country's labour market [Chiswick and Miller, 2008]. On the opposite, host country education can legitimately be considered as a factor that boosts immigrant economic performance. The results are not conclusive though. Parasnis et al (2008) find that Australian qualifications do not result in

better labour market outcomes for migrants. However, other studies find that host country education is one of the main determinants of immigrant's access to higher paying occupations [Bibel et al., 2015, Zhu, 2009]. Kaida (2013) provides an additional response: host country education benefits only highly educated recent arrivals. Labour market experience gained post-migration is found to have a positive and significant effect on occupational attainment. The estimated rates of return to local training, experience and language are found to be very high [Cohen-Goldner and Eckstein, 2008]. Furthermore, the impact of training on job offer probabilities is larger than its effect on wages. However, the realized rate of return from white-collar training is relatively low and takes time. Discrimination, as well, can influence the labour market outcomes of the immigrants, as ethnic minorities are likely to face hurdles to get job offers or promotions [Clark and Lindley, 2009, Duvander, 2001, Hall and Farkas, 2008].

There is an increasing recognition among economists that social capital, much like human capital, can be used to facilitate productive activity and can be converted into something of value, such as income and prestige [Coleman 1988; Harker et al. 1990; Acemoglu and Autor, 2011]. Social networks, therefore, are significant determinants of the economic integration of immigrants, including refugees [Correa-Velez et al., 2015, Green et al., 2011, Mamgain and Collins, 2003]. Feeling as a valued member of the ethnic community [Ibrahim et al., 2010] as well as social support [Takeda, 2000] improve the labour market outcomes of humanitarian migrants. However, an increase in the number of social network members resettled in the same year or one year prior leads to a deterioration of labour market outcomes, while a greater number of long-tenured network members improves the probability of employment and raises the hourly wage for newly arrived refugees [Beaman, 2012]. Moreover, contacts with natives are particularly important for information diffusion and influence; exposure to the native population at the workplace has been shown to increase immigrant earnings [Drever and Hoffmeister, 2008, Kazemipur, 2006; Tammaru et al., 2010]. Other studies focus on how immigrant ethnic enclaves can provide labour market information and access to jobs [Wang and Maani, 2014]. They highlight the added role of immigrant group resources, information and networks (ethnic capital) on facilitating immigration group economic success in the host country [Kanas et al., 2012, Levanon, 2014]. However, immigrants' earnings are lower the greater the linguistic concentration in their origin language of the area in which they live [Chiswick and Miller, 2005]. Moreover, larger social networks are associated with a lower probability of making human capital investments [Battisti et al., 2015].

Finally, there are some aspects that are more relevant for refugees than they are for economic migrants. For instance, the health status, especially the "disability" variable [Strand, 1984, Tripodi, 2001] as well as mood disorders [Bogic et al., 2012] could significantly affect the labour market integration of refugees. Concerning the pre-resettlement period, trauma may have an impact on career choice and integration into the labour market [Hauff and Vaglum, 1993]. Results from earlier literature suggest that for each year spent as a refugee, there was a corresponding decrease in the ability to secure meaningful employment [Codell et al., 2011]. Finally, the length of time refugees stay in the host country is a significant predictor of their economic performance [Bevelander et al., 2009, Waxman, 2001]. In fact, Cortes (2004) shows that refugee, unlike economic migrants, are usually unable or unwilling to return to the home country and therefore perform better in the labour market in the long term as they have more incentive to obtain host country specific human capital.

3. Data

We use the Beginning a New Life in Australia: Longitudinal Study of Humanitarian Migrants (BNLA wave 1 and 2) data, which is a recent longitudinal data of the settlement experience of humanitarian arrivals in Australia. The first wave consists of interviews conducted at 6 months after arrival in Australia while the second wave interviews were conducted at 12 months after arrival.[2] Participants were asked questions covering a range of key domains, including demographic information, housing, language proficiency, education, employment and income, pre-migration experiences, health, community support, life satisfaction and life in Australia. The sample contains information on 2,370 individuals and 1,509 migrating units in wave 1. However, the dataset suffers from attrition as 361 individuals drop out of the survey between wave 1 and wave 2. As a result, only 2,009 individuals are observed in wave 2. Attrition is potentially problematic since it might be non-random: particular types of individuals are more likely to drop out. This raises the risk that the dataset contains observations on a skewed sample of the population. It is quite common in the literature to have an attrition rate of 15%. However, in order to make sure that the individuals that are observed for both waves do not constitute a non-randomly selected sub-sample, we compare

[2] Some variations in the timing of interviews occurred. More precisely, 75% of the sample in wave 1 was interviewed at 6 months after arrival whereas others have been interviewed at 1 year after arrival. It is the same for wave 2: the big majority was interviewed at 1 year after arrival but others were interviewed at 6 months, and a few at more than 1 year after arrival. We address this issue by controlling for time since arrival.

the mean values in wave 1 of the attriters and the individuals that are observed for both waves. The results of the test are displayed in Tables 1 and 2. In terms of characteristics, significant differences between the two groups are their region of birth, religion and visa subclass. The attriters are in higher proportion coming from Sub-Saharan Africa and are Muslim. They are in lower proportion coming from North Africa and the Middle East, Christians or of other religions. Besides, the refugee category represents a lower proportion in the sample of attriters. A higher proportion of individuals that never attended school dropped out. In terms of outcomes, the sample of attriters is characterized by a higher proportion of clerical/administrative workers. Besides, attriters have fewer relatives in Australia and received less help from relatives/friends. Finally, the proportion of individuals that experienced discrimination is higher in the sample of attriters. Since the employment outcomes are not significantly different between the two groups, we keep the individuals for which we have information in both waves. Therefore, the final sample contains 2,009 individuals observed across the two waves.

Sociodemographic information is reported in Table 3. The majority of the refugees in the sample are men (55%), aged 36 on average and married/with a partner. The majority of the refugees came from Iraq, Afghanistan, Iran and Myanmar and were granted a visa under the offshore component of the humanitarian program (84%). They have different types of visa but the majority were granted the "visa 200", which is the visa for the refugee category. Concerning the structure of the migrating unit, they are in majority a single person (27%), a family with children under 18 (26%) or a family with children under 18 and other family members (16%). The average migrating unit is composed of 3.5 members. Members of the migrating unit are individuals present on the visa application. Table 4 displays the descriptive statistics concerning the pre-migration period. First, on average, refugees spent 29.5 years in their country of birth. The majority (86%) visited another country before going to Australia. They have different levels of highest completed pre-migration education[3]: 15% never attended school, 20% have primary education, 19% have secondary education, 30% have senior secondary education and 16% have tertiary education. Moreover, 54% have done paid work before migrating to Australia. In terms of occupation skills, 30% were in high-skilled occupations such as managers (10%) and professionals (20%) whereas 70% had lower-skilled

[3] Education is divided into: primary school (runs for seven or eight years, starting at Kindergarten/Preparatory through to Year 6 or 7); secondary school (runs for three or four years, from Years 7 to 10 or 8 to 10); senior secondary school (runs for two years, Years 11 and 12) and tertiary education which includes both higher education and vocational education and training.

occupations such as technicians/traders (30%), labourers (16%) and machinery operators (10%), among others. Moreover, the vast majority experienced traumatized events before migrating, including time spent in refugee camps before entering Australia. Concerning the post-migration period (Table 5), we make the distinction between wave 1 and wave 2 in order to highlight the changes that occurred on average at six months and one year after arrival. About 13% have spent time on Bridging Visa (BV)[4] in Australia and the majority spent six to eleven months on BV.

An increasing proportion reports a good English proficiency: from 37% at the first interview to 45% at the second interview. A large proportion had undertaken English training and study/job training across the two waves. Considering English training, the majority was enrolled in the Adult Migrant English Program (AMEP) at the first interview. In terms of employment outcomes, the sample size for employed individuals increased over time, though the proportion of refugees employed in high-skilled occupations remains low; it actually went down slightly from 9% in wave 1 to 8% in wave 2. However, lower-skilled employment is steady with just over 90% employed across the two waves. Considering the employment type, fewer refugees in proportion are self-employed or working on casual basis. For those employed, refugees are working on average 33 hours per week (stable across waves) and earn on average 22 AUD per hour in wave 1 and 19 AUD in wave 2. As for refugees who are not employed, more of them are looking for paid work in wave 2 (31%) compared to wave 1 (21%). An increasing proportion knows how to look for a job: from 19% in wave 1 to 39% in wave 2. Individuals were also asked about their health. The majority reports a better health in wave 1 as well as in wave 2. Moreover, the majority seems to have no probable serious mental illness neither post-traumatic stress disorder (PTSD). Finally, at the first interview, 25% had friends and 54% had relatives in Australia. We construct two dummies for social capital: (i) help received from relatives/friends is equal to 1 if the individual received help from relatives/friends when looking for a job or when looking for a house or again if they received money from relatives/friends and is equal to zero otherwise and (ii) help received from organisations is equal to 1 if the individuals received support from either their ethnic group, religious group or any other community groups, and zero if not.[5]

[4] Bridging visas are temporary visas which allow people to legally reside in the Australian community while they are applying for a longer term visa, appealing a decision relating to their visa, or making arrangements to leave Australia.

[5] Around 65% received help from relatives/friends and 60% from organisations in wave 1. In wave 2, a slightly larger proportion (67%) received help from organisations.

We also present the education mismatch transitions of the refugees between the occupational status in the job held in the home country before migration and the occupational status at the first and second interview in Australia (Table 7). We capture the education-occupation mismatch by comparing the level of education acquired by the refugee with the level of education required to perform the refugee's job as defined by the Australian Department of Immigration and Citizenship (DIAC). The occupational breakdown and the definitions of skill levels are presented in Table 6. We use the Australian Standard Classification of Occupation (ASCO) codes to divide the employed refugees into several occupational groups. For each occupation group Australia's Department of Immigration and Citizenship (DIAC) associates a corresponding required level of education (Table 6). We consider as over-educated all the respondents who have a level of education that is above what is required by DIAC to have the occupation. This includes individuals who have a tertiary education or higher but have an occupation that requires only secondary, and individuals who have a university degree but have an occupation that requires only a vocational degree. Conversely, the under-educated include individuals who have an education level lower than the one required for their job. We consider ASCO for the assessment of the education-occupation mismatch in the former home country as well since employers in Australia would most likely assess the former home country labour market experience of the refugees according to the Australian standards.

From Table 7, we can see that, unsurprisingly, on average, 92% of the refugees were unemployed at six months after arrival, with the highest incidence of unemployment among those who were already not working in the home country (98%). The overall incidence of unemployment decreases at the second interview at one year after arrival to about 81%. Interestingly, the results seem to capture a signalling effect. Indeed, we can note the persistence in the educational mismatch between home and host countries among those who were employed both prior to and after migration: 9% of the over-educated at home were over-educated in their job in Australia at six months after arrival; the rate increases to about 15% at twelve months after arrival, as part of those who were initially unemployed enter into employment. This can be observed with respect to under-education as well: of those who were under-educated at home, about 5% were under-educated at six months and 12% at twelve months after immigration to Australia. Finally, 3% of the individuals that were

correctly matched at home were also correctly matched at six months after migration. This proportion increases to 7% at twelve months after migration.

4. Methodology

In order to investigate the refugees' labour market integration, we examine subsequently several employment outcomes such as 1) access to employment: in employment as opposed to being unemployed, 2) access to stable employment: in permanent/ongoing basis, self-employed, fixed-term contract or on casual basis, 3) the hourly income and finally, 4) the education-occupation mismatch (i.e., being over-/under-educated as opposed to being correctly matched). We run regressions separately for wave 1 and wave 2 in order to highlight the differentiated impacts over time. Moreover, we focus on male refugees due to the limited number of female refugees that participate in the labour market in our sample. For access to employment, we rely on a simple binary logit model. However, since the other outcomes (from 2 to 4) are observed only for the employed individuals, an exclusive focus on those refugees who have an occupation may overlook the fact that they might constitute a non-randomly selected sub-sample. Taking this issue into consideration, we use the Heckman selection model in order to correct for eventual sample selection bias. Therefore, any employment outcome (from 2 to 4) can be expressed by a two-equation model. First, there is the regression model:

$$Y_{1,i} = \beta_1 X_i + \beta_2 Z_i + u_i \quad (1)$$

where $Y_{1,i}$ is the outcome of interest of an individual i, X_i are the variables of interest and Z_i is a set of controls. There is also the selection model:

$$Y_{2,i} = \delta_1 Z_i + v_i \quad (2)$$

where $Y_{2,i} = 1$ if the individual is employed and $Y_{2,i} = 0$ if not. The variable $Y_{1,i}$ is only observed if $Y_{2,i} = 1$. Equation (2) is fully observed and can be estimated separately. Several parameters are included in the selection equation: age, age-squared, the marital status, the size of the migrating unit. We use the knowledge about finding a job in Australia as the instrument since it has a direct impact on the probability of being employed but has no direct impact on other employment outcomes: stability of job, education-occupation mismatch etc.

To verify the validity of the instrument, we include the variable in the selection as well as in the outcome equation [Murray, 2006]. The extent to which the individual knows how to find a job in Australia has a significant impact on the probability of being employed (selection equation) but is insignificant in the outcome equation. In the regression model, our covariates of interest are the following: pre-migration education, pre-migration work experience, migration experiences proxied by whether the individual has visited another country before going to Australia, English proficiency as well as English training and study/job training undertaken in Australia, whether the individual has spent time in refugee camps, in immigration detention centre, in community detention and on bridging visa, whether the individual has a probable serious mental illness and 2 dummies for social capital: help received from organisations and relatives/friends. Finally, we include several background variables that are potential sources of variation in economic integration and/or have been found to affect economic outcomes in previous research on refugees and immigrants: age, age-squared, being married/having a partner, the region of birth (North Africa and the Middle East, South-East Asia, Southern and Central Asia and Sub-Saharan Africa), the size of the migrating unit, whether the individual lives in major cities in Australia and finally, the length of residence in Australia.

5. Results

The analysis proceeds as follows. First, we look at the results of the logistic regression to identify the factors that influence the access to employment. Then, we utilise a Heckman selection model in order to look at the following employment outcomes: access to stable employment, the hourly income and the probability of having an educational mismatch (being over/under-educated or being correctly matched). As already mentioned before, we make the distinction between wave 1 and wave 2 in order to highlight the differentiated impacts over time.

5.1. Access to employment

We rely on a simple logit model to examine the factors that influence the access to employment for male refugees. Table 8 displays the average marginal effects. First, refugees who possess a secondary or tertiary education are more likely to gain employment at six months after arrival. However, later on, pre-migration education does not have an impact on the probability of being employed as it is very likely that the return to education signal attenuates with workforce experience in Australia [Belman and Heywood, 1997]. Second,

refugees who have a good English proficiency are more likely to gain employment, with the impact even stronger at one year after arrival. On the other hand, refugees who undertake English training in Australia are less likely to gain employment. This is perhaps because the English training programmes in Australia, such as the Language, Literacy and Numeracy Program (LLNP), are offered only to eligible job seekers whose LLN skills are below the level considered necessary to secure sustainable employment or pursue further education and training. However, for the other individuals that are undertaking English training alongside working, the impact remains significantly negative. We argue that one potential explanation for this negative impact of English training on employment is that English training is time-consuming and, therefore, affect the time allocated for work. Refugees who have spent time in refugee camps are more likely to be employed at one year after arrival. This is possibly due to the fact that refugees have accumulated human capital in camps. Indeed, some refugee camps offer English classes, training and schooling. Finally, we observe that those who have received help from relatives/friends have significantly higher chances of being employed at one year after arrival. In fact, networks can provide not only emotional and material support but also information about labour market opportunities [Correa-Velez et al., 2015].

5.2. Access to stable employment

Turning to the type of employment, we rely on the Heckman selection model. The results of the regressions of being in a permanent job (ongoing basis), in self-employment, in fixed-term contracts and on casual basis are presented in Tables 9 and 10. We consider that working on an ongoing basis is the most stable type of employment whereas working on a casual basis is the least stable type of employment. First, the selection into employment is found to be positively related to age and to how much the individual knows about how to look for a job in Australia. The probability of being employed is negatively affected by age-squared and the size of the migrating unit.

Refugees who have visited another country before coming to Australia are significantly more likely to occupy a permanent position at six months after arrival. One potential explanation is that they may have accumulated more human capital which allows them to have access to certain types of occupations in the short-term. Moreover, refugees who have a senior secondary education and who have spent time in refugee camps before coming to Australia as well as those who received help from relatives/friends are significantly more likely to have a permanent job at one year after arrival. Indeed, refugees are able to take

English classes and receive education/training in some refugee camps, which might increase their likelihood to have a stable job. Finally, their network helps them having more information about labour market opportunities.

Considering self-employment, refugees who have a secondary or tertiary education are more likely to be self-employed at six months and one year after arrival. On the other hand, those who have a good English proficiency, who have spent time in community detention or on bridging visa are less likely to be self-employed. One potential explanation for refugees who have a good English proficiency is that they might have other competing opportunities. Spending time in community detention often leads to psychological and interpersonal difficulties for the refugees which might affect the capacity of the refugee to be self-employed. Finally, having a temporary visa might be a constraint when starting a business in Australia.[6] The refugees themselves could also be reluctant to start a business due to the uncertainty of their status.

Considering the probability of having a fixed-term contract, refugees who have spent time in community detention are more likely to be in this situation at six months after arrival. Similarly, refugees who spent time in immigration detention centres and on bridging visa are more likely to have a fixed-term contract at one year after arrival. One reason could be that employers prefer to provide a fixed-term contract to refugees on temporary visas and who have spent time in detention.

Finally, we look at the probability of working on a casual basis. As expected, those with a secondary or a senior secondary education and who received help from relatives/friends are significantly less likely to work on a casual basis. On the other hand, refugees who have spent time in refugee camps or on bridging visa have more risks to work on a casual basis in the short-run. Similarly, refugees who have spent time in community detention are more likely to work on a casual basis at one year after arrival. Again, it is not surprising that individuals who have spent time in detention or who are on temporary visas are the ones most likely to occupy least stable jobs.

[6] Some bridging visas have permission to work as self-employed but not all. It depends on the conditions attached to the bridging visa. More information is available at https://www.border.gov.au/Trav/Visi/Visi/Bridging-visas

5.3. Earnings outcome

We now want to identify the factors that influence the hourly income of the refugees. The results of the Heckman selection model are displayed in Table 11. An interesting result is that there are no (or negative) returns to pre-migration education. This is consistent with the imperfect transferability of human capital from the origin country. As expected, refugees with good English proficiency and who have spent time on bridging visa have a higher hourly income at six months and one year after arrival. On the opposite, refugees who have spent time in refugee camps have a lower hourly income at six months and one year after arrival. This result reflects the hysteresis hypothesis. Those who have spent time in camps were probably unable to work which plays the role of a signal for employers: a lack of work experience has a detrimental effect on the existing level of human capital. As a result, refugees have lower wages later on, even if they do find a job. Moreover, our results show that receiving help from relatives/friends do not result in a higher income level for refugees.

Our findings are in line with existing empirical studies looking at immigrants and natives. For instance, considering the imperfect portability of origin country human capital, Parasnis et al. (2007) found as well that Australian qualifications do not result in better earnings outcomes for migrants. With respect to receiving help from social networks, Piracha et al. (2014) show that social capital has no effect on hourly wages of men in Australia. Finally, a number of studies found a positive impact of host country language proficiency on earnings outcomes for migrants.

5.4. The education-occupation mismatch

As explained in Section 3, employed individuals are defined as educationally overqualified or not by comparing the highest attained level of education with the socioeconomic status of present employment. Table 12 displays the results for the probability for refugees of being over-educated, under-educated and correctly matched at the first and second interviews.

Refugees who have senior secondary or tertiary education, good English proficiency and who have spent time in immigration detention centres are more likely to be over-educated. Conversely, refugees who have a good English proficiency are less likely to be under-educated at six months after arrival. This can be explained by the fact that refugees who have a good English proficiency are likely to be the ones the most educated. Spending time in immigration detention centres is a bad signal for employers, therefore resulting for refugees

in occupying a non-educationally appropriate job. Finally, refugees who received help from organisations are more likely to be under-educated at one year after arrival.

We now look at the factors that influence the probability of being correctly matched. Refugees who have a primary or secondary education are more likely to occupy an educationally appropriate job at six months after arrival whereas those who have a senior secondary education are less likely to be correctly matched six months later. Indeed, since origin country human capital is hardly transferable to the host country, having a higher level of education from the origin country increases the risks of not having an educationally appropriate job. Receiving help from relatives/friends improves the chances of being correctly matched at six months after arrival whereas it decreases it to undertake English training in Australia. In fact, relatives/friends can help by providing information about labour market opportunities that match the level of education of the refugee. However, undertaking English training in Australia is time-consuming, therefore it seems to be preventing the refugees from allocating all their time to job search, and therefore, from occupying a job that matches their level of education in the short run.

Our results are consistent with a number of existing empirical studies. For instance, Green et al (2007) found that immigrants in Australia are more likely to be overeducated than the native population and this translates to reduced returns to education. Franzen and Hangartner (2006) show that social networks lead to higher status occupations compared to formal channels and Horváth (2014) and Griesshaber and Seibel (2015) found that personal networks lead to lower levels of over-education. Our results concerning the negative impact of English training on the probability of being correctly matched are in line with Linsley (2005), who showed that those who are in positions in which their skills are underutilised are also likely to be underutilising their time.

6. Conclusion

The aim of this study was to identify the factors that influence the integration of refugees in the Australian labour market. Several employment outcomes were examined: the access to employment, access to stable employment, the income as well as the level of the labour market mismatch. We investigated how previous education and work experience, migration experiences, language skills, training and social capital formed in Australia affect their

assimilation process. Furthermore, we highlighted the differentiated impacts of these resources on the employment outcomes at six months and one year after arrival.

With respect to human capital, we argue that pre-migration education plays the role of a signal for employers since it has a short-term positive impact on the access to employment. However, at one year after arrival, pre-migration education does not improve much the performance of refugees. It only influences the access to stable employment since educated refugees are less likely to be working on a casual basis in the long-run. Refugees who have pre-migration work experience do not seem to perform better than the others. Those who have migration experiences are more likely to have a stable job in the short-run. Language skills have a long-term positive effect: refugees who have a good English proficiency are more likely to be employed and have a higher hourly income in the long-run. However, it increases the risks to be over-educated in the short-run. Considering training, those who have undertaken English training in Australia seem to be worse off compared to the others: they are less likely to occupy an educationally appropriate job in the short-run and they are less likely to be employed in the long-run. We argue that this is due to the fact that English training is time-consuming. Furthermore, those who have undertaken study/job training in Australia do not seem to perform better than the others. As expected, spending time in immigration detention centres or in community detention significantly affect the performance of refugees in the long run. Spending time on bridging visa seems to affect the refugees only in the short term since they are less likely to occupy permanent positions but they have a higher hourly income in the long-run. Refugees who have spent time in refugee camps perform better in the long-run. One explanation is that refugees have accumulated human capital in camps (i.e., language training etc). Finally, receiving help from relatives/friends significantly improves the economic performance of refugees: they are more likely to be correctly matched in the labour market in the short-run and to be employed and to have a permanent job in the long-run.

The findings of this study have important policy implications. First, previous studies mostly recommend resources that would improve access to employment for humanitarian migrants. We argue that an effective integration policy should not only aim at increasing employment for refugees but should also aim at facilitating access to stable employment and at reducing the level of labour market mismatch. Furthermore, there should be a clear distinction between policies aiming at having a short-term effect to facilitate the integration of the refugees in their first few months in the host country and more durable policies that

have a long-term effect. For instance, programs aiming at increasing English proficiency among the refugees should be instituted in the first few months after arrival and should possibly be done in a way that does not delay too much their entry in the labour market. Furthermore, it should be followed by programmes that help refugees build new social networks since receiving help has a longer positive effect on refugees' employment outcomes.

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Table 1: **Sample descriptives using t-test for equality of means**

	Attriters		**Respondents Wave 1 and 2**		
	Mean	**Sd**	**Mean**	**Sd**	**t-test**
Male	0.53	0.5	0.55	0.5	-0.8
Age	34.8	14	35.7	14	-1.1
Married or has partner	0.58	0.5	0.61	0.5	-1
Region of Birth - North Africa and the Middle East	**0.47**	**0.5**	**0.57**	**0.5**	**-3.3****
Region of Birth - South-East Asia	0.06	0.2	0.06	0.2	0.5
Region of Birth - Southern and Central Asia	0.39	0.5	0.34	0.5	1.6
Region of Birth - Sub-Saharan Africa	**0.07**	**0.3**	**0.03**	**0.2**	**3.5*****
Religion - Christian	**0.36**	**0.5**	**0.44**	**0.5**	**-2.7***
Religion - Muslim	**0.56**	**0.5**	**0.41**	**0.5**	**5.1******
Religion - Other religions	**0.08**	**0.3**	**0.15**	**0.4**	**-3.4*****
Migration pathway - Onshore	0.18	0.4	0.16	0.4	1.2
Migration pathway - Offshore	0.82	0.4	0.84	0.4	-1.2
Visa 200 Refugee	**0.60**	**0.5**	**0.69**	**0.5**	**-3.2****
Visa 201 In-country Special Humanitarian	0.003	0.1	0.004	0.1	-0.5
Visa 202 Global Special Humanitarian Program	0.05	0.2	0.03	0.2	1.7
Visa 204 Woman at risk	0.16	0.4	0.115	0.3	2.4
Visa 866 Onshore Protection (UMA)	0.11	0.3	0.11	0.3	0.2
Visa 866 Onshore Protection (Non UMA)	0.07	0.3	0.05	0.2	1.8
MU structure - Single person	0.30	0.5	0.27	0.44	1.2
MU structure - Family with children under 18	0.24	0.4	0.26	0.44	-0.96
MU structure - Family with children under 18 and others	0.11	0.3	0.16	0.37	-2.4
MU size	3.4	2.2	3.5	2.1	-1.1
Lives in major cities in Australia	0.87	0.3	0.91	0.3	-2.4
Years spent in country of birth	28	14.5	29.5	15.7	-1.5
Visited another country before going to Australia	0.81	0.4	0.85	0.35	-1.5
Pre-migration education - Never attended school	**0.22**	**0.4**	**0.15**	**0.36**	**3.2****
Pre-migration education - Primary school	0.22	0.4	0.20	0.4	0.97
Pre-migration education - Secondary school	0.15	0.35	0.19	0.4	-2
Pre-migration education - Senior secondary school	0.27	0.44	0.3	0.46	-1.2
Pre-migration education - Tertiary education	0.15	0.36	0.16	0.37	-0.66
N	361		2,009		

Source: BNLA wave 1 and 2

Notes: MU stands for "Migrating Unit". * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, **** $p < 0.001$.

Table 2: **Sample descriptives using t-test for equality of means**

	Attriters		**Respondents Wave 1 and 2**		
	Mean	**Sd**	**Mean**	**Sd**	**t-test**
Did paid work before arrived	0.55	0.5	0.54	0.5	0.6
Did unpaid work before arrived	0.58	0.5	0.60	0.5	-0.7
Experienced traumatized events	0.88	0.3	0.91	0.29	-1.5
Spent time in refugee camps	0.20	0.4	0.18	0.39	-0.02
Spent time in Immigration Detention Centre (IDC)	0.11	0.3	0.10	0.3	0.4
Spent time in Community Detention (CD)	0.05	0.2	0.04	0.2	0.5
Spent time on Bridging Visa (BV)	0.14	0.35	0.13	0.34	0.7
English proficiency	0.37	0.5	0.37	0.48	0.27
English training	0.79	0.4	0.78	0.42	0.5
Study/job training	0.16	0.37	0.15	0.35	0.7
Currently in paid work	0.07	0.25	0.06	0.24	0.5
Employment type - Self-employed	0	0	0.07	0.26	-1.4
Employment type - Fixed-term contract	0.17	0.4	0.05	0.2	2.1
Employment type - Casual basis	0.58	0.5	0.69	0.46	-1
Employment type - Permanent/ongoing basis	0.25	0.4	0.19	0.39	0.7
Occupation - Managers	0	0	0.06	0.2	-1
Occupation - Professionals	0.06	0.25	0.04	0.2	0.5
Occupation - Technicians/traders	0.3	0.5	0.3	0.5	-0.1
Occupation - Community/personal workers	0.25	0.4	0.1	0.3	2
Occupation - Clerical/admin	**0.06**	**0.25**	**0**	**0**	**2.6***
Occupation- Salespersons	0	0	0.01	0.1	-0.4
Occupation - Machinery operators	0	0	0.13	0.3	-1.5
Occupation - Labourers	0.3	0.5	0.36	0.5	-0.4
Hours per week	29	14.6	33	15.8	-1.1
Log hourly income (AUD)	2.68	1.3	2.8	0.9	-0.6
Looked for paid work	0.23	0.4	0.21	0.41	1
Hard to get a job	0.93	0.3	0.9	0.3	0.8
Know how to look for a job	0.2	0.4	0.19	0.39	1.4
Kessler 6 - Probable serious mental illness	0.16	0.4	0.17	0.37	-0.3
May have post-traumatic stress disorder	0.28	0.45	0.34	0.47	-2
Social network - Friends	0.19	0.4	0.25	0.43	-2.4
Social network - Relatives	**0.45**	**0.5**	**0.54**	**0.5**	**-3.4*****
Social capital - Relatives/friends	**0.53**	**0.5**	**0.65**	**0.48**	**-4*****
Social capital - Organisations	0.62	0.5	0.6	0.5	0.6
Experienced discrimination	**0.08**	**0.3**	**0.04**	**0.2**	**3.5*****
N	361		2,009		

Source: BNLA wave 1 and 2

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, **** $p < 0.001$.

Table 3: **Sociodemographic characteristics**

	Mean	Sd	N
Male	0.55	0.5	2,009
Age	35.7	14	2,009
Married or has partner[a]	0.61	0.5	1,894
Region of Birth - North Africa and the Middle East	0.57	0.5	2,009
Region of Birth - South-East Asia	0.06	0.2	2,009
Region of Birth - Southern and Central Asia	0.34	0.5	2,009
Region of Birth - Sub-Saharan Africa	0.03	0.2	2,009
Religion - Christian	0.44	0.5	1,984
Religion - Muslim	0.41	0.5	1,984
Religion - Other religions	0.15	0.4	1,984
Migration pathway - Onshore	0.16	0.4	2,009
Migration pathway - Offshore	0.84	0.4	2,009
Visa 200 Refugee	0.69	0.5	2,009
Visa 201 In-country Special Humanitarian	0.004	0.1	2,009
Visa 202 Global Special Humanitarian Program	0.03	0.2	2,009
Visa 204 Woman at risk	0.115	0.3	2,009
Visa 866 Onshore Protection (UMA)	0.11	0.3	2,009
Visa 866 Onshore Protection (Non UMA)	0.05	0.2	2,009
MU structure - Single person	0.27	0.44	2,009
MU structure - Family with children under 18	0.26	0.44	2,009
MU structure - Family with children under 18 and others	0.16	0.37	2,009
MU size	3.5	2.1	2,009
Lives in major cities in Australia	0.91	0.3	2,009

Source: BNLA wave 1

Note: MU stands for "Migrating Unit".

[a] Not asked of secondary applicant adolescent (SAa).

Table 4: **Descriptive Statistics - pre-migration period**

	Mean	Sd	N
Years spent in country of birth[a]	29.5	15.7	1,219
Visited another country before going to Australia[a]	0.86	0.35	1,268
Pre-migration education - Never attended school	0.15	0.36	1,989
Pre-migration education - Primary school	0.20	0.4	1,989
Pre-migration education - Secondary school	0.19	0.4	1,989
Pre-migration education - Senior secondary school	0.30	0.46	1,989
Pre-migration education - Tertiary education	0.16	0.37	1,989
Did paid work before arrived	0.54	0.5	1,996
Did unpaid work before arrived	0.60	0.5	1,909
Occupation - Higher-skilled occupations	0.3	0.46	848
Occupation - Lower-skilled occupations	0.7	0.46	848
Occupation - Managers	0.1	0.3	848
Occupation - Professionals	0.2	0.4	848
Occupation - Technicians/traders	0.3	0.45	848
Occupation - Community/personal workers	0.07	0.25	848
Occupation - Clerical/Admin	0.03	0.17	848
Occupation - Salespersons	0.05	0.22	848
Occupation - Machinery operators	0.1	0.3	848
Occupation - Labourers	0.16	0.37	848
Experienced traumatized events	0.91	0.29	1,910
Spent time in refugee camps	0.18	0.39	1,975
Spent time in Immigration Detention Centre (IDC)	0.10	0.3	1,981
Spent time in Community Detention (CD)	0.04	0.2	1,965

Source: BNLA wave 1

[a] Principal applicant (PA) report only.

Table 5: **Descriptive Statistics - post-migration period**

	Wave 1			Wave 2		
	Mean	**Sd**	**N**	**Mean**	**Sd**	**N**
Spent time on Bridging Visa (BV)	0.13	0.34	1,955			
English proficiency	0.37	0.48	1,990	0.45	0.5	2,008
Has undertaken English training	0.78	0.42	1,984	0.86	0.35	1,984
English training - AMEP	0.65	0.48	1,526			
English training - LLNP	0.016	0.13	1,526			
English training - TAFE	0.2	0.4	1,526			
English training - Secondary school	0.09	0.29	1,526			
English training - Other	0.07	0.26	1,526			
Has undertaken study/job training	0.15	0.35	1,982	0.30	0.46	2,009
Study/job training - Work experience	0.23	0.42	219	0.1	0.3	489
Study/job training - Paid traineeship	0.08	0.28	219			
Study/job training - Secondary school	0.26	0.44	219	0.12	0.32	489
Study/job training - Short course	0.22	0.41	219	0.3	0.46	489
Study/job training - Trade/technical	0.15	0.36	219	0.42	0.5	489
Study/job training - Uni degree	0.13	0.34	219	0.06	0.23	489
Study/job training - Other				0.065	0.25	489
Currently in paid work	0.06	0.24	1,989	0.15	0.36	2,008
Occupation - Higher-skilled occupations	0.09	0.3	106	0.08	0.27	287
Occupation - Lower-skilled occupations	0.91	0.3	106	0.92	0.27	287
Employment type - Self-employed	0.07	0.26	108	0.05	0.22	252
Employment type - Fixed-term contract	0.05	0.2	108	0.13	0.34	252
Employment type - Casual basis	0.69	0.46	108	0.58	0.5	252
Employment type - Permanent/ ongoing basis	0.19	0.39	108	0.23	0.4	252
Hours per week	33	15.8	100	33	13.6	286
Log hourly income (AUD)	2.8	0.9	84	2.6	0.9	254
Looked for paid work	0.21	0.41	1,874	0.31	0.46	1,023
Hard to get a job	0.9	0.3	501	0.82	0.39	572
Know how to look for a job	0.19	0.39	1,949	0.39	0.49	1,273
Kessler 6 - Probable serious mental illness	0.17	0.37	1,945	0.15	0.36	2,004
May have post-traumatic stress disorder	0.34	0.47	1,929	0.28	0.45	1,967
Social network - Friends	0.25	0.43	1,987			
Social network - Relatives	0.54	0.5	1,987			
Social capital - Relatives/friends	0.65	0.48	1,985			
Social capital - Organisations	0.6	0.5	1,931	0.67	0.47	1,970

Source: BNLA wave 1 and 2

Notes: AMEP stands for "Adult Migrant English Program"; LLNP for "Language, Literacy and Numeracy Program" and TAFE for "Technical and Further Education".

Table 6: **ANZSCO - Occupational breakdown and definition of skill levels**

Job position	Skill Level(s)	Definition
Managers		
Chief Executives, General Managers and Legislators	1	Bachelor degree or higher qualification
Farmers and Farm Managers	1	Bachelor degree or higher qualification
Specialist Managers	1	Bachelor degree or higher qualification
Hospitality, Retail and Service Managers	2	NZ Register Diploma or AQF Associate Degree, Advanced Diploma or Diploma
Professionals		
Arts and Media Professionals	1	Bachelor degree or higher qualification
Business, Human Resource and Marketing Professionals	1	Bachelor degree or higher qualification
Design, Engineering, Science and Transport Professionals	1	Bachelor degree or higher qualification
Education Professionals	1	Bachelor degree or higher qualification
Health Professionals	1	Bachelor degree or higher qualification
ICT Professionals	1	Bachelor degree or higher qualification
Legal, Social and Welfare Professionals	1	Bachelor degree or higher qualification
Technicians and trades workers		
Engineering, ICT and Science Technicians	2	NZ Register Diploma or AQF Associate Degree, Advanced Diploma or Diploma
Automotive and Engineering Trades Workers	3	NZ Register Level 4 qualification or AQF Certificate IV or III including at least two years of on-th
Construction Trades Workers	3	NZ Register Level 4 qualification or AQF Certificate IV or III including at least two years of on-th
Electrotechnology and Telecommunications Trades Workers	3	NZ Register Level 4 qualification or AQF Certificate IV or III including at least two years of on-th
Food Trades Workers	2-3	NZ Register Level 4 qualification or AQF Certificate IV or III including at least two years of on-th
Skilled Animal and Horticultural Workers	3	NZ Register Level 4 qualification or AQF Certificate IV or III including at least two years of on-th
Health and Welfare support Workers	2	NZ Register Diploma or AQF Associate Degree, Advanced Diploma or Diploma
Carers and Aides	4	NZ Register Level 2/3 qualification or AQF Certificate II or III
Hospitality Workers	4-5	Compulsory secondary education
Sports and Personal Service Workers	3-4	NZ Register Level 2/3 qualification or AQF Certificate II or III
Clerical and administrative workers		
Office Managers and Program Administrators	2	NZ Register Diploma or AQF Associate Degree, Advanced Diploma or Diploma
Personal Assistants and Secretaries	3	NZ Register Level 4 qualification or AQF Certificate IV or III including at least two years of on-th
General Clerical Workers	4	NZ Register Level 2/3 qualification or AQF Certificate II or III
Inquiry Clerks and Receptionists	4	NZ Register Level 2/3 qualification or AQF Certificate II or III
Numerical Clerks	4	NZ Register Level 2/3 qualification or AQF Certificate II or III
Clerical and Office Support Workers	5	Compulsory secondary education
Other Clerical and Administrative Workers	3-4	NZ Register Level 2/3 or AQF Certificate II or III
Sales workers		
Sales Representatives and Agents	3-4	NZ Register Level 2/3 qualification or AQF Certificate II or III
Sales Assistants and Salespersons	5	Compulsory secondary education
Sales Support Workers	5	Compulsory secondary education
Machinery operators and Drivers		
Machine and Stationary Plant Operators	4	NZ Register Level 2/3 or AQF Certificate II or III
Mobile Plant Operators	4	NZ Register Level 2/3 or AQF Certificate II or III
Road and Rail Drivers	4	NZ Register Level 2/3 or AQF Certificate II or III
Store persons	4	NZ Register Level 2/3 or AQF Certificate II or III
Labourers		
Cleaners and Laundry Workers	5	Compulsory secondary education
Construction and Mining Labourers	4-5	Compulsory secondary education
Factory Process Workers	4-5	Compulsory secondary education
Farm, Forestry and Garden Workers	5	Compulsory secondary education
Food Preparation Assistants	5	Compulsory secondary education
Other Labourers	5	Compulsory secondary education

Source: the Australian Standard Classification of Occupation (ASCO) and the Australia's Department of Immigration and Citizenship (DIAC).

Table 7: **Transition matrix of education mismatch between home country and first and second interview**

Education mismatch in home country	Education mismatch in Australia - First interview				
	Unemployed	**Over-educated**	**Correctly matched**	**Under-educated**	**Total**
Not working	97.62	2.38	0.00	0.00	100
Over-educated	87.34	8.86	1.27	2.53	100
Correctly matched	91.94	2.84	3.32	1.90	100
Under-educated	92.21	0.74	1.86	5.19	100
Total	91.96	2.07	2.07	3.90	100

Education mismatch in home country	Education mismatch in Australia - Second interview				
	Unemployed	**Over-educated**	**Correctly matched**	**Under-educated**	**Total**
Not working	85.71	11.90	0.00	2.38	100
Over-educated	79.75	15.19	2.53	2.53	100
Correctly matched	82.33	4.65	6.98	6.05	100
Under-educated	80.67	2.60	4.46	12.27	100
Total	81.24	4.69	4.69	9.38	100

Source: BNLA wave 1 and 2

Note: the "Not working" subgroup in the case of "education-occupation mismatch in the home country" includes besides unemployed also individuals that were not in the labour force, since some of them are employed or are looking for a job once in Australia.

Table 8: **Access to employment - Logit model (marginal effects)**

	Male in employment	
	Wave 1	**Wave 2**
Age	0.010	**0.32*****
	(1.47)	(3.36)
Age^2	-0.00016	**-0.00045******
	(-1.62)	(-3.67)
Married/having a partner	-0.0056	-0.01
	(-0.21)	(-0.29)
North Africa and the Middle East	**-0.1***	**-0.22*****
	(-1.75)	(-3.23)
South-East Asia	-0.036	-0.068
	(-0.49)	(-0.81)
Southern and Central Asia	0.005	-0.06
	(0.10)	(-0.82)
Size migrating unit	-0.014	**-0.04******
	(-1.38)	(-4.28)
Lives in major cities in Australia	**-0.09*****	**-0.08***
	(-3.00)	(-1.77)
Length of residence - Six to 11 months	**0.0685***	
	(1.74)	
Length of residence - One year	**0.158****	**0.1***
	(2.41)	(1.82)
Length of residence - Two years or more	**0.225*****	**0.18****
	(2.69)	(2.05)
Pre-migration primary education	0.02	0.009
	(0.71)	(0.19)
Pre-migration secondary education	**0.08****	0.004
	(2.25)	(0.07)
Pre-migration senior secondary education	0.012	0.0097
	(0.42)	(0.19)
Pre-migration tertiary education	**0.115****	0.05
	(2.55)	(0.84)
Pre-migration employment	0.039	-0.014
	(1.44)	(-0.40)
Visited another country before going to Australia	-0.008	0.042
	(-0.30)	(0.94)
English proficiency	**0.047****	**0.054***
	(1.99)	(1.65)
English training	**-0.05****	**-0.10*****
	(-2.42)	(-2.82)
Study/job training	-0.018	0.017
	(-0.67)	(0.58)
Spent time in refugee camps	0.038	**0.067***
	(1.23)	(1.81)
Spent time in immigration detention centres	0.027	-0.059
	(0.67)	(-0.91)
Spent time in community detention	**-0.07****	-0.0067
	(-2.04)	(-0.13)
Spent time on bridging visa	-0.019	0.019
	(-0.51)	(0.33)
Kessler 6 - Probable serious mental illness	**-0.09****	-0.047
	(-2.18)	(-1.04)
Social capital - Organisations	**-0.04****	-0.006
	(-2.16)	(-0.23)
Social capital - Relatives/friends	**0.064****	**0.09*****
	(2.36)	(2.78)
N	782	805

Notes: The base group for "Length of residence" is "Less than six months"; and for education the base group is "No education". t statistics in parentheses.* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, **** $p < 0.001$.

Table 9: **Access to stable employment - Heckam selection model two-step estimates (marginal effects)**

	Permanent/ongoing basis		**Self-employed**		**Fixed-term contract**		**Casual basis**	
	Wave 1	**Wave 2**	**Wave 1**	**Wave 2**	**Wave 1**	**Wave 2**	**Wave 1**	**Wave 2**
Age	-0.0037	0.0128	-0.0434	0.016	**-0.041****	-0.012	**0.088***	-0.017
	(-0.08)	(0.46)	(-1.43)	(1.05)	(-2.06)	(-0.50)	(1.75)	(-0.53)
Age^2	0.000016	-0.000146	0.0006	-0.000196	**0.006****	0.0002	**-0.0013***	0.00015
	(0.02)	(-0.38)	(1.45)	(-0.92)	(2.33)	(0.59)	(-1.82)	(0.33)
Married/having a partner	0.009	-0.024	**0.213*****	-0.03	-0.05	-0.076	-0.17	0.13
	(0.07)	(-0.30)	(2.56)	(-0.70)	(-0.92)	(-1.09)	(-1.25)	(1.43)
North Africa and the Middle East	**0.58***	**0.29****	-0.024	0.03	-0.13	0.187	-0.43	**-0.51*****
	(1.94)	(2.07)	(-0.12)	(0.45)	(-1.02)	(1.55)	(-1.28)	(-3.20)
South-East Asia	**1.65*****	**0.31****	-0.516	-0.009	-0.238	-0.004	**-0.9***	-0.3
	(3.37)	(1.94)	(-1.59)	(-0.10)	(-1.12)	(-0.03)	(-1.65)	(-1.62)
Southern and Central Asia	0.1	0.02	0.08	0.052	-0.0457	0.055	-0.14	-0.128
	(0.39)	(0.16)	(0.45)	(0.68)	(-0.39)	(0.46)	(-0.47)	(-0.81)
Size migrating unit	0.026	-0.007	-0.014	-0.005	-0.002	0.019	-0.0099	-0.007
	(0.38)	(-0.20)	(-0.31)	(-0.27)	(-0.08)	(0.64)	(-0.13)	(-0.18)
Lives in major cities in Australia	-0.0505	-0.059	-0.019	-0.046	0.07	**-0.19****	-0.0012	**0.299*****
	(-0.41)	(-0.66)	(-0.23)	(-0.94)	(1.32)	(-2.50)	(-0.01)	(2.93)
Length of residence - Six to 11 months	-0.23		0.014		0.058		0.16	
	(-1.06)		(0.10)		(0.61)		(0.66)	
Length of residence - One year	-0.07	0.125	**0.297****	0.011	0.078	-0.235	-0.304	0.099
	(-0.33)	(0.69)	(2.06)	(0.12)	(0.83)	(-1.51)	(-1.26)	(0.48)
Length of residence - Two years or more	0.199	0.31	**0.46*****	**0.24***	0.019	**-0.64*****	**-0.68****	0.09
	(0.84)	(1.34)	(2.94)	(1.87)	(0.18)	(-3.22)	(-2.59)	(0.36)
Pre-migration primary education	0.148	-0.008	0.0038	0.044	-0.38	-0.039	-0.114	0.0034
	(1.04)	(-0.08)	(0.04)	(0.79)	(-0.62)	(-0.45)	(-0.72)	(0.03)
Pre-migration secondary education	0.17	0.155	**0.366******	0.0528	-0.077	0.068	**-0.46*****	**-0.276****
	(1.14)	(1.32)	(3.69)	(0.81)	(-1.18)	(0.67)	(-2.77)	(-2.05)
Pre-migration senior secondary education	0.26	**0.19***	0.137	0.072	-0.043	-0.103	**-0.36****	-0.157
	(1.62)	(1.71)	(1.28)	(1.19)	(-0.61)	(-1.08)	(-1.99)	(-1.25)
Pre-migration tertiary education	0.006	0.0098	**0.238****	**0.136***	-0.055	-0.039	-0.19	-0.107
	(0.03)	(0.08)	(2.07)	(1.93)	(-0.73)	(-0.36)	(-0.98)	(-0.73)
Pre-migration employment	-0.0167	-0.0689	-0.0414	-0.003	0.289	-0.06	0.029	0.132
	(-0.14)	(-0.92)	(-0.51)	(-0.06)	(0.55)	(-0.93)	(0.22)	(1.54)

Table 10: **Access to stable employment - Heckam selection model two-step estimates (marginal effects)** (Continued)

	Permanent/ongoing basis		Self-employed		Fixed-term contract		Casual basis	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Visited another country before going to Australia	**0.325****	0.077	-0.09	0.0227	0.01	-0.193	-0.24	0.093
	(2.42)	(0.84)	(-1.05)	(0.45)	(0.17)	(-2.43)	(-1.63)	(0.89)
English proficiency	0.14	0.075	**-0.15****	0.014	-0.048	-0.068	0.06	-0.022
	(1.26)	(1.07)	(-2.09)	(0.36)	(-0.99)	(-1.10)	(0.50)	(-0.28)
English training	-0.057	-0.015	-0.037	0.023	-0.012	0.035	0.106	-0.043
	(-0.69)	(-0.21)	(-0.67)	(0.59)	(-0.33)	(0.57)	(1.16)	(-0.53)
Study/job training	-0.15	-0.007	0.099	-0.0476	-0.015	0.007	0.068	0.047
	(-1.37)	(-0.11)	(1.35)	(-1.35)	(-0.31)	(0.13)	(0.55)	(0.65)
Spent time in refugee camps	-0.17	**0.15***	-0.029	0.025	-0.05	-0.088	**0.25***	-0.093
	(-1.34)	(1.86)	(-0.34)	(0.56)	(-0.89)	(-1.22)	(1.76)	(-0.97)
Spent time in immigration detention centres	0.19	-0.017	0.139	-0.118	-0.075	**0.202***	-0.25	-0.068
	(0.95)	(-0.13)	(1.06)	(-1.63)	(-0.87)	(1.79)	(-1.15)	(-0.46)
Spent time in community detention	0.087	-0.02	**-0.148***	**-0.09***	**0.14*****	-0.093	-0.079	**0.204***
	(0.69)	(-0.21)	(-1.79)	(-1.65)	(2.60)	(-1.08)	(-0.57)	(1.80)
Spent time on bridging visa	-0.163	-0.058	**-0.408*****	-0.036	-0.012	**0.22****	**0.58*****	-0.127
	(-0.87)	(-0.49)	(-3.30)	(-0.56)	(-0.15)	(2.18)	(2.82)	(-0.95)
Kessler 6 - Probable serious mental illness	**0.656*****	0.053	-0.0149	**-0.093***	0.065	-0.013	**-0.706******	0.05
	(3.45)	(0.54)	(-0.12)	(-1.71)	(0.79)	(-0.15)	(-3.35)	(0.47)
Social capital - Organisations	0.066	-0.002	0.022	0.034	0.023	-0.32	-0.112	-0.00016
	(0.71)	(-0.03)	(0.36)	(1.05)	(0.57)	(-0.63)	(-1.08)	(-0.00)
Social capital - Relatives/friends	0.065	**0.2*****	0.1	0.023	-0.019	0.062	-0.148	**-0.286*****
	(0.57)	(2.65)	(1.36)	(0.55)	(-0.39)	(0.94)	(-1.18)	(-3.30)
Selection equation (Probability of being employed)								
Age	**0.107****	**0.0961*****	**0.107****	**0.0961*****	**0.107****	**0.0961*****	**0.107****	**0.0961*****
	(2.23)	(2.72)	(2.23)	(2.72)	(2.23)	(2.72)	(2.23)	(2.72)
Age^2	**-0.0016****	**-0.0014*****	**-0.0016****	**-0.0014*****	**-0.00157****	**-0.0014*****	**-0.00157****	**-0.0014*****
	(-2.38)	(-3.11)	(-2.38)	(-3.11)	(-2.38)	(-3.11)	(-2.38)	(-3.11)
Married/having a partner	0.161	0.073	0.161	0.073	0.161	0.073	0.161	0.073
	(0.97)	(0.54)	(0.97)	(0.54)	(0.97)	(0.54)	(0.97)	(0.54)
Size migrating unit	**-0.341******	**-0.206******	**-0.341******	**-0.206******	**-0.341******	**-0.206******	**-0.341******	**-0.206******
	(-6.00)	(-5.67)	(-6.00)	(-5.67)	(-6.00)	(-5.67)	(-6.00)	(-5.67)
Know how to look for a job	**0.666******	**0.724******	**0.666******	**0.724******	**0.666******	**0.724******	**0.666******	**0.724******
	(5.01)	(6.52)	(5.01)	(6.52)	(5.01)	(6.52)	(5.01)	(6.52)
N	1,015	871	1,015	871	1,015	871	1,015	871

Note: The base group for "Length of residence" is "Less than six months"; and for education the base group is "No education". t statistics in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, **** $p < 0.001$.

Table 11: **The hourly income - Heckam selection model two-step estimates (marginal effects)**

	Log hourly income	
	Wave 1	**Wave 2**
Age	-0.043	-0.05
	(-0.34)	(-0.73)
Age^2	0.00059	0.00082
	(0.34)	(0.85)
Married/having a partner	0.46	0.16
	(1.18)	(0.81)
North Africa and the Middle East	**-1.47****	-0.45
	(-2.14)	(-1.06)
South-East Asia	0.408	-0.545
	(0.42)	(-1.18)
Southern and Central Asia	**-1.67****	-0.56
	(-2.51)	(-1.36)
Size migrating unit	0.0037	-0.087
	(0.02)	(-0.92)
Lives in major cities in Australia	0.37	0.16
	(1.05)	(0.67)
Length of residence - Six to 11 months	0.12	
	(0.23)	
Length of residence - One year	**-2.01*****	-0.61
	(-3.15)	(-1.30)
Length of residence - Two years or more	**-3.36******	-0.86
	(-4.87)	(-1.42)
Pre-migration primary education	-0.14	-0.05
	(-0.32)	(-0.21)
Pre-migration secondary education	-0.08	-0.303
	(-0.17)	(-1.05)
Pre-migration senior secondary education	-0.33	**-0.54****
	(-0.69)	(-2.01)
Pre-migration tertiary education	-0.54	-0.52
	(-1.02)	(-1.62)
Pre-migration employment	0.3	-0.285
	(0.90)	(-1.61)
Visited another country before going to Australia	-0.25	0.06
	(-0.67)	(0.27)
English proficiency	**0.62****	**0.33***
	(2.08)	(1.86)
English training	-0.15	-0.035
	(-0.60)	(-0.20)
Study/job training	-0.246	-0.089
	(-0.90)	(-0.57)
Spent time in refugee camps	**-0.97*****	**-0.43****
	(-3.13)	(-2.09)
Spent time in immigration detention centres	**-1.25***	-0.08
	(-1.89)	(-0.26)
Spent time in community detention	0.46	-0.35
	(1.29)	(-1.36)
Spent time on bridging visa	**2.55******	**0.525***
	(3.76)	(1.76)
Kessler 6 - Probable serious mental illness	**1.27****	0.386
	(2.23)	(1.64)
Social capital - Organisations	-0.099	0.22
	(-0.41)	(1.50)
Social capital - Relatives/friends	-0.344	-0.24
	(-1.04)	(-1.26)
Selection equation (Probability of being employed)		
Age	**0.0827***	**0.0898****
	(1.79)	(2.49)
Age^2	**-0.00118***	**-0.00133*****
	(-1.89)	(-2.84)
Married/having a partner	-0.0339	0.0412
	(-0.20)	(0.30)
Size migrating unit	**-0.317******	**-0.20******
	(-5.06)	(-5.27)
Know how to look for a job	**0.538******	**0.705******
	(3.78)	(6.15)
N	1,020	874

Notes: The base group for "Length of residence" is "Less than six months"; and for education the base group is "No education". *t* statistics in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, **** $p < 0.001$.

Table 12: **Mismatch - Heckam selection model two-step estimates (marginal effects)**

	Over-educated		Under-educated		Correctly matched	
	Wave 1	**Wave 2**	**Wave 1**	**Wave 2**	**Wave 1**	**Wave 2**
Age	-0.018	0.032	0.04	-0.014	-0.0233	-0.018
	(-0.43)	(1.45)	(0.80)	(-0.51)	(-0.46)	(-0.75)
Age^2	0.00033	-0.00047	-0.0007	0.00036	0.000415	0.00011
	(0.55)	(-1.54)	(-1.01)	(0.93)	(0.58)	(0.34)
Married/having a partner	0.0044	**-0.178*****	0.07	**0.217****	-0.074	-0.039
	(0.04)	(-2.63)	(0.50)	(2.59)	(-0.55)	(-0.52)
North Africa and the Middle East	0.618	**-0.209***	-0.175	0.203	0.145	0.0067
	(1.24)	(-1.82)	(-0.47)	(1.40)	(0.40)	(0.05)
South-East Asia	-0.11	-0.138	-0.506	-0.269	-0.112	**0.41*****
	(-0.40)	(-0.97)	(-0.82)	(-1.51)	(-0.19)	(2.61)
Southern and Central Asia	0.064	-0.069	0.127	0.11	-0.016	-0.0423
	(0.98)	(-0.60)	(0.37)	(0.77)	(-0.05)	(-0.34)
Size migrating unit	0.037	0.046	-0.009	**-0.069***	-0.0545	0.023
	(0.34)	(1.58)	(-0.11)	(-1.91)	(-0.70)	(0.73)
Lives in major cities in Australia	0.064	**-0.148****	**0.36*****	**0.219****	**-0.397*****	-0.071
	(0.98)	(-1.97)	(2.71)	(2.32)	(-3.07)	(-0.86)
Length of residence - Six to 11 months	0.34		-0.203		-0.137	
	(1.91)		(-0.92)		(-0.64)	
Length of residence - One year	-0.07	0.107	0.047	-0.17	0.027	0.066
	(-0.38)	(0.73)	(0.20)	(0.94)	(0.11)	(0.41)
Length of residence - Two years or more	0.15	-0.096	0.077	-0.14	-0.23	0.234
	(0.77)	(-0.51)	(0.31)	(-0.59)	(-0.96)	(1.14)
Pre-migration primary education	-0.0346	-0.03	**-0.325****	0.087	**0.36****	-0.056
	(-0.29)	(-0.38)	(-2.17)	(0.86)	(2.47)	(-0.63)
Pre-migration secondary education	-0.0095	-0.045	**-0.284***	-0.05	**0.293***	0.096
	(-0.08)	(-0.47)	(-1.81)	(-0.41)	(1.92)	(0.90)
Pre-migration senior secondary education	**0.307****	**0.395******	**-0.303***	-0.08	-0.0038	**-0.31*****
	(2.22)	(4.42)	(-1.78)	(-0.74)	(-0.02)	(-3.18)
Pre-migration tertiary education	**0.76******	**0.773******	**-0.832******	**-0.69******	0.07	-0.082
	(5.13)	(7.21)	(-4.53)	(-5.14)	(0.39)	(-0.70)
Pre-migration employment	**-0.23***	**0.098***	0.0414	-0.117	0.19	0.019
	(-1.89)	(1.66)	(0.27)	(-1.58)	(1.29)	(0.30)
Visited another country before going to Australia	0.0645	-0.12	-0.035	0.083	-0.03	0.036
	(0.58)	(-1.57)	(-0.25)	(0.87)	(-0.22)	(0.43)
English proficiency	**0.16***	-0.0015	**-0.276****	-0.01	0.112	0.009
	(1.69)	(0.03)	(-2.30)	(-0.15)	(0.96)	(0.14)
English training	0.1	0.07	0.097	-0.034	**-0.197****	-0.037
	(1.41)	(1.21)	(1.10)	(-0.47)	(-2.30)	(-0.57)
Study/job training	0.096	-0.045	**-0.225***	**0.12***	0.13	-0.073
	(1.01)	(-0.87)	(-1.93)	(1.82)	(1.14)	(-1.28)
Spent time in refugee camps	-0.057	-0.09	-0.052	-0.103	0.109	**0.2*****
	(-0.47)	(-1.36)	(-0.35)	(-1.21)	(0.75)	(2.63)
Spent time in immigration detention centres	**0.46****	**0.2***	-0.27	-0.053	-0.19	-0.15
	(2.47)	(1.88)	(-1.17)	(-0.40)	(-0.85)	(-1.26)
Spent time in community detention	-0.1	0.11	0.11	-0.118	-0.0088	0.006
	(-0.92)	(1.38)	(0.81)	(-1.16)	(-0.07)	(0.07)
Spent time on bridging visa	-0.02	-0.06	-0.035	0.008	0.056	0.05
	(-0.14)	(-0.62)	(-0.18)	(0.07)	(0.30)	(0.49)
Kessler 6 - Probable serious mental illness	-0.19	0.011	0.0025	0.0215	0.187	-0.03
	(-1.26)	(0.13)	(0.01)	(0.20)	(1.03)	(-0.34)
Social capital - Organisations	0.06	-0.073	-0.0106	**0.12***	-0.049	-0.0465
	(0.81)	(-1.50)	(-0.12)	(1.95)	(-0.55)	(-0.87)
Social capital - Relatives/friends	-0.14	0.087	-0.093	-0.114	**0.23***	0.0265
	(-1.30)	(1.41)	(-0.71)	(-1.47)	(1.81)	(0.39)
Selection equation (Prob. to be employed)						
Age	**0.11****	**0.082****	**0.11****	**0.082****	**0.11****	**0.082****
	(2.08)	(2.41)	(2.08)	(2.41)	(2.08)	(2.41)
Age^2	**-0.0017****	**-0.00123*****	**-0.0017****	**-0.00123*****	**-0.0017****	**-0.00123*****
	(-2.28)	(-2.83)	(-2.28)	(-2.83)	(-2.28)	(-2.83)
Married/having a partner	0.227	0.145	0.227	0.145	0.227	0.145
	(1.36)	(1.09)	(1.36)	(1.09)	(1.36)	(1.09)
Size migrating unit	**-0.397******	**-0.211******	**-0.397******	**-0.211******	**-0.397******	**-0.211******
	(-6.05)	(-5.81)	(-6.05)	(-5.81)	(-6.05)	(-5.81)
Know how to look for a job	**0.605******	**0.702******	**0.605******	**0.702******	**0.605******	**0.702******
	(4.49)	(6.33)	(4.49)	(6.33)	(4.49)	(6.33)
N	1,018	877	1,018	877	1,018	877

Notes: The base group for "Length of residence" is "Less than six months"; and for education the base group is "No education". t statistics in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$, **** $p < 0.001$