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The labour market experience of Vietnamese, Maltese and Lebanese immigrants: an analysis of the OMA supplementary survey of selected birthplace groups

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Abstract

During the past decade a substantial amount of research has documented how immigrants fare in the Australian labour market. The general findings are that immigrants from English speaking countries face few problems in transferring their skills to the Australian labour market and are able to adjust well to their new environment, but this does not apply to immigrants from non-English speaking countries. Thus it has become conventional to describe and categorise the immigrant experience in terms of the dichotomy English speaking and non-English speaking background, and the acronym NESB has been created to denote the latter group.

However, even though one common factor applies to all NESB immigrants, the dichotomy hides a considerable diversity. NESB immigrants come from over 100 countries, have widely varying educational achievements and have been working in a vast range of jobs prior to migration. Labour market outcomes within this heterogenous group can, therefore, be expected to differ.

Certain groups have been observed to do less well than others, notably immigrants from Vietnam, Lebanon and Malta. All these groups are large enough to be noted in the statistics, and the indications are that they do distinctly worse than others in the Australian labour market. Their numbers are also large enough to matter for both settlement and immigration policies. If such large numbers of immigrants fare relatively poorly, it is suggestive of settlement and related policies not being very effective in overcoming the difficulties that large groups of immigrants face. In respect of immigration policy, the apparent lack of success of large and visible groups, cannot but have an affect in shaping views about the size and composition of immigration.

It is therefore important to understand why certain groups, such as Vietnamese, Lebanese and Maltese immigrants have done less well than other comparable groups. The objective of this study is to contribute towards such an understanding.

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STROMBACK/CHAPMAN
DAWKINS/BUSHE-JONES

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CHAPTER 1. INTRODUCTION

During the past decade a substantial amount of research has documented how immigrants fare in the Australian labour market. The general findings are that immigrants from English speaking countries face few problems in transferring their skills to the Australian labour market and are able to adjust well to their new environment, but this does not apply to immigrants from non-English speaking countries. Thus it has become conventional to describe and categorise the immigrant experience in terms of the dichotomy English speaking and non-English speaking background, and the acronym NESB has been created to denote the latter group.

However, even though one common factor applies to all NESB immigrants, the dichotomy hides a considerable diversity. NESB immigrants come from over 100 countries, have widely varying educational achievements and have been working in a vast range of jobs prior to migration. Labour market outcomes within this heterogenous group can, therefore, be expected to differ.

Certain groups have been observed to do less well than others, notably immigrants from Vietnam, Lebanon and Malta. All these groups are large enough to be noted in the statistics, and the indications are that they do distinctly worse than others in the Australian labour market. Their numbers are also large enough to matter for both settlement and immigration policies. If such large numbers of immigrants fare relatively poorly, it is suggestive of settlement and related policies not being very effective in overcoming the difficulties that large groups of immigrants face. In respect of immigration policy, the apparent lack of success of large and visible groups, cannot but have an affect in shaping views about the size and composition of immigration.

It is therefore important to understand why certain groups, such as Vietnamese, Lebanese and Maltese immigrants have done less well than other comparable groups. The objective of this study is to contribute towards such an understanding.

There are two principal hypotheses, not necessarily mutually exclusive, which could account for the relatively worse outcomes. One possibility is the inferior endowments of these groups of immigrants. For example, low levels of education, lack of skills and other similar factors are known to be associated with worse

labour market outcomes. Human capital theory would also predict that individual endowments have a systematic influence on labour market success. This hypothesis has received support in many studies, and much of the difference between Australian born and immigrants can be attributed to differences in endowments.

The other possibility is that inferior outcomes are a result of differences in the supply behaviour of these immigrants, or in the demand for workers from these countries. Most prominent, and controversial, among this set of factors is that discrimination plays a large part in accounting for the worse outcomes. There are, however, many other factors at work and in this study we pay particular attention to how immigrants education and work experience in their country of origin affect labour market outcomes.

To investigate these issues we use a supplementary survey of Vietnamese, Lebanese and Maltese immigrants, in conjunction with the main survey of immigrants, undertaken for the Office of Multicultural Affairs. The supplementary survey contains observations on 1308 individuals born in Vietnam, Lebanon and Malta. A further 434 observations on individuals from these countries were available from the main survey.

From the main survey we also used the observations on immigrants born in other non-English speaking countries (1105 observations) as the reference group against which the Vietnamese, Lebanese and Maltese immigrants are compared. Persons born in Australia and English speaking countries are also included in the analysis of earnings. A complete description of the data is given in Appendix 1.

The plan of the study is as follows. In the next section we provide a brief description of the position of the Vietnamese, Lebanese and Maltese in Australia, gleaned from the literature. Section 3 provides a comparative description of the three groups based on the survey data. Our analysis of the labour market outcomes is contained in Sections 4 and 5. Section 4 analyses the determinants of the three related indicators, participation, unemployment and hours worked, while Section 5 deals with the determinants of earnings. The final section summarises our findings and conclusions and discusses the policy implications.

CHAPTER 2. THE VIETNAMESE, LEBANESE AND MALTESE IMMIGRANTS IN AUSTRALIA

In this section we provide a brief background description of the Vietnamese, Lebanese and Maltese in Australia.

Maltese

Although there is a long history of Maltese immigration to Australia most of the Maltese immigrants have arrived since 1945. Prior to that time, the racially based immigration policy did not favour the Maltese, notwithstanding their British status. The reasons for Maltese immigration are mainly economic in origin. Strong population growth in a small island economy controlled by outside interest and subjected to the vagaries of international politics has led to a mass exodus of Maltese. The pressures to leave became particularly strong in the aftermath of the second world war as the British wound down their naval facilities on Malta. Thus, since 1945, 150 000 Maltese have left their island, with about half coming to Australia. Assisted passages, previous emigration to Australia, the British connection and Australia's need for workers were all factors making Australia a favoured destination. The Maltese immigration to Australia reached a peak in 1954-55 when 10 000 Maltese arrived. Maltese immigration continued during the sixties but has since dwindled to very small numbers. The pressures to emigrate became smaller as the Maltese gained greater control of their own economy, particularly since gaining independence from Britain in 1970. Australia's immigration policy also became more selective. The Maltese who came during the fifties and sixties were almost all unskilled workers or tradespersons. During the seventies the character of Maltese immigration changed, as socio-economic reasons gave way to socio-political reasons. The Maltese middle class did not prosper under Maltese independence and felt politically alienated and many professionals emigrated to Australia.

The Maltese in Australia have settled mainly in Sydney and Melbourne. Being a large group and spatially concentrated they have a well developed community life in which the church has a central role. Most Maltese are devoted Catholics, and their own religious culture and the Maltese language have been maintained for the 20 years most Maltese have been in Australia. The Maltese in Australia, as was the case in Malta, are mainly unskilled workers and tradespersons. Little socio-economic advancement has taken place in Australia, a fact which some commentators have taken to imply disadvantage.

Lebanese

Since 1947 about 60 000 Lebanese have settled in Australia of which the majority have arrived since 1966. Their departure from Lebanon is a consequence of the Lebanese civil war. The peak of Lebanese immigration was in 1977-78 when the hostilities in Lebanon reached war-like proportions. The Australian government treated the Lebanese as quasi-refugees. Although they were not formally recognised as refugees, the Lebanese were readily admitted if they were sponsored by persons already in Australia.

The form that the Lebanese immigration took has meant that they have become one of the most spatially concentrated groups. About 75 per cent have settled in Sydney, particularly in the western suburbs. Strong and viable Lebanese community organisations have been established and are centred around religion and language. The Lebanese place a great emphasis on religion, but its importance has been divisive as well as a source of common interest. Great emphasis is also placed on the family as a social organisation, but the patriarchal values conflict, often sharply, with Australian norms.

Like the other two immigrant groups in this study, the majority of the Lebanese immigrants have a low level of education and worked in mainly unskilled jobs prior to their departure. Thus, in Australia, they have found mainly unskilled work, although some upward socio-economic movement has occurred. However, the most striking aspect about Lebanese experience has been the difficulties they have faced finding jobs. The unemployment rate among the Lebanese has been very high for as long as the Lebanese have been separately identified in the statistics.

Vietnamese

The Vietnamese presence in Australia is a direct result of the Vietnamese civil war. After the North took control of the South in April 1975, Australia has accepted people from Vietnam. First as refugees on humanitarian grounds, and since 1982 as migrants under the family migration programme.

Australia has, in proportion to its population, been the major recipient of Vietnamese refugees. Between 1975 and 1985, 79 000 persons from Vietnam arrived in Australia. The first wave of refugees were the 'boat people', but later most Vietnamese came via refugee camps in South East Asia.

On arrival in Australia most Vietnamese went through hostels before moving out into the community. Early arrivals remained in hostels for quite some time, but as a viable community was established they became less reliant on government settlement services. Instead, the Vietnamese have come to rely heavily on community self help. Informal networks for material and cultural support are very important and well developed.

Translating the pre-arrival occupations of the Vietnamese into the Australian equivalents presents both linguistic and cultural problems. However, even after noting this qualification, most Vietnamese who have come to Australia, previously worked in semi-skilled or unskilled occupations, although among the first intakes, there was a larger proportion of professionals and administrators.

It is not surprising, therefore, that most Vietnamese have found mainly unskilled jobs; or no job at all. At the same time the Vietnamese are credited with striving hard to obtain jobs, making extensive use of their informal networks. In the firms where they have been successful, the Vietnamese constitute a large proportion of the workforce. They are also credited with showing great determination and initiative in their work, and are favoured by many employers. Their willingness to work hard is often regarded as a cultural trait, but there are also strong economic pressures on those who do work to support an extended family. However, the English language has proved difficult to many Vietnamese. They have experienced more difficulties than other groups and low English proficiency continues to hamper their socio-economic progress.

CHAPTER 3: A COMPARISON OF VIETNAMESE, LEBANESE AND MALTESE IMMIGRANTS WITH IMMIGRANTS FROM OTHER NON-ENGLISH SPEAKING COUNTRIES: EVIDENCE FROM THE OMA SURVEY

As a precursor to the analysis of Sections 4 and 5, in this section we describe the sample data used in the study. The focus of the description is on how the Vietnamese, Lebanese and Maltese compare to other comparable groups. Two reference groups are used. Recent Arrivals, which consists of immigrants from non-English speaking countries who arrived in Australia in 1980 or later, and other NESB immigrants. Both reference groups exclude persons born in Vietnam, Lebanon and Malta. To keep the tabulations to a manageable size, Australian born persons and immigrants from English speaking countries are not included.

Year of Immigration and Age

Most of the Maltese arrived in Australia during the fifties and sixties but by the eighties immigration from Malta had come to an almost complete halt. The Vietnamese are, on the other hand, almost all recent (post 1980) arrivals, while most of the Lebanese arrived during the seventies. These different arrival times are reflected in the age distributions of the respective groups. The Maltese sample contain very few young persons and a large proportion of older persons. The Vietnamese and Lebanese are much younger, with 25 per cent in the 15-24 age group and most of the remainder are aged 25-44 years. As is well known, most Vietnamese arrived in Australia as refugees and the sample contains very few classified as migrants. Most Lebanese, however, are classified as migrants and were sponsored by Australian residents, but as discussed in the previous section they are migrants only in a technical sense and the term refugee is a more appropriate description.

Labour Market Outcomes

Participation, Employment, Unemployment

The relatively poor labour market performance of the three groups is evident in the sample data (see Table 1). Only 32 per cent of the Lebanese, and 38 per cent of the Vietnamese, had a job compared to 50 per cent of Recent Arrivals. The Maltese also had a low employment rate at 51 per cent compared to 62 per cent for other NESB immigrants. Conversely, the proportions unemployed among the Vietnamese and Lebanese were relatively high at 10 and 13 per cent respectively. Expressed in terms of unemployment rates, the latter two figures correspond to unemployment rates of 21 and 29 per cent respectively. The Maltese, being older and having been in Australia for a long time do not experience much unemployment. Vietnamese and Lebanese also had a distinctly lower employment rate prior to migration. This is a reflection of the conditions that prevailed in their respective home countries prior to migration also had a distinctly lower employment rate prior to migration.

TABLE 3.1: ACTIVITY LAST WEEK

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Has a Job	172	417	260	259	176	1284
	62.1	50.4	51.1	38.1	31.8	45.1
Unemployed	10	31	11	69	72	193
	3.6	3.7	2.2	10.2	13.0	6.8
Other	95	380	238	351	306	1370
	34.3	45.9	46.8	51.7	55.2	48.1
Column Total	277	828	509	679	554	2847
	9.7	29.1	17.9	23.8	19.4	100

Number of missing observations: 0

TABLE 3.2: WORK BEFORE MIGRATED

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Yes	165	588	249	382	267	1651
	79.3	76.2	73.7	65.6	57.5	69.8
No	43	184	89	200	197	713
	20.7	23.8	26.3	34.4	42.5	30.2
Column Total	208	772	338	582	464	2364
	8.8	32.6	14.3	24.6	19.6	100

Number of missing observations: 483

Thus it is likely that lack of previous employment experience has contributed to the low employment rates of these two groups.

The Vietnamese, like other Recent Arrivals, are not self-employed to any great extent. Among Maltese and Lebanese self-employment is more common, but comparable to other NESB immigrants.

TABLE 3.3: EMPLOYMENT STATUS IN CURRENT JOB

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Private/Gov	219	457	401	358	328	1763
	87.3	93.5	86.8	94.0	87.2	90.0
Self Employed	31	25	51	20	39	166
	12.4	5.1	11.0	5.2	10.4	8.5
Other	1	7	10	3	9	30
	0.4	1.4	2.2	0.8	2.4	1.5
Column Total	251	489	509	381	376	1959
	12.8	25.0	23.6	19.4	19.2	100

Number of missing observations: 888

The more detailed Tables in Appendix 2 reveal that the high unemployment rates for Vietnamese and Lebanese apply to males aged 25-44 years in particular. Among the Vietnamese, the very high unemployment rate is confined to those without a postschool qualification. Among the Lebanese, however, unemployment rates are very high even for those with qualifications. Even the small group with Australian qualifications has a high unemployment rate. A similar pattern is evident in the tables that show how unemployment rates vary according to proficiency in English. The group of Vietnamese who have a good knowledge of English, has a distinctly lower unemployment rate than groups with lower levels of proficiency. Among the Lebanese, unemployment rates do not vary with proficiency in English. Thus, unemployment is not just very high among the Lebanese, it is also widespread and not confined to some particular subgroup of Lebanese.

The unemployment rates for Vietnamese and Lebanese females are also high, but not strikingly different from the unemployment rates for females in the NESB and recent arrival groups. It is well known that unemployment rates for females are difficult to interpret, as many females who would like to work do not report themselves as job seekers. Unemployment, as defined by the survey, is highest among females who have qualifications. These persons are apparently more active in looking for work. There is, however, no variation in unemployment rates according to English proficiency. Participation rates, on the other hand, are much higher for those with a good knowledge of English. Also evident in these tables is

the low participation rate among Lebanese women. This fact is usually attributed to the role of women in Lebanese families.

Earnings

The relatively worse outcomes for the Vietnamese, Lebanese and Maltese are also revealed by comparisons of income from work. When all Maltese and Lebanese are compared to the NESB group, it is evident that a much smaller proportion of the former two groups have an income in the higher ranges. Likewise, the Vietnamese income distribution compare unfavourably with that of Recent Arrivals.

TABLE 3.4: GROSS INCOME FROM WORK—ALL PERSONS (RANGE, $ PER WEEK)

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
$1-229	28	56	26	27	26	163
	16.4	13.5	9.5	9.4	13.8	12.4
$230-349	37	149	59	106	48	399
	21.6	35.8	21.9	40.7	25.5	30.5
$350-419	25	84	39	59	25	232
	14.5	20.1	14.4	22.7	13.3	17.7
$420-499	26	48	25	19	21	139
	15.1	11.5	9.3	7.3	11.2	10.6
$500-619	23	26	27	15	21	139
	13.4	6.2	10.0	5.8	11.2	8.7
$620+	23	39	14	11	9	96
	13.4	9.4	5.3	4.3	4.8	7.3
NOT STATED	10	15	80	23	38	166
DON'T KNOW	5.8	3.6	29.6	8.9	20.2	12.8
Column Total	172	417	270	260	188	1307
	13.2	31.9	20.7	19.9	14.4	100

Number of missing observations: 1540

However, the non-response rate (not stated or don't know) to the income question among the Lebanese (20.2 per cent) and Maltese (29.6 per cent) were particularly high.

The patterns in Table 3.4 are also evident when comparisons are made for a particular age and sex groups. The Figures n Appendix 2 depict the distribution of usual income from work for males and females aged 25-44 who worked 35 hours or more per week. Additional income comparisons are made in the tables in Appendix 2. These tables compare the average incomes of birthplace groups controlling for age, level of overseas qualification, level of Australian qualification, language

usage and proficiency in English. Since comparisons are made at a very detailed level, the cell sizes are small and few of the differences are statistically significant. It is nevertheless apparent that the incomes of the Vietnamese, Lebanese and Maltese, relative to Recent Arrivals and other NESB immigrants respectively, are lower across the whole spectrum of variables controlled for. Other details in these tables will be discussed below in Section 5 where earnings is analysed in greater depth.

Occupation

Most of the Vietnamese, Lebanese and Maltese who are working (or have had a job in Australia) are to be found in the two occupational categories 'plant and machine operators' and 'labourers and related'.

TABLE 3.5: CURRENT OCCUPATION

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Managers and Administration	26	27	44	12	27	136
	10.4	5.5	9.5	3.1	7.2	6.9
Professionals	29	45	10	10	7	101
	11.6	9.2	2.2	2.6	1.9	5.1
Para-Professionals	16	22	8	7	3	56
	6.4	4.5	1.7	1.8	0.8	2.9
Tradespersons	49	97	70	72	58	346
	19.5	19.8	15.2	18.9	15.4	17.7
Clerks	22	65	35	25	20	167
	8.8	13.3	7.6	6.6	5.3	8.5
Sales & Personal Service	19	37	28	18	35	137
	7.6	7.6	6.1	4.7	9.3	7.0
Plant & Machine Operators	34	71	104	116	102	427
	13.5	14.5	22.5	30.4	27.1	21.8
Labourers and related	56	125	161	119	120	581
	22.3	25.6	34.8	31.2	31.9	29.7
Not Stated	-	-	2	2	4	8
	-	-	0.4	0.5	1.1	0.4
Column Total	251	489	462	381	376	1959
	12.8	25.0	23.6	19.4	19.2	100

Number of missing observations: 888

These two occupations account for 60 per cent of persons in these groups. By comparison, 40 per cent of other NESB immigrants and Recent Arrivals worked in these two occupational groups. A further 15 per cent worked as tradespersons, making the blue collar proportion 75 per cent.

TABLE 3.6: OCCUPATION IN JOB BEFORE MIGRATING

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Managers & Administrators	24	80	17	59	35	215
	14.5	13.6	6.8	15.4	13.1	13.0
Professionals	19	130	6	45	39	239
	11.5	22.1	2.4	11.8	14.6	14.5
Para-professionals	12	45	8	30	7	102
	7.3	7.7	3.2	7.9	2.6	6.2
Tradespersons	36	102	45	91	77	351
	21.8	17.3	18.1	23.8	28.8	21.3
Clerks	19	102	4	18	13	156
	11.5	17.3	1.6	4.7	4.9	9.4
Sales & Personal Service	12	59	25	44	16	156
	7.3	10.0	10.0	11.5	6.0	9.4
Plant & Machine Operators	9	31	41	42	28	151
	5.5	5.3	16.5	11.0	10.5	9.1
Labourers and related	33	39	102	50	51	275
	20.0	6.6	41.0	13.1	19.1	16.7
Not Stated	1	-	1	3	1	6
	0.6	-	0.4	0.8	0.4	0.3
Column Total	165	588	249	382	267	1651
	10.0	35.6	15.1	23.1	16.2	100

Number of missing observations 1196

For the Maltese, the occupational distribution in Australia is very similar to the distribution across occupations prior to migration.

The Vietnamese and Lebanese have, however, experienced considerable occupational downgrading. Before migration, only 25-30 per cent worked in the two occupations referred to above (operators and labourers) and an equally large proportion worked as managers, professionals and para professionals. In Australia, only about 10 per cent of the Vietnamese and Lebanese are to be found in these latter categories. The occupational downgrading suggested by the above figures does not apply to the Vietnamese and Lebanese only. The occupational status of the Recent Arrival group in Australia, is also distinctly lower than it was prior to migration.

Another indicator of the same phenomenon is the number of immigrants who work in an occupation different from that they worked in prior to migrating.

TABLE 3.7: CHANGE IN OCCUPATION AFTER MIGRATION

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
No Change	61	139	77	60	60	397
	42.7	42.8	35.3	24.3	30.2	35.1
Change	82	186	141	187	139	735
	57.3	57.2	64.7	75.7	69.8	64.9
Column Total	143	325	218	247	199	1132
	12.6	28.7	19.3	21.8	17.6	100

Number of missing observations: 1715

Among Recent Arrivals and NESB immigrants, 60 per cent are working in a different occupation. For the Vietnamese the corresponding figure was 76 per cent. The proportion was also high for the Lebanese at 70 per cent.

Hours

While the employment rates are relatively low, those who do work, work long hours.

TABLE 3.8: HOURS WORKED LAST WEEK

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
0-34	50	76	77	34	63	300
	29.1	18.2	28.5	13.1	33.5	22.9
35-39	34	114	52	89	29	318
	19.8	27.3	19.3	34.2	15.4	24.3
40-44	41	132	48	68	36	325
	23.8	31.7	17.8	26.2	19.1	24.9
45-49	16	43	19	12	13	103
	9.3	10.3	7.0	4.6	6.9	7.9
50+	31	52	66	55	40	244
	18.0	12.5	24.4	21.2	21.3	18.7
Not Stated	-	-	8	2	7	17
	-	-	3.0	0.8	3.7	1.3
Column Totals	172	417	270	260	188	1307
	13.2	31.9	20.7	19.9	14.4	100

Number of missing observations 1540

Among the Vietnamese, Lebanese and Maltese, 20 per cent work 50 hours or more per week. However, long hours are equally common among other NESB immigrants and, to a lesser extent, among Recent Arrivals.

The incidence of part time work is also similar to the reference groups, so overall there is little difference between the various birthplace groups in the number of hours they work.

Union Membership

Over 70 per cent of Maltese workers are, or have been, union members. This figure is higher than for any other group but compatible with the occupational and industry distribution of the Maltese. A smaller proportion of Lebanese and Vietnamese are, or have been, union members.

TABLE 3.9: UNION MEMBER WHEN WORKED

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Yes	48	25	139	58	91	361
	65.8	35.2	72.4	48.3	48.4	56.2
No	25	46	53	62	95	281
	34.2	64.8	27.6	51.7	50.5	43.8
Column Total	73	71	192	120	186	642
	11.4	11.1	29.8	18.7	29.0	100

Number of missing observations: 2205

Human Capital Endowments and Other Characteristics

Education

Maltese immigrants have a particularly low level of education. Almost 75 per cent left school when they were 15 years or less compared to 42 per cent of other NESB immigrants.

TABLE 3.10: AGE LEFT SCHOOL

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
No Schooling	3	14	21	6	40	84
	1.1	1.7	4.1	0.9	7.2	2.9
15 or Less	114	130	357	163	205	969
	41.2	15.7	70.1	24.0	37.0	34.0
16-17	82	237	114	165	163	731
	29.6	28.6	22.4	19.9	29.4	25.7
18+	73	396	13	294	120	896
	26.4	47.8	2.6	43.3	21.7	31.5
Now at School	5	51	2	71	18	147
	1.8	6.2	0.4	10.5	3.1	5.2
Not Stated	-	-	2	10	8	20
	-	-	0.4	1.5	1.4	0.7
Column Total	277	828	509	679	554	2847
	9.7	29.1	17.9	23.8	19.5	100

Number of missing observations: 0

The corresponding percentage for the Lebanese was 44 per cent and 25 per cent for the Vietnamese. The figure for the Lebanese is similar to that for other NESB immigrants but much higher than for recent arrivals. The Vietnamese also left school at an earlier age than Recent Arrivals.

Persons aged fifteen or more on arrival, were also asked about any qualifications obtained overseas. Among the Vietnamese, Lebanese and Maltese only about 20 per cent had an overseas qualification. This proportion is much less than for the NESB immigrants, among whom 39 per cent had an overseas qualification and far below the proportion in the Recent Arrivals group (54 per cent).

TABLE 3.11: OVERSEAS QUALIFICATIONS AND THE RECOGNITION PROBLEM

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Descr
1. Have o/s Qualification	80	417	66	96	101	No
	39.0	54.0	20.0	17.0	22.0	% Sample
2. Applied Qual. Recognition	40	161	27	23	31	No
	50.)	39.0	41.0	24.0	31.0	% of 1
3. Applied Job using Qual.	61	226	44	27	51	No
	76.0	55.0	67.0	28.0	51.0	% of 1
4. Obtained Job using Qual.	52	141	37	11	27	No
	85.0	62.0	84.0	41.0	53.0	% of 3
5. Qual. not Recog. Not Applied Job	7	41	6	25	11	No
	9.0	10.0	9.0	26.0	11.0	% of 1
6. Sample	277	828	509	679	554	2847

Number of missing observations: 0

Of the Maltese immigrants with qualifications, 79 per cent had a trade qualification. Among the Lebanese and Vietnamese a trade qualification was also quite common, but there was a much larger proportion with degree or diploma qualifications.

TABLE 3.12: LEVEL OF OVERSEAS QUALIFICATION

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Higher Degree	6	66	-	2	5	79
	7.5	15.8	-	2.1	5.0	10.4
Bachelor Degree	11	97	1	18	11	138
	13.8	23.3	1.5	18.8	10.9	18.2
Diploma Certificate	33	145	6	35	26	245
	41.3	34.8	9.1	36.5	25.7	32.2
Trade Apprenticeship	27	90	52	24	42	235
	33.8	21.6	78.8	25.0	41.6	31.0
Other	3	19	7	16	17	62
	3.8	4.6	10.6	16.7	16.8	8.2
Column Total	80	417	66	95	101	759
	10.5	54.9	8.7	12.5	13.3	100

Number of missing observations: 3264

Most immigrants with overseas qualifications do not apply to have their qualification recognised in Australia by an official or professional body. Only 24 per cent of the Vietnamese had done so, a figure much smaller than that of other groups. The Lebanese and Maltese, also applied to a lesser extent than NESB immigrants for whom the figure was 50 per cent.

Many more do, however, apply for jobs where they can use their overseas qualification. Of the Maltese and Lebanese, 67 and 51 per cent respectively, had applied for jobs where their qualification could be used. These figures are similar to those for other NESB immigrants and Recent Arrivals. The Vietnamese have not applied for such jobs to the same extent. They were also less successful in obtaining a job using their qualification. Their success rate of 41 per cent, compared unfavourably with the Lebanese rate of 53 per cent and Recent Arrivals at 62 per cent. The Maltese, who are mainly tradespersons, were much more successful in obtaining jobs compatible with their qualifications.

Returning to those who had not applied for a job where they were able to use their overseas qualification, several reasons for not doing so were given. Many preferred to work in another occupation and a small proportion indicated that jobs were not available in their occupation. However, the most common single reason was that the overseas qualification was not recognised. This reason applied to 36 per cent of the Vietnamese but was almost as high for the other groups. This indicates that recognition problems are fairly common and not confined to particular groups.

However, it should also be pointed out that 60 per cent of immigrants gave other specific reasons for why they did not apply for jobs where their overseas qualification could be used.

The incidence of persons with Australian post school qualifications among immigrants is for obvious reasons much smaller. Those who have Australian qualifications, are mainly those who arrived in Australia at an early age and undertook or completed their education in Australia. Some arriving as adults, have also acquired an Australian qualification after arrival.

TABLE 3.13: OBTAINED QUALIFICATIONS IN AUSTRALIA

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Yes	38	76	28	45	21	208
	20.1	15.6	8.3	9.5	4.8	10.8
No	150	375	309	414	417	1665
	79.4	77.0	91.4	87.2	94.8	86.3
Now Doing One	1	36	1	16	2	56
	0.5	7.4	0.3	3.4	0.5	2.9
Column Total	189	487	338	475	440	1929
	9.8	25.2	17.5	24.6	22.8	100

Number of missing observations: 2209

Of those in the latter category, very few of the Maltese, Vietnamese and Lebanese have acquired Australian qualifications. The respective proportions were 8, 9, and 5 per cent compared to 16 per cent of Recent Arrivals and 20 per cent of other NESB immigrants. Persons in the former category (strictly speaking persons who arrived in Australia before the age of 15) have obtained qualifications to a much greater extent.

TABLE 3.14: OBTAINED QUALIFICATIONS AFTER LEFT SCHOOL

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Yes	37	-	50	4	24	115
	57.8	-	29.6	15.4	32.9	34.1
No	24	3	117	13	44	201
	37.5	60.0	69.2	50.0	60.3	59.6
Now Doing One	3	2	2	9	5	21
	4.7	40.0	1.2	34.6	6.8	6.2
Column Total	64	5	169	26	73	337
	19.0	1.5	50.1	7.7	21.7	100

Number of missing observations: 2510

Some 30 per cent of the Maltese and Lebanese have qualifications but these proportions are still low compared to other NESB immigrants. Much fewer of the Vietnamese in this category have qualifications, but on the other hand, 35 per cent are currently studying for a qualification. This figure is comparable to that of the Recent Arrivals group among whom 40 per cent are currently studying for a qualification.

In summary, the educational attainments of the Vietnamese, Maltese and Lebanese immigrants are distinctly lower than for the other immigrant groups. This applies to the Maltese in particular. This appears to be associated with the socio-economic status of these immigrants in that the proportion whose father had university or professional training was very small compared to the other groups.

TABLE 3.15: FATHERS EDUCATION LEVEL WHEN RESPONDENT AGED FOURTEEN

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
University	22	134	4	39	5	204
	8.7	17.7	0.8	6.3	1.0	7.8
Professional Training	21	79	15	25	16	156
	8.3	10.5	3.1	4.0	3.2	6.0
Trade Training	43	76	40	29	41	229
	17.0	10.1	8.3	4.7	8.1	8.8
Secondary School	46	184	50	225	50	555
	18.2	24.4	10.4	36.3	9.9	21.2
Primary School	78	190	176	135	189	768
	30.8	25.2	36.4	21.8	37.3	29.3
Never at School	20	39	3	15	9	86
	7.9	5.2	0.6	2.4	1.8	3.3
Not Stated/Refused	-	2	130	5	161	298
	-	0.3	26.9	0.8	31.8	11.4
Don't Know	23	51	65	146	36	321
	9.1	6.8	13.5	23.6	7.1	12.3
Column Total	253	755	483	619	507	2617
	9.7	28.8	18.5	23.7	19.4	100

Number of missing observations: 310

English Language

Very few immigrants from Vietnam, Lebanon and Malta had English as their first language. English was, however, a fairly common second language among the Maltese but not among the Vietnamese and Lebanese.

TABLE 3.16: ENGLISH FIRST LANGUAGE SPOKEN WHEN RESPONDENT AGED FOURTEEN

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Yes	43	64	62	4	22	195
	15.5	7.7	12.2	0.6	4.0	6.8
No	234	764	447	675	532	2652
	84.5	92.3	87.8	99.4	96.0	93.2
Column Total	277	828	509	679	554	2847
	9.7	29.1	17.9	23.8	19.5	100

Number of missing observations: 0

TABLE 3.17: ENGLISH SECOND LANGUAGE SPOKEN WHEN RESPONDENT AGED FOURTEEN

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Yes	37	146	202	58	49	492
	38.5	42.8	40.9	12.4	9.5	25.7
No	59	195	292	411	469	1426
	61.5	57.2	59.1	87.6	90.5	74.3
Column Total	96	341	494	469	518	1918
	5.0	17.8	25.8	24.5	27.0	100

Number of missing observations: 929

The current language situation is very different. At the time of the survey 60 per cent of the Maltese gave English as their first language (language used most often at home). This usage of English clearly reflects the long time most Maltese have been in Australia. The Vietnamese and Lebanese English usage is different. A very small proportion use English as their first language, even when compared to the Recent Arrivals group. Both Vietnamese and Lebanese use English as a second language to a greater extent (40 to 50 per cent), but still less than Recent Arrivals and other NESB immigrants.

Proficiency in English is recorded only for those persons who did not have English as their first language. Thus proficiency is available for almost all Vietnamese and Lebanese, but only for 40 per cent of the Maltese. Also, as English is fairly common as the first language among Recent Arrivals and other NESB immigrants, proficiency is available for the remainder only.

Separate questions were asked about spoken, reading and writing English; each self reported by the respondent according to a five point scale ranging from 'very good' to 'very poor'. From these three separate ratings a composite variable was constructed as a weighted average. According to this measure the Vietnamese had the lowest level of proficiency; 35 per cent had a score of 'poor' or 'very poor'. The Lebanese also had a proficiency level much below that of Recent Arrivals and other NESB immigrants.

TABLE 3.18: ENGLISH LANGUAGE USAGE AND PROFICIENCY (PER CENT)

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese
English Spoken Most Often	48.0	33.0	61.0	5.0	16.0
When Other Language Spoken Most often Proficiency in Speaking, Reading and Writing English					
Very Good or Good	16.0	19.0	12.0	16.0	23.0
Fair	23.0	30.0	18.0	46.0	33.0
Poor or Very Poor	13.0	18.0	9.0	34.0	29.0
Total %	100	100	100	100	100
No	277	828	509	679	554

Number of missing observations: 0

The low proficiency among the Vietnamese does not appear to be a result of any unwillingness to learn English. No less that 76 per cent had attended English language courses, a proportion higher than for any other group.

This high attendance rate may, however, be specific to the sample of Vietnamese we use here. Research conducted within AMEP has found that only 48 per cent of Vietnamese arrivals in 1988\89 with an 'English need' had attended AMEP courses.

TABLE 3.19: TAKEN ENGLISH COURSES IN AUSTRALIA

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Yes	50	284	6	424	154	918
	39.1	56.0	3.1	76.3	36.9	51.1
No	78	223	185	131	263	880
	60.9	44.0	96.9	23.6	63.1	48.9
Column Total	128	507	191	555	417	1798
	7.1	28.2	10.6	30.9	23.2	100

Number of missing observations: 1049.

The other questions about language use and difficulties were consistent with the above figures. Of the Vietnamese, 67 per cent had difficulties in explaining a health visit, 68 per cent encountered difficulties obtaining pension or benefits, and more than half listen, watch or read own language, radio/TV/newspapers. The Vietnamese and Maltese also appear to have a relatively strong ethnic identification and attach less importance to being Australian than the NESB group. The Lebanese also encounter language problems and use their own language to the same extent. They have, on the other hand, a weaker ethnic identification and place greater importance on being Australian. Commensurate with this, a very large proportion of the Lebanese are Australian citizens (81 per cent).

TABLE 3.20: AUSTRALIAN CITIZEN

	NESB	Recent Arrivals	Maltese	Vietnamese	Lebanese	Row Total
Yes	213	267	208	413	447	1548
	76.9	32.2	40.9	60.8	80.7	54.4
No	64	561	301	266	107	1299
	23.1	67.8	59.1	39.2	19.3	45.6
Column Total	277	828	509	679	554	2847
	9.7	29.1	17.9	23.8	19.5	100

Number of missing observations: 0.

Overall, the Lebanese responses to these questions were more similar to the responses given by Recent Arrivals and other NESB immigrants. The Maltese experienced much fewer language problems but also made much use of their own language as other groups. In comparison with others, however, a much smaller proportion had an ethnic identification. Notwithstanding this, only 41 per cent were Australian citizens.

CHAPTER 4. MODELS OF PARTICIPATION, UNEMPLOYMENT AND HOURS

In this section we describe the theory on which our models of participation, unemployment and hours is based, and present and discuss the results obtained.

Theory and Model Specification

Individual labour market outcomes can be thought of arising from supply and demand side factors. In respect of the supply side, individuals have different preferences which determine their willingness to supply labour at various wages. On the demand side, employers base their employment decisions on the expected productive capabilities of individuals and the wage they have to pay.

These two types of influences can be represented by supply and demand functions. Using hours (H) as a quantity measure, the supply function can be written as:

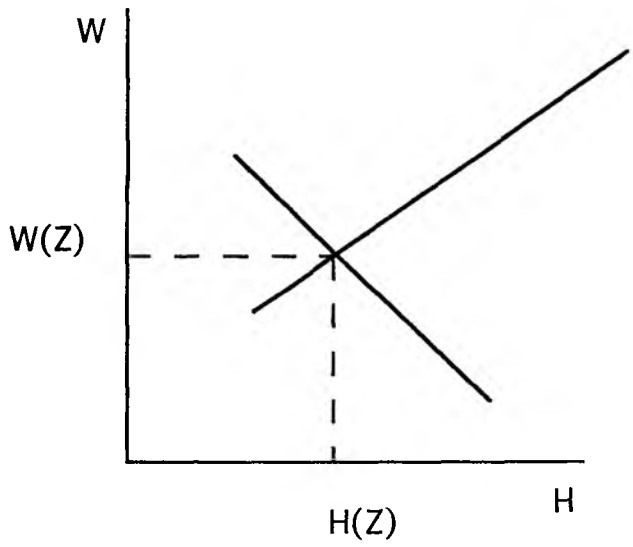
$$H = H(W, Z)$$

Where W is an individuals expected wage and Z a vector of individual characteristics. Similarly, the demand function can be represented by:

$$H = H(W, Z)$$

The outcomes we observe are a result of the interaction of supply and demand and represented by the reduced form functions $H = H(Z)$ and $W = W(Z)$ as depicted in Figure 4.1 below.

FIGURE 4.1. THE DETERMINATION OF INDIVIDUAL WAGE AND HOUR THROUGH THE INTERACTION OF SUPPLY AND DEMAND.



To clarify the interpretation of this model, we can imagine the supply and demand functions to intersect at the average wage and hours for an individual with average characteristics. Another individual, with different characteristics, may have a supply function which is lower in which case we would observe this individual working more hours (if the demand function remained unchanged). Yet other individuals may have a supply function which is always above the demand function. Such individuals would then work zero hours and a wage would not be observed.

As explained above, the main issue in this study is whether the supply and demand functions for the three groups of immigrants differ from those of other immigrants. However, from the data available it is not possible to estimate supply and demand functions separately, but only the reduced form functions H and W. For the purpose of determining the differences between groups, and the interpretation of such differences, this limitation is a considerable drawback. For example, if the incidence of zero hours for, say, the Lebanese is high, this could be due to the demand function for the Lebanese being particular low. That is, employers are, for

whatever reasons (e.g. prejudice) reluctant to employ Lebanese. But zero hours could also be due to the Lebanese supply function being particularly high, meaning that the Lebanese attach a higher value to non-work activities than other groups. These problems of interpretation are not unique to this study. All analysis undertaken with similar data sets are subject to the same limitation.

The model for the wage function is discussed further in Section 5. In the remainder of this section we confine our attention to the hours function.

Because of the way in which individual outcomes are recorded we estimate three separate reduced form models for hours. In the first model we use only the information H=O or H>O, i.e., whether an individual participate in the labour force or not. Those who do participate, are either employed or unemployed and the second model estimates how individual characteristics influence that outcome. Finally, the third model utilises the information about the actual numbers of hours worked to estimate the H(Z) function. This is essentially the same model as the first, but estimated from observations on individuals who are employed only.

The main variables included in the vector Z reflect an individual's human capital endowments. The level of education can be expected to have a strong influence on participation and unemployment in particular, but also on the hours worked of those who are employed. The direction of the expected effect is, however, ambiguous. On the one hand, those with more education are more likely to participate and to work more hours because their opportunity cost is higher. On the other hand, they may work less hours, if, at the margin, the rewards are low relative to the opportunity cost. Further influences originate on the demand side, which would affect unemployment in particular. Those with more education are less likely to be discouraged non participants because of difficulties of finding a job. They are also less likely to become unemployed, because of the type of jobs they occupy and because of their wider range of alternative opportunities.

For modelling purposes, education is represented as a continuous variable, years of education. This is restrictive specification, as it implies that an additional year at school has the same effect as an additional year of tertiary education. We have adopted this form to obtain more clear cut inferences about the effect of education (and other variables). Additional variables capture the important distinction

between education in Australia and overseas. One variable distinguishes between those who completed their education in Australia and overseas. Other variables distinguish between an Australian and overseas qualification and whether an overseas qualification has been formally recognised.

The experience variable captures the life cycle pattern of participation and hours and variations in the chance of being unemployed. Related to experience is the duration of residence in Australia. This variable measures whether there is any additional effect on outcomes of potential experience over and above that due to potential experience generally. English language usage and proficiency is represented by three variables. Whether English is a person's native language (first language at age 14), whether English is the first language now and, if not, proficiency in English. Father's level of education is a frequently used indicator of socio-economic background which is important to take account of. This avoids attributing differences to ethnic background when socio-economic background may be the real cause. Immigration category is used to distinguish between those who arrived as refugee and migrants and whether sponsored or not. Finally, marital status and spouse income can also be expected to have significant influence on work choices on females in particular.

The precise definition of all the variables used in the analysis is given in Appendix 3.

Empirical Results

The complete results from estimating the models of participation, unemployment and hours are given in Appendix 3. The appendix also contains all the technical details. In the main body of the report we restrict our attention to a description of the various models, the principal features of the results and our interpretation thereof.

The sample from which the models are estimated include persons born overseas in a non-English speaking country, except those still at school, from the AGB: McNair and Reark surveys. Australian born persons are excluded from consideration as our focus is the differences between those born in Vietnam, Lebanon and Malta on the one hand, and other immigrants (from non-English speaking countries) on the other.

The effect of birthplace is represented by a country dummy variable. This means that it is assumed that the effects of each of the other variables are the same for all immigrants. The finding, for example, that the Vietnam dummy is significant, would mean that the outcomes for Vietnamese differ from the outcomes for other immigrants with the same characteristics.

The model of participation estimates how the chance of participation is affected by individual characteristics. The parameters were estimated using the bi-nominal logit specification.

For those who do participate in the labour force, the next model estimates the chance of being unemployed. It is important to realise that these estimates are conditional on participation, and reflect the chance of being unemployed in the sense of actively looking for work. If, in addition, there is hidden unemployment, persons being discouraged from looking for work because of poor job prospects, the estimates will not reflect how the true chance, including being hidden unemployed, is determined. To the extent that hidden unemployment is important, the results should be interpreted in conjunction with the results from the participation model.

In the model of hours, hours worked per week is specified to be a linear function of the Z variables. This model is estimated by the ordinary least-squares method.

The results pertaining to males and females are discussed separately below.

Males

In the participation equation the core variables have a significant effect on the probability of participating. This probability is, as expected, increasing in experience (up to a point), duration of residence and English proficiency. It does, however, fall with years of education. This has not been found in other data sets and implies that more educated NESB immigrants are particularly prone to withdraw from the labour market. Of the other variables, being an Australian citizen has a particularly large positive effect, and having worked before migration also has a significant positive effect on the probability of participating.

In the case of unemployment, the results show that there are very few systematic effects through the variables we have included. Apart from birthplace, only

experience and English proficiency are individually statistically significant even though all the variables are, jointly, highly significant. There is, of course, a fairly high degree of chance whether a person is unemployed at a particular time but this lack of influence of personal characteristics has not been found in other samples. It implies that all NESB immigrants have (almost) the same chance of being unemployed; it does not matter much whether you have a degree or no schooling at all or have been in Australia for 20 years or 20 days. This is an uncomfortable finding. It suggests that all NESB immigrants are treated the same in the labour market. This is no the case for other persons. Other studies (Inglis and Stromback 1986, Wooden and Robertson 1989) have found that the probability of being unemployed is very strongly related to the level of education and other factors as well. A similar result is obtained in our analysis of earnings and we discuss this issue more fully in that context.

In the hours equation, single individual characteristics are usually not statistically different from zero. However, many effects have quite a large influence, and more so if taken together. Thus, there are several variables associated with immigrant status which have a large impact on hours worked. The mean hours for males is about forty hours but recent arrivals would work about seven hours less, and if their English was poor, working time could be reduced by another four hours. Although there could be a tendency to work more for those with characteristics which lead to lower wages, the opposite effect dominates. This suggests that stable full time work is difficult to obtain for many NESB immigrants.

Females

The estimates of how the labour market behaviour of females varies with personal characteristics have many similarities with the estimates reported for males.

In the participation equation we find that almost all the variables have a statistically significant influence in the expected direction. Thus, the probability of participation is increasing in the level of education, experience, duration of residence and proficiency in English. It is higher for those who have had their qualifications recognised, but an overseas qualification as such has no effect, and for those who worked before migration and those with Australian schooling. Being a sponsored migrant and an Australian citizen also has a positive effect. The largest single effect is through marital status; single women, or more precisely those never married, are much more likely to participate than others.

The only unusual aspect of the estimates is the positive effect of spouse income; the higher the spouses income the larger is the probability of a woman participating. Theory would predict the opposite, but empirically it is not unusual to find a positive effect. This is believed to be due to unobserved heterogeneity. Females, whose spouse have a high income have (unobserved) characteristics which make them more likely to participate.

Overall it could be said that the model we used provide a better explanation of the participation decision of women than it did for men. It is better in the sense that the effects of personal characteristics are more precisely determined. However, at the same time it is striking how similar the estimates for the male and female samples are. It is a tendency to regard women's decisions to participate as being based on many considerations which are not as relevant to males. However, once those differences are allowed for, by marital status and spouse income, the effects of the remaining variables are relatively similar.

The estimates of the employment/unemployment equation for females also display some similarity to the corresponding estimates for males. There is a high degree of chance, unrelated to personal characteristics, as to who is unemployed. This is reflected in few of the variables have statistically significant effects.

The probability of being unemployed does however decrease with education and experience, but not with duration of residence. English proficiency has no real effect either. In respect of most of the other variables the unprecise estimates preclude anything definitive to be said. An exception is the effect of spouse incomes. For the same reason as a high spouse income increases the probability of participation, it reduces the probability of unemployment.

When it comes to the determination of hours worked we find more substantial differences between males and females. For females, hours decline substantially with duration of residence suggesting, at least for couples, that the shorter hours worked by recent male arrivals is compensated for by the spouse working more hours. We also find relatively large positive effects on hours from having qualifications recognised and having worked before migration, but Australian schooling and just having overseas qualifications have a negative, but not

significant effect. Finally, in this equation the spouse income has the predicted effect of reducing a woman's labour supply. The higher is the spouse income the fewer hours a woman will work but the effect is rather small.

Birthplace Effects

As the focus of this study is on how the outcomes for Vietnamese, Lebanese and Maltese immigrants differ from those of other NESB immigrants, the birthplace effects are of particular interest. To review how birthplace affects labour market outcomes we have in Table 4.1 brought together the various estimates of birthplace effect. Also because of the importance attached to this effect it is prudent to investigate how robust the estimates are with respect to other variables. Specification (1) includes all the control variables we have used. In (2), variables which have the effect of substantially reducing the sample size (because of missing values) and/or are strongly correlated with other variables have been excluded. This lead to the exclusion of fathers educational level (FED) and Refugee status; the latter because most refugees are also Vietnamese. The full results for specification (2) are given in the appendix and the comments above referred to this specification. Finally, specification (3) includes only the core variables.

TABLE 4.1: ESTIMATES OF BIRTHPLACE COEFFICIENTS USING DIFFERENT SPECIFICATIONS OF THE PARTICIPATION, EMPLOYMENT AND HOURS EQUATIONS. (STANDARD ERRORS IN BRACKETS).

Birthplace	Males			Females		
	Participation	Employment	Hours	Participation	Employment	Hours
			Specification (1)			
Vietnam	-0.50	-0.71	–1.65	-0.06	-0.13	3.65
	(0.30)	(0.46)	(2.54)	(0.30)	(0.67)	(3.21)
Lebanon	-1.25	-2.11	-6.31	-1.39	-0.04	3.77
	(0.28	(0.36)	(2.20)	(0.25)	(0.73)	(3.29)
Malta	-0.07	-0.46	-3.02	-0.87	16.5	4.09
	(0.31)	(0.52)	(1.95)	(0.25)	(1342)	(2.77)
			Specification (2)			
Vietnam	-0.78	-1.17	-1.30	-0.04	-1.29	5.40
	(0.20)	(0.29)	(1.82)	(0.21)	(0.48)	(2.46)
Lebanon	-0.97	-2.07	-5.19	-1.43	-0.78	2.64
	(0.22)	(0.28)	(1.85)	(0.21)	(0.48)	(2.80)
Malta	0.17	-0.28	-0.52	-1.06	17.3	2.38
	(0.25)	(0.40)	(1.70)	(0.20)	(1832)	(2.36)
			Specification 3			
Vietnam	-1.12	-1.82	-1.24	-0.56	-0.87	6.13
	(0.17)	(0.24)	(1.54)	(0.17)	(0.36)	(2.09)
Lebanon	-0.85	-2.14	-6.08	-1.60	-0.85	2.23
	(0.19)	(0.23)	(1.71)	(0.19)	(0.43)	(2.69)
Malta	-0.01	0.01	-0.70	-1.00	16.8	-0.03
	(0.23)	(0.36)	(1.54)	(0.18)	(1907)	(2.18)

The statistical evidence is most clear cut in case of Lebanese males. Irrespective of the variables controlled for, Lebanese males have a lower probability of being employed (higher probability of being unemployed) and those employed work less hours. Those differences, between the Lebanese males and other immigrants are also quite large. Expressed relative to other variables the effect of Lebanese origin on participation and unemployment is as large as the maximum effect of the English language variables and in case of hours the effect is of the same magnitude as the maximum effect associated with duration of residence in Australia.

Also the Lebanese females have a labour market behaviour which is different from that of other immigrant groups. However, in case of females it is only the much lower participation probability that differs from other groups. In respect of unemployment and hours, there is no significant difference between Lebanese and other females. However, few Lebanese women are in the labour force.

The evidence is also fairly clear in respect of the Maltese, but in this case the finding is no birthplace effect with one exception. The Maltese females are, like Lebanese females, less likely to participate in the labour force, a finding which is robust with respect to the variables controlled for.

Finally, in respect of the Vietnamese, the evidence is more mixed. When all the other effects are controlled for there are no significant differences between the labour market behaviour of the Vietnamese and other groups. However, when fewer controls are used we find significant differences between Vietnamese and others which are as large as those found for the Lebanese.

There are two reasons for this. First, for some variables there are a large number of missing observations so when those variables are included the sample is reduced. Second, when some control variables are excluded the effects of these variables are taken up by the remaining variables, including birthplace.

In this case, the first reason is quite important and because of the possible selectivity bias introduced in the equation with all control variables we find that greater weight should be attached to the equations with fewer controls. However, the second reason is also important. By omitting Refugee status we attribute that

effect to being Vietnamese but because of the correlation between the two it is impossible to obtain precise estimates of the two effects.

The effects of Vietnamese origin are then very similar to the effects of Lebanese origin. Vietnamese males have a lower probability of participating and a higher probability of being unemployed, but do not work significantly less hours than other groups. Vietnamese females have a higher probability of being unemployed and work more hours than other females. In respect of participation we have more confidence in the evidence of no effect in (2), as the restrictions (omitted effects) implied by (3) can be rejected.

In case of participation and employment the coefficient estimates discussed above represent the log odds (of participating and being employed respectively). As such the magnitude of the estimates are cumbersome to interpret. To aid in the interpretation we have in Table 4.2 below calculated by how much the chance (probability) of participating and being unemployed vary according to birthplace. As base for these calculations we have taken a participation probability of 0.65 and unemployment probability of 0.04. The information in this table reinforces the comments made above.

TABLE 4.2: BIRTHPLACE EFFECTS ON THE PROBABILITY OF PARTICIPATING AND BEING UNEMPLOYED

	Males		Females	
	Participant	Unemployed	Participant	Unemployed
Base Value	0.65	0.04	0.65	0.04
Vietnam	0.47	0.12	0.64	0.13
Lebanon	0.46	0.25	0.31	0.08
Malta	0.69	0.05	0.40	0.00

Calculated from the estimates of specification (2) in Table 4.1.

As has been discussed previously, the birthplace effects reflect the influence of a number of factors common to persons from a particular country. It has also been stressed that these common factors operate through both the demand for and supply of labour. Because of this there is no unique interpretation of what the birthplace coefficients really represent. There is, however, of some interest to relate the findings to what is known generally about these birthplace groups and the conditions they have encountered in Australia.

In case of the Maltese, most of whom came to Australia when unskilled and semiskilled jobs were more plentiful, are no longer at a disadvantage when it comes to having a job. Neither their participation nor unemployment is substantially different from that of other NESB immigrants. The only exception is the low participation by females which could reflect the declining employment opportunities in some of the manufacturing industries that have traditionally employed unskilled female labour. This point was also made, in respect of all female NESB immigrants in BLMR (1986). However, and in respect of all Maltese, the changes in economic structure that has taken place have not been favourable to a predominantly blue collar group but this is more evident from our analysis of earnings in the next section.

Recent immigrants have been more adversely affected by the labour market conditions that have prevailed since the mid seventies generally and by the structural changes which have diminished the number of typical migrant entry jobs.

These adverse effects are reflected in lower participation and higher unemployment rates and the implication of our results is that the Vietnamese and the Lebanese have experienced particular problems. Several possible explanations for this are implicitly canvassed in the models we have employed. It is not due to lack of educational or other qualifications, low levels of English proficiency or the relatively short time many have been in Australia. Nor, as far as one can tell from the data available to us, is it due to their refugee status or lack of recent (pre-migration) labour market experience. Even though it is difficult to control for the pre-migration conditions these two variables capture at least some of the particularly difficult pre-migration conditions these two groups experienced.

The remaining, residual, explanations can be categorised as being due to the different supply behaviour of these two groups or a result of lack of demand for their work. The supply explanation would, in general terms, imply that persons from these countries put a higher value on their leisure time but can also be expressed in more derogatory terms as being lazy, unwilling to work etc. As we know of no collaboratory evidence to support this interpretation, other than a rationalisation of what is observed, we do not believe that an explanation along this line has much credibility. The most likely explanation is thus that employers

in general are reluctant to hire persons from these countries for reasons which have little to do with their capabilities to do the jobs. Many recent immigrants have experienced problems of this type, but structural changes in recent times have made them more severe and have affected Vietnamese and Lebanese in particular.

CHAPTER 5. EARNINGS

Introduction

In this section of the study we explore empirically the relative wage outcomes of Vietnamese, Lebanese and Maltese immigrants in Australia. The available data set makes it possible to investigate the importance of demographic, industrial and individual human capital characteristics as explanators of Vietnamese, Lebanese and Maltese wage differences, both within the group and in comparison with other immigrants and the Australian-born.

The approach adopted throws light on important questions pertinent to an understanding of why average wages differ between groups. These questions include: do Vietnamese, Lebanese and Maltese have (dis)similar levels of measurable skills, for example education and labour market experience?; is the return to measurable skills, particular those obtained in their home countries different from that of Australian born?; what are the contributions of other wage relationships within this group, such as remuneration variations between women and men?; and is there evidence for there being systematic country-specific factors, due perhaps to domestic employers using country of birth as a signal of the value of overseas training or the economic ability and/or motivation of individuals?

It is possible also to examine a range of other related issues, some with potentially important policy implications. Included among these are the effect on wages of: sex; both spoken and written English language proficiency; having received some Australian formal skills; trade union membership; and public sector employment. In short, the available data and techniques enable a fairly sophisticated and disaggregated analysis of underlying the wage determination processes.

Data

Our analysis of immigrant wages is based on the human capital earnings function approach. The theoretical model on which the econometrics rests is documented in Appendix 4, and a conceptual description was given in Section 4.1. Essentially it is a reduced form multiple regression technique, designed originally to explore the implications for individuals' remuneration of variations in education and on-the-job training, but now used in a myriad of investigations into the factors underlying wage determination.

Even though the model is not based on a single and rigorously specified theory, the wage equation nevertheless allows important insights into the origin of earnings differences. Importantly for our empirical goals, such an exercise makes it possible to isolate the influence on wages of so-called human capital endowments—such as overseas qualifications and labour market experience—from the contributions of country of birth and a host of other factors. Because of its flexibility, and the important advantage of allowing the role of particular factors to be investigated in a ceteris paribus context, methodologically this approach is an ideal tool for understanding the processes underlying the relative wage outcomes of the Vietnamese, Lebanese and Maltese.

Until recently the paucity of individual data in Australia limited the number of studies in the human capital genre, but several analyses of immigrants' earnings now exist. While the methodological framework of these studies is generally consistent with that outlined in Appendix 4, important differences in approach and time periods make direct empirical comparisons difficult. The major background material is examined in Appendix 5.

An important point in the Australian literature described in Appendix 5 is that immigrants receive relatively low returns to training obtained outside Australia. But it is also the case that, on average, immigrant wage outcomes are not overly dissimilar to those experienced by the Australian- born. These observations, taken together, strongly suggest that immigrants—particularly those from non-English speaking countries (NESB) who obtained their formal training overseas—are treated more or less as a homogeneous group in the Australian labour market. Whether or not this is true for the data set used in this study is one of several important questions.

As the data come from a supplementary survey of the same format as the original main survey (see Section 1 above) the comments by Chapman and Iredale (1990) are worth reiterating. They described the main survey set as probably the best cross-sectional sample available in Australia for this type of work. It has the following advantages. First, unlike the Census material usually employed in investigations of immigrant relative remuneration, there is information on wages, not just total income. This allows us the important opportunity to test the relevant hypotheses with the correct dependent variable. Second, the data set has many controls not usually available. These include firm size, a variable which has been shown both in overseas (Oi, 1988) and Australian (Hatton and Chapman, 1989; Gill, 1990) studies to be an important wage determinant and, significantly, likely to be correlated with other regressors. Other important controls available are length of time in the current job, an identification of the type of post-school qualification held (and where it was obtained), and measures of both spoken and written English-language proficiency. As well, there is information on relevant variables usually available in other good cross-sectional samples: marital status, length of time in Australia, union membership, public sector employment and geographic location.

The survey significantly oversampled immigrants from Vietnam, Malta and Lebanon, and there were sufficient observations to allow separate analysis for comparative purposes of persons born in other NESB or Australia. There were not enough data to allow a distinct exploration of immigrants born in English-speaking countries (ESB). Only wage and salary earners are included in the analysis; the unemployed, self-employed and those not in the labour force being excluded. Five sub-groups have been explored; those born in Vietnam, Lebanon, Malta, other NESB and Australia.

The variables included are now defined as follows:

HW and LHW: respectively, gross hourly wages (earnings in the previous week in the main job divided by hours worked in the main job) and the logarithm of hourly wages;

AGE: age in years;

AYOS: Australian years of formal training in years, with the total of primary and secondary schooling being increased by 6 for a higher degree, 3 for a bachelor's degree, and 2 for a diploma/certificate or trades qualification;

OYOS: Overseas years of formal training, adjusting identically for qualifications as for AYOS;

AYOSX and OYOSX: respectively, years of primary and secondary schooling received in Australia and overseas;

AQ12* (OQ12*), AQ3* (OQ3*), and AQ4* (OQ4*): respectively, having as an Australian (overseas) highest qualification an Australian (overseas) higher degree or bachelor's degree, diploma/certificate and trades qualification;

NOQ*; for immigrants, never having received any Australian schooling or post-schooling qualifications;

EXP and AEXP: respectively total and Australian years of labour market experience, as measured by years since completion of formal training and time in Australia after schooling completion

EXP2RD and AEXP2RD: squared experience terms, included for consistency with the formal model to capture the possibility of the wage-experience relationship being concave;

PER: for immigrants, the number of years since arrival in Australia.

TEN and TEN2: respectively the number of years with current employer and (TEN)2;

FS1*, FS2*, FS3*, FS4* and FS5*: respectively being employed in a firm with fewer than 20, 21-50, 51-100, 101-500 and more than 500 employees;

MAR1*, MAR2* and MAR3*: respectively being single, being married or de facto, and widowed, divorced or separated;

LANG1*, LANG2* and LANG3*: for immigrants whose first language spoken at home is not English, respectively having very good or good spoken English, fair spoken English only, and having poor or very poor spoken English;

WLANG1*, WLANG2* and WLANG3*: for immigrants whose first language spoken at home is not English, respectively having very good or good written English, fair written English only, and having poor or very poor written English;

SEX*: being female;

REG1*, REG2* and REG3*: respectively living in a major metropolitan area, a town and a rural area;

FTIME*: full-time worker, as defined by working more than 30 hours per week in the main job;

U1*: being a member of a trade union;

PUB*: being employed in the public sector;

DYA*: having applied to a relevant body to have an overseas post-school qualification recognised; and

QNR*: having an overseas post-school qualification not recognised at the 'equivalent' overseas level.

Table 5.1 gives the means and standard deviations of all the variables. All variables marked with an * are dummy variables, that is, as mutually exclusive categories taking the value of 1 if respondent is in the category, and 0 otherwise. The means of these variables should be interpreted as the proportions of observations falling into the particular category.

TABLE 5.1 STATISTICAL CHARACTERISTICS OF THE EARNINGS DATA
(means, standard deviations in parentheses)

VARIABLE	COUNTRY OF BIRTH									
	Vietnam		Lebanon		Malta		Other NESB		Australia	
HW	9.00	(3.31)	9.35	(3.65)	10.45	(5.37)	10.27	5.12	11.12	(4.77)
SEX	0.30	(0.46)	0.27	(0.45)	0.30	(0.46)	0.37	0.48	0.43	(0.48)
AGE	31.79	(7.34)	33.59	(10.13)	39.99	(9.15)	35.68	(9.41)	33.34	(10.38)
EXP	14.43	(7.71)	17.16	(11.22)	24.18	(9.92)	17.83	(10.18)	16.01	(10.78)
TEN	2.47	(1.82)	7.21	(7.24)	10.13	(8.27)	3.86	(5.13)	6.25	(6.87)
AQ12	0.041	(0.19)	0.022	(0.15)	0.037	(0.19)	0.042	(0.20)	0.16	(0.37)
AQ3	0.071	(0.26)	0.076	(0.27)	0.059	(0.24)	0.092	(0.29)	0.21	(0.41)
AQ4	0.035	(0.19)	0.011	(0.104)	0.10	(0.31)	0.063	(0.24	0.16	(0.36)
OQ12	0.036	(0.19)	0.043	(0.21)	0.0074	(0.086)	0.15	(0.35)		
OQ3	0.096	(0.29)	0.076	(0.27)	0.0074	(0.086)	0.17	(0.37)		
OQ4	0.076	(0.27)	0.087	(0.28)	0.15	(0.36)	0.16	(0.37)		
AYOS	0.65	(1.39)	2.35	(4.35)	3.63	(4.90)	1.59	(3.67)	12.33	(2.01)
OYOS	11.71	(1.91)	9.08	(4.67)	7.18	(4.54)	11.26	(4.21)		
REG1	1.00	(0.00)	1.00	(0.00)	1.00	(0.00)	0.97	(0.16)	0.62	(0.48)
REG2	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.013	(0.11)	0.18	(0.38)
REG3	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.015	(0.12)	0.21	(0.40)
MAR1	0.42	(0.49)	0.18	(0.39)	0.11	(0.31)	0.18	(0.39)	0.31	(0.46)
MAR2	0.53	(0.50)	0.75	(0.44)	0.88	(0.33)	0.77	(0.42)	0.62	(0.48)
MAR1	0.056	(0.23)	0.065	(0.25)	0.015	(0.12)	0.049	(0.22)	0.074	(0.26)
U1	0.58	(0.49)	0.59	(0.49)	0.80	(0.40)	0.46	(0.50)	0.49	(0.50)
PUB	0.091	(0.29)	0.21	(0.41)	0.18	(0.38)	0.21	(0.41)	0.34	(0.47)
FTIME	0.92	(0.27)	0.78	(0.41)	0.84	(0.37)	0.85	(0.36)	0.77	(0.42)
NOQ	0.77	(0.42)	0.69	(0.46)	0.54	(0.49)	0.74	(0.44)		
LANG1	0.23	(0.42)	0.47	(0.502)	0.15	(0.36)	0.22	(0.42)		
LANG2	0.48	(0.50)	0.22	(0.41)	0.10	(0.30)	0.197	(0.39)		
LANG3	0.22	(0.41)	0.098	(0.29)	0.015	(0.12)	0.12	(0.33)		
WLANG1	0.27	(0.44)	0.38	(0.49)	0.096	(0.30)	0.21	(0.41)		
WLANG2	0.34	(0.47	0.23	(0.42)	0.096	(0.30)	0.14	(0.34)		
WLANG3	0.32	(0.47)	0.23	(0.42)	0.066	(0.25)	0.19	(0.39)		
PER	6.34	(2.48)	15.011	(9.13)	25.43	(0.00)	9.93	(10.47)		
DYA	0.056	(0.23)	0.12	(0.33)	0.074	(0.26)	0.21	(0.41)		
QNR	0.036	(0.19)	0.098	(0.30)	0.029	(0.17)	0.13	(0.34)		
Number of observations	197		92		136		542		773	

Empirical Analysis and Results

In this section we report the analysis undertaken and the results obtained, but before exploring the results in detail, some brief comments on the research strategy is useful.

In a study of the present type it is generally not feasible to examine every possible permutation of the independent variables and how they might be influencing wages. There are two reasons. The first is that for particular sub-groups there way be very few observations with a particular value to some variables. For example, Lebanese females with an Australian degree or higher degree. This implies that aggregation may be desirable. Secondly, because there are a very large number of possible functional forms, to clarify the essence of the underlying structures a useful strategy is to estimate models constraining particular relationships; for example, by not allowing labour market experience effects to vary depending on the individual's level of education.

The strategy we followed was to adopt approximations of the type noted above. One approximation was not to estimate the models separately by sex, because the sample sizes of females for some groups were too small to allow meaningful analysis (for example, there were only 25 Lebanese women). It was possible, however, to examine wage differences by sex in intercept dummy variable form, which implies that all other coefficients are constrained to be the same for both sexes.

In general variables were entered separately so that if, for example, language effects differ between education groups, or union effects vary depending on sex, the technique does not allow these relationships to be highlighted. This is a fairly standard practice in applied econometrics, and should not be considered a weakness particular to this investigation. But it is worth emphasising the general point that econometric modelling is at best an approximation of the underlying complexities.

While there are constraints involved in the approach adopted, a form of diagnostic testing was undertaken which allowed considerable flexibility in the exploration of the underlying characteristics of the data. The procedure was essentially that of 'testing down', and entailed the estimation of a very large number of models including and excluding independent variables to check for the statistical

robustness of relationships. This method lead to modifications of the functional forms finally employed, but also delivered useful economic information not available from an examination of the results reported in detail below.

In the investigation several factors were consistently found to have no wage effects in any of the samples analysed, nor to influence the size of the other estimated coefficients. They were: the length of time immigrants had been in Australia; whether or not immigrants had either formally applied for overseas qualification recognition and, if they had done so, whether or not the qualification had been recognised and whether or not immigrants were refugees.

These 'non-results' are difficult to interpret. That there is no apparent wage effect from the non-recognition of qualifications does not necessarily mean that non-recognition is irrelevant, because many immigrants who do not have their qualifications formally assessed may also be experiencing 'non-recognition' indirectly by employers (Chapman and Iredale, 1990). The refugee issue is similarly tricky because of an econometric difficulty: there is a very high probability that a refugee is from Vietnam, and a very high probability that an respondent from Vietnam is a refugee, both factors implying strongly that independent refugee effects are unlikely to be discovered in these data. We leave these important research questions for the future.

It also emerged from these investigations that there were no significant differences in the returns to overseas and Australian labour market experience. Thus, for simplicity, the models were estimated with total labour market experience only, a method which formally constrains the effects of overseas and domestic experience to be equal.

These econometric investigations resulted in there being four models of interest for the four immigrant groups and two models for the Australian-born sample. The models differ in the following two respects. First one, the education and training variables were specified in both continuous (OYOS and AYOS) and dummy variable forms (OQ12-OQ4, and AQ12-AQ4), the latter including the continuous measures of primary and secondary schooling (OYOSX and AYOSX). Second, because of the possible policy relevance of spoken and written English proficiency, and given that these variables are highly collinear, models were estimated both including and excluding the written language variables in order to assess whether

or not the collinearity was influencing the results. The estimates of all the models are given in Appendix 4, and the comments below refer to these tables.

The estimates pertaining to the Vietnamese, Lebanese and Maltese immigrants show some remarkable similarities. These include the coefficients on: full- time work (varying from -24 to -36 per cent); being married (no significant differences between the groups); being in a union (no significant differences between the groups); sex (the negative effect of being female varying from 17 per cent for the Vietnamese to 27 per cent for the Lebanese); and the intercept terms (only small differences between groups). Thus the factors determining wages do not differ markedly between the groups.

The wage effects from education are particularly interesting. An additional year of overseas schooling and/or formal training results in about the same wage increment for the Vietnamese, Lebanese and Maltese (2.2, 3.0 and 2.6 per cent increases respectively), and the coefficients are generally not statistically different from zero at the 5 per cent level. For all groups, the wage increases from an additional year of Australian education are both higher than those from overseas education and possibly different between countries (7.7 per cent for the Vietnamese, 5.3 per cent for the Lebanese, and 3.3 per cent for the Maltese).

While the estimates of the effects of education are similar for the three groups, there are larger differences in the returns experience. As noted above, there were no significant differences in returns to general labour market experience, but for both the Lebanese and Maltese the first year of firm- specific Australian experience adds 2.9 and 3.4 per cent a year to wages, respectively. These figures fall to 1.4 and 1.3 per cent a year respectively, after 10 years of tenure with the same employer.

In respect of other NESB immigrants, we note that for this group the intercept terms and overseas schooling coefficients are higher than those of the Vietnamese,Lebanese and Maltese. The wage increases from Australian schooling for the NESB group are also higher than those received by the Maltese, about the same as those received by the Lebanese and lower than those received by the Vietnamese. As well other NESB immigrants are more like the Australian-born than the Vietnamese, Lebanese and Maltese, in terms of the size of the sex coefficient and for increases from public sector employment.

When the Vietnamese, Lebanese and Maltese are compared to the Australian-born. The most important difference is the effect of education on wages. The Australian--born receive higher returns to domestic schooling of about 8.1 per cent a year, compared to the 3.3 -7.7 per cent increments for Vietnamese, Lebanese and Maltese. The schooling effects of the Australian-born are also very much higher than the overseas schooling effect for the Vietnamese, Lebanese and Maltese, which as noted above is only about 2.5 per cent for the Vietnamese, Lebanese and Maltese. This issue is pursued further below.

The implications of the estimated models are expressed in summary form in Table 5.2. This table shows the percentage change in the wage from changes in the independent variables for the various groups. The figures should be interpreted as the percentage change in hourly wage as a result of a unit change in a variable (for example, being a member of a trade union compared to not being a member of a trade union, or a one year change in a continuous variable).

TABLE 5.2 PERCENTAGE INCREASE IN HOURLY WAGE FROM A CHANGE IN INDIVIDUAL CHARACTERISTICS

VARIABLE	COUNTRY OF BIRTH				
	Vietnam	Lebanon	Malta	Other NESB	Australia
SEX	-16.94**	-26.76**	-25.05**	-17.16**	-12.21*
EXP^	-0.54	0.00	0.64	0.58*	1.79**
TEN^	-0.76	1.43**	1.26**	1.63**	0.30
OYOS	2.18	3.00	2.63*	3.61**	
NOQ	14.38	18.29	-5.82	11.35**	
OQ12	28.40**	55.44**		26.01**	
OQ3	7.45	-2.19		13.26**	
OQ4	2.38	30.67		2.84	
AYOS	7.73**	5.28**	3.29**	5.16**	8.12**
AYOSX	4.65	3.95	0.00	2.55**	6.39**
AQ12	32.58**	-8.16	40.19**	41.33**	38.29**
AQ3	24.18*	47.48**	26.71**	12.78*	12.71**
AQ4	9.64	-31.51	16.69	10.36	13.96*
LANG2	1.16	-15.27	-16.29	-0.95	
LANG3	-5.66	-9.22	19.62	-7.40*	
WLANG2	3.67	-20.52	5.56	-7.35*	
WLANG3	-0.03	-32.43**	27.93*	-0.89	
REG1				17.51	10.03**
REG2				-20.73	4.73
PUB	11.70	-12.73	16.41**	7.86**	7.05**

* significant at 0.10 per cent level

** significant at 0.05 per cent level

^ computed at 10 years of experience

While many of the major results have already been discussed, the numbers in Table 5.2 reveal some additional points of interest: language effects are generally not important for the Vietnamese or Maltese, but seem to matter a lot for the Lebanese (wages are about 20 and 32 per cent lower respectively, for those with fair and poor written English proficiency); having an Australian qualification, certificate and

diploma in particular, have large positive wage effects for the Vietnamese, Lebanese and Maltese. These effects are not very different from those experienced by the Australian-born. The return to an overseas qualification is, however, relatively low.

The most important from the econometric work is the large difference between the effect of overseas education and the effect of education for the Australian-born. To illustrate these differences, the regression parameters have been used to compute hypothetical wage profiles for each of the five groups according to level of education received in the country of birth. Figures 5.1 to 5.5 show experience-earnings profiles for four levels of education. The profiles have been calculated using the average values of the independent variables in the respective samples.

FIGURES 5.1—5.5 EXPERIENCE-WAGE PROFILES: VARIOUS LEVELS OF SCHOOLING

Figure 5.1

VIETNAMESE BORN

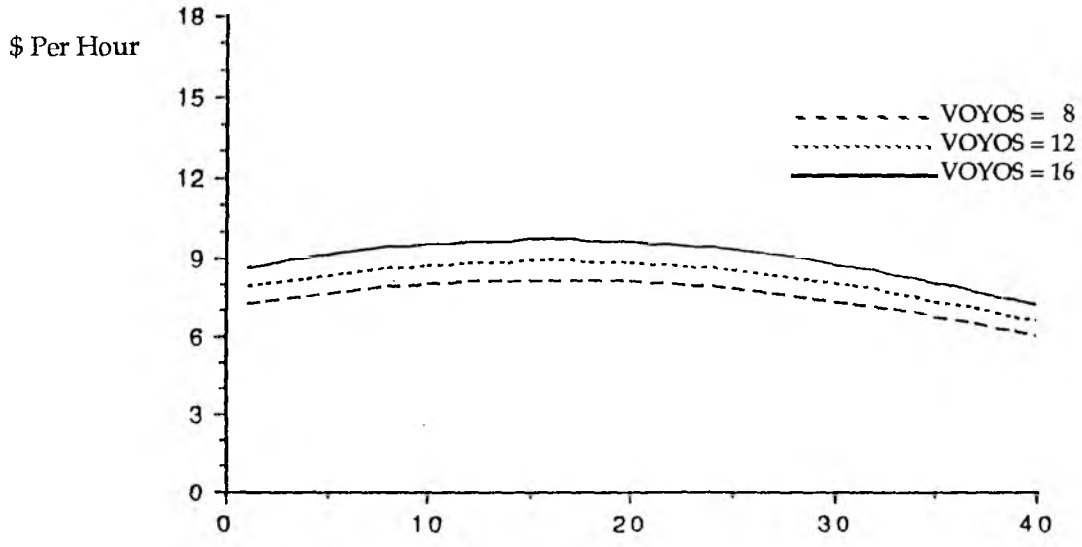


Figure 5.2

LEBANESE BORN

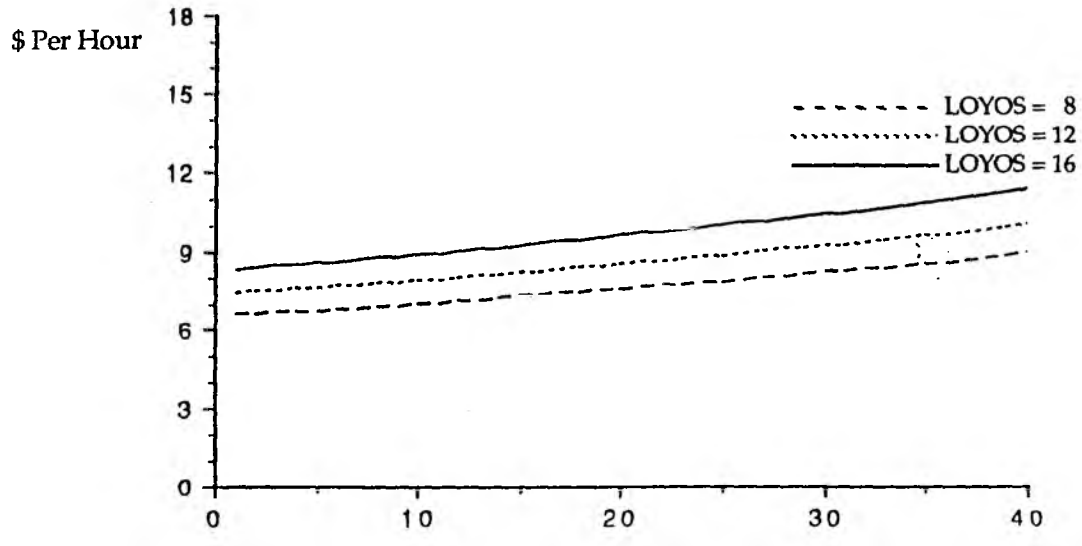


Figure 5.3

MALTESE BORN

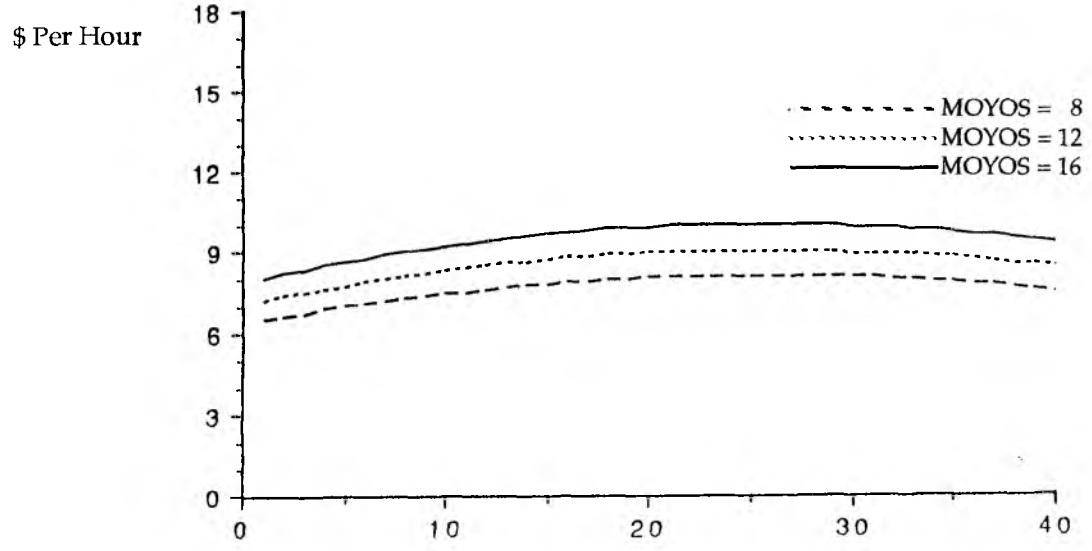


Figure 5.4

OTHER NON-ENGLISH SPEAKING BORN

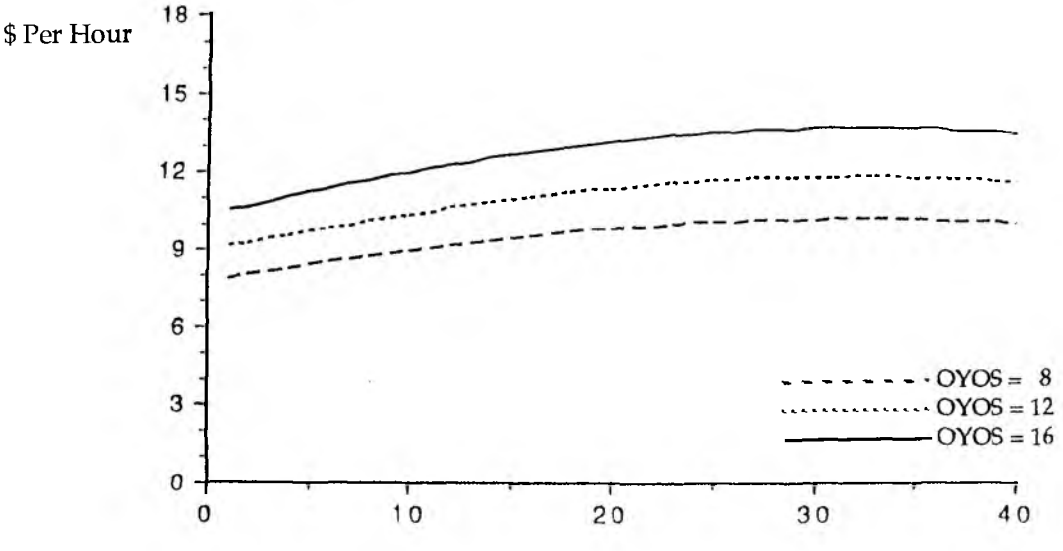
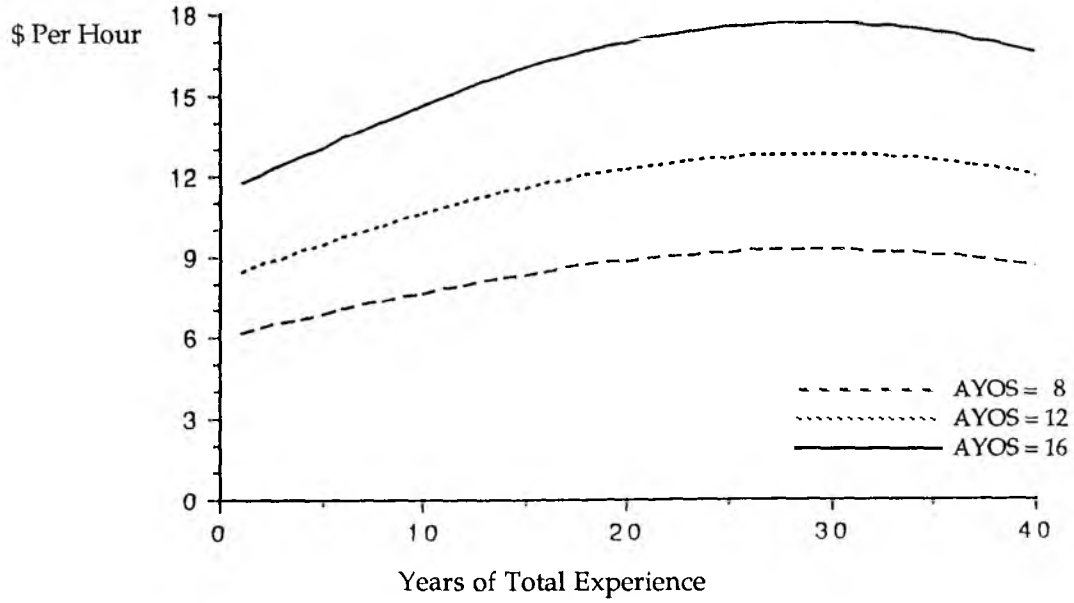


Figure 5.5

AUSTRALIAN BORN



The figures reveal information that is available, but not highlighted in, the regression results. Immigrants with receive a very low return to overseas education. Evidently, immigrants who have no Australian schooling or qualification of this type are apparently treated the same in the Australian labour market.

The most dramatic comparison is between Figures 5.1-3 on the one hand, and Figure 5.5 on the other. While the Australian-born are clearly treated with a marked degree of discernment in the labour market, immigrant wages are very much the same. It is almost as if the labour market places little value on any education received in Vietnam, Lebanon or Malta. Interestingly, there is no strong evidence here the these immigrants are being discriminated against across the board. Vietnamese, Lebanese and Maltese with very low level of education fare about as well in a wage sense as Australian-born, with low level of education.

The results obtained here are directly consistent with the analysis of Beggs and Chapman (1988a) and Chapman and Iredale (1990) and indirectly consistent with a myriad of other studies (e.g. Chiswick and Miller, 1986 and Wooden and Robertson, 1989). That is, as Vietnamese, Lebanese and Maltese level of overseas schooling

increases, it is apparently the case that, relative to the Australian-born, their labour market position deteriorates systematically.

There are several possible explanations for this result. An obvious explanation is that—through ignorance—Australian employers treat all Vietnamese, Lebanese and Maltese immigrants the same. Because employers know very little about overseas skill acquisition processes they disregard overseas education and qualifications. A second conjecture is that there is a correlation between country-specific skills and the level of formal qualification; the higher is the level of skill the less transferable it is internationally. A third possibility is that Australian education is of a much higher quality than in some other countries, a point raised by Evans and Kelley (1986). If this is taken to the extreme, it implies that immigrants from NESB countries are treated fairly because their particular skill endowments are not as great as implied by the raw data. Finally, Australian groups may be operating to protect themselves from (labour supply) competition. This could manifest itself, for example, in the institution of tests and other means of formal assessment that are very hard to pass or, less formally, through information dissemination undervaluing the benefits of overseas training. This perspective is often given weight in the conclusions of many government reports.

Discussion of the Results

A main conclusion from the above analysis is that average wage levels differ little between the Vietnamese, Lebanese and Maltese. What differences there are appear to be mainly a consequence of variations in the underlying endowments of the groups (for example, the Vietnamese have lower wages but are more likely to work full time—which has an associated wage penalty—and have fewer years of Australian schooling). Consistent with the above, the Vietnamese, Lebanese and Maltese seem to experience fairly similar wage determination relationships.

The important findings relate to the education results, which imply strongly that the Vietnamese, Lebanese and Maltese receive low wage increments as a consequence of overseas schooling. This effect is relative to: the wage increments experienced by this group as a result of the receipt of Australian education; the wage increases from overseas education experienced by immigrants from other NESB countries; and, most obviously, the wage effects from education received by

the Australian-born. In short, there is little doubt that Vietnamese, Lebanese and Maltese education is not valued highly in the Australian labour market.

Interestingly, the Vietnamese receive somewhat higher increments to Australian schooling than do the Lebanese, who in turn receive greater wage effects from Australian education than do the Maltese.

The education-wage relationships probably operate through job allocation, rather than through immigrants receiving low wage increments from skills within particular job types. This is consistent with the proposition that employers in control of jobs requiring high levels of education are probably preferring the Australian-born or immigrants with more Australian education.

In other ways the results are similar for the Vietnamese, Lebanese and Maltese, particularly with respect to there being low or non-existent wage consequences from other demographic and economic variables. Specifically, and unlike the findings for the Australian-born, for none of the three groups are there any wage effects from marital status, union membership, and workplace size.

A major exception to the above relates to the wage differences between the sexes. There is strong evidence that Lebanese and Maltese women receive much lower wages than do the men from these countries. This is highly likely to be because of the jobs they are in rather than employers treating men and women differently within jobs. Nevertheless, the data imply (but do not establish beyond doubt) differential access to particular jobs for these immigrant women.

Apart from the male-female differences, the overall story seems to be that employers treat the Vietnamese, Lebanese and Maltese as more or less an homogeneous group, and offer little wage variation either between or within the groups. An explanation for this is that employers are risk-averse, and as a consequence treat the immigrants with relatively little discernment. This may be quite a rational reaction in a world in which ethnicity is believed to be associated with the value of human capital (such as through overseas schooling or even work attitudes), and in which employers know little about the particular groups. It could explain, for example, why the other NESB (presumably mainly Southern

Europeans, who are probably relatively well known in this country) are treated with greater discernment.

As already noted there are other explanations, such as there being low returns paid to overseas qualifications as a consequence of domestic special interest groups acting in rent-seeking ways by limiting overseas supply competition. Some insight is gained into this possibility by consideration of the wage regressions which looked at rates of returns to particular qualifications. Some support for the view can be found in these results, but the evidence is not unambiguous. For example, the Lebanese with an overseas degree or higher degree receive high wages. It is important, however, to keep in mind the very few observations available to test these hypotheses. As well, the results could be consistent with there being less cross-country transferable human capital at high levels of education and training (Beggs and Chapman, 1988a).

While there is not strong evidence that language effects are very important for the wages of the Vietnamese and Maltese, the results are in the directions expected. A possible explanation for this is that immigrants with the most severe language difficulties do not have employment, have found jobs in their ethnic enclave, or have been offered employment in jobs that do not require sophisticated English skills (note here that the proportions of the Vietnamese, Lebanese and Maltese in blue-collar jobs is fairly high). It does not follow, consequently, that the data imply no role for government in the provision or subsidy of language training. What more precisely the results do imply for policy is discussed below.

CHAPTER 6. SUMMARY AND CONCLUSIONS

In this study we have investigated how Vietnamese, Lebanese and Maltese immigrants fare in the Australian labour market. Against a background description of the immigration of people from these countries we have provided an overview of the relevant characteristics of these immigrants and how they succeed in the labour market. In the main part of the study we have reported our extensive analysis of four indicators of their labour market performance.

Several important findings have emerged from this study. Many have been discussed in passing, but it remains to put all the specific findings together and draw out the implications.

It has been apparent for a long time that immigrants in the three birthplace groups, i.e., Vietnam, Lebanon and Malta, have not been very successful in the labour market. But it is also well known that immigrants from non-English speaking countries are not doing very well either. The question then arises whether the performance of the Vietnamese, Lebanese and Maltese is just a reflection of their non-English speaking origin or due to greater difficulties than other immigrants from non-English speaking countries. The data hitherto available are suggestive of the latter being the case, and the primary motive of collecting the data used in the present study was to obtain more definitive evidence on this issue.

The sample data described in Section 3 certainly lend support to the view that these three birthplace groups have serious difficulties in the labour market.

The Vietnamese and Lebanese have very high unemployment rates, and among the latter group, also those proficient in English and with a high level of education tend to be unemployed. The earnings of immigrants from all the three countries fall mostly in the lower income ranges and, pertinent to what follows, a range of factors that ought to affect earnings do not seem to matter very much. Most of the immigrants in question work in the two occupational groups 'plant and machine

operators' and 'labourers and related'. The Vietnamese and Lebanese also appear to have experienced considerable occupational 'downgrading', in the sense that prior to migration many more worked in higher status occupations.

Some of the explanations for this dismal picture are to be found in the generally low levels of human capital endowments. The educational attainments of the Maltese immigrants are particularly low, but neither the Vietnamese nor the Lebanese could be said to be well educated on average. The level of English proficiency is also low among both the Vietnamese and Lebanese.

However, it is not possible to ascertain whether the human capital endowments are the cause of the worse outcomes by simply inspecting the data. Thus, in the core part of the study we developed the relevant models and reported the results from an extensive econometric analysis of the sample data. Separate models of participation, employment, hours and wages were estimated and the detailed findings discussed. For the purpose of our overall conclusions the effects of three groups of variables are of particular interest viz. the role played by proficiency in English, birthplace effects and the return to overseas education.

To draw out the policy implications of these results we start with a discussion of the English language issue. The results partly confirm the conventional wisdom that English language proficiency is important to labour market outcomes. English language matters for participation and unemployment and, in respect of the Lebanese, there are large wage penalties from inadequate English. However, there are no large wage effects for the Vietnamese and Maltese, so the importance of English language proficiency, in isolation from other factors, should not be overstated. The findings thus support the case for better provision and/or encouragement to attend English language courses. We note, however, that although the Vietnamese in the sample have a very high participation rate in such courses, this is not reflected in their proficiency level. Clearly, there is much more to be done to improve proficiency levels but is is not obvious *a priori* that all the costs should be borne by taxpayers generally. Some attention could be directed to sorting out the extent of the costs and benefits of such programs in order to determine the appropriate financing arrangements.

The English language issue should not, however, be discussed in isolation from the other factors. It may well be language barriers that partly explain why education

has such a small effect on participation, employment and wages. This possibility is particularly relevant to the Vietnamese and Lebanese. In other words, there may be an important interaction between English proficiency and the value of education and training; if immigrants are unable to communicate effectively, they are also similarly less able to use their educational resources to full effect. Increasing English proficiency could improve the returns to education (and overseas education in particular) by facilitating the imparting of knowledge gained elsewhere.

The lack of effect of education is also consistent with the view that employers are not well informed about the Vietnamese, Lebanese and Maltese. To the extent that this implies a social loss in that immigrants may be denied access to employent that fully utilises their overseas acquired human capital, there may be a case for government intervention. The case is probably strongest for the provision of information, to increase prospective employers' understanding of the educational experience of these immigrants. In the long run, or in a risk neutral world, such policy intervention is less easy to justify.

The other major route to improve the return to overseas education is to find a more efficient way to 'convert' the overseas education into human capital that is more useful in the Australian labour market. Bridging courses, and expansion of the adult education system generally, could be expected to play an important role. Such courses are more beneficial if attended soon after arrival, given that what benefits there are from overseas education, will depreciate over time. We recognise, however, that there are problems with that approach in that formal study requires a relatively good proficiency in english. Also, as with English language training, it is not obvious who should pay for the training as the benefits accure to the individuals themselves as well as to the Australian community as a whole.

The results we have obtained also provide ample justification for stressing that is is not the formal recognition of overseas qualifications by some professional or official body that is the real issue. This matters only in some occupations. In general, it is the *market* that fails to give much credit to overseas education and it is this broader issue that policy should seek to address.

Much of the above applies to all immirants of non-English speaking origin but with particular force to immigrants from Vietnam, Lebanon and Malta. This does not

necessarily imply that these groups suffer from systematic discrimination from Australian employers. In respect of wages, the findings point clearly to overseas education as an important reason for why these immigrants earn less. As this implies that immigrants with low levels of education do no worse than others, discrimination on grounds of country of birth must be ruled out. A caveat concerns the low return to Australian education received by the Maltese, and to a lesser extent the Lebanese, which constitutes weak evidence that employers engage in statistical discrimination. In the participation, employment and hours models there are no systematic effects of effection and the high unemployment among the Vietnamese and Lebanese cannot be attributed to particular factors with the same precision. Instead the higher tendency to be unemployed (and the low tendency to participate) is reflected in large birthplace dummies. These results do admit the possibility that the Vietnamese and Lebanese are discriminated against when it comes to finding employment. It should be recalled that this result was obtained even when refugee status was controlled for so the difficulties these immigrants experience in finding jobs cannot be explained by most being refugees. There are some other factors, common to these immigrants, which is the cause of their difficulties. As the data set we use permits us to control for a very large number of possible factors, the evidence of discrimination is, while not unambiguous, still fairly strong. The policy implications of this conclusion are as obvious as they are difficult to implement effectively, but there is every reason to explore all avenues available to governments to eradicate discrimination.

Early research into immigrants' labour market experiences suggested that immigrants did reasonably well in the Australian labour market after allowing for recency of arrival, low English proficiency and other specific factors. Increasingly, however, as more research findings have accumulated a more pessimistic picture has emerged. The findings of this study are in line with this more recent research. In part this is due to the deteriorating labour market situation which had an adverse effect on recent immigrants, and the Vietnamese and Lebanese in particular. The labour market outcomes for Vietnamese and Lebanese immigrants are dismal. The Maltese, most of whom arrived when jobs were easier to get, do at least have jobs but have not advanced in the socio-economic hierarchy. Thus there are clearly other factors at work and if the long term performance of the Maltese is any guide, the prospects for the Vietnamese and Lebanese are equally bleak.

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APPENDIX 1. DESCRIPTION OF THE SAMPLE DATA

The data in this analysis is drawn from two Office of Multicultural Affairs (OMA) commissioned surveys. Issues In Multicultural Australia (1988), which we will refer to as the main survey, and Issues In Multicultural Australia: Sample Born In Malta, Vietnam Or Lebanon (1988), referred to as the supplementary survey.

The main survey was carried out by AGB: McNair between October 1988 and February 1989 and is actually made up of four sub-samples being, 1) General sample (GENR), 2) Non-English speaking born immigrants (NESB), 3) persons born in Australia whose father or mother was born in a non-English speaking country (2GEN), and 4) Persons who migrated to Australia since July 1981 from non-English speaking countries (RECARRs). The supplementary survey was carried out by Reark Research between October 1988 and March 1989 and is made up of persons born in Malta, Vietnam and Lebanon. The survey data is cross-sectional (one-time) and includes persons aged 15 and over living in private dwellings throughout Australia. The main survey included collection districts (CDs) from rural areas with a population of 10 000 or more, whereas the supplementary survey CDs were confined to the major capital cities. For the research topic abstract, sampling procedures, and methods of collection, refer to the study descriptions available from the Social Science Data Archives, Australian National University.

To undertake the analysis in this paper the data from the two surveys needed to be disaggregated, to identify each discrete group, and then merged to form a verifiable database. This needed consideration of the fact that the sub-samples are not all discrete. The study descriptions will point out that the supplementary survey is indeed complemented with 434 records from the main survey. Accordingly, for the purpose of our analysis, any combining of these two surveys as a whole needed the exclusion of the 434 records which are in both surveys. Upon further investigation it also became evident that the NESB sub-sample (of the main sample) included records from the 2ndGEN sub-sample. After the appropriate exclusions were made, the samples (SUPP, NESB, RECARRs) were consolidated to give the five sub-groups used throughout sections 1 to 4.

The earnings analysis done in section 5 required a somewhat different selection from the initial data set. The same process was employed as stated above but the Australian born were included from the GENR sample. The wage and salary earners at age less than 65 and not at school were then selected. To do the analysis an hourly wage needed to be calculated hence any records with missing or invalid hours worked or income variables were also excluded. This left a dataset of 1740 records made up from five subgroups being, Vietnamese, Lebanese, Maltese, NESB (excluding Vietnamese, Lebanese and Maltese) and Australian.

APPENDIX 2. FIGURES AND TABLES

This appendix contains detailed tables and figures referred to, but not included, in the main body of the report.

TABLE A2.1 AVERAGE EARNINGS, UNEMPLOYMENT AND PARTICIPATION RATES BY BIRTHPLACE AND AGE, QUALIFICATIONS, ENGLISH PROFICIENCY AND DURATION OF RESIDENCE

There are three lines in the table for each attribute. The first line gives the average earnings in dollars per week; the second line gives the unemployment rate and the third the participation rate, both in per cent. An asterisk (*) denotes that the cell size is less than ten persons and the figures for these cells are not given. Comparisons with Australian born persons are not always included.

BIRTHPLACE

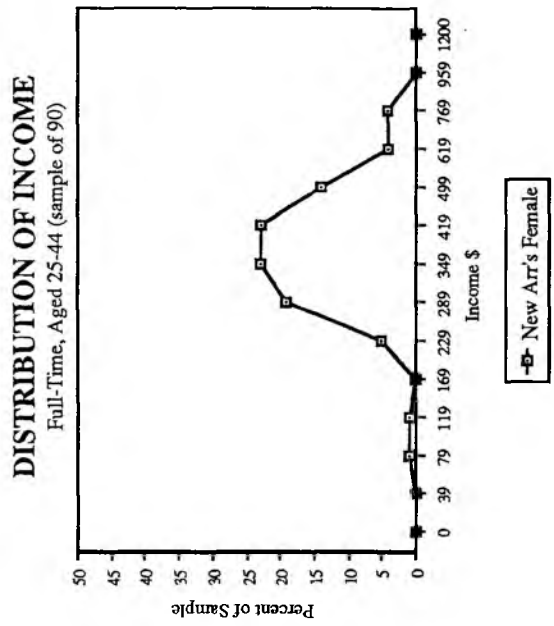
	AUS	ESB	NESB	Rec As	Vietnamese	Lebanese	Maltese
1a) Birthplace & Age Males							
15-24 Years	320	355	381	303	322	306	379
	5	8	5	3	3	18	*
	57	77	64	39	28	56	*
25-44 Years	528	514	523	429	374	405	430
	2	3	4	3	17	29	4
	96	93	95	74	73	83	95
45+ Years	495	531	431	433	387	362	392
	2	5	2	4	14	9	5
	56	55	50	33	35	48	58
1b)Birthplace & Age Females							
15-24 Years	235	298	258	246	258	*	*
	9	0	0	6	7	*	*
	61	67	37	34	22	*	*
25-44 Years	295	312	308	321	295	175	280
	4	0	3	4	7	3	0
	76	73	76	53	44	16	41
45+	273	472	254	216	160	309	242
	0	3	2	2	0	2	0
	38	31	36	24	10	15	16

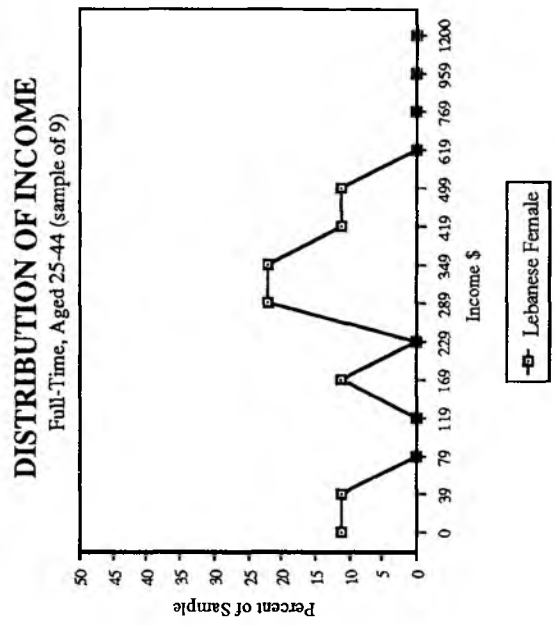
	Aus	ESB	NESB	Rec AS	Vietnamese	Lebanese	Maltese

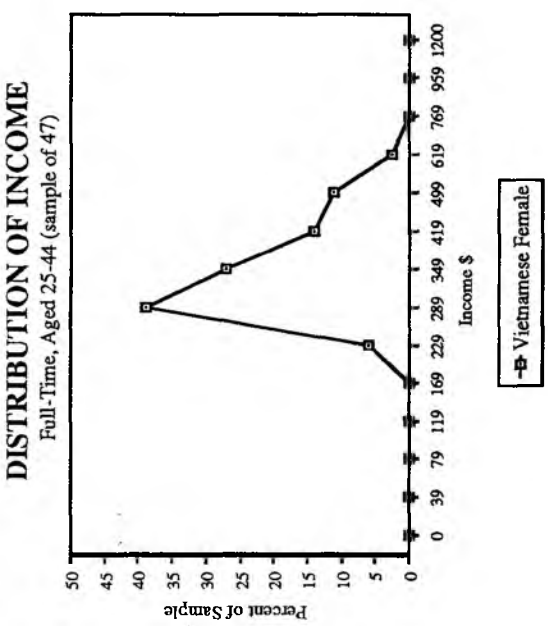
2a)By Birthplace & Qualifications Males							
No Qualif	490	419	458	345	359	378	411
	3	6	3	3	15	24	5
	76	65	67	38	51	67	77
Australian Qual.	-	*	431	381	469	*	496
	-	*	0	0	6	*	0
	-	*	80	85	82	*	92
Overseas Qual.	581	492	451	349	391	362	
	-	4	4	2	5	19	3
	-	83	67	99	83	83	70
Aust. + O/S Qualification	-	*	581	483	393	*	523
	*	5	13	0	*	9	
	-	*	76	97	100	*	73
2b) By Birthplace & Qualification Females							
No Qual.	280	328	245	255	282	243	264
	4	0	3	4	6	4	0
	61	48	46	26	28	19	73
Australian Qual.	-	*	*	271	319	*	485
	-	*	*	9	8	*	0
	-	*	*	91	100	*	50
Overseas Qual.	410	389	344	266	?	303	
	-	8	0	7	7	7	0
	-	75	86	86	70	19	53
Australian & O/S Qual.	-	*	*	329	*	*	*
	*	*	0	*	*	*	
	-	*	*	91	*	*	*
3a) By Birthplace & English Proficiency Males							
English only or very good English	490	494	507	438	379	418	427
	3	5	3	4	2	23	4
	75	72	76	63	64	82	88
Good English	*	*	456	395	400	370	385
	*	*	4	4	10	14	13
	*	*	75	59	68	76	72
Fair English	*	*	402	408	368	386	408
	*	*	2	2	16	31	0
	*	*	57	63	61	73	59
Poor English	*	*	344	361	331	381	332
	*	*	11	4	18	20	0
	*	*	56	63	52	63	35
3b) By Birthplace & English Proficoency Females							
English only or very good English	280	380	321	325	377	254	288
	4	1	2	4	11	6	0
	61	53	65	57	29	38	39
	AUS	**ESB**	**NEB**	**Rec As**	**Vietnamese**	**Lebanese**	**Maltese**

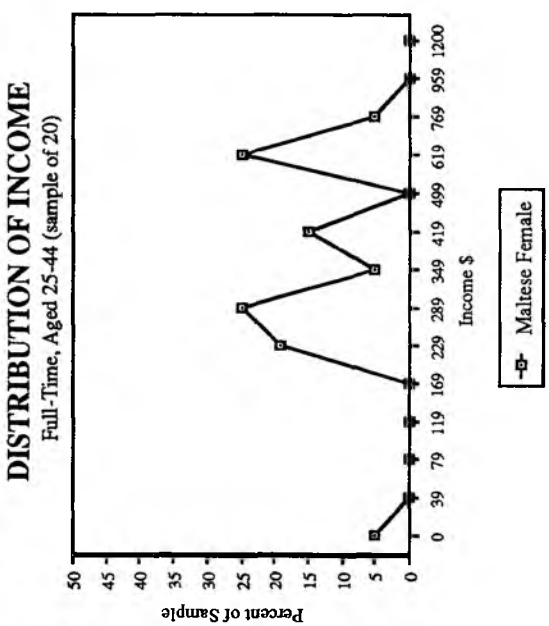
Good English	*	*	268	298	288	196	230
	*	*	0	4	10	5	0
	*	*	47	50	62	29	28
Fair English	*	*	212	269	294	170	135
	*	*	10	3	9	3	0
	*	*	75	36	50	16	11
Poor English	*	*	167	271	292	170	230
	*	*	0	6	3	2	0
	*	*	26	37	22	9	11
No English	*	*	*	252	207	?	*
	*	*	*	5	3	?	*
	*	*	*	20	14	?	*
4a) By Birthplace & Duration of Residence Males							
0-5 Years*	516	401	401	348	377	395	
	*	0	3	3	10	12	0
	*	69	73	57	44	54	86
6-10 Years	*	444	492	442	372	402	*
	*	0	6	4	15	38	*
	*	85	100	80	74	90	*
11-20 Years	*	458	506	*	527	378	389
	*	11	3	*	31	29	3
	*	93	81	*	81	76	93
21-30 Years	*	576	478	*	*	394	435
	*	6	5	*	*	8	6
	*	72	68	*	*	73	85
31-40 Years	*	*	477	*	*	*	396
	*	*	1	*	*	*	4
	*	*	57	*	*	*	64
By Birthplace & Duration of Residence Females							
0-5 Years*	267	330	298	293	?	*	
	*	0	0	4	4	4	*
	*	56	52	43	27	15	*
6-10 Years	*	*	246	319	287	223	243
	*	*	0	4	10	0	0
	*	*	50	54	47	19	47
11-20 Years	*	390	329	*	241	239	320
	*	5	4	*	0	5	0
	*	57	70	*	55	20	17
21-30 Years	*	276	234	*	*	272	279
	*	0	6	*	*	7	0
	*	56	55	*	*	30	37
31-40 Years	*	*	275	*	*	302	266
	*	*	0	*	*	0	0
	*	*	46	*	*	23	24

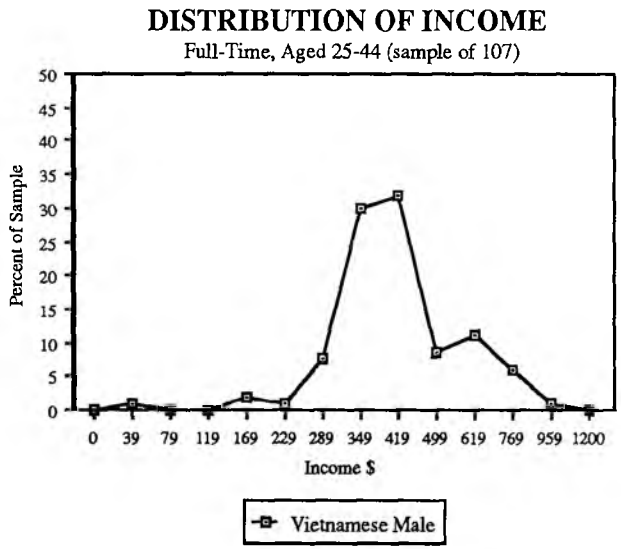
Figures A2.1-A2.16
Distribution of Income by Place of Birth and Sex

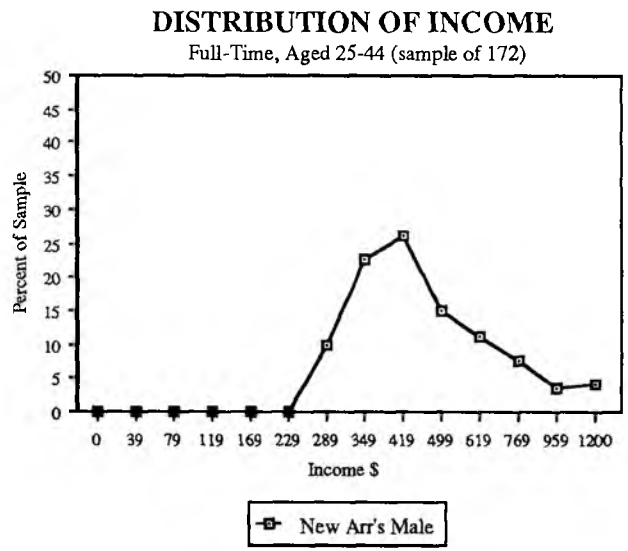


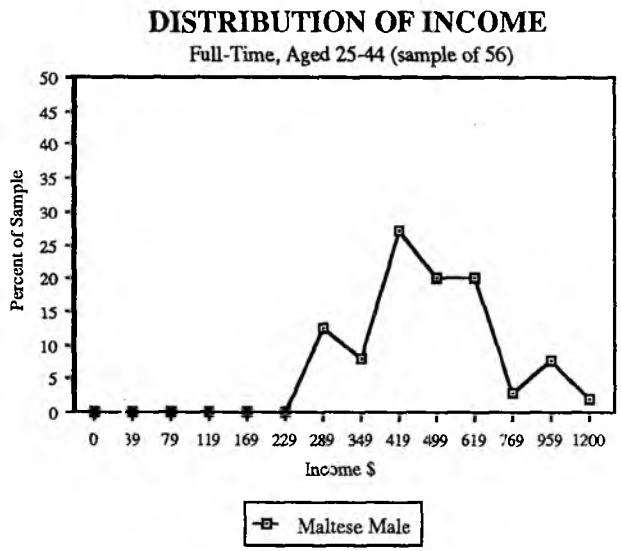


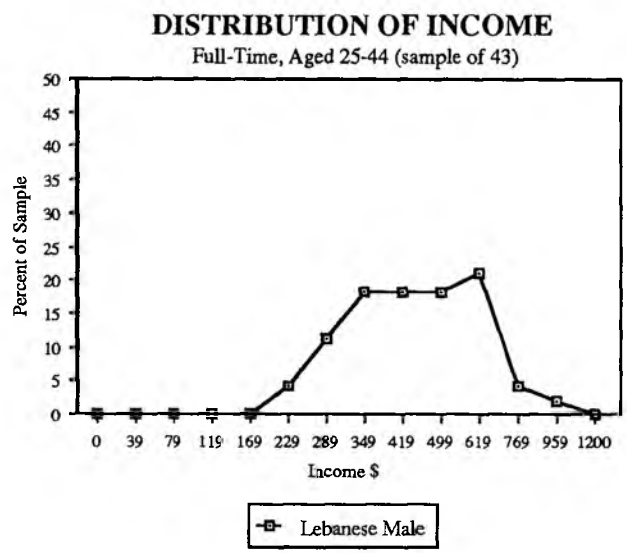


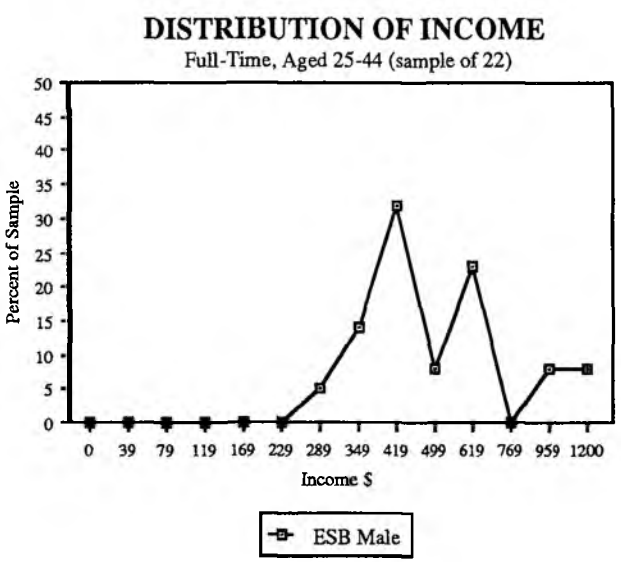


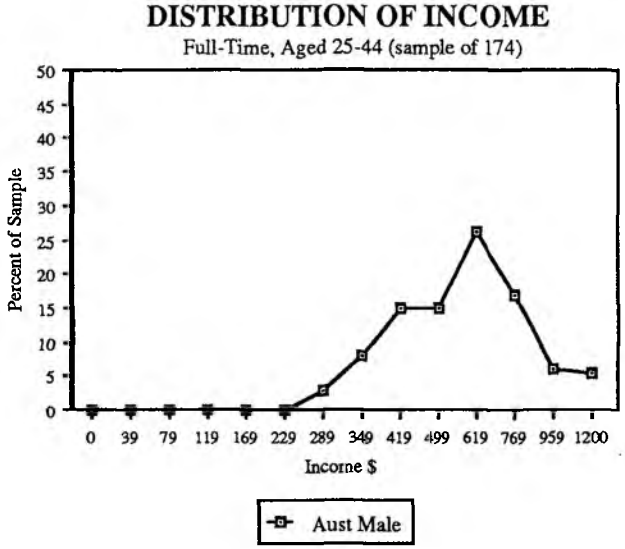

DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 107)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
Vietnamese Male

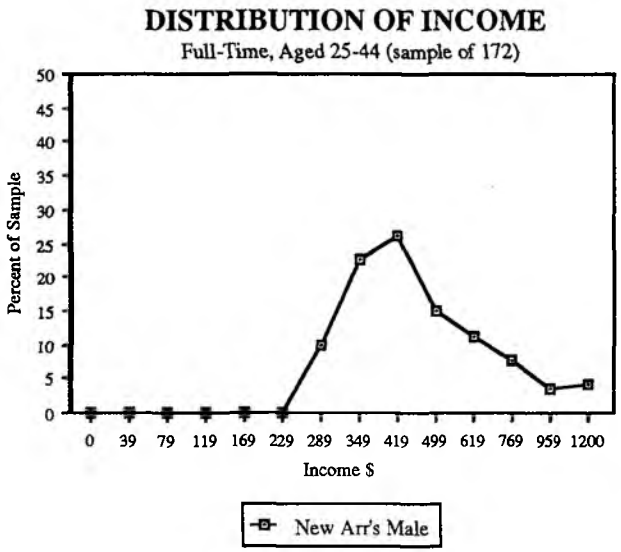

DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 172)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
New Arr's Male

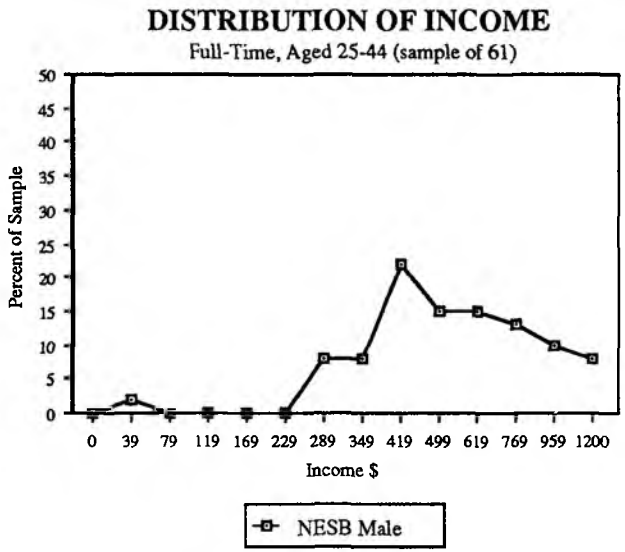

DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 56)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
Maltese Male

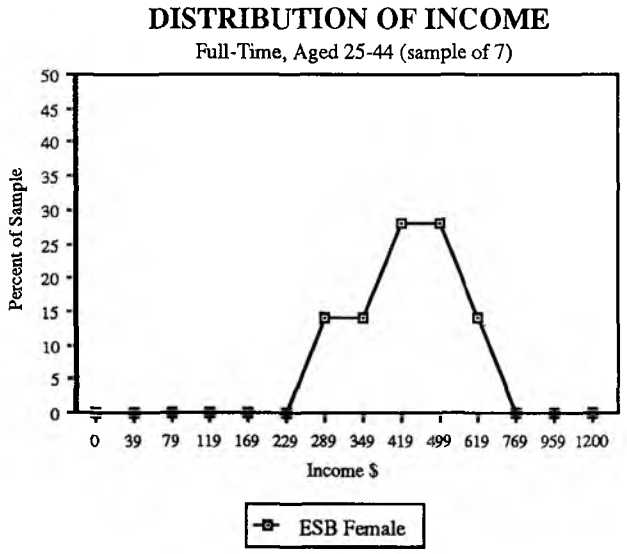

DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 43)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
Lebanese Male

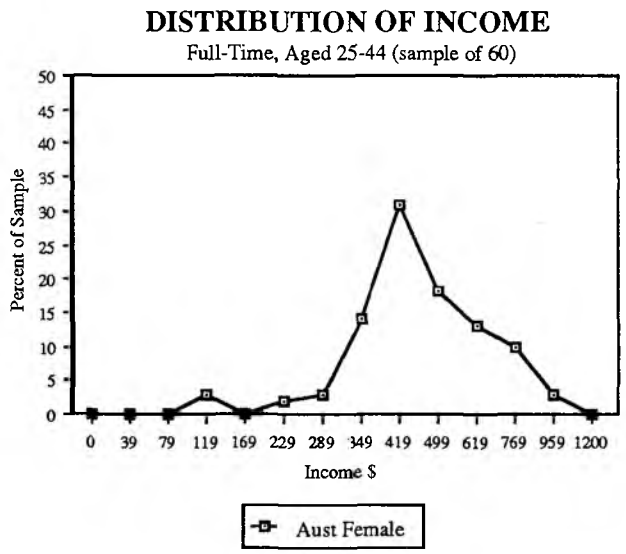

DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 22)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
ESB Male

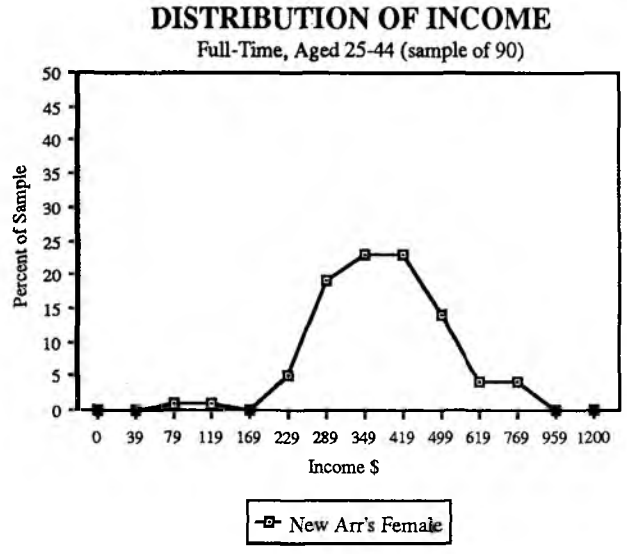

DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 174)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
Aust Male

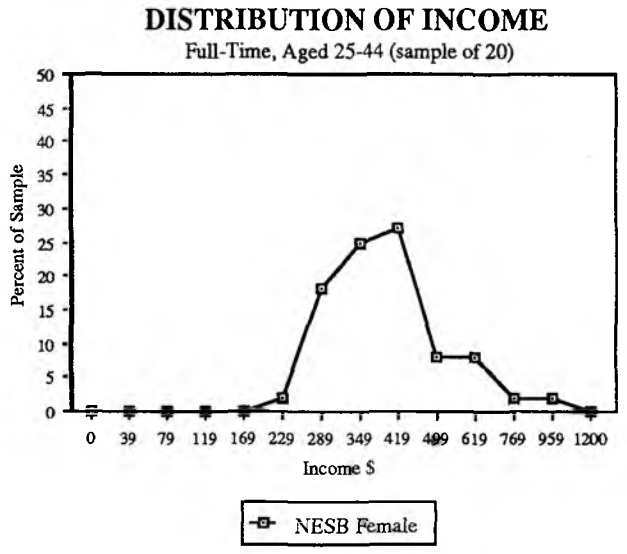

DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 172)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
New Arr's Male


DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 61)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
NESB Male


DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 7)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
ESB Female


DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 60)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
Aust Female


DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 90)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
New Arr's Female


DISTRIBUTION OF INCOME
Full-Time, Aged 25-44 (sample of 20)
Percent of Sample
0 5 10 15 20 25 30 35 40 45 50
0 39 79 119 169 229 289 349 419 499 619 769 959 1200
Income $
NESB Female

APPENDIX 3. RESULTS FROM ESTIMATING MODELS OF PARTICIPATION, UNEMPLOYMENT AND HOURS: TECHNICAL DETAILS

Definition of Variables

Continuous Variables

Experience.

Potential labour market experience calculated as age minus years of education minus six.

Experience squared.

Years of education.

Age left school minus six plus, if a post school qualification has been attained, number of years required to attain the qualification.

Duration of residence in Australia.

Variable defined as (1/(1=x) where x= current age minus age at arrival in Australia. If born in Australia 1/(1=x) =0.

Father's level of education.

Score on a scale from one to six where one is the highest level of education.

Spouse income.

Spouse usual income from work ($ per week) coded as the midpoint of the reported range.

OR

Respondents and husband/wife/partners total income from all sources minus the respondent's own income from work (# per week).

Income.

Usual gross income from work coded as the midpoint of the reported range ($ per week).

Hours.

Hours actually worked last week in all jobs including overtime.

Discrete Variables

Language Variables.

Language at age 14.

NENG 14 = 1 if a language other than English was the language most often spoken at home.

Language now.

NENGNOW = 1 if a language other than English is most often spoken at home.

Proficiency in English.

Weighted average of self reported proficiency in speaking, reading and writing English on a five point scale ranging from one to five with one being the highest level of proficiency.

Country where qualification has been obtained.

OSQAL = 1 if postedschool qualification has been obtained overseaes.

Age on arrival in Australia.

AUSTSCH = 1 if less than 15 years on arrival in Australia.

Birthplace.

OVERSEAS = 1 if not born in Australia.

NES = 1 if born in a non-English speaking country.

VIETNAM = 1 if born in Vietnam.

LEBANON = 1 if born in Lebanon.

MALTA = 1 if born in Malta.

Immigration category.

REFUGEE = 1 if entered Australia as a refugee.

SPONSORED = 1 if sponsored to migrate to Australia.

Marital Status.

NEVER MARRIED = 1 if respondent has never married.

Citizenship.

CITIZEN = 1 if an Australian citizen.

Overseas.

Qualification recogonised.

QALREC = 1 if overseas qualification recognised.

Worked before coming to Australia.

WORKBMIG = 1 if worked before coming to Australia

Estimation Results

In the tables below we present the estimate of the models of participation, unemployment and hours and accompaning summary statistics. The models were fitted to the male and female samples separately and are reported below in that order.

MALES. MAXIMUM LIKELIHOOD ESTIMATES OF THE PROBABILITY OF PARTICIPATION/NON-PARTICIPATION

Log-Likelihood.....	-797.00
Restricted (Slopes=0) Log -L	-1188.60
Chi-Squared (17).....	783.16
Significance Level.....	0.32173E-13

Variable	Coefficient	Std. Error	T-ratio	Prob |t| ≥ x	Mean of X	Std.D.of X
YOE	-0.985779E-01	0.248200E-01	-3.972	0.00007	10.94700	3.58520
EXP	0.926701E-01	0.203100E-01	4.563	0.00001	24.18400	15.38600
EXP2	-0.351006E-02	0.345667E-03	-10.154	0.00000	821.48000	946.09000
DURX	-3.500100	0.371806	-9.414	0.00000	0.17002	0.21226
QREC	-0.394358	0.229109	-1.721	0.08520	0.10127	0.30176
WBEF	0.436360	0.198153	2.202	0.02766	0.70532	0.45602
ENGPROF	-0.280760	0.770841E-00	-3.642	0.00027	2.19090	1.33480
NENG14	-0.279192	0.256957	-1.087	0.27724	0.86430	0.34255
NENGNOW	0.133425E-01	0.218169	0.061	0.95123	0.58937	0.49207
OSQAL	0.220028	0.185392	1.187	0.23530	0.33772	0.47305
AUSTSCH	-0.159853	0.291772	0.548	0.58378	0.15848	0.36528
VIET	-0.785442	0.200668	-3.914	0.00009	0.17013	0.37584
LEBN	-0.976068	0.218573	-4.466	0.00001	0.13215	0.33874
MALT	0.172963	0.252343	0.685	0.49308	0.12759	0.33372
SPONS	0.158843	0.146224	1.086	0.27735	0.46987	0.49922
NEVMR	-0.308124	0.200657	-1.536	0.12464	0.19544	0.39664
CITZN	0.820598	0.162317	5.056	0.00000	0.59038	0.49189
ONE	3.727910	0.544649	6.845	0.00000	1.00000	0.00000

Frequencies of actual and predicted outcomes.
Predicted outcome has maximum probability.

		Predicted	
Actual	TOTAL	0	1
TOTAL	1975	409	1566
0	572	312	260
1	1403	97	1306

MALES. MAXIMUM LIKELIHOOD ESTIMATES OF THE PROBABILITY OF BEING EMPLOYED/UNEMPLOYED

Log-Likelihood.....	-417.06
Restricted (Slopes=0) Log-L.	-497.90
Chi-Squared (17).....	161.68
Significance Level.....	0.32173E-13

Variable	Coefficient	Std. Error	T-ratio	Prob |t| ≥ x	Mean of X	Std.D.of X
YOE	0.360171E-01	0.358323E-01	1.005	0.31482	11.22900	3.34380
EXP	-0.640540E-01	0.363786E-01	-1.761	0.07828	20.84200	11.61700
EXP2	0.141670E-02	0.701320E-02	2.020	0.04338	569.27000	582.01000
DURX	0.257753	0.995575	0.259	0.79571	0.14053	0.16412
QREC	0.599554	0.511919	1.171	0.24152	0.10406	0.30545
WBEF	-0.140007	0.267208	-0.524	0.60030	0.66358	0.47265
ENGPROF	-0.219795	0.111128	-1.978	0.04794	1.98360	1.21290
NENG14	0.963945E-01	0.419476	0.230	0.81825	0.84533	0.36172
NENGNOW	-0.189125	0.333743	-0.567	0.57093	0.53885	0.49867
OSQAL	0.178697	0.272805	0.655	0.51244	0.33500	0.47216
AUSTSCH	0.108044	0.393867	0.274	0.78384	0.20100	0.40089
VIET	-1.171720	0.297252	-3.942	0.00008	0.16037	0.36708
LEBN	-2.073980	0.285727	-7.259	0.00000	0.13614	0.34306
MALT	-0.284178	0.398780	-0.713	0.47608	0.13828	0.34531
SPONS	0.427970	0.241213	1.774	0.07602	0.46258	0.49878
NEVMR	-0.247354	0.270267	-0.915	0.36008	0.19458	0.39602
CITZN	-0.114550	0.245492	-0.467	0.64077	0.63435	0.48178
ONE	3.418500	0.855727	3.995	0.00006	1.00000	0.00000

Frequencies of actual & predicted outcomes
Predicted outcome has maximum probability.

	Predicted		
Actual	TOTAL	0	1
TOTAL	1403	11	1392
0	160	6	154
1	1243	5	1238

MALES. LEAST SQUARES ESTIMATES OF HOURS EQUATION

Dependent Variable	HRS	Number of Observations	1243
Mean of Dep. Var.	41.904264	Std. Dev. of Dep. Var.	17.850687
Std. Error of Regr.	17.779490	Sum of Sqrd. Residuals	387235.092362
R - squared	0.021540	Adjusted R - Squared	0.007961
Durbin Watson Stat.	1.8906669	Estd. Autocorrelation	0.054666
Total Variation	395759.607401	Regression Variation	8524.515039
F(17, 1225)	1.5863	Prob. Value for F	0.06032
Log-Likelihood	-5332.085459	Const. Log-L (for =0)	-5345.618617
Akaike Information	5.770466	Amemiya Prediction	320.687902
Chi-squared [17	27.0666316	Prob Value =	0.057102

Variable	Coefficient	Std. Error	T-ratio	Prob |t| ≥ x	Mean of X	Std.D.of X
YOE	-0.421185	0.225427	-1.868	0.05867	11.33100	3.27260
EXP	-0.251540E-01	0.175601	-0.143	0.85752	20.95700	11.77900
EXP2	-0.109606E-02	0.320530E-02	-0.342	0.72997	577.85000	593.36000
DURX	-7.127800	3.998260	-1.783	0.07118	0.14188	0.16926
QREC	-0.998066	1.841800	-0.542	0.59489	0.11344	0.31725
WBEF	0.187708	1.688750	0.111	0.87689	0.65567	0.47534
ENGPROF	-0.501743	0.711161	-0.706	0.48765	1.89780	1.17890
NENG14	-1.483320	1.595410	-0.930	0.35557	0.83347	0.37271
NENGNOW	1.965420	1.713240	1.147	0.25015	0.50684	0.50015
OSQAL	2.777990	1.565470	1.775	0.07248	0.35157	0.47765
AUSTSCH	-0.188514E-01	1.997530	-0.009	0.94005	0.21239	0.40916
VIET	-1.301170	1.827180	-0.712	0.48348	0.13998	0.34711
LEBN	-5.195580	1.851770	-2.806	0.00516	0.10459	0.30614
MALT	-0.523758	1.704710	-0.307	0.75306	0.14722	0.35447
SPONS	-2.132410	1.136530	-1.876	0.05763	0.46420	0.49892
NEVMR	-1.130220	1.608610	-0.703	0.48950	0.18986	0.39235
CITZN	-1.622530	1.271340	-1.276	0.19904	0.62027	0.48551
ONE	52.072000	4.574290	11.384	0.00000	1.00000	0.00000

FEMALES. MAXIMUM LIKELIHOOD ESTIMATES OF THE PROBABILITY OF PARTICIPATION/NON-PARTICIPATION

Log-Likelihood.....	-812.66
Restricted (Slopes=0) Log -L	-1094.00
Chi-Squared (17).....	562.71
Significance Level.....	0.32173E-13

Variable	Coefficient	Std. Error	T-ratio	Prob |t| ≥ x	Mean of X	Std.D.of X
YOE	0.311537E-01	0.267352E-01	1.165	0.24391	10.11900	3.91360
EXP	0.739635E-01	0.199227E-01	3.713	0.00021	22.74100	14.90500
EXP2	-0.203551E-02	0.365854E-03	-5.564	0.00000	739.19000	892.62000
DURX	-1.854080	0.381684	-4.858	0.00000	0.18131	0.23230
QREC	0.796162	0.315549	2.523	0.01163	0.50342E-01	0.21872
WBEF	0.399711	0.154101	2.594	0.00949	0.49223	0.50010
ENGPROF	-0.263358	0.804733E-01	-3.273	0.00107	2.38160	1.44420
NENG14	-0.520913E-01	0.198207	-0.263	0.79270	0.84960	0.35758
NENGNOW	0.438169E-01	0.216046	0.203	0.83928	0.60845	0.48825
OSQAL	0.576022E-01	0.194909	0.296	0.76759	0.24363	0.42941
AUSTSCH	0.510614	0.210724	2.423	0.01539	0.18024	0.38450
VIET	-0.355960E-01	0.210349	-0.169	0.86562	0.15289	0.35999
LEBN	-1.431220	0.213512	-6.703	0.00000	0.16967	0.37546
MALT	-1.064840	0.208169	-5.115	0.00000	0.15786	0.36472
SPONS	0.455899	0.138799	3.285	0.00102	0.55998	0.49654
NEVMR	1.398500	0.223894	6.246	0.00000	0.11311	0.31683
CITZN	0.543814	0.152313	3.570	0.00036	0.59105	0.49179
INCS1	0.193654E-02	0.284546E-03	6.806	0.00000	185.34000	249.17000
ONE	-1.074930	0.515039	-2.087	0.03688	1.00000	0.00000

Frequencies of actual and predicted outcomes
Predicted outcome has maximum probability.

		Predicted	
Actual	TOTAL	0	1
TOTAL	1609	971	638
0	935	751	184
1	674	220	454

FEMALES. MAXIMUM LIKELHOOD ESTIMATES OF THE PROBABILITY OF BEING EMPLOYED/UNEMPLOYED

Log-Likelihood.....	-143.02
Restricted (Slopes=0) Log-L.	-185.64
Chi-Squared (18).....	85.225
Significance Level.....	0.47125E-12

Variable	Coefficient	Std. Error	T-ratio	Prob |t| ≥ x	Mean of X	Std.D.of X
YOE	0.177165	0.669083E-01	2.648	0.00810	11.34700	3.32910
EXP	0.584679E-01	0.538152E-01	1.086	0.27728	18.38700	10.35800
EXP2	0.128707E-03	0.115776E-02	0.111	0.91148	455.81000	493.54000
DURX	1.362520	1.303820	1.045	0.29601	0.15479	0.17805
QREC	0.416463	0.839817	0.496	0.61997	0.89021E-01	0.28499
WBEF	-0.186543	0.427730	0.436	0.66275	0.53412	0.49920
ENGPROF	-0.191043	0.196674	-0.971	0.33136	1.85760	1.17700
NENG14	-0.778684	0.625287	-1.245	0.21301	0.77448	0.41823
NENGNOW	0.246344	0.541120	0.455	0.64893	0.47478	0.49973
OSQAL	-0.568069	0.494442	-1.149	0.25059	0.31454	0.46468
AUSTSCH	-0.550853	0.539471	-1.021	0.30721	0.25964	0.43876
VIET	-1.299470	0.482093	-2.695	0.00703	0.14392	0.35127
LEBN	-0.778414	0.476628	-1.633	0.10243	0.83086E-01	0.27622
MALT	17.299200	1831.930000	0.009	0.99247	0.11276	0.31653
SPONS	-0.631469	0.380369	-1.660	0.09688	0.53412	0.49920
NEVMR	0.691050	0.445083	1.553	0.12051	0.16914	0.37515
CITZN	0.793194	0.434404	1.826	0.06786	0.66617	0.47193
INCS1	0.420558E-02	0.102780E-02	4.092	0.00004	276.88000	268.49000
ONE	-0.206988	1.428890	-0.145	0.88482	1.00000	0.00000

Frequencies of actual & predicted outcomes
Predicted outcome has maximum probability.

	Predicted		
Actual	TOTAL	0	1
TOTAL	674	6	668
0	53	3	50
1	621	3	618

FEMALES. LEAST SQUARES ESTIMATES OF THE HOURS EQUATION

Dependent Variable	HRS	Number of Observations	621
Mean of Dep. Var.	31.792271	Std. Dev. of Dep. Var.	16.917456
Std. Error of Regr.	16.464976	Sum of Sqrd. Residuals	163199.445145
R - squared	0.080277	Adjusted R - Squared	0.052777
Durbin Watson Stat.	1.945370	Estd. Autocorrelation	0.027315
Total Variation	1777444.202899	Regression Variation	14244.757754
F(18, 602)	2.9192	Prob. Value for F	0.00006
Log-Likelihood	-2611.079682	Const. Log-L (for =0)	-2637.063306
Akaike Information	5.632589	Amemiya Prediction	279.389809
Chi-squared [18]	51.967247	Prob Value =	0.000038

Variable	Coefficient	Std. Error	T-ratio	Prob | t | ≥ x	Mean of X	Std.D.of X
YOE	0.206012	0.316908	0.650	0.52336	11.42400	3.27790
EXP	-0.260934	0.228450	-1.142	0.25255	18.73800	10.88000
EXP2	0.407297E-02	0.467372E-02	0.871	0.38798	469.28000	497.59000
DURX	11.113000	5.105210	2.177	0.02824	0.15227	0.17805
QREC	3.870750	2.641340	1.465	0.13909	0.93398E-01	2.91220
WBEF	2.306960	1.896170	1.217	0.22185	0.53462	0.49920
ENGPROF	0.749217	1.025600	0.731	0.47207	1.80350	1.14440
NENG14	-2.179900	1.868030	-1.167	0.24203	0.76167	0.42640
NENGNOW	-1.724050	2.341080	-0.736	0.46838	0.45572	0.49844
OSQAL	-1.369760	2.176170	-0.629	0.53682	0.32045	0.46703
AUSTSCH	-1.999700	2.305840	-0.867	0.39038	0.26248	0.44034
VIET	5.403170	2.457410	2.199	0.02674	0.12721	0.33348
LEBN	2.649660	2.801990	0.946	0.34725	0.72464E-01	0.25946
MALT	2.381280	2.367210	1.006	0.31611	0.12238	0.32799
SPONS	0.388456	1.459630	-0.266	0.78007	0.52979	0.49951
NEVMR	0.985446	2.361470	0.417	0.67926	0.15620	0.36334
CITZN	4.085760	1.750670	2.334	0.01896	0.66989	0.47063
INCS1	-0.676157E-02	0.293854E-02	-2.301	0.02063	292.17000	269.63000
ONE	29.308000	6.143720	4.770	0.00001	1.00000	0.00000

APPENDIX 4. RESULTS FROM ESTIMATING EARNINGS MODELS: TECHNICAL DETAILS

The estimating equation is derived as follows:

$$E_t = E_{t-1} + C_{t-1} \quad (1)$$

where E_t is gross earnings in period t, C_{t-1} is the dollar amount of net investiment in period $t-1$ and r is the average rate of return to the individual's investment in human capital. If the proportion of investment expenditures to gross earnings, C_t/E_t, is given by k_t, then by viewing investment in time-equivalent units:

$$E_t = E_{t-1}\,(1 + rk_{t-1}) \quad (2)$$

Since $E_t = E_0\,(1 + rk)\,(1 + rk_1)$ ..... $(1 + rk_{t-1})$, and since $ln\,(1 + rk) = rk$ for small values of rk, equation (2) may be rewritten as:

$$lnE_t = lnE_0 = + r\sum_{i=0}^{t-1} k_i \quad (3)$$

Analysing schooling and post-school experiences, we can separate the k terms, giving

$$lnE_t = lnE_0 = + r\sum_{i=0}^{s-1} k_i + r\sum_{j=s}^{t-1} k_j \quad (4)$$

where k_i and j are respectively investment ratios during and after the schooling period.

Assuming $k = 1$, *

$$lnE_t = lnE_0 + r\,s + r\sum_{j=s}^{t-1} k_j \tag{5}$$

Since post-schooling investments are expected to decline over the lifetime (as retirement approaches, the expected return from investment falls), (5) may be approximated with the inclusion of a quadratic experience term. Thus the estimating equation becomes:

$$lnW_i = a + bS_i + cGEXP_i + dGEXP^2{}_i + eZ_i + e \tag{6}$$

where, for individual i, lnW is the logarithm of hourly age, S is years of schooling, $GEXP$ is length of time in the labour force, Z is a vector of other wage determiniung variables, and e is a randomly distributed error term.

* This is equivalent to assuming the student earnings are the same as direct educational expenditures.

*Determinants of Hourly Wages**

Vietnamese Born

Variable				
INTERCEP	1.9289	1.9192	2.2059	2.1937
	(6.299)	(6.343)	(6.613)	(6.642)
SEX	-0.1694	-0.1606	-0.1846	1-0.859
	(-3.550)	(-3.570)	(-3.816)	(-3.859)
EXP	0.0154	0.0149	0.0089	0.0083
	(1.313)	(1.290)	0.723)	0.683)
EXP2RD	-0.0005	-0.0005	-0.0004	-0.0004
	(-1.583)	(-1.582)	(-1.154)	(-1.144)
TEN	-0.0044	0.0066	0.0145	0.0163
	(0.102)	(0.154)	(0.334)	(0.379)
TEN2	-0.0006	-0.0007	-0.00014	-0.0014
	(-0.109	(-0.129)	(-0.250)	(-0.263)
AQ12			0.3258	0.3384
			(2.234)	(2.346)
AQ3			0.2418	0.2435
			(1.898)	(1.290)
AQ4			0.0964	0.1104
			(0.675)	(0.782)
AYOS	0.0773	0.0784		
	(2.344)	(2.391)		
AYOSX		0.0465	0.0472	
			(1.369)	(1.3941)
OQ12			0.2840	0.2660
			(2.334)	(2.238)
OQ3			0.0745	0.0873
			(0.971)	(1.163)
OQ4		0.0238	0.0199	
		(0.271)	(0.228)	
OYOS	0.0218	0.0229		
	(1.647	(1.788		
OYOSX		0.0016	0.0030	
		(0.097	(0.185	
NOQ	0.1438	0.1504	0.1495	0.1609
	(1.440)	(1.521)	(1.315)	(1.430)
FS1	-0.0538	-0.0527	-0.0474	-0.0453
	(-0.828	(-0.815)	(-0.719)	(-0.690)
FS2	-0.0168	-0.0230	0.0137	0.0080
	(-0.2210)	-0.305)	(0.177)	(0.104)
FS3	-0.0390	-0.0424	-0.0107	-0.0152
	(-0.516	(-0.565)	(-0.140)	(-0.201)
FS4	0.0385	0.0350	0.0600	0.0582
	(0.591	(0.543)	(0.887)	(0.870)
U1	0.0295	0.0329	0.0289	0.0335
	(0.588)	(0.666)	(0.563)	(0.661)
FTIME	-0.3321	-0.3356	-0.3616	-0.3649
	(-4.010)	(-4.078)	(-4.289)	(-4.349)
MAR1	0.0435	0.0411	0.0258	0.0228
	(0.393	(0.373	(0.225	(0.200
MAR2	0.0589	0.0538	0.0546	0.0474
	(0.583	(0.536	(0.527	(0.461
PUB	0.1170	0.1224	0.0822	0.0885
	(1.522)	(1.611)	(1.044	V1.137)
LANG2	-0.0078	0.0116	-0.0090	0.0269
	(-0.106)	(0.234)	(-0.118)	(0.529)
LANG3	-0.0606	-0.0566	-0.0675	-0.0457
	(-0.611)	(-0.832)	(-0.664)	(-0.658)
WLANG2	0.0367		0.0597	
	(0.497)		(0.779)	
WLANG3	-0.0003		0.0204	
	(-0.004)		(0.228)	
ADJ R-SQ	0.145	0.152	0.151	0.157

* t - statistics in parentheses

*Determinants of Hourly Wages**

Lebanese Born

Variable				
INTERCEP	1.8847	1.6433	2.0107	1.7993
	(4.942)	(4.321)	(5.395)	(4.870)
SEX	-0.2676	-0.2559	-0.2758	-0.2784
	(-2.0727)	(-2.532)	(-2.992)	(-2.952)
EXP	-0.0020	-0.0009	0.0144	0.0138
	(-0.163)	(-0.071)	(1.133)	(1.060)
EXP2RD	0.0001	0.0001	-0.0002	-0.0002
	(0.365)	(0.313)	(-0.890)	(-0.890)
TEN	0.0343	0.0338	0.0312	0.0306
	(2.125)	(2.056)	(2.086)	(2.019)
TEN2	-0.0010	-1.543	-1.588	-1.341
	(-1.776)	(-0.543)	(-1.588)	(-1.341)
AQ12			-0.0816	-0.0189
			(-0.348)	(-0.079)
AQ3			0.4748	0.5174
			(3.022)	(3.237)
AQ4			-0.3151	-0.5793
			(-0.893)	(-1.696)
AYOS	0.0528	0.0715		
	(2.005)	(2.741)		
AYOSX			0.0395	0.0565
			(1.349)	(1.948)
OQ12			0.5544	0.6077
			(3.195)	(3.482)
OQ3			-0.0219	0.0344
			(-0.147)	(0.231)
OQ4			0.3067	0.2741
			(2.293)	(2.021)
OYOS	0.0300	0.0437		
	(1.591)	(2.349)		
OYOSX			0.0067	0.0172
			(0.291)	(0.750)
NOQ	0.1829	0.2145	0.2538	0.2887
	(1.234)	(1.413)	(1.840)	(2.059)
FS1	0.0290	-0.0012	0.0709	0.0703
	(0.238)	(-0.010)	(0.612)	(0.599)
FS2	0.1782	0.2405	0.1848	0.2398
	(1.215)	(1.613)	(1.355)	(1.747)
FS3	-0.0861	-0.0781	-0.0821	-0.0663
	(-0.645)	(-0.571)	(-0.671)	(-0.531)
FS4	0.0516	0.0616	0.0724	0.0872
	(0.474)	(0.551)	(0.737)	(0.870)
U1	0.0752	0.0531	0.0333	0.0135
	(0.896)	(0.619)	(0.398)	(0.160)
FTIME	-0.3592	-0.3613	-0.4322	-0.4147
	(-3.451)	(-3.366)	(4.369)	(-4.108)
MAR1	-0.1064	-0.1233	-0.1476	-0.1578
	(-0.586)	(-0.660)	(-0.900)	(-0.940)
MAR2	0.0377	0.0188	-0.0606	-0.0732
	(0.252)	(0.122)	(-0.445)	(-0.526)
PUB	-0.1273	-0.1256	-0.0946	-0.0978
	(-1.299)	(-1.243)	(-1.064)	(-1.073)
LANG2	0.0359	-0.1527	0.0011	-0.1570
	(0.288)	(-1.489)	(0.009)	(-1.679)
LANG3	0.0709	-0.0922	0.0735	-0.0651
	(0.458)	(-0.650)	(0.501)	(-0.490)
WLANG2	-0.2052		-0.1820	
	(-1.708)		(-1.573)	
WLANG3	-0.3243		-0.2839	
	(-2.500)		(-2.253)	
ADJ R-SQ	0.216	0.166	0.372	0.341

* t - statistics in parentheses

*Determinants of Hourly Wages**

Maltese Born

Variable				
INTERCEP	1.9987	2.1064	2.2508	2.3624
	(4.665)	(4.961)	(4.699)	(5.060)
SEX	-0.2505	-0.2627	-0.2645	-0.2773
	(-3.137)	(-3.298)	(-3.175)	(-3.375)
EXP	0.0124	0.0068	0.013	0.0089
	(0.800)	(0.450)	(0.785)	(0.558)
EXP2RD	-0.0003	-0.0002	-0.00038	-0.0003
	(-1.189)	(-0.852)	(-1.212)	(-1.004)
TEN	0.0286	0.0310	0.0299	0.0315
	(2.287)	(2.496)	(2.291)	(2.439)
TEN2	-0.0008	-0.0009	-0.00087	-0.0009
	(-1.867)	(-2.080)	(-1.985)	(-2.153)
AQ12			0.4898	0.4879
			(2.330)	(2.329)
AQ3			0.2488	0.2746
			(1.622)	(1.833)
AQ4			0.1565	0.1545
			(1.332)	(1.329)
AYOS	0.0329	0.0261		
	(1.645)	(1.3332)		
AYOSX			-0.0013	-0.0102
			(-0.046)	(-0.385)
OQ12			-0.334	-0.3369
			(-0.777)	(-0.786)
OQ3			0.3592	0.3714
			(0.940)	(0.975)
OQ4			0.0443	0.0469
			(0.474)	(0.506)
OYOS	0.0263	0.0215		
	(1.644)	(1.363)		
OYOSX			0.000019	-0.0081
			(0.001)	(-0.346)
NOQ	-0.0582	-0.0750	-0.0636	-0.069
	(-0.528)	(-0.683)	(-0.538)	(-0.587)
FS1	0.1978	0.2049	0.2039	0.2055
	(1.971)	(2.064)	(1.941)	(2.008)
FS2	0.1597	0.1774	0.1129	0.1211
	(1.275)	(1.421)	(0.872)	(0.963)
FS3	0.0955	0.1075	0.0549	0.0573
	(0.904)	(1.022)	(0.489)	(0.512)
FS4	0.0005	0.0084	-0.0020	0.0031
	(0.006)	(0.102)	(-0.025)	(0.038)
U1	0.0051	0.0071	0.0346	0.0341
	(0.065)	(0.092)	(0.424)	(0.430)
FTIME	-0.2465	-0.2431	-0.2458	-0.2439
	(-2.601)	(-2.558)	(-2.508)	(-2.498)
MAR1	-0.1295	-0.1353	-0.1091	-0.0992
	(-0.462)	(-0.481)	(-0.380)	(-0.347)
MAR2	-0.0352	-0.0162	-0.0274	-0.0022
	(-0.133)	(-0.061)	(-0.100)	(-0.008)
PUB	0.1641	0.1678	0.1604	0.1627
	(1.980)	(2.044)	(1.806)	(1.863)
LANG2	-0.2702	-0.1629	-0.2729	-0.1916
	(-1.900)	(-1.428)	(-1.925)	(-1.690)
LANG3	-0.0627	0.1962	0.0244	0.2054
	(-0.214)	(0.789)	(0.082)	(0.832)
WLANG2	0.0556		0.0626	
	(0.445)		(0.494)	
WLANG3	0.2793		0.1979	
	(1.651)		(1.125)	
ADJ R-SQ	0.220	0.215	0.226	0.232

* t - statistics in parentheses

*Determinants of Hourly Wages**
Other NESB

Variable				
INTERCEP	2.1231	2.0882	2.3490	2.3259
	(10.302)	(10.163)	(11.197)	(11.111)
SEX	-0.1716	-0.1653	-0.1852	-0.1802
	(-5.273)	(-5.095)	(-5.603)	(-5.478)
EXP	0.0098	0.0102	0.0121	0.0125
	(1.840)	(1.929)	(2.275)	(2.373)
EXP2RD	-0.0002	-0.0002	-0.0003	-0.0003
	(- 1.945)	(-1.998)	(-2.593)	(-2.666)
TEN	0.0303	0.0308	0.0326	0.0331
	(3.284)	(3.334)	(3.576)	(3.629)
TEN2	-0.0007	-0.0007	-0.0007	-0.0008
	(-1.747)	(-1.781)	(-1.855)	(-1.889)
AQ12			0.4133	0.4113
			(4.487)	(4.462)
AQ3			0.1278	0.1302
			(1.680)	(1.711)
AQ4			0.1036	0.1045
			((1.239)	(1.250)
AYOS	0.0516	0.0536		
	(5.317)	(5.554)		
AYOSX			0.0255	0.0269
			(2.303)	(2.442)
OQ12			0.2601	0.2726
			(5.545)	(5.880)
OQ3			0.1326	0.1435
			(3.042)	(3.328)
OQ4			0.0284	0.0336
			(0.643)	(0.761)
OYOS	0.0361	0.0377		
	(5.423)	(5.743)		
OYOSX			0.0087	0.0095
			(0.938)	(1.024)
NOQ	0.1135	0.1082	0.1421	0.1349
	(2.220)	(2.115)	(2.017)	(1.916)
FS1	-0.2124	-0.2131	-0.1978	-0.1985
	(-5.066)	(-5.076)	(-4.770)	(-4.784)
FS2	-0.0912	-0.0920	-0.0728	-0.0737
	(-1.787)	(-1.798)	(-1.433)	(-1.452)
FS3	-0.0829	-0.0875	-0.0717	-0.0746
	(-1.502)	(-1.585)	(-1.327)	(1.380)
FS4	-0.0679	-0.0657	-0.0647	-0.0632
	(-1.517)	(-1.466)	(-1.466)	(-1.431)
U1	-0.0976	-0.1029	-0.0960	-0.1014
	(-2.938)	(-3.116)	(-2.934)	(-3.121)
FTIME	-0.1565	-0.1532	-0.1540	-0.1514
	(-3.582)	(-3.502)	(-3.592)	(-3.532)
MAR1	-0.1869	-0.1802	-0.1717	-0.1651
	(-2.365)	(-2.278)	(-2.208)	(-2.124)
MAR2	-1.0685	-0.0668	-0.0641	-0.0633
	(-1.000)	(-0.977))	(-0.952)	(-0.942)
PUB	0.0743	0.0786	0.0586	0.0624
	(1.898)	(2.007)	(1.511)	(1.611)
LANG2	-0.0095	-0.0740	-0.0170	-0.0715
	(-0.185)	(-1.910)	(-0.339)	(-1.871)
LANG3	-0.0053	-0.0735	-0.0029	-0.0665
	(-0.082)	(-1.517)	(-0.045)	(-1.394)
WLANG2	-0.1030		-0.0796	
	(-1.858)		(-1.449)	
WLANG3	-0.0885		-0.0862	
	(-1.479)		(-1.460)	
REG1	-0.1712	-0.1751	-0.1757	-0.1795
	(-1.370)	(-1.399)	(-1.435)	(-1.465)
REG2	-0.1946	-0.2073	-0.2007	-0.2143
	(-1.101)	(-1.172)	(-1.157)	(-1.236)
ADJ R-SQ	0.268	0.265	0.297	0.296

* t - statistics in parentheses

*Determinants of Hourly Wages**

Australian Born

Variable		
INTERCEP	1.1318	1.3321
	(8.7770)	(6.8080)
SEX	-0.1221	-0.1164
	(-4.0090)	(-3.6520)
EXP	0.0299	0.0294
	(6.0990)	(6.0300)
EXP2RD	-0.0006	-0.0006
	(-5.1010)	(-5.0750)
TEN	0.0050	0.0045
	(0.9020)	(0.8250)
TEN2	0.0001	0.0001
	(0.4760)	(0.5230)
AQ12		0.3829
		(9.1240)
AQ3		0.1271
		(3.4510)
AQ4		0.1396
		(3.4820)
AYOS	0.0812	
	(11.1600)	
AYOSX		0.0639
		(4.0950)
FS1	-0.1306	-0.1427
	(-3.1150)	(-3.4180)
FS2	-0.0975	-0.1066
	(-2.0310)	(-2.2330)
FS3	-0.1285	-0.1394
	(-2.5820)	(-2.8190)
FS4	-0.034	-0.0431
	(-0.7030)	(-0.8980)
U1	0.0548	0.0602
	(1.8220)	(2.0100)
FTIME	-0.1571	-0.1531
	(-4.3130)	(-4.2370)
MAR1	-0.0068	-0.0108
	(-0.1110)	(-0.1780)
MAR2	0.0317	0.0316
	(0.6020)	(0.6010)
PUB	0.0705	0.0640
	(2.2110)	(2.0150)
REG1	0.1003	0.1010
	(2.8990)	(2.9360)
REG2	0.0473	0.0439
	(1.00980)	(1.0240)
ADJ R-SQ	0.2988	0.3089

* t - statistics in parentheses

APPENDIX 5. FACTORS AFFECTING IMMIGRANT LABOUR MARKET OUTCOMES: A REVIEW OF FINDINGS FROM EMPIRICAL RESEARCH.

The methods of investigation adopted in this report are very much conditioned by previous results in the field. To motivate the methods used and the focus of our empirical analysis the findings of previous research is summarised below.

Participation in the Labour Force

The main issue in the analysis of participation rates has been whether low participation rates among immigrants reflect a disadvantage. This question was raised by Stricker and Shenan (1979) in their analysis of the hidden unemployed, persons who are not actively seeking work because of the small chance of finding a job. They argued that immigrants were disproportionately represented among the hidden unemployed, a claim based on trend analysis of participation rates.

No recent and more rigorous research has offered any support for that contention. In the first instance the research has been directed towards establishing whether participation rates among immigrants are low, a question which is prior to the issue of disadvantage. In BLMR (1986) it is found that low participation rates are indeed low for immigrants which have arrived recently. It appeared that in the more difficult labour market conditions that have prevailed since the mid-seventies, immediate entry into the labour market is no longer possible for all immigrants. But beyond that, there were no startling differences in participation rates indicative of disproportionate hidden unemployment among immigrants. Nor did the available evidence suggest problems of an opposite nature; that immigrants were, by economic circumstances, forced to go out to work more than Australian born persons.

Of the multivariate studies of participation, Brooks and Volker (1983) report some differences in participation between birthplace groups. However, these differences

were generally small and there was no consistent pattern. They confirm, however, that there are several factors which do have the effect of reducing participation of immigrants. Apart from duration of residence in Australia, low level of English proficiency also has this effect.

The findings of Wooden and Robertson (1989) are very similar, but they also include migration category in their analysis and report that refugee status is associated with lower participation.

Unemployment

The issue of unemployment of immigrants has received much greater attention, both in public discussion and in terms of research effort.

In Inglis and Stromback (1986) it was found that most of immigrants higher unemployment can be attributed to the settlement process. It takes time to find a job and to restore the human capital loss associated with non-transferability. Castles *et.al.* (1986) concur with that opinion. McAllister (1986) also finds that the proportion of time spent unemployed falls with length of residence in Australia. The implications of this fact are spelled out very lucidly in Harrison's (1984) analysis of immigrant unemployment in South Australia. Because recent immigrants are very prone to being unemployed, immigrants as a group tend to carry a disproportionate share of unemployment.

From this evidence it is clear that the settlement problems are a cause of unemployment. There is also much evidence that poor English is associated with higher unemployment. All studies which have included a measure of English proficiency have found that poor knowledge of English increases the chance of being unemployed.

Another factor which has found to be important in accounting for immigrants higher unemployment rates is education. All research confirm that better educated persons fare better in the labour market and experience less unemployment. The issue is, however, not so clear cut when it comes to the education immigrants have obtained overseas. Although overseas education reduces the chance of being unemployed, the effect of overseas education is not as large as corresponding

education obtained in Australia. Beggs and Chapman (1987) found that as education increases the chance of an immigrant being unemployed increases relative to an Australian born with the same level of education. A similar, but not identical finding is reported by Wooden and Robertson (1989). They found that post-school qualifications gained in non-English speaking countries did not have as large effect in reducing the chance of unemployment as the same type of qualification obtained in Australia.

These factors do not, however, account for all of immigrants higher unemployment rates. The concern remains that particular birthplace groups experience unemployment rates higher than can be explained by the above factors. When the transferability gap is large, as it is for immigrants from non-English speaking countries, the gap, as reflected in differential unemployment rates never really closes. Thus some are less optimistic about the ability of certain immigrant groups to succeed in the labour market. Hogan (1984) argues that the high unemployment is associated with low skill level and ethnic origin. Similarly, Harrison (1984) doubts the eventual assimilation of immigrants from non-English speaking countries.

The particular birthplace groups that do worst in terms of unemployment is easily observed from raw data. However, in multivariate analysis, when all other influences are controlled for, the picture is more complex. This is to a large extent due to the different groupings used by different researchers. When broad groupings are used, Asian males do worse than males from Africa and South America. Among females the relative differences are smaller and no group stand out as doing particularly badly (Inglis and Stromback 1986). When smaller groups are distinguished, the Vietnamese have been identified as having particularly high unemployment even after controlling fo other factors (Miller 1986, McAllister in AIMA 1986). Wooden and Robertson (1989) find that Southern European and Asian immigrants do particularly badly, even relative to other immigrants from non-English speaking countries. This evidence is, however, from a data set that does not include a measure of English proficiency. When they control for English proficiency in addition to all other relevant factors, they find that the only birthplace group with a significantly higher unemployment is Asians. Further disaggregation of this group reveals that the reason for this are the Vietnamese and Middle East immigrants. As most of immigrants from these countries are refugees they are

inclined to explain this higher propensity to be unemployed as a consequence of the particular problems refugees face.

Hours of Work

The determinants of hours of work has not been studied as extensively as unemployment as it is implicitly acknowledged that supply influences have a dominant influence on the hours decision. Thus, while immigrants higher propensity to be unemployed can be taken as evidence of disadvantage, it is not obvious that if immigrants work fewer hours this is also a reflection of difficulties in the labour market.

Only one study, Brooks and Volker (1983), has analysed the determination of hours in any detail. They found that hours of work increase with duration of residence and also that poor English has the effect to decrease hours of work. Both of these findings correspond to the findings in respect of participation. In respect of other factors, they find a strong association between age and hours worked but no systematic relation between education and hours. In case of females, the presence of children and husband's income were also important.

There was, however, no substantial residual birthplace effect after all other factors were controlled for. Thus to the extent that immigrants work fewer hours, this would be a result of the recency of their arrival, poor English and other factors mentioned above.

Earnings

The first analysis of earnings was that of Haig (1980). He used data collected by the Australian Bureau of Statistics for the Henderson Inquiry into Poverty, in August 1973, and sought to determine the extent of so-called discrimination against migrants. This was explored in relation to ethnic background and length of residence in Australia by estimating wage equations for different groups.

Haig found that migrants on average earned about 6 per cent more than Australian-born, principally because they worked more hours, were older, had better

qualifications, and greater proportions of the sample were male and worked in urban areas. He argued, however, that immigrants' earnings would have been 3 per cent higher than they were if they had received the same returns to endowments as the Australian-born. Some proportion of this 3 per cent estimate is attributable to immigrants receiving relatively low returns to qualifications received overseas.

From a disaggregation of his analysis by area of origin and length of residence in Australia, Haig argued that Southern European immigrants were a particularly disadvantaged group compared with the Northern European immigrants who had achieved relative economic success. While immigrants' earnings increased with length of residence Haig argued that this was a consequence of increased labour market experience and not the result of decreases in discrimination. There are several possible shortcomings of Haig's analysis which are documented in Chapman *et al* (1985).

Chapman and Miller (1983) also used the human capital approach to analyse data from the 1976 Census. While their focus was more on sex than on country of birth differences in earnings, part of their disaggregation allowed some insight into immigrant rates of return to education and experience. They found that Australian-born persons received higher returns from the following: additional years of education (about an extra 4 per cent for males and 3.5 per cent for females); the acquisition of trade and technical qualifications (about an extra 5 per cent for females); and labour market experience (each additional year increasing Australian-born earnings more than immigrant earnings by about 2 per cent for males and 5 per cent for females). These findings are important early evidence for the propositions developed later in our empirical analysis.

The Chapman and Miller exercise suffers from limitations, in part as a consequence of the aggregated nature of the analysis. No adjustments were made for pre- and post-migration experience or education, the overseas-born/Australian dichotomy hides between-country differences (which may be important given variations in language proficiency, which was not conrolled for), and no insights are forthcoming concerning the influence of years spent in Australia. As well, formal education was represented only by the number of years of schooling.

In an investigation of the effect of union membership on relative pay, Mulvey (1986) included country of birth as an explanatory variable in a wage equation. The data are from an ABS 1982 survey of abour 30 000 households, and he documents important differences on this basis. His results imply, for example, that relative to persons born in 'other' countries, men and women born in the UK and Ireland received 6.18 per cent and 0.88 per cent higher hourly wages respectively, holding constant a host of individual characteristics. These include geographic location, union membership, schooling, labour market experience and marital status. However, Mulvey's analysis did not distinguish between pre- and post-migration experience, or identify the consequences for wages of language proficiency.

A study by Stromback (1984) is more enlightening for our purposes. It is an examination of immigrants' earnings using the one in 100 sample of the 1981 Census, in which the wage equation approach is adopted using flexible functional forms. This allows useful insights into the wage determination process.

One of Stromback's main conclusions was that immigrants from English-speaking countries received similar increments to additional education and experience as the Australian-born. Among the NESB immigrants, returns to additional experience were relatively low, as were returns to education for schooling groups. This could reflect non-recognition of overseas qualifications.

Chiswick and Miller's (1987) analysis using a sample from the 1981 Census also allows some useful insights into immigrant wage adjustment processes. They found that male immigrants received lower returns to home-country education and experience than they did for education and experience acquired in Australia.

Tran-Nam and Nevile (1988), in an analysis of males from the 1981-82 Income and Housing Survey, find similarly to much of the above. In particular, immigrants from English-speaking backgrounds fare much the same as the Australian-born, while other immigrants receive relatively low rewards for skills acquired overseas.

The above perspective is reinforced in Beggs and Chapman (1988a). Their wage study - using the male 1 in 100 sample from the 1981 Census - is unusual in several respects. One is that wage equations are not used, the authors preferring instead a non-parametric approach to estimation. This has the advantage of increased

flexibility but the disadvantage that a large number of exogenous controls cannot be used. Second, Beggs and Chapman chose to analyse the data separately by skill group -as measured by formal education, which was adjusted to include post-school qualifications—with the following result.

Male immigrants with low levels of measured education receive higher hourly income than do the (measured) equivalently qualified Australian-born. But as immigrants' measured skills increase, their wage position deteriorate relative to the apparently equivalently qualified Australian-born. Seemingly, immigrants with high levels of qualifications do poorly, in a relative sense, in terms of wage receipts, a result found also in Wooden and Robinson (1989).

There exist several potential explanations of this phenomenon, the one favoured by Evans and Kelley (1986) being that Australian schooling is of higher quality than overseas schooling. The Beggs and Chapman method did not allow an investigation into relative wage returns to domestic and overseas schooling, but given that some part of immigrants' education was not received in Australia their results are consistent with this story. Competing explanations are noted later with reference to the findings of the current study.

Perhaps the most directly comparable study to that undertaken in this paper with respect to Vietnamese, Lebanese and Maltese is that of Chapman and Iredale (1990) which used partly the same data as the present study. Because of this it is useful to consider the Chapman and Iredale analysis in some detail.

Their work was motivated principally through an interest in exploring the issue of the recognition (or non-recognition) of immigrants' post-schooling qualifications, and the consequences of this for unemployment and wage outcomes. Little progress was made on the unemployment front because of the very few numbers of immigrants falling into this labour market category.

As far as relative wage outcomes are concerned, however, the Chapman and Iredale analysis makes several contributions. First, on the methodological side, they estimated models separately for immigrants from a non-English speaking country background depending on whether or not they had received any Australian schooling or post-school qualifications, with quite different results emerging for the

two groups. Secondly, they found very clear—and stronger—evidence for the propositions developed in Beggs and Chapman (1988), namely that as immigrants' level of education (including technical and trades skills) increased, so too did their wage disadvantage relative to similarly educated Australian-born persons. In short, as far as wages are concerned, immigrants from NESB with high levels of skills obtained overseas fared relatively poorly in the Australian labour market.

Chapman and Iredale investigated also the implications for wages of overseas and domestically received post-schooling qualifications. In relative terms the qualifications with the lowest returns were higher degrees for males, certificates/diplomas for males, and trade certificates for both males and females. Interestingly, there was no evidence that immigrants on average experienced wage discrimination, or that immigrants received different returns than did the Australian-born to Australian education or training.

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