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## Working Paper Do migrants get good jobs in Australia? The role of ethnic networks in job search

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Stéphane Mahuteau P.N. (Raja) Junankar

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Forschungsinstitut zur Zukunft der Arbeit Institute for the Study of Labor

## Do Migrants Get Good Jobs in Australia? The Role of Ethnic Networks in Job Search

### Stéphane Mahuteau

Macquarie University

### P.N. (Raja) Junankar

University of Western Sydney and IZA

### Discussion Paper No. 3489 May 2008

IZA

P.O. Box 7240 53072 Bonn Germany

Phone: +49-228-3894-0 Fax: +49-228-3894-180 E-mail: iza@iza.org

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## ABSTRACT

## Do Migrants Get Good Jobs in Australia? The Role of Ethnic Networks in Job Search<sup>\*</sup>

We study the role of ethnic networks in migrants' job search and the quality of jobs they find in the first years of settlement. We find that there are initial downward movements along the occupational ladder, followed by improvements. As a result of restrictions in welfare eligibility since 1997, we study whether this increases the probability that new migrants accept "bad jobs" quickly and then move onto better jobs over time. Holding employability constant, our results support this view. However, accounting for their higher employability, new migrants seem to fare better up to a year and half after settlement.

JEL Classification: J61, J68, C25

Keywords: migrants, job quality, immigration policy, ethnic networks

Corresponding author:

Stéphane Mahuteau Department of Economics Macquarie University Sydney Australia E-mail: smahutea@efs.mq.edu.au

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#### I. Introduction

The aim of this paper is to study how new migrants to Australia find "good jobs". We use all the waves of the two cohorts of the Longitudinal Survey of Immigrants to Australia (LSIA) to analyse whether a new migrant obtains a good job conditional on finding a job. The distinctive nature of this paper is to study the role of ethnic networks in job search and the quality of jobs that migrants find in the first few years of settlement. We define the concept of a "good job" in terms of objective and subjective criteria. Our results suggest that there is an initial downward movement along the occupational ladder due to imperfect transferability of human capital from the source country to the recipient country, followed by an improvement<sup>1</sup>. As a result of a tightening in access to social security benefits for the second cohort of the LSIA, we study whether this increases the probability that new migrants accept a "bad job" quickly and then move onto better jobs over time. Our results provide some support to this view. However, accounting for their higher employability, new migrants seem to fare better up to a year and half after settlement.

Australia has had an immigration policy based on a points system since early 1990s to obtain migrants who have significant amounts of human capital. In 1996 Australia introduced a new policy regime to improve the quality of the migrants and tightened up the access to welfare benefits for new migrants. Since 1996, new migrants have faced tougher selection criteria. Also, the introduction of a two year's waiting period for non-refugees before accessing social security benefits (Chiswick and Miller, 2006) has probably led to stronger self selection among prospective migrants towards better employability for the later waves of migration. Recent studies, notably by Cobb-Clark (2000, 2003), Richardson *et al.* (2001, 2002) and Thapa and Gørgens (2006), have shown that migrants arriving after 1996 experienced higher probabilities of employment and found jobs earlier. However, the latter study points out that these better outcomes are mostly due to improved macroeconomic conditions in Australia rather than being solely due to the policy change.

In this paper we postulate that the new policy affected the magnitude of the fall in occupational levels of migrants on settlement as well as the pace of their recovery. The new policy would, we postulate, attract "better quality" migrants who would not require access to welfare benefits. However, at the same time the lack of access to welfare payments would lead to a lowering of their reservation wage and "quality". Hence the quality of job that a migrant would get would depend on which of these two effects dominates. We extend our previous analysis (Junankar and Mahuteau, 2005) and investigate the effect of time since settlement on the ability of migrants to improve 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 first job obtained in Australia. In this paper we use all the waves of the two cohorts of the LSIA to study whether the policy change led to an initial fall in job quality followed by an improvement.

The two years waiting period for access to welfare benefits increased the opportunity cost of search 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. Moreover, 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). Such informal sources are found to be important in finding jobs for new migrants (Montgomery 1991; Yamauchi and Tanabe 2006). While they 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, 2002). Moreover, it appears that jobs found through 'friends' and 'acquaintances' are often unrelated to the individual's previous experience or training (Ottaviano and Peri, 2006). This occurs because the types of jobs found through those sources are determined by family, neighbourhood or ethnic ties rather than by professional affiliations. Migrants differ from natives who can sample assistance from a larger base, including so

called 'old boys networks' (Simon and Warner, 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 the labour market outcomes of their personal contacts and their own.

This evidence points 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, from the standpoint of the migrants, 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 the quality of jobs held by migrants. 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 job search methods 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 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. 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 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 job search methods on the current main job found by individuals, one observes that alternative channels to using the Australian (English language) press, contribute to increasing the probability to find a job. Migrants who use the Australian press (a formal channel through which natives find job offers) are on average worse off in terms of finding a job. 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.

#### II. Data

The Longitudinal Surveys of Immigrants to Australia provides 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. There have been two cohorts for whom data have been collected by the Department of Immigration and Citizenship. 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 (Wave 2) and 42 months (Wave 3). The second cohort was interviewed only *twice*: 6 months after arrival (Wave 1) and 18 months (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 and uses all waves of the LSIA.

The second cohort faced tighter selection criteria. It was more difficult for family members and humanitarian (refugees) to migrate. The points test and the English language test were tightened. The list of occupations requiring English was also extended (see 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 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.

An important change was that although the first cohort migrants had a waiting period of six months before they became eligible for social security benefits (excluding the humanitarian category), the second cohort had a waiting period of *two years* as well as the tightening up of procedures for access to these benefits. These changes are likely to have affected the decision to migrate to Australia and

the labour market behaviour of new migrants by influencing their reservation "quality" and wage.

#### III. Econometric model

We estimate the probabilities of finding a good job, conditional on being employed, and compare the difference between first and second cohort migrants changes over time. We test for difference in formal and informal job search methods used by migrants. Using difference-in-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.

*Ceteris paribus*, we expect second cohort migrants should obtain better jobs. However, this may be offset by the added financial pressure due to the two-year waiting period for unemployment benefits. The new policy may have led second cohort migrants to initially 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 reservation "quality" and wages of migrants. We expect that this would have led 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. 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.

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. This self assessment constitutes our first subjective definition of job quality whereby the dependent variable is defined as taking value 1 if the migrant considers her job as a good job<sup>3</sup> and also states that her 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: a second cohort migrant 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. 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. The corresponding 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.

We use another set of dependent variables, adopting *objective* criteria to assess job quality. An obvious measure consists in comparing the individual's occupational 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.

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  $ASCO^4 \ 2 \ digits$ ) to the job held in the former country or to that held at the time of the previous interview. Therefore, 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.

We use another measure based on socioeconomic status following McMillan and Jones (2000). 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*.

Our second objective definition of job quality relies on this scale: 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 job quality definitions is useful not only because we cover a larger spectrum of quality measures but also because comparisons between the two broad categories are informative.

We added a final 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 objective definitions enables to distinguish between improvements from the origin country alone and further progress once in Australia<sup>5</sup>.

We observe job quality only for migrants who are employed, self employed, or a 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. 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.

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 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.). 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 is described as:

$$y_2^* = \beta_2 X_2 + \varepsilon_2 = \zeta_2 Z_2 + \delta_2 C + \omega_2 W_2 + \varepsilon_2$$
<sup>(1)</sup>

$$y_1^* = \beta_1 X_1 + \varepsilon_1 = \zeta_1 Z_1 + \delta_1 C + \omega_1 W_1 + \varepsilon_1$$
(2)

 $y_2 = 1$  if  $y_2^* > 0, 0$  otherwise;  $y_1 = 1$  if  $y_1^* > 0, 0$  otherwise and  $(\varepsilon_2, \varepsilon_1) \sim bvn(0, 0, 1, 1, \rho)$ .

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 of finding a job and ability to find a good job.

*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 quickly but also whether it takes longer to land a good job. We should get a significant and positive effect of the interaction term between cohort and time spent in Australia but it 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 job search methods 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 the probability of holding a job 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 is employed, by full information maximum likelihood.

Because of the non linear nature of the model, the tables of result display the marginal effects associated to each variable. We derive the marginal effects from the conditional probability of holding a good job, defined as:

$$E\left[y_{1}|y_{2}=1,X_{1},X_{2}\right] = P\left(y_{1}=1|y_{2}=1,X_{1},X_{2}\right) = \Phi_{2}\left(\beta_{2}X_{2},\beta_{1}X_{1},\rho\right) / \Phi\left(\beta_{2}X_{2}\right) (3)^{6}$$

#### **IV. 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. 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 usual 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.

#### (i) Probability of a job

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>7</sup> of equality of the marginal effects obtained for each education variable are all rejected and imply the superiority of holding a bachelor degree over any other education level. Moreover, whether immigrants have only completed 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.

Using informal and ethnic network based sources of information leads to higher probabilities of finding a job than English speaking press. Also, it appears that the marginal effects associated to 'friends' and 'family' are not significantly different. Using friends rather than family does not improve the probability to find a job.

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 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>8</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 migrants 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 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 had an activity for which they received payment in their former country (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.

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

#### (ii) Probability of a good job

The first striking result 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. This supports earlier studies showing that human capital is not fully transferable to a new country. We also find that the policy change has not substantially altered the returns to education (interaction between education and cohort is not significant). 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 on a subjective basis. Further tests show that this difference is 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 the former country and Australia and both models 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 to 36 months upon settlement (last interview). 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 is not statistically different from those obtained in the models involving subjective definitions. This result may suggest that up to 24-36 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 with 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 group report higher self assessed job quality compared to the objective measures used in the estimations. The main difference between the two categories of individuals is that being a technician actually leads to higher job quality from the beginning. Other types of education are found to be little different from high school certificate in influencing immigrants' job quality.

The simple effect of cohort on job quality is not clear (variable Cohort). For models 3 and 5 where we are comparing the job quality in Australia with that in the former country, there is a negative effect which is marginally significant for the subjective definition. However, for models 2 and 4, the marginal effects are not significant. 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 previous 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) as we had not allowed for information networks and time. It only indicates that most of the difference between first and second cohort migrants are explained by 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. When investigating whether there is a cohort effect related to time (interaction variable), we observe significant differences between the two types of job quality measures. Models involving objective definitions (with the exception of model 3) show a further negative effect of time for second cohort 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 welfare 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 III, we are mainly interested in the probability for migrants to obtain good jobs conditional on their ability to find a job (see equation (3)) 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.

As an illustration, 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.

Focusing on the first two objective definitions, that is, comparing occupations (and socioeconomic ranking) throughout the migrants' stay in Australia, we observe that the total effect of time on migrants' job quality 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.

Regarding the effect of the job search method used by migrants to find a job, 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 sponsors 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 they 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. 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 job search method. 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 migrant perception is more negative.

Second cohort migrants who have used their sponsors as a job search method 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. This difference is significant.

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.

#### V. Conclusion

In this paper we have studied the probability of new migrants finding a "good job" using data from all waves of the LSIA. 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 have further extended our previous research (Junankar and Mahuteau, 2005) by studying the role of ethnic networks in migrants' job search.

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. 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, 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. Yet Family and Friends have been more efficient for cohort 2 migrants in providing them with good jobs.

	Model 1:		Model 2:		Model 3:	
	Socio e	conomic	ASCO	2 digits	Socio e	conomic
	ranking de	efinition of	definition	of good job	ranking de	efinition of
Variabla	goog job (	progression	(progre	ssion in	goo	d job
v al lable	in Au	stralia)	Aust	ralia)	(progress	sion from
		,			former country)	
		Good		Good		Good
	Job(Y2)	Job(Y1)	Job(Y2)	Job(Y1)	Job(Y2)	Job(Y1)
	1 8206***		1 7848***		1 8565***	
Age rescaled (/100)	(0.5929)		(0.5071)		(0.5803)	
	(0.3727)		(0.3771)		2 0102***	
Age squared rescaled	-2.81/3		(0.8152)		-2.9103	
	(0.8104)	0.01.4**	(0.8135)	0.0100*	(0.7921)	0.0114*
Married	-0.0395***	0.014**	-0.0418***	0.0108*	-0.0336***	0.0114*
	(0.0131)	(0.0061)	(0.0132)	(0.0062)	(0.0123)	(0.0059)
Female	-0.1525***	0.0518***	-0.155***	0.0547***	-0.1402***	0.032/***
	(0.0137)	(0.0061)	(0.0137)	(0.0061)	(0.0136)	(0.0058)
Non English speaking background	-0.0708**		-0.0649*		-0.0992***	
Tion English speaking background	(0.0331)		(0.0341)		(0.0339)	
Education variables (highest level completed, re	eference is S	Secondary s	chool):			
	0.0592***	-0.0462***	0.0617***	-0.046***	0 0491***	-0.0286***
University degree (bachelor or more)	(0.0161)	(0.0071)	(0.0162)	(0.0073)	(0.0147)	(0.0260)
	0.0276	0.0035	0.0304	0.0056	0.0233	0.0165*
Trade qualification	(0.0270)	(0.0101)	(0.0304)	(0.0104)	(0.0255)	(0.0006)
	(0.0203)	(0.0101)	(0.0200)	0.0169**	0.0233	(0.0090)
Technician qualification	$-0.0247^{+}$	(0.00(0))	-0.0239	$(0.0108^{++})$	$-0.0257^{*}$	$(0.0131^{***})$
-	(0.0145)	(0.0069)	(0.0147)	(0.0070)	(0.0134)	(0.0065)
Primary school	-0.0742		-0.0706		-0.0709	
	(0.0477)		(0.0446)		(0.0451)	
Cohort	0.0601***	0.0288*	0.0594***	0.0236	0.0561***	-0.0036
conort	(0.0144)	(0.0167)	(0.0146)	(0.0168)	(0.0137)	(0.0159)
Spant some time in Australia before migration	0.0971***		0.0983***		0.0965***	
Spent some time in Australia before inigration	(0.0131)		(0.0130)		(0.0126)	
Time since settlement (rescaled)	0.5637***	-0.1226***	0.5704***	-0.1082***	0.5273***	-0.1336***
Time since settlement (rescaled)	(0.0674)	(0.0362)	(0.0676)	(0.0365)	(0.0649)	(0.0337)
	-0.2712***	0.0389*	-0.2727***	0.0271*	-0.2576***	0.0774***
Time since settlement squared (rescaled)	(0.0434)	(0.0240)	(0.0436)	(0.0242)	(0.0413)	(0.0223)
~	0.0934***	. ,	0.0893***	. ,	0.0864***	. ,
Salary earner or business owner in former country	(0.0205)		(0.0207)		(0.0196)	
	0.2466***		0.2516***		0.2381***	
Business visa	(0.0328)		(0.0328)		(0.0310)	
	0.1783***		0.1814***		0.1776***	
Family visa	(0.0244)		(0.0244)		(0.0242)	
	(0.0244)		(0.0244)		0.0243)	
Independent visa	(0.0289)		(0.0286)		(0.0289)	
-	(0.0288)		(0.0286)		(0.0288)	
Channel of information on job (reference is Au	stralian pre	ss):				
Ethnic press	0.7532***	-0.2351***	0.7607***	-0.253***	0.685***	-0.2449***
Euline press	(0.0602)	(0.0239)	(0.0599)	(0.0251)	(0.0584)	(0.0228)
<b>C</b>	0.8117***	-0.3025***	0.831***	-0.2977***	0.7321***	-0.1742***
Sponsor	(0.0565)	(0.0259)	(0.0558)	(0.0262)	(0.0562)	(0.0228)
	0.9563***	-0.1552***	0.973***	-0.1551***	0.8816***	-0.111***
Government	(0.0616)	(0.0167)	(0.0608)	(0.0169)	(0.0632)	(0.0155)
	0.8599***	-0.2396***	0.87***	-0.2574***	0.7984***	-0.2245***
Private agency	(0.0520)	(0.0191)	(0.0516)	(0.0199)	(0.0531)	(0.0182)
	0 7887***	-0 2381***	0.8006***	-0 2546***	0.726***	-0 2***
Family	(0.0404)	(0.0132)	(0.0393)	(0.0135)	(0.0425)	(0.0116)
	0.7622***	0.199***	0.7720***	0.1002***	0.6007***	0.1551***
Friend	$0.7632^{****}$	-0.188****	$0.7752^{****}$	$-0.1992^{****}$	(0.099/****)	-0.1551***
	(0.0368)	(0.0110)	(0.0333)	(0.0113)	(0.0397)	(0.0099)
Self	0.7625***	-0.252***	0.7/47/***	-0.267***	0.6982***	-0.2163***
	(0.0367)	(0.0110)	(0.0355)	(0.0114)	(0.0400)	(0.0098)
Other	0.6067***	-0.2563***	0.6145***	-0.25***	0.5528***	-0.2577***
Suid	(0.0512)	(0.0241)	(0.0506)	(0.0243)	(0.0514)	(0.0238)
Number of person in household		0.0049***		0.0049***		0.0055***
rumber of person in nousenoid		(0.0018)		(0.0018)		(0.0018)

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

disturbances:	$\sigma_{\scriptscriptstyle ho}$	0.0174	0.0169	0.0174
Estimate of the correlation between	ρ	0.6385***	0.6465***	0.6283***
Other cohort2		(0.0318)	(0.0327)	(0.0315)
		0.0535*	0.0231	0.0043
Self cohort2		0.0074	0.0034	-0.038** (0.0160)
		(0.0158)	(0.0160)	(0.0164)
Friend cohort2		0.031**	0.0444***	-0.0364**
Family cohort2		(0.0199)	(0.0198)	(0.0212)
Government cohort2 Private agency cohort2		0.0716***	0.0684***	0.056***
		(0.0260)	(0.0263)	(0.0255)
		0.0159	0.0262	-0.029
		(0.0330)	(0.0336)	(0.0367)
		-0.0031	-0.0054	-0.0763**
Ethnic press cohort2 Sponsor cohort2		$(0.078^{***})$	0.0658	-0.0387
		(0.0387)	(0.0390)	(0.0401)
		0.012	0.0472	0.0374
Interaction Channel of information on jo	b and Co	hort:		
		(0.0182)	(0.0186)	(0.0189)
Cannot speak English		-0.0024	-0.0077	0.0078
Interaction time cohort Very good English fluency Good English Fluency		(0.0074)	(0.0075)	(0.0073)
		-0.0553***	-0.0615***	-0.0404***
		(0.0083)	(0.0085)	(0.0081)
		-0.0989***	-0.1041***	-0.0811***
		(0.0317)	(0.0318)	(0.0317)
		-0.1773***	-0.1598***	0.2533***

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

	M	Iodel 4:	Mo	del 5:	
Variable	Subjectiv Satisfaction of	ve definition 1: on current main job	Subjective definition 2: Comparison satisfaction on current main job and		
	Job(Y2)	Good Job(Y1)	Job(Y2)	Good Job(Y1)	
Age rescaled $(/100)$	2.0119***		1.6726***		
rige researed (100)	(0.6127)		(0.5662)		
Age squared rescaled	(0.8348)		(0.7724)		
Monnied	-0.0388***	0.0162***	-0.038***	0.0098*	
Mameu	(0.0137)	(0.0062)	(0.0124)	(0.0057)	
Female	$-0.1588^{***}$	$0.0432^{***}$	-0.1412***	0.0766***	
	-0.0835**	(0.0002)	-0.0454	(0.0001)	
Non English speaking background	(0.0419)		(0.0307)		
Education variables (highest level completed; ref	ference is Sec	condary school):			
University degree (bachelor or more)	0.056***	-0.0225***	0.0456***	-0.0347***	
	(0.0105) 0.0434	(0.0072) 0.0121	0.0145)	(0.0009) 0.0009	
Trade qualification	(0.0278)	(0.0106)	(0.0240)	(0.0099)	
Technician qualification	-0.0208	0.0317***	-0.0222*	0.0131**	
reenineran quantication	(0.0147)	(0.0072)	(0.0129)	(0.0066)	
Primary school	-0.0587		-0.0661		
	0.0599***	0.0068	0.0504***	-0.0316**	
Cohort	(0.0155)	(0.0166)	(0.0142)	(0.0155)	
Spent some time in Australia before migration	0.1102*** (0.0135)		0.1207*** (0.0131)		
Time since settlement (rescaled)	0.5838*** (0.0683)	-0.1851*** (0.0365)	0.5331*** (0.0652)	-0.1126*** (0.0359)	
Time since settlement squared (rescaled)	-0.28*** (0.0443)	0.0958*** (0.0241)	-0.2573*** (0.0408)	0.0628*** (0.0240)	
Salary earner or business owner in former country	$(0.0693^{***})$		$(0.0926^{***})$		
Designed asian	0.2835***		0.2664***		
Busiliess visa	(0.0345)		(0.0332)		
Family visa	$0.2008^{***}$		0.1781***		
2	(0.0256)		(0.0243)		
Independent 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***	
r	(0.0614) 0.8208***	(0.0257)	(0.0604) 0.7376***	(0.0251)	
Sponsor	(0.0578)	(0.0272)	(0.0576)	(0.0231)	
Covernment	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***	
	0.8024***	-0.2923***	0.7242***	-0.1804***	
Family	(0.0414)	(0.0140)	(0.0447)	(0.0120)	
Friend	0.7826***	-0.235***	0.694***	-0.1436***	
	(0.0376) 0.7814***	(0.0118)	(0.0413)	(0.0102)	
Self	(0.0380)	(0.0118)	(0.0418)	(0.0100)	
Other	0.6346***	-0.3331***	0.5561***	-0.1727***	
Oulei	(0.0532)	(0.0275)	(0.0504)	(0.0227)	
Number of person in household		0.0036**		$-0.0044^{***}$	
•		(0.0018) 0.0611*		(0.0017) -0.0252	
Interaction time cohort		(0.0320)		(0.0300)	
Very 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 Elyanay		-0.0554***	-0.0523***	
Good Elightsh Fluency		(0.0077)	(0.0073)	
Connot anosh English		0.0031	0.0368*	
Cannot speak English		(0.0191)	(0.0190)	
Interaction Channel of information on j	ob and Cohor	t:		
Ethnia pross schort?		-0.0156	-0.0593	
Ethnic press conort2		(0.0365)	(0.0362)	
Spansor achort?		0.0025	-0.027	
Sponsor conort2		(0.0386)	(0.0343)	
Covernment achort?		-0.0967***	-0.1092***	
Government conortz		(0.0344)	(0.0311)	
Drivete ageney achort?		0.0498*	-0.0632***	
Fivite agency conort2		(0.0270)	(0.0231)	
		0.0401**	-0.0735***	
Family conort2		(0.0203)	(0.0186)	
		0.0148	-0.1024***	
Friend conort2		(0.0170)	(0.0154)	
Salf appart?		0.0072	-0.0958***	
Sell conortz		(0.0171)	(0.0158)	
Other achort?		0.0524	-0.0128	
Other conort2		(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

**Appendices:** 



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)

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<sup>&</sup>lt;sup>1</sup> Result corroborated by Chiswick 1979; Duleep and Regets 1996; Bauer and Zimmermann 1999; Chiswick *et al.* 2002a, 2002b.

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

<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".

<sup>&</sup>lt;sup>4</sup> ASCO stands for Australian Standard Classification of Occupations.

<sup>5</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. 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. 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 intervals our analysis would not have been improved by adopting such a measure as dependent variable.

<sup>6</sup> The marginal effects for interaction terms involved larger computations due to the form of the derivative of the conditional probability. The details of the methods are available on request.

<sup>7</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.

<sup>8</sup> Results available on demand.