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Labour mobility: demographic, labour force and education effects and implications for VET

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Report to ANTA

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Executive summary

This report provides estimates of job and occupational mobility by demographic, educational and labour market variables using data from the ABS *Labour Mobility* survey for 2002. The report provides considerable information on the effects of these variables on the probability of job separation, information that has previously been unavailable. It also identifies the factors that are significant in explaining various types of occupational mobility, including transitions to non-employment. This information can be useful in the planning of vocational education and training.

Background

The modern labour market is constantly creating new jobs and destroying old ones. Of over 9 million persons employed at February 2002 in Australia, 22 per cent were employed in their current job for less than one year. The actual number of jobs that were filled was more than 3.3 million. This includes jobs that were filled by multiple job-holders and others who moved through more than one job during the year.

Job creation and destruction are part of the larger process of adjustment, reallocation and growth in the labour market. The mix of jobs and associated demand for skills within firms and production sites reflect changes in organisation, regulation, technology and costs of training, hiring and firing workers. Jobs differ in many respects, including the level of skills required, hours of work and security of tenure offered. Globalisation is playing an increasing role in this.

As part of the reallocation process workers move voluntarily or involuntarily between employers or locations, and to and from joblessness. The process can also involve career moves with change in occupations, change in earnings and for some a vicious cycle of short-term jobs interspersed with spells of non-employment.

This report is an attempt to understand the demographic, educational and labour market factors that affect first, job separations and second, occupational mobility, including to non-employment, in the current Australian labour market. Labour market segments with low rates of job separation and low rates of transitions to non-employment usually signal good worker-job or worker-firm matches. The training literature suggests that good matches increase the probability of investment in worker training, although this may vary by age of the worker. It is important for public policy on training to focus on the labour market segments which are at risk of missing out on investment in skills development.

Conceptual model of labour mobility

The conceptual model of labour mobility developed in this report begins with all persons who were employed at some time over a period of twelve months. Any such person is classified as a:

1. stayer;

2. mover; or
3. new entrant.

Stayers are those who have been in their current job for twelve months or more. Movers are those who stopped working in a job at sometime in the current year; and new entrants are those who started their current job during the year and had no previous job during the year. New entrants include those who are entering the labour force for the first time in their lives as well as those who were previously unemployed or temporarily out of the labour force.

Movers, who are either job leavers or job losers, could subsequently be:

1. working (re-employed);
2. looking for work; or
3. not in the labour force.

Furthermore, those movers who are re-employed could make one of the following occupational transitions:

1. remain in the same four-digit occupation as before;
2. change occupation to one in the same major (1-digit) group as before;
3. change occupation to one in a lower major (1-digit) group than before (meaning at the same or lower skill level); or
4. change occupation to one in a higher major (1-digit) group than before (meaning at the same or higher skill level).

Transitions of the first type are perhaps the easiest to make for a worker because they may not involve much additional education and training. The second and third types are likely to involve varying amounts of training by the worker. Some skills will be common across a group of occupations thus enabling easier mobility between occupations in the group. Transitions to jobs in a different major group are likely to involve additional training, perhaps even if the move is to a lower skill category.

Key features in job separation

The initial analyses of the data showed that of the 9.9 million persons who worked sometime in the year to February 2002, 72 per cent were stayers, 21 per cent were movers and 7 per cent were new entrants. The following briefly describes results from multivariate analysis of stayers and movers from jobs.

Age

The probability of job separation decreases with age but at a decreasing rate for both male and female workers. At any given age, job separation is more likely for male part-time workers than female part-time workers. Amongst full-time workers, however, the chances of separation are higher for females but the gap between the sexes narrows to almost nothing for middle age and older workers.

Migrants

The chances of job separation are found to be significantly higher for recently arrived migrants than for Australian-born workers, particularly for those from main English-speaking countries. Recently arrived migrants are less likely to have established roots in a particular location or with a particular employer and are therefore more likely to consider alternative job

offers. Their job search activity will be in some sense similar to that of young people who have recently entered the workforce. The relatively lower separation rates for migrants from other than main English-speaking countries may be a consequence of a higher need to improve English language competency and accumulate work experience with a single employer over job search activity.

State differences

Women in the smaller states and territories, excluding Victoria, have significantly higher chances of job separation than women in New South Wales. Moreover males in Queensland are also more likely to experience job separation than in New South Wales. The different industry-occupation structure of the workforce and with a higher proportion of casual workers in Queensland compared to New South Wales, or Victoria for that matter, is probably part of the explanation for this result.

Qualification

Qualifications were found to be largely insignificant in explaining the job separations for males, but were highly significant for females. Education seems to increase females outside opportunities much more than it does for males and consequently females with qualifications have higher job separation rates. Table E1 below shows the predicted probability of job separation for different groups of workers by qualification.

Full-time/part-time status

Part-time workers have a much higher rate of job separation than full-time workers. The effect is larger for men than women, probably because male part-time work is more likely to be casual and hence short-term. Job separation probability is predicted to be 0.18 for a full-time male worker compared to 0.30 for a part-timer. The corresponding probabilities for a female worker are 0.21 and 0.25, respectively.

Occupation

The occupational effects on job separation show that, in general, the lower is the skill level of the occupation (short-term and casual jobs are concentrated in lower skill occupations) the higher is the probability of separation from them. The results for full-time females, however, indicate a more complex pattern. For example, the job separation probabilities from managers and administrators (skill level 1) and associate professional (skill level 2) occupations are just as high as they are from elementary occupations (skill level 5).

Table E1 Predicted probability of job separation for males and females by qualification and full-time/part-time status in last job

	Full-time		Part-time	
Qualification	Males	Females	Males	Females
Postgraduate	0.19	0.25	0.31	0.29
Bachelor degree	0.20	0.24	0.32	0.28
Diploma	0.18	0.24	0.29	0.28
Certificate III or IV	0.19	0.24	0.31	0.29
Certificate I or II	0.20	0.21	0.32	0.26
No post-school qualification	0.18	0.19	0.29	0.22
All	0.18	0.21	0.30	0.25

Key features of occupational mobility

We now turn to the occupational destinations of the workers who separate from jobs. The term occupational mobility is used in a broad sense here as it also includes transition to the two non-employment states—'looking for work' and leaving the labour force.

In the year ending February 2002, over 2.1 million persons separated from a job at least once. By the end of that year 62 per cent of them were re-employed, 16 per cent were looking for work and 22 per cent had left the labour force. The occupational destination of those who were re-employed was as follows:

- 56 per cent in the same 4-digit occupation as before;
- 11 per cent in a different occupation but in the same major group;
- 15 per cent in a lower level major group; and
- 18 per cent in a higher level major group.

The main results from the multivariate analysis of the data are presented below.

Age

Age has a significant effect on occupational mobility just as it had on job separation. The age-related transition probabilities have different shaped plots though. In general, for job-to-job transitions the plots are inverted 'U-shaped', for leaving the labour force they are 'U-shaped' and for 'looking for work' they are in between these two shapes. There is however considerable variation in the pattern according to full-time and part-time workers and according to whether they were job leavers or job losers. A noteworthy result that may have implications for policy on older workers is that, while the probability of remaining in the same occupation for a 60 year-old male job leaver from full-time work is predicted to be 0.40 for a similar female it is predicted to be 0.48.

Migrants

The migrants from main English-speaking countries were found to have, in general, similar occupational mobility patterns as Australian-born workers, but the behaviour of migrants from other countries was significantly different with a greater percentage going to non-employment.

Marriage

Non-married workers were found to have significantly higher chances of ending up looking for work than married workers. Not surprisingly though married women were significantly more likely to leave the labour force.

Regional

Workers in non-metropolitan areas are significantly less likely to remain in the same occupation than workers in metropolitan areas.

Qualifications

Although qualifications were insignificant in explaining job separation for males they were significant in explaining occupational mobility. These results suggest the qualifications are perhaps used as a screening device for hiring decisions but their informational value may have been superseded by direct observations of worker's productivity for decision-making on firing

workers. In general, the higher level qualifications are associated with higher chances of re-employment in the same occupation. For males the chances of looking for work decrease with the level of the qualification held, but for females it is the chances of leaving the labour force that tend to decrease.

Compared to males, the probability of moving to another occupation for females is only higher for certificate III or IV holders. Amongst all other qualification holders, except diploma holders, males have much higher probabilities of moving to another occupation. This suggests differences in the transferable skills that men and women acquire through qualifications at the same level and perhaps also the existence of heterogeneity in courses at the same qualification level.

Full-time/part-time and reason for job separation

Two factors with the largest effects on occupational mobility for males and females are full-time/part-time status and reason for job separation (see Table E2). Job leavers have much higher chances of being re-employed compared to job losers. Male job losers from full-time work are more likely to end up looking for work than to leave the labour force, but similar females are equally likely to exit to either of these two non-employment states. On the other hand both male and female job losers from part-time jobs are more likely to leave the labour force than be looking for work.

Tenure

Tenure in the last job has differential effects for males and females. In particular, among those with tenure of two years or more in the last job, males are much more likely to be re-employed than females.

Table E2 Predicted probabilities of occupational mobility for males and females who separated from a job by full-time/part-time status and reason for ceasing last job

	Occupational destination					
Sex	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
Male						
Full-time job leaver	0.56	0.06	0.10	0.12	0.09	0.08
Full-time job loser	0.25	0.06	0.12	0.07	0.33	0.17
Part-time job leaver	0.31	0.09	0.10	0.25	0.08	0.17
Part-time job loser	0.12	0.08	0.10	0.13	0.25	0.32
Female						
Full-time job leaver	0.48	0.09	0.10	0.09	0.08	0.16
Full-time job loser	0.23	0.07	0.10	0.08	0.26	0.26
Part-time job leaver	0.31	0.08	0.09	0.12	0.08	0.32
Part-time job loser	0.12	0.05	0.08	0.10	0.20	0.45

Implications for training

Persons who separate from a job and change occupation or are no longer employed are likely to need access to training. For those gaining a job in a

new occupation some of the training may be provided by their employers. The need for training is likely to be even greater by those who lose a job and whose prospects of gaining another are small.

Education and training, including work-related training, are important determinants of labour market success, an integral part of which is the opportunities for individuals to move jobs, either within firms or across firms. Hence, while labour turnover may affect the chances of receiving work-related training, it is also possible that training will affect mobility. The link between training and mobility are complex and one should be cautious in moving from basic empirical facts to public policy. Besides the individual, institutional and labour market factors that affect the probability of a person receiving training, the type of training received and who finances it has impact on future mobility.

The labour mobility analyses reported here has identified segments of the labour market with low rates of job separation and therefore potentially good worker-job or worker-firm matches. The training literature suggests that good matches increase the probability of investment in worker training. Employers paying for a significant part of the cost of training have an incentive to reduce turnover in order to recoup the investment they have made. Therefore employers who train will have policies in place to retain these workers. It can also be argued that employers will train workers who they want to retain.

On the other hand, labour market segments with high rates of job separation may not attract much employer subsidised training for workers (even though there may be induction training involved). Workers in these segments can be at risk of missing out on training to upgrade skills for career progression Policy on public provision of training ought to focus on the special needs of these groups. The characteristics of these 'at risk' segments are:

- job losers;
- part-time workers;
- certificate I or II holders or without post-school qualifications;
- female part-time leavers
- male job losers over the age of 50 years; and
- females from manufacturing and wholesale trade.[1]

A number of the above characteristics are the same as those of workers who have below average access to training and below average amounts of training.

These workers are at a higher risk of joblessness 'recidivism'. It is not just enough to ensure these workers remain attached to the labour force; well designed training programs also need to be available to them to avoid the risk of skill atrophy. Even if these workers are able to obtain other jobs, there is still a high risk of them moving between short-term jobs and be without opportunities for further skills development. Policy on public provision may need to focus on these segments of the labour force.

[1] Workers in education, except those who are full-time job leavers, have relatively high chances of moving to non-employment states, but the reasons for this may not be due to access to training.

The extent of women's labour market experience and accumulated job tenure can be limited by their higher rate of turnover with implications for decisions by workers and firms about who will receive training and promotion and occupational segregation by gender. This also applies to men in part-time work, particularly who have lost their jobs.

Job separation rates are highest for the young and as the training literature suggests young people also have high incidence of training. The training that the young receive on-the–job is however likely to be for induction. The provision of general training to support the capacity to learn new skills requires the provision of publicly funded training.

Although job separation rates for older workers are low, for those who do separate from jobs a significant proportion leave the labour force well before 'retirement' age. Male job losers aged 50 years or older are at a very high risk of non-employment, and particularly of leaving the labour force. They are less likely to be able to access employer sponsored training. To increase their chances of returning to the workforce public policy addressing their special training and skill development needs is crucial.

In this study, the probability of re-employment in the same occupation was found to be significantly lower for workers in non-metropolitan areas than in metropolitan areas. This means that workers in non-metropolitan areas either have higher chances of being not employed or have higher chances of moving to another occupation. In any case the public provision of training or re-training for them may need to be different to metropolitan residents. This has implications for regional training policies. This has implications for regional training policies which are very important under *Australia's National Strategy for vocational education and training 2004-2010*.

Further work

The nature of the *Labour Mobility* survey limits the analysis that can be done to investigate different aspects of mobility. In particular, investigation of skill formation among those who move through a sequence of low skill, casual, part-time jobs interspersed with spells of unemployment or spells out of the labour force need a truly longitudinal dataset like the *Household Income and Labour Dynamics Australia* (HILDA) survey. Data from third wave of from this survey are expected to be released sometime this year.

1 Introduction

This report provides estimates of job and occupational mobility by gender for a wide range of labour market segments characterised by socio-demographic, educational and labour market variables. It also identifies which of these variables are significant in explaining various types of mobility. This information can be useful in the planning of vocational education and training and the development of policy on the balance between general and specific skills in curriculum design in vocational education and training courses.

Jobs, workers and capital are reallocated as some businesses grow and others decline. The mix of jobs and associated demand for skills within firms and production sites reflect changes in organisation, regulation, diffusion of technology and costs of training, hiring and firing workers. Jobs differ in the skill requirements, effort and diligence that they demand and in the level of security of tenure and the hours of work they offer workers. Globalisation is playing an increasing role in this demand. Thus job creation and destruction are part of the larger process of adjustment, reallocation and growth (Davis and Haltiwanger 1999).

The reallocation process requires workers to change employers or location and move from job-to-job or job-to-and from non-employment. Some of these movements are voluntary while others are not. Along the way some workers suffer prolonged spells of unemployment or sharp fall in earnings; some are promoted and make progress with their careers and increased earnings; some retire early to work at home; some change industry or occupation; some change location and in the process migrate long or short distances and possibly cause disruption to lives and jobs of family members. Workers who move differ widely in their personal characteristics, and the range of skills, capabilities and career aspirations that they bring to the labour market.

Some workers find employment in occupations that requires skills that are specialised or subject to regulation. Courses that lead to these occupations provide specific technical skills. Other workers, however, move among a broader, but possibly still well-defined range of occupations. Courses that lead to these clusters of occupations probably need to emphasise broader and more generic skills.

A measure of the turbulence in the job market in Australia in the year ending February 2002 due to new jobs creation and old jobs destruction can be gauged from data collected in the *Labour Mobility* survey (ABS 2002). The survey shows that of the over 9 million persons employed at February 2002, 22 per cent were employed in their current job for less than one year. This figure however does not include those who may have commenced other jobs during the year in addition to their current job, those who are currently not in employment but who may have had a job for some time during the year or multiple jobholders. When these are added it is estimated that the actual number of jobs filled in the previous 12 months was 34 per cent of the number of persons who held a job at some time in the twelve months to February 2002 (Shah and Burke 2003).

Administrators in vocational education and training (VET), industry and students share an interest in matching skill provision with industry need.

Obtaining skills that are useful in the labour market—whether to obtain a job; to change jobs or to obtain a promotion—is the major motivation for most VET students.

This paper is an attempt to understand the socio-demographic, educational and labour market factors that affect transitions from job-to-job and job-to-non-employment in the current Australian labour market.

The last twenty years has seen considerable research worldwide in this area but little on Australia. Although findings from these studies may have some general application to Australia, differences in the economies and labour markets between countries make it difficult to fully apply the findings. Stromback (1988), Kilpatrick (1994) and Meng, Junankar and Kapuscinski (2004) are some of the very few studies that have looked at labour mobility in Australia. All three used data from the *Labour Mobility* surveys for various periods prior to 1995. The main reason for a lack of more Australian research on this subject has been a lack of easy access to unit records from these surveys or other appropriate micro-data.

This study goes further than previous Australian studies and uses the most recent data on mobility, access to which was made possible via a special arrangement with the Australian Bureau of Statistics (ABS). It considers, as did previous studies, job-to-job and job-to-non-employment transitions but also:

- distinguishes between the different types of job-to-job transitions that may arise—those that involve a change in occupation and those that do not;
- distinguishes between transitions to unemployment and to out of the labour force;
- the effect of factors such as qualifications and age on occupational transitions; and
- the different transition patterns for job leavers (voluntary departure) and job losers (involuntary departure).

Such analyses can assist in identifying individuals and labour market segments in need of training resources. A job-to-job transition that involves a change in occupation could involve additional training if skill requirements in the two occupations do not overlap and hence skills transferability is limited. Moving up the occupational hierarchy will normally, though not always, imply a need for additional training. Similarly moving down the occupational hierarchy can also imply a need for additional training. Information on the type of individuals who move to unemployment or out of the labour force after a job separation can be useful for developing policy on training and also on attracting older workers back into the workforce.

The structure of the report is as follows. Chapter 2 contains a short review of the literature on labour mobility. It includes works that have tried to explain labour mobility in the context of human capital, job search and job matching theories. Chapter 3 provides a framework to conceptualise the various types of labour mobility. A two-stage framework is adopted. The first stage distinguishes between workers who stay in the same job from those who separate from a job. The second stage considers the possible labour market transitions made by those who separate. Various occupational transitions together with transition to unemployment and out

of the labour force are considered. Chapter 4 includes brief descriptions of the data that are used to estimate two statistical models. The first is about the job separation decision of an individual and determines the personal, demographic, educational and labour market characteristics that impact on this decision. The second is about the decision of those who have separated from a job to move to various occupational and non-employment destinations. The results from estimating the two models are discussed in chapter 5. The final chapter contains the conclusion, including implications of labour mobility on training.

Distinguishing mobility by various destinations states to which persons move is important. For example, 'job-to-job' turnover may be motivated by a desire to improve wages and conditions and sometimes pre-empt layoffs, while 'job-to-out of labour force' turnover may be motivated by family responsibilities and retirement.

2 Literature review on labour mobility and training

This chapter contains a review of research on labour mobility.[2] It provides a theoretical context to this study and indicates how training and mobility may be related. The theoretical literature includes the relationship of wage relativities and mobility. This study does not analyse data on wages and salaries. However this is not as limiting as it might seem. Studies of wage relativities in Australia show that—in general— they move only slowly. Implicitly the existing structure of wages and rewards relative to productivity do underpin some of the movements in labour that are observed, such as the mobility of young workers from low skill to high skill occupations.

Many theories of labour mobility dynamics, stress match quality and supply-side concerns such as job-shopping, human capital acquisition, career progression and events that affect work preferences. There is however a major demand-side role that induces shifts in the distribution of job opportunities across skill types and locations that has an effect on labour mobility (Davis and Haltiwanger 1999).

Overview

When a worker separates from his/her current job he/she either moves to another job, into unemployment or out of the labour force either permanently or temporarily. Separation could be as result of leaving (voluntary departure) or losing (involuntary departure) the job. Moving into another job could be with the same employer (perhaps as a result of a promotion) or another employer. Change of job could involve remaining in the same occupation (industry) or moving into another occupation (industry). This means labour mobility can take a number of different forms. Most studies focus on just one type of mobility.

Farber (1999) draws three main conclusions from the work on labour mobility. First, long-term tenure is common; second, most new jobs end early[3]; and third, the probability of job change declines with tenure (perhaps after increasing during the first few months of employment).

Human capital and tenure

Human capital theory is often used to explain labour mobility. Any separation decision between a worker and an employer hinges on the

[2] Note that the work reviewed here and the study undertaken in this paper focuses on the total movement (separation) of workers from jobs, the reasons for the movement and where the workers move to—the same or different occupations, to unemployment or out of the labour force. This is distinct from studies of the net replacement of workers from an occupation—the total movement minus the re-entrants to the occupation—which have been undertaken for the purpose of estimating job openings for new entrants to an occupation (see Shah and Burke 2001).

[3] In an analysis of job durations, Farber (1994) found that about a third of all new full-time jobs end in the first 6 months, one half end in the first 12 months and two-thirds end within 2 years.

worker's relative wage to alternative opportunities and his marginal product relative to his wage. Based on studies of wage growth it has been suggested that part of the growth in the wage is related to the firm-specific human capital accumulated in the worker. Becker (1962) argues that employers and workers share the cost of firm-specific human capital and that the sharing arrangement reduces the likelihood of either party terminating the relationship whereby the firm-specific human capital embodied in the worker is lost. Thus in a perfectly competitive labour market firm-specific training is likely to be associated with lower turnover. In contrast general training would not be paid by firms and so is unexpected to have any special implications for labour mobility.

Labour markets are however imperfect and models emphasising these show that some transferable training would be paid by employers (Stevens 1994). Firms paying for training entirely by themselves have an incentive to reduce mobility if possible. If there are other restrictions to mobility for the trained worker (whatever they may be), he/she may still remain with the same employer who sponsored the training even in the absence of raised wages to compensate for increased marginal product. In the event of mobility, however, the 'poaching' externality implies that another employer can benefit from the training the worker received by paying a wage less than the increase in the marginal product (Stevens 1994). Wages don't rise as much as the marginal product because of informational asymmetries (Katz and Ziderman 1990; Acemoglu and Pischke 1998). The lack of information about on-the-job training the worker received, and indeed about the worker's ability, to the potential recruiter imposes information-based costs on the potential firms that recruit rather than train. Katz and Ziderman (1990) argue that firms are less likely to finance part, or all, of a worker's general training if formal certification is involved as this reveals the information value to potential 'poachers'.

On the other hand, if the worker solely pays for acquiring transferable skills, and if the firm's wage policy is sufficiently inflexible to reward him/her for the increased productivity from this training, then the worker's chances of searching for an alternative job will rise.

In a study that looked at the impact of training on mobility using individual and firm-level data in Britain, Green et al. (2000) find that most training episodes are directed at generating transferable skills, but they hasten to add that firm-specific skills are empirically not rare. 'Rather, such skills are either imparted along with transferable skills in the same training episodes, or are acquired through on-the-job learning rather than training', they point out. The study concludes that, in aggregate, training has on average no impact on mobility. Training that is wholly sponsored by the individual (or their families) is however on balance likely to be a prelude to a job search. In contrast, when employers do pay for the training the downward effect on mobility is more likely.

The importance of firm-specific human capital in determining wages is usually ascertained by the statistical significance of the return to firm tenure. Tenure is however a poor proxy for the level of investment in firm-specific human capital because the positive correlation between earnings and tenure may be more a reflection of the match, as discussed below, between the employer and employee rather than the human capital investment (Dolton and Kidd 1998).

The firm-specific human capital theory is consistent with the long-term employment relationships and with the fact that separation rates will start out high and decline with tenure in the job but it does not account for the initial increase in separation rates with tenure. The model is difficult to test because specific human capital is not observed directly.[4]

Job searching

According to the job search model of Burdett (1978), an employed worker has three choices regarding employment: 1) become unemployed and search for another job; 2) search for another job while being employed in the current job; or 3) remain in the current job and not search.[5] If it is assumed that a worker's search involves sampling wage offers from a given distribution then his optimal strategy is to select a set of 'reservation' or acceptable wages. Then the optimal choice is made by comparing the current wage with the reservation wages. The higher is his current wage the more likely will he be to remain in his current job and not embark on a search for another job. The implication of this is that worker will tend to move up the wage distribution during his working life and the tendency to quit from a job will decline with age.

In the extension of this model Holmlund and Lang (1985) consider a worker's total remuneration—non-pecuniary benefits and money wage. Information about non-pecuniary benefits can usually be ascertained on the job. Satisfactory non-pecuniary benefits will increase the chances of staying and less satisfactory non-pecuniary benefits increase the chances of quitting. Thus those who are observed to have long tenure are those who found the non-pecuniary benefits satisfactory.

Job matching

Matching models have their origin in the fact that workers and firms have imperfect information about each other. A number of studies have formalised the job matching theory of labour mobility.[6] In the job matching model the productivity of a particular worker-firm or worker-job match is the key feature of an employment relationship. This match varies and is only observable after the event. In other words, the match quality is an experience good and is only revealed over time. Based on the signal on match quality in a given period, the worker's and the firm's prior probability of match quality are updated and over time the revisions become smaller.[7] Separation between employee and employer occurs if the updated match quality is below some 'reservation' match quality. The separation rate is directly related to the reservation match quality which is low early in the tenure and thus separation rates are low at the beginning. Early in the job the uncertainty in the match quality is likely to be high, but terminating the

[4] While the model is a parsimonious explanation of Farber's three main conclusions on labour mobility, it has been shown that richer models that account for worker heterogeneity can also explain much of observed labour mobility (Farber 1999)

[5] There is no interest in those who leave the labour force.

[6] Johnson (1978); Jovanovic (1979b); Jovanovic (1979a); Jovanovic (1984); Viscusi (1980); Miller (1984)

[7] The updating of the match quality is usually modelled as a Bayesian learning process.

employment relationship is costly. Thus at this stage the chances of separations are low despite early poor match signals because the probability that the match quality will turn out to be good is still high. Later as the uncertainty about the updated beliefs about match quality reduces, the reservation match quality increases. At this time separation rates increase as bad matches are terminated and what remains are high quality matches with low separation rates (Farber 1999).

The above studies on job matching assume that matching occurs only at the job level. Given that a significant fraction of people who switch jobs also switch occupations suggests matching also occurs at the occupational level.[8] Miller (1984) extended the matching model by incorporating the notion that individuals try out several jobs, perhaps from different occupations, depending on how things go. In this way they become better informed about potential matches as they get more experienced. Miller's analysis showed that it was optimal for the young and inexperienced, who are not well informed about their capabilities, to initially gravitate to jobs that seem underpaid, and those engaged in them to appear gullible or foolhardy in taking them.

Occupational mobility

Weiss (1971) suggested that occupation-specific training may be related negatively to occupational mobility. This however depended on the extent to which investment in such occupational skills were specific to a single occupation and the extent to which it was partially transferable to other occupations. The proportion of any human capital investment that is occupation-specific plays a major role in whether a job change also involves an occupation change as well. The positive relationship between occupational mobility and general education is also suggested by Johnson (1979), who points to evidence for this across labour markets in different countries, but particularly in the US where it is commonly felt that labour mobility is higher and so is non-vocational education than in other industrialised countries.

Sicherman and Galor (1990) suggest that part of the return on human capital investment is in the form of higher probabilities of occupational upgrading, within or across firms. The type of human capital a worker invests in however have implications for their career mobility. The more firm-specific the human capital the smaller is the probability of inter-firm mobility but intra-firm mobility up career paths, where they exist, is higher. As the relevance of the training broadens and becomes more transferable to other firms or occupations, so the individual's tendency towards job/occupation change increases.

The transferability of occupational human capital also depends on how broadly one treats occupations (Dolton and Kidd 1998). For example, training received by a teacher is not easily transferable to a career in nursing or vice versa, but training acquired as an electrician is more easily transferable to a career in electronics.

[8] Miller (1984); Shaw (1987); McCall (1990); Sicherman and Galor (1990); Waddoups, Daneshvary and Assane (1995); Dolton and Kidd (1998)

Effect of gender on mobility

The attachment to the labour market has traditionally been lower for females than males although the difference seems to have narrowed in the last couple of decades (Light and Ureta 1992). Women's level of labour market experience and accumulated job tenure can be affected by their higher rate of turnover with implications for decisions by workers and firms about who will receive training and promotion and occupational segregation by gender.

Booth and Francesconi (2000) found little difference in the average job leaving and job promotion probabilities between men and women among British workers in the 1990s but significant differences were found for job losers. They also found significant gender differences in the effects of union coverage, occupation and the presence of young children in the family on mobility.

Effect of education and training on mobility

Education and training, including work-related training, are important determinants of labour market success, an integral part of which is the opportunities for individuals to move jobs, either within firms or across firms. Hence, while labour turnover may affect the chances of receiving work-related training, it is also possible that training will affect mobility. To understand the relationship between mobility and training, the possible simultaneity of the problem should be considered. Most empirical studies however look at just one side of the problem—the effect of training on future turnover—mainly because of lack of appropriate data.

Effect of educational attainment

Empirical studies looking at the relationship between mobility and education can show conflicting results for men and women. Part of the reason for the conflicting results may be due the nature of mobility that is being investigated as well as the population to which the results apply.

To explain these conflicting results, Royalty (1998) distinguished between different types of turnover—job-to-job and job-to-non-employment—and found that the turnover behaviour patterns of more educated women was similar to both more and less educated men but the behaviour of less educated women was quite different in the sense that they have higher job-to-non-employment turnover and lower job-to-job turnover.

Blau and Kahn (1981) study of young Americans found the effect of education to be insignificant on the probability of layoff for black males and white females but the effect was significant for white males (negative) and black females (positive).

The study of Greenhalgh and Mavrotas (1996) on the determinants of job-to-job mobility and training in Britain found job mobility to be highest for the young and for those with higher educational qualifications, factors that are also important for training incidence.

Effect of on-the-job training

On examining the role of on-the-job (company provided) and off-the-job training on new entrants to the labour market, Lynch (1991; 1992) conclude that both types of training have significant effect on job mobility, but while formal on-the-job training reduces the likelihood of mobility, particularly for

young women, off-the-job training increases the likelihood. This suggests that on-the-job training allows the accumulation of more firm-specific human capital while off-the-job training allows the accumulation of more general or occupation-specific human capital.

In a study on the six local labour markets in Britain, Elias (1994) too finds that women who received employer-provided and job-related training had lower probability of changing employer or transition to non-employment but for men training made no significant difference to this type of turnover. In another British study, Green et al. (2000) found that when employers pay for the training the likely effect on mobility is downward.

In a study on the link between the acquisition of different types of training and occupational mobility, Dolton and Kidd (1998) conclude that the type of training does have a bearing on the different incentives to career mobility with a clear distinction between job changes and occupation changes. Their results suggest that a person's tenure in the same firm (either with or without promotion) is related to higher investment in firm-based training, whereas investment in occupation-specific or more general training tends to be related to job or occupation mobility.

Effect of mobility on training

Few studies have studied the effect of mobility on training. In a British study, Dearden et al. (1996) found little evidence to suggest that receipt of training is higher or lower for men who recently moved jobs. Greenhalgh and Mavrotas (1996) also found similar results to these.

Royalty (1998) investigated how the *predicted* probability of turnover affected a person obtaining firm-specific and off-the-job (general) training in the US. She found that a higher estimated probability of job-to-non-employment turnover reduced the probability of receiving company training for men and women and off-the-job training for men. A higher estimated probability of job-to-job turnover had no effect on company training and increased the chances of off-the-job training but mainly for women.

Effect of vocational training on mobility

In a study of examining the effect of apprenticeships on male school leavers in the UK, Booth and Satchell (1994) found completed apprenticeships reduced voluntary job-to-job, voluntary job-to-unemployment and involuntary job termination rates, while incomplete apprenticeships tend to increase the exit rate to these destinations relative to those who did not receive any training.

The effect of education and training on labour mobility in Germany was reported in Winkelmann (1996). He reported that apprenticeships and all other types of vocational training reduce labour mobility in spite of the fact that the German apprenticeship system[9] is intended to provide general, and thus more transferable, training, but general schooling had no effect on mobility. In a more recent study, Euwals and Winkelmann (2002) show that apprentices who remain with the training firm, usually large, after graduation command higher wages and have longer first job durations than apprentices who move to other firms after graduation. This suggests cream-skimming of the more able apprentices by the larger firms to recoup the costs of investment in training that in principle is transferable.

[9] Firms carry a substantial financial responsibility for the system.

In a study of young British workers in the 1970s, Booth and Satchell (1994) found completed apprenticeships significantly reduced (the voluntary and involuntary) exit rates from a job. They argued that the results are an indication that both employers and apprentices who have completed the training wish to continue the employment relationship.

Korpi and Mertens (2003) report on the effect of vocational training on mobility in an interesting cross-country study of Germany and Sweden. They investigate whether individuals with firm-based vocational training are more or less mobile than those who receive their training in a largely school-based system. The German dual system delivers firm-based vocational training while the current Swedish system is largely school-based with only a minor on-the-job training component.

It can be argued that the school-based system of delivering training should be associated with greater mobility than firm-based training. First, the direct employer contact in firm-based training together with a higher proportion of firm- and occupation-specific training may reduce job search, even though the system is intended to deliver transferable training. Second, employers strive for like long-term employment relationships that extend beyond the training period to recoup their financial outlays.

The results of the study found overall mobility rates, not attributable to any measurable covariates, to be higher in Sweden than in Germany. No differences in inter-firm[10] mobility that can clearly be related to the type of vocational training could be found between the two countries, which suggests the level of truly firm-specific skills acquired during an apprenticeship in Germany to be relatively low.

In contrast, lower rates of inter-occupational mobility[11] were observed for Germany. This suggests that the skills gained through the apprenticeship system are less general than those gained through the school-based system, and indeed that the German labour market may have a rigid occupational structure.

Summary of previous literature

This chapter has provided a review of various theories on labour mobility. It has also reviewed some of the empirical evidence on it, in particular evidence that show the effect of training on mobility but also, though less frequently, the effect of mobility on training. The review highlights the importance of considering the different types of mobility as well as training when drawing conclusions from previous studies.

The discussion shows the link between job mobility and training has some important features. Depending on the theoretical framework that is adopted it is possible to arrive at different predictions of mobility. For example, the simple human capital model with perfect competition predicts firm-specific training should reduce job mobility but when moves to an imperfect model as suggested by Stevens and others predictions become more complex.

Empirical evidence suggests mobility varies by demographic, educational, job, labour market and institutional factors. It also depends on the type of training that is undertaken.

[10] Defined as when a person moves from one firm to another.

[11] Job-to-job movement involving a change in occupation.

3 A conceptual model for labour market transitions

The labour market transitions of individuals who worked at some time during the year ending February 2002 can be followed using data from the ABS *Labour Mobility* survey for 2002. These data are limited in the sense that information is available only on an individual's labour market state at the beginning and end of the year and the last job that the person stopped working in during the year, if they did so. Thus information about any other jobs that they may have had during the year including any periods of non-employment is unavailable. Within these data constraints, this chapter develops a conceptual model that can be used to track an individual's movement between jobs and to and from non-employment via different routes.

Figure 1 shows a framework that can be used to analyse the type of information collected in the *Labour Mobility* survey, and in particular transitions from work to other labour market states[12].

Any person who worked at some time during a year is at the end of the year a:

- stayer;
- mover; or
- new entrant or re-entrant.

Stayers consist of those who have been in their current job for twelve months or more[13]; movers are those who separated from a job at sometime during the year; and new entrants or re-entrants are all those who are currently working and none of them had another job during the year. Some movers could also have been either new entrants or re-entrants at some time during the current year, but since their current status is no longer employment in that first job they are not included as new entrants or re-entrants.

Movers can be job leavers or job losers. Workers may *lose* their jobs as a result of retrenchment, temporary or seasonal nature of the job (and the worker is not returning to study) or due to sickness or injury to the worker. Workers may *leave* their jobs as a result of unsatisfactory work conditions,

[12] A similar disaggregation of the labour market to Figure 1 is adopted by Bradley, Crouchley and Oskrochi (2003) in an investigation of how social exclusion arises in the context of labour market transition behaviour while others have focussed on job-to-job and/or job-to-joblessness transitions at only the aggregate level (Royalty 1998; Johnson 1978; Theodossiou 2002). Royalty (1998) found that distinguishing between job-to-job and job-to-joblessness was important in understanding the gender differences in turnover patterns. Waddoups, Daneshvary and Assane (1995) also considers occupational upgrading in the analysis of differences in the mobility between black and white males in the US, but the occupation upgrading they consider is in terms of three labour market segments: 1) secondary segment characterised by unstable jobs offering relatively poor pay, bad working conditions and little or no on the job training; 2) a subordinate primary segment composed of semi-skilled yet relatively high paying jobs; and 3) the independent primary segment consisting of the higher skilled craft and professional occupations. Transitions from the lower to the higher segments generally represent a qualitative increase in occupational status and income.

[13] This state includes some multiple jobholders whose main job at the beginning of the year is different to that at the end of the year and who did not stop work in any job during the year.

temporary or seasonal nature of the job (worker returning to study), retirement, new business, better offer of a job, family reasons, change in locality (with the same employer) or other reasons.

Irrespective of whether a mover is a job leaver or a job loser, their current labour force status could be employment in another job, looking for work[14] or out of the labour force.[15]

Re-employment could involve a change in occupation and perhaps additional training for the mover. The amount of training that may be required will vary though. Unfortunately data on training are not collected in ABS *Labour Mobility* surveys. As an indicator of whether training may be involved in a job-to-job transition one can, however, compare the occupations of the first and second jobs. This is assisted by the fact that the occupations classification, ASCO (second edition), that is used for these data has a skill-based hierarchical structure (ABS 1997).

The classification has five nested levels:

1. major group—1-digit (eg 4. tradespersons and related workers);
2. sub-major group—2-digit (eg 44. construction tradespersons);
3. minor group—3-digit (eg 441 structural construction tradespersons);
4. unit group—4-digit (eg 4414 bricklayers); and
5. occupation—6-digit (eg 4414-81 apprentice bricklayer).

There are nine groups at the 1-digit level and 986 occupations at the 6-digit level. Occupations data are only released at the unit group (4-digit) level in the *Labour Mobility* surveys. Appendix 1 contains the listing of unit, minor, sub-major and major groups of the classification. Furthermore, the nine major groups are ordered along a five-point skills scale with:

1. Managers and administrators (Major Group1) and Professionals (Major Group 2)—skill level 1;
2. Associate professionals (Major Group 3)—skill level 2;
3. Trades (Major Group 4) and Advanced clerical and service (Major Group 5)—skill level 3;
4. Intermediate clerical, sales and service (Major Group 6) and Intermediate production and transport (Major Group 7)—skill level 4; and
5. Elementary clerical, sales and service (Major Group 8) and Labourers (Major Group 9)—skill level 5.

One can think of a 'skills distance' between any two occupations according where in the hierarchy the two occupations are. In any job change that involves an occupational change, it is likely that the skill transferability diminishes as the 'skills distance' between the two occupations increases.

Based on this notion of 'skills distance', a job-to-job transition could involve any of the following:

[14] In the *Labour Mobility* survey the term 'working' and 'looking for work' are used instead of the normal terms employed and unemployed. The reason for this is that a slightly less restrictive test is applied to ascertain the labour force status of a person in the *Labour Mobility* survey compared to that in the *Labour force* survey (ABS 2002). The differences in the estimates from the two surveys are however minor.

[15] It is possible that some movers stopped working in more than one job during the year. However data is collected only about the last job they stopped working in and their current labour force status.

1. no change in occupation (at least at the 4-digit level);
2. occupation change to one in the same sub-major (2-digit) group as before;
3. occupation change to one in the same major (1-digit) group as before;
4. occupation change to one in a lower major (1-digit) group than before (meaning at the same or lower skill level); or
5. occupation change to one in a higher major (1-digit) group than before (meaning at the same or higher skill level).

Consider, for example, a job-to-job transition in which a person who originally worked as a general electrician now works as a lift mechanic. This transition would be considered to be of the first type because both occupations are in the same unit group. If however the person took on a job as a communications tradesperson then the transition would be considered of the second type. Now suppose the general electrician instead took the job of a carpenter. In this case the transition would be of the third type because carpenters and general electricians are in the same major group—tradespersons. Finally, if the electrician took the job of a vocational education and training teacher, then the transition would be of the fourth type because vocational education teachers are in a different major group to electricians.

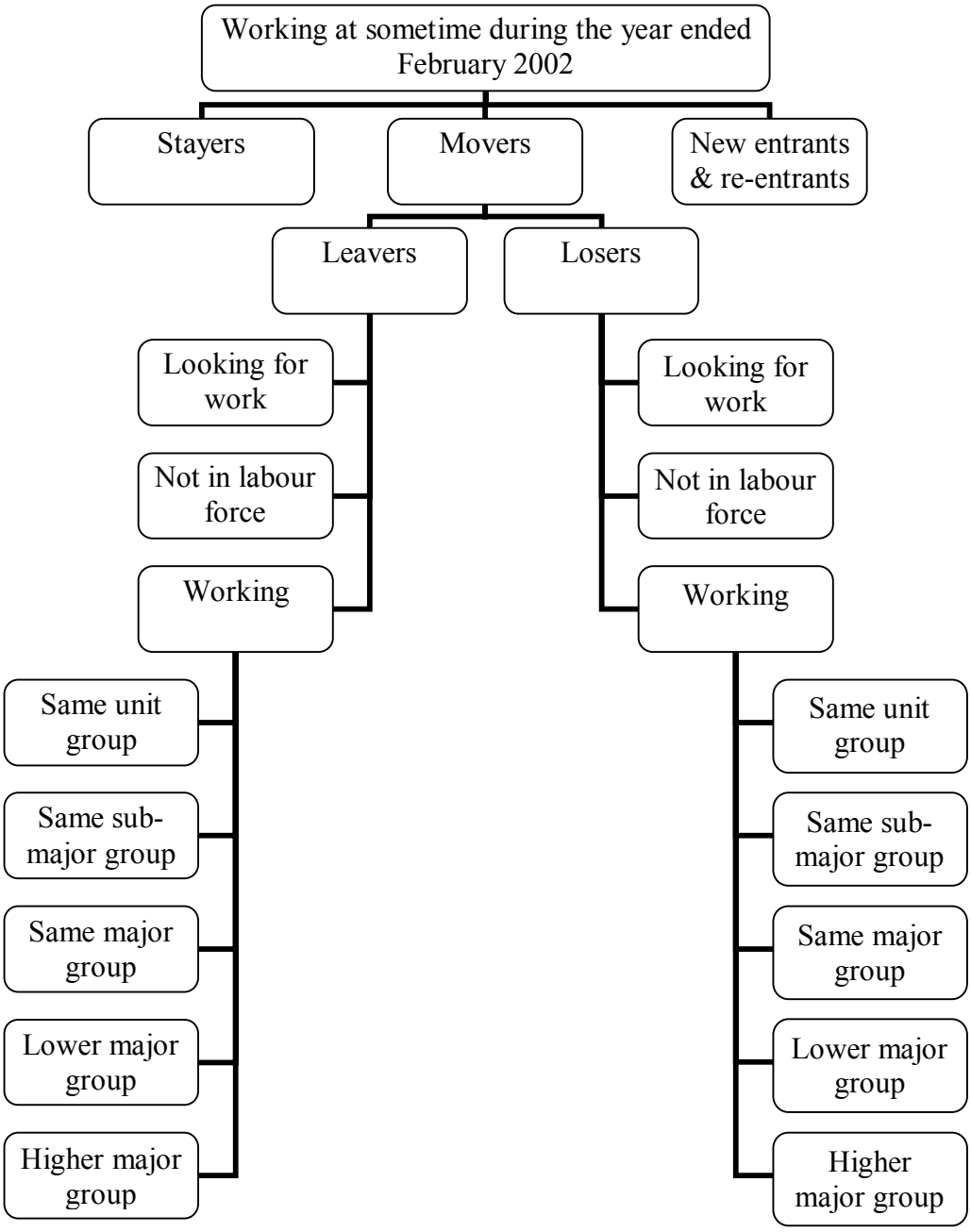
Transitions of the first type are perhaps the easiest to make for a worker because they may not involve much additional education and training. The second, third and fourth types are likely to involve varying amounts of training by the worker. Some skills will be common across a group of occupations thus enabling easier mobility between occupations in the group. Transitions to jobs in a different major group are likely to involve additional training, perhaps even if the move is to a lower skill category.

An alternative way of defining job-to-job transitions compared to the above could be in terms of the five skill levels as follows:

1. transition to a job in an occupation at the same skill level as the occupation of the last job;
2. transition to a job in an occupation at a lower skill level than that of the occupation of the last job; and
3. transition to a job in an occupation at a higher skill level than the occupation of the last job;

This alternative framework is included in Appendix 2.

Figure 1 A framework to analyse the labour market transitions of persons who worked at sometime during year ending February 2002



4 Initial data analysis

The ABS *Labour Mobility* survey is conducted as a supplement to the monthly *Labour Force* survey in February of every second year. Data are collected on persons aged 15-69 years who had worked at some time during the twelve months prior to the time when the survey is conducted. Retrospective information is collected on individuals' labour market experience in the past twelve months from the date of the survey.

Unpublished data from the survey was made available by ABS for analysis. To ensure privacy the analysis was designed and programming developed by the consultants but the actual computation carried out by the ABS.

The survey respondents are asked questions about their current job (job at the time of the survey), the last job they stopped working in the last twelve months and the job they held twelve months ago. Data on a range of demographic, educational and labour market experience variables are also collected. The demographic variables include:

1. sex;
2. age;
3. period of arrival in Australia;
4. country of birth;
5. marital status;
6. family relationship in household;
7. state of residence; and
8. area of residence.

The highest level of educational attainment is the only educational variable included. The labour market experience variables included are:

1. occupation[16] of the current job, the last job left in the last twelve months and the job twelve months ago;
2. industry of the current job, the last job left in the last twelve months and the job twelve months ago;
3. hours of work (part-time or full-time);
4. status in employment (employee or other);
5. job tenure of the last job left in the last twelve months; and
6. reason for leaving the job left in the last twelve months.

This chapter presents some initial analysis of unpublished data from the survey within the conceptual framework developed in the previous chapter. Further descriptions with more details are included in Appendix 3 and summary descriptions of the data within the alternative conceptual framework that is developed in Appendix 2 are included in Appendix 4.

[16] The lowest level at which occupation data are available is at the four-digit. From hereon occupation will mean the relevant unit group.

4.1 Stayers, movers and new entrants

Gender

For sake of simplicity new entrants and re-entrants will be collectively referred to as new entrants from this point on. Table 1 shows the number of males and females who worked at sometime during the year ending February 2002 and their mobility status. Clearly a large majority of workers do not change jobs. More than one in every five workers, however, separated from a job during the year; and 7 per cent entered a job in the current year for the first time, a job in which they were still working at the end of the year. A higher proportion of males are stayers compared to females and correspondingly a higher proportion of females are movers and new entrants. Even though females make up only 45 per cent of all who worked at sometime during the year, they comprise 52 per cent of new entrants. The reason for this could be because women are more likely to have an interrupted labour market experience due to other responsibilities, such as child rearing and caring of the elderly.

Table 1 Persons who worked at some time in the year ending February 2002 by mobility and sex

	Males		Females		Persons	
Mobility	'000	%	'000	%	'000	%
Stayers	3 997.2	73.4	3 070.8	69.6	7 068.0	71.7
Movers	1 124.1	20.6	988.4	22.4	2 112.5	21.4
New entrants[(a)]	326.1	6.0	349.8	7.9	675.9	6.9
All	5 447.4	100.0	4 409.0	100.0	9 856.4	100.0

(a) Includes re-entrants

Age

Table 2 shows the proportion of each age group who are stayers, movers or new entrants. The strong association between age and mobility is clearly evident, with the chances of staying in the job increasing with age. The proportion who are stayers increases from 43 per cent of 15-19 year-olds to 84 per cent of those who are 55 years or older. Conversely, a relatively higher proportion in the younger age groups is movers or new entrants. Young people tend to lack information and experience about employment conditions and skill requirements as they search for jobs to match their skills. At the same time employers also lack information about the skills being supplied by young workers. The combination of the search for a mutually beneficial fit on the part of the two parties leads to high turnover.

Table 2 Persons who worked at some time in the year ending February 2002 by mobility age group (%)

	Mobility (%)			
Age group	Stayers	Movers	New entrants[a]	Total ('000)
15-19	43.3	31.6	25.0	792.1
20-24	56.5	33.4	10.1	1 125.4
25-34	67.7	26.0	6.3	2 347.8
35-44	77.2	18.0	4.8	2 386.6
45-54	82.4	14.1	3.5	2 094.9
55 or over	83.8	13.6	2.6	1 109.6
Total	71.7	21.4	6.9	9 856.4

(a) Includes re-entrants

Qualification

Workers with postgraduate or certificate III or IV qualifications are more likely to be stayers than other qualifications holders (see Table 3). Not surprisingly a high proportion of those without post-school qualifications or certificate I or II are new entrants, a significant number of them will no doubt be full-time school students in casual part-time jobs. Holders of all other qualifications, apart from postgraduate, have much the same proportions in each mobility group.

Table 3 Persons who worked at some time in the year ending February 2002 by mobility highest qualification (%)

	Mobility (%)			
Highest qualification	Stayers	Movers	New entrants[a]	Total ('000)
Postgraduate	78.9	17.9	3.3	528.8
Bachelor degree	73.0	21.4	5.5	1 497.8
Adv. diploma or diploma	74.5	20.4	5.1	756.4
Certificate III or IV	76.3	19.7	4.1	1 611.5
Certificate I or II[b]	70.4	22.8	6.9	802.6
Level not determined	79.5	17.5	3.0	64.3
No post-school qualification	68.5	22.5	9.0	4 595.0
Total	71.7	21.4	6.9	9 856.4

(a) Includes re-entrants
(b) Includes certificate not determined

Occupation

Instead of showing the proportion of stayers, movers and new entrants in each occupational group, Table 4 shows the occupational profile within each mobility group. This is because the occupation for stayers and new entrants is that of their current job while that of movers it is that of the last job from which they separated. A relatively higher proportion of stayers are

in high skill occupations while higher proportions of new entrants are more move into low skill occupations. Low skill occupations provide an entry, often for a short period only, into the workforce for many new entrants. For example, 39 per cent of new entrants are in the two lowest occupational groups (both classified at skill level 5 by the ABS).

Table 4 Occupational profile of persons who worked at some time during the year ending February 2002 by mobility status

	Mobility			
Occupation[a]	Stayers (%)	Movers (%)	New entrants[a] (%)	Total (%)
Managers & administrators	8.4	5.0	1.2	7.2
Professionals	19.2	14.6	11.6	17.7
Associate professionals	12.2	9.9	8.2	11.5
Trades	13.8	10.6	9.8	12.8
Adv. clerical & service	4.7	3.5	2.1	4.3
Inter. clerical, sales & service	16.2	20.4	19.5	17.3
Inter. production & transport	8.6	9.3	8.8	8.7
Elem. clerical, sales & service	8.6	13.2	20.6	10.4
Labourers	8.3	13.5	18.1	10.1
Total	100.0	100.0	100.0	100

(a) Includes re-entrants
(b) For stayers and new entrants the occupation is that of their current job while for movers it is of their last job.

4.2 Movers: Job losers and job leavers

Movers can be distinguished on the basis of whether they lost or left the last job that they stopped working. On average, for every job loser there about two job leavers.

Gender and age

A somewhat higher proportion of males than females are job losers. As Table 5 shows, only amongst the oldest age group are there more job losers than job leavers. Even though job losers are not in the majority among 15-19 and 45-54 year-olds, they make up a relatively high proportion of movers in these age groups. This bi-polar pattern is interesting. The relatively high proportion of job losers among the 15-19 year-olds could be related to the very high proportion of casual jobs that young people generally hold. This however is unlikely to be reason why job losers make up such a high proportion of older movers. One possible reason for it could be to do be the problems of re-training older workers. Wooden et al. (2001) outline a range of barriers to training for older workers, but the important theme in all their discussion was that the limited time horizons, in terms of recouping investment costs, on the part of both employees and employers tends to shape attitudes and inhibit training participation by older workers. They also suggest that some older people have more difficulties learning new skills. Thus employers may find it cost effective to

lay off older workers than retrain them. Employers are also able to achieve a more flexible workforce by laying off older workers, who are often on ongoing work contracts, and hiring younger workers on casual or short-term contracts.

Table 5 Job losers and job leavers in the year ending February 2002 by age (%)

	Movers		
Age group	Job losers (%)	Job leavers (%)	Total ('000)
15-19	40.1	59.9	250.4
20-24	33.3	66.7	376.0
25-34	33.2	66.8	609.9
35-44	37.0	63.0	429.5
45-54	43.9	56.1	295.7
55 or over	56.1	43.9	151.0
Total	38.0	62.0	2 112.5

Qualification

Table 6 shows movers with higher education qualifications are relatively less likely to be job losers than job leavers. It is interesting to note that a certificate I or II holder has roughly the same chances of being a job loser as someone without any post-school qualifications.

Table 6 Job losers and job leavers in the year ending February 2002 by highest qualification (%)

	Movers		
Highest qualification	Job losers (%)	Job leavers (%)	Total ('000)
Postgraduate	30.7	69.3	94.6
Bachelor degree	29.5	70.5	320.7
Adv. diploma or diploma	34.3	65.7	154.4
Certificate III or IV	37.9	62.1	316.8
Certificate I or II[(a)]	40.4	59.6	183.0
Level not determined	36.7	63.3	11.3
No post-school qualification	41.4	58.6	1 031.7
Total	38.0	62.0	2 112.5

(a) Includes certificate not determined

Occupation

The proportion of movers who are job losers varies a lot more across occupations than it did across qualifications (see Table 7). The proportion of job losers from each occupation group varied from 56 per cent from labourers' occupations to 25 per cent from associate professionals. Interestingly, 38 per cent of certificate III or IV holders were job losers but 47 per cent from trades' occupations, many of whom would be expected to

hold certificate III or IV qualifications, were job losers. The occupations with some of the highest proportions of job losers—trades, intermediate production and transport and labourers—also happen to be heavily male-dominated occupations. The high level of job losses from trades' occupations is, however, counter intuitive with reported skill shortages in some of these occupations. In an efficiently functioning labour market, skill shortages would normally tend to drive up wages and workers with the appropriate skills would leave their current jobs for higher paying jobs and employers would offer incentives to workers to stay in their current jobs. One possible explanation for this apparently contradictory observation is that due to a shortage of skilled labour, lesser skilled workers are being hired thus increasing the numbers of poor job-worker matches. Another is that the shortages extend only to subsections of the trades areas.

Table 7 Job losers and job leavers in the year ending February 2002 by occupation of last job (%)

	Movers		
Occupation of last job	Job losers (%)	Job leavers (%)	Total ('000)
Managers & administrators	26.6	73.4	105.1
Professionals	33.2	66.8	308.1
Associate professionals	25.0	75.0	209.6
Trades	47.1	52.9	223.9
Adv. clerical & service	31.5	68.5	74.5
Inter. clerical, sales & service	33.4	66.6	430.1
Inter. production & transport	47.5	52.5	196.1
Elem. clerical, sales & service	34.0	66.0	279.8
Labourers	55.5	44.5	285.2
Total	38.0	62.0	2 112.5

Reason for job separation

Job losers and job leavers have different reasons for job separation and these reasons vary by gender. Table 8 shows that more than half of all male job losers were retrenched from their jobs. More females lost their jobs because the jobs were temporary or seasonal than as a result of being retrenched. The predominant reasons for leaving a job for both males and females are retirement, family reasons, better job etc.

Table 8 Reason for losing or leaving last job in the year ending February 2002 by sex (%)

Reason for job separation	Males	Females
Job losers		
Job temporary or seasonal (not returning to study)[(a)]	36.8	46.5
Own ill health or injury	10.2	13.2
Retrenched	53.0	40.2
Total	100.0	100.0
Job leavers		

Unsatisfactory work conditions	26.8	27.3
Holiday job (returned to study)	5.7	5.7
Retired, new business, better job, family, etc[(a)]	67.5	66.9
Total	100.0	100.0

(a) Includes other reasons or change of locality but not employer.

4.3 Movers: working, looking for work and not in labour the force

On separating from a job, a mover can be re-employed (job-to-job transition), be looking for work or leave the labour force. Just less than two out of every three movers were re-employed, over one in every five left the labour force and the rest ended up looking for work (see Table 9).

Age

Clearly those in the youngest and oldest age groups have relatively less likelihood of being re-employed. The proportions in the two age groups who end up looking for work or leave the labour force are however very different. For example, while 26 per cent of the youngest age group leave the labour force, the corresponding proportion who leaves from the oldest age group is 56 per cent.

Table 9 Destination of movers by age group (%)

	Movers			
Age group	Re-employed (%)	Looking for work (%)	Not in labour force (%)	Total ('000)
15-19	49.6	24.5	25.9	250.4
20-24	68.0	18.0	13.9	376.0
25-34	68.1	15.1	16.7	609.9
35-44	66.0	13.6	20.4	429.5
45-54	64.0	13.7	22.2	295.7
55 or over	32.1	12.0	55.8	151.0
Total	62.3	16.0	21.6	2 112.5

Qualification

Table 10 shows that, in general, workers with higher levels of qualifications are more likely to be re-employed after a job separation. Only just over half of all movers without post-qualifications are re-employed and a quarter of them leave the labour force. Bachelor degree and certificate III or IV holders have the smallest proportions leaving the labour force. Interestingly, certificate I or II holders who were earlier found to have roughly the same chances of being job losers as workers without post-school qualifications, are however much more likely to be re-employed.

Table 10 Destination of movers by highest qualification (%)

	Movers			
Highest qualification	Re-employed (%)	Looking for work (%)	Not in labour force (%)	Total ('000)
Postgraduate	70.3	9.5	20.2	94.5
Bachelor degree	73.2	10.2	16.6	320.7
Adv. diploma or diploma	67.8	11.1	21.1	154.4
Certificate III or IV	69.3	13.8	16.9	316.8
Certificate I or II[(a)]	64.9	16.1	19.0	183.0
Level not determined	67.2	12.0	20.8	11.3
No post-school qual.	54.8	19.9	25.4	1031.7
Total	62.3	16.0	21.6	2 112.5

(a) Includes certificate not determined

Occupation

The proportions of workers re-employed, looking for work and leaving the labour force vary significantly by the occupation of their last job (see Table 11). Not surprisingly, movers from higher skilled occupations are, in general, more likely to be re-employed. Less than half of all workers from labourers' occupations are re-employed after job separation, over a quarter leave the labour force and the rest look for work. From female-dominated occupations a relatively higher proportion of movers leave the labour force than end up looking for work. For example, from the female-dominated occupations of advanced and elementary clerical sales and service between 28 and 32 per cent leave the labour force but only between 7 and 20 per cent end up looking for work. Apart from managers and administrators, workers from associate professional occupations are most likely to be re-employed.

Table 11 Destination of movers by occupation in last job (%)

	Movers			
Occupation of last job	Re-employed (%)	Looking for work (%)	Not in labour force (%)	Total ('000)
Managers & administrators	76.2	9.8	14.0	105.1
Professionals	68.7	11.1	20.2	308.1
Associate professionals	72.2	9.7	18.1	209.6
Trades	65.1	17.4	17.5	223.9
Adv. clerical & service	60.9	6.8	32.3	74.5
Inter. clerical, sales & serv.	64.2	13.6	22.1	430.1
Inter. production & transp.	63.5	19.5	17.0	196.1
Elem. clerical, sales & serv.	52.9	19.7	27.5	279.8
Labourers	46.9	27.4	25.7	285.2
Total	62.3	16.0	21.6	2 112.5

Reason for job separation

Clearly job leavers are much more likely to be re-employed than job losers (see Table 12). They are also more than four times less likely to be looking for work. Gender differences in destination patterns between job leavers and job losers are substantial. While male and female job leavers are equally likely to be looking for work, males are less likely to leave the labour force. In contrast, amongst job losers males are much more likely to be looking for work and correspondingly less likely to leave the labour force than females. The difference in the proportion of males and females being re-employed is much larger for job leavers than it is for job losers.

Table 12 Destination of movers by reason for separating from last job (%)

	Movers			
	Re-employed (%)	Looking for work (%)	Not in labour force (%)	Total ('000)
Job leavers	*74.4*	*8.4*	*17.2*	*1310.7*
Male	80.5	8.5	11.0	649.0
Female	68.4	8.4	23.2	661.6
Job losers	*42.6*	*28.4*	*29.0*	*801.8*
Male	44.3	32.4	23.3	475.1
Female	40.2	22.6	37.2	326.7

4.4 Job-to-job mobility

Job-to-job mobility can take a number of forms as discussed in chapter 3. Here are concerned with occupational mobility as defined in that chapter. Major occupation groups are ordered from one to nine, with group 1 being managers and administrators and group 9 being labourers. From here on a job-to-job transition to a lower or higher occupational group will be along this continuum.

Of the 2.1 million movers over 1.3 million[17] made a job-to-job transition (or were re-employed). Table 13 shows that 56 per cent of them remained in the same occupation[18] of their last job.[19] One in every three job-to-job transition involved occupational change to a different major group, more than half of which were to higher major groups. At this aggregate level there are no significant differences between males and females Apart from the fact that 56 per cent of all job-to-job transitions are made by males,

[17] The total number of job-to-job transitions during the year will of course be more than this figure because only one transition per person is counted. Some individuals make more than one job-to-job transition during a year.

[18] The reference to same occupation means the same unit group as in ASCO. The available data do not allow distinction between occupations within the unit group.

[19] Although the data are not directly comparable, it is interesting to note that Meng, Junankar and Kapuscinski (2004) estimated that 50 per cent of job-to-job mobility in Australia in 1994 was between jobs at the same 'technological' level while the rest were divided equally between moving up and moving down this level.

there are no other significant differences in job-to-job transitions between the sexes.

Table 13 Job-to-job mobility by occupational destination and sex

	Males		Females		Persons	
Occupational destination	'000	%	'000	%	'000	%
Same unit group	415.8	56.7	317.4	54.3	733.2	55.7
Same sub-major group	31.0	4.2	44.5	7.6	75.5	5.7
Same major group	39.8	5.4	29.8	5.1	69.6	5.3
Lower major group	110.9	15.1	87.6	15.0	198.5	15.1
Higher major group	135.2	18.5	104.9	18.0	240.1	18.2
All	732.7	100.0	584.2	100.0	1 316.9	100.0

Table 14 shows that a worker's propensity not to change occupation when making a job-to-job transition increases with age but the propensity to move to a higher occupational group increases with age. While only one out of every three job-to-job transition made by 15-19 year-olds results in no change in occupation, the number that fall in this category for the oldest age group is two out of every three. On the other hand 34 per cent of the youngest age group move to a higher occupational group compared to 10 per cent of the oldest age group. For younger workers job shopping activity has a significant occupational matching component to it. Moreover many young people make the transition from casual jobs in low skill occupations in which they have been working while studying, to jobs in higher occupational groups for which they have studied and trained for.

Table 14 Occupational mobility by age group (%)

	Occupational destination (%)					
Age group	Same unit group	Same sub-major group	Same major group	Lower major group	Higher major group	Total ('000)
15-19	34.5	6.1	8.3	17.2	33.9	124.2
20-24	46.0	7.7	4.9	15.7	25.7	255.8
25-34	59.7	5.4	4.7	15.0	15.2	415.6
35-44	60.8	4.2	5.4	15.1	14.4	283.3
45-54	63.2	6.0	5.7	12.6	12.5	190.0
55 or over	67.1	5.0	1.6	16.5	9.8	47.9
Total	55.7	5.7	5.3	15.1	18.3	1 316.9

The occupational transitions by highest qualification are shown in Table 15. It shows that higher is the qualification a worker holds the more likely is he/she to remain in the same occupation as before. It is interesting to note that workers with lower level qualifications, particularly holders of certificate I or II, are more likely to make transitions to lower occupational groups.

Table 15 Occupational mobility by highest qualification (%)

	Occupational destination (%)					
Highest qualification	Same unit group	Same sub-major group	Same major group	Lower major group	Higher major group	Total ('000)
Postgraduate	70.5	4.3	5.2	9.0	11.0	66.5
Bachelor degree	64.7	4.5	3.1	10.2	17.5	234.8
Adv. diploma or diploma	61.3	3.5	4.2	14.5	16.4	104.7
Certificate III or IV	59.1	4.4	4.1	17.1	15.3	219.4
Certificate I or II[(a)]	46.4	8.7	5.3	20.3	19.3	118.7
Level not determined	53.0	15.4	0.0	11.7	19.9	7.6
No post-school qualification	49.8	6.6	6.9	16.1	20.6	565.1
Total	55.7	5.7	5.3	15.1	18.3	1 316.9

(a) Includes certificate not determined

Seventy-seven per cent of professionals remain in the same four-digit occupation post job-to-job transition (see Table 16). This is because the economic rewards to professions are relatively high and the training for most professions tends to be very occupation-specific and its transferability across occupations is then limited. For similar reasons, one would also expect similar low rate of movements to other occupations amongst associate professionals and tradespersons. This is however not the case as only 62 and 67 per cent from each of these occupational groups, respectively, remain in the same occupation, and more than one in every five from each group make a transition to a lower occupational group. Once again further research needs to be done to understand how apparent skill shortages in the trades can co-exist with such high mobility to lower occupational groups amongst tradespersons. Part of the explanation may lie in the wages paid to employees in the trades and the conditions of work. Labourers are the most occupationally mobile of all groups—33 per cent remain in the same occupation and 47 per cent make a transition to a higher major group.

Table 16 Occupational mobility by occupation of last job (%)

	Occupational destination (%)					
Occupation of last job	Same unit group	Same sub-major group	Same major group	Lower major group	Higher major group	Total ('000)
Managers & administrators	63.9	2.1	2.0	32.0	0.0	79.1
Professionals	77.0	5.0	3.5	10.4	4.1	212.7
Associate professionals	61.9	2.4	4.6	21.6	9.6	150.5
Trades	67.4	1.4	4.2	20.9	6.1	146.6
Adv. clerical & service	63.0	0.0	0.8	21.5	14.7	45.4
Inter. clerical, sales & service	49.6	9.0	6.1	16.4	18.8	259.6
Inter. production & transport	42.3	13.0	9.3	16.9	18.4	141.2
Elem. clerical, sales & serv.	44.4	3.7	1.3	8.0	42.7	146.3

Labourers	33.1	7.7	12.0	0.0	47.1	135.4
Total	55.7	5.7	5.3	15.1	18.3	1 316.9

Occupational mobility patterns by tenure in the last job are included in Table 17. The table indicates a clear difference in the mobility patterns of workers with less than 6 months tenure in the last job compared to those with 6 months or longer tenure. Longer tenure is associated with lesser occupational mobility.

Table 17 Occupational mobility by tenure in last job (%)

	Occupational destination (%)					
Tenure in last job	Same unit group	Same sub-major group	Same major group	Lower major group	Higher major group	Total[(a)] ('000)
1 month or less	51.0	6.7	8.1	13.4	20.8	144.7
Between 1 and 3 months	48.2	7.2	2.9	17.6	24.1	42.5
Between 3 and 6 months	49.6	6.3	7.3	14.8	21.9	217.3
Between 6 and 12 months	58.6	5.4	4.6	15.4	16.0	114.8
Between 1 and 2 years	56.8	5.3	3.8	15.8	18.4	271.0
2 years or more	59.1	5.4	4.7	15.0	15.8	523.5
Total	55.7	5.7	5.3	15.1	18.3	1 316.9

(a) Excludes a small number of workers for whom tenure in last job was not determined.

It has already been shown that most job-to-job transitions involve re-employment in the same four-digit occupation. In the professions and trades occupation, for example, specific skills are important and these are often not transferable. The data in Table 18 shows to what occupational groups are job-to-job transitions made.

The most significant inter-occupational transitions are:

- managers and administrators to professionals (10 per cent) and associate professionals (10 per cent);
- associate professionals to intermediate clerical, sales and services (10 per cent);
- advanced clerical services to intermediate clerical, sales and services (17 per cent);
- intermediate production and transport services to labourers (13 per cent);
- elementary clerical, sales and service to intermediate clerical, sales and service (21 per cent); and
- labourers to trades (10 per cent), intermediate production and transport (13 per cent) and elementary clerical, sales and service (11 per cent).

The high level of occupational-specific skills that are required in trades' occupations is highlighted by the high proportion of job-to-job transitions being within trades (73 per cent), but a large majority of the rest of the transitions from trades are to lower skilled occupations. There are however two major sources of labour into trades from other occupational groups,

namely from intermediate production and transport (8 per cent) and from labourers (10 per cent).

Table 18 Inter-occupational job-to-job transitions

	Occupation of current job (%)									
Occupation of last job	Managers & admin	Professionals	Associate professionals	Trades	Adv. clerical & service	Inter. clerical, sales & serv.	Inter. production & transp.	Elem. clerical, sales & serv.	Labourers	Total ('000)
Managers & administrators	68	10	10	2	1	3	3	1	1	80.1
Professionals	4	85	4	1	0	3	0	1	1	211.6
Associate professionals	2	7	69	3	2	10	1	5	1	151.4
Trades	1	2	3	73	1	3	7	3	7	145.7
Adv. clerical & service	2	4	8	1	64	17	1	2	1	45.4
Inter. clerical, sales & serv.	2	6	4	2	4	67	3	9	4	276.4
Inter. production & transp.	2	2	3	8	0	6	60	6	13	124.5
Elem. clerical, sales & serv.	0	6	5	4	2	21	5	50	8	147.9
Labourers	0	2	3	10	1	8	13	11	52	133.7
Total	6	18	12	11	4	20	9	10	9	1 316.8

5 Modelling results

The analyses presented in the previous chapter showed age, sex and qualification to be strongly associated with job separation and occupational mobility. The reason for job separation—job loser or job leaver—also strongly influences whether a person makes a job-to-job or job-to-non-employment transition. Not all associations are in the same direction though. The simple bivariate cross-tabulations, such as that of age and mobility, may lead to misleading conclusions if age is also correlated with other factors that are also associated with mobility.

To disentangle the relative importance of factors that may have an influence on mobility multivariate statistical models are usually estimated. Analyses with these models allow assessment of two things. First, it allows us to estimate the effects of individual variables while keeping all other measurable influences constant; something which is impossible to do with simple bivariate cross-tabulations. Second, it allows us to determine the level of uncertainty in the estimated effects. This is important because the data we are using to estimate the model are from a sample survey and thus subject to sampling errors.

The model for stayers and movers was estimated using binary logistic regression, while the occupational mobility model was estimated using multinomial logistic regression. The descriptions of the models are presented in Appendix 5. In this chapter we present and discuss the results from estimating these models.

The explanatory variables in each model are a selection from the lists in chapter 4 and include individual, educational and labour market variables. The 'country of birth' and 'period of arrival in Australia' variables are collapsed into 'year of arrival by country of birth' variable to avoid imprecise model estimates.[20] This new variable has the following categories now:

1. arrival after 1997 and born in a main English-speaking country (MESC);
2. arrival between 1988 and 1997 and born in a MESC;
3. arrival before 1988 and born in a MESC;
4. arrival after 1997 and born in other than a MESC;
5. arrival between 1988 and 1997 and born in other than a MESC;
6. arrival before 1988 and born in other than a MESC; and
7. born in Australia

The 'relationship in household' variable has been excluded from the model because of the high correlation between it and the marriage variable. Not excluding it would have once again resulted in imprecise estimates.

Instead of grouped age, single age[21] is used in the model. After some informal discussion with the ABS it was decided to merge the 'certificate not fully identified' qualification category with that of certificate I or II. Individuals whose educational attainment level could not be determined

[20] This condition is known as multicollinearity. It occurs when two variables are very closely related and provide very nearly the same information to the model.

[21] Square of age is also included to capture any non-linear effects of age.

were omitted from the analysis. Such persons were however very small in number.

Labour mobility behaviour of males and females is expected to be structurally distinct, as women are more likely to interrupt their labour force participation for reasons that include child rearing and looking after elderly relatives. Therefore separate models are estimated for males and females.

5.1 Job separations

5.1.1 Average marginal effects on job separation

The statistical modelling results are presented in Table 19.[22] The estimates indicate the average change in the probability of job separation for a person with a particular characteristic relative to the reference category, with all other variables remaining constant.[23]

Demographic effects

Age is a significant factor in the job separation decision of both men and women. The effects are almost identical. The combined effects of age and the square of age suggest a non-linear effect on the probability of separation—the average probability of job separation decreases at a decreasing rate with age. There are four main reasons for this. First, the chances of an employment mismatch are higher for young people who early in their careers experiment with a number of employers and jobs as they 'job shop' to find the most suitable match that utilises the skills they have to offer. Second, employers too evaluate the match between jobs and employees and if the employees are young the uncertainty in the match is likely to be higher because the information available on younger workers is less than on older workers. Third, many young people make transitions from temporary jobs held while studying to jobs in their chosen vocation on completion of qualifications. Finally, and not unrelated to the third reason, a larger proportion of the young are found in low skill jobs where turnover is high.

The migrant status of a person is significant for job separation but only if the person arrived in Australia after 1997. This result is consistent with findings elsewhere in the literature on the labour market experience of migrants which show that the first few years after arrival are unsettling times for migrants (Teicher, Shah and Griffin 2002). On average, the probability of job separation is 20 per cent higher for males who arrived after 1997 from main English-speaking countries than Australian-born workers, while for those born in non-MESC countries the probability is 13 per cent higher. Similar but slightly higher effects are also observed for females. A possible explanation of these results is that migrant workers who are not fluent in the English language are willing to hang on to a job, which may have been

[22] The logit estimates are included in Table A15 in Appendix 6.

[23] These are the average marginal effects of the explanatory variables on the probability of job separation. The calculation of these effects is explained in Appendix 4.

secured with difficulty in the first place, even if it does not match their current skills. They do this to devote more time to improving their English language skills. In other words, there is a preference for acquisition of language skills with its long-term returns over a highly uncertain new job search. Their need for stability in income and acquisition of work experience may also influence their reluctance to leave a job, especially if it means that some period of non-employment may ensue before another job is secured.

Marriage has a small but significant negative effect on the probability of job separation for both males and females. The magnitude of the effect is larger for females though.

Job separation behaviours of male and female residents of the two largest states—New South Wales and Victoria—are similar. Female residents of all other states and territories have, on average, significantly higher probabilities of job separation than female residents of New South Wales.

Both male and female residents of Queensland have higher chances of job separation than residents of New South Wales. The differences in the probabilities are 3 per cent for males and 6 per cent for females. One possible explanation for the difference could be the different industry-occupational structure of the workforce in the two states. For example, a higher proportion of workers in New South Wales are in higher skilled occupations (administrators, managers and professionals) while in Queensland a higher proportion are in the lower skilled occupations (elementary clerical, sales and service and labourers). As indicated in the cross tabulations in the previous section and will be seen in the statistical analysis below the chances of job separation are lower from higher skilled occupations.

Job separation probabilities are lower for females living in non-metropolitan than metropolitan areas but the magnitude of the difference is small.

Qualification effects

In general, qualifications are insignificant in explaining the variation in the probability of job separation for males; the only significant effect is a 2 per cent higher probability of job separation for bachelor degree holders compared to those without post-school qualifications. In contrast, qualifications have a significant effect on job separation for females. The probability of job separation is significantly higher for females with qualifications, and for most qualifications the average differential is 5-6 per cent. Education seems to increase females outside opportunities much more than it does for males and consequently females with qualifications have higher job separation rates.[24] This could also be an indication of the

[24] In a much simpler cross-tabular analysis of ABS *Labour Mobility* data for 1984, Stromback (1988) found both male and female qualifications holders had slightly lower chances of job separation than those who had no qualifications. It is however difficult to compare his results with those reported here for two reasons. First, the time periods for the data in the two studies are different. Second, and more importantly, Stromback does not control for other variables that could be associated with job separation and which are correlated with qualifications, and hence any conclusions drawn from his study could be misleading. The results are however consistent with those in Royalty (1998). She found the turnover behaviour of less educated women to be very different to that of more educated women but the latter's behaviour was not dissimilar to that of

different amounts of transferable or general skills in post-school education and training that is accessed by females compared to that accessed by males.

less educated men or more educated men. Blau and Kahn (1981) and Viscusi (1980) also find similar results to those obtained here.

Labour market effects

Both male and female employees are about 10 per cent more likely to experience job separation than non-employees. Not surprisingly, part-time work is highly significant in explaining job separation. A male part-time worker has on average 11 per cent higher probability of job separation than a full-time worker, but for a female the probability is only 4 per cent higher. Part-time work for men is more 'precarious' than for women. In 2001, the proportion of male part-time workers who were employed on a casual[25] basis was 64 per cent but the corresponding proportion for females was only 52 per cent (ABS 2001). For women part-time work is often a matter of choice to fit in with other uses of their time. In certain industries, such as health and community services and education where women predominate, part-time jobs can often be ongoing.

The occupational effects are all significant for both men and women. The average probability of job separation is lower from all occupations compared to labourers (the reference category). For example, it is 10 per cent lower for men from trades and by the same percentage for women from professional or advanced clerical and service occupations.

In contrast, not all estimates of industry effects are significant. This is probably because of higher heterogeneity of labour within any industry in terms of age, gender and qualifications profile than within any occupational group. The average probability of job separation for males is higher from industries such as utilities, construction, retail trade, accommodation, transport, property, business and communication than from culture, recreation and personal services (the reference category). Separation probabilities are lower for females from health and education than from the reference industry.[26]

[25] Self identified casual or employees without leave entitlements.

[26] Utilities, construction, property, business and communication effects are significant at 10 percent for females.

Table 19 Average change in the probability of job separation[c]

	Males		Females	
Explanatory variable	Estimate	Std. error[b]	Estimate	Std. error
Age	-0.0094**	0.0018	-0.0115**	0.0022
Age^2	0.0001**	0.0000	0.0001**	0.0000
Arrival after 1997 & MESC[a]	0.1971**	0.0354	0.2153**	0.0410
Arrival 1988-1997 & MESC	0.0215	0.0244	0.0053	0.0286
Arrival before 1988 & MESC	0.0235*	0.0132	0.0145	0.0155
Arrival after 1997 & non-MESC	0.1274**	0.0342	0.1352**	0.0405
Arrival 1988-1997 & non-MESC	0.0060	0.0180	-0.0139	0.0199
Arrival before 1988 & non-MESC	-0.0043	0.0122	-0.0149	0.0146
Born in Australia (ref)				
Not married	0.0136*	0.0084	0.0230**	0.0087
Married (ref)				
VIC	-0.0022	0.0090	0.0096	0.0098
QLD	0.0331**	0.0096	0.0569**	0.0107
SAU	-0.0025	0.0110	0.0226*	0.0124
WAU	0.0095	0.0108	0.0399*	0.0117
TAS, NTY, ACT	0.0118	0.0111	0.0393**	0.0133
NSW (ref)				
Non-metropolitan	-0.0017	0.0076	-0.0162*	0.0085
Metropolitan (ref)				
Postgraduate	0.0128	0.0173	0.0624**	0.0206
Bachelor degree	0.0215*	0.0127	0.0546**	0.0126
Adv. diploma or diploma	0.0004	0.0141	0.0497**	0.0139
Certificate III or IV	0.0133	0.0095	0.0589**	0.0150
Certificate I or II	0.0203	0.0143	0.0287**	0.0116
No post-school qualification (ref)				
Non-employee	-0.1067**	0.0082	-0.1050**	0.0127
Employee (ref)				
Part-time	0.1128**	0.0120	0.0388**	0.0079
Full-time (ref)				
Managers & administrators	-0.0980**	0.0168	-0.0818**	0.0252
Professionals	-0.0952**	0.0163	-0.1113**	0.0188
Associate professionals	-0.0929**	0.0153	-0.0634**	0.0189
Trades	-0.0907**	0.0139	-0.0822**	0.0270
Advanced clerical & service	-0.0634*	0.0382	-0.1066**	0.0189
Intermediate clerical, sales & service	-0.0562**	0.0155	-0.0329**	0.0156
Intermediate production & transport	-0.0393**	0.0146	-0.0564*	0.0285
Elementary clerical, sales & service	-0.0774**	0.0163	-0.0615**	0.0178
Labourers (ref)				

Table 19 Contd

	Males		Females	
Explanatory variable	Estimate	Std. error	Estimate	Std. error
Agriculture & mining	0.0249	0.0186	0.0264	0.0273
Manufacturing	-0.0139	0.0150	0.0314	0.0204
Utilities & construction	0.0322**	0.0155	-0.0520*	0.0269
Wholesale trade	0.0322*	0.0192	0.0030	0.0247
Retail trade & accommodation	0.0305**	0.0152	-0.0008	0.0156
Transport & storage	0.0373**	0.0187	-0.0006	0.0271
Property, business(d) & communication	0.0650**	0.0157	0.0294*	0.0171
Government admin. & defence	-0.0118	0.0189	-0.0270	0.0221
Education	0.0056	0.0208	-0.0384**	0.0184
Health & community services	-0.0061	0.0208	-0.0589**	0.0166
Culture, rec. & personal (ref)				
Sample size	17 457		14 718	
Per cent movers in sample	21.8		24.4	
Likelihood ratio	1409.0 (df = 40)		1061.6 (df = 40)	
Generalised R^2	0.0775		0.0696	
Maximum re-scales R^2	0.1191		0.1038	

* 90% bootstrap interval excludes zero.
** 95% bootstrap interval excludes zero.
(a) Includes the UK, Ireland, Canada, New Zealand, South Africa and USA
(b) Bootstrap standard errors based on 1000 replications.
(c) The estimates are the mean marginal effects of the explanatory variables and indicate the average change in the probability of job separation for a person with a particular characteristic relative to the reference characteristic, with all other characteristics remaining constant. The mean marginal effects on the probability of staying in the same job are simply the negative of the effects of job separation but the standard errors will be different.
(d) Includes finance and insurance.

5.1.2 Predicted probabilities of job separation

The previous section presented estimates of the effects of one variable holding the others constant. This section presents the predicted probabilities of job separation for a person with particular characteristics or in a particular form of job.[27]

Predictions by age and full-time/part-time status

The first thing we wanted to investigate was how the predicted probability of job separation changed by age for full-time males, part-time males, full-time females and part-time females. These predictions are plotted in Figure 2.

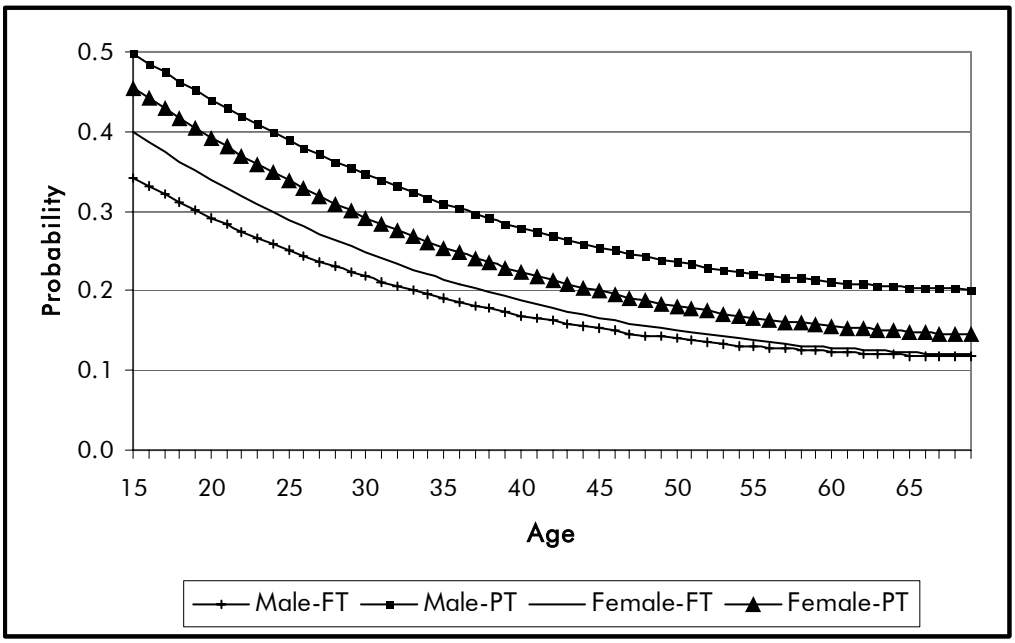
[27] The estimated coefficients from the binary logit model in Table A15 in Appendix 6 can be utilised to predict the probability of job separation for any individual with a given set of characteristics. The predictions are made using equation (1) in Appendix 5. For example, one can make a prediction of the probability of job separation for a male aged 25 years who worked part-time in a trade occupation in their last job, with all other variables set at their sample average.

At every age, male part-time workers have the highest chances of job separation, and if he 25 years of age or younger his chances of job separation are at least 0.4. A female part-time worker's chances of job separation are between 5 to 8 percentage points lower. Part of the explanation for this is clearly to do with higher rate of casualisation of male part-time work.

Full-time female workers, however, have higher chances of job separation than full-time males. The difference in the probability is higher at younger ages and gradually narrows with age to almost nothing for workers over the age of 60 years. The pattern is a little bit surprising because one would have expected the labour market behaviour of younger males and females to be more similar than depicted in the graphs, and the difference to be accentuated between the ages of 25 and40 years when the different life cycle work patterns of females to become prominent.

These patterns are consistent with the predictions from both the search and matching models with finite horizons in which increasing age implies a shorter remaining working life (and longer tenure in the same job) and diminishing returns from a job change. The patterns are also consistent with the fact that younger people, working part-time in casual jobs have high turnover rates.

Figure 2 Predicted probability of job separation by full-time/part-time status and age—males and females

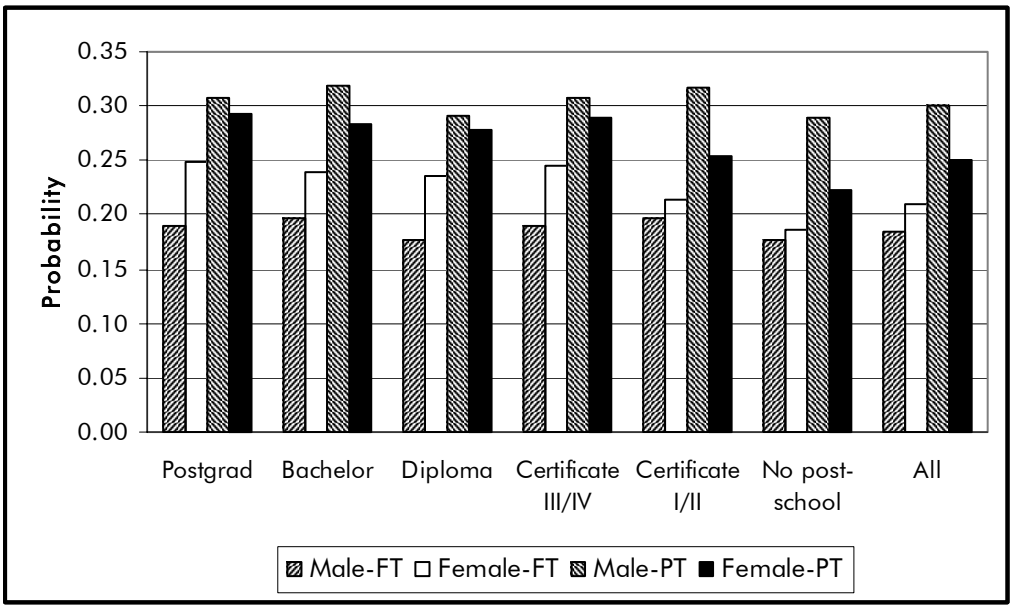


Predictions by qualifications

Figure 3 shows the probability of job separation for part-time male workers is predicted to be about 0.3 with little variation between those with and without qualifications. Similarly predictions of male full-time job separation vary little across qualifications though the average level is lower by about 10 percentage points. In contrast, the job separation probabilities for females with and without qualifications differ by at least 6 percentage

points for both full-time and part-time workers. These results are in a way not only an affirmation of the results reported in the previous section but they also indicate similar effects of qualifications when full-time and part-time workers are considered separately.

Figure 3 Predicted probability of job separation by qualification and full-time/part-time status in last job—males and females



Predictions by occupation of last job

Table 20 shows that the predicted probabilities of job separation can vary substantially across occupations, particularly for part-time male workers. The male/female differentials in the predictions are smaller for full-time than for part-time workers.

The predictions are to a certain extent a reflection of the proportion of short-term and casual jobs in each occupational group—lower skill level occupations have a proportion of short-term jobs. Hence, in general, the probability of job separation is higher from low skill occupations, for all groups except full-time females for whom the pattern is a little more complex. In particular, relatively high rate of job separation is predicted from managers and administrators' occupations for full-time females.

Table 20 Predicted probability of job separation by occupation group and full-time/part-time status in last job—males and females

	Full-time		Part-time	
Occupation of last job	Males	Females	Males	Females
Managers & administrators	0.16	0.20	0.27	0.23
Professionals	0.16	0.17	0.27	0.20
Associate professionals	0.17	0.21	0.27	0.25
Trades	0.17	0.19	0.28	0.23
Advanced clerical & service	0.19	0.17	0.31	0.21
Intermediate clerical, sales & service	0.20	0.24	0.32	0.29
Intermediate production & transport	0.22	0.22	0.35	0.26
Elementary clerical, sales & service	0.18	0.21	0.30	0.26
Labourers	0.26	0.28	0.40	0.32
All	0.18	0.21	0.30	0.25

Predictions by industry of last job

Table 21 shows the predicted probabilities of job separation by industry of last job. The industry for which the predictions stand out most is manufacturing. The probability of job separation is the lowest from this industry for both full-time and part-time males but it is the highest for females. This perhaps suggests a high level of segmentation of jobs by gender in manufacturing.

Relatively low rates of job separation are predicted from health, community services and education which employ large numbers of females. Some of the highest rates are from property, business and communication industries. The large numbers of short-term contract jobs in information technology and communication industry could be one reason for this.

Table 21 Predicted probability of job separation by industry and full-time/part-time status in last job—males and females

	Full-time		Part-time	
Industry of last job	Males	Females	Males	Females
Agriculture & mining	0.19	0.25	0.30	0.29
Manufacturing	0.15	0.25	0.25	0.30
Utilities & construction	0.19	0.17	0.31	0.21
Wholesale trade	0.19	0.22	0.31	0.27
Retail trade & accommodation	0.19	0.22	0.31	0.26
Transport & storage	0.20	0.22	0.32	0.26
Property, business[(a)] & communication	0.23	0.25	0.36	0.29
Government admin. & defence	0.15	0.19	0.25	0.23
Education	0.17	0.18	0.28	0.22
Health & community services	0.16	0.16	0.26	0.20
Culture, recreation & personal serv.	0.16	0.22	0.27	0.26
All	0.18	0.21	0.30	0.25

(a) Includes finance and insurance.

5.2 Occupational mobility

5.2.1 Average marginal effects on occupational mobility

The section presents results of modelling the movements of movers to various occupational and non-employment destinations.[28] The model considers 'staying in the same four-digit occupation' as the base or reference state. The effects[29] of the explanatory variables[30] on the probability of transition to each destination state are presented in Table 22 and 23.[31] The tables include a column for the base state—transition to the 'same occupation'—for purposes of comparison.[32]

Demographic effects

The effect of age on transition to another occupation and on transition to 'looking for work' is generally insignificant for both males and females. Age is however significant in explaining transitions out of the labour force.

[28] Relatively few people made transitions to another occupation in the same sub-major group, and therefore this destination is not distinguished from that of transition to another occupation in the same major group.

[29] As before these are mean marginal effects.

[30] The occupation variable is excluded because occupational mobility is defined using occupations and thus there is potential for endogeneity, but tenure in the last job and reason for separation from the last job are additional explanatory variables included in the model.

[31] The logit estimates of the model are included in Tables A16 and A17 in Appendix 6.

[32] The mean marginal effect for it can be obtained from estimates for the other categories since the sum of the mean marginal effects across all categories equals zero. The standard error for it, however, can not be computed from the standard errors for other states and are therefore calculated using bootstrapping.

Occupational mobility of migrants from main English-speaking countries is on the whole similar to that of Australian-born workers. Females who arrived prior to 1988 are an exception though. They are 4 per cent more likely to make transitions to lower occupational groups and 4 per cent less likely to make transitions to higher occupational groups than Australian-born females.

In contrast the occupational mobility of persons from non-MESC is significantly different from the Australian-born in a number respects. For example, while males from non-MESC are less likely to make transitions to an occupation in a higher major group and in some cases also to a lower major group, females are more likely to end up looking for work. Females from non-MESC who arrived after 1997 are 15 per cent more likely to leave the labour force.

Non-married men are 7 per cent less likely to remain in the same occupation but 6 per cent more likely to be looking for work compared to married men. Non-married women are also 7 per cent more likely to be looking for work than married women, but additionally they are more likely to have changed to an occupation in the same or lower major group. The 16 per cent higher probability of leaving the labour force for married women is an indication of the strong association of marriage with child rearing. Non-married women seem to have a stronger attachment with the labour force.

There are few state differences in occupational mobility. Two significant differences are, first, males are 6 per cent less likely to end up looking for work in Tasmania, the Northern Territory and the Australian Capital Territory than in New South Wales, and second, women in Victoria and Western Australia are more likely to end up looking for work than in New South Wales.

The regional variable is significant for both males and females, for example, non-metropolitan residents are 6-7 per cent less likely to remain in the same occupation. The closure of a significant business which employed a large number of workers is likely to have a more significant impact on the availability of jobs in particular occupations in a non-metropolitan than in a metropolitan area. This result has implications for regional training policy.

Educational effects

Qualifications are significant in explaining male and female occupational mobility. The results are particularly interesting for males for whom qualifications were insignificant in explaining job separations. In general, qualified persons are less likely to change occupation than unqualified persons. Moreover qualified males are significantly less likely to end up looking for work and while qualified females less likely to leave the labour force.

Although the effect of possessing only certificate I or II seems to be rather limiting for occupational mobility in some sense, holders of these certificates are however less likely to leave the labour force than those

without post-school qualifications. They are also less likely to end up looking for work.[33]

Labour market effects

Occupational mobility of employees and non-employees is, in general, similar with the following exceptions. Male non-employees have 5 per cent higher probability of leaving the labour force and female non-employees have 5 per cent lower probability of making a transition to a higher occupational group.

Part-time work has particularly large and significant effect on occupational mobility. Male part-time workers are 18 per cent less likely to remain in the same occupation; 9 per cent more likely to make a transition to a higher occupational group; 5 per cent less likely to end up looking for work; and 11 per cent more likely to leave the labour force. Female part-time workers are 14 per cent less likely to remain in the occupation; 5 percent more likely to make a transition to a higher occupational group; and 15 per cent more likely to leave the labour force. It is quite likely that interactions between age and full-time/part-time status are also significant. For example, many part-time workers between the ages of 20 and 24 years who are also studying are expected to make transitions to higher occupational groups on completing their courses.

The industry effects on occupational mobility are all relative to the culture, recreation and personal services industry (the reference category). A number of industry effects are significant for males and females. Males are less likely to make transitions to lower occupational groups from culture, recreation and personal services (the reference category) than from most other industries. In contrast females are more likely to make transitions to higher occupational groups from most industries compared to culture, recreation and personal services (the reference category). Females from retail trade and accommodation industries are also more likely to make transition to the non-employment states than females from the reference industry.

Tenure in the last job has a significant effect on male transitions to non-employment states. A male worker with tenure of 6 months or less in the last job has between 9 to 11 per cent higher probability of ending up looking for work than a worker with tenure of more than two years (reference category). As tenure increases beyond 6 months, the magnitude of the effect declines. On the other hand, males with short tenure—three months or less—are less likely to leave the labour force and also less likely to make transitions to a lower occupational group than males in the reference category. Females with tenure of two years or less have 6-12 per cent lower probability of leaving the labour force than females in the reference category. Unlike males though, females with shorter tenure—up

[33] It can be argued that because of this certificate I or II holders are likely to avoid skill atrophy which leads to loss of human capital and job loss 'recidivism' and 'scarring' which can result from cycling through periods of non-employment. Heckman and Borjas (1990) have argued that employers may use individual's joblessness prior as a screening mechanism to select out workers to be allocated to short-term jobs. An individual with low qualification level may avoid spells of unemployment but may not be able to escape from a cycle of short-term jobs without additional training though.

to 6 months—are more likely to remain in the same occupation after a job change.

Finally, the reason for separating from the last job has a highly significant effect on occupational mobility for both sexes.[34] Male job losers are 25 per cent less likely to stay in the same occupation; 7 per cent less likely to change to an occupation in a higher major group; 20 per cent more likely to end up looking for work; and 9 per cent more likely to leave the labour force than male job leavers. Female job losers are 21 per cent less likely to stay in the same occupation; 14 per cent more likely to end up looking for work; and 10 per cent more likely to leave the labour force.

[34] Meng, Junankar and Kapuscinski (2004) also find significant differences in the job-to-job mobility along the 'technology ladder' between job leavers and job losers.

Table 22 Average change in the probability of occupational transitions—males[c]

	Same occupation		Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Est.	Std. err.[b]	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.
Age	0.0211**	0.0041	0.0032	0.0022	0.0035	0.0029	0.0016	0.0029	-0.0032	0.0032	-0.0262**	0.0027
Age^2	-0.0003**	0.0001	-0.0001*	0.0000	-0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004**	0.0000
Arrival after 1997 & MESC[a]	-0.0703	0.0440	0.0675	0.0431	0.0065	0.0367	0.0534	0.0435	0.0038	0.0455	-0.0609	0.0379
Arrival 1988-1997 & MESC	-0.0266	0.0479	0.0540	0.0431	0.0352	0.0470	-0.0228	0.0415	-0.0159	0.0409	-0.0239	0.0417
Arrival prior 1988 & MESC	-0.0372	0.0296	0.0059	0.0174	0.0119	0.0226	0.0043	0.0239	0.0195	0.0278	-0.0045	0.0249
Arr. after 1997 & non-MESC	-0.0818	0.0500	0.0094	0.0305	0.0170	0.0386	-0.0536**	0.0268	0.0419	0.0484	0.0672	0.0531
Arr. 1988-97 & non-MESC	-0.0478	0.0397	0.0177	0.0261	-0.0614**	0.0192	-0.0029	0.0345	0.0520	0.0393	0.0423	0.0370
Arr. prior '88 & non-MESC	0.0063	0.0306	0.0077	0.0198	-0.0314*	0.0177	-0.0610**	0.0207	0.0516*	0.0297	0.0268	0.0258
Born in Australia (ref)												
Not married	-0.0745**	0.0178	-0.0011	0.0104	-0.0171	0.0131	0.0183	0.0133	0.0588**	0.0156	0.0156	0.0152
Married (ref)												
VIC	0.0183	0.0218	-0.0096	0.0126	0.0239	0.0155	0.0037	0.0156	-0.0244	0.0195	-0.0118	0.0179
QLD	0.0073	0.0221	-0.0011	0.0127	0.0039	0.0146	0.0021	0.0160	-0.0037	0.0190	-0.0084	0.0173
SAU	-0.0195	0.0273	0.0122	0.0164	0.0082	0.0178	-0.0042	0.0200	-0.0179	0.0245	0.0212	0.0234
WAU	0.0131	0.0247	-0.0057	0.0141	0.0119	0.0177	0.0017	0.0178	-0.0152	0.0207	-0.0058	0.0189
TAS, NTY, ACT	0.0342	0.0292	-0.0199	0.0139	0.0269	0.0194	0.0205	0.0210	-0.0636**	0.0209	0.0020	0.0208
NSW (ref)												
Non-metropolitan	-0.0655**	0.0177	0.0227**	0.0106	0.0073	0.0120	-0.0025	0.0128	0.0238*	0.0145	0.0141	0.0138
Metropolitan (ref)												

Table 22 Contd.

	Same occupation		Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.
Postgraduate	0.0702*	0.0414	0.0390	0.0348	-0.0040	0.0283	0.0176	0.0392	-0.1049**	0.0291	-0.0178	0.0369
Bachelor degree	0.1159**	0.0268	-0.0154	0.0145	-0.0025	0.0178	0.0307	0.0207	-0.1061**	0.0206	-0.0226	0.0223
Adv. diploma or diploma	0.0800**	0.0339	-0.0303	0.0175	-0.0045	0.0232	0.0423	0.0286	-0.0540*	0.0286	-0.0335	0.0268
Certificate III or IV	0.0733**	0.0198	-0.0215**	0.0102	0.0155	0.0145	0.0086	0.0148	-0.0638**	0.0151	-0.0121	0.0169
Certificate I or II	-0.0149	0.0314	-0.0133	0.0170	0.0740**	0.0266	0.0391	0.0245	-0.0140	0.0266	-0.0709**	0.0244
No post-school qual. (ref)												
Non-employee	0.0144	0.0297	-0.0159	0.0148	-0.0039	0.0217	-0.0106	0.0232	-0.0328	0.0245	0.0488**	0.0259
Employee (ref)												
Part-time	-0.1797**	0.0197	0.0256**	0.0123	-0.0033	0.0146	0.0938**	0.0164	-0.0429**	0.0150	0.1065**	0.0168
Full-time (ref)												
Agriculture & mining	0.0017	0.0452	-0.0136	0.0261	0.0251	0.0216	0.0372	0.0347	-0.0575	0.0381	0.0072	0.0345
Manufacturing	-0.0491	0.0378	-0.0107	0.0238	0.0831**	0.0203	0.0192	0.0275	-0.0215	0.0351	-0.0211	0.0293
Utilities & construction	0.0294	0.0401	-0.0133	0.0251	0.0503**	0.0191	-0.0008	0.0269	-0.0474	0.0365	-0.0182	0.0312
Wholesale trade	-0.0012	0.0440	-0.0182	0.0263	0.1103**	0.0274	0.0186	0.0330	-0.0884**	0.0389	-0.0210	0.0352
Retail & accommodation	-0.0380	0.0363	-0.0439**	0.0216	0.0887**	0.0189	0.0332	0.0247	-0.0423	0.0343	0.0024	0.0272
Transport & storage	-0.0499	0.0458	0.0241	0.0302	0.0749**	0.0247	0.0600*	0.0335	-0.0645	0.0402	-0.0446	0.0322
Prop., business[(d)] & comm.	0.0316	0.0357	-0.0328	0.0222	0.0523**	0.0174	0.0046	0.0254	-0.0289	0.0355	-0.0268	0.0287
Government & defence	-0.1097**	0.0477	0.0216	0.0371	0.0807**	0.0305	0.0226	0.0406	-0.0703	0.0486	0.0553*	0.0439
Education	-0.0753	0.0523	-0.0097	0.0339	0.0680**	0.0333	-0.0555*	0.0315	-0.0165	0.0555	0.0891	0.0504
Health & community services	0.1271**	0.0577	-0.0508**	0.0267	0.0746**	0.0336	-0.0883**	0.0265	-0.1021**	0.0465	0.0395	0.0465
Culture, rec. & personal (ref)												

Table 22 Contd.

	Same occupation		Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.
Last job tenure: <= 1 mths	-0.0058	0.0317	-0.0059	0.0166	-0.0451**	0.0198	-0.0158	0.0222	0.1096**	0.0270	-0.0370*	0.0228
Last job tenure: 2 to 3 mths	-0.0228*	0.0316	-0.0031	0.0165	-0.0407**	0.0187	-0.0097	0.0191	0.0908**	0.0262	-0.0145	0.0229
Last job tenure: 3 to 6 mths	-0.0321	0.0210	0.0037	0.0128	-0.0111	0.0167	0.0299	0.0181	0.0862**	0.0181	-0.0766**	0.0184
Last job tenure: 6 to 12 mths	0.0326	0.0297	-0.0010	0.0174	-0.0165	0.0191	-0.0167	0.0202	0.0404	0.0246	-0.0389	0.0252
Last job tenure: 1 to 2 yrs	0.0243	0.0212	-0.0079	0.0119	-0.0039	0.0161	0.0096	0.0160	0.0450**	0.0186	-0.0671**	0.0184
Last job tenure: >2 yrs (ref)												
Job loser	-0.2455**	0.0160	-0.0017	0.0092	0.0202*	0.0120	-0.0661**	0.0118	0.2029**	0.0141	0.0901**	0.0127
Job leaver (ref)												
Sample size (n = 3770)	1374		233		379		457		693		634	
Per cent in sample	36.4		6.2		10.1		12.1		18.4		16.8	
Likelihood ratio (df = 190)	1775.1											
Generalised R^2	0.3755											
Maximum re-scaled R^2	0.3904											

* 90% bootstrap interval excludes zero.
** 95% bootstrap interval excludes zero.
(a) Includes the UK, Ireland, Canada, New Zealand, South Africa and USA
(b) Bootstrap standard errors based on approximately 800 replications.
(c) The estimates are the mean marginal effects of the explanatory variables and indicate the average change in the probability of job separation for a person with a particular characteristic relative to the reference characteristic, with all other characteristics remaining constant. The mean marginal effects on the probability of staying in the same job are simply the negative of the effects of job separation but the standard errors will be different.
(d) Includes finance and insurance.

Table 23 Average change in the probability of occupational transitions—females[c]

	Same occupation		Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Est.	Std. err.[b]	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.
Age	0.0153**	0.0045	0.0009	0.0025	0.0032	0.0028	0.0007	0.0030	0.0031	0.0030	-0.0233**	0.0066
Age^2	-0.0002	0.0001	0.0000	0.0000	-0.0001	0.0000	0.0000	0.0000	-0.0001	0.0000	0.0003**	0.0001
Arrival after 1997 & MESC[a]	-0.0016	0.0551	0.0744**	0.0488	0.0104	0.0413	-0.0041	0.0397	-0.0116	0.0456	-0.0676	0.0955
Arrival 1988-1997 & MESC	0.0602	0.0654	-0.0617	0.0144	-0.0115	0.0328	0.0066	0.0438	-0.0278	0.0479	0.0342	0.0985
Arrival prior 1988 & MESC	-0.0090	0.0344	-0.0047	0.0204	0.0429*	0.0253	-0.0428*	0.0213	-0.0101	0.0247	0.0236	0.0558
Arr. after 1997 & non-MESC	-0.1161**	0.0476	-0.0227	0.0316	-0.0059	0.0402	-0.0244	0.0375	0.0213	0.0483	0.1478**	0.1145
Arr. 1988-97 & non-MESC	-0.0176	0.0452	-0.0069	0.0270	-0.0203	0.0248	-0.0149	0.0279	0.0749**	0.0340	-0.0151	0.0787
Arr. prior '88 & non-MESC	-0.0322	0.0322	-0.0065	0.0207	0.0146	0.0234	-0.0343	0.0220	0.0525**	0.0289	0.0058	0.0555
Born in Australia (ref)												
Not married	0.0245	0.0169	0.0285**	0.0103	0.0230**	0.0107	0.0167	0.0121	0.0685**	0.0131	-0.1611**	0.0312
Married (ref)												
VIC	-0.0026	0.0228	-0.0045	0.0140	0.0161	0.0159	-0.0052	0.0160	0.0377**	0.0176	-0.0414*	0.0406
QLD	0.0192	0.0238	-0.0123	0.0142	-0.0043	0.0143	0.0039	0.0163	0.0277*	0.0171	-0.0342	0.0407
SAU	-0.0353	0.0281	0.0074	0.0178	0.0267	0.0199	-0.0038	0.0193	-0.0048	0.0207	0.0098	0.0516
WAU	-0.0104	0.0256	-0.0100	0.0155	0.0042	0.0170	-0.0053	0.0177	0.0388**	0.0191	-0.0174	0.0443
TAS, NTY, ACT	0.0165	0.0284	-0.0055	0.0178	-0.0080	0.0173	0.0121	0.0203	-0.0035	0.0189	-0.0115	0.0485
NSW (ref)												
Non-metropolitan	-0.0586**	0.0187	0.0054	0.0106	0.0201*	0.0125	0.0136	0.0130	0.0226	0.0140	-0.0032	0.0306
Metropolitan (ref)												

Table 23 Contd.

	Same occupation		Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.
Postgraduate	0.1639**	0.0433	-0.0484**	0.0154	-0.0403*	0.0199	0.0656*	0.0385	-0.0128	0.0317	-0.1279**	0.0702
Bachelor degree	0.0941**	0.0236	-0.0222*	0.0121	-0.0244*	0.0131	0.0870**	0.0195	-0.0185	0.0176	-0.1159**	0.0431
Adv. diploma or diploma	0.0854**	0.0307	-0.0164	0.0160	0.0180	0.0210	0.0240	0.0201	-0.0305	0.0199	-0.0805**	0.0531
Certificate III or IV	0.0033	0.0299	0.0060	0.0197	0.0441**	0.0223	0.0287	0.0207	0.0032	0.0228	-0.0852**	0.0447
Certificate I or II	0.0210	0.0249	0.0322*	0.0188	0.0204	0.0180	0.0180	0.0171	-0.0270	0.0180	-0.0646**	0.0480
No post-school qual. (ref)												
Non-employee	0.0121	0.0366	-0.0420	0.0172	0.0355	0.0306	-0.0454**	0.0204	0.0123	0.0303	0.0276	0.0637
Employee (ref)												
Part-time	-0.1401**	0.0160	-0.0122	0.0099	-0.0090	0.0117	0.0289**	0.0117	-0.0222*	0.0126	0.1547**	0.0331
Full-time (ref)												
Agriculture & mining	-0.0381	0.0558	-0.0063	0.0343	-0.0140	0.0356	0.0870**	0.0411	0.0133	0.0340	-0.0419	0.0855
Manufacturing	-0.1382**	0.0392	-0.0220	0.0275	-0.0024	0.0245	0.0794**	0.0271	0.0255	0.0281	0.0578	0.0702
Utilities & construction	0.0495	0.0735	-0.0230	0.0358	-0.0166	0.0408	0.0231	0.0420	0.0432	0.0473	-0.0761	0.0878
Wholesale trade	-0.0973*	0.0517	0.0144	0.0360	-0.0409	0.0282	0.0787**	0.0382	0.0603	0.0419	-0.0154	0.0877
Retail & accommodation	-0.0654**	0.0340	-0.0274	0.0222	-0.0063	0.0209	0.1070**	0.0187	0.0687**	0.0222	-0.0766**	0.0595
Transport & storage	-0.0734	0.0541	0.0322	0.0410	0.0491	0.0406	0.0948**	0.0417	-0.0009	0.0357	-0.1018*	0.0824
Prop., business[d] & comm.	-0.0241	0.0345	-0.0165	0.0228	0.0168	0.0225	0.0278	0.0177	0.0296	0.0224	-0.0336	0.0621
Government & defence	-0.1036**	0.0465	0.0296	0.0366	0.0290	0.0362	0.0457*	0.0294	-0.0185*	0.0286	0.0179	0.0917
Education	-0.1003**	0.0388	-0.0016	0.0282	0.0070	0.0299	-0.0287**	0.0158	0.0585	0.0302	0.0652	0.0915
Health & community services	0.0182	0.0366	-0.0194	0.0234	-0.0216	0.0229	0.0191	0.0180	0.0140	0.0250	-0.0104	0.0832
Culture, rec. & personal (ref)												

Table 23 Contd.

	Same occupation		Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.
Last job tenure: <= 1 mths	0.0861**	0.0338	0.0015	0.0183	-0.0003	0.0208	-0.0394**	0.0182	0.0082	0.0212	-0.0562*	0.0518
Last job tenure: 2 to 3 mths	0.0607*	0.0300	0.0103	0.0181	-0.0019	0.0174	0.0151	0.0209	0.0322	0.0211	-0.1164**	0.0486
Last job tenure: 3 to 6 mths	0.0766**	0.0242	0.0183	0.0141	-0.0106	0.0139	-0.0160	0.0150	0.0489*	0.0183	-0.1172**	0.0405
Last job tenure: 6 to 12 mths	0.0423	0.0307	-0.0109	0.0156	0.0152	0.0192	-0.0148	0.0203	0.0477*	0.0241	-0.0795**	0.0538
Last job tenure: 1 to 2 yrs	0.0348	0.0211	-0.0089	0.0127	0.0229	0.0155	0.0017	0.0164	0.0082	0.0166	-0.0587**	0.0408
Last job tenure: >2 yrs (ref)												
Job loser	-0.2100**	0.0167	-0.0222**	0.0100	-0.0028	0.0119	-0.0117	0.0122	0.1418**	0.0149	0.1049**	0.0298
Job leaver (ref)												
Sample size (n = 3770)	1134		264		313		377		468		995	
Per cent in sample	31.9		7.4		8.8		10.6		13.2		28.0	
Likelihood ratio (df = 190)	1195.8											
Generalised R^2	0.2859											
Maximum re-scaled R^2	0.2972											

* 90% bootstrap interval excludes zero.
** 95% bootstrap interval excludes zero.
(a) Includes the UK, Ireland, Canada, New Zealand, South Africa and USA
(b) Bootstrap standard errors based on 800 replications.
(c) The estimates are the mean marginal effects of the explanatory variables and indicate the average change in the probability of job separation for a person with a particular characteristic relative to the reference characteristic, with all other characteristics remaining constant. The mean marginal effects on the probability of staying in the same job are simply the negative of the effects of job separation but the standard errors will be different.
(d) Includes finance and insurance.

5.2.2 Predicted probabilities of occupational mobility

This section presents the predicted probabilities of transition to each occupational destination for a mover with specific characteristics or in a particular form of job. The predictions are made using equations (6) and (7) in Appendix 5.

Predictions by full-time/part-time status and reason for job separation

The analysis in the previous section showed that the reason for job separation and the full-time/part-time status were highly significant variables for explaining occupational mobility for both men and women. The predicted probabilities for different groups of individuals characterised by these two variables are given in Table 24.

The probability of remaining in the same occupation varies substantially across the groups. The combination of being part-time and losing one's job substantially reduces the chances of re-employment in the same occupation and increases the chances of non-employment for both males and females. For example, there is 44 percentage points drop in the chances of re-employment in the same occupation for a part-time male job loser compared to a full-time male job leaver. The main difference in the predicted probabilities of remaining in the same occupation between males and females is amongst full-time job leavers—males are 8 percentage points more likely to remain in the same occupation.

The predictions of transition to non-employment states also vary substantial across different groups. The chances of not being employed are over 50 per cent for all groups—for part-time female job losers the chances are as high as 65 per cent. Full-time male job losers are more likely to end up looking for work than leave the labour force, but females are equally likely to move to these two non-employment states. On the other hand, both male and female part-time job losers are more likely to leave the labour force than be looking for work, with females more so than males.

The overall probability of inter-occupational mobility[35] is higher for males than females; however significant differences are only amongst part-time workers. The difference in the probability of an inter-occupational transition between a male and female part-time job leaver is 15 percentage points higher for males; and it is 8 percentage points for part-time job losers. Male part-time job leavers have a relatively high probability of transition to a higher occupational group.

[35] Summed over the three destinations that involve a change in occupation.

Table 24 Predicted probabilities of occupational mobility who separated from a job by full-time/part-time status and reason for separating from last job—males and females

	Occupational destination					
Sex	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
Male						
Full-time job leaver	0.56	0.06	0.10	0.12	0.09	0.08
Full-time job loser	0.25	0.06	0.12	0.07	0.33	0.17
Part-time job leaver	0.31	0.09	0.10	0.25	0.08	0.17
Part-time job loser	0.12	0.08	0.10	0.13	0.25	0.32
Female						
Full-time job leaver	0.48	0.09	0.10	0.09	0.08	0.16
Full-time job loser	0.23	0.07	0.10	0.08	0.26	0.26
Part-time job leaver	0.31	0.08	0.09	0.12	0.08	0.32
Part-time job loser	0.12	0.05	0.08	0.10	0.20	0.45

Predictions by age—males

Figures 4-9 show the variation in predicted probability of transition to different destination states by age for males. Each figure has a separate graph for the four groups: full-time job leavers, full-time job losers, part-time job leavers and part-time job losers.

The graphs of age-related probabilities of job-to-job transitions can be considered to have generally the same shape for all groups (see Figures 4-7). The positions of the graphs do however shift around. The probability increases at a decreasing rate until a certain age before declining at an increasing rate—inverted 'U-shape'. The age at which the maximum probability of transition is predicted varies for each group of males. For example, 43 year-old job leavers from part-time work have the highest probability (0.62) of remaining in the same occupation; and 22 year-old job leavers from part-time work have the highest probability (0.28) of moving to a higher occupational group. A noteworthy result, obtained by adding the probabilities from Figures 4 to 7, is that a 60-year-old job leaver from full-time work has 0.48 probability of re-employment.

The probability of looking for work varies little from a constant value until the age of about 50 years, although the level is generally different for each group of males (see Figure 8). At all ages job losers, particularly from full-time work, are more likely to be looking for work than job leavers. There is a sharp decline in the predicted probability for job losers over the age of 50 years. As the graphs in Figure 9 show there is a corresponding sharp increase in the probability of leaving the labour force for this age group. This suggests that men over the age of 50 years who lose their jobs are at high risk of leaving the labour force.

The graphs of the age-related probabilities of leaving the labour force are 'U-shaped', a mirror image of those for job-to-job transitions (see Figure 9). For each group of males, 35 years is the age when they are least likely to leave the labour force (see Figure 9). The relatively high probability of

leaving the labour force for 15-19 year-olds is because many in this age group are still in full-time education and dependents of their parents and thus less likely to be actively looking for work.

Figure 4 Predicted probability of remaining in the same occupation after job separation by age, full-time/part-time status and reason for ceasing last job—males

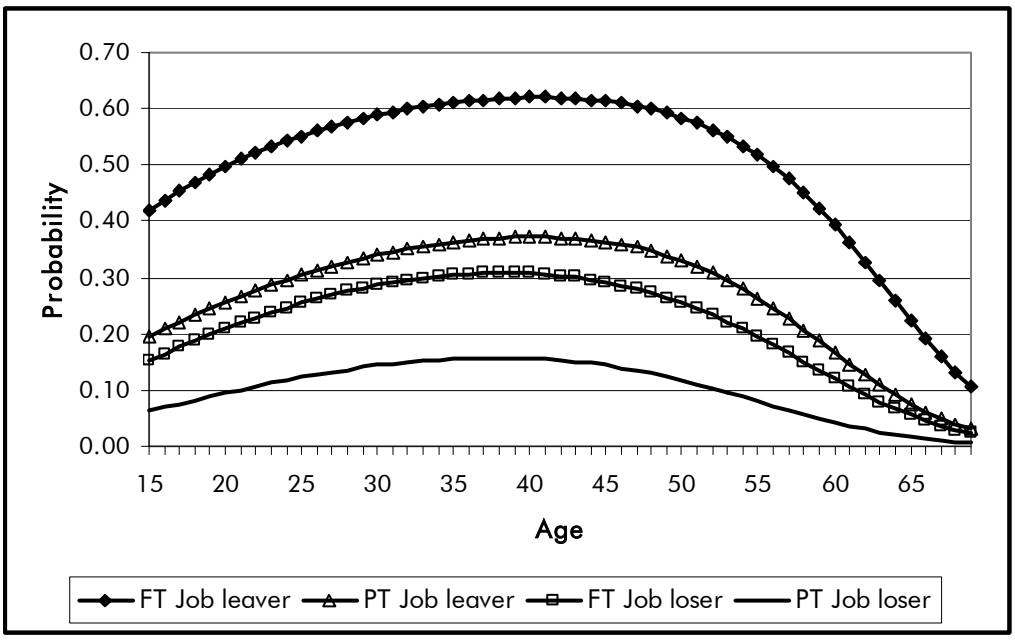


Figure 5 Predicted probability of moving to another occupation in the same major group after job separation by age, full-time/part-time status and reason for ceasing last job—males

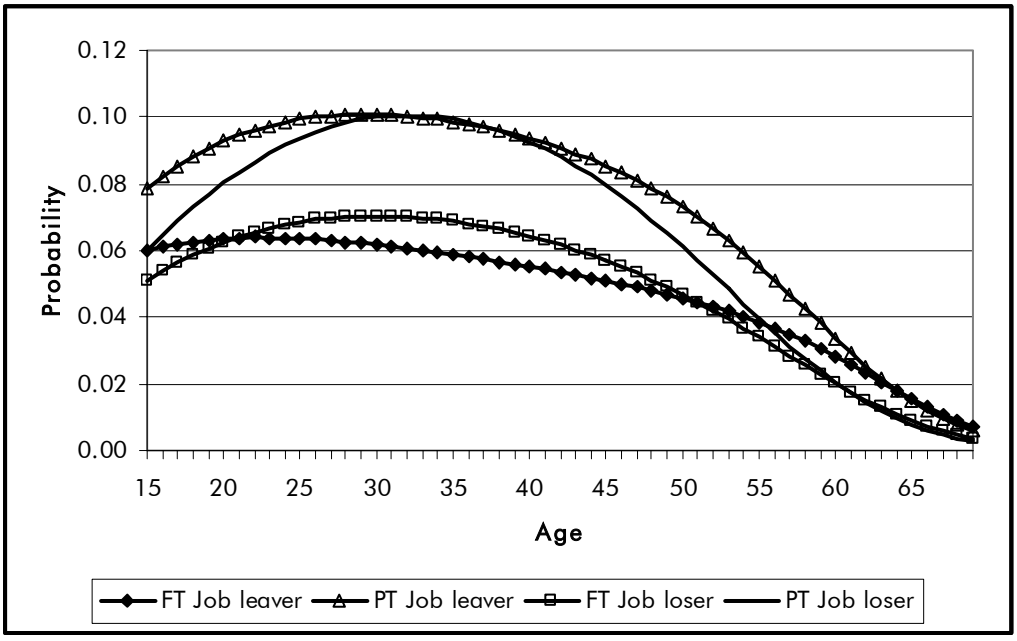


Figure 6 Predicted probability of moving to a lower occupational group after job separation by age, full-time/part-time status and reason for ceasing last job—males

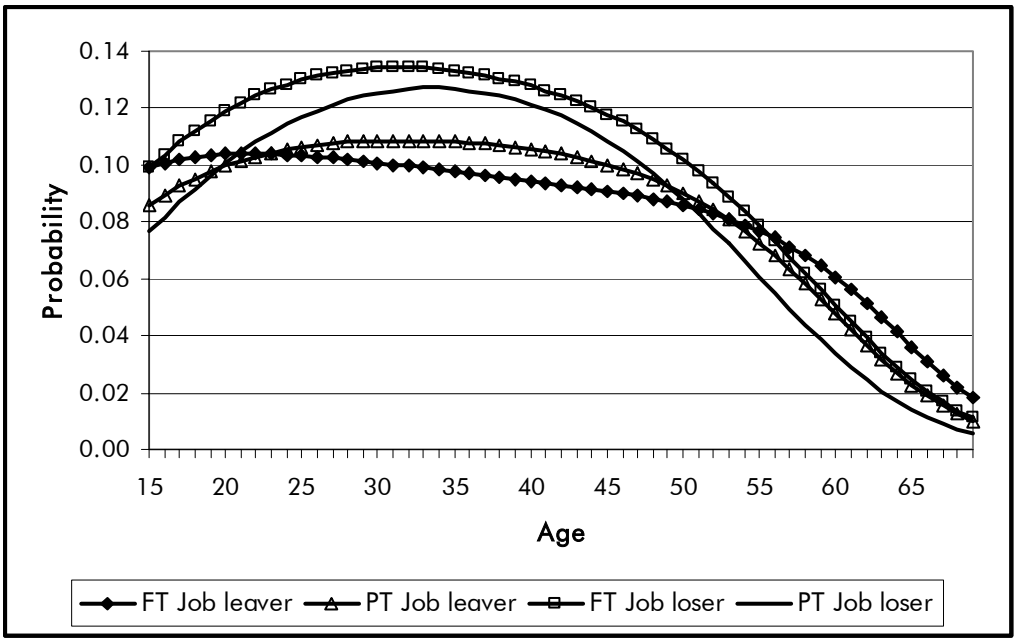


Figure 7 Predicted probability of moving to a higher occupational group after job separation by age, full-time/part-time status and reason for ceasing last job—males

Figure 8 Predicted probability of looking for work after job separation by age, full-time/part-time status and reason for ceasing last job—males

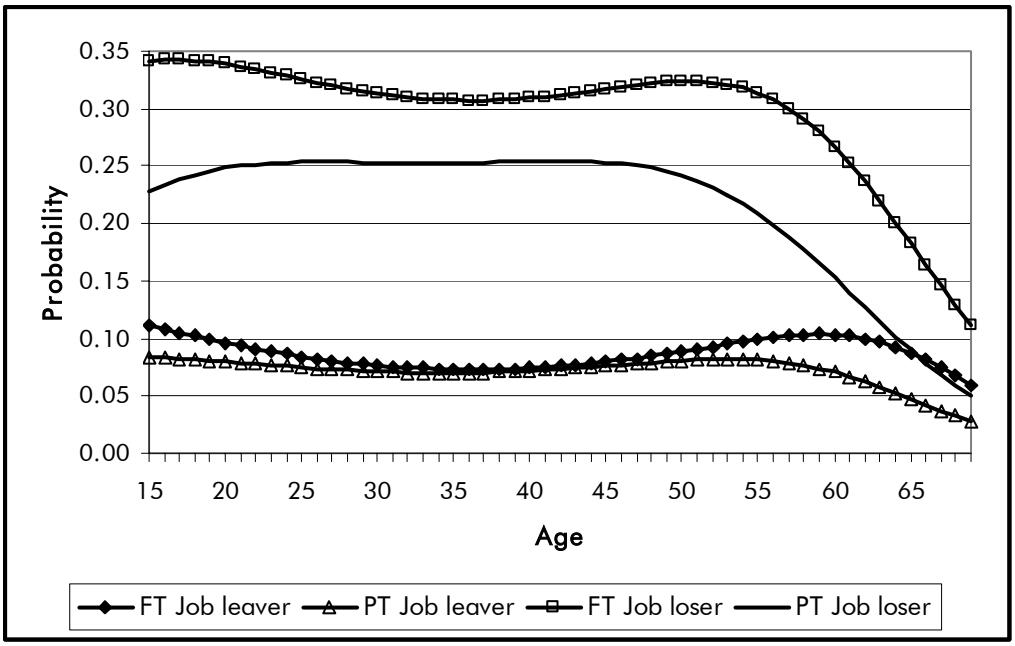


Figure 9 Predicted probability of leaving the labour force after job separation by age, full-time/part-time status and reason for ceasing last job—males

Predictions by age—females

Figures 10-15 show the age-related predicted probabilities to different destination states for female movers. In general, the graphs are similar to those for males discussed above, except for those relating to looking for work (compare Figure 8 and Figure 14). The ages at which the maximum probability of transition is predicted are however different for females. For example, female job leavers are most likely to make a job-to-job transition to the same occupation at the age of 47 years compared to 40 years of age for males. Furthermore, the total probability of re-employment for a male job leaver is 0.48 compared to 0.60 for a similarly aged female.

Unlike males, female full-time and part-time job leavers have similar graphs for the probability of looking for work by age (see Figure 14). Finally, full-time job losers risk of being in a state of looking for work is highest at 27 years of age but for part-time job losers the risk is highest at age 32.

Figure 10 Predicted probability of remaining in the same occupation after job separation by age, full-time/part-time status and reason for ceasing last job—females

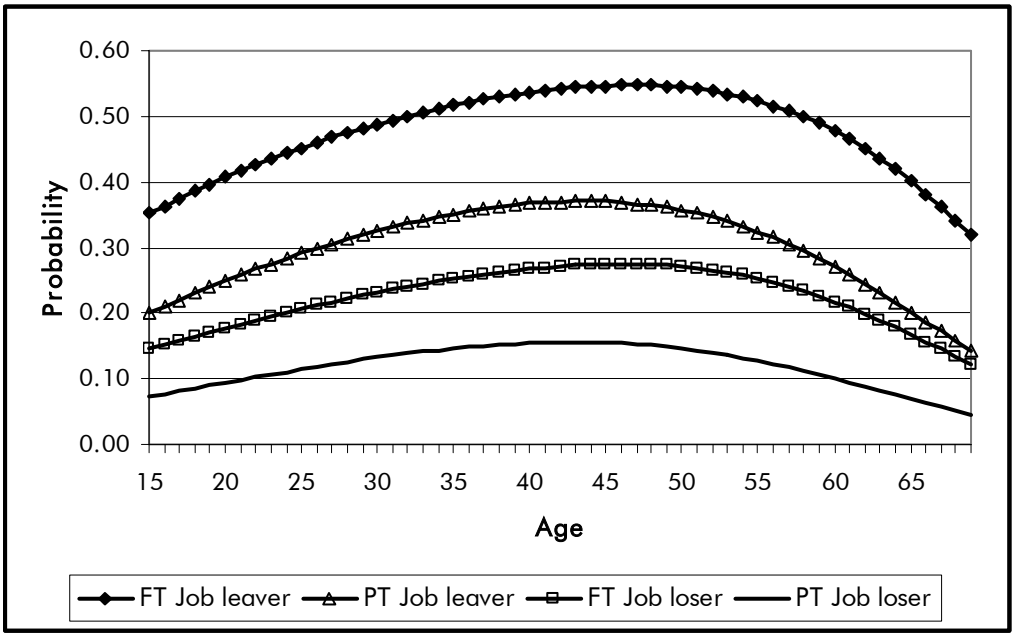


Figure 11 Predicted probability of moving to another occupation in the same major group after job separation by age, full-time/part-time status and reason for ceasing last job—females

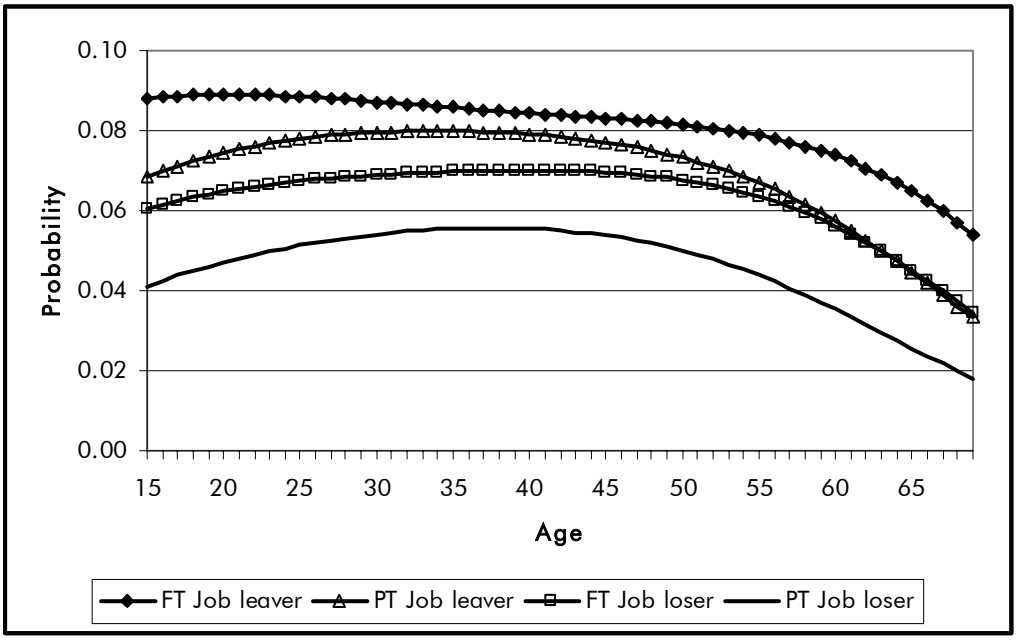


Figure 12 Predicted probability of moving to a lower occupational group after job separation by age, full-time/part-time status and reason for ceasing last job—females

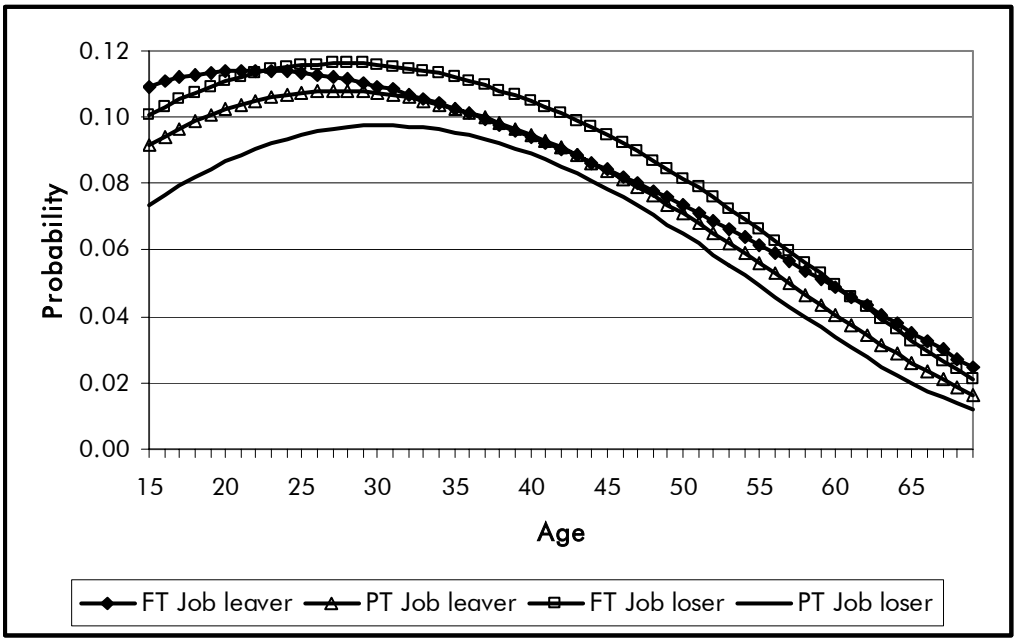


Figure 13 Predicted probability of moving to a higher occupational group after job separation by age, full-time/part-time status and reason for ceasing last job—females

Figure 14 Predicted probability of looking for work after job separation by age, full-time/part-time status and reason for ceasing last job—females

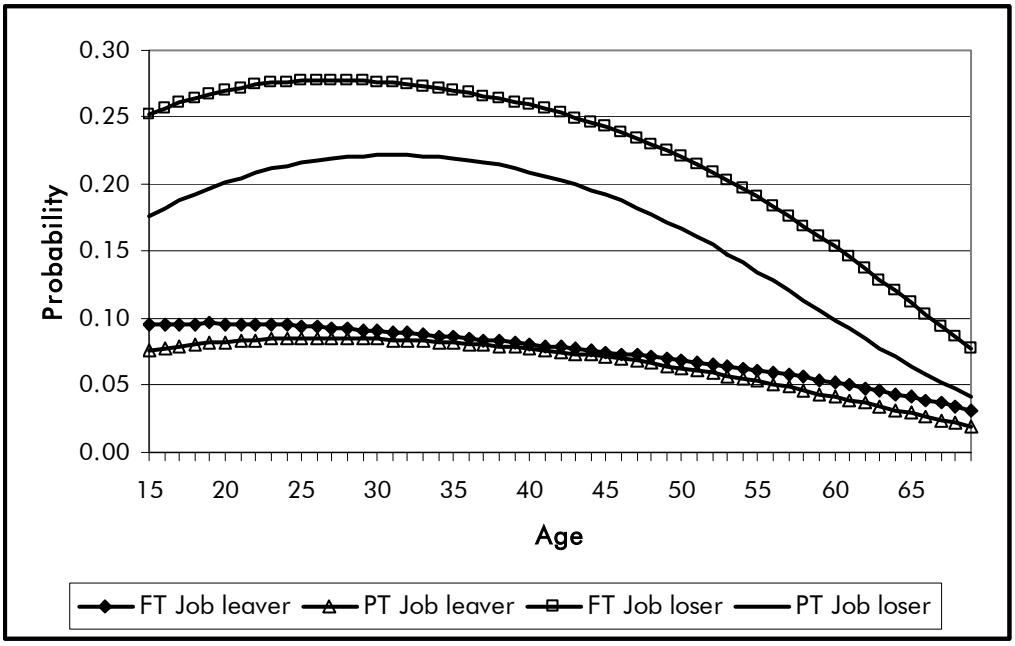


Figure 15 Predicted probability of leaving the labour force after job separation by age, full-time/part-time status and reason for ceasing last job—females

Predictions by qualifications—males

Table 25 shows the predicted probabilities of transitions to different destinations for males by qualification. It shows considerable differences in the probabilities for different groups with the same qualification. For example, a full-time job leaver with a bachelor's degree has 90 per cent chances of being re-employed[36] compared to 53 per cent chances if he was a part-time job loser.

In terms of simply the aggregate probabilities of re-employment and non-employment the differences between postgraduate and bachelor degree holders are minimal. At the disaggregated level however transition to another occupation in the same major group is a little more likely for postgraduate degree holders while remaining in the same occupation is a little more likely for bachelor degree holders than holders of other qualifications.

Only small differences exist in the corresponding transition probabilities for diploma and certificate III or IV holders, except for two instances. First, among part-time job leavers diploma holders have 6 percentage points higher probability of transition to a higher occupational group; and second among part-time job losers they have 5 percentage points lower probability of leaving the labour force.

In some respects the predictions for certificate I or II holders and those without qualifications are similar. The overall re-employment chances for former are however higher—72 per cent compared to 62 per cent. The

[36] Includes transitions to the four employment destinations.

certificate holders are predicted to have correspondingly smaller chances of leaving the labour force.

Inter-occupational mobility[37] is predicted to be much higher for bachelor degree and certificate I or II holders. This suggests that a higher proportion of transferable skills may be acquired through these qualifications than other qualifications. For holders of diplomas and certificate III or IV holders, inter-occupational mobility is predicted to be the lowest.

Table 25 Predicted probabilities of occupational mobility after job separation by qualification, full-time/part-time status and reason for ceasing last job—males

	Occupational destination					
Qualification	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
Postgraduate	*0.42*	*0.12*	*0.10*	*0.13*	*0.10*	*0.13*
Full-time job leaver	0.59	0.09	0.08	0.12	0.05	0.07
Full-time job loser	0.31	0.11	0.12	0.08	0.21	0.17
Part-time job leaver	0.33	0.15	0.08	0.24	0.04	0.15
Part-time job loser	0.14	0.15	0.10	0.14	0.16	0.31
Bachelor	*0.48*	*0.06*	*0.10*	*0.14*	*0.09*	*0.12*
Full-time job leaver	0.65	0.04	0.08	0.12	0.04	0.06
Full-time job loser	0.36	0.06	0.12	0.09	0.21	0.17
Part-time job leaver	0.38	0.07	0.09	0.27	0.04	0.14
Part-time job loser	0.17	0.08	0.11	0.17	0.16	0.31
Diploma	*0.43*	*0.05*	*0.10*	*0.16*	*0.15*	*0.12*
Full-time job leaver	0.61	0.03	0.08	0.14	0.07	0.06
Full-time job loser	0.30	0.04	0.11	0.09	0.30	0.15
Part-time job leaver	0.35	0.06	0.09	0.30	0.07	0.14
Part-time job loser	0.15	0.06	0.10	0.17	0.24	0.28
Certificate III or IV	*0.42*	*0.06*	*0.12*	*0.12*	*0.14*	*0.14*
Full-time job leaver	0.60	0.04	0.10	0.11	0.07	0.08
Full-time job loser	0.29	0.05	0.13	0.07	0.28	0.17
Part-time job leaver	0.35	0.07	0.11	0.24	0.06	0.17
Part-time job loser	0.14	0.07	0.12	0.13	0.22	0.33
Certificate I or II	*0.32*	*0.06*	*0.19*	*0.15*	*0.19*	*0.09*
Full-time job leaver	0.48	0.05	0.17	0.15	0.10	0.05
Full-time job loser	0.20	0.05	0.19	0.09	0.37	0.10
Part-time job leaver	0.26	0.08	0.17	0.30	0.09	0.10
Part-time job loser	0.10	0.07	0.18	0.16	0.29	0.19
No post-school	*0.33*	*0.08*	*0.11*	*0.11*	*0.22*	*0.16*
Full-time job leaver	0.51	0.07	0.09	0.11	0.12	0.09
Full-time job loser	0.20	0.06	0.10	0.06	0.39	0.18
Part-time job leaver	0.28	0.10	0.09	0.22	0.10	0.20
Part-time job loser	0.10	0.08	0.09	0.11	0.30	0.33

[37] Includes transition to the three destinations involving a change in occupation.

Predictions by qualifications—females

The predicted probabilities of transition to different destinations by qualification for females are given in Table 26. In terms of the aggregate re-employment and non-employment probabilities postgraduate and bachelor degree holders have similar probabilities. The predictions are also similar for holders of the three lowest levels of post-school qualifications. The probability of re-employment varies from 71 per cent for postgraduate degree holders to 56 per cent for those without post-school qualifications. The chances of re-employment in the same occupation are similar for bachelor degree and diploma holders.

At the disaggregate level though the predictions for postgraduate and bachelor degree holders are different. For example, a postgraduate degree holder has 8 percentage points higher probability of re-employment in the same occupation than a similar bachelor degree holder.

In general, each group of females has a smaller probability of being re-employed than the corresponding group of males; however, the size of the difference varies by group and qualification. For example, the probability of re-employment for a full-time female job loser with a diploma is 0.55 and for a part-time job leaver it is 0.66 compared to 0.55 and 0.79 for similar males. Almost all groups of females are predicted to have a higher probability of leaving the labour force than similar males.

The probability of inter-occupational mobility is much higher than average for certificate III or IV holders and lower than average for postgraduate degree holders. Compared to males, the probability of inter-occupational mobility for females with postgraduate degrees is 13 percentage points lower; with bachelors degree it is 10 percentage points lower, with certificate III or IV it is 10 percentage points *higher* and for certificate I or II holders it is 7 percentage points lower. This suggests differences in the transferable skills that men and women acquire through qualifications at the same level and perhaps also the existence of heterogeneity in courses at the same qualification level.

Table 26 Predicted probabilities of occupational mobility after job separation by qualification, full-time/part-time status reason for ceasing last job—females

	Occupational destination					
Qualification	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
Postgraduate	*0.49*	*0.03*	*0.05*	*0.14*	*0.13*	*0.16*
Full-time job leaver	0.65	0.03	0.04	0.11	0.07	0.10
Full-time job loser	0.36	0.03	0.05	0.13	0.25	0.19
Part-time job leaver	0.47	0.03	0.05	0.17	0.07	0.22
Part-time job loser	0.21	0.02	0.05	0.16	0.21	0.35
Bachelor	*0.41*	*0.06*	*0.07*	*0.16*	*0.12*	*0.17*
Full-time job leaver	0.56	0.06	0.06	0.14	0.07	0.11
Full-time job loser	0.29	0.05	0.07	0.15	0.23	0.20
Part-time job leaver	0.38	0.06	0.06	0.20	0.07	0.23
Part-time job loser	0.17	0.04	0.06	0.18	0.19	0.35
Diploma	*0.40*	*0.07*	*0.12*	*0.10*	*0.11*	*0.21*
Full-time job leaver	0.55	0.07	0.10	0.08	0.06	0.13
Full-time job loser	0.29	0.06	0.12	0.09	0.21	0.24
Part-time job leaver	0.38	0.06	0.10	0.12	0.06	0.28
Part-time job loser	0.16	0.05	0.10	0.11	0.17	0.42
Certificate III or IV	*0.31*	*0.09*	*0.15*	*0.10*	*0.15*	*0.21*
Full-time job leaver	0.44	0.10	0.14	0.09	0.09	0.14
Full-time job loser	0.20	0.08	0.14	0.09	0.27	0.22
Part-time job leaver	0.29	0.09	0.13	0.13	0.08	0.28
Part-time job loser	0.12	0.06	0.12	0.11	0.21	0.38
Certificate I or II	*0.33*	*0.12*	*0.12*	*0.09*	*0.11*	*0.23*
Full-time job leaver	0.47	0.13	0.11	0.08	0.07	0.15
Full-time job loser	0.23	0.10	0.12	0.08	0.21	0.25
Part-time job leaver	0.31	0.11	0.11	0.11	0.06	0.30
Part-time job loser	0.13	0.08	0.10	0.10	0.17	0.43
No post-school	*0.30*	*0.08*	*0.10*	*0.08*	*0.15*	*0.30*
Full-time job leaver	0.45	0.09	0.09	0.07	0.09	0.20
Full-time job loser	0.20	0.07	0.09	0.07	0.26	0.31
Part-time job leaver	0.28	0.08	0.09	0.09	0.08	0.39
Part-time job loser	0.11	0.05	0.07	0.07	0.19	0.51

Predictions by industry of last job

The predicted probabilities of transition to different destinations by industry of last job are included Table 27. The results males and females, differentiated by full-time/part-time status and by reason for job separation, are included in Tables A18 and A19 in Appendix 6.

The chances of re-employment in the same occupation for a male are highest if he was last employed in health and community services (0.55) and his chances are lowest if he was last employed in the government administration and defence industry (0.25). Interestingly, males from education or health and community services are relatively more likely to make transitions to a lower than a higher occupational group but the converse is true for males from agriculture, mining, transport, storage or culture, recreation and personal services.

Females from utilities and construction have the highest chances of being re-employed in the same occupation (0.44) while the lowest chances are for those from manufacturing (0.23). Similarly women retail trade and accommodation are more likely to move to a higher occupational group or be looking for work than from any other industry. These industries employ relatively large numbers of young women, many of whom are likely to be students. The high rate of movement to higher occupational groups is partly the result of these students moving to higher skilled occupations upon graduation from their courses.

Despite the fact that education and health and community services share some common worker characteristics—a significant majority of workers in these industries are publicly-employed and female professionals—the two industries have quite contrasting patterns of transition probabilities. First, the probability of remaining in the same occupation is considerably lower from education than from health and community services—for males the probability is only half as big. Second, the probability of transition to non-employment is much higher from education than from health and community services—for males the difference is 19 percentage points while for females it is 15 percentage points. The higher rates of leaving the labour force from education could be because of the relatively older workforce in that industry.[38]

[38] Shah and Burke (2003) calculated net replacement rate, which reflects the age profile, for nurses to be much higher than for teachers.

Table 27 Predicted probabilities of occupational mobility after job separation by industry of last job—males and females

	Occupational destination					
Industry of last job	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
Male						
Agricult. & mining	0.39	0.08	0.07	0.15	0.15	0.16
Manufacturing	0.33	0.09	0.14	0.13	0.19	0.13
Utilities & construct.	0.42	0.08	0.10	0.11	0.16	0.13
Wholesale trade	0.39	0.07	0.17	0.13	0.12	0.12
Retail & accomm.	0.34	0.05	0.14	0.15	0.17	0.15
Transp. & storage	0.33	0.13	0.12	0.18	0.14	0.10
Bus. & comm[(a)]	0.43	0.06	0.10	0.12	0.18	0.12
Govt. & defence	0.25	0.12	0.13	0.14	0.14	0.21
Education	0.28	0.09	0.11	0.05	0.21	0.26
Health & comm.	0.55	0.04	0.12	0.02	0.10	0.18
Culture, rec. & per.	0.38	0.10	0.04	0.11	0.21	0.15
Female						
Agricult. & mining	0.35	0.09	0.09	0.13	0.11	0.23
Manufacturing	0.23	0.07	0.10	0.12	0.13	0.35
Utilities & construct.	0.44	0.07	0.08	0.07	0.14	0.19
Wholesale trade	0.28	0.11	0.06	0.12	0.17	0.26
Retail & accomm.	0.32	0.06	0.10	0.15	0.18	0.20
Transp. & storage	0.31	0.13	0.16	0.14	0.10	0.17
Bus. & comm.[(a)]	0.36	0.08	0.12	0.07	0.13	0.24
Govt. & defence	0.27	0.12	0.14	0.09	0.08	0.30
Education	0.27	0.09	0.11	0.02	0.17	0.35
Health & comm.	0.41	0.07	0.08	0.06	0.11	0.26
Culture, rec. & per.	0.39	0.09	0.10	0.05	0.10	0.27

(a) Includes property, finance and insurance.

Predictions by tenure in last job

Predictions by tenure in the last job for males and females are included in Table 28, with results differentiated by full-time/part-time status and by reason for job separation in Tables A20 and A21 in Appendix 6.

Males with short tenure in the last job (3 months or less) are different in their job-to-job transition behaviour to those with longer tenure—the re-employment probability is up to 9 percentage points higher for those with longer tenure. While the probability of re-employment, in general, increases with tenure for males, it tends to decline for females. Males with tenure of more than 2 years have 0.81 probability of being re-employed compared to 0.68 for similar females, but females are twice as likely to leave the labour force as males.

Table 28 Predicted probabilities of occupational mobility after job separation by tenure in last job—males and females

	Occupational destination					
Tenure in last job	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
Male						
<= 1 month	0.50	0.06	0.07	0.12	0.14	0.10
2 to 3 months	0.47	0.07	0.07	0.13	0.13	0.12
3 to 6 months	0.46	0.07	0.10	0.18	0.12	0.07
6 to 12 months	0.55	0.06	0.09	0.12	0.09	0.09
1 to 2 years	0.53	0.06	0.10	0.15	0.09	0.07
Over 2 years	0.50	0.07	0.11	0.14	0.07	0.12
Female						
<= 1 month	0.51	0.08	0.09	0.06	0.08	0.18
2 to 3 months	0.47	0.09	0.09	0.11	0.09	0.14
3 to 6 months	0.49	0.10	0.08	0.08	0.10	0.14
6 to 12 months	0.45	0.07	0.11	0.09	0.11	0.17
1 to 2 years	0.44	0.07	0.12	0.10	0.08	0.19
Over 2 years	0.40	0.09	0.09	0.10	0.08	0.24

6 Conclusion and implications for training

This report documents the labour mobility behaviour of all Australian workers who held a job at sometime in the year ending February 2002. The report provides considerable data on the variation in patterns of job separation by demographic, educational and labour market variables that have previously been unavailable. It uses unit records from the ABS *Labour Mobility* survey for 2002 to discern and analyse these patterns. A range of statistical techniques are used to bring out the particular effects of key demographic, educational and labour market variables on labour mobility. Unlike many other studies of this type which only study movements between jobs, this study considers movements from jobs to non-employment as well.

Job separation

A range of individual, demographic, educational and labour market variables were found to be significant in explaining the variation in the probability of job separation for males and females. The directions of the effects of most, but not all, variables were found to be consistent with prevailing economic theory or previous empirical research in this area.

Age

The probability of job separation decreases with age but at a decreasing rate. At any given age, job separation is more likely for male part-time workers than female part-time workers. Amongst full-time workers, however, the chances of separation are higher for females but the gap between the sexes narrows to almost nothing for middle age and older workers.

Migrants

The chances of job separation are found to be significantly higher for recently arrived migrants than for Australian-born workers.

State differences

The pattern of job separation was found to be different for women in the smaller states compared to women in the larger states (New South Wales and Victoria). This suggests differences across states in the structure of the labour markets for women. Males in Queensland have higher job separation rates than in New South Wales for similar reasons.

Qualifications

Qualifications were found to be largely insignificant in explaining the job separations for males, but were highly significant for females. The job separations generally increased with the level of qualification for females. This result is consistent with the view that education increases outside opportunities for females relatively more than it does for males and consequently females with qualifications have higher job separation rates.

Full-time/part-time

Part-time workers have a much higher rate of job separation than full-time workers. The effect is larger for men than women, partly because for male part-time work is more likely to be casual and short-term.

Occupation

In general, the lower is the skill level of the occupation (short-term and casual jobs are concentrated in lower skill occupations) the higher is the rate of job separation. The results for full-time females, however, indicate a more complex pattern. Job separation probabilities for females from managers and administrators (skill level 1) and associate professionals (skill level 2) occupations are just as high as from elementary occupations (skill level 5).

Occupational mobility

The analysis included modelling the movements of movers to various occupational and non-employment destinations. Overall there is remarkable occupational stability in job-to-job movements—56 per cent of job-to-job movements involved no change in occupation at the four-digit level. Overall men have higher probabilities of transition to another job in the same occupation or another occupation and to 'looking for work', while women have higher probabilities of leaving the labour force.

Age

Age has a significant effect on occupational mobility just as it had on job separation. The age-related transition probabilities have different shaped plots though. In general, for job-to-job transitions the probability increases until a certain age and then decreases, for leaving the labour force it decreases until a certain age and then increases, and for 'looking for work' the relationship is in between these two shapes.

Migrants

The migrants from the main English-speaking countries have, in general, similar mobility patterns as Australian-born workers, but the behaviour of migrants from other countries was significantly different with a greater percentage going to non-employment.

Marriage

Non-married workers were found to have significantly higher chances of ending up looking for work than married workers. Not surprisingly though married women were significantly more likely to leave the labour force.

Regional

Workers in non-metropolitan areas were found to have significantly lower chances of re-employment in the same occupation than workers in metropolitan areas.

Qualifications

Although qualifications were insignificant in explaining job separation for males they were significant in explaining occupational mobility. These results suggest the qualifications are perhaps used as a screening device for hiring decisions but their informational value may have been superseded by direct observations of worker's productivity for decision-making on firing workers. In general, the higher level qualifications are associated with higher chances of re-employment in the same occupation. For males the chances of looking for work decrease with the level of the qualification

held, but for females it is the chances of leaving the labour force that tend to decrease.

Compared to males, the probability of moving to another occupation for females is only higher for certificate III or IV holders. Amongst all other qualification holders, except diploma holders, males have much higher probabilities of moving to another occupation. This suggests differences in the transferable skills that men and women acquire through qualifications at the same level and perhaps also the existence of heterogeneity in courses at the same qualification level.

Full-time/part-time and reason for job separation

Two factors with the largest effects on occupational mobility for males and females are full-time/part-time status and reason for job separation. Job leavers have much higher chances of being re-employed compared to job losers. Male job losers from full-time work are more likely to end up looking for work than to leave the labour force, but similar females are equally likely to exit to either of these two non-employment states. On the other hand both male and female job losers from part-time jobs are more likely to leave the labour force than be looking for work.

Tenure

Tenure in the last job has differential effects for males and females. In particular, among those with tenure of two years or more in the last job, males are much more likely to be re-employed than females.

Implications for training

Persons who separate from a job and change occupation or are no longer employed are likely to need access to training. For those gaining a job in a new occupation some of the training may be provided by their employers. The need for training is likely to be even greater by those who lose a job and whose prospects of gaining another are small, and since they are not in employment it is publicly supported training that is important to them.

Education and training, including work-related training, are important determinants of labour market success, an integral part of which is the opportunities for individuals to move jobs, either within firms or across firms. Hence, while labour turnover may affect the chances of receiving work-related training, it is also possible that training will affect mobility. The link between training and mobility are complex and one should be cautious in moving from basic empirical facts to public policy. In drawing the implications for training it is important to distinguish between the effect of mobility on training and the effect of training on mobility. Most previous studies on this topic have reported findings on the latter. Besides the individual, institutional and labour market factors that affect the probability of a person receiving training, the type of training received and who finances it has impact on future mobility.

The labour mobility analyses reported here has identified segments of the labour market with low rates of job separation and therefore potentially good worker-job or worker-firm matches. The training literature suggests that good matches increase the probability of investment in worker training, although this may vary by age of the worker. The cost of this investment may be shared by the employer and employee. Employers paying for a significant part of the cost of training have an incentive to reduce turnover

in order to recoup the investment they have made. Therefore employers who train will have policies in place to retain these workers. It can also be argued that employers will train workers who they want to retain. Previous research does suggest employer sponsored training to have a downward impact on mobility. Training that is wholly paid for by the individual (or their family) or that is off-the-job has an upward impact on mobility because this type of training allows the accumulation of transferable skills more than on-the-job training. This is particularly the case where the improvement in the worker's productivity resulting from the training is not recognised by their current employer.

On the other hand, labour market segments with high rates of job separation may not attract much employer subsidised training for workers (even though there may be induction training involved). Workers in these segments can be at risk of missing out on training to upgrade skills for career progression. Policy on public provision of training ought to focus on the special needs of these groups. The characteristics of these 'at risk' segments are:

- job losers;
- part-time workers;
- certificate I or II holders or without post-school qualifications;
- female part-time leavers
- male job losers over the age of 50 years; and
- females from manufacturing and wholesale trade.[39]

Burke and Long (2000) identifies a number of the above characteristics as those of workers who have below average access to training and below average amounts of training.

These workers are at a higher risk of joblessness 'recidivism'. It is not just enough to ensure these workers remain attached to the labour force; well designed training programs also need to be available to them to avoid the risk of skill atrophy. Even if these workers are able to obtain other jobs, there is still a high risk of them cycling through a sequence of short-term jobs and be without opportunities for further skills development. Policy on public provision may need to focus on these segments of the labour force.

Even though the study finds certificate I or II holders are less likely to be not employed compared to those without qualifications, moving between short-term jobs on its own is unlikely to help them acquire new skills and update existing ones which are necessary for career progression.

Women's level of labour market experience and accumulated job tenure can be affected by their higher rate of turnover with implications for decisions by workers and firms about who will receive training and promotion and occupational segregation by gender. This also applies to men in part-time work who have lost their jobs.

Job separation rates are highest for the young and as the training literature suggests young people also have high incidence of training. The training that the young receive on-the–job is however likely to be for induction. Off-the-job training paid for by the individual is likely to be general and allows

[39] Workers in education, except those who are full-time job leavers, have relatively high chances of moving to non-employment states, but the reasons for this may not be due to access to training.

for easier job-to-job transition. Public policy on training the young therefore needs emphasis on the generic component.

Although job separation rates for older workers are low, for those who do separate from jobs a significant proportion leave the labour force well before 65 years of age. Older male job losers are at a very high risk of non-employment. They are unlikely to be able to access any employer sponsored training, and if there was to be any chance of them returning to the workforce public policy addressing their special training and skill development needs is crucial.

In this study, the probability of re-employment in the same occupation was found to be significantly lower for workers in non-metropolitan areas than in metropolitan areas. This means that workers in non-metropolitan areas either have higher chances of being not employed or have higher chances of inter-occupational mobility. In any case the public provision of training or re-training for them may need to be different to metropolitan residents. This has implications for regional training policies which are very important under *Australia's National Strategy for vocational education and training 2004-2010* (ANTA 2003).

Drawing implications for training from this study has limitations because apart from the highest educational attainment there is no other direct measure of various types of training that an individual could have engaged in. Previous studies that have had access to both mobility and training data suggest relationships between the two though. We use the results from these studies in the following.

Further work

The nature of the ABS *Labour Mobility* survey limits the analysis that can be done to investigate different aspects of mobility. In particular, investigation of skill formation among those who cycle through a sequence of low skill, casual, part-time jobs interspersed with spells of unemployment or spells out of the labour force need a truly longitudinal dataset like the *Household Income and Labour Dynamics Australia* (HILDA) survey. Data from third wave of from this survey are expected to be released sometime this year and can be used to provide richer information on the movement of workers to different labour force destinations.

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Appendix 1 ASCO Listing

Table A1 Major, sub-major and unit groups of ASCO

ASCO code	Occupation	ASCO code	Occupation
1	MANAGERS & ADMINISTRATORS	2122	Quantity surveyors
11	Generalist managers	2123	Cartographers & surveyors
1111	Legislators & govt. appointed officials	2124	Civil engineers
1112	General managers	2125	Electrical & electronics engineers
1191	Building & construction managers	2126	Mechanical, production & plant engineers
1192	Importers, exporters & wholesalers	2127	Mining & materials engineers
1193	Manufacturers	2128	Engineering technologists
12	Specialist mangers	2129	Other building & engineering prof.
1211	Finance managers	*22*	*Business & information prof.*
1212	Company secretaries	2211	Accountants
1213	Human resource managers	2212	Auditors
1221	Engineering managers	2213	Corporate treasurers
1222	Production managers	2221	Marketing & advertising prof.
1223	Supply & distribution managers	2222	Technical sales representatives
1224	Information technology managers	2231	Computing prof.
1231	Sales & marketing managers	2291	Human resource prof.
1291	Policy & planning managers	2292	Librarians
1292	Health services managers	2293	Mathematicians, statisticians & actuaries
1293	Education managers	2294	Business & organisation analysts
1294	Commissioned officers (management)	2295	Property professionals
1295	Child care coordinators	2299	Other business & information prof.
1296	Media producers & artistic directors	*23*	*Health prof.*
1299	Other specialist managers	2311	Generalist medical practitioners
13	Farmers & farm managers	2312	Specialist medical practitioners
1311	Mixed crop & livestock farmers	2321	Nurse managers
1312	Livestock farmers	2322	Nurse educators & researchers
1313	Crop farmers	2323	Registered nurses
1314	Aquaculture farmers	2324	Registered midwives
2	PROFESSIONALS	2325	Registered mental health nurses
21	*Science, building & engineering prof.*	2326	Registered developmental disability nurses
2111	Chemists	2381	Dental practitioners
2112	Geologists & geophysicists	2382	Pharmacists
2113	Life scientists	2383	Occupational therapists
2114	Environmental & agricultural science prof.	2384	Optometrists
2115	Medical scientists	2385	Physiotherapists
2119	Other natural & physical science prof.	2386	Speech pathologists
2121	Architects & landscape architects	2387	Chiropractors & osteopaths

Table A1 Contd.

ASCO code	Occupation	ASCO code	Occupation
2392	Veterinarians	2543	Occupational & environmental health prof.
2393	Dieticians	2549	Other professionals
2394	Natural therapy prof.	3	ASSOCIATE PROFESSIONALS
2388	Podiatrists	*31*	*Science, engineering & related assoc. prof.*
2391	Medical imaging prof.	3111	Medical technical officers
2399	Other health professionals	3112	Science technical officers
24	*Education prof.*	3121	Building, architect. & surveying assoc. prof.
2411	Pre-primary school teachers	3122	Civil engineering assoc. prof.
2412	Primary school teachers	3123	Electrical engineering assoc. prof.
2413	Secondary school teachers	3124	Electronic engineering assoc. prof.
2414	Special education teachers	3125	Mechanical engineering assoc. prof.
2421	University lecturers & tutors	3129	Other building & engineering assoc. prof.
2422	Vocational education teachers	*32*	*Business &administration assoc. prof.*
2491	Extra-systemic teachers	3211	Branch account. & managers (finan. instit.)
2492	English as a second language teachers	3212	Financial dealers & brokers
2493	Education officers	3213	Financial investment advisers
25	*Social, arts & miscellaneous prof.*	3291	Office managers
2511	Social workers	3292	Project & program administrators
2512	Welfare & community workers	3293	Real estate associate professionals
2513	Counsellors	3294	Computing support technicians
2514	Psychologists	*33*	*Managing supervisors (sales & service)*
2515	Ministers of religion	3311	Shop managers
2521	Legal professionals	3321	Restaurant & catering managers
2522	Economists	3322	Chefs
2523	Urban & regional planners	3323	Hotel & motel managers
2529	Other social professionals	3324	Club managers (licensed premises)
2531	Visual arts & crafts professionals	3325	Caravan park & camp. ground managers
2532	Photographers	3329	Other hospitality & accom. managers
2533	Designers & illustrators	3391	Sport & recreation managers
2534	Journalists & related professionals	3392	Customer service managers
2535	Authors & related professionals	3393	Transport company managers
2536	Film, television, radio & stage directors	3399	Other supervisors (sales & service)
2537	Musicians & related professionals	*34*	*Health & welfare assoc. prof.*
2538	Actors, dancers & related professionals	3411	Enrolled nurses
2539	Media presenters	3421	Welfare associate professionals
2541	Air transport professionals	3491	Ambulance officers & paramedics
2542	Sea transport professionals	3492	Dental associate professionals

Table A1 Contd.

ASCO code	Occupation	ASCO code	Occupation
3493	ATSI health. workers	4316	Communications tradespersons
3494	Massage therapists	*44*	*Construction tradespersons*
39	*Other assoc. prof.*	4411	Carpentry & joinery tradespersons
3911	Police officers	4412	Fibrous plasterers
3991	Primary products inspectors	4413	Roof slaters & tilers
3992	Safety inspectors	4414	Bricklayers
3993	Sportspersons, coaches & rel. supp. Wkrs.	4415	Solid plasterers
3994	Senior non-comm. defence force officers	4416	Wall & floor tilers & stonemasons
3995	Senior fire fighters	4421	Painters & decorators
3996	Retail buyers	4422	Signwriters
3997	Library technicians	4423	Floor finishers
3999	Other miscellaneous assoc. prof.	4431	Plumbers
4	TRADESPERSONS & RELATED WORKERS	*45*	*Food tradespersons*
41	*Mechanical & engineering trades.*	4511	Meat tradespersons
4111	General mechanical engineering trades	4512	Bakers & pastrycooks
4112	Metal fitters & machinists	4513	Cooks
4113	Toolmakers	4519	Other food tradespersons
4114	Aircraft maintenance engineers	*46*	*Skilled agricultural & horticultural trades.*
4115	Precision metal tradespersons	4611	Farm overseers
4121	General fabrication engineering trades.	4612	Shearers
4122	Structural steel & welding tradespersons	4613	Wool, hide & skin classers
4123	Forging tradespersons	4614	Animal trainers
4124	Sheetmetal tradespersons	4621	Nurserypersons
4125	Metal casting tradespersons	4622	Greenkeepers
4126	Metal finishing tradespersons	4623	Gardeners
42	*Automotive tradespersons*	*49*	*Other tradespersons & related workers*
4211	Motor mechanics	4911	Graphic pre-press tradespersons
4212	Automotive electricians	4912	Printing machinists & small offset printers
4213	Panel beaters	4913	Binders & finishers
4214	Vehicle painters	4914	Screen printers
4215	Vehicle body makers	4921	Wood machinists & turners
4216	Vehicle trimmers	4922	Cabinetmakers
43	*Electrical & electronic tradespersons*	4929	Other wood tradespersons
4311	Electricians	4931	Hairdressers
4312	Refrigeration & air-conditioning mechanics	4941	Clothing tradespersons
4313	Electrical distribution tradespersons	4942	Upholsterers & bedding tradespersons
4314	Electronic instrument tradespersons	4943	Footwear tradespersons
4315	Electronic & office equipment trades.	4944	Leather goods, canvas goods & sail makers

Table A1 Contd.

ASCO code	Occupation	ASCO code	Occupation
4981	Marine construction tradespersons	6194	Intermediate inspectors & examiners
4982	Glass tradespersons	6199	Other intermediate clerical workers
4983	Jewellers & related tradespersons	*62*	*Intermediate sales & related workers*
4984	Florists	6211	Sales representatives
4985	Fire fighters	6212	Motor vehicle & related products sales
4986	Drillers	6213	Retail & checkout supervisors
4987	Chemical, petroleum & gas plant operators	*63*	*Intermediate service workers*
4988	Power generation plant operators	6311	Education aides
4991	Def. force members not elsewhere incl.	6312	Children's care workers
4992	Performing arts support workers	6313	Special care workers
4999	Other miscellaneous tradespersons	6314	Personal care & nursing assistants
5	**ADVANCED CLERICAL & SERVICE**	6321	Hotel service supervisors
51	*Secretaries & personal assistants*	6322	Bar attendants
5111	Secretaries & personal assistants	6323	Waiters
59	*Other advanced clerical & service workers*	6324	Hospitality trainees
5911	Bookkeepers	6391	Dental assistants
5912	Credit & loans officers	6392	Veterinary nurses
5991	Advanced legal & related clerks	6393	Prison officers
5992	Court & hansard reporters	6394	Gaming workers
5993	Insurance agents	6395	Personal care consultants
5994	Ins. risk surveyors, investing. & loss adjust.	6396	Fitness instructors
5995	Desktop publishing operators	6397	Travel & tourism agents
5996	Travel attendants	6399	Other intermediate service workers
5999	Other misc. advanced clerical & service	**7**	**INTERMED. PROD. & TRANSP. WORKERS**
6	**INTERMED. CLERICAL, SALES & SERVICE**	*71*	*Intermediate plant operators*
61	*Intermediate clerical workers*	7111	Mobile construction plant operators
6111	General clerks	7112	Forklift drivers
6121	Keyboard operators	7119	Other mobile plant operators
6131	Receptionists	7121	Engine & boiler operators
6141	Accounting clerks	7122	Crane, hoist & lift operators
6142	Payroll clerks	7123	Engineering production systems workers
6143	Bank workers	7124	Pulp & paper mill operators
6144	Insurance clerks	7129	Other intermed. stationary plant operators
6145	Money market & statistical clerks	*72*	*Intermediate machine operators*
6151	Production recording clerks	7211	Sewing machinists
6152	Transport & despatching clerks	7212	Textile & footwear prod. machine operators
6153	Stock & purchasing clerks	7291	Plastics production machine operators
6191	Inquiry & admissions clerks	7292	Rubber production machine operators
6192	Library assistants	7293	Chemical production machine operators
6193	Personnel clerks	7294	Wood processing machine operators

Table A1 Contd.

ASCO code	Occupation	ASCO code	Occupation
7295	Paper products machine operators	8299	Other elementary sales workers
7296	Glass production machine operators	83	Elementary service workers
7297	Clay, stone & concrete proc. mach. operat.	8311	Guards & security officers
7298	Photographic developers & printers	8312	Ushers, porters
7299	Other intermediate machine operators	8313	Domestic housekeepers
73	Road & rail transport drivers	8314	Caretakers
7311	Truck drivers	8315	Laundry workers
7312	Bus & tram drivers	8319	Other elementary service workers
7313	Automobile drivers	9	Labourers & related workers
7314	Delivery drivers	91	Cleaners
7315	Train drivers & assistants	9111	Cleaners
79	Other intermed. prod. & transp. workers	92	Factory labourers
7911	Miners	9211	Engineering production process workers
7912	Blasting workers	9212	Product assemblers
7913	Structural steel construction workers	9213	Meat & fish process workers
7914	Insulation & home improvements installers	9214	Other food factory hands
7991	Motor vehicle parts & accessories fitters	9215	Wood products factory hands
7992	Product quality controllers	9219	Other process workers
7993	Storepersons	9221	Hand packers
7994	Seafarers & fishing hands	9222	Packagers & container fillers
7995	Forestry & logging workers	99	Other labourers & related workers
7996	Printing hands	9911	Mining support workers & driller's assistants
8	ELEMENTARY CLERICAL, SALES & SERVICE	9912	Earthmoving labourers
81	*Elementary clerks*	9913	Paving & surfacing labourers
8111	Registry & filing clerks	9914	Survey hands
8112	Mail sorting clerks	9915	Railway labourers
8113	Switchboard operators	9916	Construction & plumber's assistants
8114	Messengers	9917	Concreters
8115	Betting clerks	9918	Electrical & telecom. trades assistants
8116	Office trainees	9919	Other mining, const. & rel. labourers
8119	Other elementary clerks	9921	Farm hands
82	*Elementary sales workers*	9922	Nursery & garden labourers
8211	Sales assistants	9929	Other agricultural & horticultural labourers
8291	Checkout operators & cashiers	9931	Kitchenhands
8292	Ticket salespersons	9932	Fast food cooks
8293	Street vendors	9933	Food trades assistants
8294	Telemarketers	9991	Garbage collectors
8295	Sales demonstrators & models	9992	Freight & furniture handlers
8296	Service station attendants	9993	Handypersons
8297	Sales & service trainees	9999	Other miscellaneous labourers

Appendix 2 Alternative conceptual model

The nine major occupational groups and the associated skill levels are:

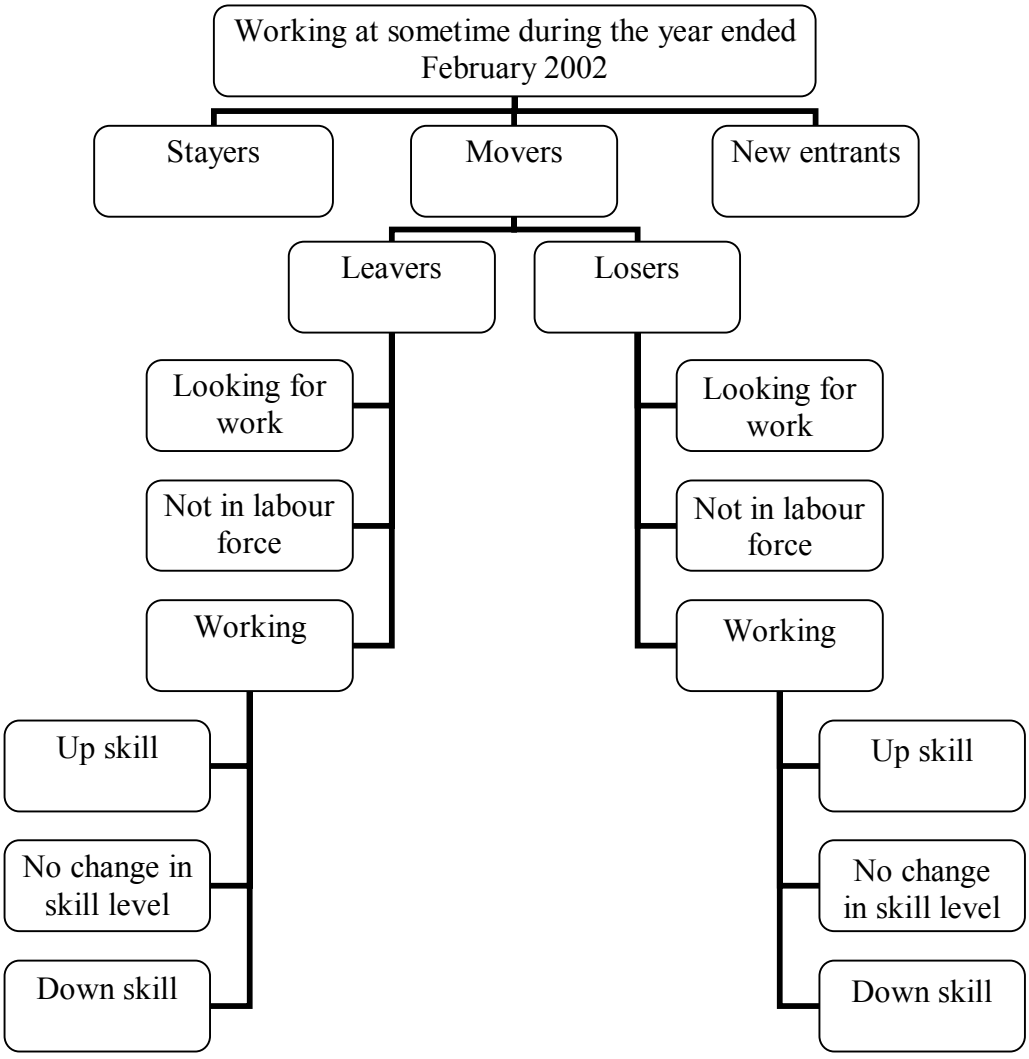
1. managers and administrators (skill level 1);
2. professionals (skill level 1);
3. associate professionals (skill level 2);
4. tradepersons (skill level 3);
5. advanced clerical and service workers (skill level 3);
6. intermediate clerical, sales and service workers (skill level 4);
7. intermediate production and transport workers (skill level 4);
8. elementary clerical, sales and service workers (skill level 5); and
9. labourers (skill level 5).

Thus the skill level of the occupation could be used to define job-to-job transitions that are different to those described in chapter 3. For example they could be defined as:

1. no change in skill level of occupation;
2. occupation change to a higher skill level than before; and
3. occupation change to a lower skill level than before.

The framework illustrating the above transitions is shown in Figure A1. One drawback in adopting this framework is that some transitions that necessitate acquisition of additional or different skills in order to facilitate a job change fail to be distinguished from other transitions that require minimal additional skills. For example, the job-to-job transition of a plumber (skill level 3) who decides to become an insurance agent (skill level 3) will be recorded as of type 1, thus suggesting a high level of transferable skills when in fact this is not so. For this framework to provide useful information about training needs resulting from labour mobility, the first type of transitions would need to be subdivided to reflect different levels of transferable skills.

Figure A1 An alternative framework based on five-point skill scale to analyse the labour market transitions of persons who worked at sometime during year ending February 2002



Appendix 3 Further data descriptions

Table A2 Characteristics[a] of persons who had worked at sometime during the year ending February 2002 by mobility and sex (% in each category)

	Stayers		Movers		New entrants[d]	
Characteristic	Males	Females	Males	Females	Males	Females
Age group						
15-19	4.2	5.7	11.7	12.0	31.2	27.6
20-24	8.6	9.5	17.0	18.7	18.7	15.1
25-34	22.7	22.2	29.0	28.7	20.1	23.7
35-44	26.1	26.0	20.0	20.7	15.0	18.8
45-54	23.9	25.1	13.9	14.2	9.7	11.6
55 or over	14.4	11.6	8.4	5.7	5.2	3.2
Country of birth						
Australia	74.4	76.1	75.6	77.4	71.0	74.1
Main English speaking[b]	10.4	10.0	10.9	10.1	11.0	9.2
Other countries	15.2	13.9	13.5	12.5	18.0	16.6
Arrival in Australia						
After 1997	1.8	1.6	4.8	4.2	8.4	7.0
Between 1988 & 1997	5.5	5.4	5.8	5.6	7.2	8.9
Before 1988	18.4	16.9	13.8	12.8	13.4	10.0
Born in Australia	74.4	76.1	75.6	77.4	71.0	74.1
Marital status						
Not married	31.5	35.1	47.1	48.2	66.6	55.2
Married	68.5	64.9	52.9	51.8	33.4	44.8
Household relationship						
Parent or dependent child	73.0	77.5	61.7	68.5	54.8	72.8
Other family member	12.5	9.3	19.0	13.5	27.5	16.6
Others	14.5	13.1	19.3	18.0	17.7	10.6
State of residence						
NSW	33.6	33.9	32.0	30.1	36.6	33.3
VIC	25.7	25.3	24.2	24.0	25.6	25.7
QLD	18.1	18.2	21.4	21.6	18.1	18.6
SAU	7.5	7.6	6.9	7.5	6.9	6.6
WAU	10.5	10.0	10.9	11.6	8.2	10.9
TAS, NTY, ACT	4.7	5.1	4.6	5.1	4.7	5.0
Area of residence						
Non-metropolitan	36.1	35.3	35.2	32.7	32.9	36.3
Metropolitan	63.9	64.7	64.8	67.3	67.1	63.7

Table A2 Contd.

	Stayers		Movers		New entrants	
Educational attainment	Males	Females	Males	Females	Males	Females
Postgraduate	5.4	6.5	4.1	4.9	2.7	2.5
Bachelor degree	13.9	17.6	13.3	17.3	10.5	13.9
Adv. diploma or diploma	6.7	9.6	5.6	9.3	4.5	6.9
Certificate III or IV	25.2	7.2	20.8	8.4	13.3	6.4
Certificate I or II	4.5	9.0	4.5	8.5	3.8	8.0
Certificate not determined	1.2	1.9	1.9	2.8	1.7	2.6
Level not determined	0.8	0.6	0.6	0.4	0.5	0.1
No post-school qual.	42.3	47.5	49.3	48.3	63.0	59.7
Occupation group						
Managers &administrators	11.3	4.7	6.6	3.2	2.0	0.5
Professionals	17.0	22.0	13.8	15.5	11.1	12.0
Associate professionals	13.2	11.0	10.1	9.7	10.1	6.5
Trades	22.1	2.9	17.6	2.6	17.2	2.9
Adv. clerical & service	0.8	9.7	1.0	6.5	0.8	3.4
Inter. clerical, sales & serv.	8.1	26.8	10.2	31.9	8.8	29.4
Inter. production & transp.	13.2	2.5	15.2	2.5	15.2	2.7
Elem. clerical, sales & serv.	5.1	13.1	8.6	18.5	12.7	28.0
Labourers	9.1	7.3	17.0	9.5	22.0	14.4
Industry group						
Agriculture & mining	7.0	3.6	6.1	2.9	4.2	2.3
Manufacturing	17.0	7.4	13.5	7.9	13.5	6.1
Utilities & construction	13.7	3.0	12.2	1.7	10.4	1.3
Wholesale trade	5.8	3.5	6.0	3.4	5.3	3.5
Retail & accommodation	15.7	21.9	22.6	29.4	33.5	40.2
Transport & storage	6.4	2.5	6.4	2.7	3.5	1.0
Prop., business[(c)] & comm.	16.0	17.2	18.5	20.3	14.9	14.4
Govt. & defence	4.5	4.4	3.2	3.8	1.8	2.5
Education	4.0	11.7	3.2	8.2	4.1	5.0
Health & community serv.	3.8	17.9	3.1	12.3	3.7	15.7
Culture, rec. & personal	6.1	6.9	5.2	7.3	5.2	7.8
Status in employment						
Others	18.0	11.0	7.8	4.6	10.0	7.2
Employee	82.0	89.0	92.2	95.4	90.0	92.8
Hours worked						
Part-time	11.4	44.0	25.0	48.4	40.4	67.1
Full-time	88.6	56.0	75.0	51.6	59.6	32.9
Total number ('000)	3 997.2	3 070.8	1 124.1	988.4	326.1	349.8

(a) The job characteristics for stayers and new entrants refer to that in the current job, while that for movers refers to the job they last stopped working in the twelve months to February 2002.
(b) Includes the UK, Ireland, Canada, New Zealand, South Africa and USA.
(c) Includes finance and insurance.
(d) Includes re-entrants

Table A3 Characteristics of job losers and job leavers in the year ending February 2002 by sex (% in each category)

	Job losers		Job leavers	
Characteristic	Males	Females	Males	Females
Age group				
15-19	12.8	12.2	11.0	11.9
20-24	15.7	15.5	17.9	20.3
25-34	26.2	23.9	31.1	31.1
35-44	18.4	22.0	21.3	20.0
45-54	15.2	17.6	12.9	12.4
55 or over	11.8	8.8	5.9	4.2
Country of birth				
Australia	74.9	73.8	76.1	79.2
Main English speaking[(a)]	10.1	9.9	11.5	10.2
Other countries	15.0	16.3	12.4	10.7
Arrival in Australia				
After 1997	3.9	3.8	5.4	4.4
Between 1988 & 1997	6.2	6.2	5.5	5.3
Before 1988	14.9	16.2	13.0	11.2
Born in Australia	74.9	73.8	76.1	79.2
Marital status				
Not married	49.2	51.1	45.6	46.7
Married	50.8	48.9	54.4	53.3
Household relationship				
Parent or dependent child	59.8	69.8	63.1	67.8
Other family member	21.2	13.9	17.3	13.3
Others	18.9	16.3	19.6	18.9
State of residence				
NSW	30.7	29.4	32.9	30.5
VIC	24.2	23.3	24.2	24.4
QLD	22.3	21.9	20.7	21.4
SAU	6.8	7.6	7.0	7.5
WAU	11.1	11.9	10.7	11.4
TAS, NTY, ACT	4.9	5.8	4.5	4.8
Area of residence				
Non-metropolitan	38.9	33.6	32.6	32.3
Metropolitan	61.1	66.4	67.4	67.7
Status in employment				
Others	7.6	4.5	7.9	4.6
Employee	92.4	95.5	92.1	95.4
Hours worked				
Part-time	28.6	54.4	22.4	45.5
Full-time	71.4	45.6	77.6	54.5
Total number ('000)	475.1	326.7	649.0	661.6

(a) Includes the UK, Ireland, Canada, New Zealand, South Africa and USA.

Table A3 Contd

Characteristic	Job losers		Job leavers	
	Males	Females	Males	Females
Educational attainment				
Postgraduate	3.5	3.8	4.5	5.5
Bachelor degree	9.4	15.3	16.2	18.3
Adv. diploma or diploma	4.6	9.5	6.3	9.2
Certificate III or IV	20.5	6.8	20.9	9.2
Certificate I or II	4.7	10.4	4.3	7.5
Certificate not determined	2.0	2.5	1.8	2.9
Level not determined	0.5	0.5	0.7	0.4
No post-school qualification	54.7	51.2	45.3	46.9
Occupation of last job				
Managers & administrators	4.9	1.4	7.8	4.1
Professionals	11.5	14.6	15.4	16.0
Associate professionals	6.6	6.4	12.6	11.4
Trades	20.5	2.5	15.5	2.7
Adv. clerical & service	0.9	5.9	1.0	6.7
Inter. Clerical, sales & serv.	8.5	31.6	11.4	32.1
Inter. production & transp.	17.4	3.2	13.7	2.2
Elem. clerical, sales & serv.	7.6	18.0	9.3	18.7
Labourers	22.1	16.4	13.3	6.1
Industry of last job				
Agriculture & mining	9.0	5.4	4.0	1.7
Manufacturing	15.6	11.1	11.9	6.3
Utilities & construction	15.8	1.9	9.7	1.6
Wholesale trade	4.8	3.5	7.0	3.3
Retail trade & accommodation	18.1	24.1	25.9	32.0
Transport & storage	6.1	3.3	6.6	2.4
Property, business[c] & comm.	16.4	18.4	20.1	21.3
Government admin. & defence	3.3	5.0	3.1	3.2
Education	3.3	11.1	3.1	6.8
Health & community services	2.6	8.8	3.5	14.0
Culture, rec. & personal	5.0	7.4	5.3	7.2
Tenure in last job[b]				
1 month or less	11.3	12.5	5.1	5.5
Between 1 and 3 months	11.3	14.5	7.0	7.4
Between 3 and 6 months	21.8	17.8	14.2	15.5
Between 6 and 12 months	7.5	8.3	8.5	8.6
Between 1 and 2 years	14.8	15.7	21.7	20.1
2 years or more	32.0	28.7	43.4	42.8
Total number ('000)	475.1	326.7	649.0	661.6

(b) Excludes a small number of workers for whom tenure in last job was not determined.
(c) Includes finance and insurance.

Table A4 Characteristics of movers by labour force destination at February 2002 and sex (% in each category)

	In employment		Looking for work		Not in labour force	
Characteristic	Males	Females	Males	Females	Males	Females
Age group						
15-19	8.1	11.1	17.5	19.2	19.6	10.7
20-24	17.8	21.5	19.0	21.8	11.5	11.5
25-34	33.0	29.7	27.8	26.3	14.3	27.7
35-44	22.0	20.8	16.4	18.6	16.1	21.2
45-54	14.7	14.0	12.5	11.3	12.1	15.8
55 or over	4.3	2.9	6.9	3.0	26.4	13.1
Country of birth						
Australia	76.2	79.1	75.8	75.5	73.2	74.7
Main English speaking[(a)]	11.5	10.3	9.1	7.0	10.5	11.1
Other countries	12.3	10.7	15.2	17.5	16.4	14.2
Arrival in Australia						
After 1997	5.2	4.4	4.3	3.9	3.7	3.8
Between 1988 & 1997	5.8	5.3	5.8	7.6	5.5	5.4
Before 1988	12.8	11.2	14.1	13.1	17.6	16.1
Born in Australia	76.2	79.1	75.8	75.5	73.2	74.7
Marital status						
Not married	42.7	51.2	60.5	65.1	49.6	33.8
Married	57.3	48.8	39.5	34.9	50.4	66.2
Household relationship						
Parent or dependent child	62.4	62.5	49.4	61.4	73.0	84.5
Other family member	18.4	16.5	28.1	18.0	10.9	5.1
Others	19.2	21.0	22.5	20.6	16.1	10.4
State of residence						
NSW	32.1	30.7	32.7	26.4	30.6	30.8
VIC	25.2	24.4	22.8	26.9	22.0	21.8
QLD	20.5	21.6	23.7	23.5	22.3	20.7
SAU	6.6	7.1	6.6	5.5	8.4	9.4
WAU	10.9	11.2	10.6	13.2	11.1	11.6
TAS, NTY, ACT	4.7	5.0	3.6	4.6	5.5	5.6
Area of residence						
Non-metropolitan	32.6	31.6	40.8	35.5	39.3	33.8
Metropolitan	67.4	68.4	59.2	64.5	60.7	66.2
Status in employment						
Others	7.7	4.0	5.6	3.8	10.6	6.0
Employee	92.3	96.0	94.4	96.2	89.4	94.0
Hours worked						
Part-time	19.8	41.2	27.1	49.0	43.5	63.4
Full-time	80.2	58.8	72.9	51.0	56.5	36.6
Total number ('000)	732.8	584.0	209.4	129.1	181.9	275.3

(a) Includes the UK, Ireland, Canada, New Zealand, South Africa and USA.

Table A4 Contd

	In employment		Looking for work		Not in labour force	
Characteristic	Males	Females	Males	Females	Males	Females
Educational attainment						
Postgraduate	4.5	5.7	2.0	3.7	4.6	3.9
Bachelor degree	16.1	20.0	6.3	15.2	10.1	12.7
Adv. diploma or diploma	6.3	10.0	3.8	7.1	4.8	8.7
Certificate III or IV	22.7	9.1	15.7	8.5	18.9	7.0
Certificate I or II	4.7	8.8	5.1	6.9	3.1	8.4
Certificate not determined	2.0	3.1	2.5	3.6	0.6	1.7
Level not determined	0.6	0.5	0.5	0.3	0.7	0.4
No post-school qual.	43.1	42.7	64.1	54.8	57.3	57.2
Occupation of last job						
Managers &administrators	7.8	4.0	3.8	1.9	4.8	2.1
Professionals	15.5	16.8	8.1	13.2	13.3	13.9
Associate professionals	11.6	11.3	5.4	6.9	9.2	7.7
Trades	17.8	2.6	17.2	2.2	17.3	2.8
Adv. clerical & service	1.0	6.5	0.8	2.6	0.8	8.3
Inter. clerical, sales & serv.	10.7	33.9	8.7	31.2	9.9	28.0
Inter. production & transp.	15.1	2.4	16.8	2.3	13.9	3.0
Elem. clerical, sales & serv.	7.3	16.2	11.1	24.6	11.1	20.6
Labourers	13.2	6.4	28.0	15.0	19.7	13.6
Industry of last job						
Agriculture & mining	5.1	2.6	8.3	3.6	7.9	3.4
Manufacturing	12.9	6.3	16.9	8.1	11.7	11.2
Utilities & construction	11.9	1.7	13.9	1.9	11.5	1.6
Wholesale trade	6.9	3.3	4.0	4.0	4.8	3.2
Retail & accommodation	22.1	29.5	22.8	38.1	24.2	25.2
Transport & storage	6.9	3.3	5.2	2.0	5.5	1.7
Prop., business[(c)] & comm.	20.2	22.3	16.6	17.8	14.0	17.4
Govt. & defence	3.0	3.7	2.5	2.0	4.6	4.7
Education	2.7	6.5	2.3	9.1	6.0	11.6
Health & community serv.	3.2	13.3	1.6	8.2	4.3	12.1
Culture, rec. & personal	4.9	7.5	6.0	5.2	5.4	7.8
Tenure in last job[(b)]						
1 month or less	5.5	6.9	13.2	9.0	10.3	9.2
Between 1 and 3 months	7.0	9.6	12.4	13.5	12.3	8.3
Between 3 and 6 months	16.3	16.8	24.9	22.4	13.1	12.3
Between 6 and 12 months	8.6	8.9	7.8	11.1	6.3	6.6
Between 1 and 2 years	20.8	20.2	16.9	16.7	12.6	16.2
2 years or more	41.6	37.4	24.2	27.0	42.9	44.9
Reason left last job						
Loser	28.7	22.5	73.6	57.2	60.9	44.2
Leaver	71.3	77.5	26.4	42.8	39.1	55.8
Total number ('000)	732.8	584.0	209.4	129.1	181.9	275.3

(b) Excludes a small number of workers for whom tenure in last job was not determined.
(c) Includes finance and insurance.

Table A5 Characteristics of persons making job-to-job transitions by destination and sex (% in each category)

	Occupational destination									
	Same unit group		Same sub-major group		Same major group		Lower major group		Higher major group	
Characteristic	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Age group										
15-19	4.5	7.6	9.3	10.5	13.8	16.3	7.1	15.5	18.2	16.6
20-24	14.3	18.3	24.1	27.7	17.3	19.0	19.4	21.4	25.9	29.3
25-34	35.2	32.1	35.6	25.6	29.3	26.7	34.0	28.1	26.0	26.5
35-44	24.6	22.1	14.8	16.4	22.0	22.4	20.7	22.5	17.0	17.1
45-54	16.5	16.2	11.7	17.5	15.7	13.6	13.9	9.6	10.0	9.7
55 or over	4.9	3.7	4.5	2.3	1.9	2.0	4.8	2.9	2.8	0.9
Country of birth										
Australia	74.7	77.8	73.3	78.5	72.9	83.4	77.9	77.7	80.8	83.2
Main English speaking[a]	11.3	11.1	11.4	11.8	15.4	6.5	12.2	11.3	10.6	7.4
Other countries	14.0	11.1	15.4	9.7	11.7	10.2	9.9	11.1	8.6	9.5
Arrival in Australia										
After 1997	4.6	4.4	10.7	5.7	4.7	4.1	5.6	4.4	5.7	4.1
Between 1988 & 1997	6.1	6.0	6.4	5.2	8.6	1.0	4.4	4.1	5.1	5.5
Before 1988	14.5	11.8	9.6	10.6	13.8	11.5	12.2	13.8	8.5	7.3
Born in Australia	74.7	77.8	73.3	78.5	72.9	83.4	77.9	77.7	80.8	83.2
Marital status										
Not married	36.1	47.0	46.0	56.6	51.5	57.8	43.6	54.1	58.6	57.4
Married	63.9	53.0	54.0	43.4	48.5	42.3	56.4	45.9	41.4	42.6
Total number ('000)	415.8	317.4	31.0	44.5	39.8	29.8	110.9	87.6	135.2	104.9

(a) Includes the UK, Ireland, Canada, New Zealand, South Africa and USA.
(a) Category merged with that directly above.

Table A5 Contd.

	Occupational destination									
	Same unit group		Same sub-major group		Same major group		Lower major group		Higher major group	
Characteristic	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Household relationship										
Parent or dependent child	67.2	65.1	59.0	58.9	52.7	56.7	63.8	61.9	50.5	58.2
Other family member	14.4	13.9	18.0	18.0	25.5	21.9	17.1	17.2	29.6	21.5
Others	18.4	21.0	23.0	23.1	21.9	21.4	19.1	20.9	19.9	20.3
State of residence										
NSW	33.0	31.0	41.2	36.5	28.3	25.0	29.0	28.0	31.0	31.0
VIC	26.0	24.5	27.9	19.1	14.3	31.3	26.8	26.0	24.2	23.2
QLD	19.3	22.0	14.9	20.1	30.5	19.7	21.0	20.2	22.0	22.7
SAU	6.4	6.2	7.3	7.7	8.5	9.8	6.8	9.1	6.6	7.0
WAU	11.0	11.3	4.8	13.3	14.1	6.7	10.9	12.1	11.0	10.3
TAS, NTY, ACT	4.4	4.9	3.9	3.3	4.4	7.5	5.5	4.7	5.2	5.7
Educational attainment										
Postgraduate	5.1	8.0	5.3	2.8	7.1	2.1	3.4	2.5	2.7	3.5
Bachelor degree	19.4	22.5	14.7	13.7	7.9	13.9	11.3	13.0	12.7	22.8
Adv. diploma or diploma	7.2	10.9	1.2	7.5	5.0	8.1	5.0	11.0	6.2	8.4
Certificate III or IV	24.9	8.3	16.2	10.3	16.0	8.8	24.3	12.2	18.1	8.7
Certificate I or II	3.6	8.3	5.7	11.2	2.7	7.4	8.1	12.6	5.4	6.5
Certificate not determined	1.5	2.4	2.6	6.2	2.2	7.3	2.5	1.4	3.2	4.3
Level not determined	0.8	0.2	1.3	1.7	0.0	0.0	0.0	1.0	0.6	0.6
No post-school qualification	37.6	39.5	53.0	46.6	59.0	52.3	45.4	46.4	51.1	45.1
Total number ('000)	415.8	317.4	31.0	44.5	39.8	29.8	110.9	87.6	135.2	104.9

Table A5 Contd.

	Occupational destination									
	Same unit group		Same sub-major group		Same major group		Lower major group		Higher major group	
Characteristic	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Area of residence										
Non-metropolitan	28.7	28.1	35.8	31.0	48.2	39.0	37.2	36.2	35.7	36.3
Metropolitan	71.3	71.9	64.2	69.0	51.8	61.0	62.8	63.8	64.3	63.7
Status in employment										
Others	8.7	4.7	3.2	1.2	8.1	3.3	6.8	5.4	6.3	2.1
Employee	91.3	95.3	96.8	98.8	91.9	96.7	93.2	94.6	93.7	97.9
Hours worked										
Part-time	11.2	34.8	24.3	39.0	33.9	48.7	21.0	44.9	40.1	56.3
Full-time	88.8	65.2	75.7	61.0	66.1	51.3	79.0	55.1	59.9	43.7
Industry of last job										
Agriculture & mining	4.7	2.2	7.5	0.0	7.5	7.9	3.6	2.7	6.2	3.2
Manufacturing	11.8	5.4	13.6	3.7	16.0	10.9	16.1	7.4	12.6	8.2
Utilities & construction	12.9	2.1	12.1	1.8	14.5	1.0	11.0	1.4	8.9	1.0
Wholesale trade	7.1	3.1	3.6	5.7	7.5	4.3	8.5	2.0	5.7	3.7
Retail trade & accommodation	18.5	24.1	9.9	26.8	20.5	26.5	26.7	29.8	32.7	47.4
Transport & storage	6.0	2.6	13.6	2.4	8.3	7.4	7.0	4.5	7.8	3.5
Property, business[(b)] & comm.	23.9	25.0	20.5	26.4	8.6	9.9	15.6	23.8	16.2	14.5
Govt. & defence	2.6	3.3	5.9	7.7	4.3	3.4	3.6	4.3	2.7	3.2
Education	2.8	7.5	3.7	7.3	4.7	8.0	3.0	7.1	1.5	2.1
Health & community services	4.5	16.2	3.2	10.6	0.3	11.7	3.0	9.4	0.4	9.2
Culture, rec. & personal	5.2	8.4	6.3	7.8	7.7	9.1	1.8	7.8	5.4	3.9
Total number ('000)	415.8	317.4	31.0	44.5	39.8	29.8	110.9	87.6	135.2	104.9

(b) Includes finance and insurance

Table A5 Contd.

	Occupational destination									
	Same unit group		Same sub-major group		Same major group		Lower major group		Higher major group	
Characteristic	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Occupation of last job										
Managers & administrators	9.2	3.9	6.0	2.0	2.2	2.3	14.5	10.6	0.0	0.0
Professionals	21.1	24.0	16.2	10.2	11.4	9.7	10.8	11.5	3.1	4.3
Associate professionals	12.8	12.6	9.5	3.5	12.8	6.0	13.5	20.1	6.7	5.2
Trades	21.6	2.9	3.5	0.0	15.3	0.0	23.6	5.1	5.4	1.6
Adv. clerical & service	1.0	7.7	0.0	0.0	0.0	1.3	1.2	9.7	1.6	4.3
Inter. clerical, sales & serv.	8.7	29.2	17.4	69.3	8.0	55.7	13.4	31.8	13.8	28.9
Inter. production & transp.	13.2	1.5	16.7	0.9	23.1	0.3	17.3	5.3	16.5	3.5
Elem. clerical, sales & serv.	5.4	13.4	1.7	12.0	2.4	7.2	5.9	5.9	17.0	37.6
Labourers	7.0	4.9	29.0	2.2	24.7	17.6	0.0	0.0	35.9	14.6
Tenure of last job[(b)]										
Between 1 and 3 months	6.3	8.4	13.5	11.5	5.8	10.1	6.1	9.5	8.5	12.4
Between 3 and 6 months	13.0	16.9	19.4	17.3	21.1	24.9	18.0	14.0	22.8	16.0
Between 6 and 12 months	9.3	9.0	6.9	9.1	9.1	5.5	8.1	9.9	7.1	8.4
Between 1 and 2 years	21.6	20.2	22.0	17.0	13.9	15.9	20.1	23.3	21.0	20.4
2 years or more	44.9	38.6	34.9	39.6	39.1	30.5	42.8	35.5	33.0	36.2
Reason left last job										
Loser	22.8	17.4	39.4	29.0	44.7	25.8	42.8	31.2	38.8	27.0
Leaver	77.2	82.6	60.6	71.0	55.3	74.2	57.2	68.8	61.2	73.0
Total number ('000)	415.8	317.4	31.0	44.5	39.8	29.8	110.9	87.6	135.2	104.9

(b) Excludes a small number of workers for whom tenure of last job was not determined.

Appendix 4 Data descriptions based on skill-level transitions

Table A6 Job-to-job mobility by skill level and sex

	Males		Females		Persons	
Skill level of destination occupation	'000	%	'000	%	'000	%
Same skill level	521.3	71.1	415.5	71.1	936.8	71.1
Same occupational group	*486.6*	*66.4*	*391.7*	*67.0*	*878.3*	*66.7*
Different occupational group	*34.7*	*4.7*	*23.8*	*4.1*	*58.5*	*4.4*
Lower skill level	93.5	12.8	77.0	13.2	170.5	13.0
Higher skill level	117.9	16.1	91.5	15.7	209.5	15.9
All	732.7	100.0	584.2	100.0	1316.9	100.0

Table A7 Job-to-job mobility by skill level and age group—males (%)

	Occupational destination (%)				
	Same skill level				
Age group	Same occupational group	Different occupational group	Lower skill level	Higher skill level	Total ('000)
15-19	45.4	11.6	9.9	33.1	59.5
20-24	56.7	4.4	14.8	24.1	130.4
25-34	69.9	2.9	13.5	13.7	242.0
35-44	71.5	4.0	12.2	12.3	161.5
45-54	73.0	5.4	11.6	10.0	107.6
55 or over	71.1	8.3	11.1	9.4	31.7
Total	66.4	4.7	12.8	16.1	732.8

Table A8 Job-to-job mobility by skill level and age group—females (%)

	Occupational destination (%)				
	Same skill level				
Age group	Same occupational group	Different occupational group	Lower skill level	Higher skill level	Total ('000)
15-19	52.2	7.5	17.4	23.0	64.7
20-24	60.6	1.9	14.0	23.6	125.4
25-34	69.8	4.0	12.6	13.5	173.6
35-44	69.1	4.7	14.0	12.1	121.8
45-54	77.3	4.3	8.3	10.0	81.8
55 or over	79.4	2.4	14.5	3.7	16.8
Total	67.1	4.1	13.2	15.7	584.0

Table A9 Job-to-job mobility by skill level and qualification—males (%)

	Occupational destination (%)				
	Same skill level				
Qualification	Same occupational group	Different occupational group	Lower skill level	Higher skill level	Total ('000)
Postgraduate	77.7	8.1	6.7	7.5	33.2
Bachelor degree	74.8	4.8	7.5	12.9	117.9
Diploma	69.8	1.7	11.7	16.9	46.1
Certificate III or IV	69.1	2.6	14.6	13.8	166.2
Certificate I or II	52.4	7.5	20.9	19.2	34.2
Cert. not determined	52.3	5.2	17.5	24.9	14.8
Level not determined	81.9	0.0	0.0	18.1	4.7
No post-school qual.	62.2	5.7	13.6	18.5	315.6
Total	66.4	4.7	12.8	16.1	732.8

Table A10 Job-to-job mobility by skill level and qualification—females (%)

	Occupational destination (%)				
	Same skill level				
Qualification	Same occupational group	Different occupational group	Lower skill level	Higher skill level	Total ('000)
Postgraduate	82.4	6.2	2.3	9.1	33.2
Bachelor degree	69.8	2.1	9.4	18.6	116.8
Diploma	68.6	5.8	13.2	12.3	58.6
Certificate III or IV	62.8	5.6	16.8	14.7	53.2
Certificate I or II	65.3	2.7	19.8	12.1	51.5
Cert. not determined	68.2	7.6	5.8	18.4	18.3
Level not determined	45.7	0.0	31.4	22.9	2.8
No post-school qual.	64.8	4.1	14.6	16.6	249.5
Total	67.1	4.1	13.2	15.7	584.0

Table A11 Job-to-job mobility by skill level and occupation—males (%)

	Occupational destination (%)				
	Same skill level				
Occupation	Same occupational group	Different occupational group	Lower skill level	Higher skill level	Total ('000)
Managers & admin.	71.9	7.9	20.2	0.0	57.0
Professionals	85.7	3.7	10.6	0.0	113.5
Associate professionals	71.9	0.0	17.5	10.6	85.2
Trades	74.3	0.4	19.6	5.6	130.4
Adv. clerical & service	55.0	0.0	16.8	28.2	7.7
Inter. clerical, sales & ser.	57.3	7.5	11.5	23.8	78.3
Inter. prod. & transport	62.5	4.1	17.3	16.1	110.7
Elem. clerical, sales & serv.	44.8	12.2	0.0	43.1	53.3
Labourers	49.8	8.8	0.0	41.4	96.6
Total	66.4	4.7	12.8	16.1	732.8

Table A12 Job-to-job mobility by skill level and occupation—females (%)

	Occupational destination (%)				
	Same skill level				
Occupation	Same occupational group	Different occupational group	Lower skill level	Higher skill level	Total ('000)
Managers & admin.	59.8	16.5	23.6	0.0	23.1
Professionals	85.2	4.6	10.3	0.0	98.1
Associate professionals	65.2	0.0	26.6	8.2	66.2
Trades	60.1	1.6	27.6	10.7	15.3
Adv. clerical & service	65.6	0.6	22.5	11.3	37.7
Inter. clerical, sales & ser.	70.7	0.7	13.4	15.3	198.0
Inter. prod. & transport	39.1	22.2	33.9	4.8	13.8
Elem. clerical, sales & serv.	52.8	5.4	0.0	41.7	94.6
Labourers	58.8	14.9	0.0	26.3	37.2
Total	67.1	4.1	13.2	15.7	584.0

Table A13 Job-to-job mobility by skill level and industry—males (%)

	Occupational destination (%)				
	Same skill level				
Occupation	Same occupational group	Different occupational group	Lower skill level	Higher skill level	Total ('000)
Agriculture & mining	66.7	1.2	10.8	21.2	37.2
Manufacturing	63.1	5.8	17.4	13.6	94.6
Utilities & construction	72.4	1.1	13.9	12.6	87.5
Wholesale trade	66.1	7.5	13.8	12.5	50.6
Retail trade & accomm.	54.4	6.5	14.6	24.5	162.1
Transport & storage	63.9	6.2	11.1	18.8	50.7
Prop., business[(a)] & comm.	73.6	3.6	10.0	12.9	148.4
Government admin. & defence	65.2	10.2	12.3	12.3	21.9
Education	73.3	2.7	16.7	7.3	20.1
Health & community services	83.4	3.3	11.4	1.9	23.7
Culture, recreation & per. serv.	74.0	4.0	3.1	18.9	36.0
Total	66.4	4.7	12.8	16.1	732.8

(a) Includes finance and insurance.

Table A14 Job-to-job mobility by skill level and industry—females (%)

	Occupational destination (%)				
	Same skill level				
Occupation	Same occupational group	Different occupational group	Lower skill level	Higher skill level	Total ('000)
Agriculture & mining	62.1	5.2	15.5	17.2	15.1
Manufacturing	59.5	9.2	16.1	15.3	37.0
Utilities & construction	77.6	0.0	12.1	10.4	10.1
Wholesale trade	71.0	5.4	6.9	16.7	19.4
Retail trade & accomm.	55.9	4.8	12.6	26.6	172.1
Transport & storage	60.3	3.7	20.6	15.4	19.3
Prop., business[(a)] & comm.	72.3	2.6	14.0	11.1	130.0
Government admin. & defence	67.7	6.0	12.7	13.6	21.9
Education	77.7	2.8	16.5	3.0	37.8
Health & community services	77.0	2.7	9.5	10.8	77.5
Culture, recreation & per. serv.	75.1	4.0	13.3	7.6	43.8
Total	67.1	4.1	13.2	15.7	584.0

(a) Includes finance and insurance.

Appendix 5 Statistical models of labour market transitions

A range of statistical models have been used to estimate and study labour mobility. The quality and type of data that are available play a crucial role as to which specific model is estimated. When longitudinal data are available then duration or hazard models are often specified to describe the labour mobility process (McCall 1990; Theodossiou 2002; Bradley, Crouchley and Oskrochi 2003). Multinomial logistic and probit models are the preferred specifications when only cross section data are available (Royalty 1998; Waddoups, Daneshvary and Assane 1995; Dolton and Kidd 1998).

In this report we specify a sequence of two logistic models to understand the mobility process in the Australian labour market. The first is a binary logistic model to study stayers and movers while the second is a multinomial logistic model to study transitions of movers into employment (distinguished by occupations) and non-employment ('looking for work' or 'not in the labour force'). The conceptual framework for the second model is given in Figure 1 in chapter 3. We assume the error structure for the two models are independent to avoid the complexity involved in estimating a model that allows the error structure from the two models to be correlated.

Model for job separations

The decision to 'move' (movers; $y = 1$) from a job or 'stay' (stayers; $y = 2$) in it is modelled with a binary logistic specification. In this model new entrants are excluded because their behaviour pattern is considered to be different to that of stayers.[40] The probability of separating from a job is specified as:

$$\mathrm{P}(y = 1 \mid \mathbf{x}) = \exp(\mathbf{x}\boldsymbol{\beta}) / [1 + \exp(\mathbf{x}\boldsymbol{\beta})]; \quad (1)$$

and the probability of staying in it (base state) as:

$$\mathrm{P}(y = 2 \mid \mathbf{x}) = 1 / [1 + \exp(\mathbf{x}\boldsymbol{\beta})]; \quad (2)$$

where $\mathbf{x}$ represents a vector of demographic, educational and labour market explanatory variables and is a vector of associated parameters.

The coefficients of this model are difficult to interpret. The rate of change in the probability of a given outcome due to a given explanatory variable, x_k, depends not only on the coefficient β_k, but also on the level of the probability from which the change is measured. In fact there is no direct correspondence between any given coefficient's magnitude (and even the sign in the case of multinomial model) and that of its associated partial derivative (Dolton and Kidd 1998); Greene (2003)). In other words it depends on the value of each x_k that is used to calculate the probability

[40] Alternatively one could remove the distinction between new entrants to be stayers and consider them collectively as non-separators.

level. Therefore the partial or marginal effect is sometimes calculated at the sample averages of all other explanatory variables. A person with average sample characteristics, particularly when a large number of characteristics are categorical, is however an artificial construct and unlikely to exist in reality. More recently the mean of the marginal taken over all individuals in the sample have been reported as an alternative statistic (Wilkins 2004; Greene 2003). The mean marginal provides an estimate of the average change in the probability of making a transition from the base state to another given state for a small change in an explanatory with all other variables remaining constant.

The marginal effect of a continuous variable, x_k, on outcome m, for a person i with characteristic vector $\mathbf{x}^i$, is given by:

$$M_{1,k}^{i} = \frac{\partial \mathrm{P}(y=1 \mid \mathbf{x}^{\mathbf{i}})}{\partial x_k} = \mathrm{P}(y=1 \mid \mathbf{x}^{\mathbf{i}}) \left[\beta_{k,1} - \sum_{j=1}^{2} \beta_{k,j} \mathrm{P}(y=j \mid \mathbf{x}^{\mathbf{i}}) \right]; \qquad (3)$$
$$= \mathrm{P}(y=1 \mid \mathbf{x}^{\mathbf{i}}) \mathrm{P}(y=2 \mid \mathbf{x}^{\mathbf{i}}) \beta_{k,1}$$

and the mean marginal is simply the average over the sample:

$$\overline{M}_{1,k} = (1/n) \sum_{i=1}^{n} M_{m,k}^{i} \; ; \qquad (4)$$

where n is the sample size. The mean marginal values across outcome categories sum to zero, and therefore the mean marginal for the base state outcome is equal to $-\overline{M}_{1,k}$.

The marginal[41] effect of a discrete variable, x_k, taking the value a, on outcome m, for a person i with characteristic vector $\mathbf{x}_k{}^i$ is given by:

$$M_{m,k}^{i} = \mathrm{P}(y=m \mid \mathbf{x}_k{}^{\mathbf{i}}, x_k = a) - \mathrm{P}(y=m \mid \mathbf{x}_k{}^{\mathbf{i}}, x_k = b); \qquad (5)$$

where $\mathbf{x}_k{}^i$ excludes the variable x_k and b is the reference category relative to which all other effects are evaluated. The mean marginal is calculated using (4).

To our knowledge the analytic expression for the standard error for the mean marginal statistic is not available. Thus we use the bootstrap standard error to assess the uncertainty in the estimate of a mean marginal.

Model for occupational transitions

The conceptual framework developed in chapter 3 provides the basis for modelling occupational transitions. This framework has five job-to-job and two job-to-non-employment transition states. In the statistical model specified below, two of the job-to-job transition states are collapsed into a single state. Job transitions to another occupation in the same sub-major group are no longer distinguished from transitions to another occupation in the same major group. This is because of relatively small sample sizes that

[41] Strictly speaking this in not a marginal effect as it measures the effect of a categorical variable changing from one category to another.

are involved. Therefore a job separation is considered to result in transition to one of the following six states:

1. re-employment in the same occupation[42] as before ($y = 6$, this is the base state);
2. re-employment in another occupation that is in the same occupational group as the occupation of the last job ($y = 1$);
3. re-employment in another occupation that is in a lower occupational group than the occupation of the last job ($y = 2$);
4. re-employment in another occupation that is in a higher occupational group than the occupation of the last job ($y = 3$);
5. looking for work ($y = 4$); or
6. not in the labour force ($y = 5$).

A multinomial logistic specification is used to model the decision to make one of the above transitions. The probability of transition to transition states 1 to 5 is given by:

$$\mathrm{P}(y = m \mid \mathbf{x}) = \exp(\mathbf{x}\boldsymbol{\beta}_m) \Big/ \left[1 + \sum_{j=1}^{5} \exp(\mathbf{x}\boldsymbol{\beta}_j) \right]; \qquad m = 1,\ldots,5 \tag{6}$$

and the probability of transition to state 6, job change without occupation change, (base state) is given by:

$$\mathrm{P}(y = 6 \mid \mathbf{x}) = 1 \Big/ \left[1 + \sum_{j=1}^{5} \exp(\mathbf{x}\boldsymbol{\beta}_j) \right]; \tag{7}$$

where $\mathbf{x}$ once again represents a vector of demographic, educational and labour market explanatory variables and $\boldsymbol{\beta}_m$ the vector of coefficients associated with transition into state *m*. The marginal effect of a continuous variable, x_k, on outcome *m*, for a person *i* with characteristic vector $\mathbf{x}^i$, is given by:

$$M^{i}_{m,k} = \frac{\partial \mathrm{P}(y = m \mid \mathbf{x}^{\mathbf{i}})}{\partial x_k} = \mathrm{P}(y = m \mid \mathbf{x}^{\mathbf{i}}) \left[\beta_{k,m} - \sum_{j=1}^{6} \beta_{k,j} \mathrm{P}(y = j \mid \mathbf{x}^{\mathbf{i}}) \right]; \tag{8}$$

and for a discrete variable it is as in (5). In both cases (4) is used to calculate the mean marginal.

[42] Same occupation refers to the occupation at the unit group (4-digit) level.

Appendix 6 Model estimates

Table A15 Binary logit estimates of job separation—males and females (base state is 'staying in same job')

	Males		Females	
Explanatory variable	Estimate	*P*-value	Estimate	*P*-value
Age	-0.0607	<.0001	-0.0671	<.0001
Age^2	0.0004	0.0012	0.0004	0.0019
Arrival after 1997 & MESC[(a)]	1.0396	<.0001	1.0547	<.0001
Arrival 1988-1997 & MESC	0.1359	0.3359	0.0311	0.8406
Arrival before 1988 & MESC	0.1477	0.0567	0.0832	0.3135
Arrival after 1997 & non-MESC	0.7102	<.0001	0.6940	<.0001
Arrival 1988-1997 & non-MESC	0.0386	0.7074	-0.0831	0.4292
Arrival before 1988 & non-MESC	-0.0283	0.6994	-0.0895	0.2619
Born in Australia (ref)				
Not married	0.0865	0.0667	0.1331	0.0039
Married (ref)				
VIC	-0.0143	0.7806	0.0592	0.2758
QLD	0.2075	0.0002	0.3306	<.0001
SAU	-0.0166	0.8370	0.1372	0.0936
WAU	0.0618	0.3650	0.2366	0.0008
TAS, NTY, ACT	0.0761	0.4335	0.2333	0.0175
NSW (ref)		.		
Non-metropolitan	-0.0111	0.8048	-0.0949	0.0426
Metropolitan (ref)				
Postgraduate	0.0826	0.4369	0.3614	0.0004
Bachelor degree	0.1371	0.0551	0.3190	<.0001
Adv. diploma or diploma	0.0024	0.9784	0.2918	<.0001
Certificate III or IV	0.0858	0.1148	0.3422	<.0001
Certificate I or II	0.1302	0.1136	0.1734	0.0096
No post-school qualification (ref)				
Non-employee	-0.7938	<.0001	-0.7073	<.0001
Employee (ref)				
Part-time	0.6429	<.0001	0.2257	<.0001
Full-time (ref)				

(a) Includes the UK, Ireland, Canada, New Zealand, South Africa and USA

Table A15 Contd

	Males		Females	
Explanatory variable	Estimate	*P*-value	Estimate	*P*-value
Managers & administrators	-0.5879	<.0001	-0.4500	0.0007
Professionals	-0.5692	<.0001	-0.6388	<.0001
Associate professionals	-0.5534	<.0001	-0.3412	0.0005
Trades	-0.5382	<.0001	-0.4528	0.0019
Adv. clerical & service	-0.3614	0.0799	-0.6073	<.0001
Inter. Clerical, sales & serv.	-0.3175	0.0002	-0.1712	0.0337
Inter. Production & transp.	-0.2174	0.0039	-0.3010	0.0360
Elem. clerical, sales & serv.	-0.4500	<.0001	-0.3302	0.0003
Labourers (ref)				
Agriculture & mining	0.1648	0.1647	0.1452	0.3194
Manufacturing	-0.0986	0.3211	0.1716	0.1098
Utilities & construction	0.2109	0.0380	-0.3171	0.0520
Wholesale trade	0.2109	0.0669	0.0172	0.8970
Retail trade & accommodation	0.2005	0.0335	-0.0046	0.9584
Transport & storage	0.2424	0.0373	-0.0034	0.9816
Property, business[(b)] & communication	0.4056	<.0001	0.1611	0.0749
Govt. & defence	-0.0831	0.5299	-0.1586	0.2114
Education	0.0380	0.7806	-0.2294	0.0314
Health & community services	-0.0430	0.7497	-0.3635	0.0002
Culture, rec. & personal (ref)				
Constant	0.4068	0.2274	0.6510	0.0056
Sample size	17 457		14 718	
Per cent movers in sample	21.8		24.4	
Likelihood ratio	1409.0	<.0001	1061.6	<.0001
Generalised R^2	0.0775		0.0696	
Maximum re-scaled R^2	0.1191		0.1038	

(b) Includes finance and insurance

Table A16 Multinomial logit estimates of occupational mobility—males (base state is 'remaining in same occupation')

	Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value
Age	-0.0289	0.5035	-0.0397	0.2669	-0.0629	0.0656	-0.1187	<.0001	-0.2836	<.0001
Age^2	0.0002	0.7600	0.0004	0.3860	0.0006	0.1899	0.0016	<.0001	0.0040	<.0001
Arrival after 1997 & MESC[(a)]	1.0311	0.0061	0.2955	0.4342	0.6254	0.0514	0.2620	0.4696	-0.3129	0.5110
Arrival 1988-1997 & MESC	0.7439	0.0852	0.3755	0.3334	-0.1293	0.7809	-0.0259	0.9519	-0.1177	0.8027
Arrival prior 1988 & MESC	0.2348	0.4534	0.2392	0.3243	0.1661	0.5002	0.2665	0.2329	0.1159	0.6170
Arrival. after 1997 & non-MESC	0.4896	0.2899	0.4694	0.2131	-0.2675	0.5116	0.6460	0.0690	0.8034	0.0264
Arrival. 1988-1997 & non-MESC	0.4848	0.1867	-0.7214	0.0894	0.1712	0.5730	0.5503	0.0380	0.5324	0.0611
Arrival. prior 1988 & non-MESC	0.1371	0.6529	-0.3635	0.1724	-0.7035	0.0231	0.3326	0.0959	0.2224	0.2910
Born in Australia (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Not married	0.2653	0.1177	0.0920	0.5125	0.4150	0.0022	0.6711	<.0001	0.4314	0.0018
Married (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
VIC	-0.2382	0.2392	0.1697	0.2904	-0.0401	0.7943	-0.2428	0.0889	-0.1851	0.2301
QLD	-0.0469	0.8180	0.0162	0.9267	-0.0093	0.9555	-0.0581	0.6985	-0.0968	0.5478
SAU	0.2381	0.4143	0.1539	0.5481	0.0316	0.8973	-0.0245	0.9140	0.2137	0.3596
WAU	-0.1458	0.5763	0.0778	0.7150	-0.0349	0.8623	-0.1541	0.4063	-0.1080	0.5825
TAS, NTY, ACT	-0.5036	0.1887	0.1369	0.6434	0.0409	0.8864	-0.5968	0.0365	-0.1659	0.5476
NSW (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Non-metropolitan	0.5952	0.0004	0.2976	0.0324	0.2098	0.1198	0.4150	0.0008	0.3671	0.0052
Metropolitan (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table A16 Contd.

	Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value
Postgraduate	0.1781	0.6126	-0.2966	0.3933	-0.0937	0.7881	-1.0448	0.0024	-0.4548	0.1433
Bachelor degree	-0.6567	0.0082	-0.4105	0.0460	-0.1314	0.4798	-1.2134	<.0001	-0.6404	0.0010
Adv. diploma or diploma	-0.8539	0.0291	-0.3218	0.2454	0.0607	0.8045	-0.6612	0.0083	-0.5844	0.0254
Certificate III or IV	-0.6358	0.0020	-0.0995	0.5226	-0.1801	0.2522	-0.6957	<.0001	-0.3962	0.0097
Certificate I or II	-0.1832	0.5489	0.6185	0.0056	0.3478	0.1238	-0.0868	0.6843	-0.5981	0.0296
No post-school qual. (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Non-employee	-0.3401	0.2597	-0.0860	0.7174	-0.1404	0.5399	-0.2541	0.2349	0.2655	0.1863
Employee (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Part-time	1.0392	<.0001	0.6219	0.0002	1.3263	<.0001	0.4767	0.0008	1.3631	<.0001
Full-time (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Agriculture & mining	-0.2098	0.6020	0.5171	0.3092	0.2939	0.3952	-0.3798	0.2193	-0.0078	0.9813
Manufacturing	0.0062	0.9854	1.3716	0.0015	0.3193	0.2807	0.0266	0.9194	-0.0204	0.9437
Utilities & construction	-0.3024	0.3899	0.7858	0.0768	-0.1202	0.6974	-0.4187	0.1169	-0.2907	0.3204
Wholesale trade	-0.3032	0.4560	1.3990	0.0021	0.1354	0.6909	-0.6406	0.0502	-0.2557	0.4549
Retail trade & accommodation	-0.6531	0.0499	1.3756	0.0011	0.3871	0.1510	-0.1412	0.5724	0.1002	0.7076
Transport & storage	0.3849	0.2957	1.2823	0.0058	0.6095	0.0602	-0.2810	0.3679	-0.2661	0.4307
Property, business[(b)] & comm..	-0.6339	0.0590	0.8058	0.0598	-0.0763	0.7838	-0.3142	0.2144	-0.3583	0.1949
Govt. & defence	0.6228	0.1628	1.5820	0.0023	0.5940	0.1554	0.0092	0.9815	0.7274	0.0557
Education	0.1510	0.7516	1.3542	0.0118	-0.4909	0.3460	0.2584	0.5232	0.8106	0.0310
Health & community services	-1.3710	0.0236	0.7698	0.1398	-2.2191	0.0035	-1.1132	0.0082	-0.2260	0.5387
Culture, rec. & personal (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table A16 Contd.

	Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value
Last job tenure: <= 1 months	-0.0457	0.8835	-0.4707	0.1091	-0.1252	0.6183	0.7113	0.0008	-0.1543	0.4978
Last job tenure: 2 to 3 months	0.0616	0.8277	-0.3510	0.1794	-0.0022	0.9922	0.6907	0.0006	0.0588	0.7785
Last job tenure: 3 to 6 months	0.1799	0.4001	0.0129	0.9425	0.3423	0.0408	0.6473	<.0001	-0.4232	0.0179
Last job tenure: 6 to 12 months	-0.1178	0.6731	-0.2579	0.2594	-0.2692	0.2360	0.1673	0.4185	-0.3590	0.1106
Last job tenure: 1 to 2 yrs	-0.2158	0.3049	-0.1137	0.4871	-0.0086	0.9566	0.1992	0.2021	-0.5711	0.0008
Last job tenure: >2 yrs (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Job loser	0.8524	<.0001	1.0041	<.0001	0.3020	0.0217	2.1280	<.0001	1.5665	<.0001
Job leaver (ref)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Constant	-3.1980	0.0047	-2.0871	0.0099	-0.6228	0.3778	-0.0039	0.9950	1.6789	0.0093
Sample size (n = 3770)	233		379		457		693		634	
Per cent in sample	6.2		10.1		12.1		18.4		16.8	
Likelihood ratio	1775.1									
Generalised R^2	0.3755									
Maximum re-scaled R^2	0.3904									

(a) Includes the UK, Ireland, Canada, New Zealand, South Africa and USA
(b) Includes finance and insurance

Table A17 Multinomial logit estimates of occupational mobility—females (base state is 'remaining in same occupation')

	Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value
Age	-0.0399	0.3247	-0.0173	0.6669	-0.0629	0.0656	-0.0460	0.2405	-0.0328	0.3395
Age^2	0.0004	0.4733	-0.0001	0.8601	0.0006	0.1899	0.0002	0.6785	0.0002	0.7127
Arrival after 1997 & MESC[a]	0.6971	0.0680	0.1152	0.7945	0.6254	0.0514	-0.0417	0.9189	-0.1135	0.7974
Arrival 1988-1997 & MESC	-1.9076	0.0982	-0.3413	0.5163	-0.1293	0.7809	-0.1351	0.7685	-0.4698	0.3740
Arrival prior 1988 & MESC	-0.0326	0.9172	0.4388	0.0980	0.1661	0.5002	-0.4811	0.1520	-0.0580	0.8330
Arrival. after 1997 & non-MESC	0.1290	0.8315	0.4252	0.4090	-0.2675	0.5116	0.2362	0.6181	0.6969	0.1011
Arrival. 1988-1997 & non-MESC	-0.0258	0.9473	-0.1940	0.6205	0.1712	0.5730	-0.0711	0.8281	0.5907	0.0298
Arrival. prior 1988 & non-MESC	0.0327	0.9165	0.2860	0.2965	-0.7035	0.0231	-0.2576	0.4060	0.5129	0.0271
Born in Australia (ref)										
Not married	0.2939	0.0572	0.1700	0.2406	0.4150	0.0022	0.0767	0.5833	0.4570	0.0006
Married (ref)										
VIC	-0.0439	0.8163	0.1928	0.2795	-0.0401	0.7943	-0.0345	0.8388	0.3266	0.0429
QLD	-0.2312	0.2544	-0.1141	0.5538	-0.0093	0.9555	-0.0197	0.9103	0.1727	0.3121
SAU	0.2195	0.4264	0.4098	0.1148	0.0316	0.8973	0.0911	0.7291	0.0903	0.7359
WAU	-0.0939	0.7015	0.0939	0.6786	-0.0349	0.8623	-0.0068	0.9755	0.3672	0.0692
TAS, NTY, ACT	-0.1299	0.7069	-0.1585	0.6370	0.0409	0.8864	0.0574	0.8473	-0.0942	0.7567
NSW (ref)										
Non-metropolitan	0.2845	0.0786	0.4374	0.0037	0.2098	0.1198	0.3494	0.0147	0.4105	0.0028
Metropolitan (ref)										

Table A17 Contd.

	Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value
Postgraduate	-1.4583	0.0015	-1.1316	0.0050	-0.0937	0.7881	0.0888	0.7880	-0.6385	0.0376
Bachelor degree	-0.6422	0.0032	-0.6473	0.0018	-0.1314	0.4798	0.4238	0.0145	-0.4848	0.0066
Adv. diploma or diploma	-0.5214	0.0480	-0.1047	0.6380	0.0607	0.8045	-0.0428	0.8523	-0.5795	0.0104
Certificate III or IV	0.0642	0.7968	0.4012	0.0707	-0.1801	0.2522	0.2915	0.2103	0.0098	0.9648
Certificate I or II	0.2687	0.1962	0.1267	0.5369	0.3478	0.1238	0.1113	0.5959	-0.3268	0.1021
No post-school qual. (ref)										
Non-employee	-0.8468	0.0890	0.3082	0.2997	-0.1404	0.5399	-0.6084	0.1231	0.0614	0.8374
Employee (ref)										
Part-time	0.3135	0.0383	0.3855	0.0063	1.3263	<.0001	0.7540	<.0001	0.3362	0.0082
Full-time (ref)										
Agriculture & mining	0.0414	0.9307	-0.0571	0.9035	0.2939	0.3952	1.1069	0.0175	0.2623	0.5324
Manufacturing	0.2249	0.5400	0.4952	0.1473	0.3193	0.2807	1.4473	0.0001	0.8070	0.0135
Utilities & construction	-0.4415	0.4628	-0.3498	0.5410	-0.1202	0.6974	0.2299	0.7151	0.2555	0.6002
Wholesale trade	0.4912	0.2226	-0.2727	0.5830	0.1354	0.6909	1.2674	0.0036	0.8956	0.0200
Retail trade & accommodation	-0.1576	0.5732	0.1442	0.5862	0.3871	0.1510	1.3463	<.0001	0.8217	0.0018
Transport & storage	0.5510	0.1964	0.6778	0.0951	0.6095	0.0602	1.2787	0.0043	0.2315	0.6162
Property, business[(b)] & comm.	-0.1301	0.6501	0.2518	0.3488	-0.0763	0.7838	0.5046	0.1289	0.3763	0.1694
Govt. & defence	0.6506	0.1082	0.6467	0.1086	0.5940	0.1554	0.9862	0.0286	0.1453	0.7473
Education	0.3442	0.3457	0.4487	0.1954	-0.4909	0.3460	-0.4271	0.3743	0.9151	0.0043
Health & community services	-0.3026	0.3356	-0.3330	0.2838	-2.2191	0.0035	0.2611	0.4558	0.0922	0.7616
Culture, rec. & personal (ref)										

Table A17 Contd.

	Same major group		Lower major group		Higher major group		Looking for work		Out of labour force	
Explanatory variable	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value	Estimate	*P*-value
Last job tenure: <= 1 months	-0.2722	0.3452	-0.3021	0.2694	-0.1252	0.6183	-0.7569	0.0062	-0.2484	0.3017
Last job tenure: 2 to 3 months	-0.0788	0.7545	-0.2384	0.3365	-0.0022	0.9922	-0.0779	0.7217	0.0345	0.8704
Last job tenure: 3 to 6 months	-0.0342	0.8645	-0.3987	0.0543	0.3423	0.0408	-0.4237	0.0250	0.1004	0.5632
Last job tenure: 6 to 12 months	-0.3122	0.2641	0.0184	0.9391	-0.2692	0.2360	-0.2956	0.2164	0.2224	0.3058
Last job tenure: 1 to 2 yrs	-0.2579	0.2135	0.1132	0.5252	-0.0086	0.9566	-0.1121	0.5146	-0.0646	0.7158
Last job tenure: >2 yrs (ref)										
Job loser	0.5110	0.0023	0.8024	<.0001	0.3020	0.0217	0.7343	<.0001	1.8621	<.0001
Job leaver (ref)										
Constant	-0.7304	0.3481	-1.2780	0.0916	-0.5381	0.4292	-1.3401	0.0750	-1.8140	0.0066
Sample size (n = 3551)	264		313		377		468		995	
Per cent in sample	7.4		8.8		10.6		13.2		28.0	
Likelihood ratio	1195.8									
Generalised R^2	0.2859									
Maximum re-scaled R^2	0.2972									

(a) Includes the UK, Ireland, Canada, New Zealand, South Africa and USA
(b) Includes finance and insurance

Table A18 Predicted probabilities of occupational mobility after job separation by industry, full-time/part-time status and reason for ceasing last job—males

	Occupational destination					
Industry of last job	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
Agriculture & mining						
Full-time job leaver	0.57	0.06	0.06	0.14	0.08	0.09
Full-time job loser	0.31	0.10	0.06	0.29	0.07	0.18
Part-time job leaver	0.27	0.07	0.07	0.09	0.30	0.19
Part-time job loser	0.12	0.09	0.06	0.16	0.22	0.34
Manufacturing						
Full-time job leaver	0.50	0.07	0.12	0.13	0.10	0.08
Full-time job loser	0.27	0.11	0.12	0.26	0.09	0.16
Part-time job leaver	0.21	0.07	0.14	0.07	0.36	0.15
Part-time job loser	0.10	0.09	0.12	0.13	0.28	0.28
Utilities & construct.						
Full-time job leaver	0.61	0.06	0.08	0.10	0.08	0.07
Full-time job loser	0.35	0.10	0.09	0.22	0.07	0.16
Part-time job leaver	0.29	0.07	0.10	0.07	0.32	0.16
Part-time job loser	0.14	0.10	0.09	0.12	0.25	0.30
Wholesale trade						
Full-time job leaver	0.56	0.06	0.14	0.12	0.06	0.07
Full-time job loser	0.31	0.09	0.14	0.26	0.05	0.14
Part-time job leaver	0.27	0.07	0.18	0.08	0.24	0.16
Part-time job loser	0.13	0.09	0.16	0.14	0.19	0.29
Retail & accommod.						
Full-time job leaver	0.52	0.04	0.12	0.14	0.09	0.09
Full-time job loser	0.27	0.06	0.12	0.29	0.08	0.18
Part-time job leaver	0.22	0.04	0.15	0.08	0.33	0.18
Part-time job loser	0.10	0.05	0.13	0.15	0.24	0.33
Transport & storage						
Full-time job leaver	0.49	0.10	0.11	0.17	0.07	0.06
Full-time job loser	0.25	0.14	0.10	0.33	0.06	0.11
Part-time job leaver	0.23	0.11	0.14	0.11	0.29	0.13
Part-time job loser	0.11	0.14	0.12	0.19	0.21	0.23
Business[(a)]. & comm.						
Full-time job leaver	0.61	0.04	0.08	0.11	0.09	0.07
Full-time job loser	0.36	0.07	0.09	0.24	0.08	0.15
Part-time job leaver	0.28	0.05	0.11	0.07	0.35	0.15
Part-time job loser	0.14	0.07	0.10	0.13	0.28	0.28

(a) Includes property, finance and insurance

Table A18 Contd.

Industry	Occupational destination					
	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
Govt. & defence						
Full-time job leaver	0.41	0.11	0.12	0.14	0.08	0.13
Full-time job loser	0.19	0.14	0.11	0.25	0.06	0.24
Part-time job leaver	0.16	0.10	0.13	0.08	0.28	0.25
Part-time job loser	0.07	0.12	0.10	0.12	0.19	0.41
Education						
Full-time job leaver	0.47	0.08	0.11	0.05	0.12	0.16
Full-time job loser	0.24	0.11	0.11	0.11	0.10	0.33
Part-time job leaver	0.17	0.06	0.11	0.03	0.36	0.27
Part-time job loser	0.07	0.08	0.09	0.04	0.25	0.47
Health & comm.						
Full-time job leaver	0.73	0.03	0.09	0.02	0.05	0.09
Full-time job loser	0.50	0.05	0.12	0.04	0.05	0.24
Part-time job leaver	0.38	0.03	0.14	0.01	0.21	0.22
Part-time job loser	0.19	0.05	0.13	0.02	0.17	0.44
Culture, rec. & per.						
Full-time job leaver	0.57	0.08	0.03	0.11	0.11	0.09
Full-time job loser	0.32	0.12	0.04	0.23	0.10	0.19
Part-time job leaver	0.24	0.08	0.04	0.06	0.40	0.18
Part-time job loser	0.11	0.11	0.04	0.11	0.31	0.33

Table A19 Predicted probabilities of occupational mobility after job separation by industry, full-time/part-time status and reason for ceasing last job—females

	Occupational destination					
Industry of last job	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
Agriculture & mining						
Full-time job leaver	0.50	0.09	0.08	0.11	0.07	0.15
Full-time job loser	0.32	0.08	0.08	0.16	0.06	0.30
Part-time job leaver	0.25	0.08	0.09	0.12	0.22	0.26
Part-time job loser	0.13	0.06	0.07	0.14	0.16	0.44
Manufacturing						
Full-time job leaver	0.37	0.08	0.10	0.12	0.09	0.25
Full-time job loser	0.21	0.06	0.09	0.14	0.07	0.43
Part-time job leaver	0.15	0.06	0.10	0.10	0.23	0.36
Part-time job loser	0.08	0.04	0.07	0.11	0.16	0.55
Utilities & construct.						
Full-time job leaver	0.60	0.07	0.07	0.06	0.08	0.12
Full-time job loser	0.43	0.07	0.08	0.09	0.08	0.26
Part-time job leaver	0.31	0.06	0.08	0.06	0.27	0.21
Part-time job loser	0.18	0.05	0.07	0.08	0.22	0.39
Wholesale trade						
Full-time job leaver	0.42	0.12	0.06	0.11	0.11	0.18
Full-time job loser	0.26	0.10	0.05	0.15	0.09	0.35
Part-time job leaver	0.18	0.09	0.05	0.10	0.30	0.27
Part-time job loser	0.10	0.06	0.04	0.12	0.23	0.45
Retail & accommod.						
Full-time job leaver	0.46	0.07	0.09	0.13	0.11	0.13
Full-time job loser	0.30	0.06	0.09	0.18	0.10	0.27
Part-time job leaver	0.21	0.05	0.09	0.12	0.32	0.21
Part-time job loser	0.12	0.04	0.08	0.15	0.25	0.36
Transport & storage						
Full-time job leaver	0.43	0.13	0.15	0.12	0.06	0.11
Full-time job loser	0.29	0.12	0.14	0.17	0.05	0.23
Part-time job leaver	0.22	0.11	0.17	0.12	0.19	0.19
Part-time job loser	0.13	0.09	0.14	0.15	0.15	0.34
Business. & comm.						
Full-time job leaver	0.51	0.08	0.11	0.06	0.08	0.15
Full-time job loser	0.34	0.07	0.11	0.09	0.07	0.32
Part-time job leaver	0.25	0.06	0.12	0.06	0.24	0.26
Part-time job loser	0.14	0.05	0.10	0.08	0.19	0.45

(b) Includes property, finance and insurance

Table A19 Contd.

Industry	Occupational destination					
	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
Govt. & defence						
Full-time job leaver	0.40	0.14	0.13	0.08	0.05	0.20
Full-time job loser	0.24	0.11	0.12	0.11	0.04	0.38
Part-time job leaver	0.19	0.11	0.14	0.08	0.15	0.33
Part-time job loser	0.10	0.08	0.11	0.09	0.11	0.52
Education						
Full-time job leaver	0.41	0.10	0.11	0.02	0.11	0.24
Full-time job loser	0.25	0.08	0.10	0.03	0.09	0.45
Part-time job leaver	0.17	0.07	0.10	0.02	0.29	0.35
Part-time job loser	0.09	0.05	0.08	0.02	0.21	0.56
Health & comm.						
Full-time job leaver	0.57	0.07	0.07	0.06	0.07	0.17
Full-time job loser	0.38	0.07	0.07	0.08	0.06	0.34
Part-time job leaver	0.29	0.06	0.08	0.06	0.21	0.29
Part-time job loser	0.16	0.05	0.06	0.07	0.16	0.50
Culture, rec. & per.						
Full-time job leaver	0.54	0.10	0.09	0.04	0.06	0.17
Full-time job loser	0.36	0.09	0.09	0.06	0.05	0.36
Part-time job leaver	0.28	0.08	0.11	0.04	0.19	0.31
Part-time job loser	0.15	0.06	0.08	0.05	0.14	0.52

Table A20 Predicted probabilities of occupational mobility after job separation by full-time/part-time status, reason for ceasing last job and tenure in last job—males

	Occupational destination					
Last job tenure	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
<= 1 month						
Full-time job leaver	0.56	0.05	0.07	0.10	0.13	0.08
Full-time job loser	0.32	0.09	0.07	0.21	0.12	0.19
Part-time job leaver	0.22	0.05	0.07	0.05	0.44	0.16
Part-time job loser	0.11	0.07	0.07	0.10	0.35	0.31
2 to 3 months						
Full-time job leaver	0.53	0.06	0.07	0.11	0.13	0.10
Full-time job loser	0.29	0.09	0.07	0.22	0.11	0.21
Part-time job leaver	0.21	0.05	0.08	0.06	0.41	0.19
Part-time job loser	0.10	0.07	0.07	0.10	0.31	0.35
3 to 6 months						
Full-time job leaver	0.51	0.06	0.10	0.15	0.12	0.06
Full-time job loser	0.28	0.10	0.10	0.30	0.10	0.13
Part-time job leaver	0.21	0.06	0.11	0.08	0.41	0.12
Part-time job loser	0.11	0.09	0.10	0.15	0.32	0.23
6 to 12 months						
Full-time job leaver	0.60	0.05	0.09	0.09	0.08	0.07
Full-time job loser	0.35	0.09	0.10	0.21	0.08	0.17
Part-time job leaver	0.28	0.06	0.11	0.06	0.33	0.16
Part-time job loser	0.14	0.08	0.10	0.11	0.26	0.31
1 to 2 years						
Full-time job leaver	0.59	0.05	0.10	0.12	0.08	0.06
Full-time job loser	0.34	0.08	0.11	0.26	0.08	0.13
Part-time job leaver	0.28	0.05	0.13	0.08	0.33	0.13
Part-time job loser	0.14	0.08	0.12	0.14	0.27	0.26
Over 2 years						
Full-time job leaver	0.56	0.06	0.11	0.11	0.07	0.10
Full-time job loser	0.30	0.09	0.11	0.23	0.06	0.21
Part-time job leaver	0.26	0.06	0.14	0.07	0.25	0.22
Part-time job loser	0.12	0.08	0.11	0.12	0.18	0.38

Table A21 Predicted probabilities of occupational mobility after job separation by full-time/part-time status, reason for ceasing last job and tenure in last job—females

	Occupational destination					
Last job tenure	Same occupation	Same major group	Lower major group	Higher major group	Looking for work	Out of labour force
<= 1 month						
Full-time job leaver	0.55	0.08	0.09	0.06	0.07	0.15
Full-time job loser	0.37	0.08	0.09	0.08	0.07	0.32
Part-time job leaver	0.27	0.07	0.10	0.06	0.24	0.26
Part-time job loser	0.15	0.05	0.08	0.07	0.19	0.46
2 to 3 months						
Full-time job leaver	0.51	0.09	0.09	0.10	0.09	0.12
Full-time job loser	0.35	0.09	0.09	0.15	0.09	0.25
Part-time job leaver	0.25	0.08	0.10	0.10	0.29	0.20
Part-time job loser	0.14	0.06	0.08	0.13	0.23	0.35
3 to 6 months						
Full-time job leaver	0.53	0.10	0.08	0.07	0.10	0.11
Full-time job loser	0.37	0.10	0.08	0.11	0.10	0.25
Part-time job leaver	0.25	0.08	0.08	0.07	0.31	0.19
Part-time job loser	0.15	0.07	0.07	0.09	0.26	0.35
6 to 12 months						
Full-time job leaver	0.49	0.07	0.11	0.08	0.11	0.14
Full-time job loser	0.32	0.06	0.11	0.11	0.10	0.30
Part-time job leaver	0.22	0.05	0.11	0.07	0.31	0.23
Part-time job loser	0.13	0.04	0.09	0.09	0.25	0.40
1 to 2 years						
Full-time job leaver	0.48	0.07	0.12	0.09	0.08	0.16
Full-time job loser	0.31	0.07	0.11	0.13	0.07	0.32
Part-time job leaver	0.23	0.06	0.13	0.09	0.24	0.26
Part-time job loser	0.12	0.04	0.10	0.11	0.18	0.44
Over 2 years						
Full-time job leaver	0.44	0.09	0.10	0.09	0.08	0.21
Full-time job loser	0.27	0.07	0.09	0.12	0.06	0.39
Part-time job leaver	0.20	0.07	0.10	0.09	0.22	0.33
Part-time job loser	0.10	0.05	0.07	0.10	0.16	0.52