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Immigration Policy and Entrepreneurship

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ABSTRACT

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This paper analyses the impact of a change in Australia's immigration policy, introduced in the mid-1990s, on migrants' probability of becoming entrepreneurs. The policy change consists of stricter entry requirements and restrictions to welfare entitlements. The results indicate that those who entered under more stringent conditions – the second cohort – have a higher probability to become self-employed, than those in the first cohort. We also find significant time and region effects. Contrary to some existing evidence, time spent in Australia positively affects the probability to become self-employed. We discuss the intuitions for the results and their policy implications.

JEL Classification: C34, J24, J61

Keywords: immigration policy, entrepreneurship, migration

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1. Introduction

The direction and composition of international migration flows are typically studied in the context of a 'migration market' in which the forces of supply from would-be migrants and demand from national migration policies interact (e.g. Borjas, 1991). This approach has also been useful in understanding the effect of changes in migration policies introduced by countries increasingly competing internationally for highly skilled labour and the emergence of various types of economic movements where the skills of migrants are shared by both countries of origin and destination (e.g. circular, temporary, short-term migration).

Within the migration market approach, studies have typically focused on the determinants of the supply, uncovering the key characteristics driving individuals to migrate, be they people who are already in the labour market in their home country or international students who acquire human capital in the destination country prior to staying on to work. In contrast, analyses of the demand-side of the migration market, and especially the role that immigration policy plays on the characteristics of migrants attracted by the new regime, have been less common.

This paper contributes to the literature by analysing the interaction between the demand and supply of the migration process using the immigration policy introduced in Australia in the mid-1990s. The change aimed at attracting migrants with particular occupational skills, outstanding talents or business skills (i.e. entrepreneurs) and resulted in more stringent admission criteria and the creation of *ad hoc* temporary visa subclasses for business owners, senior executives, and investors. These new temporary visa classes granted their holders a four-year provisional residence visa. This, in turn, could be transformed into permanent residence upon the fulfilment of certain conditions such as the formation of a business interest generating a minimum amount of annual turnover and the employment of a minimum

number of people ('business' permanent residence visa), or the investment of a minimum amount in Australia over the previous four years. Since its inception in 1995, about 7,000 immigrants with 'business' credentials have been granted residence in Australia each year through this programme (see CEDA, 2001).

Entrepreneurs however are not only drawn from the population of those applying under a specific business visa sub-class, but include holders of other visa categories. We analyse the different determinants that affect migrants' probability to become entrepreneurs in Australia, including their experience of entrepreneurship prior to migration and the time spent in Australia before setting up a business. In particular, we quantify the effect of the change in Australia's immigration policy on the probability of becoming self-employed with or without employees exploiting the stricter admission criteria, adopted on 1st July 1999, for applicants in the Independent and Concessional Family/Skilled-Australian Linked categories. On that date a revised point system set higher requirements for skill, age, and English ability, and gave additional points to those with an occupation in short supply (as per an occupation on demand list compiled by employers) and those whose qualifications were obtained in Australia (Richardson et al, 2001). Other visa categories were not affected by this change.

To carry out the analysis we use the Longitudinal Survey of Immigrants to Australia (LSIA), a rich source of data that is based on a survey conducted during 1995/96 (prior to the policy change) and 2000/2001 (after the policy change). Our estimations suggest that the policy change resulted in a 2%-4% increase in the probability of attracting an immigrant who was already an entrepreneur, taking into account demographic, labour market, timing of migration and macroeconomic conditions. Our estimates reveal that foreign immigrant entrepreneurs did not resettle from a specific country of origin but from a variety of both developed and developing countries. This result partly contextualises the ethical implications that such a

policy may generate, as the arrival of immigrant 'job generators' in Australia occurred at the expense of these migrants' home countries.

The rest of the paper is organised as follows. Section 2 briefly presents the literature review and methodology applied. Section 3 summarises the data while Section 4 presents the results. Concluding remarks and discussion on the implications of the policy change for Australia and the source countries appear in the last section.

2. Literature, policy change, and methodology

The literature on immigrant entrepreneurs and self-employment is relatively recent and small, though, to our knowledge, no work appears to exist on the analysis of migration policies explicitly targeting migrants with particular business skills like those held by entrepreneurs. Existing work can be grouped into two broad categories. The first focuses on the features and determinants of self-employment with and without employees that migrant and native entrepreneurs appear to share. The evidence suggests that foreign and native entrepreneurs are not characterised by differences in their earnings, unlike the case of paid employment, but in the 'propensity' to become entrepreneur (e.g. Constant and Zimmermann, 2004). This difference does not appear related to exposure to the country of origin or even the entrepreneur's human capital. Rather, it seems related to existing wealth or homeownership and attitudes to risks or financial worries.

In general, the attractiveness of self-employment reflects the expectation of higher earnings relative to other forms of labour market participation and prestige. For example, in their comparison of the features that characterise native and foreign entrepreneurs living in Germany, Constant and Zimmermann (2004) find that entrepreneurs tend to be male, married but with no children, and relatively young. Often the reason to become an entrepreneur is the presence of formal or informal barriers in the labour market (e.g. Oylere and Belton, 2009).

Immigrants are more likely to become entrepreneurs if they feel discriminated against (Constant and Zimmermann, 2004), or if they belong to a minority ethnic group (e.g. Hout and Rosen, 1999) or if they are not fluent in the dominant language (e.g. Evans, 1989). The literature also finds that having a father or mother who is an entrepreneur approximately doubles the offspring's probability of entrepreneurship, and that being a first or second generation migrant also raises the probability of entrepreneurship in the host country (Hout and Rosen, 1999).

The second group of studies in the literature on migrant entrepreneurs instead focuses on the effectiveness of the selection mechanism, as identified for example by the type of visa one applies for, and the institutional conditions that favour the emergence of entrepreneurship. Perhaps the best known study in this area is Hunt (2009), who finds that immigrants who first entered the US as students or trainees have an advantage in patenting, commercialising or licensing patents, and setting up new firms than comparable Americans. Her estimate shows that the student entrants' advantage in the probability of becoming an entrepreneur is in the order of 1.2% and it is highly statistically significant. This advantage appears to be determined by the immigrants' higher educational achievement vis-à-vis that of natives and the choice of technical fields of study (science, technology etc.), where they face a substantial selectivity for being admitted to high ranked universities and research institutions.

Australian immigration policy became more restrictive for all migrants who entered after 1995. On a general level, access to welfare was delayed from 6 to 24 months and a public-funded provision of English language training was slashed. Only the eligibility criteria to access to family payments were maintained. More specifically, starting on 1st July 1999, the minimum number of points set to sort migrants who had applied through the concessional

family and skilled independent visa streams were substantially raised[1]. The restrictions resulted in tougher conditions to earn points towards the minimum required to be eligible for migration, and intended to favour migrants with skills immediately usable in Australia's labour market. These included higher language proficiency requirements, occupational skills, education and younger age. We restrict our attention to this specific policy change, which did not apply to those in the humanitarian, family reunification and employer nomination scheme streams.

To analyse the effectiveness of this policy change, targeted at attracting high skilled migrants including entrepreneurs, we analyse the probability of becoming an entrepreneur after migration as a function of individual and labour markets characteristics for the two cohorts of immigrants entering Australia in 1993-95 (cohort 1) and 1999-2000 (cohort 2), surveyed in the Longitudinal Survey of Immigrants to Australia (LSIA). Cohorts 1 and 2 happen to have migrated to Australia just before and after the policy change, respectively, thus enabling us to test whether the probability of becoming an entrepreneur is higher for the latter cohort after taking into account a number of individual, timing (cohort) and compositional changes among migrants.

The migration policy change can be estimated using the following equation:

$$\Pr(E_{ih}) = \beta_0 + \beta_1 X_i + \beta_2 C_i + \beta_3 E_{is} + \beta_4 C_i E_{is} + \beta_5 C_i X_i + \beta_6 R_i + \beta_7 R_i E_{is} + \beta_8 C_i R_i + \beta_9 C_i E_{is} R_i + \varepsilon_i$$

where $Pr(E_{ih})$ is the probability that individual immigrant i is an entrepreneur in Australia after migration; E_{is} is a dummy variable that has a value of one if the migrant was an entrepreneur in his/her country of origin in the 12 months prior to migrating and zero

[1] There are three broad visa categories used to enter Australia: independent skills, family concessional and employer nomination schemes, family reunification, and refugee/humanitarian. However, only independent skills and family concessional are tested through the point system. See Richardson et al (2001), Green et al (2007), and Chiswick and Miller (2006), for a discussion.

otherwise; β_0 is a constant term. X_i is a vector of personal and occupational characteristics. These cover individual features like gender, age, education, type of visa granted for migration. We also include the unemployment rate in Australia by country of origin group to control for country-specific local effects. C_i is a dummy variable that is equal to one if the migrant belongs to the second cohort, and zero otherwise. R_i is a dummy variable that indicates if the migrant has relocated to Australia with a preferential family reunification visa, which was not subjected to the specific policy change analysed in this paper; and ε_i is an idiosyncratic error term.

This methodology is akin to what is termed 'difference-in-difference' estimation, as it measures the effect of a 'quasi natural' experiment (the policy change) on the average difference in the probability to becoming entrepreneur between the first and the second cohort in the treatment group (pre-migration entrepreneurs who were the target of the policy change) and the control group (migrants who resettled to join their family, to whom the policy changes did not apply).

The effect of policy change is detected by the difference ($\beta_4 - \beta_9$) – the probability of attracting entrepreneurs after the policy reform – after controlling for entrepreneurship prior to migration (β_2), the time of migration (β_3), changes in the composition of migrants and labour market conditions (β_5) as well as characteristics and entrepreneurship among those who entered Australia with a preferential family reunification visa (β_6, β_7, β_8). The difference ($\beta_4 - \beta_9$) has a casual interpretation if there is no change in both observed and unobserved characteristics of both treated and controls in the first and second cohort. Since this is unlikely, our results are subject to the possibility of bias due to unobserved heterogeneity. We try to minimise for this undesirable effect with a number of controls covering individual characteristics and qualitative elements like aspirations and hopes, as well as an aggregate indicator of economic conditions affecting migrants of the same country of origin in

Australia. To limit the effect of unobserved heterogeneity, we also run our estimations on sub-samples and control for selectivity into participation in the labour force as a test of robustness of the estimates obtained. No detectable difference arises from the results presented in Section 4.

3. Data

The LSIA is based on a representative sample of 5 percent of migrants/refugees from successive cohorts of migrants and was commissioned in the early 1990s to fulfil the need to have better information on settling in Australia than those available through the census. It contains more than 300 questions about the settlement process and conditions experienced pre-emigration in the home country and after relocating to Australia. The questions were asked separately to primary applicants and their migrating spouses.[2] The first cohort, arrived in 1995-1996, contains 5,192 primary applicants and 1,838 spouses, surveyed 5, 17 and 41 months after arrival. The second cohort, arrived between 2000 and 2001, contains 3,124 primary applicants and 1,094 spouses surveyed after 5 and 17 months after immigration. Since Cohort 2 includes 175 migrants who qualified under the less restrictive migration criteria (i.e. before 1st July 1999), we reallocate these observations to Cohort 1 in the empirical analysis. Because one may not set up an entrepreneurial activity immediately after resettling, we carry out the analysis on all waves for both cohorts. This results in a maximum total sample of 21,824 observations.

As found by other authors, migrants in Cohort 2 have a higher average level of education, higher participation rates (e.g. Cobb-Clark 2003; Chiswick and Miller 2006), and lower durations to access their first job (e.g. Thapa and Goergens 2006) than those in Cohort 1. However, they appear to have lower quality initial jobs, mostly due to less favourable

[2] Migrating unit is this context includes all members of the family migrating to Australia under the same visa application. The term spouses is used for husband/wife, civil partners, fiancé(e)s and de facto partners.

macroeconomic conditions in Australia in the early 2000s (e.g. Junankar and Mahuteau 2005).

Table 1 presents the descriptive statistics. Among the several questions asked in both Cohort 1 and Cohort 2, we capture whether the migrant is self-employed with or without employees in Australia (cmabizm) as well as prior to migration (fmabizm). At the time of their first interview, five months after arrival, 4% of migrants from Cohort 1 resulted self-employed. This proportion rises to 6.5% and 8.7%, respectively, at the time of the second (17 months) and third (41 months) interviews. The corresponding proportions for Cohort 2 are slightly higher: 4.7% at the time of the first interview and 6.8% at the time of the second interview. In the 12 months prior to migration 13.2% of those in Cohort 1 were working as entrepreneurs. This proportion is 11.3% among those in Cohort 2, possibly due to worse macroeconomic conditions in Australia (e.g. Junankar and Mahuteau, 2005).

Table 1 also reports the percentages of applicants by type of visa: family reunification (concessional and preferential) is the most common followed by 'skilled independent' and 'business' visa. The remaining variables summarise personal and labour market characteristics. Immigrants to Australia are typically in their mid-30's, male, married and have a small family with one or two dependent children. They are highly educated, with approximately two thirds holding a diploma/certificate or higher educational qualifications, and mostly from Europe and East and South East Asia. Almost half of respondents have previously visited Australia, and close to 60% were interviewed in English at the time of their first interview. About 26% of those in Cohort 1 settled in Australia with hopes of better economic prospects. This proportion rises to 60.2% for Cohort 2. The average unemployment rate by the country of origin was 13.6% for Cohort 1, and 7.5% for Cohort 2.

Tables 2 and 3 present the employment transitions between the occupational status in the job held in the home country during the last 12 months before migration and the occupational status at 5 months after arrival in Australia for Cohort 1 and 2, respectively. Perhaps unsurprisingly, many of those who were entrepreneurs in the home country prior to migration were unemployed in the first months after migrating to Australia (28% in Cohort 1 and 10.5% in Cohort 2). On average 28 percent of Cohort 1 was unemployed at 5 months after migrating (Table 2). The incidence of unemployment drops in Cohort 2 to 12.7 percent (Table 3).

4. Results

Table 4 summarises the marginal effects of the determinants to entrepreneurship of immigrants to Australia. These represent the change in the probability of becoming an entrepreneur for a 1% increase in the relevant explanatory variable. Four sets of marginal effects are presented: the first column shows those obtained from a probit model applied to the full sample containing all waves. The second column presents the marginal effects obtained from regressions performed for those who were interviewed 5 months after their arrival in Australia. The third column presents the marginal effects obtained from a probit regression on all waves augmented with a second equation capturing migrants' self-selection in terms of their ability to find a job with respect to their choice of labour force participation (Heckman selection model). The fourth column report the marginal effects from regressions performed on the first wave.

The use of a selection equation is dictated by the fact that not all migrants decide to participate in the labour force (a number for example decided to pursue higher education) and therefore an adjustment should be made to account for those who decide to stay out of the labour force when estimating the probability of becoming an entrepreneur. We report the results for the first wave separately to highlight differences between choices made at the

outset and throughout migration. Although the data are constructed as a panel, we estimate the model as a series of pooled cross-sections, with time dummies controlling for the separate waves, to maintain an adequate number of observations to carry out the analysis.

On average the estimates account for a substantial proportion of the variation of the dependent variable. Observations representing humanitarian migrants are omitted from the analysis, as these include too small a number of pre-migration entrepreneurs to yield meaningful results. We use migrants resettling under the preferential family reunification stream as our control group (β_9), as this includes pre- and post-migration entrepreneurs who were not affected by the policy change examined and faced no imposition on having to set up an activity in Australia that had to meet pre-set criteria. To control for macroeconomic conditions we include the unemployment rates by country of origin, in Australia, at the time of migration.

The determinants of becoming an entrepreneur in Australia appear confined to a handful of explanatory variables, which include the previous experience as entrepreneur in the country of origin, demographics, visa type, and previous knowledge of, and labour market experience in, Australia. These determinants are briefly reviewed prior to discussing the estimate of ($\beta_4 - \beta_9$). Previous experience as an entrepreneur in the country of origin increases the probability of doing the same in Australia by about 16% (first column), but not in the months immediately after resettlement (8.7% second column). The coefficient is highly statistically significantly different from zero and substantial in absolute value.

As suspected, entrepreneurs are not only migrating to Australia with a business visa, as indicated by the statistically significant marginal effects associated to the various visa types. Relative to a migrant in the preferential family stream (control group), those in the skilled independent category have a 10% higher likelihood to become an entrepreneur in Australia.

This marginal effect increases to 18% for those arriving with a business visa. It is instead about 3% lower for those arriving with a preferential family visa, perhaps reflecting the wider range of employability among immigrants in this category. As for the case of previous entrepreneurial experience, the absolute value of the marginal effects increases with the length of stay in the country.

With reference to demographic variables, being male (1.5% for the first cohort - the coefficient is no different from zero for the second cohort) raises the probability of becoming an entrepreneur, while there is no statistical effect attached to being married. Formal education does not appear to have much influence in such decision, as most of the coefficients of educ2-educ7 are not statistically significantly different from zero (not reported). This suggests that entrepreneurs are neither formal education drop-outs nor engaged in activities and services requiring a specific type of formal education. Entrepreneurship is also more likely when migrants have prior knowledge of Australia (previs: 3-4%), and with longer experience in Australia (t1d), though at a decreasing rate (t2d). Curiously, having migrated with the hope of finding better job opportunities is associated with a lower probability of becoming an entrepreneur (hope: about -2%). This result perhaps reflects that better than expected conditions, like the existence of secure jobs, may entice would-be self-employed to opt for paid employment.

With reference to measuring the effect of the migration policy change on the probability of becoming an entrepreneur, the estimate of interest ($\beta_4 - \beta_9$) is the difference between the marginal effects of the interaction terms between prior entrepreneurial activity and cohort for the treated (skilled independent and concessional family visa) and the control group (preferential family). The t-test performed on the difference of the two marginal effects point to a positive and statistically significantly different from zero value for ($\beta_4 - \beta_9$) with an average coefficient ranging between 4% (‘all waves’ probit, first column of Table 4) and 6%

(probit with selection for participation – 'Heckman'). It is interesting to note that when the data are split into first waves (5 months after arrival) and successive waves (1-2 years since arrival) the marginal effect of the policy change differs. It is insignificantly different from zero in the months immediately after arrivals, while it becomes substantially stronger in later waves. Becoming entrepreneur seems therefore to occur over a period of time (e.g. a year or two after migration). This is probably due to the fact that entrepreneurial skills brought from the origin countries are not perfectly transferable to the host country and thus migrants require time to adjust to new rules and regulations related to the particular businesses they are planning to start. Alternatively, it may suggest that people had a hard time finding employment in Australia and decided to enter self-employment as a way to participate in the labour market. The evidence is that a number of unemployed at the start of the migration experience are job-generators later on; suggesting that a later entry into entrepreneurship is not entirely due to an initial lack of opportunities vis-à-vis adjusting to new institutional circumstances and environment. The overall effect of the policy is however unequivocal in having resulted in more entrepreneurial activities after the policy change.

The remaining cohort effects do not indicate other substantial differences between the two cohorts, with perhaps the only exception of resulting in less attraction of America-based entrepreneurs (cohort_COB8) vis-à-vis those from Europe, as most of the remaining marginal effects related to the country of birth are not statistically different from zero and hence are not reported. This also suggests that the positive effects measured for developing countries of births do not point to a systematic absorption by Australia of foreign entrepreneurs that would otherwise contribute to the economic development of their country of origin. However, the fact that the policy change has resulted in a higher number of people entering the country with previous entrepreneurial experience suggests that its benefits to the Australian economy might have accrued at a net loss for the countries of origin, at least in the short-term.

5. Concluding remarks and policy implications

We have attempted to explore the determinants of entrepreneurs in Australia as well as the consequence of the change in immigration policy related to the incidence of being an entrepreneur. In terms of the determinants it is perhaps not surprising that those who were entrepreneurs in the home country before migration are more likely, compared to other type of visa holders, to be in the same occupational status in Australia. More importantly, we also find that the policy change, which was aimed at attracting relatively higher skilled migrants than before, resulted in an increase in the incidence of new migrants to undertake entrepreneurial activities. Finally, the probability of being an entrepreneur increased with the time spent in Australia.

The last two results highlighted above are quite important in terms of what we had set out to explore in this paper. It shows that Australian immigration policy was successful in terms of achieving its objective, which was to primarily attract the kind of people who could effectively contribute in the labour market and better yet could act as a catalyst in creating new jobs and wealth. However, the fact that there is still a fair bit of lag between the immigrants' performance at the initial stages of the migration process and at later stages shows that there are perhaps some policy measures that could be taken to minimise the attrition rate that might occur for those who could have otherwise contributed.

Migration is a contentious issue in all industrialised immigration countries and Australia is no exception. In terms of its economic impact, there is a strong misconception in the immigrant countries that migrants "steal" natives' jobs and that the cost of immigration outweighs its benefit. This is indeed, to a certain extent, been supported by work of Borjas and others. However, there is overwhelming evidence in favour of the view that immigrants are a net benefit to the receiving countries (Altonji and Card, 1991; Pischke and Velling, 1997;

Dustmann et al, 2008). Although our paper has not addressed the particular issue of immigrants' effect on the Australian labour market, the main result of the paper could be interpreted in the context of the ongoing debate, with the conclusion that immigrants create jobs. In this regard, Australian immigration policy could be considered as one of the main contributors to the job-creating activities in the country.

That Australian immigration policy has helped engender business-generating environment should not result in complacency on the government's part. Any economy including Australia's depends on a continual development of businesses and the current worldwide economic slowdown has made the entrepreneurial acumen a much sought after quality. The policymakers therefore need to consider the policies that help remove any barriers that could delay or stop immigrants to start a business. Perhaps this could take the form of some training soon after arrival, including information about Australian business environment for immigrants who plan to start a business venture. This would also ensure that any bureaucratic procedures do not affect immigrants more than natives. A further role the government can play to facilitate immigrants to start a business could be loan agreements and/or further training. This could be put in place even before the would-be migrants move to Australia (e.g., by distance learning as well as providing the groundwork for any new venture a migrant might be interested in starting upon arrival, of course taking their previous experience and skills into consideration). This will perhaps help in minimising the "drop-out" effect that might have been caused due to the lag in economic settlement of migrants and their families in Australia.

References

Altonji, J.G. and D. Card (1991). The Effects of Immigration on the Labour Market Outcomes of Less-Skilled Natives. In J. Abowd & R. B. Freeman (Eds.), Immigration, Trade and the Labour Market (pp. 201-234). Chicago and London: University of Chicago Press for the National Bureau of Economic Research.

Borjas, G.J. (1991). Immigrants in the US Labour Market: 1940-80. *American Economic Review*, 81(2): 287-291.

CEDA (2001). Emigration from Australia: Economic Implications.

Chiswick, B.R. and P.W. Miller (2006). Language Skills and Immigrant Adjustment: What Immigration Policy Can Do! In: Deborah Cobb-Clark and Siew-Ean Khoo (eds.), Public Policy and Immigrant Settlement, Cheltenham: Edward Elgar Publishing, 121-148.

Constant, A. and K. Zimmermann (2006). The Making of Entrepreneurs in Germany: Are Native Men and Immigrants Alike? *Small Business Economic*, 26: 279-300.

Dustmann, C., A. Glitz and T. Frattini (2008). The Labour Market Impact of Immigration. *Oxford Review of Economic Policy*, 24(3): 477–494.

Evans, M.D.R. (1989). Immigrant Entrepreneurship: Effects of Ethnic Market Size and Isolated Labour Pool. *American Sociological Review*, 54(6): 950-962.

Green, C., P.M. Kler and G. Leeves (2007). Immigrant overeducation: Evidence from recent arrivals to Australia. *Economics of Education Review*, 26(4): 420-432.

Hout, M. and H.S. Rosen (2000). Self-employment, Family Background and Race. *Journal of Human Resources*, 35(4): 670-692.

Junankar R. and S. Mahuteau (2008). Do Migrants get Good Jobs in Australia? The Role of Ethnic Networks in Job Search. *Economic Record*, 84, Issue Supplement s1: S115–S130.

Oylere, R.U. and W. Belton (2009). Coming to America: does immigrant's home country economic status impact the probability of self-employment in the US?. IZA Discussion Paper 4178. Bonn: IZA

Pischke, J.S. and J. Velling (1997). Employment Effects of Immigration to Germany: An Analysis Based on Local Labor Markets. *The Review of Economics and Statistics*, 79(4): 594-604

Richardson, S., Robertson, F. and D. Isley (2001). The Labour Force Experience of New Migrants. Report prepared for the Department of Immigration and Multicultural Affairs. Adelaide: National Institute of Labour Studies, Flinders University.

Thapa, P.J. and T. Gørgens (2006). Finding Employment after Migration: How Long does it Take? In: Cobb-Clark, D.A. and Khoo, S.E. (eds), Public Policy and Immigrant Settlement. Edward Elgar Publishing Ltd, Cheltenham; 219–29.

LEGEND

Abbreviation	Variable
Cmabizm	Currently entrepreneur with or without employees
Fmabizm	Entrepreneur in country of origin
visafam_pref	Family preferential visa
visafam_conc	Family concessional visa
Visaindp	Skill independent visa
Visabiz	Business visa
Agemig	Age (years) at time of migration
Agemigsq	Squared age (years) at time of migration
Female	Female respondent
Marry	Married
educ1	Completed primary school
educ2	Completed secondary school
educ3	Completed trade qualification
educ4	Completed technical/professional qualification
educ5	Completed undergraduate degree
educ6	Completed postgraduate degree
educ7	Completed higher degree
COB2	Country of birth: Oceania
COB3	Country of birth: Europe and Russia
COB4	Country of birth: Middle East/North Africa
COB5	Country of birth: South East Asia
COB6	Country of birth: North East Asia
COB7	Country of birth: Southern and Central Asia
COB8	Country of birth: Americas
COB9	Country of birth: Africa
nbhouse	Nr people living in household
hope	Migrated hoping to get better employment opportunity
previs	Visited Australia prior to migrating
t1d	Nr days since arrival
t1d2	Squared nr days since arrival
langint	Language of interview is English
unempcob_y~l	Unemployment rate by country of birth at year of arrival
COHORT EFFECTS	
cohort_fma~m	Cohort effect – entrepreneur in country of origin
cohort_vis~m	Cohort effect – family preferential visa
cohort_vis~p	Cohort effect – skill independent visa
cohort_vis~z	Cohort effect – business visa
cnbhouse	Cohort effect – nr people in household
cagemig	Cohort effect – age at migration
cagemigsq	Cohort effect – square age at migration
cprevis	Cohort effect – visited Australia prior to migrate
cfemale	Cohort-effect: female
clangint	Cohort effect – language of interview
cmarry	Cohort effect – married
chope	Cohort effect – migrated hoping to get better opportunity
cohort_COB2	Cohort effect country of birth: Oceania
cohort_COB4	Cohort effect country of birth: Middle East/North Africa
cohort_COB5	Cohort effect country of birth: South East Asia
cohort_COB6	Cohort effect country of birth: North East Asia
cohort_COB7	Cohort effect country of birth: Southern and Central Asia
cohort_COB8	Cohort effect country of birth: Americas

cohort_COB9	Cohort effect country of birth: Africa
ceduc1	Cohort effect primary school
ceduc2	Cohort effect secondary school
ceduc3	Cohort effect trade qualification
ceduc4	Cohort effect technical/professional qualification
ceduc6	Cohort effect postgraduate degree
ceduc7	Cohort effect higher degree

TABLE 1 SUMMARY STATISTICS: LSIA 1 AND 2

	Cohort 1			Cohort 2	
	Wave 1	**Wave 2**	**Wave 3**	**Wave 1**	**Wave 2**
cmabizm	0.040	0.065	0.087	0.047	0.068
fmabizm	0.132			0.113	
visafam_pref	0.423			0.507	
visafam_conc	0.150			0.082	
visaindp	0.164			0.122	
visabiz	0.103			0.111	
agemig	34.609			36.370	
agemigsq	1,330			1,495	
female	0.430			0.458	
marry	0.695	0.712	0.742	0.664	0.713
educ1	0.047	0.047	0.045	0.044	0.047
educ2	0.282	0.288	0.248	0.306	0.321
educ3	0.070	0.069	0.074	0.065	0.069
educ4	0.212	0.211	0.220	0.198	0.202
educ5	0.226	0.225	0.216	0.215	0.210
educ6	0.061	0.060	0.070	0.049	0.050
educ7	0.101	0.101	0.128	0.123	0.101
COB2	0.022			0.036	
COB3	0.314			0.316	
COB4	0.124			0.098	
COB5	0.174			0.158	
COB6	0.128			0.156	
COB7	0.085			0.091	
COB8	0.083			0.075	
COB9	0.071			0.070	
nbhouse	3.661	3.386	3.408	3.659	3.453
hope	0.259			0.602	
previs	0.438			0.487	
t1d	138	509	1,258	151	524
t1d2	20,782	260,641	1,584,132	24,210	277,031
langint	0.595	0.710	0.779	0.625	0.716
unempcob_y~l	0.136			0.075	

TABLE 2: TRANSITION MATRIX OF LABOUR FORCE STATUS BETWEEN HOME COUNTRY AND 5 MONTHS AFTER ARRIVAL IN AUSTRALIA (COHORT 1) – DATA IN %

Labour force status in home country	Labour force status in Australia – 5 months after arrival				
	Paid work	Self-employed	Unemployed	Study	Total
Paid work	49.5	3.0	28.3	19.2	100
Self-employed	31.0	21.1	28.0	19.9	100
Unemployed	34.4	0.8	39.1	25.8	100
Study	28.6	0.0	22.6	48.8	100
Total	44.2	5.2	28.0	22.5	100

Note: Paid work includes 'other employment' category in the original data.

TABLE 3: TRANSITION MATRIX OF LABOUR FORCE STATUS BETWEEN HOME COUNTRY AND 5 MONTHS AFTER ARRIVAL IN AUSTRALIA (COHORT 2 - ADJUSTED) – DATA IN %

Labour force status in home country	Labour force status in Australia – 5 months after arrival				
	Paid work	Self-employed	Unemployed	Study	Total
Paid work	63.6	3.5	13.8	19.2	100
Self-employed	32.4	35.7	10.5	21.4	100
Unemployed	19.5	0.0	21.8	58.6	100
Study	34.8	0.7	6.8	57.7	100
Total	53.7	6.8	12.7	26.8	100

Note: Paid work includes 'other employment' category in the original data. Data in Cohort 2 are adjusted following the reclassification of 175 people surveyed in LSIA2 as belonging to Cohort 1 since their permanent residence was obtained prior to the policy change.

TABLE 4: PROBIT WITHOUT AND WITH SAMPLE SELECTION ESTIMATES OF ENTREPRENEURSHIP (MARGINAL EFFECTS) – COHORTS 1&2 POOLED

	Probit All waves	Probit Wave 1	Heckman All waves	Heckman Wave 1
Cohort	.009	.085	.010	.013
	(.070)	(.158)	(.064)	(.011)
Fmabizm	.165***	.087***	.081***	.008***
	(.026)	(.024)	(.010)	(.002)
Visaindp	.099*	.087	.068***	.009**
	(.053)	(.055)	(.026)	(.004)
Visabiz	.179**	.146*	.088***	.011***
	(.078)	(.079)	(.026)	(.003)
Visafam_pref	-.025***	-.006	-.040***	-.005
	(.004)	(.006)	(.010)	(.002)
Agemig	.002	.0004	-.0007	.00007
	(.002)	(.002)	(.002)	(.0004)
Agemigsq	-.00002	-.00003	.00002	.00005
	(.00002)	(.00002)	(.00003)	(.00005)
Female	-.015*	-.015**	-.008	-.002
	(.008)	(.007)	(.007)	(.001)
Marry	.0004	-.001	-.004	-.001
	(.009)	(.008)	(.008)	(.001)
Nbhouse	.002	.001	.004**	.0006*
	(.002)	(.002)	(.002)	(.0003)
Hope	-.021***	-.013**	-.023***	-.002**
	(.007)	(.006)	(.008)	(.001)
Previs	.036***	.023***	.035***	.004***
	(.008)	(.008)	(.008)	(.001)
t1d	.0001**	.00006**	.0001***	.00008**
	(.00005)	(.00002)	(.000005)	(.00003)
t1d2	-.00006***	-.00002*	-.000008**	-.000002**
	(.00001)	(.000008)	(.000003)	(.00001)
Langint	.0008	.004	.0006	.0003
	(.006)	(.006)	(.005)	(.001)
unempcob_y~l	.042	-.055	-.005	-.013
	(.168)	(.146)	(.158)	(.023)
OTHER CONTROLS				
Education	Yes	Yes	Yes	Yes
Country of birth	Yes	Yes	Yes	Yes
COHORT EFFECTS				
cohort_fma~m (β_4)	.019	.015	.023**	.003*
	(.017)	(.016)	(.012)	(.002)
cohort_vis~z (β_9)	-.020**	-.018***	-.036**	-.007**
	(.009)	(.003)	(.019)	(.003)
($\beta_4 - \beta_9$)	.038***	.033***	.059***	.010***
Test ($\beta_4 - \beta_9$)=0 (chi2)	34.2	27.0	42.0	29.5
Observations	13,677	5,490	13,748	6,018
Censored obs			4,639	2,287
Wald chi2	1,226.8	3,306.0		
Log likelihood	-2,535.2	-843.6	-8,226.5	-3,469.1
Pseudo-R^2	.2823	.2733		
ρ			.755***	.867**
			(.129)	(.132)

Note: The base group for "Country of birth" (COB) is "Oceania"; for "Visa type" the base group is "Concessional Family".