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# Do Migrants succeed in the Australian Labour Market? Further Evidence on Job Quality

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# Do Migrants get Good Jobs in Australia? The Role of Ethnic Networks in Job Search \*

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#### ABSTRACT

While the Coalition Government was in power in Australia from 1996 to 2007, new immigrants have had to face tougher selection criteria and increased financial pressure. Most studies so far have overlooked the issue of the quality of the jobs obtained by new immigrants to Australia and whether the policy change has contributed to improve or worsen job quality among immigrants and their ability to move upward. Job quality is thought to be related to the channels of information used by immigrants in their job search. Some studies suggest that jobs found via networks of same origin migrants are of lower quality. The aim of this paper is twofold. First, we investigate the effect of time since settlement on the ability of migrants to better their labour market outcomes. Second, we quantify the relationships between job quality and migrants' job search methods and test whether they were affected by the policy changes.

Using the Longitudinal Survey of Immigrants to Australia (LSIA), we estimate the probabilities for immigrants to find "good jobs", controlling for their initial employability upon arrival in Australia. We test several models involving various definitions of "good job", from objective conditions, based on the nature and status of the occupation, to more subjective conditions based on job satisfaction. We show that the sole effect of being a second cohort migrant is beneficial for the probability to both find a job and a "good job" within the first year and half after settlement. After this time, cohort two migrants who still have not found a good job experience more difficulty to improve. Moreover, informal channels of information on job prospects have been slightly more efficient in enabling second cohort migrants to find good jobs, even though they still provide individuals with a disadvantage compared to formal channels.

**Keywords:** migrants, job quality, immigration policy, migrant networks. **JEL Classification:** J61, J68, C25

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### 1. Introduction

The process of migration is associated with downward occupational mobility due to the migrants' country-specific human capital being imperfectly transferable to the host country and/or as a consequence of poor language proficiency (Bauer and Zimmermann 1999). Studies in a wide range of institutional contexts have described migrants' labour market outcomes in the host country has a U-shaped pattern of occupational mobility (Chiswick et al., 2002a) whereby drops in occupation observed early on after settlement are followed by a phase of recovery after some time spent in the host country (see Chiswick 1979; Duleep and Regets 1996; Bauer and Zimmermann 1999; Chiswick *et al.* 2002b). The recovery stage takes up to a decade, after which the average migrant's occupation and earnings are comparable to that of natives while a wealth gap remains for longer (Bauer et al., 2007).

Changes in immigration policies in the host country are likely to impact on the quality of the immigrant intakes as it is precisely their stated objective. In the more specific case of Australia, the policy changes observed in 1996 were directed at improving the employability of the new migrants while decreasing their reliance on the welfare system. Since 1996, new immigrants have had to face tougher selection criteria and increased financial pressure. Notably, the policy changes involved increased tightness in the selection criteria used by the Department of Immigration and the introduction of a two years waiting period for non-refugees before accessing social security benefits (Chiswick and Miller, 2006). This change has probably led to stronger self selection among prospective migrants towards better employability for the later waves of migration. Recent studies conducted, notably by Cobb-Clark (2000, 2003), Richardson et al. (2001, 2002) and Thapa and Gørgens (2006), have indeed shown that immigrants arriving after the policy change experienced higher probabilities of employment and found jobs earlier. However, the latter study points out that these better labour market outcomes are mostly due to better macroeconomic conditions in Australia rather than being solely due to the tightening up of the selection criteria.

While the policy changes seem to have somewhat impacted on the characteristics of new migrants with a significant increase in their ability to find a job, it is worth having a closer look to the type of jobs they obtained as compared to migrants subjected to the old policy. We can suspect that the policy also affected the size of migrants' occupational drop on settlement as well as the pace of their recovery. Theoretically, two opposite effects of the policy may determine migrants' labour market outcomes in terms of job quality. On the one hand, the tougher selection criteria have lead to 'higher quality' migrant intakes. Therefore, even if the eligibility to welfare payments had not been altered, new migrants would have relied less on them in the early stages of settlement. Moreover, their education, training and language ability should have lead them to get better jobs and recover faster from the initial shock on job quality. On the other hand, the two years waiting period before access to social security benefits would have decreased individuals' reservation wages. In other words, the larger participation of later waves of migration could also be due to individuals' willingness to accept

job offers that are inferior to their prior training or their former (or intended) occupation. Therefore, the restriction of welfare payments would have had a negative effect on job quality. Using the Longitudinal Survey of Immigrants to Australia (LSIA), Junankar and Mahuteau (2005) showed that job quality (measured on objective characteristics) is indeed inferior in the early stages of settlement for migrants arriving after the policy changes. Therefore, the second effect seems to be dominant on arrival. However, there still is scent evidence as to whether migrants arriving after the policy changes overcome their initial job quality disadvantage and whether their higher ability allows them to move faster to better jobs.

In this paper we extend our first analysis and investigate the effect of time since settlement on the ability of migrants to better their labour market outcomes and the indirect impact the policy change may have had on job quality notably by altering migrants' job search methods and their effectiveness. One shortcoming of our first study is that it focuses solely on migrants' labour market outcomes up to 6 months after arrival and therefore does not address the issue of occupational mobility beyond the mere comparison between the last job held in the former country and the first job obtained in Australia. Since the conclusion of our first analysis is that the policy change lead to a slight drop in (objective) job quality the question we address now is whether it produced lasting effects onto migrants' occupational patterns.

We suggest that migration policies relying on welfare payments eligibility cut backs may have unintended effects on individuals which may offset the benefits from selecting higher ability migrants. Two related categories of arguments may be advanced for why this should be so. First, the two years waiting period before welfare transfers eligibility increased the opportunity cost of time spent searching for better jobs as well as the cost of furthering and adapting one's human capital to the Australian labour market. Therefore, some individuals who started as underemployed in their first job may remain so for longer. Second, job search methods have been affected by the policy changes towards a stronger reliance on informal channels of information on job prospects, more specifically family, friends and ethnic networks (Junankar and Mahuteau, 2005, 2008). Such informal sources are found to be important in procuring new migrants' with jobs (Montgomery 1991; Yamauchi and Tanabe 2006). Incumbent migrants relay information about job prospects and may provide direct assistance via referrals, hence decreasing the search costs. While such informal sources of information may have the virtue of enabling new migrants to find jobs faster, their impact on job quality is rather unclear. For well defined measures of job quality such as the level of wages, evidences are contradictory as to whether earnings are significantly improved by the help of incumbent migrants. For example, Munshi (2003) finds positive effects for Mexican migrants while Loury (2003) and Elliott (1999) find that social networks have a negative effect for some jobs, especially those involving low skills. It is also observed that incumbents' help is usually unidirectional; from higher skilled individuals to lower skilled new migrants, that is lower skilled jobs (Stark and Wang, 2000). Moreover, it appears that jobs found through 'friends' and 'acquaintances' have often little connection with the individual's previous experience or training (Ottaviano and Peri, 2006). This occurs because new migrants using informal sources are dependent on the composition of their network which is mostly determined by family, neighbourhood or ethnic ties rather than by professional affiliations. In that, they differ from natives who can sample assistance from a larger base, including so called 'old boys networks' (Simon and Walker, 1992). As evidence of this, Yamauchi and Tanabe's study of the Bangkok market (2006) shows that the success of new migrants who rely on previous migrants in their job search depends on how successful the latter are themselves. New migrants have a limited number of individuals to sample their information from and there is a positive correlation between their personal contacts' labour market outcome and their own.

These evidences point towards a negative effect of informal sources on migrants' job quality. However, the 'social networks' literature makes it clear that the relative effectiveness of job search based on informal methods compared to formal ones depends largely on the indicators used for assessing job quality, but also on institutional context, demographic characteristics and on the nature of the ties linking individuals (Barber, 1998; Ioannides and Loury, 2004; Marsden and Gorman, 2001). Therefore, on the migrants' standpoint, one would expect the relative effectiveness of job search methods to be significantly altered by major events such as changes in the immigration policy. This paper presents a first attempt to quantify the relationship between information channels and migrants' job quality. Furthermore, we investigate to what extent these relations changed after 1996. More specifically we look at whether informal sources lead to better jobs for migrants arriving after the policy change or not.

We develop an econometric model aimed at testing the effect of the duration of stay on migrants' ability to find good jobs and the impact immigration policy changes may have had on individuals' occupational mobility. We further test whether informal channels of information on job prospects lead to significantly lower job quality and to what extent the return to the various job search channels have been altered after the policy changes.

The data used in this paper are from the Longitudinal Surveys of Immigrants to Australia (LSIA) conducted by the Department of Immigration. We adopt a bivariate Probit specification, controlling first for immigrants' employability upon entering Australia and, second, investigating the ease with which they obtain good jobs. In other words, we estimate the migrants' probabilities to find a "good job", given they actually find a job. Data from the LSIA offers the advantage of being composed of two cohorts of immigrants having settled in Australia before (cohort 1) and after (cohort 2) the policy changes, each of them involving several waves of interviews (3 for cohort 1, and 2 for cohort 2) spanning from 10 days after arrival to up to 4 years.<sup>1</sup> Contrary to our

<sup>&</sup>lt;sup>1</sup> Each waves of interview is intended to survey Immigrants within 6 months, 18 months and 24 months after arrival. However, there are large variations in the actual time immigrants have been

first study (Junankar and Mahuteau, 2005) which looked at labour market outcomes shortly after arrival, we now focus on the effect of time on migrants' ability to find good jobs and explicitly take into account their job search methods.

We test several models, involving several definitions of what constitutes a "good job", from objective conditions, based on the nature of the occupations and their social status rank, to more subjective conditions, where the focus shifts to the individuals' satisfaction with their current main job and/or whether they intend to search for better occupations in the near future.

Our main results show that the sole effect of being a second cohort migrant is beneficial for the probability to both find a job and a "good job". They are more likely to move upward earlier than first cohort migrants. However, a large part of this result is due to the higher employability of second cohort migrants. As a consequence, they outperform first cohort migrants but only up to about a year and half after settlement. After this, cohort 2 migrants who have not found a good job yet see their prospect of improving their situation decrease sharply below that of first cohort individuals. Therefore, even though migrants arriving after the policy change are indeed of slightly better quality, those who do not land a good job quickly have to wait longer before experiencing a significant upward occupational mobility.

Regarding the effect of the sources of information on the current main job found by individuals, one observes that alternative channels to using the Australian (English language) press, including informal channels, contribute to increasing the probability to find a job. Individuals investigating the labour market on the sole basis of the Australian press, which can be approximated as the formal channel through which natives find job offers, are on average worse off in terms of finding a job. As regards job quality, informal job search techniques lead to lower job quality. However, second cohort migrants who use those informal channels seem to use it more efficiently as it contributes to reduce the differential with the formal channel. For example, while people who use friends and family are respectively around 18 percent and 23 percent worse off in terms of job quality, second cohort migrants using the same channel improve their probability of having a good job by respectively 3 percent and 7 percent. Altogether, informal channels have been slightly more efficient in enabling second cohort migrants to find a good job, even though they still provide individuals with a disadvantage compared to formal channels.

### 2. Literature review

Cobb-Clark (2000, 2003) and Richardson *et al.* (2001, 2002) have explored various aspects of the settlement of migrants in Australia. These papers compare the first LSIA cohort with the first wave of the second LSIA cohort and come to the conclusion that the migrants are more likely to be employed in the second

in Australia at the moment of each wave of interview. This explains why some immigrants have actually been in Australia for almost 4 years when answering the third interview.

cohort compared to the first cohort, that they are less likely to be unemployed, etc. and suggest that this is due to a combination of the tightening up of the selection criteria between the two cohorts and because of the limited access to social security benefits for the second cohort. Cobb-Clark (2003) estimates an equation for the participation decision, an equation for unemployment (conditional on being in the labour force), and an equation for the duration in months looking for work after arrival in Australia until the interview date. The first two equations are estimated by Probit methods while the third equation is estimated by Ordinary Least Squares. The results show that females from the second cohort have higher participation rates and lower unemployment rates, and spend less time unemployed. In contrast, there are no significant differences for males between the first and second cohorts in terms of the coefficients on the independent variables: the higher participation rates and lower unemployment rates are due to different human capital characteristics. The conclusions of the study are that the better performance of the second cohort is primarily due to the tightening of the selection criteria and the composition of the migrants in terms of the visa categories. In particular, it should be noted that the paper was based on the first Wave of each cohort, that is, after the migrants had been in Australia for only about six months.

Thapa and Gørgens (2006) explore the duration of unemployment of migrants using the LSIA data. They find that migrants in the second cohort had a shorter duration of unemployment before finding their first job compared to migrants in the first cohort. In their paper, they point out data problems as the LSIA did not ask for a calendar diary of events so there are some problems of finding out when the first job was actually begun. They also study the different methods of job search and find that "friends" were the most important source for finding their first job. They estimate hazard function models (semi-parametric Cox model and fully parameterised Weibull model) for the duration to find the first job. The results are similar to many other results in that migrants with visas as Independent migrants or Business Skills migrants had a shorter duration, English-speaking migrants and European migrants had higher probabilities of finding their first job, while the results for education are mixed. Migrants with trade qualifications are more likely to find a job compared to those with a Bachelors degree. The results also suggest that the reason for the second cohort to have better employment probabilities was due to the better macroeconomic conditions prevailing in Australia rather than due to the tighter selection criteria for the second cohort.

Chiswick and Miller (2004) study the role of ethnic networks in the United States of America in the geographical location of migrants. They find that there is a significant concentration of ethnic groups, especially greater amongst those migrants who do not use English at home. Yamauchi and Tanabe (2006) study the role of non market networks among migrants in Bangkok, Thailand and find that there are economies of scale in information networks and that the higher the proportion of the earlier migrants that are employed, the greater the advantage for newer migrants.

In an earlier paper, Junankar and Mahuteau (2005) looked at the probability of migrants finding their first job, and whether it was a good job, using the LSIA data sets for the first and second cohorts. They defined a job as good if it meets the following objective conditions: firstly, that the employees are using their existing qualifications in their current job, and that their occupational ranking is the same or better. The subjective definition we use is that: s/he likes their job, wants to stay in the same job, and holds only one job. They found that, in general, there was a significant difference between the first and second cohorts: the LSIA 2 cohort was less likely to hold a good job after controlling for education, visa category, etc. In the present paper we extend this study to using the panel data set and compare the behaviour over time.

# 3. Data

The Longitudinal Surveys of Immigrants to Australia provide a rich source of data to analyse the settlement issues of new migrants in Australia. An important difference from most other data sets on migrants is that the LSIA provides information on the visa category under which the migrants arrived in Australia. This is clearly very important as people who may have come to Australia as refugees or as family migrants would have more difficulty in entering the labour market compared to economic migrants who have been assessed on a points system that gives higher points to those with higher levels of education and higher skills and in occupations that are looking for employees.

There have been two cohorts for whom data have been collected by the Department of Immigration and Citizenship (as it is now called). The first cohort entered Australia between September 1993 and August 1995 and the second cohort entered between September 1999 and August 2000. The first cohort was interviewed three times: 6 months after arrival (Wave 1), 18 months after arrival (Wave 2), and 42 months after arrival (Wave 3). The second cohort was interviewed only *twice*: 6 months after arrival (Wave 1) and 18 months after arrival (Wave 2). The first cohort consisted of 6,960 primary applicants and their spouses and the second cohort consisted of 4,181 primary applicants and their spouses.<sup>2</sup> In the first cohort there were 5,192 Principal Applicants (43.03 percent female) and in the second cohort there were 3,124 Principal Applicants (45.84 percent female). This paper focuses on the labour market behaviour of Principal Applicants only.

Between the two cohorts there were several significant policy changes that probably affected the composition of the migrant intake and their behaviour after entering Australia. In particular, there were several changes in the selection procedure for entering Australia that, in effect, made it more difficult for family members to enter, a tightening of the points test and the English language test, and a decrease in the humanitarian (refugee) category. These changes are discussed in detail in Cobb-Clark (2003). These changes are likely to have affected the quality of migrants in terms of their human capital characteristics. In other words, the

<sup>&</sup>lt;sup>2</sup> Further details can be found in Cobb-Clark (2001).

second cohort of the LSIA is not strictly speaking comparable to the first cohort. The tightening up of entry conditions for family migrants could have affected the quality of potential applicants, especially if they came from cultures where an extended family is an important social group.

Another important change that took place was the eligibility for unemployment and other social security benefits. For the first cohort, migrants had a waiting period of six months before they became eligible for social security benefits (excluding the humanitarian category of migrants who had access to all benefits without a waiting period). For the second cohort, the waiting period had been increased to *two years* as well as the tightening up of procedures for access to these benefits. These changes are likely to have affected the decisions of the potential migrants on whether to apply to migrate to Australia. In addition, once they entered Australia the lack of access to social security benefits may affect the labour market behaviour of these migrants by influencing their reservation wage.

#### 4. Econometric model

We estimate migrants' probabilities to find a good job in Australia. We are particularly interested in the difference between first and second cohort migrants regarding their ability to move to better occupations throughout time. Moreover, we suspect that the new policy may have altered the effectiveness of the various job search methods used by migrants. Since second cohort migrants use informal methods more intensively (Mahuteau and Junankar, 2008), we also explicitly take these search methods into account as determinants of the probability to find a good job. This enables to assess the relative effectiveness of informal job search through personal contacts compared to that of formal methods. Using differencein-difference estimators, we are also able to provide comparisons between cohort 1 and cohort 2 migrants regarding the outcome they may expect from each job search method.

Everything else held constant, the premise that second cohort migrants are of better quality since the selection criteria have been tightened and thus should obtain better jobs than their predecessors may be offset by the added pressure bestowed upon them by the removal of social benefits for a period of two years after arrival in Australia. The new policy may have led new migrants of the second cohort to hastily accept lower quality jobs and may have altered their ability to switch to better jobs after some time spent in Australia. The absence of social security benefits in the settlement phase contributes to the decrease of the migrants' reservation wages. We may expect that this would have lead to an increased labour supply and a comparatively smaller time allocation towards adapting one's pre-existing human capital to the Australian context, thus delaying access to good jobs. If this hypothesis is true, we should observe a positive effect of belonging to the second cohort on the migrants' probability to find a job in Australia but a negative effect on the subsequent job quality. Junankar and Mahuteau (2005) find such an effect when job quality is assessed on the basis of objective measures for migrants taken after 6 months of settlement in Australia. In the present study, we take advantage of the longitudinal aspect of the LSIA data and aim at investigating whether time spent in Australia enables second cohort migrants to recover from their relative job quality disadvantage observed after 6 months in Australia. Given that the second cohort migrants are demonstrated to have higher abilities (Cobb-Clark 2000), one may assume that with time, first and second cohort migrants' job quality attainments should not display any significant difference or, if any, the advantage should go to the second cohort migrants.

One difficulty of our analysis is to come up with a satisfactory definition of job quality. As in Junankar and Mahuteau (2005), we use two sets of definitions, based on subjective and objective criteria. A first approach consists in attributing a good job to a migrant if she, herself, rates her current main job as a good job. We use this definition in the first model whereby the dependent variable is defined as taking value 1 if the migrant considers her job as a good job.<sup>3</sup> However, in order to give more impact on the individual's own judgement about her job, we focus on the self rating satisfaction on the job for individuals who also state that their primary motivation for migrating to Australia was to benefit from better job opportunities. These individuals are more likely to make a less forgiving assessment of their current situation.

A number of issues arise from adopting job satisfaction as a definition for job quality. First, different macroeconomic conditions and availability of social transfers may alter what one judges as a good job. It is possible that a second cohort migrant with no access to any social safety net may consider herself lucky enough to have a job and would then rate her current main job higher than she would, had she had access to social benefits. A second issue pertains to the migrant's actual reference when assessing the quality of her job. In the early stages of the settlement and for some time after migration, individuals are very likely to compare their current situation to the circumstances they used to face in their former country. Hence, we complement the first definition with a second subjective definition of job quality where we compare current main job satisfaction with the level of satisfaction on the last job held in the former country. Therefore the second dependent variable will take value 1 if job satisfaction on the current main job rates higher than (or the same as) in the former country.

The second set of dependent variables we use in the estimations adopt objective criteria to assess the quality of the jobs obtained by the new migrants. An obvious measure consists in comparing the individual's occupation ranking from one wave to another and from the occupation held in the former country to the current main job. These objective definitions account for the improvement made by the migrants from their former country and throughout their stay in Australia rather than actually accounting for job quality per se. Migrants being a rather heterogenous group, it makes more sense to look at their improvements in terms of occupation. Previous studies show that migrants with higher ranked occupations in their former country suffer a larger downward shock upon

<sup>&</sup>lt;sup>3</sup> The dependent variable in that case has value 1 if the migrant loves her current main job "best job I have ever had" or likes it, "it is really a good job".

settlement in the host country<sup>4</sup> but tend to recover more rapidly than migrants at the lower end of the spectrum of occupations, even more so when the migrants considered are refugees.

According to our first objective definition, we consider a migrant as having a good job if her current main job in Australia is at least equivalent (in terms of ASCO<sup>5</sup> 2 digits) to the job held in the former country or to that held at the time of the previous interview. In other words, a migrant is considered as having a good job if she at least maintains the same occupation level or improves it. Given that an average migrant is expected to experience a drop on arrival, maintaining one's occupation level can be considered as an achievement.

In spite of its relative objectivity, this definition also presents some shortcomings related to the relative inadequacy between the ASCO classification and the actual occupations' socioeconomic ranking. Among various attempts at reconciling occupation ranking and socioeconomic status, McMillan and Jones (2000) offer a composite index that may be useful to assess job quality. The ANU3 2 synthetic scale integrates a number of relevant socioeconomic dimensions in order to give a more exhaustive assessment of the social status attached to each occupation as described by the ASCO. It takes into account the prestige, requirements (notably in terms of education), the rewards and power attached to the listed occupations. The ANU3 scale assigns a number between 0 and 100 to the occupations classified under ASCO with the lowest score, 0.8, assigned to Railway Labourers (ASCO: 9915) and the highest score of 99.2 to Specialist Medical Practitioners (ASCO 2312). It is tied to the ASCO in that, on average, high ASCO numbers receive lower ANU3 score and vice versa. Yet noticeable crossings occur for occupations that are not too far apart in the ASCO classification. For example Importers and Exporters are ranked high in the ASCO scale (1190) but get a ANU3 score of only 41.9, which is lower than most of the ASCO 2000s and some of the 3000s.

Our second objective definition of job quality relies on the ANU3 occupation status scale. We consider that a migrant obtains a good job if the social status associated to her current occupation is not less than her status in the former country and/or previous waves of interview. Using both subjective and objective definitions of job quality is useful not only because we cover a larger spectrum of quality measures but also because comparisons between the two broad categories are informative. Indeed, we can distinguish between what belongs to a migrant's perception of her outcome (subjective) and her actual outcome (objective) and highlight potential discrepancies.

We added a last objective definition of job quality which only looks at improvements in terms of social ranking (ANU3\_2 classification) from the origin country. According to this definition, a migrant has a good job if she obtains an occupation whose social ranking is at least equivalent to that of the job held last in the origin country. Comparing the results for this definition and the other

<sup>&</sup>lt;sup>4</sup> See Chiswick et al. (2002).

<sup>&</sup>lt;sup>5</sup> ASCO stands for Australian Standard Classification of Occupations.

objective definitions enables to distinguish between improvements from the origin country alone and further progress once in Australia<sup>6</sup>.

We observe job quality (either subjective or objective) only for migrants holding a job, whether employed, self employed or business owner. Hence we define a two equation model where we first estimate the probability for the migrants to hold a job. Then, for those who do, we estimate the probabilities for their occupation to be a good job. In other words, we estimate the probability to have a good job *conditional* on being employed. We estimate a separate model for each definition of a good job.

The first equation not only serves a practical purpose of controlling for selection in the estimation of job quality but it also provides relevant information on migrants' employability in Australia and how it may have been affected by the policy changes after 1997. Since the tightening up of the selection criteria affects second cohort migrants and aims at attracting better quality individuals, we expect to observe better employability for this cohort of the dataset.

The model is described as follows (the subscripts are dropped for clarity):

$$y_2^* = \beta_2 X_2 + \varepsilon_2 \tag{1}$$

where the observable counterpart of  $y_2^*$  is  $y_2 = 1$  if  $\varepsilon_2 > -\beta_2 X_2$  (and  $y_2 = 0$  otherwise), the observation of whether the migrant has a job or not.

$$y_1^* = \beta_1 X_1 + \varepsilon_1 \tag{2}$$

where  $y_1 = 1$  if  $\varepsilon_1 > -\beta'_1 X_1$  and  $y_1 = 0$  if  $\varepsilon_1 \le -\beta'_1 X_1$ , the observation of whether the migrant has a good job. The observation mechanism is such that  $y_1$  is not observed if  $y_2$  is zero. Furthermore, we assume that the disturbances follow a bivariate normal distribution with correlation coefficient  $\rho$ ;  $(\varepsilon_2, \varepsilon_1) \sim \text{BVN}(0, 0, 1, 1, \rho)$ .

Ideally, this model should be estimated taking full advantage of the longitudinal nature of the LSIA dataset, that is, using panel estimates for the vectors of parameters, including random effects capturing time and individual effects. However, the majority of the exogenous variables available for the

<sup>&</sup>lt;sup>6</sup> Note that all definitions of good job except the first one entail a comparison to a given reference point starting from the occupation held in the former country. In other words, all these measures are expressed in relative terms. Yet, the results may be interpreted as if they were absolute measures for two reasons. First, we control for migrants' employability in the econometric model. Second, the quality of second cohort migrants' former occupations is not significantly different from that of first cohort individuals for a wide range of different measures considered. Yet, it would have been interesting to complement our estimations with absolute measures such as the level of wages. However, such information is available in the LSIA data as categorised variables. Given the relatively large size of the category intervals our analysis would not have been improved by adopting such a measure as dependent variable.

estimations display no or little time variance. The reason for this is that migrants are interviewed at most three and a half years after arriving in Australia (third wave) which is a relatively short period of time for one to observe important variations compared to Wave 1. Moreover, the exogenous variables used to estimate migrants' labour market outcomes are mostly time invariant (individual characteristics, past experience and life in former country, etc.). To our knowledge, the body of research using the LSIA have recognized this shortcoming of the database and have tried to account for whatever relevant time variations by the use of dummies and interaction variables, namely by using difference in difference estimators to capture differences between two cohorts of individuals. We follow the same approach in the present study. The model tested may be described more specifically as:

$$y_{2}^{*} = \beta_{2}^{'} X_{2} + \varepsilon_{2} = \zeta_{2}^{'} Z_{2} + \delta_{2} C + \omega_{2}^{'} W_{2} + \varepsilon_{2}$$

$$y_{1}^{*} = \beta_{1}^{'} X_{1} + \varepsilon_{1} = \zeta_{1}^{'} Z_{1} + \delta_{1} C + \omega_{1}^{'} W_{1} + \varepsilon_{1}$$

$$(4)$$

 $y_2 = 1$  if  $y_2^* > 0$ , 0 otherwise,

 $y_1 = 1$  if  $y_1^* > 0$ , 0 otherwise,

 $(\varepsilon_2, \varepsilon_1) \sim \text{BVN}(0, 0, 1, 1, \rho).$ 

Z is a matrix of individual characteristics such as those commonly encountered in migrants' labour force participation estimations, namely age (in quadratic form), gender, marital status, visa category, education level, former occupation, English proficiency measures, time since arrival. We introduce a set of dichotomous variables indicating the origin of the migrant's information concerning job opportunities. More specifically, we test whether friends, family and ethnic groups contribute to the new migrants' labour market outcome both in terms of probability to find a job and ability to find a good job. Evidence indicates that incumbent migrants may facilitate the entry into the labour market of fellow country people, providing accommodation, information (Chiswick et al. 2001, Yamauchi and Tanabe 2006) or referrals (Montgomery 1991). However, they may also perceive new migrants as a potential competition.<sup>7</sup> Other models suggest that highly skilled migrants tend to facilitate fellow migrants' labour force participation but to lower skilled jobs. This would suggest that friends and acquaintances are instrumental in new migrants accessing the job market but may not be as helpful with respect to job quality.

C is a dummy variable allowing for different intercepts for second cohort migrants. W is a matrix of interaction variables allowing different slope coefficients for second cohort migrants and providing the difference in difference estimators of interest. We test two types of interaction terms. First we test whether migrants settling in Australia after the policy change do indeed find jobs more

<sup>&</sup>lt;sup>7</sup> See Heitmueller (2003); Yamauchi and Tanabe (2006).

quickly but also whether it takes longer to land a good job. The added pressure to find a job for these individuals should lead to a significant and positive effect of the interaction term between cohort and time spent in Australia but should be significant and negative in the job quality equation if we accept the assumption that new migrants accept bad jobs first and do not move rapidly thereafter. Second we test a number of assumptions regarding immigrants' use of alternative channels of information concerning job prospects in Australia. Namely, friends, acquaintances and family, while being a source of help in finding a first job given that more formal channels may be less accessible upon settlement in Australia, may prove to have a negative effect on the job quality. We test this assumption and check whether the effect of the information channels on job prospects affects first and second cohort migrants differently in a context where the latter have had larger recourse to these sources of information.

The use of a bivariate Probit allows us to account for the fact that some of the determinants of labour force participation may be different from those of the job quality without altering the identification of the model's parameters. In other words, elements of  $Z_1$  may be different from those of  $Z_2$ .

We estimate the probability for a migrant to obtain a good job given that she participates in the labour force (and is employed) by full information maximum likelihood methods. The corresponding optimal values of the parameters are then given by:

$$\begin{bmatrix} \beta_{j}^{*}, \rho^{*}, \sigma_{\varepsilon_{1}}^{*}, \sigma_{\varepsilon_{2}}^{*} \end{bmatrix} \in ArgMax \begin{bmatrix} \sum_{y_{2}=l, y_{1}=l} \log \Phi_{2} \left( \beta_{2}^{'} X_{2}, \beta_{1}^{'} X_{1}, \rho \right) + \\ \sum_{y_{2}=l, y_{1}=0} \log \Phi_{2} \left( -\beta_{2}^{'} X_{2}, \beta_{1}^{'} X_{1}, -\rho \right) - \sum_{y_{2}=0} \log \Phi \left( -\beta_{2}^{'} X_{2} \right) \end{bmatrix}$$
(5)

The first two elements of the likelihood function account for the contributions to the likelihood of observations where migrants are employed and may have respectively a good or a bad job. The last element accounts for contributions to the likelihood made by unemployed migrants. The model is identified so long as there is at least one variable present in the first equation but excluded in the second. Our model fulfils this requirement since there is no reason to impose that the determinants of finding a job may be exactly the same as the factors influencing job quality.<sup>8</sup>

Because of the non linear nature of the model, the parameters obtained in this estimation do not represent the marginal effects of each variable on the conditional probability to obtain a good job. Several marginal effects may be computed since one can define several conditional means out of a bivariate Probit model. However, since one observes job quality only for individuals holding a

<sup>&</sup>lt;sup>8</sup> Since each equation involves both dummies and continuous variables, we have rescaled the latter type of variables in order to facilitate convergence of this rather unstable type of model. This method is traditionally in use in the literature.

job, we are mainly interested in the effect of each variable on the probability of holding a good job conditioned on being employed.

Therefore, the joint probability, evaluated as

 $P(y_1 = 1, y_2 = 1 | X_1, X_2) = \Phi_2(\beta'_2 X_2, \beta'_1 X_1, \rho)$  is hardly of interest for us. The conditional probability from which we derive the marginal effects associated to the variables is then defined as:

$$E\left[y_{1}|y_{2}=1,X_{1},X_{2}\right] = P\left(y_{1}=1|y_{2}=1,X_{1},X_{2}\right) = \frac{\Phi_{2}\left(\beta_{2}X_{2},\beta_{1}X_{1},\rho\right)}{\Phi\left(\beta_{2}X_{2}\right)}$$
(6)

A number of issues arise in the computation of the marginal effects due to the nature of the variables used in the equations of the model. For continuous variables such as age, time spent in Australia, etc., the computation is relatively straightforward<sup>9</sup>. Since the marginal effects vary with the values taken by the variables composing the model, our results usually report marginal effects evaluated at the sample means of the variables, unless otherwise stated.

For dummy variables, evaluating marginal effects at their sample mean is meaningless since these variables are binary. The marginal effects are then computed as the difference between the estimated conditional probability for a dummy variable d set to 1 and the same conditional probability when the dummy is set to 0, that is,<sup>10</sup>

$$\frac{\Delta E\left[y_1 \mid y_2 = 1, X_1, X_2\right]}{\Delta d} = E\left[y_1 \mid y_2 = 1, X_1, X_2, d = 1\right] - E\left[y_1 \mid y_2 = 1, X_1, X_2, d = 0\right]$$

A larger issue arises for the computation of the marginal effects of interaction terms outlined in the matrix  $W_j$ , j = 1, 2 in the model. We extensively use these variables in order to capture the differential effects associated with the characteristics of the second cohort's individuals as opposed to first cohort migrants who came under different migration policies. If we denote by  $w_{ik} = C_i z_{ik}$  an interaction variable used in any of the  $W_j$ , j = 1, 2 matrices and C the dummy indicating the cohort to which a given migrant *i* belongs, the marginal effect associated with the interaction variable  $w_k$  can be expressed as:

$$\frac{\Delta\left(\frac{\partial E\left[y_{1}|y_{2}=1,X_{1},X_{2}\right]}{\partial w_{k}}\right)}{\Delta C} = \Delta\left[\frac{1}{\Phi\left(X'\gamma_{2}\right)}\left[\left[\phi\left((2y_{1}-1)X_{1}'\beta_{1}\right)\Phi\left(\frac{(2y_{2}-1)X_{2}'\beta_{2}-\rho\left((2y_{1}-1)X_{1}'\beta_{1}\right)}{\sqrt{1-\rho^{2}}}\right)\right]\gamma_{1}\right] + \left[\phi\left((2y_{2}-1)X_{2}'\beta_{2}\right)\Phi\left(\frac{(2y_{1}-1)X_{1}'\beta_{1}-\rho\left((2y_{2}-1)X_{2}'\beta_{2}\right)}{\sqrt{1-\rho^{2}}}\right) - \Phi_{2}\left(\cdot\right)\frac{\phi\left(X'\gamma_{2}\right)}{\Phi\left(X'\gamma_{2}\right)}\right]\gamma_{2}\right]\right] \right/\Delta C$$

with  $X = X_1 \cup X_2$ 

<sup>&</sup>lt;sup>9</sup> See Greene (1996).

<sup>&</sup>lt;sup>10</sup> Standard errors are recomputed accordingly using the delta method.

The tables of results incorporate the estimated marginal effects for each variable using the appropriate computations involved by the nature of the variables as described above.

# 5. Results

Table 1 summarizes the marginal effects obtained for each model involving an objective definition of job quality while Table 2 offers the same computation for the subjective definitions. The figures presented are such that we decompose the marginal effects of each variable between their direct effect (on job quality) and their indirect effect via the probability to find a job. The total effect of each variable on the conditional probability to find a good job is the sum of the two marginal effects (if the considered variable is used in both equations). Interpreting the decomposition of these marginal effects is useful since we may observe some determinants which affect both dependent variables in opposite directions. This decomposition is definitely relevant for our purpose since we want to test the hypothesis that second cohort migrants are likely to find a first job more quickly than earlier migrants but may hold a bad job longer.

Whether one analyses the objective or subjective definitions retained for job quality, the results are fairly similar with few exceptions for definitions related to direct comparisons between labour market outcomes in the former country and in Australia. All the definitions focusing on the individuals' improvements once in Australia produce comparable marginal effects for each variable in the good job estimations. The traditional trilogy of tests (LM, LR, Wald) were conducted in order to check the hypothesis that all coefficients are null in each model. For all models, we comfortably reject this hypothesis. Moreover, tests of the hypothesis that the residuals of both equations are uncorrelated ( $\rho = 0$ ) was overwhelmingly rejected for all models, hence justifying the bivariate structure of our estimations.

Regarding the selection equation on the probability to find a job in Australia, the estimates only differ marginally from one model to another which is desirable and to be expected.

# 5.1 Probability to have a job in Australia

The results of this first step corroborate earlier studies by Junankar and Mahuteau (2005), Cobb-Clark (2000), Richardson *et al.* (2000, 2001). Namely, higher levels of education are beneficial to the probability to find a job. Immigrants with a bachelor degree (or higher) experience about 6 percent extra probability to find a job upon arrival compared to someone who only completed HSC or equivalent. Tests<sup>11</sup> of equality of the marginal effects obtained for each education variable are all rejected with a probability of error lower than 0.1 percent and imply the superiority of holding a bachelor degree over any other education level on the probability to find a job. Moreover, whether immigrants have only completed

<sup>&</sup>lt;sup>11</sup> All the tests performed in this paper, which involved comparisons of the estimates of the marginal effects were systematically done using LM, LR and Wald tests conjointly.

primary or secondary school does not significantly alter their employment probability. Noticeably, individuals with a Technical degree are 2 percent less likely to find a job, though the effect is weak.

As commonly observed in previous studies, migrant's age has a quadratic effect on the probability to find a job. Moreover females are much worse off than males with an average probability 15 percent lower than males. This is a relatively strong result since we control for visa status, notably family reunion visa. Marital status gives an advantage to non married individuals in their ability to find a job.

The visa status and English proficiency play an important role in the ability to find a job. Refugees experience a much tougher situation on the labour market compared to any other visa categories, even family reunion visas, being up to 30 percent less likely to find a job than individuals entering under the points system. In addition, people coming from a non English speaking background country are almost 10 percent worse off and so are individuals who were unemployed in their former country.

The results obtained on the information channels used by immigrants to find a job highlight much better performances associated with more informal and ethnic network based sources of information than through the use of the English speaking press. Family and friends take an active part in providing immigrants with adequate information to find their first job, more so than if they tried to use channels commonly utilized by natives. A further analysis aimed at testing the equality of the marginal effects associated with the friends and family led to accept the hypothesis that they are not significantly different. This result brings further evidence to earlier studies stressing the role of family and earlier migrants originating from the same country in the new migrants' positive labour market outcome (Chiswick *et al.* 2002a and 2002b) and justifies the existence of local agglomeration of migrants of the same ethnicity. Noticeably, immigrants who rely on information provided by the government are more likely to find a job than if they had used any other channel. The superiority of the marginal effect attached to government agencies is statistically significant.

The effect of being a second cohort migrant is captured not only through the variable Cohort but also by interaction variables crossing cohort and a number of variables deemed to have their effect altered because of the policy change incurred by the second cohort migrants. At first our estimations involved further interaction variables with visa status as we expected refugees to fare even worse since the policy change.<sup>12</sup> However, none of the marginal effects associated with these variables were significant both for the employment and good job equations. This result is not that surprising given that we control in large part for immigrants' characteristics.

A crucial variable in the assessment of the cohort effect is the interaction between time spent in Australia and cohort. Interestingly, these interaction effects are not significant in the job equations, indicating that second cohort migrants do

<sup>&</sup>lt;sup>12</sup> Results available on demand.

not experience an acceleration of their ability to find a job after arrival in Australia. They simply keep their initial advantage of about 6 percent upon settlement. This result may indicate that second cohort migrants have benefited from the better macroeconomic conditions prevailing in Australia at the time. There may also be a residual effect attached to the quality of the later migration cohort that is not captured by the observable characteristics, but it should be minor since we control for visa categories, education and labour market outcomes in the former country. About the latter variable, we observe that immigrants who not only participated in the labour force in their former country but who also had an activity for which they received payment (as a business owner or a salary earner) are about 10 percent more likely to find a job in Australia. Altogether, if we use the estimates of the marginal effects of time to describe immigrants' probability profiles, we observe that they reach a maximum in their employment probability in the vicinity of three years after arrival. Note however, that these out-of-sample simulations can only be taken as very rough approximations of the actual, unknown, probability profiles.

In the following Section, we analyse the estimations of job quality for both cohort migrants.

#### 5.2 Probability to have a good job in Australia

The first striking result which corroborates earlier studies is that University graduates (and those with higher qualifications) seem to experience a larger negative shock on the quality of their first jobs than other, less educated individuals. Since part of an individual's human capital is not fully transferable to a new country, those more endowed before migration are bound to experience a larger loss upon settlement in the host country. Therefore, this result is not surprising. Besides, we tested whether there exists a cohort effect related to education but found none which suggests that the policy change has not substantially altered the returns to education. Furthermore, when job quality is based on objective criteria, university graduates seem to experience a larger initial negative shock than if job quality is assessed through individuals' own judgment. Further tests show that this difference is statistically significant (at a 1 percent level) which suggests a somewhat biased self assessment from the immigrants.

Since the third model is restricted to job quality comparisons between former country and Australia and both model 1 and 2 look at the progression in Australia, the difference between the two marginal effects may be interpreted as evidence that in further jobs, University graduates only marginally improve their situation. Recovery must intervene in later jobs than those observed after 24 months upon settlement (which is the limit in the sample). This is corroborated by the analysis of the time variables below. Altogether, we observe that the marginal effect for University degree obtained in model 3 (objective definition) is not statistically different from those obtained in the models involving subjective definitions. This result may suggest that up to 24 months after settlement in Australia, immigrants still compare their current situation with the one they had in their former country. Indeed, their self assessment would be a rather good estimate of the actual objective job quality difference when it is measured as a comparison to the former country. The relative optimism of the university graduates with regards to their job quality is matched with that of individuals having completed a technical qualification. The latter report higher self assessed job quality compared to the objective measures used in the estimations. Like for university graduates, the discrepancy between objective and subjective assessment of job quality is significant. The main difference between the two categories of individuals is that being a technician actually leads to higher job quality from the start. Other types of education are found to be little different from high school certificate in influencing immigrants' job quality upon arrival.

The simple effect of cohort on job quality is not clear (variable Cohort). For models 2, 3, and 4, the marginal effects are not significant while it is positive in model 1 and negative in model 5. Hence, straight on arrival second cohort migrants do not seem to get significantly different quality jobs. Yet, given that the negative marginal effect is obtain for the subjective comparison between the last job held in the former country and the current main job in Australia, the result suggests second cohort migrants have a tendency to be less satisfied of their outcome in Australia. This does not mean that the jobs obtained are of lower quality, especially given the positive marginal effect obtained in the first model. Since second cohort migrants had to face tougher selection criteria and knew about them before migrating, it is possible that this cohort of migrants are intrinsically more motivated than past migrants, hence likely to be more disappointed with their first labour market outcome than others. It is the most plausible explanation for the sign difference obtained between objective and subjective definitions, and that is also compatible with the hypothesis that second cohort migrants are of better quality. This does not contradict the results of our previous study (Junankar and Mahuteau, 2005). It only indicates that most of the difference between first and second cohort migrants lies on the variables which are interacted with cohort, namely time and channel of information on jobs.

As regards the direct effect of time on immigrants' ability to find good jobs, we observe a negative quadratic relationship, that is the probability to find a good job is at first decreasing, reaches a minimum, and recovery occurs. We observe this pattern for all models. However, when investigating whether there is a cohort effect related to time (interaction variable), we observe significant differences between the two types of measures of job quality. Models involving objective definitions (with the exception of model 3) show a further negative effect of time for second cohort migrants. This result corroborates our hypothesis that after the policy change, new migrants have experienced delayed upward occupational mobility compared to previous migrants. As mentioned above, we did not really expect models based on subjective definitions to give the same result as the added pressure on second cohort migrants may have altered their perception of what constitutes a good job. Given the new two years waiting period before access to

social security benefits, some migrants may be grateful enough to have been able to find a job and would then be more likely to consider it a good job.

A rather surprising result is obtained for the interaction between time and cohort for model 3. Indeed, contrary to the first two objective definitions, we obtain a positive marginal effect associated with being a second cohort migrant. This result suggests that second cohort migrants obtain better jobs than first cohort individuals when the comparison is made with the last job held in their former country but seem to fare worse than first cohort migrants when attention is focused on the progression inside Australia. This effect is partly due to the fact that a larger proportion of second cohort migrants shift from salaried activities as their first job to self employment. As model 3 is based on the social ranking of activities (based on the ANU\_3 classification), this type of shift may very well be associated with a downward move on the socioeconomic ladder.

As mentioned in Section 4, we are mainly interested in the probability for migrants to obtain good jobs conditioned on their ability to find a job (see equation (6)) since we have found the latter to be endogenous. Hence, any variable in the selection equation has an indirect effect on the good job probability. Since the time variables are present in both equations, they produce both a direct and indirect effect on the probability to find a good job. The latter can be related to migrants' intrinsic quality as regards employability. So far we have only discussed the direct effect of time that is we have analysed differences between first and second cohort holding migrants' quality constant. We now relax this assumption and interpret the total effects of time and cohort on the conditional probability to find a good job.

In order to make the results more intelligible, we used the marginal effects obtained for the time variables (time, time squared, interaction time, and cohort) and conducted simulations of the total effect (indirect and direct effects) of time on the probabilities. Since the marginal effects in the tables are given for the sample means, we had to recalculate the slope coefficients for the different intervals of time considered in order to have a better picture of the time effect on the probabilities. The results are summarized in Figure 1 to Figure 5 in the Appendices. The total relationship between time and probabilities for time beyond two years after settlement was obtained by applying the in-sample marginal effects to out-of-sample time periods. Therefore, these simulations must only be taken as an illustration of the pattern of the probabilities with time; they are only a rough approximation of the actual, unknown and unobservable, probability paths. Yet, these simulations are informative and enable us to give a comprehensible outlook of the differences between first and second cohort migrants.

When we focus on the first two objective definitions, that is, when we compare occupations (and socioeconomic ranking) throughout the migrants' stay in Australia, we observe that the total effect of time on migrants' ability to land a good job gives the advantage to second cohort migrants up to about a year and a half after settlement. Later on, first cohort migrants are more likely to be observed as having a good job than more recent migrants. The initial advantage observed

for second cohort migrants is mainly due to their higher ability to find jobs upon settlement (indirect effect). The models based on subjective definitions, however, give the advantage to second cohort migrants with no obvious faster recovery for first cohort migrants. Part of this result may be due, as already stated, to second cohort migrants being more likely to be satisfied with whatever job they find given the increased financial pressure they are subjected to. Altogether though, it is probably safer to give more credit to the results obtained on objective definitions regarding the effect of time on job quality reached by either cohort of migrants.

Regarding the effect of the job search method used by migrants to find a job, the use of the bivariate structure in our estimation enables us to decompose the total effect into the direct effect on job quality and the indirect on the probability to have a job.

Looking at the direct effects, we observe that any information channel other than 'English speaking press' (reference category) has a negative effect on job quality whatever the definition. The relatively large negative marginal effect obtained for sponsor is mainly due to the fact that we were not able to distinguish between types of sponsors. Had we been able to do so, we would have found different marginal effects between sponsors related to family reunion, spouse visa categories and actual professional sponsors. For the latter category, employers are required to prove their inability to find the skills they need on the Australian labour market in order to be able to successfully nominate a migrant. Therefore this type of sponsor would probably be associated to higher job quality. As for family reunion sponsors, the requirement is that they must be able to financially support the migrant after settlement, should she experience difficulties to sustain themselves. This type of sponsorship is definitely not informative of the type of job sponsors would be likely to recommend to the migrants.

The negative direct effect obtained for 'ethnic press' suggests that jobs obtained via ethnic networks are of a lower average quality than jobs obtained via traditional, native, channels. This is corroborated by the same negative values obtained for 'family' and 'friends'. However, information gathered from friends appears to have a less negative influence on job quality than family and ethnic press. This difference is statistically significant for all models (except model 5). Information from friends is probably more purposively sought for by migrants, hence an increased probability that this information converts into a good job. A similar idea can be found in Yamauchi and Tanabe (2006) who explain the relative success of regional migrants in Thailand by the number and type of individuals they are in contact with and their relative success on the labour market. In their model, the information given by unemployed people is of lower quality and have poorer informative value (larger variance) than that obtained from already employed people. The difference we observe between friends and family may allow us to generalize this idea to job quality and suggest that family conveys lower quality information than friends about available jobs. The latter would logically be solicited if they already have a job that the migrant considers desirable to apply for. They are more likely to be better informed about job vacancies and may also provide referrals (Montgomery 1991) so that the variance of the signal they generate towards new migrants is probably smaller than that of families taken in a broader sense.

Migrants obtaining their job through government agencies are significantly worse off than those who use the alternative formal job search method, namely Australian press. However, the negative effect is significantly smaller than that of other, informal, sources of information. This result is certainly due to the fact that migrants using this channel of information are a more selected group than the bulk of other migrants in so much as their skills and education must be matching those that are advertised by the Department of Immigration as being sought for in Australia.

The comparison between the two broad categories of good job definitions is informative as regards the effects of the channels of information. Indeed, looking at the marginal effects of model 1 and 2 compared to model 4, that is, for models focusing on migrants' improvements once in Australia, we observe statistically larger values for objective definitions. In other words, whatever the channel of information used to find a job, migrants seem more pessimistic than necessary about the situation their job search method lead them to. Yet, looking at models focusing on comparisons with the former country of residence, we obtain the reverse effect, that is, migrants are worse off compared to their initial situation in their former country than they actually are ready to admit. This result may be indicative that migrants are somewhat disappointed with the help they received from their source in their later achievements in Australia.

When we focus on the effect of the information channels on the second cohort migrants (interaction variables), the results display some sensitivity to the various good job definitions. For instance, the marginal effect of government agencies is not significant for the first two models while it is in the other models. When significant, the marginal effect is negative which implies that second cohort migrants using this channel of information are on average worse off. The fact that the marginal effect of this interaction term is significant for model 3 but not for the two previous models, suggests that most of the difference between cohort 2 and cohort 1 migrants who use this channel comes from the comparison with the former country of residence and not from the progression after arrival. Hence, the role of government agencies has not significantly changed since 1996 when we focus on job quality. Only second cohort migrants' perception has in a negative way.

Second cohort migrants who have used their sponsors as a source of information about their current main job are better off in terms of occupation ranking (model 1) but, strangely, not in terms of socioeconomic ranking (model 2) nor in any other way job quality may be measured, even subjectively. This suggests that the improvement in terms of occupation is so marginal that it is not captured by the alternative ANU3 scale.

Turning to the effect of family and friends on second cohort migrants' outcome, we notice that the latter improve their probability of having a good job

by respectively 7 percent and 3 percent by using this source. These informal channels have been slightly more efficient in enabling second cohort migrants to find a good job, even though they still provide individuals with a disadvantage compared to formal channels (indirect effect). Once more, for this job search method, there exists a discrepancy between migrants' perception of job quality and the reality. Looking at the improvements once in Australia and comparing model 1 or 2 with model 3, we observe that the marginal effects in model 3 are only about half of that of model 1 and 2 for friends and family interaction terms. This difference is significant. Hence, second cohort migrants only credit family and friends for half of their actual contribution in finding a good job. However, when the focus is on comparisons between former country and current main job in Australia, second cohort migrants seem to give them more credit than necessary for the negative shock observed.

Finally, the estimations show that English proficiency certainly does not help finding a good job in the early stages of settlement in Australia. When compared with individuals with limited English abilities, individuals with very good and good English fluency fare worse up to 10 percent. Like education, early on after arrival, English proficiency is not of such a great help for migrants as they lack the relevant information and characteristics for them to compete effectively against natives on the labour market. At the same time, less educated and proficient migrants are more suited to the jobs where a larger concentration of migrants is usually found. This explains the somewhat counterintuitive effect of English abilities upon arrival in Australia. Yet, as one usually observes for education, we can expect English fluency to pay off in later jobs.

## 6. Conclusion

In this paper we have studied the probability of new migrants of finding a "good job" using data from two cohorts of the Longitudinal Surveys of Immigrants to Australia. We studied whether the changes in the social security support for the second cohort led to a change in the probabilities of both getting a job and a good job. More importantly we focused on the effect of time on those probabilities and investigated whether second cohort migrants were able to recover significantly faster from their initial occupational drop on arrival.

We define a "good job" both objectively and subjectively: a good job in our objective definition is based on the classification and the social status of the occupation (ASCO2 and ANU scale) and the subjective definition relies on the migrants' satisfaction with their job and whether they intend to search for another. We have used bivariate probit estimation methods so that the probability of finding a good job is conditioned by the probability of finding a job. In this study we further extended our previous research (Junankar and Mahuteau, 2005) by studying the role of ethnic networks in migrants' job search using all the waves in the LSIA for the two cohorts.

Our results show that the second cohort migrants have a higher probability of getting both a job and a good job. They are more likely to move upward earlier than first cohort migrants (total effect). However, a large part of this result is due to the higher employability of second cohort migrants (indirect effects). As a consequence, they outperform first cohort migrants but only up to about a year and half after settlement. After this, cohort 2 migrants who have not found a good job yet see their prospect of improving their situation decrease sharply below that of first cohort individuals.

Finally, we find that the different search methods lead to different results: informal job search methods lead to lower job quality but the second cohort migrants seem to use this channel more efficiently.

Vorisble	Model 1: Socio economic ranking definition of goog job (progression		Model 2: ASCO 2 digits definition of good job (progression in		Model 3: Socio economic ranking definition of good job		
		in Australia)		Australia)		(progression from former country)	
	Job(Y2)	Good Job(Y1)	Job(Y2)	Good Job(Y1)	Job(Y2)	Job(Y1)	
Age rescaled (/100)	1.8206*** (0.5929)		1.7848*** (0.5971)		1.8565*** (0.5803)		
Age squared rescaled	-2.8173*** (0.8104)		-2.7772*** (0.8153)		-2.9103*** (0.7921)		
Married	-0.0395*** (0.0131)	0.014** (0.0061)	-0.0418*** (0.0132)	0.0108* (0.0062)	-0.0336*** (0.0123)	0.0114* (0.0059)	
Female		0.0518*** (0.0061)		0.0547*** (0.0061)	-0.1402*** (0.0136)	. ,	
Non English speaking background	-0.0708** (0.0331)	(0.0001)	-0.0649* (0.0341)	(0.0001)	-0.0992*** (0.0339)	(	
Education variables (highest level completed):	(0.0551)		(0.05 11)		(0.0557)		
University degree (bachelor or more)	0.0592*** (0.0161)	-0.0462*** (0.0071)	0.0617*** (0.0162)	-0.046*** (0.0073)	0.0491*** (0.0147)	-0.0286*** (0.0069)	
Trade qualification	0.0276 (0.0263)	(0.0071) -0.0035 (0.0101)	(0.0102) 0.0304 (0.0266)	-0.0056 (0.0104)	(0.0147) 0.0233 (0.0255)	-0.0165* (0.0096)	
Technician qualification	-0.0247* (0.0145)	0.0154** (0.0069)	-0.0239 (0.0147)	0.0168** (0.0070)	-0.0237* (0.0134)	0.0131** (0.0065)	
Primary school	-0.0742 (0.0477)		-0.0706 (0.0446)		-0.0709 (0.0451)		
Cohort	0.0601*** (0.0144)	0.0288* (0.0167)	0.0594*** (0.0146)	0.0236 (0.0168)	0.0561*** (0.0137)	-0.0036 (0.0159)	
Spent some time in Australia before migration	0.0971*** (0.0131)		0.0983*** (0.0130)		0.0965*** (0.0126)		
Time since settlement (rescaled)	(0.0674)	(0.0362)	(0.0676)	(0.0365)	(0.0649)	-0.1336*** (0.0337)	
Time since settlement squared (rescaled)	-0.2712*** (0.0434)	0.0389* (0.0240)	-0.2727*** (0.0436)	* 0.0271* (0.0242)	-0.2576*** (0.0413)	0.0774*** (0.0223)	
Salary earner or business owner in former country	0.0934*** (0.0205)		0.0893*** (0.0207)		0.0864*** (0.0196)		
Business visa	0.2466*** (0.0328)		0.2516*** (0.0328)		0.2381*** (0.0319)		
Family visa	0.1783*** (0.0244)		0.1814*** (0.0244)		0.1776*** (0.0243)		
Independent visa	0.2744*** (0.0288)		0.2731*** (0.0286)		0.2699*** (0.0288)		
Channel of information on job (reference is Au	-						
Ethnic press	(0.0602)	(0.0239)	(0.0599)	-0.253*** (0.0251)	(0.0584)	-0.2449*** (0.0228)	
Sponsor	(0.0565)	-0.3025*** (0.0259)	(0.0558)	(0.0262)	(0.0562)	-0.1742*** (0.0228)	
Government	(0.0616)	-0.1552*** (0.0167)	(0.0608)	(0.0169)	0.8816*** (0.0632)	(0.0155)	
Private agency	0.8599*** (0.0520)	-0.2396*** (0.0191)	0.87***	-0.2574*** (0.0199)	0.7984*** (0.0531)	-0.2245*** (0.0182)	
Family	0.7887*** (0.0404)	-0.2381*** (0.0132)	0.8006*** (0.0393)	-0.2546*** (0.0135)	0.726*** (0.0425)	-0.2*** (0.0116)	
Friend	0.7632*** (0.0368)	-0.188*** (0.0110)	0.7732*** (0.0355)	-0.1992*** (0.0113)	0.6997*** (0.0397)	-0.1551*** (0.0099)	
Self	0.7625*** (0.0367)	-0.252*** (0.0110)	0.7747*** (0.0355)	-0.267*** (0.0114)	0.6982*** (0.0400)	-0.2163*** (0.0098)	
Other	0.6067*** (0.0512)	-0.2563*** (0.0241)	0.6145*** (0.0506)	-0.25*** (0.0243)	0.5528*** (0.0514)	-0.2577*** (0.0238)	
Number of person in household	()	0.0049*** (0.0018)	(	0.0049*** (0.0018)	( <b>-</b> -)	0.0055*** (0.0018)	

# Table 1.Estimations of the probability to obtain a good job (objective<br/>definitions), Decomposition of the marginal effects.

Interaction time cohort		-0.1773*** (0.0317)	-0.1598*** (0.0318)	0.2533*** (0.0317)	
Very good English fluency		-0.0989*** (0.0083)	-0.1041*** (0.0085)	-0.0811*** (0.0081)	
Good English Fluency			-0.0615*** (0.0075)	-0.0404*** (0.0073)	
Cannot speak English		-0.0024 (0.0182)	-0.0077 (0.0186)	0.0078 (0.0189)	
Interaction Channel of information on job and Cohort:					
Ethnic press cohort2		0.012 (0.0387)	0.0472 (0.0396)	0.0374 (0.0401)	
Sponsor cohort2		0.078** (0.0386)	0.0638 (0.0398)	-0.0387 (0.0350)	
Government cohort2		-0.0031 (0.0330)	-0.0054 (0.0336)	-0.0763** (0.0367)	
Private agency cohort2		0.0159 (0.0260)	0.0262 (0.0263)	-0.029 (0.0255)	
Family cohort2		0.0716*** (0.0199)	0.0684*** (0.0198)	0.056*** (0.0212)	
Friend cohort2		0.031** (0.0158)	0.0444*** (0.0160)	-0.0364** (0.0164)	
Self cohort2		0.0074 (0.0162)	0.0034 (0.0164)	-0.038** (0.0160)	
Other cohort2		0.0535* (0.0318)	0.0231 (0.0327)	0.0043 (0.0315)	
Estimate of the correlation between	ρ	0.6385***	0.6465***	0.6283***	
disturbances:	$\sigma_{\scriptscriptstyle ho}$	0.0174	0.0169	0.0174	
Number of observations:		10411	10411	4595	
Likelihood:		-6935.127	-6967.727	-2891.083	

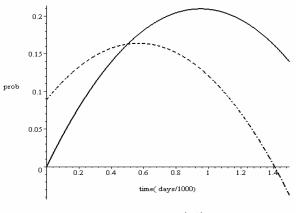
Note: \*\*\* p< 0.01, \*\* 0.01  $\le$  p < 0.05, \* 0.05  $\le$  p < 0.10

Variable	Subjectiv	odel 4: re definition 1: n current main job	Model 5: Subjective definition 2: Comparison satisfaction on current main job and occupation in former country	
	Job(Y2)	Good Job(Y1)	Job(Y2)	Good Job(Y1)
Age rescaled (/100)	2.0119***		1.6726***	
	(0.6127) -3.1288***		(0.5662) -2.6916***	
Age squared rescaled	(0.8348)		(0.7724)	
Married	-0.0388***	0.0162***	-0.038***	0.0098*
viairieu	(0.0137)	(0.0062)	(0.0124)	(0.0057)
Female	-0.1588***	0.0432***	-0.1412***	0.0766*** (0.0061)
	(0.0142) -0.0835**	(0.0062)	(0.0136) -0.0454	(0.0001)
Non English speaking background	(0.0419)		(0.0307)	
Education variables (highest level completed):				
University degree (bachelor or more)	0.056***	-0.0225***	0.0456***	-0.0347***
Surversity degree (bachelor of more)	(0.0165)	(0.0072)	(0.0145)	(0.0069)
Trade qualification	0.0434 (0.0278)	0.0121 (0.0106)	0.0304 (0.0240)	0.0099 (0.0099)
	-0.0208	0.0317***	-0.0222*	0.0131**
Technician qualification	(0.0147)	(0.0072)	(0.0129)	(0.0066)
Primary school	-0.0587		-0.0661	
Timury sensor	(0.0451)	0.0070	(0.0507)	0.001 (***
Cohort	0.0599*** (0.0155)	0.0068 (0.0166)	0.0504*** (0.0142)	-0.0316** (0.0155)
	0.1102***	(0.0100)	0.1207***	(0.0155)
Spent some time in Australia before migration	(0.0135)		(0.0131)	
Time since settlement (rescaled)	0.5838***	-0.1851***	0.5331***	-0.1126***
the shoe settement (researed)	(0.0683)	(0.0365)	(0.0652)	(0.0359)
Time since settlement squared (rescaled)	-0.28*** (0.0443)	0.0958*** (0.0241)	-0.2573*** (0.0408)	0.0628*** (0.0240)
	0.0693***	(0.0241)	0.0926***	(0.0240)
Salary earner or business owner in former country	(0.0218)		(0.0204)	
Business visa	0.2835***		0.2664***	
	(0.0345) 0.2008***		(0.0332) 0.1781***	
Family visa	(0.0256)		(0.0243)	
n dan an dant airea	0.3119***		0.2738***	
ndependent visa	(0.0302)		(0.0296)	
Channel of information on job (reference is Aust	tralian press):	:		
Ethnic press	0.764***	-0.297***	0.6683***	-0.1555***
	(0.0614) 0.8398***	(0.0257)	(0.0604) 0.7376***	(0.0251)
Sponsor	(0.0578)	-0.326*** (0.0272)	(0.0576)	-0.1774*** (0.0231)
Comment	0.9879***	-0.1932***	0.8836***	-0.1788***
Government	(0.0642)	(0.0169)	(0.0651)	(0.0154)
Private agency	0.8928***	-0.2744***	0.7522***	-0.1725***
	(0.0536) 0.8024***	(0.0206) -0.2923***	(0.0564) 0.7242***	(0.0175) -0.1804***
Family	(0.0414)	(0.0140)	(0.0447)	(0.0120)
Friend	0.7826***	-0.235***	0.694***	-0.1436***
Friend	(0.0376)	(0.0118)	(0.0413)	(0.0102)
Self	0.7814***	-0.2776***	0.6823***	-0.1489***
	(0.0380) 0.6346***	(0.0118) -0.3331***	(0.0418) 0.5561***	(0.0100) -0.1727***
Other	$(0.0546^{+++})$	(0.0275)	(0.0504)	(0.0227)
Jumber of person in barrachald	(	0.0036**	(	-0.0044***
Number of person in household		(0.0018)		(0.0017)
nteraction time cohort		0.0611*		-0.0252
		(0.0320)		(0.0300)
ery good English fluency		-0.0993***		-0.0747***

# Table 2.Estimations of the probability to obtain a good job (subjective<br/>definitions), decomposition of the marginal effects.

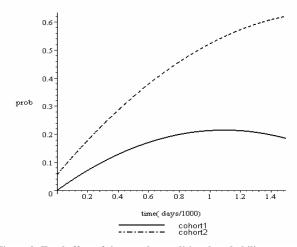
		(0.0086)	(0.0081)
Cood English Elyanov		-0.0554***	-0.0523***
Good English Fluency		(0.0077)	(0.0073)
Course to a sole Free sligh		0.0031	0.0368*
Cannot speak English		(0.0191)	(0.0190)
Interaction Channel of information on	job and Cohort:		
Ethnia prass ashart?		-0.0156	-0.0593
Ethnic press cohort2		(0.0365)	(0.0362)
Sponger achort?		0.0025	-0.027
Sponsor cohort2		(0.0386)	(0.0343)
Government cohort2		-0.0967***	-0.1092***
Government conortz		(0.0344)	(0.0311)
Private agency cohort2		0.0498*	-0.0632***
Thvate agency conortz		(0.0270)	(0.0231)
Family cohort2		0.0401**	-0.0735***
		(0.0203)	(0.0186)
Friend cohort2		0.0148	-0.1024***
Thend conortz		(0.0170)	(0.0154)
Self cohort2		0.0072	-0.0958***
Self collortz		(0.0171)	(0.0158)
Other cohort2		0.0524	-0.0128
Other conortz		(0.0349)	(0.0333)
Estimate of the correlation between	ρ	0.6008***	0.6336***
disturbances:	$\sigma_{ ho}$	0.0191	0.0185
Number of observations:		10411	10411
Likelihood		-6333.537	-6921.162

Note: \*\*\* p< 0.01, \*\* 0.01  $\leq$ p < 0.05, \* 0.05  $\leq$ p < 0.10



----- cohort1 cohort2

Figure 1: Total effect of time on the conditional probability to get a good job (objective definition, model 1),



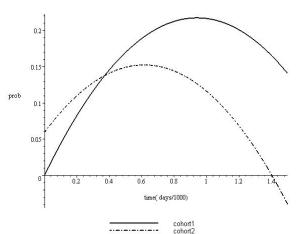


Figure 2: Total effect of time on the conditional probability to get a good job (objective definition, model 2)

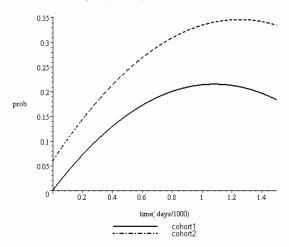


Figure 3: Total effect of time on the conditional probability to get a good job (objective definition, model 3)

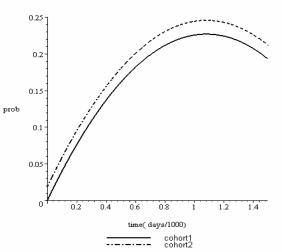


Figure 5: Total effect of time on the conditional probability to get a good job (subjective definition, model 5)

Figure 4: Total effect of time on the conditional probability to get a good job (subjective definition, model 4)

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