Immigrant Qualifications: Recognition and Relative Wage Outcomes

Bruce J. Chapman
Australian National University

Robyn R. Iredale
University of Wollongong

Australian society is most unusual in that it is characterized by rela-
tively large numbers of immigrants, many of whom are ostensibly
skilled workers. This empirical exercise used a data set compiled under
the auspices of the Commonwealth Government. The data revealed
that around 39 percent of skilled immigrants chose to subject their
overseas qualifications to local assessment and, of these, 42 percent
were recognized as being equivalent to their Australian counterpart.
The econometric wage estimations reveal that immigrants from non-
English-speaking countries, as a whole, received low increments as a
consequence of overseas qualifications compared to those having
Australian qualifications.

The recognition of overseas qualifications has frequently been cited as a
concern in Australia during the postwar era. For example, at the launch of
the National Agenda in July 1989, it was stated that 640,000 people had
failed to gain recognition of their overseas qualifications since 1945. This
figure was estimated from a national survey conducted for the Office of
Multicultural Affairs (OMA), Department of Prime Minister and Cabinet,
by AGB:McNair in late 1988. Over the more than 40 years that have elapsed
since the end of World War II, this represents an average figure of around
15,000 people per year.[1]

The issue of employment adjustment is crucial to both the immigrant,
because of income and equity, and to the economy, because of the impor-
tance of skill utilization. A significant component of Australia's immigration
program is now devoted to the importation of skilled workers. If these

---

[1] This figure is not unrealistic given that it is estimated that annually between 7,000 and
10,000 out of the current total immigration program of around 120,000 are not gaining
recognition (Castles *et al.*, 1988).

workers are not able to either gain employment in their fields of training and expertise or to receive wages commensurate with their training, it is likely that immigration policy is not achieving some of its stated objectives. As a starting point, it is important to define "recognition." It is taken here to mean: 1) formal acceptance by a body (registration/licensing body, etc), or 2) informal acceptance by an employer or employing body of a person's qualifications and/or skills.

In the past, most assessment and recognition has been of formal qualifications with little attention being paid to work experience or informal references. If an overseas qualification was judged "equivalent" or "the same as" its Australian/state counterpart, recognition was generally accorded. This mode of assessment meant that qualifications from training systems that were different from the British/Australian model went largely unrecognized (Iredale, 1987). Arguably it is the case that the cultural hegemony that prevailed resulted in relative disadvantage for non-English-speaking background (NESB) immigrants, a possibility that is explored in the following analysis.

Until recently, there has been little direct evidence or rigorous analysis of the effects of the nonrecognition of immigrants' qualifications and experience. One aim of this study is to examine the labor market outcomes of immigrants relative to the Australian born with the use of an excellent cross-sectional data set collected under the auspices of the OMA in 1988. In particular, this article examines both the extent of formal nonrecognition of overseas qualifications and the indirect implications for wage outcomes of a lack of full recognition of qualifications.

Immigrant relative wage analysis, which is the subject of the second part of this article, is based usually on the human capital earnings function approach. The theoretical basis on which the econometrics rests is documented in Appendix A, with the approach usually being referred to as the wage equation. The wage equation allows important insights into the origin of earnings differences. Important 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 measured skills—from the contributions of industry, country of birth and a host of other factors.

AUSTRALIA'S IMMIGRATION PROGRAM

By the early 1980s, the proportion of the male labor force born overseas was 27.7 percent while immigrant women comprised 25.2 percent of the total female work force. The absolute figures have continued to increase, and Australia almost doubled its annual overall immigrant intake to about140,000 in the late 1980s.

In the early postwar years, the skilled component of the program was quite small (approximately 10%), but increasingly there have been attempts to attract greater numbers of skilled immigrants. By the mid-1970s, around 52 percent of all work force immigrants were in the skilled categories, and by 1989 this figure had reached 66 percent. The number of skilled workers migrating to Australia in 1988–89 was 43,675, a figure which implies clearly the relevance of investigations such as these.

Presumably a deliberate strategy of attracting overseas people with skills has been a part of the continuing need to supplement the domestic supply of skilled workers. Over time, the government has developed progressively more sophisticated means of selecting skilled workers, with a combination of the following components of the migration program being used currently: an Occupational Supply Schedule (OSS) that lists the occupations where there is a shortage and where employment in one of these occupations ensures a greater number of points in the selection points system; direct recruitment of skilled workers overseas by employers under the Employer Nomination Scheme (ENS); and a selection points system that allocates points for qualifications and employment experience in all but the refugee and close family reunion categories.

Selection from overseas normally carries the additional requirement that the person's qualifications have been or will be recognized in Australia. Judgements are sometimes made at overseas posts regarding the possibility of recognition, based on information from Australia. Alternatively some qualifications are formally/informally assessed by Australian authorities. There is an anomaly in that the judgement at that stage determines the allocation of points, but may not be a true indication of the final outcome in Australia.

A REVIEW OF THE LITERATURE

Recognition of Overseas Qualifications

Literature on the issue of recognition of overseas qualifications in Australia was scarce until the late 1980s. Martin (1965) first documented the problems of the early postwar refugees, the displaced persons. In 1975, Kunz described the reactions and attitudes of some of the professional associations toward European professionals, and in 1978 Salter took this work one step further in analyzing how the qualifying function of professional associations could be used as a tool of their protective function. Iredale's Ph.D thesis, "The Recognition of Overseas Qualifications in Australia" (1986), involved the analysis of data from interviews with 400 skilled immigrants and in-depth studies of four occupations: medicine, nursing, engineering and

electrical trades. Recognition was modeled to be a function of age, sex, date of arrival, English language ability and country of training. The results showed that country of training was the most significant variable.

On the government side, in 1973 the Australian Population and Immigration Council (APIC), an advisory body to the Commonwealth government, commissioned a survey of 7,700 migrant family heads. The results showed that migrants from English-speaking countries (ESB) had a 60 percent success rate at recognition compared with 50 percent for people from NESB countries.

In 1981, the Commonwealth government announced an Inquiry into the issue and a two-volumed report was released in 1983. There was no quantification of the magnitude of the problem due to the lack of data. Another Commonwealth Inquiry report released in 1986, into Migrant and Multicultural Programs and Services, also highlighted the problem.

In 1988, the Committee to Advise on Australia's Immigration Policies (CAAIP) made little progress on the issue. Two further reports in 1988, the National Advisory Council on Multicultural Affairs Discussion Paper and a Policy Options Paper, commissioned from Iredale by the Office of Multicultural Affairs, spelled out the major problems: the lack of uniform national standards; restrictive practices by some bodies; and an emphasis on formal qualifications rather than competencies.

Also in December 1988, the National Population Council, an advisory council to the Minister for Immigration, Local Government and Ethnic Affairs, reported to the Minister for Immigration on the procedures and processes for recognizing overseas qualifications. A number of major recommendations regarding the reform of procedures were made.

At the state level, the NSW government instituted an Inquiry in 1988 and the report produced by the Committee in 1989 focused on the policies and practices of the state government itself. Efforts to quantify the magnitude of the problem were hampered by the lack of statistics.

In 1989, two other Commonwealth government-initiated research projects into the recognition of trade and professional qualifications were released. Both of these studies were largely qualitative and were based on small samples that were not randomly selected.

Wages Analysis

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. The methodological framework of these studies is generally consistent with that outlined in Appendix A, but important differ-

ences in approach and time periods make direct empirical comparisons difficult. This becomes apparent in the following discussion.

The first analysis 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 earnings discrimination against migrants. Haig found that migrants on average earned about 6 percent more than the 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 percent higher than they were if they had received the same returns to endowments as the Australian born.

Chapman and Miller (1983) also used the human capital approach to analyze data from the 1976 Census. While their focus was more on gender than on country of birth differences in earnings, part of their disaggregation allowed some insight into immigrant rates of return to education and experience.

A study by Stromback (1984) contained an examination of immigrants' earnings using the 1 in 100 sample of the 1981 Census. One of Stromback's main conclusions was that in an analysis in which marginal returns to education and experience were allowed to vary, 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 some schooling groups.

Chiswick and Miller's (1985) analysis using a sample from the 1981 Census 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, found similar results to much of the above. In particular, immigrants from ESB fare much the same as the Australian born, while other immigrants receive relatively low rewards for skills acquired overseas.

The above perspective is reinforced strongly in Beggs and Chapman (1988a). Their wage study, using the male 1 in 100 sample from the 1981 Census, showed that male immigrants with low levels of measured education received higher hourly income than do the (measured) equivalently qualified Australian born. But as immigrants' measured skills increase so does their wage position deteriorate relative to the apparently equivalently qualified Australia born.

In general, and interestingly, very similar results to those of Beggs and Chapman for Australia may be gleaned from the regression wage results from overseas research, although the point is not usually highlighted. As examples, Chiswick (1978), Borjas (1985) and Meng (1987) find for males respectively for 1970 and 1980 in the United States, and for Canada in 1984, that the rewards for overseas-acquired formal training are much lower than are the rewards for domestically-acquired training. Apparently, these relationships are not specific to a particular country or data set, implying strongly that something fundamental and systematic is driving the results.

EMPIRICAL ANALYSIS

The data set used in the analysis reported below was collected by AGB:McNair in 1988 for the Office of Multicultural Affairs (OMA) and is probably the best cross-sectional sample available in Australia for this type of work. 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.

Also, the data set has many controls not usually available. These include firm size, a variable which has been shown in both overseas (Oi, 1988) and Australian (Hatton and Chapman, 1989) studies to be an important wage determinant and, significantly, one likely to be correlated with regressors usually included in such estimations. Other important controls available are length of time in the current job, an identification of the type of postschool qualification held (and where it was obtained), measures of both spoken and written English language proficiency, and whether or not immigrants applied for and had their qualifications recognized. 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 and industry of employment. In short, the data are close to ideal for an exploration of immigrant returns to identified skill.

However, there are two possible shortcomings of the sample. One is that the survey oversampled immigrants from NESB to an extent that there are very few observations of immigrants from ESB. This is perhaps appropriate for our purposes if it is the case that nonrecognition of qualifications is a much more substantive issue for the former group.

A second concern is that the survey is necessarily cross-sectional, which has the following potential problem. Immigrants who have been in Australia for a relatively long time might be quite different from recent immigrants in terms of unobservable characteristics that influence wages, such as ability or motivation. Beggs and Chapman (1988b) have examined this issue

through cross-sectional and time series techniques applied to both the ANU 1973 Social Mobility Survey and the 1981 Census with an approach suggested first by Borjas (1985). They find that there are some biases apparent from the use of a cross-section and that they are more important for NESB immigrants. However, the most salient problem here arises with respect to the role in wage determination of period of residency, a point of limited concern for our purposes. Nevertheless, the issue could matter for interpretation of the results.

Four subsets of data were collected: a random sample of the Australian population, to allow comparative analysis; an immigrant second generation sample; a subset of NESB immigrants; and a sample of recently arrived (since 1982) immigrants who were predominantly from non-English-speaking background countries. The latter two groups were combined for the analysis, and estimations were done separately for males and females.

For male immigrants who were not new arrivals (230), the average age on years and the average month of arrival was August 1966. For immigrant males who were new arrivals (659), the average age on arrival was 29.2 years and the average month of arrival was September 1984.

For female immigrants who were not new arrivals (175), the average age on arrival was 22.5 years and the average month of arrival was January 1969. For the new arrival group of females (482), the average age at arrival was 29.35 years and the average month of arrival was January 1985.

Qualifications Recognition

For this analysis, the sample consisted of 900 people, 550 males and 350 females, who had overseas qualifications. They came from three strands of the survey: the random sample (16%), the sample of those born overseas in a NESB country (32%) and the recent arrivals sample (52%).

Questions concerning the level of highest qualification and the country of attainment of the highest qualification were both asked in the survey. There is some difficulty with the categories in the question regarding highest qualification as there was no provision for those who held technical qualifications to respond to this effect. Their qualifications would presumably fall within the category of diploma/certificate.

The profiles of these two factors for males and females are shown in Tables 1 and 2. On arrival in Australia, 10 percent of the total sample possessed higher degrees, 19 percent had degrees only, 35 percent had diplomas or certificates, 31 percent classed themselves as tradespeople, and 4 percent had some other form of postschool qualification.

The proportion of males with university degrees (graduate and postgraduate) was 29 percent compared with 33 percent for females. Women were

TABLE 1
MALES: LEVEL OF QUALIFICATION BY COUNTRY OF QUALIFICATION

	Country of Qualification								
Level of Qualification	English Speaking Countries	South Europe	Other Europe	SE Asia	Rest Asia	Latin America	Africa Oceania	Total No.	Total Percent
Higher Degree	14	3	13	1	21	2	2	56	10
Degree	12	2	15	9	50	5	9	102·	19
Diploma/Cert.	18	18	38	11	43	8	14	150	27
Trade	26	57	64	9	37	12	26	231	42
Other	1	0	0	4	6	0	0	11	2
Total	71	80	110	34	157	27	51	550	100

TABLE 2
FEMALES: LEVEL OF QUALIFICATION BY COUNTRY OF QUALIFICATION

	Country of Qualification								
Level of Qualification	English Speaking Countries	South Europe	Other Europe	SE Asia	Rest Asia	Latin America	Africa Oceania	Total No.	Total Percent
Higher Degree	10	1	9	0	19	0	3	42	12
Degree	6	2	6	4	47	3	4	72	21
Diploma/Cert.	25	12	32	8	57	6	22	162	46
Trade	3	8	15	1	15	1	4	47	13
Other	4	2	2	0	15	1	3	27	8
Total	48	25	64	13	153	11	36	350	100

also concentrated in the diploma/certificate category (46%) compared with men in this category (27%). On the other hand, 42 percent of men were in the trade category compared with 13 percent of women. In terms of the country of highest qualification, 13 percent were from English-speaking countries, 31 percent were from non-English-speaking countries in Europe, 40 percent were from Asia, 4 percent were from Latin America, and 10 percent were from Africa and Oceania. The analysis of the assessment of these qualifications is limited by the fact that only 352 (39%) replied "yes" to the question: "Have you applied to have your qualification assessed in Australia?" The rest said "no" or that "there was no need to apply." Part of the pattern of these responses is due to the nature of the question in that it only refers to a formal application for assessment.

On the other hand, the question which asked "who did you apply to?" covers both formal and informal assessors. The categories for responding

were: the Commonwealth government's former Council on Overseas Pro-
fessional Qualifications (COPQ); State Nurses' Registration Boards; the
Institute of Chartered Accountants; the Australia Society of Accountants; the
Department of Education; the Institution of Engineers; and "Other."

Also of interest is the question: "At what level was your overseas qualifi-
cation assessed?" Unfortunately, the categories in this question do not
correspond to the categories in the question on highest qualification on
arrival, so for the purposes of the analysis the range of outcomes has been
grouped to correspond with categories of qualifications on arrival. In the
case of postmigration assessment, however, "other" is a composite of "other"
qualifications and "not recognized."

The data show that 235 of the 550 males (43%) compared with 117 of the
350 females (33%) applied for assessment. Regression analysis of those who
applied for assessment versus those who did not shows that "country of
qualification" was the only significant variable. Other factors, such as the
level of qualification, the State/Territory of residence, and English profi-
ciency, were apparently not important.

For the "country of qualification" variable, males from English-speaking
countries were less likely to apply for assessment than males from Europe,
Asia, Latin America, Africa and Oceania. For women, the analysis showed
that those with a qualification from southern Europe had the highest
propensity to apply for assessment.

Tables 3 and 4 provide information by gender, related to the level of
highest qualification on arrival and the level at which the qualification has
been assessed after arrival. The range of outcomes, the rows in the table,
have been grouped to correspond with the level of qualifications on arrival,
but as mentioned above, "other" is a composite of "other qualifications" and
"not recognized." There is one very small additional category—"not re-
solved."

An example to illustrate the meaning of Table 3 is that whereas 21 and
47 males stated respectively that they had a higher degree or degree on
arrival, 10 and 26 respectively had received a postarrival assessment at these
levels. Whereas only four males stated that they had a qualification on
arrival in the "other" category, 79 were assessed as being in this category
after arrival.

The exercise was repeated for females, the sample being about half the
size of the male group. As indicated in Table 4, of the 20 women with a higher
degree on arrival, seven were assessed at this level after arrival and fifteen
out of the 35 who had a degree on arrival were assessed as such in Australia.

Regression analysis revealed that, with respect to country of highest
qualification of those who applied for recognition, males from Asia and

TABLE 3
MALES: LEVEL OF QUALIFICATION ON ARRIVAL
BY LEVEL AT WHICH ASSESSED AFTER ARRIVAL

Level of Assessment in Australia	Level of Qualification on Arrival					
	Higher Degree	Degree	Dip/Cert.	Trade	Other	Total
Higher Degree	10	0	0	0	0	10
Degree	8	26	0	0	0	34
Diploma/Cert.	2	3	36	0	0	41
Trade	0	0	0	65	0	65
Other	0	11	24	32	4	79
Not Resolved	1	7	1	5	0	14
Total	21	47	61	102	4	235

TABLE 4
FEMALES: LEVEL OF QUALIFICATION ON ARRIVAL
BY LEVEL AT WHICH ASSESSED AFTER ARRIVAL

Level of Assessment in Australia	Level of Qualification on Arrival					
	Higher Degree	Degree	Dip/Cert.	Trade	Other	Total
Higher Degree	7	0	0	0	0	7
Degree	11	15	0	0	0	26
Diploma/Cert.	1	2	32	0	0	35
Trade	0	0	0	4	0	4
Not Resolved	1	3	7	0	0	11
Total	20	34	50	8	5	117

Africa had a much higher chance of receiving a lower assessment than those from other areas. For females, those from Asia and Latin America similarly had the greatest likelihood of having a lower assessment. The results with respect to other variables, such as state of residence, level of English proficiency, and level of qualification, were not statistically significant. The data suggest that people who applied for assessment were less likely to get an assessment of equivalence if they were from a NESB country. While the differences in probabilities were not easy to gauge, as the data set is too small, the pattern is similar to the results reported in Iredale (1987).

The lower success rate for women compared with men from NESB country is possibly due to their concentration in female professional/para-professional areas where discriminatory practices have long been thought to be evident: of the 98 women from a NESB country who had applied for

assessment, 53 had applied to Nurses Registration Boards and Common-wealth and State Departments of Education. Examination of the practices of these bodies showed a distinct preference for applicants from ESB.

The relationship between the assessment of overseas qualifications and employment is not always simple: 551 (61%) of the sample said that they had applied for a job using their overseas qualifications and 397 (72%) claimed that they had acquired a job using their qualification. That is, of the total sample of 900, 44 percent said that they were appropriately employed compared with 39 percent who said that they had applied for formal assessment and 21 percent who said that they had gained an equivalent assessment.

The difference in figures is due to the fact that the assessment process and the employment process are not always linked. In some instances, for example, teaching, nursing and medicine, formal assessment and employ-ment are sequential, the former being essential for appropriate employ-ment. In many occupations, however, assessment is by informal means (for example, by employers in physical sciences) or is inconsequential in its effect on employment (for example, where Commonwealth government assess-ment is sought by an individual but not required by an employer, such as a university). In these instances, recognition is not an important issue: em-ployment is based on English language proficiency, higher degrees and work experience.

Wage Outcomes

The data have been used to address two questions related to the conse-quences of possible nonrecognition of overseas qualifications: first, to test whether in an aggregated sense it is the case that general measures of formal skills obtained overseas receive lower returns than those obtained in Aus-tralia and, second, to determine which if any types of qualifications received overseas are associated with relatively low wage increments.

The sample used for the analysis was of wage and salary earners only: the unemployed, self-employed and those not in the labor force being excluded. There were two subgroups: one consisted of 606 male immigrants from NESB and 329 female immigrants from NESB, with the number of immi-grants from ESB being too small to analyze. The other subgroup consisted of Australian born, there being 461 males and 271 females.

The main variables used in the wage estimations and their symbols are shown in Table 5.

Table 6 contains the results of the analysis for males and females and Australian born and overseas born.

TABLE 6
WAGE ANALYSIS: STATISTICAL CHARACTERISTICS OF THE DATA
(Means, Standard Deviations in Parentheses
for Continuous Variables)

Variables	Australian born				Immigrant			
	Males		Females		Males		Females	
AGE (years)	40.42	(11.21)	40.86	(10.75)	44.99	(10.97)	42.45	(9.85)
WAGE ($hour)	11.58	(4.89)	10.93	(7.16)	11.13	(5.38)	9.48	(4.62)
AYOS (years)	12.32	(1.98)	12.44	(2.02)	7.46	(4.45)	7.77	(4.59)
OYOS (years)					9.69	(4.77)	9.49	(4.45)
AQ1 (percent)	4.77		5.66		9.80		2.13	
AQ2 (percent)	10.63		11.05		3.14		5.17	
AQ3 (percent)	11.50		19.68		8.09		9.12	
AQ4 (percent)	24.95		2.97		9.08		1.52	
OQ1 (percent)					3.80		5.47	
OQ2 (percent)					8.25		7.90	
OQ3 (percent)					10.07		17.93	
OQ4 (percent)					19.64		3.65	
EXP1 (years)	16.12	(10.75)	14.03	(10.33)	15.12	(11.20)	18.51	(10.51)
TEN1 (years)	7.42	(7.96)	4.11	(4.93)	5.06	(6.56)	3.13	(4.80)
UNION (percent)	53.80		37.73		50.83		41.95	
MAR2 (percent)	64.64		56.07		73.27		76.60	
MAR3 (percent)	5.21		9.16		6.11		5.47	
LANG2 (percent)					17.33		15.81	
LANG3 (percent)					11.88		7.60	
WLANG2 (percent)					14.19		7.29	
WLANG3 (percent)					17.99		14.89	
FS1 (percent)	40.34		46.37		31.68		39.52	
FS2 (percent)	13.67		16.71		14.86		13.37	
FS3 (percent)	12.36		10.78		12.54		9.73	
FS4 (percent)	15.84		15.09		20.13		20.97	
FS5 (percent)	17.79		11.05		20.79		16.41	
No. of observations	461		371		606		329	

There are no surprises in these data. Other Australian cross-sections reveal very similar characteristics, from both census and small random samples. Of course, there are no comparable data available with respect to overseas qualifications, but the consistency of the sample with others in terms of the distribution and size of equivalent variables implies that some confidence can be placed in both the analysis and generalization of results to the population as a whole.

The data were also used in various specifications of the wage equation. Estimation was undertaken for three separate groups: the Australian born; immigrants from NESB countries with some Australian formal skills; and immigrants from NESB countries with no additional Australian formal skills. The wage regression results are reported in Appendix B.

The results reveal that for the Australian born: single men earned 6–7 percent less per hour than married or de facto persons and 10–16 percent less than widowed, divorced or separated men, although the statistical significance of the differences is marginal; men in very large firms earned about 18 percent per hour more than men in small firms; there are no significant differences in wages for women as a consequence of marital status; and there are some indications that women who were members of trade unions and who were employed in very large firms received wage increments. These results are not controversial, although in some cases they are worthy of closer investigation. The important question of returns to skills and experience are explored following the presentation of the immigrant wage estimation·results.

For immigrants the results suggest that married or de facto males earn around 10–12 percent more than others, and that there are no substantial differences in this outcome between men formally educated entirely overseas and those with some Australian skills/schooling. As well, having poor written or spoken English has some deleterious consequences for wages for both groups, but the statistical significance of the coefficients is not great. Important differences do exist, however, with respect to wage returns to qualifications, which is examined in the ensuing analysis.

The wage results for immigrant females suggest that both those without and those with Australian qualifications and schooling do not receive significant increments associated with marital status or union membership. Taking the coefficients literally, there is some evidence of wage disadvantages for both groups from written and spoken English language inadequacies, but the statistical significance of coefficients is small. Returns to schooling, qualifications and labor market experience differ substantially, however, as is found for immigrant males. This is an important finding examined below.

The estimations were subjected to diagnostic tests for both heteroskedasticity and functional form, the results of which are reported in Chapman and Iredale (1990). In general the models are statistically healthy, a common finding for wage equations estimated with a large number of observations. There are two separate but related points arising from the regression results. They concern the aggregative relative wage outcomes of immigrants and, of more relevance to the subject of the recognition of overseas qualifications, the wage returns to skills obtained overseas. The first of these can be explored usefully through the presentation of interpretative data derived from the wage estimations. Table 7 allows insights into the overall aggregative relative wage returns to particular variables of interest derived from the regressions. These data should be interpreted as the wage increase in percentage terms from a one year change in the continuous variables (for example, from an additional year of schooling) or a one unit change in the dummy variables (for example, being a member of a trade union compared to not being a member of a trade union).

As an example of the meaning of the Table 7 data, note that they suggest that for Australian-born males an additional year of education or formal skill formation is associated with between 7.21 and 7.81 percent higher wages. For male immigrants with no Australian formal skills, an additional year of overseas education or formal skill formation is associated with between only 0.51 and 1.73 percent higher wages. This is a pertinent example because it highlights the major and obvious differences between the labor market outcomes of the Australia born and immigrants. Furthermore, it is clear that both male and female immigrants with some Australian formal skills have labor market outcomes that are more similar to those of the Australiaborn than they are to immigrants with no Australian formal skills.

TABLE 7
PERCENTAGE INCREASE IN HOURLY WAGE
FROM A CHANGE IN INDIVIDUAL CHARACTERISTICS

Variable	Australian Born		Immigrants: With No Australian Formal Skills		Immigrants: With Australian Formal Skills	
	Males	Females	Males	Females	Males	Females
OYOS			1.73	3.39	5.91	5.12
OYOSX			0.51	0.30	5.34	2.98
AYOS	7.81	7.00	7.27	7.42		
AYOSX	7.21	2.82				
EXP*	2.04	1.75	1.85	-0.80	1.97	0.94
TEN*	-0.94	0.74	1.00	0.25	0.26	2.57
UNION	0.35	6.62	-10.90	4.04	-5.74	-7.28

Note: * Both calculated at 10 years experience and tenure.

The essence of the aggregative relationships is presented diagrammatically in Figures I and II. The illustrations are age-earnings profiles for hypothetical individuals differing in two-year lots of formal skill acquisition, from ten years through to sixteen years of education and training. They have been constructed assuming that individuals have the average characteristics of the independent variables of their respective samples.

Figures I and II reveal for both males and females information that is available, but not highlighted in the regression results. They suggest clearly that for hypothetical individuals, defined close to the sample means in all variables not illustrated, immigrants with no Australia formal skills receive very low increments to total years of schooling (defined to include equivalent years of qualifications). In essence, immigrants of this type are apparently treated very homogeneously in the Australian labor market.

However, given the acquisition of some Australian formal skills, immigrant wage outcomes differ more from each other. This reflects what is clear from the interpretative estimates of Table 7: immigrants receive much larger wage returns from Australian than overseas qualifications. The illustrations for the Australian born also reflect aspects of this phenomenon in that this group is treated with relatively great discernment with respect to return to skills.
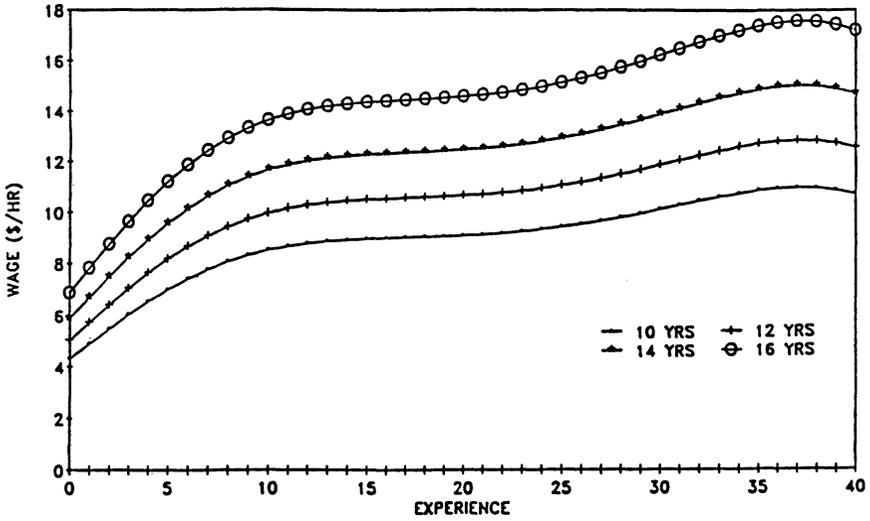
The regression results and figures can be interpreted as being directly consistent with the analysis of Beggs and Chapman (1988a) and indirectly consistent with a myriad of other studies (e.g., Chiswick and Miller, 1985 and Wooden and Robertson, 1989). That is, as immigrants' total level of schooling increases it is apparently the case that, relative to the Australian born, their labor market position deteriorates systematically. The advantages of the current study are: 1) the confirmation of this story with both better wage data for males and for females; and, 2) the identification of the very important role played by whether or not qualifications were received overseas or in Australia.

The second, and for our purposes major, set of results from the regression analysis concerns the direct estimates of returns to qualifications. Table 8 presents calculations of these returns for each of the groups.

In part because of the lack of statistical significance of the coefficients on many of the overseas-obtained qualifications, the results need to be treated with caution. But several points stand out and are as follows. In general, immigrants receive very low returns to overseas qualifications. As examples of this, and to assist in the interpretation of the data of Table 8, male immigrants with no formal Australian training received wage increments respectively for a higher degree, degree, certificate or diploma, or trade qualification of the order 9, 28, 10 and 5 percent. However, for Australian-

FIGURE I
MALE WAGE-EXPERIENCE PROFILES BY YEARS OF FORMAL TRAINING

1a. Australian Born

1b. Immigrants with Some Australian Formal Training

FIGURE I (Continued)

1c. Immigrants with No Australian Formal Training

FIGURE II

FEMALE WAGE-EXPERIENCE PROFILES BY YEARS OF FORMAL TRAINING

2a. Australian Born

FIGURE II (Continued)

2b. Immigrants with Some Australian Formal Training

2c. Immigrants with No Australian Formal Training

INTERNATIONAL MIGRATION REVIEW

TABLE 8
PERCENTAGE INCREASE IN HOURLY WAGES
ASSOCIATED WITH POSSESSING QUALIFICATIONS

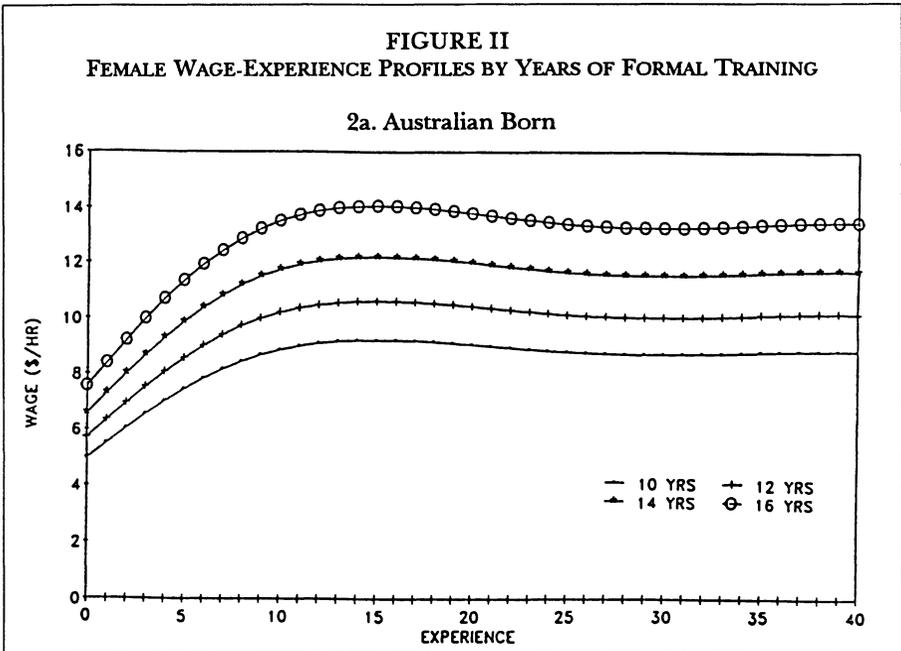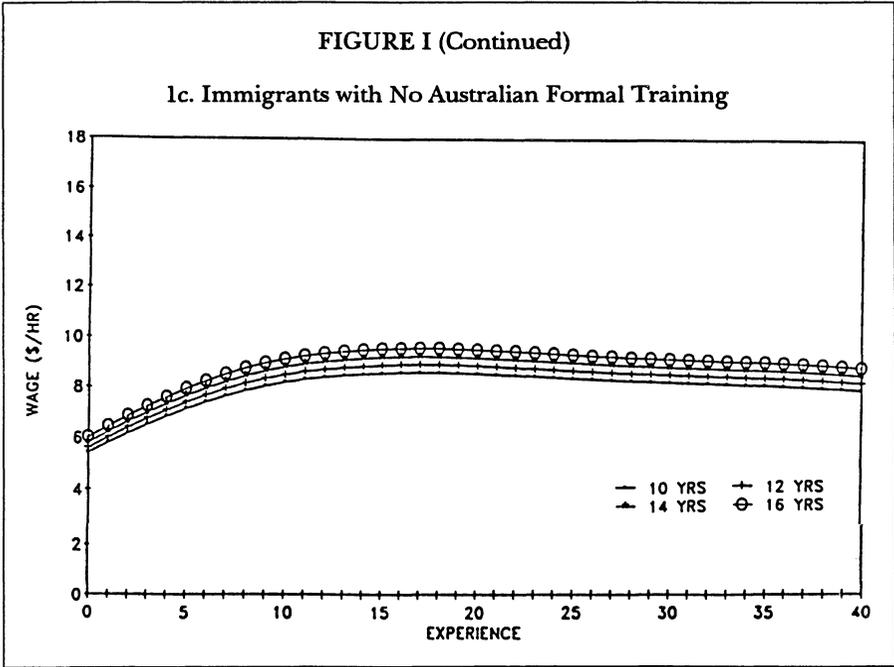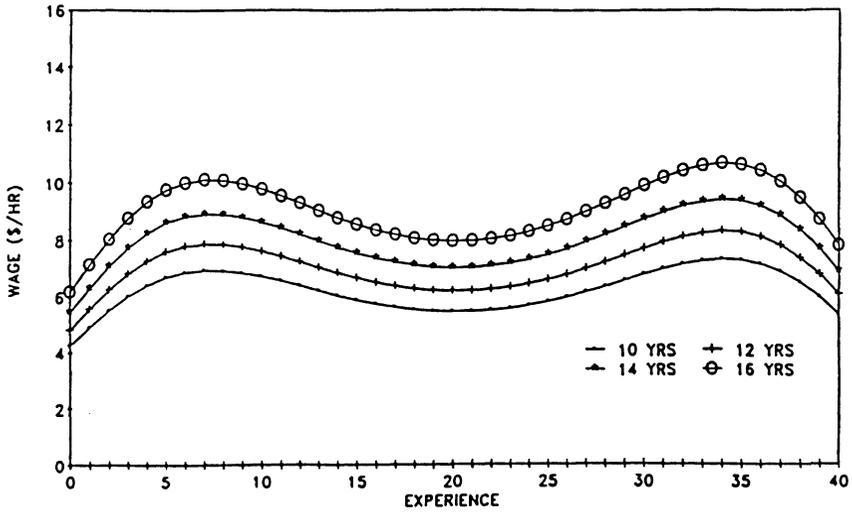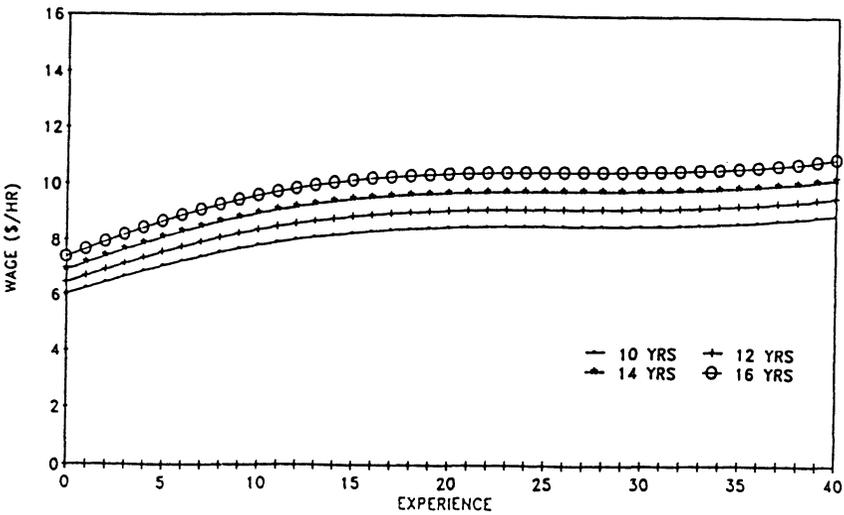| Variable	Australian Born		Immigrants: With No Australian Formal Skills		Immigrants: With Australian Formal Skills	
	Males	Females	Males	Females	Males	Females
AQ1	31.6	47.1			52.9	42.8
AQ2	35.8	32.2			51.5	31.2
AQ3	22.0	11.6			15.8	22.2
AQ4	11.2	13.7			12.1	43.1
OQ1			8.7	37.2	-3.8	33.0
OQ2			27.9	28.3	12.1	-16.0
OQ3			9.6	25.0	3.7	-0.02
OQ4			5.0	-1.6	3.7	-0.02

born males the respective percentages are 32, 36, 22 and 11. This pattern is replicated for females, but, interestingly, there are no obvious dissimilarities in returns to Australian qualifications between immigrants and the Australian born.

The essence of the findings is that overseas qualifications per se are paid markedly less than Australian qualifications, irrespective of who holds the latter. The percentage wage differences are most obvious for males who received all of their education overseas: higher degrees (around 23 percentage points), certificates and diplomas (around 12 percentage points) and trade qualifications (around 6 percentage points). For similarly educated females, the biggest differences are in higher degrees (around 10 percentage points) and trade qualifications (around 14 percentage points). Immigrant females with certificates or diplomas apparently fare relatively well.

It is important to stress that in several cases highlighted there is a marked lack of statistical precision. In general this applies to coefficients on overseas qualifications—particularly for males—which tend not to be statistically significant from zero. If anything, this probably implies an understatement in the differences reported between returns to overseas and Australian qualifications.

The above analysis can be summarized in two broad statements. First, as implied by almost all other analyses related to immigrant wages, it is apparently the case that, relative to the Australian born and immigrants with some Australian formal qualifications, those with overseas qualifications are treated more homogeneously in the Australian labor market. It is

almost as if Australian employers see NESB immigrants as having the same skills, irrespective of whether they have formal qualifications acquired in their country of birth.

Second, there is no obvious case to be made with respect to overall discrimination against immigrants. The data support the proposition that formal skills acquired overseas are not accorded the same status in Australia by employers and accredited authorities, but they do not suggest that immigrants as a total group are disadvantaged. For example, low-skill immigrants receive relatively high wages. The issue seems to be one of a lack of discernment by employers between immigrants with respect to formal overseas skills, and not one of employers systematically disadvantaging the overseas born.

CONCLUSION

The question of what constitutes appropriate accreditation of immigrant skills is fundamental to Australian immigration policy. If employers, through ignorance or prejudice, do not adequately recognize overseas formal training, it is likely to be the case that an important part of the labor force is not being properly utilized. This has implications for both labor market efficiency and income distribution.

Through the use of an unusual data set, we have been able to explore more fully than previously questions related to the recognition of overseas-obtained qualifications. One question of interest addressed directly is whether or not those immigrants who choose to subject their qualifications to direct recognition achieve this. Apparently, of the 39 percent of those in the sample with overseas qualifications who operated in this way, 43 percent did not achieve formal recognition at the level applied for. For that group, hourly wages were around 15–30 percent lower for males, but there are no significant wage implications in the analogous circumstances for females.

However, most of the sample did not go through the process of formal accreditation, presumably because they believed it to be either an unnecessary or fruitless exercise. This could be because they perceived the chance of recognition to be very high or very low: it follows that unambiguous interpretation of these particular data is not possible. Consequently, greater weight has been given to direct analysis of wage outcomes with respect to overseas qualifications. The following conclusions are apparent.

First, immigrants with no formal Australian training are treated very similarly to each other in the Australian labor market. It does not seem to matter if an immigrant from a NESB country has a Ph.D or has dropped out of high school. The wage outcomes are close to identical, a result implied indirectly by the other Australian literature.

Second, once immigrants have some additional formal Australian skills, it is apparently the case that recognition is accorded to that. In other words, NESB immigrants are treated with much greater discernment once they have local qualifications. It is still the case for this group that their overseas skills receive relatively low returns.

Third, and a concomitant point from the above, is that the wage outcomes for Australian born, for both males and females, suggest considerably greater rewards are given to their formal qualifications compared to those accruing to overseas qualifications. Apparently, these individuals are seen to be quite diverse in terms of training by Australian employers. While sample sizes were too small to derive strong conclusions with respect to specific overseas qualifications, some indications on overall valuation are worth noting. One is that Australian higher and bachelor's degrees are seen to be much more valuable than degrees obtained overseas, perhaps to the order of 10–20 percent. A second is that Australian trade qualifications for both males and females seem to be more highly regarded than overseas (possibly equivalent) qualifications, possibly to the extent of 5–10 percent.

There are several possible explanations for the results, which are as follows. An obvious one is that—through ignorance—Australian employers treat NESB immigrants similarly, implying that because domestic (and risk-averse) employers know very little about overseas skill acquisition processes, they treat them as being unimportant. When seeking out a skilled worker, employers may simply find it easier to go for a domestically trained person or for one with local experience.

A second conjecture is that there is a correlation between country-specific skills and the level of formal qualification, such that the greater is the skill acquired, the less transferable it is internationally. This may apply in some professions, for example law, but it is difficult to understand this in relation to the trades.

Third is the possibility of high relative domestic training quality. 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: that is, the training input is relatively low in the country of origin. Such a perspective suggests that there are no policy implications with respect to qualifications recognition from our findings.

Finally, domestic Australian groups may be operating to protect them-selves from (labor 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 dissemina-tion by special interest groups undervaluing the benefits of overseas train-ing. This perspective is often given weight in the conclusions of many

government reports.

From the data presented it is not possible to determine the relative contribution of each of the above. What is clear is that NESB immigrants receive relatively low wage benefits from the possession of overseas qualifications. This is both consistent with the indirect evidence and constitutes a significant case for policy attention to the issue, since it may imply that some Australian groups with monopoly power are receiving significant rents at the expense of relatively powerless and potentially undervalued immigrants. The current *Study of Professions* by the Trade Practices Commission will begin to address this issue from a national perspective. Consequences of what is occurring might be that the efficiency of labor market adjustment processes and economic growth potential are being compromised, but the confidence with which this view is held should be conditioned by the complexities inherent in interpretation of the data.

APPENDIX A

The estimating equation is derived as follows:

$$E_t = E_{t-1} + C_{t-1} \tag{1}$$

where E_t is gross earnings in period t, C_{t-1} is the dollar amount of net investment 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:

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

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

$$\varphi nE_t = \varphi nE_0 = + r \sum_{i=0}^{t-1} k_i \tag{3}$$

Analyzing schooling and postschool experiences, we can separate the k terms giving

$$\varphi nE_t = \varphi nE_0 = r \sum_{i=0}^{s-1} k_i + r \sum_{j=s}^{t-1} k_j \tag{4}$$

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

APPENDIX A (Continued)

Assuming $k = 1$,[*]

$$\varphi \, nE_t = \varphi \, nE_0 + rs + r \sum_{j=s}^{t-1} k_j \tag{5}$$

Since postschooling 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:

$$\varphi \, nW_i = a + bS_i + cGEXP_i + dGEXP^2_i + eZ_i + \varepsilon \tag{6}$$

where, for the individual i, φnW is the logarithm of hourly wage, S is years of schooling, $GEXP$ is length of time in the labor force, Z is a vector of other wage detemining variables, and ε is a randomly distributed error term.

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

APPENDIX B1
WAGE REGRESSION RESULTS: AUSTRALIAN BORN
(Dependent Variable is Log of Hourly Wages)

	Australian-born Males			Australian-born Females		
Variable	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Constant	0.550	0.237	0.300	0.0679	-0.000638	0.530
	(4.09)	(1.44)	(1.29)	(4.05)	(0.0024)	(1.41)
AYOS	0.0798	0.0781		0.0863	0.0700	
	(8.72)	(8.23)		(7.18)	(5.64)	
AYOSX			0.0721			0.0282
			(3.90)			(1.02)
AQ1			0.316			0.471
			(3.60)			(4.50)
AQ2			0.358			0.322
			(6.02)			(4.12)
AQ3			0.220			0.116
			(3.98)			(1.84)
AQ4			0.112			0.137
			(2.77)			(1.07)
EXP1	0.150	0.139	0.136	0.104	0.112	0.0959
	(5.95)	(5.65)	(5.54)	(3.72)	(4.10)	(3.47)
EXP2(x10)	-0.105	0.0971	0.0948	0.0618	0.0708	0.0568
	(4.52)	(4.27)	(4.19)	(2.29)	(2.66)	(2.12)
EXP3(x100)	0.0314	0.0293	0.0285	0.0154	0.0180	0.0135
	(3.90)	(3.71)	(3.64)	(1.59)	(1.87)	(1.40)
EXP4(x1000)	0.00325	-0.00306	0.00298	0.00140	-0.00161	-0.000113
	(3.55)	(3.43)	(3.35)	(1.22)	(1.42)	(1.00)
TEN1	-0.00545	-0.00702	-0.00664	0.00123	0.000749	-0.0000361
	(0.92)	(1.20)	(1.14)	(0.10)	(0.066)	(0.0032)
TEN2	0.000273	0.000291	0.000286	0.000467	0.000383	0.000371
	(1.36)	(1.48)	(1.45)	(0.79)	(0.67)	(0.65)
MAR2	0.0606	0.0642	0.0677	-0.0263	-0.0134	-0.00529
	(1.30)	(1.41)	(1.50)	(0.4)	(0.23)	(0.91)
MAR3	0.167	0.147	-0.111	-0.0245	0.0126	-0.00387
	(1.92)	(1.72)	(1.30)	(0.26)	(0.14)	(0.043)
UNION	0.0261	-0.00278	0.00349	0.0644	0.0643	0.0662
	(0.71)	(0.075)	(0.095)	(1.27)	(1.30)	(1.33)
FS2	0.0717	0.0657	0.0653	0.00579	-0.00862	-0.00872
	(1.32)	(1.24)	(1.24)	(0.088)	(0.13)	(0.13)
FS3	0.0780	0.0840	0.0957	-0.0612	-0.0621	-0.0924
	(1.39)	(1.54)	(1.76)	(0.78)	(0.81)	(1.19)
FS4	0.179	0.183	0.178	-0.0971	-0.0834	-0.888
	(3.53)	(3.59)	(3.51)	(1.43)	(1.22)	(1.30)
FS5	0.182	0.166	0.171	0.125	0.122	0.119
	(3.66)	(3.27)	(3.39)	(1.61)	(1.60)	(1.54)
INDUSTRY		a	a		a	a
R^2	.355	.398	.408	.237	.314	.319

Note: [a] Industry dummies were included in these estimations. The results are robust to these controls.

APPENDIX B2
OLS WAGE REGRESSION RESULTS: IMMIGRANT MALES[a]
(Absolute T-Statistics in Parentheses)

Variable	No Australian Formal Skills		With Australian Formal Skills	
	(i)	(ii)	(iii)	(iv)
Constant	1.418	1.536	-0.171	-0.0686
	(5.07)	(5.41)	(0.34)	(0.13)
OYOS	0.0173		0.0591	
	(2.98)		(3.79)	
OYOSX		0.00514		0.0534
		(0.47)		(1.88)
AYOS			0.0727	
			(4.19)	
AYOSX				0.0599
				(2.19)
OQ1		0.0858		-0.0375
		(0.92)		(1.17)
OQ2		0.279		0.121
		(3.79)		(0.72)
OQ3		0.0964		0.0796
		(1.41)		(0.52)
OQ4		0.0501		0.0372
		(0.95)		(0.30)
AQ1				0.529
				(2.99)
AQ2				0.515
				(3.83)
AQ3				0.158
				(1.65)
AQ4				0.121
				(1.35)
EXP1	0.0766	0.0714	0.0990	0.0989
	(1.94)	(1.82)	(1.86)	(1.81)
EXP2(x10)	-0.0436	-0.0409	-0.0614	-0.0580
	(1.57)	(1.48)	(1.41)	(1.30)
EXP3(x100)	0.0103	0.00973	0.0154	0.0138
	(1.33)	(1.27)	(1.11)	(0.98)
EXP4(x1000)	-0.0000883	-0.0000848	-0.00121	-0.00114
	(1.21)	(1.17)	(0.90)	(0.77)
TEN1	0.0220	0.0229	0.0127	0.0132
	(2.38)	(2.47)	(0.89)	(0.89)
TEN2	-0.000615	-0.000645	-0.000508	-0.000531
	(1.69)	(1.78)	(0.88)	(0.89)
LANG2	-0.0195	-0.0357	0.206	0.268
	(0.30)	(0.56)	(0.78)	(0.99)
LANG3	-0.0394	0.00245	0.304	0.342
	(0.50)	(0.031)	(0.91)	(1.00)
WLANG2	-0.0273	0.00540	-0.212	-0.264
	(0.41)	(0.082)	(0.79)	(0.90)
WLANG3	-0.0851	-0.0776	-0.588	-0.645
	(1.16)	(1.06)	(1.86)	(1.99)
UNION	-0.109	-0.0946	-0.0574	-0.0585
	(2.37)	(2.06)	(0.81)	(0.79)
MAR2	0.123	0.129	0.156	0.131
	(1.92)	(2.04)	(1.59)	(1.32)
MAR3	0.0305	0.0253	0.227	0.214
	(0.30)	(0.25)	(1.48)	(1.37)
R^2	0.170	0.186	0.226	0.227
No. of Observations	398	398	208	208

APPENDIX B3
OLS WAGE REGRESSION RESULTS: IMMIGRANT FEMALES[a]
(Absolute T-Statistics in Parentheses)

Variable	No Australian Formal Skills		With Australian Formal Skills	
	(i)	(ii)	(iii)	(iv)
Constant	0.815	1.005	0.549	0.871
	(2.56)	(3.14)	(1.08)	(1.25)
OYOS	0.0339		0.0512	
	(2.75)		(1.99)	
OYOSX		0.00299		0.0298
		(0.20)		(0.59)
AYOS			0.0742	
			(2.65)	
AYOSX				0.0532
				(1.08)
OQ1		0.372		0.323
		(3.11)		(0.74)
OQ2		0.283		-0.160
		(2.73)		(0.56)
OQ3		0.250		0.166
		(3.56)		(0.58)
OQ4		-0.0161		-0.000195
		(0.12)		(0.0012)
AQ1				0.428
				(1.52)
AQ2				0.312
				(1.61)
AQ3				0.222
				(1.46)
AQ4				0.431
				(0.99)
EXP1	0.0392	0.0598	0.165	0.172
	(0.84)	(1.30)	(1.83)	(1.77)
EXP2/(x10)	-0.0153	-0.0333	0.0178	-0.188
	(0.45)	(0.99)	(2.00)	(1.45)
EXP3/(x100)	0.0214	0.0779	0.0674	0.0724
	(0.23)	(0.83)	(2.04)	(2.01)
EXP4/(x1000)	-0.000379	-0.00616	-0.00820	-0.00891
	(0.043)	(0.70)	(2.04)	(2.03)
TEN1	-0.00130	0.00467	-0.00705	-0.0225
	(0.10)	(0.36)	(0.15)	(0.43)
TEN2	0.000120	-0.000107	0.00183	0.00241
	(0.25)	(0.22)	(0.41)	(0.62)
LANG2	-0.126	-0.100	-0.179	-0.109
	(1.31)	(1.06)	(0.52)	(0.26)
LANG3	-0.213	-0.196	-0.552	-0.824
	(1.70)	(1.60)	(0.57)	(0.77)
WLANG2	-0.0823	-0.0359	0.134	0.207
	(0.68)	(0.30)	(0.32)	(0.40)
WLANG3	0.0288	0.0127		
	(0.26)	(0.11)		
UNION	0.0237	0.0404	-0.0650	-0.0728
	(0.39)	(0.67)	(0.52)	(0.55)
MAR2	-0.00892	-0.00601	0.183	
	(0.10)	(0.70)	(1.17)	
MAR3	-0.143	-0.144	0.337	
	(1.01)	(1.03)	(1.19)	
R^2	0.188	0.152	0.0649	0.0110
No. of Observations	214	214	115	115

REFERENCES

Beggs, J. J. and B. J. Chapman
1988a "The International Transferable of Human Capital: Immigrant Labour Market Out-
       comes in Australia." In *The Economics of Immigration*. Edited by L. Baker and P. W. Miller.
       Canberra: AGPS.

———
1988b "Immigrant Wage Adjustment in Australia: Cross Section and Time Series Estimates,"
       The Economic Record, 64:161–168.

Borjas, G. J.
1985 "Assimilation, Changes in Cohort Quality, and the Earnings of Immigrants," *Journal of
       Labor Economics*, 3:463–489.

Castles, S., *et al.*
1989 *The Recognition of Overseas Trade Qualifications*. Centre for Multicultural Studies, Uni-
       versity of Wollongong with the assistance of the Bureau of Immigration Research.
       Canberra: AGPS.

———
1988 *Recognition of Overseas Qualifications and Skills*. National Population Council Working
       Party Report. Canberra: AGPS.

Chapman, B. J.
1985 "Australian Women and Wages." In *Australian Women in the Labour Force*. BLMR
       monograph. Canberra: AGPS.

Chapman, B. J. and R. R. Iredale
1990 *Immigrant Qualifications: Recognition and Relative Wage Outcomes*. Department of Prime-
       Minister and Cabinet. Canberra: AGPS.

Chapman, B. J. and P. W. Miller
1983 "Earnings Determination in Australia: An Analysis of the 1976 Census." In *Australian
       and Japanese Labour Markets: A Comparitive Study*. Edited by K. Hancock *et al*. Canberra:
       Australia-Japan Research Centre.

Chapman, B. J., D. Pope and G. Withers
1985 "Immigration and the Labour Market." In *The Economics of Australian Immigration*.
       Edited by N. R. Normal and K. Meikle. Melbourne: Council for the Economic Develop-
       ment of Australia.

———
1985 "An Appraisal of Immigrants' Labour Market Performance in Australia." In *Culture and
       Life Possibilities: Australia in Transition*. Edited by M. E. Poole *et al*. Sydney: Harcourt
       Brace Jovanovich.

Chiswick, B. R.
1978 "The Effect of Americanization on the Earnings of Foreign-Born Men," *Journal of
       Political Economy*, 86:897–921.

Chiswick, B. R. and P. W. Miller
1985 "Immigrant Generation and Income in Australia," *The Economic Record*, 61(173):540–
       553.

Committee of Inquiry into Recognition of Overseas Qualifications (Fry Committee)
1982 *The Recognition of Overseas Qualifications in Australia*. Vols. 1 and 2. Canberra: AGPS.

Committee for Stage 1 in the Review of Migrant and Multicultural Programs and Services (Jupp Committee)
1986 *Don't Settle for Less*. Canberra: AGPOS.

Evans, M. and J. Kelley
1986 "Immigrant's Work: Equality and Discrimination in the Australian Labour Market," *The Australian and New Zealand Journal of Sociology*, 22:187–207. July.

Haig, B. D.
1980 Earnings of Migrants in Australia," *Journal of Industrial Relations*, 22(3):354–274.

Hatton, T. J. and B. J. Chapman
1989 "Apprenticeship and Technical Training." In *Australia's Greatest Asset*. Edited by D. Pope and L. J. Alston. Sydney: Federation Press.

Iredale, R. R.
1987 Wasted Skills: Barriers to Migrant Entry to Occupations in Australia. Ethnic Affairs of NSW, NSW Government Printer.

Kunz, E. F.
1975 *The Intruders: Refugee Doctors in Australia*. Canberra: Australian National University Press.

Martin, J.
1965 *Refugee Settlers*. Kingsgrove, New South Wales: Halstead Press.

Meng, R.
1987 "The Earnings of Canadian Immigrant and Native-born Males," *Applied Economics*, 19(3):1107–1119.

Mitchell, C., *et al.*
1989 *The Recognition of Overseas Professional Qualifications*. Wollongong, New South Wales: Centre for Multicultural Studies.

National Advisory Council on Multicultural Affairs
1988 *Towards a National Agenda for Multicultural Australia*. Discussion Paper. Department of Prime Minister and Cabinet. Canberra: AGPS.

National Population Council
1988 *Recognition of Overseas Qualifications and Skills*. Report by a Working Party. Canberra.

New South Wales Committee of Inquiry (Fry Committee)
1989 *Recognition of Overseas Qualifications*. Sydney: NSW Government Printer.

Oi, W.
1988 "Are Workers Overpaid by Big Firms?" *Australian Journal of Management*, 13(2):203–222.

Salter, M. J.
1978 *Studies in the Immigration of the Highly Skilled*. Immigrants in Australia Series. No. 7. Canberra: Australian National University Press.

Stromback, T.
1984 "The Earnings of Migrants in Australia," Bureau of Labour Market Research Paper No. 46. Canberra.

Tran-Nam and J. W. Nevile
1988 "The Effects of Birthplace on Male Earnings in Australia," *Australian Economic Papers*, 27(50):83-101.

Wooden, M. and F. Robertson
1989 "Migrant Labour Market Outcomes in Australia," . Adelaide: Flinders University.