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Integration of Humanitarian Migrants into the Host Country Labour Market: Evidence from Australia *

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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, one year and two years after arrival.

Keywords: refugees, labour market integration, Heckman selection, Australia.

JEL: J15, J21, J24, J31.

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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. Integration has many different meanings in the refugee integration literature (Ager and Strang 2008; Cheung and Phillimore 2014). In this paper, we define 'integration' as the process by which refugees get access to various sectors of employment in the host country. Besides, we employ the term 'refugees' to refer to humanitarian migrants. This category differs from 'economic migrants' (Ruiz and Vargas-Silva 2017; Long 2013) whereas we use the term of 'migrants' to designate both categories. 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 three waves, out of the five planned, have been available since September 2016. The first wave consists of interviews conducted at six months after arrival in Australia while the second wave interviews were conducted at one year and the third wave interviews at two years after arrival. Refugees 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 as the main element of the integration process, it is important that the jobs obtained are stable and of reasonable quality. Even though 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

¹There 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.

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, Kler, and Leeves 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, Bergin, and Duffy 2006; Ruiz and Vargas-Silva 2015a,b; Del Carpio and Wagner 2015). Related to all the above aspects is the income level, which is generally lower for refugees compared to economic migrants and natives (Chiswick, Lee, and Miller 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, one year and two years 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 three time periods will help understand the adjustment process.

Finally, we include two important variables that have not been studied enough 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 a number of studies (Cheung and Phillimore 2014; Strang and Ager 2010). However, there is limited information on the impact of different forms of social capital. 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, one year and two years 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 integration 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 three waves.

Our results show that pre-migration education has no impact on the access to employment but improves access to stable employment and wages in the long-run. Pre-migration work experience does 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 access to stable employment but increase the risks of an education-occupation mismatch in the short run. English trainings reduce access to employment and access to stable employment. In addition, study/job training in Australia increases the risks of being over-educated in the short-run. Finally, social capital increases the chances to be correctly matched in the labour market and increases wages in the short-run. The results obtained provide us a unique basis of knowledge for informed policy-making and help identify the ways to facilitate the economic integration of refugees, not only in Australia but other refugee receiving countries as well.

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 migrants

The existing literature identifies refugees as a group at an economic disadvantage relative to economic 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 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 since individuals can decide to spend time in training programs or to undertake internships and there is a continuity between these investments in human capital and schooling investments. 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 signaling 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 that obtained in the host country. Moreover, the higher the economic and cultural distance between the origin country and the host country, the least transferable human capital is (Sanromá, Ramos and Simón 2009). The reason may lie in the lower quality of the educational system in the origin country or it could be due to the fact that qualifications acquired abroad are too specific to the country of origin. 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 side, host country education can legitimately be considered as a factor that boosts immigrant economic performance. The results are not conclusive though. Parasnis, Fausten and Cheo (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 (Maani, Dai and Inkson 2015). However, Kaida (2013) shows the 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 (Duvander 2001; Hall and Farkas 2008; Clark and Lindley 2009).

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 (Acemoglu and Autor 2011; Mahar, Harker, and Wilkes 1990; Coleman 1988; Strang and Ager 2010). Social networks, therefore, are significant determinants of the economic integration of immigrants (Mamgain and Collins 2003; Green et al. 2011; Correa-Velez, Barnett and Gifford 2015). However, an increase in the number of social network members reset-

tled 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 2011). Contacts with natives are particularly important for information diffusion and influence; exposure to the native population at the workplace increases immigrant earnings (Tammaru et al. 2010; Drever and Hoffmeister 2008; Kazemipur 2006). 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 and information on facilitating immigration group economic success in the host country (Kanas et al. 2012; Levanon 2014). It has been argued that the concept of social networks should be distinguished from that of social capital. Indeed, social networks do not necessarily provide enhanced access to information whereas social capital is the concrete help gathered from networks (Cheung and Phillimore 2014).

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 (Waxman 2001; Bevelander, Hagström, and Rönnqvist 2009). In fact, Cortes (2004) shows that refugees, 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 to 3) data, which is a recent longitudinal data of the settlement experience of humanitarian arrivals in Australia. The first wave consists of interviews conducted at six months after arrival in Australia while the second wave interviews were conducted at one year after arrival and the third wave interviews at two years after arrival². 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 1,704 individuals observed

²Some variations in the timing of interviews occurred. 75% of the sample in wave 1 was interviewed at 6 months after arrival whereas others have been interviewed at 1 year after arrival. For wave 2, the majority was interviewed at 1 year after arrival but others were interviewed at 2 years after arrival. For wave 3, most of the respondents were interviewed at 2 years after arrival but others were interviewed at more than 2 years after arrival. We address this issue by controlling for time since arrival.

across the three waves.

Sociodemographic information is reported in Table 1. The majority of the refugees in the sample are men (54%), 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 (87%). They have different types of visa³ 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 (24%), a family with children under 18 (27%) and a family with children under 18 and other family members (16%). The average household is composed of 4.5 members.

< Table 1 here >

Table 2 displays the descriptive statistics concerning the pre-migration period. First, on average, refugees spent 30.4 years in their country of birth. The majority (88%) visited another country before going to Australia. They have different levels of highest completed pre-migration education: 15% never attended school, 20% have primary education, 19% have secondary education, 30% have senior secondary education and 16% have tertiary education. Moreover, 53% have done paid work before migrating to Australia. In terms of occupation skills, 30% were in high-skilled occupations such as managers (11%) and professionals (19%) whereas 70% had lower-skilled occupations such as technicians/traders (30%), labourers (16%) and machinery operators (10%), among others. Moreover, the vast majority experienced traumatic events before migrating, including time spent in refugee camps before entering Australia.

< Table 2 here >

Concerning the post-migration period (Table 3), we make the distinction between waves 1, 2 and 3 in order to highlight the changes that occurred on average at six months, one year and two years after arrival. About 11% 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 34% at the first interview to 43% at the second and 45% at the third interview. A large proportion had undertaken English

³The offshore resettlement component comprises two categories of permanent visas. The first category is Refugees - for people who are subject to persecution in their home country, who are typically outside their home country, and are in need of resettlement. The majority of applicants who are considered under this category are identified and referred by UNHCR to Australia for resettlement. The Refugee category includes the following visa subclasses: Visa 200 - Refugees; Visa 201 - In-country Special Humanitarian; Visa 203 - Emergency Rescue; and Visa 204 - Women at Risk. The second category is the Special Humanitarian Program (SHP) - for people outside their home country who are subject to substantial discrimination amounting to gross violation of human rights in their home country, and immediate family of persons who have been granted protection in Australia. Applications for entry under the SHP must be supported by a proposer who is an Australian citizen, permanent resident or eligible New Zealand citizen, or an organisation that is based in Australia. These applicants are granted Visa 202. The onshore component of the Humanitarian Program aims to provide options for people who wish to apply for protection (or asylum) after arrival in Australia. These applicants are granted Visa 866.

⁴Bridging 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.

training and study/job training across the three waves. Considering English training, the majority was enrolled in the Adult Migrant English Program (AMEP) at the first and third interviews. 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 12% in wave 1 to 5% in wave 3. Conversely, lower-skilled employment went up from 88% in wave 1 to 95% in wave 3. Considering the employment type, fewer refugees in proportion are working on casual basis. For those employed, refugees are working on average 32-33 hours per week (stable across waves) and earn on average 19-22 AUD per hour. As for refugees who are not employed, more of them are looking for paid work in wave 3 (33%) compared to wave 1 (18%) and wave 2 (28%). An increasing proportion knows how to look for a job between wave 1 (17%) and wave 2 (36%) though. There is no improvement in wave 3 (still 36%). Individuals were also asked about their health. Most of the refugees in our sample have no probable serious mental illness or post-traumatic stress disorder (PTSD). Finally, at the first interview, 25% had friends and 56% had relatives in Australia. We construct two proxies 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 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 not⁵.

< Table 3 here >

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, second and third interviews in Australia (Tables 4 to 8). 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). 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. 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 level education, 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

⁵64% received help from relatives/friends and 59% from organisations in wave 1. In wave 2, still 59% received help from organisations. Finally, in wave 3, a smaller proportion received help from organisations (57%).

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.

It is clear from Tables 4 to 6 that 93% 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. The overall incidence of unemployment decreases at the second interview at one year after arrival to about 82% and to 76% at the third interview, which is conducted at two years after arrival. Interestingly, the results seem to capture a signaling 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: 6% 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 one year after arrival and to about 18% at two years 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 5.5% were under-educated at six months after arrival, 12% at one year after arrival and 13% at two years after immigration to Australia. Finally, 2% of the individuals that were correctly matched at home were also correctly matched at six months after migration. This proportion increases to 6% at one year after migration but decreases again to 2% at two years after arrival in Australia.

< Tables 4 to 6 here >

If we focus on the education mismatch transitions in Australia (Tables 7 and 8), we can still notice the persistence in the educational mismatch even though the situation of the refugees improves. Indeed, 65% of the over-educated at six months after arrival are over-educated at the second interview. However, this proportion goes down to 39% at the third interview. With respect to under-education, 56% of the under-educated at six months after arrival are under-educated at the second interview. This proportion goes down to 51% at two years after arrival. Finally, around 32% of the refugees who were correctly matched at the first interview were correctly matched at one year after arrival; this proportion increases to 42% at two years after immigration to Australia.

< Tables 7 to 8 here >

4 Empirical Methodology

In order to investigate the refugees' labour market integration, we analyse a number of employment outcomes such as 1) access to employment, 2) access to stable employment (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 each wave 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. 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:

$$Y_{2,i} = \gamma_1 Z_i + v_i \quad (2)$$

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 household. 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 proxies 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, 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 distinguish between waves in order to highlight the differentiated impacts over time.

5.1 *Access to Employment*

The results in Table 9 show that pre-migration education does not improve the probability of being employed at six months and one year after arrival. Only refugees who possess a tertiary education are more likely to gain employment at two years after arrival. This is consistent with the fact that origin country human capital is imperfectly transferable to the host country. Second, refugees who have a good English proficiency are more likely to gain employment, with the impact even stronger over time; but those who undertake English training in Australia are less likely to gain employment at one year after arrival. 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 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 six months and one year after arrival. This is possibly due to the fact that they have accumulated human capital in camps as some offer English classes, training and schooling. Refugees who have spent time on bridging visa are more likely to be employed at one year after arrival. Indeed, bridging visas have an average duration of less than a year. Therefore, as soon as the temporary visa ends, it is easier for the refugee to gain employment. As expected, individuals who have a probable serious mental illness are less likely to be employed at six months and two years after arrival. Finally, we observe that those who have received help from organisations are less likely to gain employment at six months after arrival whereas those who have received help from relatives/friends have significantly higher chances of being employed at six months and one year after arrival. In fact, networks can provide not only emotional and material support but also information about labour market opportunities (Correa-Velez, Barnett and Gifford 2015).

< Table 9 here >

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 Table 10.

< Table 10 here >

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 household.

Refugees who have pre-migration education are more likely to gain a permanent position in the long-run. Besides, those 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. A good English proficiency has a long-lasting positive effect: it improves the chances of having a permanent position at six months and two years after arrival. Refugees who have spent time in refugee camps, in community detention or on bridging visa are more likely to have a permanent job at two years after arrival in Australia. Indeed, it is not surprising that refugees who have spent time in detention or on temporary visas take longer to find a stable job. Finally, networks contribute to deliver information about labour market opportunities since receiving help from relatives/friends and organisations increases the likelihood of having a permanent job at one year and two years after arrival. On the other hand, undertaking English training or study/job training in Australia decreases the chances of occupying a permanent position in Australia. We argue that this is due to the fact that training is time-consuming and, therefore, it might affect the time allocated for work.

Considering self-employment, refugees who have pre-migration education, pre-migration work experience and who have visited another country before coming to Australia 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 refugee camps, in immigration detention centres or in community detention 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 at six months after arrival. Spending time in refugee camps or in detention often leads to psychological and interpersonal difficulties for the refugees which might affect the capacity of the refugee to be self-employed. Those who have spent time on bridging visa are also less likely to be self-employed in the short term. Indeed, having a temporary visa might be a constraint when starting a business in Australia⁶. The refugees themselves could also be reluc-

⁶Some 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>.

tant to start a business due to the uncertainty of their status. However, at one year after arrival, those who have a good English proficiency and who have spent time on bridging visa are more likely to be self-employed. Finally, those who have undertaken study/job training in Australia are more likely to be self-employed at six months after arrival. This is probably due to the fact that self-employed individuals can manage their own schedule and therefore, it is easier to work as self-employed alongside undertaking training.

Having pre-migration education, pre-migration work experience and migration experiences reduces the probability of having a fixed term contract. On the opposite side, refugees who have spent time in community detention are more likely to have a fixed-term contract at six months after arrival. Similarly, refugees who have spent time 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 pre-migration education, who have visited another country before going to Australia, who have a good English proficiency 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 have more risks to work on a casual basis. Refugees who have spent time on bridging visa are affected only in the short-run as they have more risks to work on a casual basis at six months after arrival. However, later on, having spent time on bridging visa decreases the likelihood to work on a casual basis at one year and two years after arrival. Again, it is not surprising that individuals who have spent time in refugee camps or who are on temporary visas are the ones most likely to occupy least stable jobs at six months after arrival.

5.3 *Earnings Outcomes*

< Table 11 here >

The results in Table 11 show that there are no, or in some cases negative, returns to pre-migration education in the short-term. However, pre-migration education starts to significantly increase the hourly income of the refugees at two years after arrival, mainly for the primary and secondary educated; tertiary education has no effect on refugees' income. Pre-migration work experience and migration experiences also have a negative effect on income levels at six months and one year after arrival, but no discernible effect after two years of being in Australia. As expected, those who have spent time in refugee camps and in immigration detention centres have lower wages at six months after arrival while those who have spent time in community detention have a lower hourly income at two years after arrival. These results reflect the hysteresis hypothesis. Those who have spent time in camps or in detention 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 results in a higher income level for refugees only at six months after arrival but not later.

Our findings are in line with existing empirical studies looking at immigrants. For instance, considering the insignificant impact of study/job training undertaken in Australia, Parasnis, Fausten and Cheo (2008) also found that Australian qualifications do not result in better earnings outcomes for migrants. With respect to receiving help from social networks, Piracha, Tani, and Vaira-Lucero (2014) show that social capital has no effect on hourly wages of immigrant men in Australia.

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 level/status of current employment. Table 12 displays the results for the probability for refugees of being over-educated, under-educated and correctly matched at the first, second and third interviews.

< Table 12 here >

Refugees who have a senior secondary or tertiary education are more likely to be over-educated and less likely to be under-educated in Australia in the long run. Similarly, those who have a good English proficiency and those who have undertaken study/job training in Australia are more likely to be over-educated and 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. And as expected, the risks of being over-educated are higher for refugees who have a higher level of human capital. Besides, those who have spent time in immigration detention centres or in community detention are more likely to be over-educated and less likely to be under-educated. Indeed, spending time in detention is a bad signal for employers, resulting in refugees finding jobs that don't commensurate their education level. Furthermore, time in detention is likely to be associated with loss of confidence, motivation and poor mental health for refugees which also reduces the likelihood of finding an educationally appropriate job in the host country. On the contrary, those with pre-migration work experience as well as those who have visited another country before going to Australia and who have received help from organisations are less likely to be over-educated and more likely to be under-educated. Finally, receiving help from relatives/friends decreases under-education at six months after arrival and increases the risks of being over-educated at two years 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 or tertiary education are less likely to be correctly matched at one or two years after arrival. Indeed, since origin country human capital is imperfectly 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. Refugees who have visited another country before going to Australia are less likely to be correctly matched in the short-run. Those who have undertaken study/job training are more likely to be correctly matched at six months after arrival. However, it is the opposite effect at two years after arrival. One potential explanation is that training is time-consuming, therefore, preventing the refugees from occupying a job that matches their level of education in the long run. Those who have spent time in refugee camps or in immigration detention centres have higher chances of being correctly matched. Finally, receiving help from relatives/friends improves the chances of being correctly matched only in the short-run. In fact, relatives/friends can help by delivering information about labour market opportunities that match the level of education of the refugee.

Our results are consistent with a number of existing empirical studies. For instance, Green, Kler, and Leeves (2007) found that immigrants in Australia are more likely to be overeducated than the native population and this translates to reduced returns to education. Our results concerning the negative impact of 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 integration process. Furthermore, we highlighted the differentiated impacts of these resources on the employment outcomes at six months, one year and two years after arrival.

With respect to human capital, our results confirm the imperfect transferability of origin country human capital since pre-migration education does not improve the performance of refugees on the Australian labour market in the short term. However, it increases the access to employment at two years after arrival. It also significantly improves the access to stable employment since educated refugees are more likely to occupy a permanent position and they are less likely to work on a casual basis in the long-run. Finally, it increases the hourly income of the refugees at two years after arrival. Refugees who have pre-migration work experience do not seem to perform better than the others. Notable differences are that they are more likely to be self-employed and to have lower wages at one year after arrival. They are also more likely to be under-educated in the short-run. Those who have migration experiences are more likely to have a stable job in the short-run. However, they have lower wages at six months and one year after arrival. Lan-

guage skills have a long-term positive effect: refugees who have a good English proficiency are more likely to be employed and to have a stable job 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 be employed at one year after arrival and to occupy a stable job at two years after arrival. 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 more likely to work on casual basis at six months after arrival but they are more likely to access permanent jobs later on. 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 have a higher hourly income and are more likely to be correctly matched in the labour market in the short-run; and they are more likely 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 refugees. 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: **Sociodemographic characteristics**

	Mean	Sd	N
Male	0.54	0.5	1,704
Age	36.3	14	1,704
Married or has partner ^a	0.63	0.48	1,601
Region of Birth - North Africa and the Middle East	0.58	0.5	1,704
Region of Birth - South-East Asia	0.06	0.2	1,704
Region of Birth - Southern and Central Asia	0.34	0.47	1,704
Region of Birth - Sub-Saharan Africa	0.03	0.16	1,704
Religion - Christian	0.45	0.5	1,685
Religion - Muslim	0.4	0.49	1,685
Religion - Other religions	0.16	0.36	1,685
Migration pathway - Onshore	0.13	0.34	1,704
Migration pathway - Offshore	0.87	0.34	1,704
Visa 200 Refugee	0.72	0.45	1,704
Visa 201 In-country Special Humanitarian	0.004	0.06	1,704
Visa 202 Global Special Humanitarian Program	0.03	0.17	1,704
Visa 204 Woman at risk	0.12	0.3	1,704
Visa 866 Onshore Protection (UMA)	0.09	0.29	1,704
Visa 866 Onshore Protection (Non UMA)	0.04	0.2	1,704
MU structure - Single person	0.24	0.43	1,704
MU structure - Family with children under 18	0.27	0.44	1,704
MU structure - Family with children under 18 and others	0.16	0.36	1,704
Household size	4.5	2.2	1,704
Lives in major cities in Australia	0.91	0.3	1,704

Source: BNLA wave 1

Note: MU stands for "Migrating Unit".

^a Not asked of secondary applicant adolescent (SAa).

Table 2: **Descriptive Statistics - pre-migration period**

	Mean	Sd	N
Years spent in country of birth ^a	30.4	15.9	1,012
Visited another country before going to Australia ^a	0.88	0.33	1,053
Pre-migration education - Never attended school	0.15	0.36	1,687
Pre-migration education - Primary school	0.20	0.4	1,687
Pre-migration education - Secondary school	0.19	0.4	1,687
Pre-migration education - Senior secondary school	0.30	0.46	1,687
Pre-migration education - Tertiary education	0.16	0.37	1,687
Did paid work before arrived	0.53	0.5	1,694
Did unpaid work before arrived	0.6	0.49	1,616
Occupation - Higher-skilled occupations	0.3	0.46	707
Occupation - Lower-skilled occupations	0.7	0.46	707
Occupation - Managers	0.11	0.3	707
Occupation - Professionals	0.19	0.4	707
Occupation - Technicians/traders	0.3	0.46	707
Occupation - Community/personal workers	0.07	0.25	707
Occupation - Clerical/Admin	0.03	0.17	707
Occupation - Salespersons	0.045	0.21	707
Occupation - Machinery operators	0.1	0.29	707
Occupation - Labourers	0.16	0.37	707
Experienced traumatized events	0.91	0.29	1,621
Spent time in refugee camps	0.18	0.38	1,672
Spent time in Immigration Detention Centre (IDC)	0.09	0.29	1,679
Spent time in Community Detention (CD)	0.03	0.18	1,668

Source: BNLA wave 1

^a Principal applicant (PA) report only.

Table 3: **Descriptive Statistics - post-migration period**

	Wave 1			Wave 2			Wave 3		
	Mean	Sd	N	Mean	Sd	N	Mean	Sd	N
Spent time on Bridging Visa (BV)	0.11	0.31	1,657						
English proficiency	0.34	0.48	1,688	0.43	0.5	1,703	0.45	0.5	1,686
Has undertaken English training	0.76	0.42	1,685	0.85	0.35	1,685	0.88	0.33	1,685
English training - AMEP	0.64	0.48	1,294				0.62	0.49	1,257
English training - LLNP	0.019	0.13	1,294				0.08	0.27	1,257
English training - TAFE	0.2	0.4	1,294				0.25	0.43	1,257
English training - Secondary school	0.1	0.29	1,294				0.1	0.3	1,257
English training - Other	0.07	0.25	1,294				0.06	0.23	1,257
Has undertaken study/job training	0.14	0.35	1,681	0.29	0.45	1,704	0.31	0.46	1,638
Study/job training - Work experience	0.22	0.42	172	0.1	0.3	398	0.12	0.32	476
Study/job training - Paid traineeship	0.09	0.28	172						
Study/job training - Secondary school	0.3	0.46	172	0.13	0.34	398	0.16	0.37	476
Study/job training - Short course	0.21	0.41	172	0.3	0.46	398	0.24	0.43	476
Study/job training - Trade/technical	0.13	0.33	172	0.41	0.5	398	0.34	0.47	476
Study/job training - Uni degree	0.13	0.33	172	0.05	0.22	398	0.09	0.28	476
Study/job training - Other				0.07	0.26	398	0.12	0.32	476
Currently in paid work	0.05	0.22	1,688	0.14	0.34	1,703	0.2	0.4	1,685
Occupation - Higher-skilled occupations	0.125	0.33	80	0.09	0.28	221	0.05	0.21	297
Occupation - Lower-skilled occupations	0.875	0.33	80	0.91	0.28	221	0.95	0.21	297
Employment type - Self-employed	0.08	0.27	79	0.05	0.21	188	0.12	0.33	329
Employment type - Fixed-term contract	0.04	0.2	79	0.13	0.34	188	0.14	0.35	329
Employment type - Casual basis	0.7	0.46	79	0.57	0.5	188	0.43	0.5	329
Employment type - Permanent/ ongoing basis	0.19	0.39	79	0.24	0.43	188	0.26	0.44	329
Hours per week	32.3	13.6	75	33.5	13.4	222	32	12.9	288
Hourly income (AUD)	21.4	15.9	61	19.2	16.6	199	21.6	16.4	271
Looked for paid work	0.18	0.39	1,604	0.28	0.45	868	0.33	0.47	1,661
Hard to get a job	0.9	0.31	372	0.81	0.39	435	0.83	0.37	549
Know how to look for a job	0.17	0.38	1,658	0.36	0.48	1,057	0.36	0.48	1,674
Kessler 6 - Probable serious mental illness	0.18	0.38	1,651	0.16	0.37	1,701	0.19	0.39	1,674
May have post-traumatic stress disorder	0.35	0.48	1,649	0.29	0.45	1,671	0.33	0.47	1,652
Social network - Friends	0.25	0.43	1,686						
Social network - Relatives	0.56	0.5	1,686						
Social capital - Relatives/friends	0.64	0.48	1,688						
Social capital - Organisations	0.59	0.49	1,633	0.59	0.49	1,633	0.57	0.49	1,664

Source: BNLA wave 1 to 3

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

Table 4: Transition matrix of education mismatch between home country and Australia at the first interview

Education mismatch in home country	Education mismatch in Australia - First interview				
	Unemployed	Over-educated	Correctly matched	Under-educated	Total
Not working	100	0.00	0.00	0.00	100
Over-educated	89.06	6.25	1.56	3.13	100
Correctly matched	93.02	2.91	2.33	1.74	100
Under-educated	92.76	0.22	1.54	5.48	100
Total	92.81	1.38	1.66	4.15	100

Source: BNLA wave 1 to 3

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 5: Transition matrix of education mismatch between home country and Australia at the second interview

Education mismatch in home country	Education mismatch in Australia - Second interview				
	Unemployed	Over-educated	Correctly matched	Under-educated	Total
Not working	90.00	10.00	0.00	2.38	100
Over-educated	78.46	15.38	3.08	3.08	100
Correctly matched	83.33	4.60	5.75	6.32	100
Under-educated	81.76	1.76	4.18	12.31	100
Total	82.18	4.01	4.28	9.53	100

Source: BNLA wave 1 to 3

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 6: Transition matrix of education mismatch between home country and Australia at the third interview

Education mismatch in home country	Education mismatch in Australia - Third interview				
	Unemployed	Over-educated	Correctly matched	Under-educated	Total
Not working	79.31	3.45	6.90	10.34	100
Over-educated	72.13	18.03	4.92	4.92	100
Correctly matched	79.07	8.14	2.33	10.47	100
Under-educated	74.55	4.55	8.18	12.73	100
Total	75.64	6.55	6.41	11.40	100

Source: BNLA wave 1 to 3

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 7: Transition matrix of education mismatch in Australia between the first and the second interview

Education mismatch in Australia - First interview	Education mismatch in Australia - Second interview				
	Unemployed	Over-educated	Correctly matched	Under-educated	Total
Not working	89.97	2.15	2.27	5.62	100
Over-educated	20.00	65.00	0.00	15.00	100
Correctly matched	47.37	0.00	31.58	21.05	100
Under-educated	25.64	2.56	15.38	56.41	100
Total	87.13	2.89	2.89	7.10	100

Source: BNLA wave 1 to 3

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: Transition matrix of education mismatch in Australia between the first and the third interview

Education mismatch in Australia - First interview	Education mismatch in Australia - Third interview				
	Unemployed	Over-educated	Correctly matched	Under-educated	Total
Not working	85.01	3.89	3.89	7.20	100
Over-educated	44.44	38.89	5.56	11.11	100
Correctly matched	26.32	0.00	42.11	31.58	100
Under-educated	25.64	0.00	23.08	51.28	100
Total	82.44	4.14	4.82	8.60	100

Source: BNLA wave 1 to 3

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 9: Access to employment - Logit model (marginal effects)

	Male in employment		
	Wave 1	Wave 2	Wave 3
Age	0.01 (1.15)	0.033*** (2.87)	0.021* (1.80)
Age ²	-0.00017 (-1.43)	-0.0005*** (-3.31)	-0.0004*** (-2.59)
Married/having a partner	0.016 (0.59)	-0.04 (-1.05)	0.023 (0.53)
North Africa and the Middle East	-0.125** (-2.08)	-0.2** (-2.58)	-0.192** (-1.97)
South-East Asia	-0.107 (-1.29)	-0.11 (-1.15)	0.035 (0.30)
Southern and Central Asia	-0.033 (-0.59)	-0.053 (-0.72)	-0.0456 (-0.45)
Size household	-0.005 (-1.10)	-0.006**** (-0.77)	-0.037**** (-4.08)
Lives in major cities in Australia	-0.122**** (-3.65)	-0.095** (-1.97)	-0.137** (-2.21)
Length of residence - One year	0.108*** (3.24)	0 (.)	0 (.)
Length of residence - Two years	0.15 (1.64)	-0.005 (-0.05)	0.067 (0.94)
Length of residence - Three years or more	0.148* (1.93)	0.029 (0.28)	0.085 (0.72)
Pre-migration primary education	-0.018 (-0.61)	-0.038 (-0.75)	0.05 (0.97)
Pre-migration secondary education	0.04 (1.08)	-0.016 (-0.28)	0.074 (1.22)
Pre-migration senior secondary education	-0.036 (-1.15)	-0.055 (-1.01)	0.05 (0.90)
Pre-migration tertiary education	0.079 (1.61)	-0.023 (-0.34)	0.113* (1.71)
Pre-migration employment	0.045 (1.57)	0.007 (0.19)	0.017 (0.41)
Visited another country before going to Australia	-0.04 (-1.39)	0.029 (0.56)	0.043 (0.73)
English proficiency	0.043* (1.74)	0.066* (1.91)	0.083** (2.26)
English training	-0.028 (-1.27)	-0.09** (-2.39)	-0.075 (-1.49)
Study/job training	-0.015 (-0.55)	0.047 (1.42)	0.008 (0.20)
Spent time in refugee camps	0.05* (1.68)	0.078** (1.99)	0.056 (1.26)
Spent time in immigration detention centres	0.057 (1.45)	-0.03 (-0.35)	0.018 (0.20)
Spent time in community detention	-0.057 (-1.63)	0.035 (0.56)	-0.032 (-0.46)
Spent time on bridging visa	0.005 (0.14)	0.163** (2.37)	0.019 (0.26)
Kessler 6 - Probable serious mental illness	-0.078** (-2.02)	-0.0168 (-0.36)	-0.175*** (-3.27)
Social capital - Organisations	-0.07*** (-3.24)	-0.032 (-1.07)	0.0025 (0.08)
Social capital - Relatives/friends	0.1*** (3.17)	0.096*** (2.74)	-0.011 (-0.34)
<i>N</i>	650	667	655

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 10: Access to stable employment - Heckman selection model two-step estimates (marginal effects)

	Permanent/ongoing basis			Self-employed			Fixed-term contract			Casual basis		
	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3
Age	-0.0165 (-0.34)	0.0312 (0.89)	0.0710** (2.37)	-0.0772** (-2.14)	0.0139 (0.75)	-0.0259 (-1.21)	-0.04* (-1.95)	-0.0594** (-1.99)	-0.0349 (-1.53)	0.134** (2.23)	0.0143 (0.36)	0.00767 (0.23)
Age ²	0.000228 (0.33)	-0.000416 (-0.85)	-0.000975** (-2.33)	0.000979* (1.94)	-0.000166 (-0.65)	0.000291 (0.97)	0.000691** (2.41)	0.000861** (2.09)	0.000530* (1.66)	-0.00190** (-2.26)	-0.000279 (-0.51)	-0.000129 (-0.27)
Married/having a partner	0.265** (1.98)	-0.0996 (-1.09)	-0.173** (-2.17)	0.237** (2.45)	0.0537 (1.11)	0.132** (2.33)	0.0118 (0.21)	-0.0698 (-0.90)	0.0921 (1.52)	-0.513*** (-3.15)	0.116 (1.12)	0.00320 (0.04)
North Africa and the Middle East	1.698*** (5.48)	0.133 (0.79)	0.0287 (0.20)	-0.508** (-2.16)	0.0701 (0.79)	0.147 (1.40)	-0.0499 (-0.37)	0.182 (1.28)	0.0880 (0.79)	-1.141*** (-2.99)	-0.385** (-2.02)	-0.411** (-2.48)
South-East Asia	2.881*** (7.27)	0.301 (1.46)	0.0928 (0.54)	-1.119*** (-3.66)	-0.0101 (-0.09)	0.0609 (0.50)	-0.0527 (-0.30)	0.121 (0.70)	0.150 (1.15)	-1.709*** (-3.50)	-0.412* (-1.77)	-0.409** (-2.11)
Southern and Central Asia	0.0577 (0.23)	-0.0837 (-0.54)	0.0933 (0.62)	-0.131 (-0.69)	0.133 (1.62)	0.151 (1.41)	-0.105 (-0.97)	-0.0354 (-0.27)	-0.0296 (-0.26)	0.178 (0.58)	-0.0136 (-0.08)	-0.324* (1.91)
Size household	-0.00918 (-0.38)	0.0196 (1.15)	0.0223 (0.92)	0.0227 (1.29)	0.0176* (1.94)	0.0207 (1.20)	-0.0106 (-1.06)	0.00464 (0.32)	-0.0164 (-0.89)	-0.00293 (-0.10)	-0.0418** (-2.16)	-0.0344 (-1.26)
Lives in major cities in Australia	-0.170 (-1.57)	-0.0156 (-0.15)	0.126 (1.34)	0.195** (2.40)	-0.0682 (-1.22)	-0.0280 (-0.41)	0.0665 (1.44)	-0.270*** (-3.01)	-0.0448 (-0.62)	-0.0907 (-0.68)	0.354*** (2.95)	0.0387 (0.36)
Length of residence - One year	-1.334*** (-5.20)	0 (.)	0 (.)	0.347* (1.76)	0 (.)	0 (.)	-0.0102 (-0.09)	0 (.)	0 (.)	0.998*** (3.16)	0 (.)	0 (.)
Length of residence - Two years	-1.044*** (-3.13)	0.0178 (0.08)	0.0198 (0.14)	0.194 (0.77)	0.257** (2.11)	0.210** (2.01)	-0.173 (-1.21)	-0.426** (-2.18)	-0.0571 (-0.51)	1.023** (2.50)	0.151 (0.58)	-0.131 (-0.79)
Length of residence - Three years or more	0.584** (2.07)	0.107 (0.46)	-0.395* (-1.71)	0.649*** (3.06)	0.173 (1.42)	0.188 (1.13)	-0.0534 (-0.44)	-0.499** (-2.55)	-0.0530 (-0.30)	-1.179*** (-3.40)	0.219 (0.83)	0.301 (1.15)
Pre-migration primary education	0.0216 (0.19)	0.0702 (0.66)	0.115 (1.10)	0.101 (1.16)	0.0896 (1.59)	0.00203 (0.03)	-0.105** (-2.14)	0.0330 (0.37)	-0.0785 (-0.98)	-0.0172 (-0.12)	-0.193 (-1.59)	-0.0550 (-0.47)
Pre-migration secondary education	0.0309 (0.25)	0.144 (1.19)	0.277** (2.43)	0.551*** (5.90)	0.113* (1.77)	0.0989 (1.21)	-0.0925* (-1.74)	0.0342 (0.33)	-0.0659 (-0.75)	-0.489*** (-3.24)	-0.291** (-2.12)	-0.363*** (-2.81)
Pre-migration senior secondary education	-0.123 (-0.76)	0.256** (2.06)	0.165 (1.41)	0.368*** (3.02)	0.183*** (2.78)	0.0593 (0.71)	-0.0933 (-1.35)	-0.194* (-1.85)	0.0975 (1.09)	-0.152 (-0.77)	-0.245* (-1.74)	-0.382*** (-2.88)
Pre-migration tertiary education	-0.287* (-1.67)	0.278* (1.91)	0.209 (1.60)	0.302** (2.32)	0.00555 (0.07)	-0.0271 (-0.29)	-0.0970 (-1.31)	-0.221* (-1.79)	0.0767 (0.77)	0.0822 (0.39)	-0.0634 (-0.38)	-0.279* (-1.89)
Pre-migration employment	0.0845 (0.60)	-0.0586 (-0.61)	-0.0102 (-0.14)	0.00140 (0.01)	0.0945* (1.88)	0.0478 (0.90)	0.0321 (0.53)	0.0539 (0.67)	-0.151*** (-2.66)	-0.118 (-0.69)	-0.0898 (-0.83)	0.0771 (0.92)
Visited another country before Australia	0.414** (2.39)	0.197 (1.59)	-0.0966 (-0.88)	0.0511 (0.39)	0.137** (2.10)	0.107 (1.36)	0.0105 (0.14)	-0.358*** (-3.42)	0.0312 (0.37)	-0.475** (-2.24)	0.0242 (0.17)	-0.0946 (-0.76)
English proficiency	0.398*** (3.04)	0.0279 (0.34)	0.149** (2.06)	-0.302*** (-3.06)	0.0767* (1.76)	0.0165 (0.32)	0.0521 (0.93)	-0.0298 (-0.43)	-0.0389 (-0.70)	-0.149 (-0.92)	-0.0748 (-0.80)	-0.158* (-1.92)

English training	0.133 (1.50)	-0.0799 (-1.00)	-0.205** (-2.40)	-0.0625 (-0.94)	0.00570 (0.13)	0.0802 (1.31)	-0.00779 (-0.21)	0.00991 (0.15)	-0.0320 (-0.49)	-0.0625 (-0.58)	0.0643 (0.71)	0.0978 (1.01)
Study/job training	-0.248** (-2.48)	-0.139* (-1.84)	-0.0798 (-1.15)	0.130* (1.72)	-0.00798 (-0.20)	0.0781 (1.57)	-0.0525 (-1.22)	0.0665 (1.05)	-0.0795 (-1.50)	0.170 (1.39)	0.0800 (0.94)	0.120 (1.52)
Spent time in refugee camps	-0.0574 (-0.53)	0.0906 (0.92)	0.131* (1.68)	-0.167** (-2.02)	0.00756 (0.15)	0.0559 (1.01)	-0.0653 (-1.39)	-0.0450 (-0.54)	-0.0843 (-1.42)	0.290** (2.17)	-0.0531 (-0.48)	-0.0294 (-0.33)
Spent time in immigration detention centres	1.304**** (3.91)	0.121 (0.57)	0.0227 (0.15)	0.301 (1.18)	-0.378*** (-3.39)	0.0691 (0.62)	-0.0553 (-0.38)	0.140 (0.78)	0.0560 (0.47)	-1.550**** (-3.77)	0.117 (0.49)	-0.118 (-0.67)
Spent time in community detention	-0.0613 (-0.51)	0.0615 (0.53)	0.240** (2.12)	-0.0953 (-1.06)	-0.115* (-1.89)	-0.159** (-1.97)	0.171**** (3.33)	-0.130 (-1.33)	-0.0540 (-0.63)	-0.0140 (-0.09)	0.184 (1.40)	-0.0348 (-0.27)
Spent time on bridging visa	0.134 (0.54)	-0.0978 (-0.55)	0.377** (2.40)	-0.774**** (-4.12)	0.161* (1.70)	0.0898 (0.80)	0.0610 (0.57)	0.322** (2.12)	-0.105 (-0.88)	0.579* (1.89)	-0.385* (-1.89)	-0.356** (-2.00)
Kessler 6 - Probable serious mental illness	0.922**** (4.80)	-0.0695 (-0.64)	0.130 (1.14)	0.338** (2.35)	-0.0421 (-0.74)	0.169** (2.06)	0.0966 (1.18)	0.00584 (0.06)	-0.105 (-1.19)	-1.357**** (-5.76)	0.106 (0.86)	-0.119 (-0.92)
Social capital - Organisations	-0.00851 (-0.08)	0.0144 (0.22)	0.118** (2.03)	0.0439 (0.58)	-0.0658* (-1.93)	-0.0579 (-1.39)	-0.00357 (-0.08)	-0.0360 (-0.66)	-0.0476 (-1.07)	-0.0319 (-0.26)	0.0874 (1.20)	0.0165 (0.25)
Social capital - Relatives/friends	-0.158 (-1.38)	0.204** (2.13)	-0.0810 (-1.40)	0.0715 (0.84)	0.0578 (1.14)	0.0483 (1.16)	-0.00737 (-0.15)	0.0959 (1.18)	-0.0374 (-0.84)	0.0938 (0.67)	-0.358**** (-3.30)	0.0443 (0.68)
Selection equation (Prob. of being employed)												
Age	0.142** (2.47)	0.110** (2.50)	0.136*** (3.38)									
Age ²	-0.00215*** (-2.68)	-0.00175*** (-3.03)	-0.00211**** (-4.03)									
Married/having a partner	0.123 (0.65)	-0.0749 (-0.49)	0.468*** (3.27)									
Size household	-0.0915*** (-2.65)	-0.0536* (-1.79)	-0.202**** (-7.29)									
Know how to look for a job	0.788**** (5.46)	0.871**** (7.19)	0.858**** (7.62)									
<i>N</i>	848	722	825	848	722	825	848	722	825	848	722	825

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 - Heckman selection model two-step estimates (marginal effects)

	Log hourly income		
	Wave 1	Wave 2	Wave 3
Age	0.0342 (0.24)	-0.107 (-1.30)	0.0304 (0.75)
Age ²	-0.000877 (-0.44)	0.00140 (1.21)	-0.000425 (-0.76)
Married/having a partner	0.583 (1.59)	0.173 (0.82)	0.0895 (0.75)
North Africa and the Middle East	-2.579**** (-4.50)	-0.877* (-1.87)	-0.0472 (-0.20)
South-East Asia	-1.950** (-2.34)	-0.527 (-0.92)	0.0440 (0.17)
Southern and Central Asia	-0.429 (-0.65)	-0.731 (-1.64)	0.182 (0.75)
Size household	0.0767 (1.31)	0.0401 (0.93)	-0.0132 (-0.42)
Lives in major cities in Australia	-0.198 (-0.62)	0.331 (1.23)	-0.104 (-0.76)
Length of residence - One year	1.442*** (2.93)	0 (.)	0 (.)
Length of residence - Two years	0.897 (1.52)	-0.730 (-1.21)	0.473* (2.05)
Length of residence - Three years or more	-1.892*** (-2.58)	-0.944* (-1.71)	0.466 (1.24)
Pre-migration primary education	-0.688** (-2.32)	-0.116 (-0.45)	0.375** (2.41)
Pre-migration secondary education	-0.136 (-0.42)	-0.474* (-1.65)	0.242 (1.42)
Pre-migration senior secondary education	-0.140 (-0.36)	-0.684** (-2.34)	0.323* (1.84)
Pre-migration tertiary education	0.527 (1.05)	-0.380 (-1.12)	0.281 (1.44)
Pre-migration employment	-0.246 (-0.70)	-0.435** (-2.01)	-0.00613 (-0.05)
Visited another country before going to Australia	-1.017** (-2.05)	-0.501* (-1.68)	0.0198 (0.12)
English proficiency	-0.417 (-1.39)	0.316 (1.60)	0.166 (1.56)
English training	0.0397 (0.18)	-0.130 (-0.71)	-0.138 (-1.09)
Study/job training	0.357 (1.60)	-0.0490 (-0.28)	-0.0398 (-0.39)
Spent time in refugee camps	-0.607*** (-2.64)	-0.370 (-1.55)	0.0518 (0.45)
Spent time in immigration detention centres	-2.106**** (-3.80)	0.216 (0.44)	-0.0750 (-0.31)
Spent time in community detention	0.102 (0.30)	0.0395 (0.13)	-0.289* (-1.73)
Spent time on bridging visa	0 (.)	0.445 (1.03)	-0.0600 (-0.20)
Kessler 6 - Probable serious mental illness	-0.761 (-1.34)	0.350 (1.40)	-0.0291 (-0.17)
Social capital - Organisations	-0.0439 (-0.19)	-0.177 (-1.14)	-0.0521 (-0.62)
Social capital - Relatives/friends	0.827** (2.29)	-0.0842 (-0.35)	0.0541 (0.66)
Selection equation (Probability of being employed)			
Age	0.127** (2.09)	0.102** (2.23)	0.0971** (2.51)
Age ²	-0.00192** (-2.26)	-0.00164**** (-2.72)	-0.00154**** (-3.12)
Married/having a partner	-0.0742 (-0.37)	-0.0998 (-0.63)	0.469*** (3.20)
Size household	-0.0548 (-1.55)	-0.0476 (-1.53)	-0.159**** (-5.68)
Know how to look for a job	0.705**** (4.54)	0.924**** (7.27)	0.864**** (7.43)
<i>N</i>	851	721	831

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 - Heckman selection model two-step estimates (marginal effects)

	Over-educated			Under-educated			Correctly matched		
	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3
Age	-0.00882 (-0.23)	0.0285 (1.13)	-0.0171 (-0.65)	-0.0516 (-0.98)	-0.00971 (-0.28)	-0.0613* (-1.76)	0.0604 (1.11)	-0.0187 (-0.61)	0.0784*** (2.59)
Age ²	0.000131 (0.24)	-0.000417 (-1.21)	0.000291 (0.79)	0.000583 (0.78)	0.000272 (0.58)	0.000773 (1.60)	-0.000714 (-0.93)	0.000145 (0.34)	-0.00106** (-2.54)
Married/having a partner	0.215** (2.26)	-0.163** (-2.39)	-0.115* (-1.66)	-0.0317 (-0.25)	0.236** (2.52)	0.169* (1.87)	-0.183 (-1.40)	-0.0725 (-0.88)	-0.0540 (-0.69)
North Africa and the Middle East	0.336 (1.45)	-0.0786 (-0.63)	-0.0765 (-0.59)	-0.847** (-2.57)	0.0802 (0.47)	-0.0628 (-0.37)	0.511 (1.48)	-0.00169 (-0.01)	0.139 (0.95)
South-East Asia	0 (.)	-0.0426 (-0.27)	0.0339 (0.23)	0 (.)	-0.451** (-2.10)	-0.239 (-1.25)	0 (.)	0.493** (2.51)	0.205 (1.23)
Southern and Central Asia	0.181 (0.85)	-0.0109 (-0.09)	0.0538 (0.41)	-0.227 (-0.74)	0.115 (0.72)	-0.200 (-1.17)	0.0454 (0.14)	-0.104 (-0.72)	0.146 (0.98)
Size household	-0.0253 (-1.51)	0.00810 (0.63)	0.0151 (0.76)	-0.0223 (-1.01)	-0.0194 (-1.10)	0.00195 (0.08)	0.0476** (2.12)	0.0113 (0.73)	-0.0171 (-0.76)
Lives in major cities in Australia	-0.226*** (-2.71)	-0.158** (-2.08)	-0.0530 (-0.65)	0.599*** (5.17)	0.259** (2.50)	0.308*** (2.89)	-0.373*** (-3.09)	-0.100 (-1.06)	-0.255*** (-2.75)
Length of residence - One year	0.127 (0.86)	0 (.)	0 (.)	0.458** (2.20)	0 (.)	0 (.)	-0.585*** (-2.68)	0 (.)	0 (.)
Length of residence - Two years	0.764*** (3.54)	-0.480*** (-2.88)	0.178 (1.39)	0.404 (1.35)	0.344 (1.52)	-0.250 (-1.49)	-1.167*** (-3.76)	0.136 (0.66)	0.0721 (0.50)
Length of residence - Three years or more	0.224 (1.21)	-0.437** (-2.57)	0.225 (1.14)	0.565** (2.19)	0.338 (1.46)	0.0678 (0.26)	-0.789*** (-2.94)	0.0986 (0.47)	-0.293 (-1.30)
Pre-migration primary education	-0.0967 (-1.11)	-0.0370 (-0.48)	0.0761 (0.83)	-0.135 (-1.09)	0.200* (1.90)	0.0141 (0.12)	0.232* (1.79)	-0.163* (-1.69)	-0.0902 (-0.86)
Pre-migration secondary education	-0.123 (-1.31)	-0.0468 (-0.52)	0.0845 (0.83)	-0.232* (-1.75)	0.0701 (0.58)	-0.118 (-0.88)	0.354** (2.54)	-0.0234 (-0.21)	0.0331 (0.29)
Pre-migration senior secondary education	0.0965 (0.80)	0.346*** (3.81)	0.584*** (5.61)	0.0402 (0.23)	0.0490 (0.40)	-0.146 (-1.07)	-0.137 (-0.76)	-0.396*** (-3.52)	-0.437*** (-3.69)
Pre-migration tertiary education	0.692*** (5.38)	0.927*** (8.37)	0.704*** (6.09)	-0.606*** (-3.33)	-0.681*** (-4.54)	-0.621*** (-4.10)	-0.0859 (-0.45)	-0.246* (-1.80)	-0.0834 (-0.63)
Pre-migration employment	-0.201* (-1.82)	0.0482 (0.72)	0.0895 (1.40)	0.270* (1.74)	-0.121 (-1.34)	0.00535 (0.06)	-0.0685 (-0.42)	0.0730 (0.89)	-0.0949 (-1.31)

Visited another country before going to Australia	0.178* (1.75)	-0.177** (-1.98)	-0.176* (-1.87)	0.199 (1.40)	0.100 (0.83)	0.239* (1.94)	-0.377** (-2.55)	0.0768 (0.70)	-0.0636 (-0.59)
English proficiency	0.151* (1.71)	0.00594 (0.10)	-0.0416 (-0.64)	-0.307** (-2.46)	-0.0245 (-0.30)	0.0326 (0.38)	0.156 (1.20)	0.0186 (0.25)	0.00898 (0.12)
English training	0.0721 (1.13)	0.0359 (0.61)	0.0264 (0.36)	0.0815 (0.91)	0.0246 (0.31)	0.0478 (0.50)	-0.154 (-1.64)	-0.0605 (-0.84)	-0.0742 (-0.89)
Study/job training	0.198*** (2.64)	-0.0245 (-0.45)	-0.0821 (-1.38)	-0.426**** (-4.02)	0.0365 (0.50)	0.244*** (3.13)	0.229** (2.06)	-0.0120 (-0.18)	-0.162** (-2.39)
Spent time in refugee camps	0.0943 (1.07)	0.0549 (0.77)	-0.0848 (-1.28)	-0.227* (-1.82)	-0.205** (-2.12)	0.152* (1.75)	0.133 (1.02)	0.150* (1.71)	-0.0676 (-0.89)
Spent time in immigration detention centres	0.0144 (0.07)	0.535**** (3.58)	0.101 (0.78)	-0.319 (-1.08)	-0.254 (-1.25)	-0.411** (-2.41)	0.305 (0.99)	-0.281 (-1.52)	0.310** (2.09)
Spent time in community detention	-0.285*** (-2.98)	0.165** (1.98)	0.103 (1.10)	0.244* (1.84)	-0.192* (-1.69)	0.0570 (0.46)	0.0411 (0.30)	0.0267 (0.26)	-0.160 (-1.49)
Spent time on bridging visa	0.0307 (0.18)	-0.0628 (-0.48)	-0.169 (-1.29)	-0.254 (-1.08)	-0.144 (-0.82)	0.135 (0.79)	0.224 (0.91)	0.206 (1.29)	0.0337 (0.23)
Kessler 6 - Probable serious mental illness	-0.607**** (-4.26)	-0.00496 (-0.06)	0.0861 (0.87)	0.286 (1.43)	0.165 (1.41)	-0.0299 (-0.23)	0.321 (1.54)	-0.160 (-1.50)	-0.0561 (-0.50)
Social capital - Organisations	-0.0833 (-1.17)	-0.0872* (-1.85)	0.0250 (0.50)	0.129 (1.28)	0.0915 (1.43)	-0.0883 (-1.34)	-0.0460 (-0.43)	-0.00426 (-0.07)	0.0633 (1.10)
Social capital - Relatives/friends	0.00864 (0.10)	0.131 (1.93)	0.122** (2.43)	-0.381*** (-3.05)	-0.137 (-1.49)	-0.00493 (-0.07)	0.373*** (2.86)	0.00667 (0.08)	-0.117** (-2.05)
Selection equation (Prob. to be employed)									
Age	0.141** (2.34)	0.0925** (2.17)	0.137**** (3.47)	0.141** (2.34)	0.0925** (2.17)	0.137**** (3.47)	0.141** (2.34)	0.0925** (2.17)	0.137**** (3.47)
Age ²	-0.00222*** (-2.62)	-0.00150*** (-2.70)	-0.00207**** (-4.03)	-0.00222*** (-2.62)	-0.00150*** (-2.70)	-0.00207**** (-4.03)	-0.00222*** (-2.62)	-0.00150*** (-2.70)	-0.00207**** (-4.03)
Married/having a partner	0.153 (0.81)	-0.0288 (-0.19)	0.398*** (2.84)	0.153 (0.81)	-0.0288 (-0.19)	0.398*** (2.84)	0.153 (0.81)	-0.0288 (-0.19)	0.398*** (2.84)
Size migrating unit	-0.0883*** (-2.58)	-0.0587* (-1.96)	-0.165**** (-6.23)	-0.0883*** (-2.58)	-0.0587* (-1.96)	-0.165**** (-6.23)	-0.0883*** (-2.58)	-0.0587* (-1.96)	-0.165**** (-6.23)
Know how to look for a job	0.804**** (5.58)	0.866**** (7.14)	0.779**** (6.96)	0.804**** (5.58)	0.866**** (7.14)	0.779**** (6.96)	0.804**** (5.58)	0.866**** (7.14)	0.779**** (6.96)
<i>N</i>	850	725	841	850	725	841	850	725	841

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