



## IMPACT PROJECT

A Commonwealth Government inter-agency project in co-operation with the University of Melbourne, to facilitate the analysis of the impact of economic demographic and social changes on the structure of the Australian economy



THE DEMOGRAPHIC CHARACTERISTICS OF  
PEOPLE WHO CHANGE THEIR OCCUPATIONS :  
A PRELIMINARY EXAMINATION OF THE DATA

by

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*The views expressed in this paper do not necessarily reflect the opinions of the participating agencies, nor of the Australian government.*

TABLE 11(b) : SEX BY MARITAL STATUS BY AGE OF TOTAL JOB CHANGERS  
FOR THE TWELVE MONTHS PRECEDING DECEMBER 1975(a)

SEX	MARITAL STATUS	AGE				Total
		15-24	25-44	45-64	≥65	
Male	Married	76115 (41.42)	358322 (24.58)	147603 (14.46)	26386 (37.30)	608426 (22.26)
	Not Married	364330 (61.34)	85973 (33.20)	26176 (20.43)	5791 (30.52)	482270 (48.23)
	Total	440445 (56.63)	444295 (25.88)	173779 (15.12)	32177 (35.86)	1090696 (29.22)
Female	Married	125909 (66.56)	361911 (53.00)	119067 (32.58)	3205 (41.31)	610092 (48.97)
	Not Married	267116 (64.48)	47022 (34.36)	28812 (25.68)	5323 (29.53)	348273 (51.12)
	Total	393025 (65.07)	408933 (49.88)	147879 (30.96)	8528 (53.07)	958365 (49.73)
Persons	Married	202024 (54.10)	720233 (33.65)	266670 (19.24)	29591 (37.69)	1218518 (30.63)
	Not Married	631446 (62.63)	132995 (33.60)	54988 (22.88)	11114 (30.04)	830543 (49.40)
	Total	853470 (60.32)	853228 (33.64)	321658 (19.77)	40705 (35.24)	2049061 (36.20)

See NOTE on p. 28.

(a) Percentages of the corresponding workforce size as at December 1975 are expressed in the brackets.

NOTE: This Table refers to both within and between occupation changes over the nine major IMPACT groups as well as the categories referred to as: Armed Services; Other (n.e.c.); Unemployed; and Not Previously Employed. The inclusion of these last four categories not only inflates the numbers in the table, but also distorts the distribution of job changers relative to that recorded in Table 11(a) (i.e., job changers in the nine major IMPACT occupation only). Unfortunately, it is impossible to eliminate the offending categories from this aggregate table.

TABLE 11(a) : SEX BY MARITAL STATUS BY AGE OF TOTAL JOB CHANGERS  
FOR THE TWELVE MONTHS PRECEDING NOVEMBER 1972 (a)

SEX	MARITAL STATUS	AGE				
		15-24	25-44	45-64	>65	Total
Males	Married	62950 (32.96)	262787 (18.83)	86809 (8.12)	3094 (3.76)	415640 (15.18)
	Not Married	156490 (27.10)	46622 (20.01)	12399 (9.11)	1547 (7.23)	217058 (22.42)
	Total	219440 (28.56)	309409 (19.00)	99208 (8.23)	4641 (4.48)	632698 (17.07)
Females	Married	48359 (27.49)	90599 (14.33)	32961 (9.45)	0 (0)	171919 (14.74)
	Not Married	119149 (27.75)	22715 (18.60)	10253 (8.42)	663 (3.56)	152780 (22.08)
	Total	167508 (27.67)	113314 (15.02)	43214 (9.18)	663 (2.35)	324699 (17.47)
Persons	Married	111309 (30.33)	353386 (17.42)	119770 (8.45)	3094 (3.37)	587559 (15.05)
	Not Married	275639 (27.38)	69337 (19.53)	22652 (8.78)	2210 (5.53)	369838 (22.28)
	Total	386948 (28.17)	422723 (17.74)	142422 (8.50)	5304 (4.02)	957397 (17.21)

See NOTE on p. 28.

(a) Percentages of the corresponding workforce size are expressed in the brackets.

NOTE : This Table refers to both within and between occupation changes. For between occupation changes only it is expected that the magnitudes will all be smaller, but the general patterns unchanged.

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		MOVEMENT OUT OF OCCUPATION									
		Laid Off	Health, Holiday, Seasonal	To Obtain Better Position	Other	Total					
TABLE 3(c)	Net Percentage Changes for Between Occupation Changers for the Twelve Months Preceding November 1972 and December 1975	1547 (0.84)	2873 (0.56)	221 (0.12)	663 (0.36)	1105 (0.60)	7624 (4.12)	1105 (0.60)	9537 (5.18)	3978 (2.16)	20697 (11.23)
TABLE 4	Labour Force Distribution by Occupation as at November 1972 and December 1975	663 (0.35)	1105 (0.59)	221 (0.17)	1768 (0.94)	1105 (0.57)	3978 (2.11)	2873 (1.53)	19981 (10.61)	4862 (2.58)	26832 (14.25)
TABLE 5	Distribution of Employed Persons by Industry Aggregate and Occupation, Australia, May 1972 to May 1975	5304 (0.89)	9526 (1.60)	4641 (0.78)	8456 (1.42)	7857 (1.32)	29512 (4.96)	12166 (2.05)	38694 (6.51)	29968 (5.04)	86188 (14.50)
TABLE 6(a)	Age by Occupation Distribution of Occupation Changers for the Twelve Months Preceding November 1972	8165 (0.56)	27378 (1.88)	6909 (0.48)	22476 (1.55)	26768 (1.84)	105408 (7.25)	25919 (1.78)	105129 (7.23)	67761 (4.66)	260391 (17.91)
TABLE 6(b)	Marriage Status by Occupation of Occupation Changers for the Twelve Months Preceding December 1975	6525 (1.14)	22545 (3.95)	3094 (0.54)	6153 (1.08)	9898 (1.75)	53210 (5.82)	9142 (1.60)	30692 (5.38)	28659 (5.02)	92600 (16.22)
TABLE 7(a)	Marriage Status by Occupation of Occupation Changers for the Twelve Months Preceding November 1972	4350 (1.62)	17329 (6.44)	1989 (0.74)	4641 (1.73)	6880 (2.56)	23740 (8.83)	5048 (1.88)	17998 (6.69)	18546 (6.89)	63717 (23.69)
TABLE 7(b)	Migration Status by Occupation of Occupation Changers for the Twelve Months Preceding 1975	1768 (1.12)	5757 (2.37)	3315 (2.10)	5304 (3.35)	4199 (2.65)	11974 (7.57)	5083 (3.21)	8078 (5.11)	14365 (9.08)	29113 (18.40)
TABLE 8(a)	Migrant Status by Occupation of Occupation Changers for the Twelve Months Preceding November 1972	15266 (0.91)	66251 (3.95)	14091 (0.84)	36037 (2.15)	42178 (2.52)	117870 (7.03)	23826 (1.42)	94651 (5.65)	95361 (5.69)	314809 (18.78)
TABLE 8(b)	Length of Time in Previous Job by Occupation of Occupation Changers for the Twelve Months Preceding November 1972	3972 (0.85)	8415 (1.79)	6810 (1.45)	16719 (3.56)	9706 (2.07)	18423 (3.93)	7316 (1.56)	16469 (3.51)	27804 (5.95)	60026 (12.79)
TABLE 9	Reason for Leaving Job by Occupation : Occupation Changers and Total Job Changers for the Twelve Months Preceding November 1972	47560 (0.85)	159179 (2.86)	41291 (0.74)	102217 (1.84)	109975 (1.98)	351748 (6.32)	92478 (1.66)	341229 (6.13)	291304 (5.24)	954373 (17.15)
TABLE 10	Sex by Marital Status by Age of Total Job Changers for the Twelve Months Preceding November 1972										
TABLE 11(a)	Sex by Marital Status by Age of Total Job Changers for the Twelve Months Preceding November 1972										
TABLE 11(b)	Sex by Marital Status by Age of Total Job Changers for the Twelve Months Preceding December 1975										

where

a = the absolute number who changed occupation

(b) = the percentage of the work force in that occupation who changed occupation

c = the absolute number who changed jobs (i.e. both within and between occupation changes)

(d) = the percentage of the work force in that occupation who changed jobs

TABLE 10 : REASON FOR LEAVING JOB BY OCCUPATION : OCCUPATION CHANGERS

Occupation	MOVEMENT INTO OCCUPATION					Total				
	Laid Off	Health, Holiday, Seasonal	To Obtain Better Position	Other						
1. Professional	1105 (0.60)	2431 (1.32)	663 (0.36)	1105 (0.60)	2210 (1.20)	8729 (4.74)	2210 (1.20)	10642 (5.78)	6188 (3.30)	22907 (12.43)
2. Lecturers and Teachers	663 (0.35)	1105 (0.59)	1105 (0.59)	2652 (1.41)	2873 (1.53)	5746 (3.05)	1768 (0.94)	18876 (10.02)	6409 (3.40)	28379 (15.08)
3. Skilled White Collar	2652 (0.45)	6874 (1.16)	2873 (0.48)	6688 (1.13)	17173 (2.89)	38828 (6.53)	11288 (1.90)	37816 (6.36)	33986 (5.72)	90206 (15.17)
4. Semi and Unskilled White Collar	9404 (0.65)	28617 (1.97)	11474 (0.79)	27041 (1.86)	25180 (1.73)	103820 (7.14)	20825 (1.43)	100035 (6.88)	66883 (4.60)	259513 (17.85)
5. Skilled Blue Collar - M & E	2838 (0.50)	18858 (3.30)	1326 (0.23)	4385 (0.77)	13259 (2.32)	36571 (6.41)	4862 (0.85)	26412 (4.63)	22285 (3.90)	86226 (15.11)
6. - Building	4199 (1.56)	17178 (6.39)	2652 (0.99)	5304 (1.97)	5135 (1.91)	21725 (8.08)	5868 (2.18)	18818 (7.00)	17954 (6.64)	63025 (23.43)
7. - Other	2431 (1.54)	4420 (2.79)	1768 (1.12)	3757 (2.37)	5647 (3.57)	13422 (8.48)	4862 (3.07)	7857 (4.97)	14708 (9.30)	29456 (18.62)
8. Semi and Unskilled Blue Collar	19918 (1.19)	70903 (4.23)	14603 (0.87)	36549 (2.18)	28536 (1.70)	104228 (6.22)	34805 (5.92)	105648 (6.30)	97862 (5.93)	317310 (18.93)
9. Rural	4350 (0.95)	8793 (1.87)	4827 (1.03)	14736 (3.14)	9962 (2.12)	18679 (3.98)	5990 (1.28)	15143 (3.23)	25129 (5.36)	57351 (12.22)
TOTAL	47560 (0.85)	159179 (2.86)	41291 (0.74)	102217 (1.84)	109975 (1.98)	351748 (6.32)	92478 (1.66)	341228 (6.13)	291304 (5.24)	954373 (17.15)

See NOTE on p. 28.

Key : each cell contains four elements

a	c
(b)	(d)

THE DEMOGRAPHIC CHARACTERISTICS OF PERSONS  
WHO CHANGE THEIR OCCUPATIONS :  
A PRELIMINARY EXAMINATION OF THE DATA

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## 1. INTRODUCTION

Occupational mobility is an important labour market phenomenon. It is influenced by, the behaviour both of workers and of employers. Knowledge of potential mobility is important in estimating needs for new workers and consequent occupational training requirements; i.e., manpower planners need to know the extent to which occupational transfers can meet any prospective increase in demand for labour of a particular occupational type. To individual workers, on the other hand, a change of occupation may be a step towards the achievement of a career goal. Further, if a worker finds himself involuntarily unemployed in his preferred occupation, occupational mobility may be the only means whereby he can obtain employment.

A thorough investigation of occupational mobility would require longitudinal data identifying the labour force status and occupation of individuals at at least two points in time (and preferably over a relatively long time series). Moreover, a relatively large

\* The author would like to thank Alan A. Powell, Ashok Tulpule and Tony Lawson for comments made on earlier drafts of this paper.

sample would be needed to provide reliable information by age, sex and other relevant characteristics for each occupational category. Thus essentially what is required is a large body of panel data sufficient to identify occupation specific mobility influences and to quantify their effects.

Unfortunately, such information is not currently available in Australia, where data on occupational mobility is limited to two very broad non-temporally-contiguous surveys conducted by the Australian Bureau of Statistics (ABS).<sup>1</sup> Any study of Australian occupational mobility is thus limited to an examination of patterns discernable in a cross-section of occupations at one or the other, or both, of two points of time. This limits the potential list of explainers of occupational mobility to factors which are common to all occupations, but whose values vary from occupation to occupation. It rules out the development of mechanisms explaining inter-occupational transfers which are specific to source and/or destination occupations.

In order to utilize the existing survey information, occupational mobility is defined as the flow of workers between any two occupations within a given year.

This paper is concerned with analysing the data on inter-occupational changes both at a general level and in relation to the sex, age, marital status and migrant status characteristics of the movers.

1. Australian Bureau of Statistics, Labour Mobility, November 1972 and Labour Mobility, February 1976, Ref. No. 6.43 (Canberra, 1975 and 1976). The data analysed in this paper was derived from these surveys.

TABLE 9 : LENGTH OF TIME IN PREVIOUS JOB BY OCCUPATION OF OCCUPATION CHANGERS FOR THE TWELVE MONTHS PRECEDING NOVEMBER 1972

Occupation	Total Movement Into Occupations		Total Movement Out Of Occupations	
	In Previous Job < 1 Year	In Job ≥ 1 Year	In Previous Job < 1 Year	In Job ≥ 1 Year
1. Professional White Collar	2210	3978	663	3315
2. Lecturers and Teachers	3094	3315	1989	2873
3. Skilled White Collar	13626	20360	9654	20314
4. Semi and Unskilled White Collar	32618	34265	30589	37172
5. Skilled Blue Collar - M & E	11532	10753	12015	16644
6. - Building	8363	9491	10625	7921
7. - Other	8299	6409	7956	6409
8. Semi and Unskilled Blue Collar	49559	48303	54612	40749
9. Rural	12922	12207	14120	13684
TOTAL	142223	149081	142223	149081
		291304		291304

See NOTE on p. 28.

TABLE 8(b) : MIGRANT STATUS BY OCCUPATION OF OCCUPATION CHANGERS  
FOR THE TWELVE MONTHS PRECEDING DECEMBER 1975

Occupation	Movement Into Occupation (a)			Movement Out of Occupation (a)		
	Born in Australia	Born Overseas	Total	Born in Australia	Born Overseas	Total
1. Professional White Collar	7,797 (4.85)	1,840 (3.23)	9,637 (4.42)	3,450 (2.15)	460 (0.08)	3,910 (1.79)
2. Lecturers and Teachers	2,530 (1.53)	1,610 (3.98)	4,140 (2.01)	4,325 (2.61)	1,610 (3.98)	5,935 (2.88)
3. Skilled White Collar	20,874 (4.35)	10,287 (5.84)	31,161 (4.75)	17,559 (3.66)	9,249 (5.25)	26,808 (4.08)
4. Semi - and Unskilled White Collar	41,690 (3.42)	15,590 (4.67)	57,280 (3.69)	41,892 (3.44)	13,358 (4.00)	55,250 (3.56)
5. Skilled Blue Collar - M & E	11,978 (3.11)	5,882 (3.22)	17,860 (3.14)	13,475 (3.50)	8,787 (4.80)	22,262 (3.92)
6. - Building	7,161 (4.43)	5,621 (5.96)	12,782 (4.99)	9,542 (5.90)	5,330 (5.65)	14,872 (5.81)
7. - Other	7,810 (7.90)	2,654 (6.03)	10,464 (7.32)	6,841 (6.92)	4,056 (9.21)	10,897 (7.63)
8. Semi - and Unskilled Blue Collar	56,436 (5.13)	22,386 (4.08)	78,822 (4.78)	55,076 (5.01)	22,460 (4.09)	77,536 (4.70)
9. Rural	15,064 (4.17)	4,216 (8.46)	19,280 (4.69)	19,180 (5.31)	4,776 (9.59)	23,956 (5.83)
TOTAL	171,340 (4.15)	70,086 (4.59)	241,426 (4.27)	171,340 (4.15)	70,086 (4.59)	241,426 (4.27)

See NOTE on p. 28.

(a) Percentages of the corresponding workforce size are expressed in brackets.

42.

3.

The latter aim is achieved by comparing the demographic characteristics of Australian movers in the light of several hypotheses suggested by overseas evidence.

In turn, it is intended to use this data as the basis for estimating the theoretical model for occupational mobility described in the IMPACT Preliminary Working Paper No. BP-13.<sup>1</sup> The empirical implementation of the model is in progress.

The remainder of this paper is structured as follows: the ABS Labour Mobility surveys and associated limitations are described in section 2; section 3 contains details of the methodology employed in the analysis followed by a description and comparison of occupational mobility in 1972 and 1975; section 4 summarizes the characteristics of overseas job changers into several testable hypotheses and examines Australian evidence in the light of these; the paper ends with some general conclusions. Appendix I lists the major IMPACT occupations, while all tables appear in Appendix II.

1. Williams, Lynne S., "A Theoretical Model for Occupational Mobility in Australia", IMPACT Preliminary Working Paper No. BP-13, Industries Assistance Commission, Melbourne, July 1978 (mimeo), pp. 35.

## 2. A GENERAL DESCRIPTION OF THE ABS MOBILITY SURVEYS

The ABS November, 1972, and February, 1976, labour mobility surveys currently provide the only information relating to movement in the entire Australian workforce. Unpublished data from these surveys yields the gross (i.e., two directional) movements between the nine major IMPACT occupations<sup>1</sup> for the twelve months preceding both November, 1972, and December, 1975, cross-classified by sex, age, marital status and migrant status.<sup>2</sup>

At that time the survey itself was

"based on a multi-stage area sample of private dwellings (about 30,000 houses, flats, etc.) and non-private dwellings (hotels, motels, etc.) and covers about two-thirds of one per cent of the population of Australia. The information is obtained each quarter from the occupants of selected dwellings by carefully chosen and specially trained interviewers. The interviews are carried out during a period of four weeks, so that there are four survey weeks in each of the months to which the survey relates. These four survey weeks are chosen so as to fall within the limits of the calendar month or with minimum encroachment into adjacent months."<sup>3</sup>

1. See Appendix I.
2. The surveys also yield information on a number of other mover characteristics, but these were considered to be of secondary importance in relation to the purposes of the current analysis. These mover characteristics include data on factors such as industry change; whether the employer or the worker paid for any cost involved in changing jobs; whether a location and/or accommodation change was incurred in changing jobs and if so, who covered any costs involved; and some information on average hours worked by industry/occupation.

3. ABS (1975), *ibid.*, p. 2, and ABS (1976), *ibid.*, p. 3.

TABLE 8(a) : MIGRANT STATUS BY OCCUPATION OF OCCUPATION CHANGERS AND TOTAL JOB CHANGERS FOR THE TWELVE MONTHS PRECEDING NOVEMBER 1972

Occupation	MOVEMENT INTO OCCUPATION		MOVEMENT OUT OF OCCUPATION	
	Born in Australia	Born Overseas	Born in Australia	Born Overseas
1. Professional	3094 (13102) (6.17)	9805 (19.55) (6.17)	1989 (11997) (3.97)	8700 (17.35) (2.16)
2. Lecturers and Teachers	4199 (20307) (2.77)	2210 (13.41) (6.60)	3094 (19202) (4.80)	7630 (20.70) (2.58)
3. Skilled White Collar	21901 (64147) (4.87)	12085 (26059) (8.36)	10608 (24882) (7.34)	17656 (59216) (17.01)
4. Semi & Unskilled White Collar	44057 (196127) (3.82)	22826 (43866) (7.59)	50105 (201175) (4.34)	17656 (59216) (17.01)
5. Skilled Blue Collar - M & E	14370 (52382) (3.81)	7915 (38447) (4.08)	16318 (86226) (4.33)	12341 (38270) (6.36)
6. - Build.	10817 (33765) (6.80)	7037 (29262) (6.44)	10811 (33757) (6.80)	7735 (29960) (6.89)
7. - Other	8520 (17976) (8.05)	6188 (11480) (9.30)	8840 (18296) (8.55)	5525 (10817) (10.56)
8. Semi & Unskilled Blue Collar	69272 (210486) (6.08)	28590 (106824) (5.92)	61933 (203147) (5.43)	33428 (111662) (6.24)
9. Rural	19383 (46842) (4.67)	5746 (10509) (5.37)	23163 (50622) (5.58)	4441 (9404) (8.53)
TOTAL	195613 (654132) (4.79)	95691 (300241) (6.47)	195613 (654132) (4.79)	95691 (300241) (6.47)

Key : each cell contains four elements thus

a c  
(b) (d)

where a = the absolute number who changed occupation  
 b = the percentage of the work force in this cell who changed occupations  
 c = the absolute number who changed jobs (ie. both within and between occupations)  
 (d) = the percentage of the work force in this cell who changed jobs

See NOTE on p. 28.



TABLE 7(b) : MARRIAGE STATUS BY OCCUPATION OF OCCUPATION CHANGERS  
FOR THE TWELVE MONTHS PRECEDING DECEMBER 1975

Occupation	Movement Into Occupation <sup>(a)</sup>			Movement Out of Occupation <sup>(a)</sup>		
	Married	Other	Total	Married	Other	Total
1. Professional White Collar	6574 (3.71)	3063 (7.56)	9637 (4.42)	2300 (1.30)	1610 (3.97)	3910 (1.79)
2. Lecturers and Teachers	2990 (2.09)	1150 (1.83)	4140 (2.01)	3635 (2.54)	2300 (3.65)	5935 (2.88)
3. Skilled White Collar	21349 (4.20)	9812 (6.63)	31161 (4.75)	18478 (3.63)	8330 (5.63)	26808 (4.08)
4. Semi - and Unskilled White Collar	31062 (3.21)	26218 (4.46)	57280 (3.69)	29857 (3.09)	25393 (4.32)	55250 (3.56)
5. Skilled Blue Collar - M & E	10323 (2.56)	7537 (4.55)	17860 (3.14)	13821 (3.43)	8441 (5.10)	22262 (3.92)
6. - Building	8748 (4.72)	4034 (5.72)	12782 (4.99)	10676 (5.76)	4196 (5.95)	14872 (5.81)
7. - Other	5818 (5.87)	4646 (10.63)	10464 (7.32)	7027 (7.09)	3870 (8.86)	10897 (7.63)
8. Semi - and Unskilled Blue Collar	43632 (3.66)	35190 (7.74)	78822 (4.78)	42558 (3.57)	34978 (7.69)	77536 (4.70)
9. Rural	11043 (3.65)	8237 (7.62)	19280 (4.69)	13187 (4.36)	10769 (9.97)	23956 (5.83)
TOTAL	141539 (3.56)	99887 (5.94)	241426 (4.27)	141539 (3.56)	99887 (5.94)	241426 (4.27)

See NOTE on p. 28.

(a) Percentages of the corresponding workforce size are expressed in the brackets.

The scope of the survey relates to

"All persons aged 15 years and over, except persons in institutions, members of the permanent armed forces and certain diplomatic personnel customarily excluded from census and estimated populations. Persons in institutions are those who were patients in hospitals and sanatoria, or inmates of gaols, reformatories, etc., and for whom, for the purpose of the survey, the institution was regarded as their dwelling."<sup>1</sup>

As with all sample surveys, there exist certain precision ranges relating to the accuracy of reported estimates. For those cells whose estimated population size is 4,000, the standard error is calculated to be of the order of 20%, falling to 0.5% for cells of estimated size 2,000,000. The standard errors on cells estimated as being below 4,000 are too large to enable any reasonable degree of confidence to be attached to them as estimates of the true values.<sup>2</sup>

In addition to the sampling errors, some cells do not contain the 'true' numbers (i.e., population estimates based on the corresponding sample estimates) where these fall below a certain magnitude. The ABS policy with respect to IMPACT for the supply of sample-based population estimates is that any non-zero estimate of less than 500, where this estimate relates to an element at the highest level of disaggregation, is unavailable. This is justified primarily on the ground that the standard errors on these numbers are too large to make them of any meaningful degree of precision (except that the numbers themselves are very small) and further that the small magnitude of the numbers may - in some

1. ABS (1975), *ibid.*, p. 2, and ABS (1976), *ibid.*, p. 3.

2. For a detailed discussion of the accuracy of reported estimates, see ABS Ref. No. 6.43, Technical Note (p. 30 in the issue for 1976).

circumstances - - enable the identification of specific individuals, thus violating ABS confidentiality requirements.

In order to provide the IMPACT project with some approximation to a complete matrix of inter-occupational flows, the ABS adopts the following strategy: for any given table cross-classified simultaneously by various characteristics, the multi-dimensional 'matrix' representing all possible cross-classifications is recorded. This multi-dimensional array of the sample data is then blown up using a uniform expansion factor to yield corresponding population estimates. Each separate table uses a (possibly different) constant expansion factor. The population array is then examined to ascertain the number of elements falling below 500. Each of these is replaced with an average of all such elements, thus disguising the actual sample-based population estimates for these cells. This new population matrix then forms the basis for any aggregating procedure required to generate a higher order matrix. Because no sub-totals are provided for these higher order matrices, the marginal totals given are calculated using the 'doctored' population matrix.

As an example, consider a table from the Labour Mobility survey of November 1972. Table 1(a) is specified in the following way :

TABULATE : Number of persons employed in current job for less than twelve months

Simultaneously cross-classified by each of the following variables :	Number of ranges
Sex	2
Marital status	2
Migrant status	2
Reason for changing job	4
Period in previous job	2
Occupation (previous job)	12
Occupation (current job)	11
Age	4

35792 cells

TABLE 7(a) : MARRIAGE STATUS BY OCCUPATION OF OCCUPATION CHANGERS FOR THE TWELVE MONTHS PRECEDING NOVEMBER 1972

Occupation	Movement Into Occupation (a)			Movement Out of Occupation (a)		
	Married	Other	Total	Married	Other	Total
1. Professional White Collar	3315	2873	6188	3315	663	3978
2. Lecturers and Teachers	3978	2431	6409	2210	2652	4862
3. Skilled White Collar	21308	12678	33986	21384	8584	29968
4. Semi- and Unskilled White Collar	38638	28245	66883	35079	32682	67761
5. Skilled Blue Collar - M & E	15161	7124	22285	19447	9212	28659
6. - Building	10817	7037	17854	10573	7973	18546
7. - Other	7956	6752	14708	8840	5525	14365
8. Semi- and Unskilled Blue Collar	53997	43865	97862	52839	42522	95361
9. Rural	14783	10346	25129	16266	11538	27804
TOTAL	169953	121351	291304	169953	121351	291304

See NOTE on p. 28.

(a) Percentages of the corresponding workforce size are expressed in the brackets.

TABLE 6(b) : AGE BY OCCUPATION DISTRIBUTION OF OCCUPATION CHANGERS  
FOR THE TWELVE MONTHS PRECEDING DECEMBER 1975

Occupation	Movement Into Occupation <sup>(a)</sup>					Movement Out of Occupation <sup>(a)</sup>				
	15-24	25-44	45-64	>65	TOTAL	15-24	25-44	45-64	>65	TOTAL
1. Professional White Collar	2373 (13.07)	5884 (4.82)	1150 (1.63)	230 (3.35)	9637 (4.42)	1380 (7.60)	2070 (1.69)	460 (0.65)	0 (0)	3910 (1.79)
2. Lecturers and Teachers	920 (2.06)	2300 (1.94)	920 (2.34)	0 (0)	4140 (2.01)	1380 (3.08)	4095 (3.45)	460 (1.17)	0 (0)	5935 (2.88)
3. Skilled White Collar	8979 (8.85)	17964 (5.56)	4218 (1.97)	0 (0)	31161 (4.75)	6823 (6.73)	15411 (4.77)	4344 (2.03)	230 (1.27)	26808 (4.08)
4. Semi- and Unskilled White Collar	26206 (4.72)	24267 (3.82)	6577 (1.92)	230 (1.11)	57280 (3.69)	26604 (4.79)	22973 (3.62)	5673 (1.65)	0 (0)	55250 (3.56)
5. Skilled Blue Collar - M & E	7855 (5.15)	7502 (2.91)	2273 (1.49)	230 (4.22)	17860 (3.14)	7261 (4.76)	12595 (4.88)	2406 (1.58)	0 (0)	22262 (3.92)
6. - Building	4494 (6.98)	6908 (6.05)	1380 (1.85)	0 (0)	12782 (4.99)	5626 (8.73)	6558 (5.74)	2688 (3.61)	0 (0)	14872 (5.81)
7. - Other	4186 (12.00)	4438 (7.28)	1840 (4.20)	0 (0)	10464 (7.32)	4303 (12.33)	4056 (6.65)	2538 (5.79)	0 (0)	10897 (7.63)
8. Semi- and Unskilled Blue Collar	36061 (10.67)	31754 (4.32)	11007 (2.01)	0 (0)	78822 (4.78)	35509 (10.51)	32041 (4.36)	9296 (1.70)	690 (2.33)	77536 (4.70)
9. Rural	9175 (12.68)	6919 (4.07)	2956 (2.07)	230 (0.90)	19280 (4.69)	11363 (15.70)	8137 (4.79)	4456 (3.12)	0 (0)	23956 (5.83)
TOTAL	100249 (7.26)	107936 (4.26)	32321 (1.99)	920 (0.80)	241426 (4.27)	100249 (7.26)	107936 (4.26)	32321 (1.99)	920 (0.80)	241426 (4.27)

See NOTE on p. 28.

(a) Percentages of the corresponding workforce size are expressed in the brackets.

38.

7.

Suppose one is interested only in a classification of current occupation by previous occupation for total persons, where the occupational classes have been aggregated to correspond to the nine major IMPACT groups.<sup>1</sup> In essence, then, this involves aggregating the 33792 cells to 81 cells. This will involve aggregation of many of the confidential cells such that total numbers in the required 9 x 9 matrix may all be greater than 500. However, the numbers displaying a common factor are obviously based on aggregates of cells each involving very few respondents, so the status of their nominal standard errors is unclear. Further, it is erroneous to infer that the true value of a cell with a stated value of 442 is twice as large as a cell recorded as 221, due not only to the large standard errors involved but also to the averaging procedure outlined above. However, at higher levels of aggregation, the operation of the law of large numbers increases the accuracy of these amalgamated doctored elements. That is, it seems reasonable to assume that any number which is made up of at least four of these average values (or at least an aggregate magnitude somewhere in the vicinity of 1500 or above) is a good approximation to the population estimate that would have been obtained if the original sample had been recorded at a more aggregated level with the corresponding population estimates being greater than 500.

Note that the marginal sub-totals on any of the matrices are derived by aggregating the individual doctored cells, and therefore suffer from the same limitations as these cells. That is, if all the elements in a particular row are composed of multiples of the basic average value, then the sum of that row is also a multiple of this value, even if the

1. See Appendix I.

sum is far in excess of 500. In other words, reported marginal totals only accurately reflect true values to the extent that the law of large numbers operates. Obviously, the larger the aggregate numbers involved, the greater the influence of the law of large numbers, so in general it is possible to place more confidence in the marginal sub-totals than in the elements in the body of the matrices.

In spite of the limitations described above, it is still possible to use the data as an indication of the relative magnitudes and directions of occupational mobility in Australia, and to see whether Australian figures display generally similar tendencies to those in other comparable countries.

TABLE 6(a) : AGE BY OCCUPATION DISTRIBUTION OF OCCUPATION CHANGERS FOR THE TWELVE MONTHS PRECEDING NOVEMBER 1972

Occupation	Movement Into Occupation (a)				Movement Out of Occupation (a)					
	15-24	25-44	45-64	65-99	TOTAL	15-24	25-44	45-64	65-99	TOTAL
1. Professional White Collar	2210	3315	5315	884	663	6188	490	1889	1326	3978
2. Lecturers and Teachers	2210	5315	316	884	0	6409	2873	1989	0	4862
3. Skilled White Collar	1131	18377	4257	221	33986	221	33986	8805	15295	5868
4. Semi- and Unskilled White Collar	30455	27245	9183	0	66883	31984	25553	9561	25553	663
5. Skilled Blue Collar - M & E	7566	11404	3315	0	22285	10061	14876	3722	0	28659
6. Building - Other	5490	9491	2873	0	17854	9520	7479	1547	0	18546
7. Other	8078	4862	1768	0	14708	5083	5746	3315	221	14365
8. Semi and Unskilled Blue Collar	43795	38004	15400	663	97862	41161	43371	10608	221	95361
9. Rural	9206	12387	3094	442	25129	9991	12102	5490	221	27804
TOTAL	120141	128400	41437	1326	291304	120141	28400	41437	1326	291304

See NOTE on p. 28.

(a) Percentages of the corresponding workforce size are expressed in the brackets.

TABLE 5 : DISTRIBUTION OF EMPLOYED PERSONS BY INDUSTRY AGGREGATE AND OCCUPATION  
AUSTRALIA, MAY 1972 TO MAY 1975

IND	OCC	Year	Professional White Collar	Lecturers and Teachers	Skilled White Collar	Semi- and Unskilled White Collar	Skilled Blue Collar - M & E	Skilled Blue Collar - Building	Skilled Blue Collar - Other	Semi- and Unskilled Blue Collar	Rural	Total
PRIMARY		1972	6,528 (1.25)	1,070 (0.20)	8,940 (1.71)	13,672 (2.61)	1,444 (2.76)	2,140 (0.41)	1,284 (0.25)	53,358 (10.20)	421,608 (80.61)	523,044 (9.69)
		1973	5,682 (1.13)	500 (0.10)	8,622 (1.72)	13,394 (2.67)	13,862 (2.76)	1,500 (0.30)	3,436 (0.68)	59,084 (11.77)	395,746 (78.86)	501,826 (9.05)
		1974	5,258 (1.15)	681 (0.15)	8,560 (1.87)	10,480 (2.29)	13,738 (3.00)	1,362 (0.30)	2,043 (0.45)	50,434 (11.02)	364,982 (79.77)	457,535 (7.99)
		1975	5,258 (1.14)	0 (0)	8,523 (1.85)	11,714 (2.54)	17,119 (3.71)	2,242 (0.49)	1,368 (0.30)	54,428 (11.79)	361,017 (78.20)	461,669 (8.11)
MANUFACTURING		1972	29,266 (2.31)	214 (0.02)	108,562 (8.57)	162,982 (12.86)	259,448 (20.47)	57,750 (4.56)	76,260 (6.02)	566,078 (45.67)	6,800 (0.54)	1,267,356 (23.48)
		1973	30,308 (2.39)	250 (0.02)	100,034 (7.89)	162,846 (12.85)	254,970 (20.11)	58,980 (4.65)	77,510 (6.11)	577,496 (45.55)	5,372 (0.42)	1,267,764 (22.86)
		1974	34,551 (2.55)	0 (0)	105,815 (7.82)	188,875 (13.96)	267,299 (19.75)	57,452 (4.25)	76,495 (5.65)	617,879 (45.66)	4,957 (0.37)	1,353,323 (23.62)
		1975	31,135 (2.50)	0 (0)	105,577 (8.47)	172,265 (13.82)	263,241 (21.11)	51,289 (4.11)	71,700 (5.75)	544,520 (43.67)	7,177 (0.58)	1,246,904 (21.90)
TERTIARY		1972	134,048 (3.72)	175,864 (4.87)	480,934 (13.33)	1,238,578 (34.33)	291,622 (8.08)	200,356 (5.55)	73,318 (2.03)	969,152 (26.86)	43,758 (1.21)	3,607,630 (66.83)
		1973	158,254 (4.19)	184,866 (4.90)	490,286 (12.98)	1,273,940 (33.74)	307,908 (8.15)	208,210 (5.51)	82,252 (2.18)	1,022,136 (27.07)	48,094 (1.27)	3,775,948 (68.09)
		1974	168,195 (4.29)	194,138 (4.95)	530,859 (13.55)	1,352,297 (34.51)	294,644 (7.52)	217,528 (5.55)	72,156 (1.84)	1,044,239 (26.65)	44,801 (1.14)	3,918,857 (68.39)
		1975	159,575 (4.00)	198,015 (4.97)	536,132 (13.45)	1,370,381 (34.38)	306,888 (7.70)	208,950 (5.24)	69,082 (1.73)	1,091,304 (27.35)	45,120 (1.13)	3,985,447 (69.99)
TOTAL		1972	169,838 (3.15)	177,148 (3.28)	598,436 (11.09)	1,415,232 (26.22)	565,514 (10.48)	260,246 (4.82)	150,862 (2.79)	1,588,588 (29.43)	472,166 (8.75)	5,398,030 (8.75)
		1973	194,244 (3.50)	185,616 (3.35)	598,942 (10.80)	1,450,180 (26.15)	576,740 (10.40)	268,690 (4.85)	163,198 (2.94)	1,658,716 (29.91)	449,212 (8.10)	5,545,538 (8.10)
		1974	208,001 (3.63)	194,819 (3.40)	645,234 (11.26)	1,551,652 (27.08)	575,681 (10.05)	276,342 (4.82)	150,694 (2.63)	1,712,552 (29.89)	414,740 (7.24)	5,729,715 (7.24)
		1975	195,968 (3.44)	198,015 (3.48)	650,232 (11.42)	1,554,360 (27.30)	587,248 (10.31)	262,481 (4.61)	141,150 (2.50)	1,690,252 (29.68)	413,314 (7.26)	5,694,020 (7.26)

See NOTE on p. 28.

36.

### 3. CHARACTERISTICS OF OCCUPATIONAL MOBILITY PATTERNS IN

1972 AND 1975

9.

#### 3.1 Methodology employed :

The methodology generally employed in this paper involves the examination of gross rather than net flows within the labour market, as a significant proportion of movement will be cancelled out and therefore lost if the net figures are analysed. For example, looking at the aggregates, a gross increase of 10,000 people in the numbers employed can be offset in the measurement of net change in employment by 10,000 different people being laid off - yet overall a significant movement has taken place. If the analysis were conducted in terms of net changes, therefore, this would hide a lot of labour market activity and would reduce the information content of the data as regards the ease or difficulty of substitution between occupations. This in turn restricts the use of the analysis for manpower purposes in work placement programs.

Further, because of the unreliability of many of the estimates relating source and destination occupations, a more fruitful analysis can be conducted by aggregating total movement into specific occupations from all other occupations, and total movement out of specific occupations into all other occupations. Investigation of the aggregates enables benefits associated with the operation of the law of large numbers to be derived. The major part of this paper therefore analyses the marginal row and column tables of the mobility matrices. However, to obtain a fuller understanding of inter-occupational movements, it is necessary to refer to the larger (i.e., non-confidential) figures contained in the bodies of the mobility matrices themselves. Where appropriate this has been done.

Workers change occupations as a result of a multitude of both 'push' and 'pull' factors. The former include things such as lack of employment advancement opportunities in their own field, layoffs, and family reasons, while the latter include higher wages, better working conditions, greater social prestige, and the prospect of more interesting work.

All these (and many more) factors combined to produce substantial occupational mobility both in 1972 and 1975. The gross mobility matrices showing movement between the nine major IMPACT occupations appear as Tables 1(a) and 1(b) of Appendix II. In 1972 954,815 people (or 17.16% of the workforce) changed jobs,<sup>1</sup> and of these 291,304 (or 5.26%) moved between the major IMPACT occupations. Females experienced a marginally greater percentage of total job changes as compared to males (17.47% as against 17.00%), but males showed a higher rate of inter-occupation change (5.56% as against 4.60%).

Higher unemployment rates and a worsening economic climate may go a long way to explaining the overall fall in mobility rates in 1975. The number of people who changed jobs and the sub-set of those who also changed occupations fell both absolutely and relatively, the actual figures being 942,230 (or 16.65% of the workforce) and 241,426 (or 4.27% of the workforce). Females again experienced a smaller percentage of occupation changes as compared to males (3.42% as against 4.70%). These figures are itemised in greater detail in Table 2.

1. All percentage figures are underestimates of the relevant mobility rates to the extent that the quoted magnitudes do not multiple-count those people who changed jobs more than once. Thus, if a certain proportion of the workforce changed occupations frequently during the year, the counting procedure utilised by the ABS would result in a negative (downward) bias to estimated mobility rates.

TABLE 4 : LABOUR FORCE DISTRIBUTION BY OCCUPATION AS AT NOVEMBER 1972 AND DECEMBER 1975

Occupation	November 1972	December 1975
	Number (a)	Number (a)
1. Professional White Collar	184,238	217,838
2. Lecturers and Teachers	188,248	205,936
3. Skilled White Collar	594,462	656,366
4. Semi- and Unskilled White Collar	1,454,005	1,553,673
5. Skilled Blue Collar - M & E	570,690	568,404
6. - Building	268,987	255,958
7. - Other	158,190	142,874
8. Semi- and Unskilled Blue Collar	1,676,238	1,648,256
9. Rural	469,169	410,815
TOTAL	5,564,227	5,660,120

(a) Percentages of total numbers employed in the nine major IMPACT occupations are expressed in the brackets.

TABLE 3(c) : NET PERCENTAGE CHANGERS FOR BETWEEN OCCUPATION CHANGERS FOR THE TWELVE MONTHS PRECEDING NOVEMBER 1972 AND DECEMBER 1975

Occupation	NET CHANGE (a) FOR PERSONS	
	1972	1975
1. Professional	+1.20	+2.63
2. Lecturers and Teachers	+0.82	-0.87
3. Skilled White Collar	+0.68	+0.67
4. Semi and Unskilled White Collar	-0.06	+0.13
5. Skilled Blue Collar - M & E	-1.12	-0.78
6. - Building	-0.25	-0.82
7. - Other	+0.22	-0.51
8. Semi and Unskilled Blue Collar	+0.23	+0.08
9. Rural	-0.56	-1.14

(a) a + indicates a net gain.

Tables 3(a) and 3(b) contain occupation-specific absolute and percentage figures for movements into and out of the nine major IMPACT occupations for both 1972 and 1975. Table 3(c) shows the net percentage change for each occupation and gives some indication of the marginal<sup>1</sup> shift of the workforce across specific occupations. Table 4 contains the distribution of the workforce by occupation as at November, 1972 and December, 1975.

### 3.3 An analysis of mobility in 1972 :

Examination of Table 1(a) reveals that for 1972 the largest percentage movements both ways (i.e., into and out of) occur for the 'Skilled Blue Collar - Building', 'Skilled Blue Collar - Other', 'Semi and Unskilled Blue Collar', 'Skilled White Collar', and 'Rural' categories. By far the greatest movement occurred both into and out of the semi and unskilled and rural occupations - - not surprising, given that these sectors together made up 64.69% of the total workforce. Although the incidence of seasonal work may explain the rural sector figures, the results are most surprising for the skilled blue collar workers, as other empirical work<sup>2</sup> suggests that skilled occupations generally display lower rates of labour turnover. Table 1(a) shows, however, that there is a major movement from the skilled blue collar trades to the semi and unskilled blue collar sector. Further, the major occupations contributing to the flow into the skilled blue collar sectors are the semi and unskilled white and blue collar workers, with minor contributions from the skilled white collar and rural sectors.

1. Total (as distinct from marginal) change is affected by movements into and out of the workforce, such as entrants from the immigration and education sectors, and exits due to retirements and deaths. Analysis here is restricted to movements within the labour force.

2. See, for example, Byrne, J. J., "Occupational Mobility of Workers," Monthly Labor Review, February 1975.

Some part of these movements can be explained by reference to the structure of the occupational classifications employed. Optimally, an occupational classification consists of categories which are fairly homogeneous with respect to certain characteristics such as qualifications and/or incomes, so that in the absence of specific retraining, skill barriers prevent movement between occupations. Inevitably, however, any actual classification will contain certain definitional overlaps (possibly as a result of aggregation), so that there exists a certain percentage of the workforce who - - for example - - are qualified for both a skilled blue collar trade and one which is classified as semi and unskilled blue collar.<sup>1</sup> Further, the income overlap between skilled blue collar occupations and the semi and unskilled blue and white collar workers may be large. Movements between occupations will obviously be both easier and greater the smaller is the training differential and the larger is the range of income overlap. It is likely that the combination of these factors result in greater two-way movements between the occupations concerned than between any other sets of occupations.

The groups 'Professional White Collar' and 'Lecturers and Teachers' display the smallest absolute and percentage movements both into and out of their respective occupations, thus supporting the hypothesis that there is less tendency to move the greater the degree of specialized training required, and also the greater the base income involved.

Table 3(c) shows that in 1972 the groups 'Professional White Collar', 'Lecturers and Teachers', and 'Skilled White Collar' all experienced net increases; the 'Skilled Blue Collar - Building', 'Skilled Blue Collar - Other', 'Semi and Unskilled Blue Collar' and 'Semi and Unskilled White Collar' groups experienced virtually no overall change; while the groups

1. Essentially, then, it is feasible for someone to move from a skilled blue collar job to a job classified as semi and unskilled blue or white collar and simultaneously experience an income (and possibly also social status) rise. Alternatively, a worker may move in the opposite direction without undertaking further training.

TABLE 3(b) : TOTAL MOVEMENT OUT OF SPECIFIC OCCUPATIONS TO ALL OTHER OCCUPATIONS FOR THE TWELVE MONTHS PRECEDING NOVEMBER 1972 AND DECEMBER 1975

Occupation	November 1972		December 1975	
	Males	Females	Males	Females
1. Professional	3315	663	2760	1150
2. Lecturers and Teachers	1105	3757	2300	3635
3. Skilled White Collar	20721	9247	19722	7086
4. Semi- and Unskilled White Collar	36125	31636	30929	24321
5. Skilled Blue Collar - M & E	26670	1989	28659	19962
6. - Building	17441	1105	14872	0
7. - Other	7735	6630	7677	3220
8. Semi- and Unskilled Blue Collar	67854	27507	56358	21178
9. Rural	24931	27804	21013	2943
<b>All Occupations</b>	<b>205897</b>	<b>85407</b>	<b>175593</b>	<b>65833</b>

See NOTE on p. 28. (a) Percentages of the corresponding workforce size are expressed in the brackets.



TABLE 3(a) : TOTAL MOVEMENT INTO SPECIFIC OCCUPATIONS FROM ALL OTHER OCCUPATIONS FOR THE TWELVE MONTHS PRECEDING NOVEMBER 1972 AND DECEMBER 1975

Occupation	TOTAL MOVEMENT INTO OCCUPATIONS <sup>(a)</sup>					
	November 1972			December 1975		
	Males	Females	Persons	Males	Females	Persons
1. Professional	4862 (3.02)	1326 (5.73)	6188 (3.36)	8027 (4.27)	1610 (5.39)	9637 (4.42)
2. Lecturers and Teachers	3536 (4.49)	2873 (2.63)	6409 (3.40)	1840 (1.99)	2500 (2.02)	4140 (2.01)
3. Skilled White Collar	23704 (5.60)	10282 (6.01)	33986 (5.72)	22022 (4.72)	9139 (4.82)	31161 (4.75)
4. Semi- and Unskilled White Collar	36317 (6.58)	30566 (3.39)	66883 (4.60)	33125 (5.80)	24155 (2.46)	57280 (3.69)
5. Skilled Blue Collar - M & E	21180 (3.79)	1105 (8.95)	22285 (3.90)	17400 (3.11)	460 (5.20)	17860 (3.14)
6. - Building	17412 (6.55)	442 (14.33)	17854 (6.64)	12552 (4.96)	230 (7.43)	12782 (4.99)
7. - Other	8520 (8.05)	6188 (12.63)	14708 (9.30)	7474 (7.40)	2990 (7.14)	10464 (7.32)
8. Semi- and Unskilled Blue Collar	68773 (5.89)	29089 (5.71)	97862 (5.92)	56633 (4.89)	22189 (4.52)	78822 (4.78)
9. Rural	21593 (5.49)	3536 (4.67)	25129 (5.37)	16520 (4.80)	2760 (4.13)	19280 (4.69)
All Occupations	205897 (5.56)	85407 (4.60)	291304 (5.24)	175593 (4.70)	65833 (3.42)	241426 (4.27)

See NOTE on p. 28.

(a) Percentages of the corresponding workforce size as at November 1972 and December 1975 respectively are expressed in the brackets.

'Skilled Blue Collar - Metal and Electrical' and 'Rural' recorded net losses. Given that lack of training restricts certain directions of movement, however, little evidence on mobility can be gained from this table alone. The gross flows recorded in Table 1(a) coupled with information on the distribution of the workforce contained in Table 4 throw more light on the components of net changes as revealed in Table 3(c).

These tables reveal that the 'Lecturers and Teachers' group gain from the two semi and unskilled categories; the 'Skilled White Collar' group gets most of its input from the 'Semi and Unskilled White Collar' sector and in turn supplies the major input to the 'Professional White Collar' category; there is a substantial amount of almost symmetrical two-way movement between all combinations of the 'Skilled White Collar' and the two semi and unskilled groups, highlighting both the absence of training barriers and high degree of income overlap between these occupational categories; the marginal net increase in the 'Semi and Unskilled Blue Collar' class occurs as a result of movement from the 'Rural' sector.

Although the magnitudes differ substantially, there is a fairly high correlation of the ordinal rankings of net occupation changes as between males and females. As expected, the highest rates of turnover for females occur in the skilled blue collar trades, where the workforce is very small, thus magnifying any movement that does occur. Further, the semi and unskilled sectors are relatively more stable for females as opposed to males.

1. See Table 4.

3.4 An analysis of mobility in 1975 :

Investigation of tables 1(a), 3(a), 3(b) and 3(c) reveals that broadly similar patterns in mobility were displayed in 1975 as compared to 1972. The same 'loss' by the skilled blue collar trades to the semi and unskilled blue and white collar sectors occurred, as did the not-quite-offsetting movements in the reverse direction. Again, it is possible to explain a large proportion of this movement as being due to low training differentials and high income overlaps between these occupations, as well as the previously referred to definitional problems inherent in the occupational classification adopted.

The sectors experiencing the smallest labour turnover are 'Lecturers and Teachers', 'Semi and Unskilled White Collar', and 'Professional White Collar.'

The worsening state of the market for teachers is reflected in this sector's net loss to both the 'Skilled White Collar' area (an area in which teacher's training has a high degree of substitutability) and the 'Semi and Unskilled White Collar' group. The largest net loss is experienced by the 'Rural' sector, where the movement is primarily to the 'Semi and Unskilled Blue Collar' group, again a movement requiring little (if any) specific retraining.

Investigation of Table 4 shows that between 1972 and 1975 all white collar occupations increased their share of the labour force at the expense of the blue collar jobs. This shift can be explained by reference

TABLE 2 : AGGREGATE JOB AND OCCUPATION CHANGERS FOR THE TWELVE MONTHS PRECEDING NOVEMBER 1972 AND DECEMBER 1975

Characteristic		November 1972		December 1975	
	Males	Females	Persons	Males	Females
Total nos of job changers	630,116	324,699	954,815	654,890	287,340
less not previously employed	442	-	442		
less people who changed jobs within the same occupation	629,674	324,699	954,373	479,297	221,507
TOTAL WHO CHANGED OCCUPATIONS	205,897	85,407	291,304	175,593	65,833
TOTAL EMPLOYED PERSONS (a)	3,705,587	1,858,640	5,564,227	3,732,890	1,927,230
% who changed jobs	17.00	17.47	17.16	17.54	14.91
% who changed occupations	5.56	4.60	5.26	4.70	3.42

See NOTE on p. 28.

(a) Total employed persons in the nine major IMPACT occupations as at November 1972 and December 1975.

TABLE 1(b) : GROSS MOBILITY FLOWS BETWEEN OCCUPATIONS FOR TOTAL PERSONS  
FOR THE TWELVE MONTHS PRECEDING DECEMBER 1975

Occupation FROM	Professional White Collar	Lecturers and Teachers	Skilled White Collar	Semi- and Unskilled White Collar	Skilled Blue Collar - M & E	Skilled Blue Collar - Building	Skilled Blue Collar - Other	Semi- and Unskilled Blue Collar	Rural	TOTAL
Professional White Collar		1150*	690*	1150*	0	0	0	690*	230*	3910
Lecturers and Teachers	920*		1610*	2255	0	0	0	920*	230*	5935
Skilled White Collar	2453	690*		12049	1401	920*	690*	6306	2299	26808
Semi- and Unskilled White Collar	2971	1380*	12391		2587	1150*	1610*	30631	2530*	55250
Skilled Blue Collar										
- M & E	690*	230*	3025	3433		920*	1150*	11514	1300	22262
- Building	230*	230*	1305	2155	690*		460*	8882	920*	14872
- Other	0	230*	920*	2530*	690*	460*		4687	1380*	10897
Semi- and Unskilled Blue Collar	1913	230*	9840	30284	10602	8182	6094		10391	77536
Rural	460*	0	1380*	3424	1890*	1150*	460*	15192		23956
TOTAL	9637	4140	31161	57280	17860	12782	10464	78822	19280	241426

\* derived numbers  
See NOTE on p. 28.

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15.

to the relative growths of the primary, manufacturing and tertiary sectors over this period. Table 5 shows that while the manufacturing sector - - where the majority of blue collar workers are employed - - maintained its share of the workforce between 1972 and 1975, there was a significant net shift of rural workers in the primary sector to white collar workers in the tertiary sector.<sup>1</sup> It is a characteristic pattern of economies as they develop that the tertiary (services) sector expands relative to the manufacturing sector.

3.5 A comparison over the two sample periods :

Mobility rates between occupations have fallen between the two survey periods 1972 and 1975, a result that is neither surprising nor unexpected given the increasing slackness of demand in the labour market and the worsening of economic conditions in general. However, within the occupational mobility that occurred in both periods, patterns are relatively stable : males are more mobile than females; those occupations with high income overlap and low training differentials have the largest two-directional movements between them; and the blue collar trades consistently exhibit the highest degree of labour turnovers.

1. In fact, the actual flow of movements - - as revealed by examination of Tables 3(a) and 3(b) - - was from the rural to the semi and unskilled blue collar to the semi and unskilled white collar groups.

4. HYPOTHESES INVESTIGATED

Overseas evidence suggests the existence of several common characteristics amongst job changers.<sup>1</sup> These are summarized in the following eight propositions :

- (i) that as age increases, occupational mobility decreases ;
- (ii) that single workers display greater occupational mobility than their married counterparts ;
- (iii) that migrants are generally more mobile than locally-born workers ;
- (iv) that mobility is an inverse function of time spent with one employer ;
- (v) that movement is most likely to occur between occupations that are closely related in work requirements and social status ;
- (vi) that there is consistently more upward than downward mobility in terms of a conventional status ranking of occupations ;
- (vii) that occupations with a heavy influx of workers tend to have many workers moving out as well ;
- (viii) that jobs involving the personal undertaking of heavy capital investments, establishment of a clientele, or highly specific (and generally lengthy) training tend to have little movement in or out.

Analysis of the Australian data in this section is directly

related to whether or not local statistics provide support prima facie for the above hypotheses.

1. References to some of these overseas studies are listed in Naphtali, J.A., M.K. McIntosh and Lynne S. Williams "A Cross-Sectional Analysis of Inter-Occupational Mobility in Australia", IMPACT Working Paper B-06, Industries Assistance Commission, Melbourne, February 1978 (mimeo), pp.86.

TABLE 1(a) : GROSS MOBILITY FLOWS BETWEEN OCCUPATIONS FOR TOTAL PERSONS FOR THE TWELVE MONTHS PRECEDING NOVEMBER 1972

Occupation	FROM										TOTAL
	Professional Collar	Lecturers and Teachers	White Collar	Skilled White Collar	Skilled White Collar	Semi- and Unskilled White Collar	Skilled M & E Collar	Skilled Blue Collar - Building	Skilled Blue Collar - Other	Semi- and Unskilled Blue Collar	
Professional Collar	1105*	1105*	1105*	663*	663*	0	0	0	1105*	0	3978
Lecturers and Teachers	884*	884*	1989*	1989*	0	0	1768*	663*	9055	1989*	4862
White Collar	1768*	884*	16155	12515	1326*	1768*	3536	663*	9055	1989*	29968
Skilled White Collar	1989*	1989*	16155	1326*	3943	1326*	34624	4199	6761	28659	
Skilled Blue Collar	0	0	6054	1768*	442*	16196	1989*	18546	14365	95361	
- Building	0	0	2617	2210*	442*	10404	1326*	18546	14365	95361	
- Other	0	0	884*	3094	442*	8840	663*	14365	14365	95361	
Semi- and Unskilled Blue Collar	1326*	1768*	36822	13259	10782	8299	14742	95361	27804	27804	
Rural	221*	442*	1989*	3536	1989*	1768*	884*	16975	27804	27804	
TOTAL	6188	6409	35986	66883	22285	17854	14708	97862	25129	291304	

\* derived numbers  
See NOTE on p. 28.

## APPENDIX II : TABLES

All the following tables, except Table 5, are derived from unpublished retabulations of data collected in the ABS Labour Mobility Surveys of November, 1972, and February, 1976. Table 5 is derived from unpublished retabulations of data collected in the ABS Labour Force Surveys for the years 1972 to 1975.

Many of the small cells have been estimated by the author only to complete the table for the purposes of this analysis. As such, these numbers have no official status with the ABS. The large standard errors attached to the estimates make them highly unreliable for assessments of individual occupations or for other purposes.

For each year, the actual workforce base has been altered so as to net out the influence of the classifications 'Armed Services' and 'Not Previously Employed.' Thus each table examines movements within the labour force, and excludes analysis of movements into and out of the labour force. The 'Armed Services' are excluded from this study as it was felt that at the explanatory stage (for which the following data will form the basis), different factors affect movement to and from this sector.

NOTE: All numbers below 4,000 have been derived by the author and have no official status with the ABS. They are subject to very high sampling variability and should not be considered as statistics in their own right.

Consider first the hypothesis that as age increases, mobility decreases. The theoretical argument supporting this is that factors such as 'job shopping' among young workers, the accumulation of seniority rights, job-specific pension plans, the larger family size of older workers and the like all cause mobility to be more prevalent in the youngest section of the workforce. Table 6(a) shows that for 1972 this hypothesis is supported by all the major IMPACT occupations, with mobility for the 15-24 age group always highest and greater than the all-age average, and (almost without exception) falling for every subsequent age group. This is the case both for movements into and movements out of each occupation.<sup>1</sup> The data base is not strong enough to support a sex-age-occupation specific comparison,<sup>2</sup> though aggregate figures indicate that relative male/female mobility rates do vary as between occupations, and that both sexes show decreasing mobility rates with increasing age.

Comparable age group data for 1975 (Table 6(b)) shows little change in these patterns, with the 15-24 age group still displaying the greatest turnover, and the 'Skilled Blue Collar - Other', 'Semi and Unskilled Blue Collar' and 'Rural' groups being the most volatile.

The rate of movement into the 'Professional White Collar' category for the youngest age group is large in both years (but there is a much smaller rate of movement out of it) possibly reflecting the entrance of tertiary students into the workforce.

1. Although not documented in this paper, identical patterns are observed for mobility figures which include intra-occupation changes. Mobility is again greatest for the youngest age group, then declines for every subsequent age group.
2. Although estimates are available at this level of disaggregation, the majority of the cells contain numbers whose values have been 'doctored' in order to conform to confidentiality requirements.

Aggregate mobility rates for each age group are uniformly lower in 1975, as expected as a result of the smaller number of occupational transitions in the workforce.

The second listed hypothesis is that, because of the lack of family ties and social commitments, unmarried persons are more mobile than their married counterparts. Reinforcing this postulate is the fact that a large proportion of unmarrieds fall into the youngest age group, and since age is negatively correlated with mobility, so the unmarried sector will be more mobile. Australian data for 1972 as revealed in Table 7(a) and 11(a) provides strong evidence to support these claims.

At the aggregate level, the mobility rate for unmarried persons is approximately double the married rate, with the relevant percentages being 7.31 and 4.35 respectively. Occupation-specific mobility rates are consistently lower for the married workforce, but when job changes within the same occupation are included, a majority of the skilled blue collar trades displayed approximately the same rates. This suggests that although in some cases married people may be as likely to change jobs within occupations, the opportunity costs and risk factor involved in changing across occupations are greater for married as opposed to unmarried persons, thus causing the observed difference in mobility rates.

Examination of sex-marital status-age aggregate mobility rates for total job changes in 1972 (Table 11(a)) shows that married males are generally more mobile than married females, though for age 45 onwards married females are slightly more mobile. There is little difference between unmarried males' and unmarried females' mobility rates for any age group. Mobility rates are higher for married persons in the

been separated out from groups 1 and 2. Previous groups 2 to 10 have been renumbered 3 to 11. A 'Not Previously Employed' category has been added for purposes of completeness.

APPENDIX I : THE MAJOR IMPACT OCCUPATIONAL GROUPS

1. Professional White Collar
2. Lecturers and Teachers
3. Skilled White Collar
4. Semi-skilled and Unskilled White Collar
5. Skilled Blue Collar - Metal and Electrical
6. " " - Building
7. " " - Other
8. Semi-skilled and Unskilled Blue Collar
9. Rural Workers
10. Armed Services
11. Others (n.e.c.)
12. Not Previously Employed

This classification of occupations is based on that

derived by McIntosh in Appendix 2 of -

- J. A. Naphtali, M. K. McIntosh and Lynne S. Williams,  
 "A Cross-Sectional Analysis of Inter-Occupational  
 Mobility in Australia," IMPACT Working Paper No. B-06,  
 Industries Assistance Commission, Melbourne, February  
 1978 (mimeo), pp. 86.

However, the first 9 major IMPACT groups are not identical to those outlined on page 60 of the above paper. Rather, they correspond to the first 8 listed in B-06, but 'Lecturers and Teachers' have

youngest age group, but lower than unmarried persons for all subsequent age groups.<sup>1</sup>

At the sex-specific level, married males are more mobile than the unmarried ones for the youngest age group, but no significant difference exists for females at this level. For the older age groups, the unmarried males display greater mobility, but no similar consistent difference exists for females. However, all sub classes show a negative relationship between mobility and age.

Table 7(b) shows similar patterns for marital status-occupation specific mobility rates for 1975, with the aggregate mobility rates being 5.56 per cent for the married group and 5.94 per cent for the others. There has, however, been a fall in the relative differences (2.58% as opposed to 2.96%), and in fact the category 'Lecturers and Teachers' displays a significantly greater rate of in-mobility for the married group, while there is very little difference in the marital status-specific out-mobility rates for the skilled blue collar groups.

The reduction in marital status differentials overall may be attributed to a variety of factors including a tightening in the general state of the labour market, a general (though slow) rise in the average age of marriage, and the greater incidence of people living together without being married.

Examination of the sex-marital status-age aggregate mobility rates for total job changers in 1975 shows that broadly similar patterns

1. Workforce distribution figures show that 73.29% of the age group 15-24 are unmarried, whereas for ages 25 onwards, the majority of the workforce is married: 85.10% for the 25-44 group; 84.61% for the 45-64 group; and 69.67% for those aged 65 and above.

were displayed in 1975 as compared to 1972. Unfortunately the population covered by Table 11(b) is not identical to that covered in Table 11(a),<sup>1</sup> which may help explain some of the apparent differences in mobility rates.

For 1975, married females are more mobile than married males in every age group, while the sex differential for the unmarried category is everywhere small. Aggregate mobility rates are higher for the unmarried sector over all age groups. At the within sex-specific level, unmarried males are more mobile than their married counterparts for every age group except that of 65 and over. This situation is almost completely reversed for females, where the married sector displays significantly greater mobility in every age group. However, all sub-classes show a negative relationship between mobility and age, the only exception being the oldest age group, where the numbers involved are very small, with the consequent possibility that any errors may be highly magnified.

The third hypothesis which can be tested using Australian evidence is the postulate that overseas born workers are more mobile than those born locally. The theoretical arguments supporting this are that in general migrants tend both to have fewer location-specific ties and to be keener to seek advancement.

The 1972 aggregate mobility rates as revealed in Table 8(a) for all job changers support this claim, the comparable figures being 20.30 per cent for migrants and 16.01 per cent for Australian born. Eliminating within occupation changers does not alter these relative percentages, which become 6.47 per cent and 4.79 per cent respectively.

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1. See the note beneath Table 11(b) for an explanation of this difference.

## 5. GENERAL CONCLUSIONS

Mobility rates aggregated over all occupations have fallen from 5.26 per cent of the workforce in 1972 to 4.70 per cent in 1975. However, the demographic characteristics of movers appear relatively stable for the two survey years: males are more mobile than females; those occupations with high income overlap and low training differentials have the greatest two-way movements between them; the blue collar trades consistently exhibit the highest degree of labour turnover; mobility is highest for the youngest age groups and declines monotonically as age increases; and married workers are generally less mobile than their unmarried counterparts.

Several differences exist between results for Australian occupational mobility and that experienced in the U.K. and the USA. These include high rates of mobility displayed by the skilled blue collar workers; and the absence of consistent movements up a social status index of occupations.



Although hypotheses (v) to (viii) have not been individually analysed in depth, to a large extent they have been covered in the foregoing discussion. It suffices here to simply draw together the broad conclusions: movement is greatest between occupations that are close together as regards training requirements and a socio-economic index;<sup>1</sup> mobility is lowest for professional workers, reflecting the need to establish a clientele and the specific training required; yet mobility is highest for some of the skilled blue collar trades where training is also fairly specific; there is no consistency with respect to directional movements on a status ranking of occupations;<sup>1</sup> and occupations with a heavy influx of workers are also those which show high out migration - in the Australian labour market these are the skilled blue collar workers.

1. Applying the index derived in A. A. Congalton, "Status and Prestige in Australia," Studies in Australian Society (F. W. Cheshire Publishing Pty. Ltd., Melbourne, 1969) to the nine major IMPACT occupations yields the following ordering:
    - (1) Professional White Collar;
    - (2) Lecturers and Teachers;
    - (3) Skilled White Collar;
    - (4) Rural;
    - (5) Skilled Blue Collar - Metal and Electrical;
    - (6) Skilled Blue Collar - Building;
    - (7) Semi and Unskilled White Collar;
    - (8) Skilled Blue Collar - Other;
    - (9) Semi and Unskilled Blue Collar.
- Conversion of the Congalton series to the IMPACT index is fully described in

M. K. McIntosh and C. B. Granek, "A Socio-Economic Index for Occupations," IMPACT Research Memorandum, BACHUR00 Module, December 1976.

Mobility is greater for migrants as compared to Australian born in all occupations, but the rates are both closest and highest for the blue collar trades (both skilled and unskilled). The results are consistent with the fact that these are the sectors which display greatest overall mobility. Further, migrants comprise about one third of the labour force in these areas as opposed to a total workforce average of about 28 per cent, thus providing one possible reason for the higher mobility rates. That there exists only a small difference between the rates for local as opposed to overseas born workers in the blue collar trade may indicate that the family ties of locally born and migrant workers in the blue collar trades do not differ substantially insofar as they are relevant for mobility.

Again, the data for 1975 displays broadly similar patterns for mobility disaggregated by birthplace, with the magnitudes of both aggregate and occupation-specific rates in general being lower than those in 1972. However, although migrants are still more mobile than Australian born workers, the differential between the two groups has fallen substantially. For occupation changers, the rates are 4.59% as opposed to 4.15%. Mobility rates are still greatest and closest for the blue collar trades.

However, the biggest single difference between 1972 and 1975 is the complete turnaround of the figures for the 'Professional White Collar' group. Australian born workers display greater movement both into and out of this occupation as compared to their overseas born counterparts. Although both the numerators and denominators of the ratios involved in these calculations are small, with small changes or

errors being correspondingly magnified, this by itself is insufficient to explain the much greater magnitude of mobility in this occupation by Australian born workers. For example, only 2.31 per cent of 'locals' moved into the 'Professional White Collar' group in 1972, while 4.85 per cent did likewise in 1975. The corresponding figures for migrants were 6.17 per cent and 3.23 per cent.

A fourth generally accepted hypothesis is that which proposes that the longer a worker is with a particular employer, the less likely he or she is to move. Again, this is related to the age hypothesis in that younger workers will obviously have spent less time with any one employer. On a priori grounds, it is expected that as a worker accumulates seniority rights, firm-specific pension rights, internal good-will, on-the-job experience and the like, the less likely he or she is to move. Australian data only identifies length of time spent in previous job of job changers in the 12 months prior to November 1972<sup>1</sup> by two categories. These are :

'in previous job less than one year'

and

'in previous job greater than one year.'

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1. The comparable data for the twelve months prior to December 1975 was not available at the time this paper was written.

However, no corresponding breakdown exists for either the occupation specific or total workforce. Thus, although Table 9 shows that the aggregate numbers of job changers are about the same for the longer employed workers as for those whose previous job was held for less than a year, it seems likely that the larger percentage of the workforce in the former category will make the rates of mobility lower than those for workers in the latter group. This conforms to a priori expectations and results of overseas studies.<sup>1</sup>

It is of interest to examine available figures for 1972 on reasons given by workers for leaving their previous employment and entering their new jobs (Table 10). Both total job change figures and those for inter-occupation changes give 'to obtain a better position' as the major reason for moving into new jobs. On the other hand, movement out of jobs yields 'other' and 'to obtain a better position' as the major explanatory factors. That is, these rank more highly than the reasons 'laid off' or 'health and medical reasons; holiday and seasonal work only.'

The skilled blue collar trades rank highest relative to all other occupations on the 'laid off' reason. These trades also experience the greatest amount of labour turnover, as may be verified from earlier tables.

These results suggest that while movement into occupations is specifically to obtain better positions, the initial decision to leave one's previous job may be made almost independently of having found an alternative job. This is revealed by the reason 'other' being one of the primary causes for leaving.

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1. For example, Byrne, J. J. (1975), op. cit.