ETHNIC DISPARITIES IN SOCIAL AND ECONOMIC WELLBEING AMONG THE IMMIGRANT AGED

by

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Introduction

As in many industrialised countries, Australia's population is ageing. The proportion of the population aged 65 and over will increase from 11% in 1987 to 15% in 2011 and to 22% in twenty years' time. Like the United States of America, Australia is also a country of immigration, and its immigrant population has an older age structure than the Australian-born population. In 2006, 19% of the overseas-born population were aged 65 and over compared with 11% of the Australian-born population. Because of the different waves of immigration during the second half of the last century, some immigrant groups also have relatively high proportions in the older age groups. The 1950s and 1960s were years of high immigration from Southern and Eastern Europe. A large proportion of immigrants from these countries are now aged over 65. For example, 52% of Australian residents born in Italy were aged 65 and over in 2006; as were 45% of those born in Greece, 51% of those born in Hungary and 37% of those born in Poland. With the end of the 'White Australia' policy in the early 1970s, Australia began receiving immigrants from non-European countries, particularly from Asia. Among these more recently arrived immigrants, the proportion in the older age groups is much lower, but the number of older people in some of the larger immigrant communities is still large. Examples are immigrants from China where over 25,000 are aged 65 and over in 2006 (although they form just 12% of the total birthplace group), immigrants from India with nearly 15,000 aged 65 and over (10% of the total birthplace group), and immigrants from Vietnam with over 11,000 (7% of the birthplace group). There is consequently increasing interest in the ethnic aged and their social and economic wellbeing.

The paper is based on a research project that has been funded by National Seniors Australia, a non-profit organisation, to examine the ageing experiences of older Australians of diverse cultural and linguistic backgrounds. The focus is on productive ageing and the project examines the ethnic aged's social and economic wellbeing as indicated by a number of indicators including their living arrangements, proficiency in English, level of education, income, absence of core activities restrictions, and connectedness to family and community through paid work, volunteering, and provision of care and assistance to family members and others. These indicators of social and economic wellbeing are examined by country/region of origin, length of residence in Australia, ancestry and language spoken at home to identify disparities according to these characteristics and in particular those groups that are experiencing productive ageing and those groups that are not doing so well so that programs and resources may be better directed at them to improve their ageing experience. The current paper has a more specific focus on the immigrant aged – those aged 65 and over who are born overseas and have migrated to Australia – and examines disparities in their social and economic wellbeing by country of birth as an indicator of ethnicity.

Previous research on the immigrant aged in Australia

There was much interest in the immigrant aged population in Australia in the 1980s when there was a realisation that immigrants who arrived in Australia during the post-war years would be moving into the older age groups in the coming years. Some of the Eastern and Southern European birthplace groups already had a median age of 50 years or more. In 1984, the Australian Institute of Multicultural Affairs conducted a major study of the ethnic aged based on a survey of over 1100 persons aged 60 and over from six birthplace groups (China, Germany, Greece, Italy, Poland and the former Yugoslavia). The study examined their experiences in relation to retirement, living arrangements, community care and use of services and found differences within and between the birthplace groups in the pattern of these experiences (AIMA 1985; 1986). This and other studies also showed that English proficiency was relatively low in some birthplace groups, even those who had lived in Australia for many years, and this had limited their social networks and participation (AIMA 1985; Rowland 1991). The ethnic aged were also found to have lower incomes, a lower rate of home ownership, more restricted family networks and greater

likelihood of feeling isolated (AIMA 1985; 1986; Rowland 1991). However, a higher proportion was married and would have the support of a spouse. The studies point to considerable diversity in the ethnic aged. They also show some similarities to the rest of the Australian population in their preference for remaining in their own home with the support of a spouse and/or family members. These characteristics of the ethnic aged have led to the suggestion that they might be derived from life chances rather than culture or lifestyle preferences (Rowland 1991; 1997).

In 2000 the Australian Government's Department of Immigration and Multicultural Affairs commissioned another study of the immigrant aged to update the earlier studies. Focussing on the social and the financial circumstances of the overseas-born population aged 55 and over, and based partly on data from the 1996 population census, the study found an increase in their English proficiency over time, but lower work participation and higher unemployment rates among the ethnic aged compared to the Australian-born aged. The immigrant aged were also more likely to be dependent on government pensions (Benham et al. 2000). The study compared the immigrant aged according to four birthplace groups based broadly on level of English proficiency, which precludes comparison by ethnicity.

The ethnic aged in these studies referred to immigrants from continental Europe as there was little immigration from non-European countries until after 1970 and therefore relatively few non-European immigrants in the older age groups. Comparisons were usually made between these European immigrants of non-English-speaking background with immigrants from the United Kingdom, Australia's largest source of immigrants, and with the Australian-born aged. Comparisons by country of origin to examine differences by cultural background usually focussed on the larger groups from countries such as Germany, the Netherlands, Italy, Greece, the former Yugoslavia and Poland. Immigrants from Western European countries such as Germany and the Netherlands were generally more proficient in English than those from Southern and Eastern European countries and had more similar social and economic characteristics to immigrants of English-speaking background and the Australian-born.

Conceptual framework and research questions

Discussion of population ageing is usually focused on the dependency of the aged and the costs of meeting this dependency. In the case of the ethnic or immigrant

aged, it has been suggested that they face the 'double jeopardy' of being aged and ethnic and the consequences of their ageing experiences can be doubly negative (Dowd and Bengston 1978 in Rowland 1991). On the other hand, it has also been argued that the cultural dimensions of ethnicity can facilitate adjustment to the psychical and physical constraints of ageing and that a better understanding of this process can be gained, for example, by examining the influence of country of origin, historical point of entry and the processes of acculturation and social integration on the experiences of the immigrant aged (Holzberg 1982). It is this latter approach that the paper will focus on in its examination of ethnicity and the wellbeing of the immigrant aged.

The data analysis in this paper and the broader research project also takes the more positive approach to examining the social and economic wellbeing of the immigrant aged, basing it on the concept of the 'Third Age' as a new life cycle stage of productive ageing (see Laslett 1989). The concept of 'The Third Age', originating in Europe, refers to a new stage of life of personal fulfilment after retirement, before the Fourth Age of 'true dependency and decrepitude' set in (Laslett 1989; Rowland 2003). Laslett (1989: 78-91) had suggested several preconditions for the emergence of the Third Age as a significant life cycle stage of ageing in modern societies. These include at least 10% of the population to be aged 65 and over; an average life expectancy showing that the majority of the population will survive beyond retirement age; a society with sufficient national wealth to support its older citizens at a comfortable standard of living; supportive attitudes to the participation of the aged in society; and cultural and educational resources to facilitate that participation. These conditions are present in Australia.

The current paper uses Rowland's (2003) re-definition of Laslett's concept of the Third Age as a life cycle stage of independent living after age 65. This means living at home with little or no assistance with the activities of daily living. Additionally, there may be pursuit of an active retirement, as envisioned by Laslett. Based on these two dimensions of the 'Third Age', the paper examines a number of indicators of the social and economic wellbeing of the immigrant aged in addressing two related research questions: (1) what is the extent of ethnic diversity in the social and economic wellbeing of the immigrant aged; and (2) how is ethnicity related to productive ageing for the older overseas-born population in Australia?

In examining the wellbeing of the immigrant aged, it has been suggested that factors such as recency of arrival, proficiency in the language of the country of settlement and educational background, which are important in immigrants' social and economic integration, can also affect their ageing experiences and that ethnicity may not necessarily be the most important factor (Rowland 1991). Recent arrivals and immigrants experiencing difficulties with the language of the country of settlement may be less integrated into the community and more dependent on their relatives for social and economic support. As these variables can also be associated with country of origin or ethnicity, because of changes in the source countries of migration over the years and differences in the educational background of migrants from different countries, it is necessary to take them into consideration in an examination of the relation between ethnicity and the wellbeing of the immigrant aged. The aim is to investigate whether ethnicity as reflecting cultural and social values and beliefs is a factor in influencing the ageing experiences of the older overseas-born population.

Data and method

The paper is based on data from the 2006 Australian population census and focuses on eight outcome measures of social and economic wellbeing reflecting independent living and the pursuit of an active retirement among the immigrant aged. The measures are marital status, living at home (not in an aged care institution), no need for assistance with any core activity, income, participation in paid work, volunteering, caring for children under age 15 and caring for an older, sick or disabled person or family member.

Marital status can be an important indicator of family resources (Rowland 2003) and social wellbeing. Older people who are married have the family support and companionship of a spouse in contrast to those who are widowed, never married, divorced or separated. On the other hand, some married older persons are also the primary carers of their spouse and marital status can also affect the living arrangements of the aged. Marital status is therefore also included as an explanatory variable in the data analyses of the other measures of wellbeing.

Living at home and not in institutional care is an indicator of independent living among the aged. The census has information on whether each person is enumerated in a private dwelling or a non-private dwelling. Older persons who are enumerated in a private dwelling are considered to be living at home while those who

are enumerated in a non-private dwelling are assumed to be in an institution, which may be an aged care hostel, nursing home or hospital.

A direct indicator of physical independence among the aged is the lack of need for assistance with daily self care activities. In the 2006 census, four questions were asked of each person whether he/she ever needs someone to help with, or be with him or her for, self care activities, body movement activities or communication activities and the reasons for the need for assistance. The Australian Bureau of Statistics then classifies people as needing assistance with core activities if they need assistance with any or all three of the core activities because of a disability, long-term health condition (lasting six months or more) or old age.

Personal income is examined in the paper as an indicator of economic independence. Older people with income of their own generally have more control over their lives; they are less dependent on other family members and can afford to live on their own. The aged population is divided into two income groups in the data analysis: those with a weekly income of less than $250 and those with a weekly income of $250 or more. These two categories provide an approximate differentiation between those whose income does not exceed the government age pension[1] at the time, which provides for a basic standard of living, and those with (other sources of) higher income.

Four variables measure the pursuit of an active retirement: being in full-time or part-time employment in the week before the census; volunteering for an organisation or group anytime in the last 12 months; looking after a child or children under age 15 without pay; and caring for a family member or other person who has a disability or long-term illness or problems related to old age. The 2006 census was the first census in Australia to include questions on participation in volunteer work and caring responsibilities, making it possible to examine these measures as indicators of productive ageing.

Two measures of human capital – English language proficiency and level of education – are also examined as measures of social and economic wellbeing and as correlates of the eight outcome variables. English is the language of commerce, instruction and almost all daily interchange in Australia. Studies of immigrant

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[1] Immigrants with permanent residence status or who have become naturalised citizens and are aged 65 and over are eligible for the age pension after 10 years of continuous residence in Australia (except for

settlement outcomes in Australia have shown that English proficiency and level of education are positively correlated with social, economic and community participation and integration (see for example, Cobb-Clark and Khoo 2006; Khoo and Temple 2008). Not being able to speak English well can inhibit the formation of social networks and increase the risk of social isolation among older immigrants. Education has been considered an important personal resource that may contribute to both quantity and quality of life in old age through its effect on health and lifetime earnings (Rowland 2003). Two categories of English proficiency are considered: speaking English well/very well, or not well/not at all. Level of education is also divided into two categories: with post-school qualifications and without post-school qualifications.

The descriptive part of the data analysis uses the full census data file to examine the measures of social and economic wellbeing for the total resident overseas-born population aged 65 and over by gender and country of birth. The focus is on the immigrant aged from non-English-speaking countries of origin with at least 5000 people aged 65 and over. Comparisons are also made between all immigrants from non-English-speaking countries and immigrants from the main English-speaking countries (United Kingdom, Ireland, New Zealand, Canada, United States of America and South Africa) and also the Australian-born population aged 65 and over. The data analysis differentiates between two age groups: those aged 65-79 and those aged 80 and over.

Since the different birthplace groups can and do differ from one another in their sex and age distribution, English language proficiency and level of education in the older aged groups as well as in the measures of productive ageing, multivariate logistic regression is used to control for these characteristics to see whether the country of birth differences in productive ageing outcomes in the descriptive analyses persist. The statistical analyses use the 1% sample unit record file from the 2006 census. The country of birth categories in the 1% sample file are limited to seven countries that have been sources of significant numbers of immigrants to Australia (Italy, Greece, Germany, China, India, Vietnam and Philippines), with the remaining non-English-speaking countries grouped into nine regions (South-Eastern Europe, North-Western Europe, North Africa and Middle East, Southeast Asia, Northeast Asia, South and Central Asia, Oceania, Americas and Sub-Saharan Africa). Because

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those who arrive as refugees). There are also income and assets tests that determine whether a person receives a part or full pension.

the number of immigrants aged 65 and over from the Philippines in the sample file is relatively small, they have been included in the Southeast Asia category in the data analysis. The multivariate statistical analyses exclude individuals whose birthplace was not stated and two relatively small regional groups, the Americas and sub-Saharan Africa, because it is not possible to separate the small number of immigrants from the non-English-speaking countries in the regions from those from the English-speaking countries. This results in a sample size of 23,227 individuals aged 65 and over for the data analysis, of which 8,010 were foreign-born. The multivariate logistic regressions are carried out using StataSE 10.

Two sets of regression models are run for each wellbeing indicator. The first set of regressions includes the Australian-born aged as the reference birthplace category. The second set of regressions is restricted to the immigrant aged only. The reference group is the immigrant aged from the United Kingdom and New Zealand (the two largest sources of immigrants of English-speaking background). The second set of regressions includes year of arrival as a control variable; however, the coding of this variable in the 1% sample file is not particularly helpful as it groups all arrivals before 1995 into a single category. Therefore immigrants are only coded into two categories in the data analysis: arrived before 1996 and arrived 1996-2006. This grouping does some have relevance in examining economic wellbeing as immigrants are eligible for the age pension only after ten years of residence in Australia. Thus, the immigrant aged who arrived during the period 1996-2006 would not have access to the age pension.

Country of birth is a good indicator of the ethnic origin of most of the immigrant aged population in Australia. Data on ancestry are also collected in the census and show a high correlation between ancestry and country of birth responses for the immigrant aged (for example, 97% of those born in Italy stating Italian ancestry), with the exception of a few countries. The 1% sample file shows that a significant proportion (42%) of the immigrant aged born in India claimed English or Irish ancestry. However, ancestry data also have their limitations. The one that most affects this study is that the immigrant aged claiming Chinese ancestry come from many countries and have very different migration histories and social and economic characteristics depending on their country of origin. Country of birth is a more meaningful descriptor when examining the settlement outcomes of these immigrants. Parallel analyses using the ancestry variable in the 1% sample file (which has the

same broad regional categories as for the birthplace variable, plus some larger ancestry groups) instead of the birthplace variable produce generally similar results.

Demographic background

In 2006, there were more than 830,000 people aged 65 and over in Australia who were born overseas (Table 1), a doubling of the number since 1986. They comprised 31% of the population aged 65 and over, an increase from 25% in 1986. 19% were born in countries where the first language was not English and 12% in countries where English was the first language.

The sources of immigration to Australia have been and continue to be very diverse. This diversity is reflected in the immigrant aged population. Twenty non-English-speaking countries of origin were the sources of at least 5000 immigrants aged 65 and over (Table 1). Twelve were European countries which were among the main sources of immigration in the 1950s and 1960s. Also included were six Asian countries that had been among the top ten sources of immigration since the mid-1970s, and two Middle Eastern countries. Discussion of the descriptive results on ethnic disparities in the social and economic wellbeing of the immigrant aged focuses on these twenty birthplace groups.

As noted earlier, the overseas-born population in Australia has an older age structure than the Australian-born population and this is shown in Table 1. The table also shows that the percentage aged 65 and over is much higher among the European birthplace groups than among the migrants from the non-European countries that have been the sources of more recent migration. Between one-third and one-half of the European birthplace groups are aged 65 and over, compared to 5-10% of the Asian birthplace groups.

Table 2 which groups the twenty largest source countries of the immigrant aged of non-English-speaking background by geographic region shows the different periods of peak migration of the immigrant aged from Europe and Asia. Most of the immigrant aged from Europe arrived before 1970 while those from Asia arrived during the 1980s and 1990s. Family reunion migration from China and Vietnam in the 1990s has been responsible for more than 40% of the immigrant aged from these countries being relatively recent arrivals. In contrast, most of the immigrant aged from European countries are long-term residents, having lived in Australia for more than thirty years.

Social and economic wellbeing of the immigrant aged

The next set of tables presents the descriptive results on ethnic disparities in the various measures of social and economic wellbeing of the immigrant aged. Table 3 compares the proportions married and widowed by birthplace for men and women aged 65-79 and 80 and over separately. A higher proportion of the immigrant aged were married compared to the Australian-born aged. Differences by birthplace are evident. The aged from Southern European countries such as Italy, Greece and Macedonia had higher proportions married than the aged from Western European countries such as Germany and Netherlands. This is mainly because the Southern European birthplace groups had lower proportions divorced or separated (data not shown but 4-6% in the 65-79 age group) compared with the Western European groups (13-15% of those aged 65-79) or the Australian-born aged (12%). Among the aged from Asian countries, the men also had relatively high proportions married; however with the exception of women from China and Malaysia, women from other Asian countries had lower proportions married and higher proportions widowed than Australian-born women of the same age. Some of these women were likely to have been sponsored by their adult children for family reunion migration to Australia after their widowhood.

Tables 4 and 5 examine four measures of living arrangements of the immigrant aged: living with spouse; living with other family members; living alone; and not living at home (in institutional care). The percentage living with spouse reflects the percentage currently married shown in Table 3, but is generally slightly less in each birthplace, age and sex category. This is because some of those who are married may have spouses who are living in aged care institutions. Differences by birthplace and between some birthplace groups and the Australian-born in the proportion living with other family members are quite large, particularly for women. The proportion living with other family members was three to four times higher for women from Asian countries, and twice as high for women from Southern European countries, than for Australian-born women and women from Germany or Netherlands. Living alone was less prevalent among the immigrant aged from Asian and Southern European countries than it was for the Australian-born aged. The proportion living alone was higher for immigrants born in the Eastern European countries (Poland, Hungary and Ukraine) than for the Australian-born. The proportion in institutional

care is lower for the immigrant aged than for the Australia-born. The data do not inform whether this is because of personal choice, family preference or problems with access to such care for the immigrant aged. Differences in the proportion in institutional care among the immigrant aged by country of birth are also evident, with much lower proportions of the aged from Greece, Macedonia, Cyprus and Vietnam in institutional care compared with other birthplace groups (Table 5).

Table 6 shows two indicators that are associated with social wellbeing among the immigrant aged in Australia: level of education and English language proficiency. Lower proportions of the immigrant aged from non-English-speaking countries had post-school qualifications compared with the immigrant aged from English-speaking countries and the Australia-born aged. However, differences are evident among the non-English-speaking countries of origin. A relatively high proportion of the immigrant aged from the Western and Eastern European countries and from Asian countries such as Malaysia, Philippines, India and Sri Lanka had post-school qualifications. Many of the post-war migrants from countries such as Austria, Poland or Hungary were relatively well educated. Some of the immigrants from Malaysia had come to Australia as foreign students in the 1970s or as skilled migrants in the 1980s, as did some immigrants from the Philippines, Sri Lanka and India. As shown in the table, most of them could speak English very well. English proficiency is much lower among the immigrant aged from the Southern European countries who had lower proportions with post-school qualifications. The Vietnamese-born aged had the lowest proportion who could speak English well. Older immigrants from China and Lebanon also had relatively low levels of English proficiency. These migrants had come from countries where English is not a familiar language. Their low level of English language proficiency would suggest that their social networks are restricted to their families and ethnic community.

A direct measure of independent living among the aged is the absence of core activity restrictions. The proportion not needing any assistance with daily activities was 80-90% in the 65-79 age group, but lower for the immigrant aged from non-English-speaking countries than for those from English-speaking countries and the Australian-born aged (Table 7). The gender difference was also larger for immigrants from non-English-speaking countries compared to the other two groups. Immigrants aged 80 and over from non-English-speaking countries also had a lower proportion not needing assistance with daily activities than the other two groups. Less than half

of women aged 80 and over from non-English-speaking countries reported not needing assistance with daily activities compared with more than half of women from English-speaking countries and Australian-born women. Differences among the non-English-speaking birthplace groups are evident. The proportion not needing assistance was higher for immigrants from Austria, Germany and the Netherlands than for immigrants from the countries of Southern Europe. Differences among the Asian birthplace groups were also observed, with higher proportions not needing assistance among the immigrant aged from Malaysia, India and Sri Lanka and lower proportions for those from Vietnam, Philippines and China. Immigrants from Lebanon also had relatively low proportions not needing assistance with core activities. Some of these differences may be related to differences in education and economic resources among immigrants from these various countries; multivariate statistical analyses will examine this further.

The weekly income indicator shows a similar pattern of differences by country of origin (Table 7). A lower proportion of the immigrant aged from non-English-speaking countries had a weekly income of $250 or more than those from English-speaking countries and the Australian-born aged. Within the non-English-speaking birthplace groups, the proportion was also lower for migrants from the Southern European countries and from Vietnam, China, Lebanon and the Philippines, and higher for migrants from Austria, Germany and the Netherlands, and from Malaysia, India and Sri Lanka. It will be necessary to control for education and recency of arrival to see if these country of origin differences persist.

The four measures of the pursuit of an active retirement are shown in Tables 8 and 9. A lower proportion of the immigrant aged were working or doing volunteer work compared with the Australian-born aged (Table 8). The employment rate was also relatively low for men and women aged 65-79 from the Southern European countries, Vietnam and China. This may be the result of early retirement from low skilled work and low English proficiency. The proportion involved with volunteer work was low in birthplace groups where English proficiency was also low, which was as expected. Immigrants from the Netherlands, Malaysia, India and Sri Lanka, most of whom could speak English well, also had higher proportions volunteering in the community.

The immigrant aged from non-English-speaking countries had a higher proportion caring for children compared to the Australian-born aged and immigrants

from English-speaking countries (Table 9). A higher proportion of immigrants, particularly women, from Asian and some Southern European countries were caring for children compared to those from Western or Eastern European countries. However, there was not much difference in the proportion caring for someone who was disabled, old or ill between the immigrant aged from non-English-speaking countries and the Australian-born aged. Differences by country of origin in the proportion caring for other elderly, disabled or sick family members were also small.

The descriptive results show some consistent patterns of differences in many of the measures of social and economic wellbeing by country of origin of the immigrant aged. One pattern of difference is between different European birthplace groups, with immigrants from Western European, Eastern European and Southern European countries showing different patterns of living arrangements, education, English proficiency, participation in paid work, volunteering, care of children, absence of restrictions with core activities and income. Asian birthplace groups also differ from one another. The immigrant aged from Malaysia, India and Sri Lanka had higher proportions with post-school education, English language proficiency, participation in paid work, volunteering and higher income than those from Vietnam and China. The immigrant aged from Vietnam appeared to be the most disadvantaged on a number of measures of social and economic wellbeing.

To determine if the observed differences by country of origin are related to differences in the immigrant aged's demographic characteristics, level of education and English language proficiency or whether they reflect ethnic differences and other characteristics associated with country of origin, multivariate logistic regression analyses are carried out to control for the effects of these characteristics. The results are presented and discussed in the next section.

Multivariate logistic regression results

The distribution of the sample of individuals aged 65 and over from the 1% sample file by birthplace and control and outcome variables used in the statistical analyses is shown in Table 10. The logistic regression results for eight indicators of social and economic wellbeing relating to independent living and productive ageing are shown in Tables 11-14.

Table 11 presents the results on being married and living at home (not in an institutional care facility). Differences in the probability of being married by

birthplace are observed even after controlling for age and sex and human capital characteristics. The immigrant aged from Italy and Greece were more likely to be currently married compared with other immigrants and the Australian-born aged. Differences by birthplace in the proportion continuing to live at home and not in institutional care also remain after controlling for demographic and human capital characteristics. The immigrant aged from Southern and Eastern European and Asian countries were all more likely to be living at home and not in an institutional care facility than immigrants from the English-speaking or Western European countries and the Australian-born aged. The statistical analyses show no difference between men and women in the propensity to live at home. However, older people who were married were more likely to live at home than those who were widowed or not married. The immigrant aged who had higher education or who were proficient in English were also more likely to live at home and not in institutional care than those with less education or whose English was not good.

Differences in the likelihood of needing assistance with core activities between the immigrant aged – with the exception of those from the Middle East and Pacific region – and the Australian-born aged were not significant after taking account of their demographic and human capital characteristics (Table 12). The immigrant aged from the Middle East and the Pacific region were the most likely to need assistance with core activities, implying poorer physical health. This is consistent with the descriptive results showing the relatively low percentage of the immigrant aged from Lebanon not needing assistance. Immigrants from the Southern and Eastern European countries were also more likely to need assistance with daily activities than other immigrant aged. Many immigrants from these countries who migrated in the 1950s and 1960s had worked in physically demanding jobs in construction and manufacturing and this might have affected their physical health in old age. The data analyses also show that better physical health in old age was associated with being married, being proficient in English and having higher education.

The indicator for economic independence confirms the earlier descriptive findings that the immigrant aged from non-English-speaking countries were more likely to be in the lower income group than the immigrant aged from the main English-speaking countries and the Australian-born aged (Table 12). The regression coefficients also indicate a similar pattern of disparities by birthplace shown earlier in the descriptive results, that the immigrant aged from Vietnam, China, Middle East

(which include Lebanon) and Southern European countries were less likely than other immigrants to be in the higher income group.

The regression results for the four measures of pursuit of an active retirement are shown in Tables 13 and 14. The immigrant aged from Europe, aside from Italy and Greece, were significantly less likely to be working compared to the Australian-born aged even after controlling for English proficiency and education. However, differences between immigrants from China, Vietnam and other Southeast Asian countries and the Australian-born aged or immigrants from the main English-speaking countries were not significant after adjusting for differences in demographic and human capital characteristics, suggesting that the low employment rates for the immigrant aged from Vietnam and China observed earlier in the descriptive results were likely to be related to their lack of English proficiency and, in the case of the immigrant aged from Vietnam, their lower education. The regression results show significantly higher employment among older immigrants from Northeast Asia aside from China. This group includes people from Hong Kong, Korea and Taiwan some of whom might have been business migrants. Italian and other Pacific immigrants also have a higher probability of working after controlling for demographic and other factors.

The lower rates of volunteering shown for the immigrant aged compared to the Australian-born in the descriptive results are confirmed in the statistical analyses. Disparities among the immigrant aged by birthplace remain even after controlling for English proficiency and education (Table 13). Immigrants from Southern and Eastern European countries, Germany and North Africa and Middle East were significantly less likely to volunteer compared with migrants from UK and New Zealand. But differences between the immigrant aged from China, Vietnam and the South Asian countries and the immigrant aged from the main English-speaking countries were not statistically significant, suggesting that the low rate of volunteering observed for the immigrant aged from these countries in the descriptive results might have been related to their lower English proficiency and education. As expected, participation in volunteer work by the aged was positively correlated with English proficiency and education and more likely among women than men.

The regression results on provision of child care were similar to the descriptive results, showing the immigrant aged from Italy, Greece and the Asian countries (except Northeast Asia aside from China) more likely to be caring for

children than those from Western Europe. The regression results also confirm the descriptive analyses findings that differences by birthplace in caring for older, sick or disabled family members or others are small and not significant, with the exception of the immigrant aged from Italy who were more likely than other immigrant aged to be caring for other family members. The regression results also show that carers were more likely to be women and to be married, were also more likely to be proficient in English and had higher education. More recently arrived aged migrants were also more likely to be caring for children than immigrants who arrived before 1995 (Table 14).

Conclusion

In conclusion I discuss the research findings in relation to the two questions the paper seeks to address. In relation to the first question on the extent of ethnic diversity in the social and economic wellbeing of the immigrant aged, it is evident that there are differences by country or region of origin in many of the measures of wellbeing, even after taking into account demographic and human capital characteristics. This suggests that cultural factors and migration experiences associated with country of origin as a measure of ethnicity do have some influence on the social and economic wellbeing of the immigrant aged.

The immigrant aged from Italy and Greece are the two largest groups of older immigrants of non-English-speaking background. Most have lived in Australia for more than thirty years. They show many distinctive characteristics. Both groups have a strong family network, being still married and/or living with family and helping to look after (grand)children and other family members in need of care. Although the indicators of independent living show they are more likely to need assistance with daily living activities and to be in the lower income group, they are less likely to be in institutional care than the Australian-born aged. In contrast to the immigrant aged from these two countries and other Southern and Eastern European countries, those from Western Europe are more similar to the Australian-born aged and immigrants from the English-speaking countries, particularly in their living arrangements with family.

There are also differences among the immigrant aged from the Asian countries. While they are all more likely to be living at home with family and helping to care for grandchildren than the Australian-born aged, many older immigrants from

China and Vietnam may be more dependent on their family because they do not speak English well and also have lower income. Compared to the immigrant aged from China and Vietnam, those from Malaysia, Philippines, India and Sri Lanka are generally more proficient in English, have more education and higher income. The immigrant aged from the Middle Eastern countries, while also more likely to live with family, are less active within the family and in the community than other immigrant aged. They are also more likely to need help with daily activities and have lower income.

In relation to the second question on how ethnicity is related to productive ageing for older immigrants, the findings indicate that ethnicity appears to contribute to productive ageing that is focussed within the family rather than in the broader community. Many older people of Southern European and Asian background continue to make a contribution to their families' welfare as caregivers. While it has been suggested that having a productive role in the family can give purpose and meaning to the daily lives of the aged (Holzberg 1982), the data do not inform us about the perception of the elderly in relation to their caregiving role. The greater stability of marriage that is likely to be related to social, cultural and/or religious beliefs that are associated with some of the Southern European and Asian ethnicities also means that these immigrant aged are more likely to have the support and family resource of a spouse, which is shown to facilitate living at home.

On the negative side, the family focus of the immigrant aged from most of the non-English-speaking countries appears to have the complementary effect of less participation in community activities such as volunteering. While it was thought initially that perhaps the lower education and lack of English of some of the immigrant aged might have inhibited their community participation, controlling for these characteristics in the data analysis did not eliminate ethnic disparities in volunteer work participation. This may suggest the absence of a tradition of community volunteering in some cultures or less social integration among some of the immigrant aged that are related to other (perhaps cultural) factors besides lack of proficiency in English.

Of more concern is the greater likelihood of poorer physical health and lower income among some groups of the immigrant aged. Those from Southern and Eastern Europe, the Middle East and the Pacific region are particularly at risk of needing assistance with daily activities, while the lower income of the immigrant aged from

some Asian countries and the Middle East suggest they are likely to be dependent on government income support. Their circumstances may be related to their migration or personal histories associated with country of origin rather than ethnic or cultural factors; however, it is not possible to examine this with a cross-sectional dataset. The findings do suggest that the immigrant aged from these countries and regions are likely to be more dependent on the public health and welfare systems even though they may have family support at home.

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Table 1. Number of people and percentage aged 65 and over, by birthplace, Australia 2006

Birthplace	Aged 65-79	Aged 80+	Total 65+	% aged 65+	% aged 80+
Non-English speaking countries	394,136	114,043	508,179	18.6%	4.2%
Main English-speaking countries	243,324	87,213	330,537	19.7%	5.2%
Australia	1,118,047	442,535	1,560,582	11.1%	3.1%
Total	1,917,041	727,325	2,644,366	13.3%	3.7%
Non-English speaking countries of origin with at least 5000 immigrants aged 65+					
Italy	80,545	22,732	103,277	51.9%	11.4%
Greece	43,025	6,510	49,535	45.0%	5.9%
Germany	26,763	7,782	34,545	32.4%	7.3%
Netherlands	22,005	7,615	29,620	37.5%	9.6%
China	19,433	5,910	25,343	12.3%	2.9%
Poland	9,549	9,700	19,249	36.8%	18.6%
Croatia	14,326	1,932	16,258	31.9%	3.8%
India	11,615	3,380	14,995	10.2%	2.3%
Malta	12,048	2,483	14,531	33.3%	5.7%
Vietnam	9,434	2,250	11,684	7.3%	1.4%
Hungary	7,275	3,021	10,296	51.1%	15.0%
Egypt	7,214	2,208	9,422	28.1%	6.6%
Lebanon	7,562	1,533	9,095	12.2%	2.0%
Macedonia	6,411	992	7,403	18.2%	2.4%
Austria	5,478	1,695	7,173	40.0%	9.5%
Sri Lanka	5,404	1,765	7,169	11.5%	2.8%
Malaysia	5,835	979	6,814	7.4%	1.1%
Ukraine	3,013	3,662	6,675	48.8%	26.8%
Philippines	4,613	1,335	5,948	4.9%	1.1%
Cyprus	4,280	1,075	5,355	29.1%	5.8%

Source: 2006 census

Table 2. Immigrants aged 65 and over in 2006, by birthplace and year of arrival

Birthplace	Before 1970	1970-89	1990-2006
	%	%	%
Non-English speaking countries	70.8	19.8	9.4
Main English-speaking countries	68.5	24.1	7.4
NES countries of origin with at least 5000 immigrants aged 65+			
Austria	94.1	4.8	1.1
Germany	88.9	9.1	2.0
Netherlands	92.6	5.8	1.6
Italy	95.3	4.3	0.4
Greece	93.1	6.4	0.6
Cyprus	70.0	29.3	0.7
Malta	94.8	5.0	0.2
Croatia	79.3	16.2	4.4
Macedonia	57.2	39.0	3.8
Hungary	91.0	7.7	1.3
Poland	83.0	13.6	3.4
Ukraine	70.8	10.2	19.0
Egypt	74.6	19.6	5.8
Lebanon	50.7	42.1	7.2
Malaysia	23.6	58.2	18.1
Philippines	6.7	62.7	30.5
Vietnam	1.1	55.7	43.2
China	20.2	32.2	47.5
India	41.2	39.4	19.5
Sri Lanka	27.9	45.7	26.4

Source: 2006 census

Table 3. Per cent currently married and per cent widowed: persons aged 65 and over, by birthplace and sex.

Birthplace	Male		Female		Male		Female	
	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+
	% married				**% widowed**			
NES countries	79.2	66.5	55.9	22.1	6.5	23.6	32.6	71.2
MES countries	75.6	61.9	58.4	24.1	7.6	28.2	25.6	67.7
Australia	73.5	60.6	54.4	21.3	8.0	28.2	29.3	69.0
NES countries of origin with at least 5000 immigrants aged 65+								
Austria	67.6	60.7	51.2	25.1	7.9	25.3	31.5	66.7
Germany	71.0	64.3	52.1	22.2	7.4	23.5	32.1	68.8
Netherlands	76.2	64.3	57.8	23.6	7.1	27.0	28.0	70.0
Italy	83.5	71.2	61.6	25.1	6.7	22.8	33.0	71.6
Greece	85.9	74.0	65.3	24.3	5.7	20.2	27.6	71.6
Cyprus	86.9	70.4	66.3	27.2	7.1	22.1	28.3	68.6
Malta	77.5	62.1	59.8	21.1	7.3	28.7	30.5	74.1
Croatia	76.6	65.4	57.6	21.8	6.2	21.0	30.2	70.6
Macedonia	86.3	65.3	68.1	34.6	8.5	31.4	26.8	62.5
Poland	70.6	59.2	41.9	19.2	8.2	27.1	42.8	74.9
Hungary	65.2	61.2	47.1	18.9	8.4	23.5	34.5	73.2
Ukraine	72.6	60.6	48.0	22.4	7.2	27.5	37.1	71.9
Egypt	76.5	69.3	48.4	19.5	6.0	19.8	39.6	73.5
Lebanon	84.1	71.5	50.0	21.1	5.8	21.9	38.8	71.3
Malaysia	84.9	73.1	56.8	18.7	4.6	18.1	28.6	71.9
Philippines	82.7	66.4	44.0	16.9	6.0	25.0	42.6	75.6
Vietnam	81.8	66.8	49.9	21.6	6.2	22.2	37.4	70.9
China	86.8	72.1	59.0	20.5	5.3	21.6	32.2	73.9
India	78.3	67.5	51.7	20.4	7.4	23.5	35.7	72.3
Sri Lanka	80.9	70.3	53.5	18.5	6.7	21.8	35.9	74.4

Table 4. Living with family: persons aged 65 and over, by birthplace and sex.

Birthplace	Male		Female		Male		Female	
	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+
	% living with spouse				**% living with other family**			
NES countries	76.8	60.2	53.4	18.9	4.3	8.2	16.5	25.2
MES countries	72.6	55.3	55.6	20.7	2.7	5.9	7.4	13.4
Australia	68.4	52.4	50.0	17.7	3.5	5.8	8.7	12.4
NES countries of origin with at least 5000 immigrants aged 65+								
Austria	66.1	52.6	49.0	20.4	2.4	4.0	7.9	12.6
Germany	69.1	58.4	50.2	19.7	2.8	4.7	8.0	14.7
Netherlands	72.0	56.8	53.8	20.3	2.4	4.3	6.2	11.2
Italy	81.3	65.1	59.3	21.6	3.4	6.5	12.2	21.0
Greece	84.0	67.5	63.2	21.2	3.9	8.6	14.1	30.6
Cyprus	85.1	65.8	64.2	24.1	3.8	10.8	13.4	31.3
Malta	75.8	57.6	57.8	18.2	4.8	8.3	12.0	25.0
Croatia	74.9	59.6	55.6	19.0	3.9	7.7	15.7	27.4
Macedonia	84.9	60.2	66.8	30.6	5.3	17.3	17.0	38.1
Poland	69.0	53.3	40.6	16.1	3.6	5.9	12.9	17.6
Hungary	64.6	55.9	46.3	17.4	3.7	4.6	10.5	12.9
Ukraine	71.6	46.7	54.6	19.3	4.6	12.4	5.5	18.5
Egypt	74.7	63.0	46.2	17.1	5.1	8.6	17.9	25.9
Lebanon	82.2	67.2	47.9	18.8	6.5	15.7	30.6	47.5
Malaysia	80.7	67.5	52.2	15.7	4.0	10.5	21.4	43.6
Philippines	77.2	57.8	41.5	15.1	9.7	21.4	32.4	58.3
Vietnam	76.8	59.7	44.8	17.8	11.6	22.9	39.8	62.5
China	81.4	62.5	52.7	15.7	7.2	16.5	26.9	45.0
India	75.2	60.1	48.6	17.1	5.7	11.9	21.7	30.6
Sri Lanka	78.2	61.4	49.1	14.4	6.4	13.9	23.7	38.3

Table 5. Not living with family: persons aged 65 and over, by birthplace and sex.

Birthplace	Male		Female		Male		Female	
	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+
	% living alone				**% in institutional care**			
NES countries	12.2	17.8	23.5	35.1	2.4	10.2	2.4	16.9
MES countries	15.1	23.0	27.9	41.1	3.1	12.0	3.1	21.6
Australia	16.0	23.1	30.1	42.6	4.1	14.1	4.0	23.6
NES countries of origin with at least 5000 immigrants aged 65+								
Austria	20.8	34.8	24.7	45.8	2.7	12.7	2.1	17.2
Germany	17.8	21.6	33.0	44.0	3.1	10.1	3.0	18.0
Netherlands	14.6	22.5	29.6	43.1	3.1	13.0	3.4	22.2
Italy	10.3	16.3	23.6	36.9	2.2	9.5	2.3	17.0
Greece	7.9	12.4	18.0	27.3	1.7	9.6	1.9	17.4
Cyprus	8.4	15.2	18.3	28.7	0.9	4.9	1.7	11.6
Malta	13.8	21.1	23.9	34.4	2.2	9.7	2.8	18.9
Croatia	14.5	19.1	22.8	33.7	2.6	10.5	2.2	17.4
Macedonia	6.7	12.3	12.8	14.4	1.5	8.8	1.5	13.3
Poland	18.5	24.3	38.3	46.0	3.5	12.2	3.5	16.6
Hungary	21.3	23.6	34.8	45.1	4.2	11.6	3.3	21.0
Ukraine	16.8	25.7	33.7	45.7	2.3	10.4	3.0	13.5
Egypt	14.1	16.6	29.3	36.0	2.4	8.7	3.1	17.8
Lebanon	7.1	8.7	16.0	18.9	1.8	6.3	2.3	10.3
Malaysia	8.7	10.3	19.5	22.0	2.0	7.5	2.1	15.0
Philippines	6.7	8.6	17.9	11.6	1.9	8.3	1.7	9.2
Vietnam	5.8	5.6	8.8	7.7	1.5	5.5	1.4	6.5
China	6.1	8.7	13.6	19.2	1.7	9.1	2.2	16.5
India	12.4	13.9	23.0	29.2	2.4	10.6	2.5	19.6
Sri Lanka	9.3	11.7	18.4	23.3	2.0	8.5	3.4	19.6

Table 6. Education and English language proficiency: persons aged 65 and over, by birthplace and sex.

Birthplace	Male		Female		Male		Female	
	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+
	% with post-school qualifications				**% speaks English well**			
NES countries	32.3	23.8	13.6	8.6	75.6	68.8	64.7	58.5
MES countries	47.7	36.8	21.9	11.3	na	na	na	na
Australia	39.9	29.5	17.2	8.9	na	na	na	na
NES countries of origin with at least 5000 immigrants aged 65+								
Austria	63.1	48.6	25.8	18.4	97.9	92.0	97.7	91.7
Germany	66.1	53.7	24.5	13.5	98.0	93.0	97.7	89.8
Netherlands	49.8	41.6	18.7	10.3	98.6	95.1	98.2	89.7
Italy	15.9	10.4	3.3	2.2	75.8	56.4	60.6	38.4
Greece	9.5	5.8	3.1	1.9	60.0	43.1	46.6	26.0
Cyprus	16.6	10.9	4.1	1.9	75.3	59.8	52.0	26.5
Malta	16.7	17.0	3.1	1.6	90.5	81.0	86.1	68.0
Croatia	32.7	24.5	6.9	4.1	74.7	66.3	62.4	44.8
Macedonia	12.3	6.9	2.8	1.1	48.9	26.8	30.9	13.7
Hungary	50.1	43.5	20.2	18.7	94.2	87.8	90.3	77.5
Poland	43.1	21.9	18.3	7.2	85.3	83.6	77.4	72.3
Ukraine	48.9	21.6	30.0	7.9	65.9	73.1	61.4	65.6
Egypt	48.5	29.9	15.6	6.8	92.7	86.0	80.7	69.1
Lebanon	11.5	7.1	3.4	1.8	60.2	46.9	42.1	31.6
Malaysia	62.0	33.6	33.4	15.4	90.2	86.9	77.7	64.2
Philippines	50.9	30.3	33.5	19.1	86.5	71.3	83.2	64.7
Vietnam	13.5	6.4	3.9	2.3	22.8	12.8	8.8	5.1
China	32.9	17.6	21.5	8.5	30.1	28.2	19.5	17.4
India	54.6	41.1	27.7	17.8	96.0	94.5	88.4	88.2
Sri Lanka	47.2	32.3	22.4	12.5	97.9	92.2	90.3	84.7

Table 7. Two measures of physical and economic wellbeing: person aged 65 and over, by birthplace and sex.

Birthplace	Male		Female		Male		Female	
	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+
	% not needing assistance with core activities				**% with weekly income of $250 or more**			
NES countries	85.6	60.1	80.8	45.7	41.4	40.2	36.5	41.0
MES countries	91.4	70.3	90.3	56.9	62.4	57.7	52.6	51.8
Australia	89.4	66.2	88.7	55.6	59.1	58.0	51.9	53.9
NES countries of origin with at least 5000 immigrants aged 65+								
Austria	93.2	74.9	91.5	62.4	53.6	57.3	49.3	51.5
Germany	92.3	73.6	90.0	59.8	56.4	56.8	49.2	49.3
Netherlands	92.3	71.5	90.1	56.0	55.4	51.7	50.1	49.5
Italy	87.1	58.4	81.8	43.6	39.1	38.4	35.4	42.2
Greece	85.0	57.0	81.0	37.7	32.8	29.7	30.4	32.2
Cyprus	86.8	59.9	78.8	33.3	36.9	29.7	33.5	31.8
Malta	87.8	60.1	83.9	43.4	41.3	38.5	36.7	38.6
Croatia	86.6	60.5	82.4	44.2	33.1	38.5	31.4	37.6
Macedonia	80.9	52.0	78.2	39.4	27.0	24.3	23.4	28.3
Hungary	88.7	69.1	87.1	54.4	46.8	49.3	43.7	47.7
Poland	87.9	64.4	82.3	50.6	44.4	42.3	40.6	43.5
Ukraine	80.2	58.1	74.7	44.2	40.1	33.0	35.1	39.3
Egypt	86.7	66.7	79.2	46.5	49.8	42.5	41.0	41.4
Lebanon	79.8	51.0	70.0	36.4	28.7	27.3	26.9	25.8
Malaysia	94.4	68.8	89.8	48.1	58.0	42.9	44.3	36.9
Philippines	86.8	49.2	84.2	43.0	35.7	28.9	32.8	32.3
Vietnam	82.4	53.3	73.0	38.0	15.3	19.7	17.1	22.4
China	86.6	58.6	82.0	44.9	23.4	25.8	21.6	29.7
India	92.1	67.7	86.7	51.6	57.1	45.4	42.7	41.9
Sri Lanka	91.8	68.0	86.7	52.6	56.5	44.1	41.4	38.1

Table 8. Participation in paid work or volunteering: persons aged 65 and over, by birthplace and sex.

Birthplace	Male		Female		Male		Female	
	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+
	% employed in paid work				**% doing volunteer work**			
NES countries	12.3	3.1	4.6	1.2	8.7	4.6	9.4	3.8
MES countries	14.9	2.2	6.8	0.9	19.6	10.4	23.3	9.0
Australia	17.4	4.1	7.9	1.2	22.7	11.7	26.1	9.8
NES countries of origin with at least 5000 immigrants aged 65+								
Austria	13.3	5.1	7.0	1.1	9.1	6.6	12.1	5.7
Germany	13.7	3.5	5.3	0.8	11.6	7.2	13.0	5.3
Netherlands	12.2	2.4	5.2	0.8	20.2	8.7	22.3	6.1
Italy	11.8	2.3	3.3	0.6	5.1	2.1	5.7	2.2
Greece	10.4	1.4	3.3	0.9	4.6	2.5	4.9	1.6
Cyprus	9.3	1.7	2.6	0.6	6.4	1.7	5.8	2.1
Malta	7.8	2.2	2.9	0.4	7.5	3.0	7.8	2.3
Croatia	9.6	4.1	3.8	1.3	4.1	2.8	4.7	1.8
Macedonia	7.2	2.4	2.0	1.1	2.9	1.4	2.3	1.1
Hungary	14.1	6.2	7.9	2.1	9.5	6.3	13.3	5.3
Poland	12.8	2.7	4.9	1.0	11.2	5.0	11.6	4.1
Ukraine	12.8	1.0	5.3	0.7	9.8	4.3	9.2	3.9
Egypt	16.1	1.4	4.7	0.6	11.6	4.7	8.8	3.3
Lebanon	10.5	4.2	2.9	1.7	3.4	2.3	3.7	1.9
Malaysia	25.1	3.6	10.2	3.2	16.6	5.8	16.5	5.8
Philippines	16.2	5.8	6.9	3.2	9.7	3.9	9.6	3.6
Vietnam	6.2	6.9	1.8	3.0	7.1	3.6	5.5	2.2
China	8.2	2.7	3.4	1.3	7.9	3.5	8.1	2.5
India	20.2	4.3	6.8	1.0	16.9	7.7	17.5	5.5
Sri Lanka	22.9	4.8	7.9	0.9	18.5	8.4	15.9	4.6

Table 9. Per cent caring for others: persons aged 65 and over, by birthplace and sex

Birthplace	Male		Female		Male		Female	
	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+	Aged 65-79	Aged 80+
	% caring for children				**% caring for old/sick/disabled person**			
NES countries	13.2	3.7	16.9	3.1	9.8	8.2	12.0	5.2
MES countries	10.1	2.0	13.2	1.9	8.9	9.3	10.4	4.9
Australia	10.6	2.2	14.2	1.9	10.0	9.1	12.5	5.4
NES countries of origin with at least 5000 immigrants aged 65+								
Austria	8.0	1.9	10.9	1.9	7.4	8.2	10.4	5.4
Germany	7.6	2.1	10.0	1.6	8.8	8.4	9.7	4.2
Netherlands	10.1	1.6	12.6	1.6	10.8	9.4	11.4	4.6
Italy	14.2	4.2	19.0	3.0	9.9	9.2	13.3	5.7
Greece	17.7	6.3	22.6	3.4	11.1	10.5	14.6	6.3
Cyprus	13.5	4.2	16.3	1.9	10.6	8.4	12.8	5.2
Malta	10.5	2.5	13.9	2.5	9.7	7.5	10.4	5.2
Croatia	11.6	6.6	16.1	3.0	8.6	7.3	11.2	5.3
Macedonia	16.1	2.1	19.0	3.3	11.0	10.2	10.8	5.4
Hungary	8.6	2.0	12.3	2.6	9.3	7.7	12.1	5.8
Poland	9.7	2.4	11.2	2.1	10.5	7.3	12.0	5.8
Ukraine	12.5	2.3	13.3	2.5	12.6	8.8	15.6	6.2
Egypt	10.4	2.6	13.6	2.1	10.9	7.2	11.3	4.5
Lebanon	12.5	6.6	16.2	5.2	8.6	6.0	13.2	5.4
Malaysia	18.8	6.9	20.8	5.3	9.2	6.9	12.7	5.6
Philippines	20.0	7.5	17.5	6.8	9.5	5.3	10.8	5.4
Vietnam	15.0	6.0	17.1	7.6	8.4	7.9	9.7	5.4
China	20.3	6.8	23.0	5.7	10.7	7.2	11.7	4.7
India	14.6	4.5	18.9	2.9	10.6	8.0	11.5	5.1
Sri Lanka	14.6	4.2	18.8	2.5	10.3	7.2	12.1	4.2

Table 10. Frequency distribution of correlates and outcome variables: population aged 65 and over, Australia 2006 (1% sample file)

Variable	Number of persons	%
Sex		
Male	10,475	45.1
Female	12,752	54.9
Age group (years)		
65-79	17,131	73.8
80+	6,096	26.2
Marital status		
Married	13,462	58.0
Widowed	6,405	27.6
Never married/divorced/separated	3,360	14.5
English proficiency		
Speak English well/very well	21,537	92.7
Speak English not well/not at all	1,690	7.3
Education		
Post-school education	5,878	25.3
No post-school education	17,349	74.7
Birthplace		
Italy	1,057	4.6
Greece	511	2.2
Germany	327	1.4
China	234	1.0
India	162	0.7
Vietnam	100	0.4
Other NW Europe	611	2.6
Other SE Europe	1,199	5.2
North Africa & Middle East	287	1.2
Other SE Asia	255	1.1
Other NE Asia	77	0.3
Other South and Central Asia	93	0.4
Other Pacific	64	0.3
UK & New Zealand	3,033	13.1
Australia	15,217	65.5
Year of arrival in Australia		
1995 or before	7,256	31.1
1996-2006	754	3.3
Not applicable (born in Australia)	15,217	65.6
Whether living at home		
Living at home	21,573	92.9
Not living at home*	1,654	7.1
Income		
$250+ a week	12,167	52.4
Less than $250 a week	11,060	47.6
Need assistance with core activities		
No	19,074	82.1
Yes	4,153	17.9

Participation in paid work

Employed	2,047	8.8
Not employed	21,180	91.2

Volunteer work

Yes	4,098	17.6
No	19,129	82.4

Caring for children under age 15

Yes	2,273	9.8
No	20,954	90.2

Caring for old/disabled/sick person

Yes	2,290	9.9
No	20,937	90.1

Total	23,227	100.0

Source: 2006 census 1% sample file

*Enumerated in a non-private dwelling eg. aged care hostel, nursing home, hospital

Table 11. Logistic regression results (regression coefficients and standard errors) for marital status and living at home

Variable	Currently married		Living at home	
	All aged 65+	Immigrants only	All aged 65+	Immigrants only
	Coeff. (SE)	Coeff. (SE)	Coeff. (SE)	Coeff. (SE)
Birthplace				
Italy	0.463 (0.077)**	0.223 (0.086)**	0.886 (0.172)**	0.651 (0.191)**
Greece	0.682 (0.111)**	0.440 (0.120)**	1.687 (0.341)**	1.392 (0.353)**
Germany	0.007 (0.122)	-0.180 (0.128)	0.075 (0.246)	-0.016 (0.256)
China	0.280 (0.152)*	0.058 (0.159)	1.441 (0.367)**	1.053 (0.382)**
India	- 0.001 (0.169)	-0.185 (0.174)	0.289 (0.362)	0.132 (0.369)
Vietnam	- 0.116 (0.218)	-0.358 (0.222)	2.221 (0.736)**	1.102 (0.743)**
Other NW Europe	0.060 (0.090)	-0.138 (0.097)	- 0.089 (0.164)	- 0.179 (0.178)
Other SE Europe	0.064 (0.068)	-0.157 (0.077)**	0.889 (0.157)**	0.687 (0.173)**
North Africa & Middle East	0.232 (0.134)*	0.004 (0.140)	0.816 (0.308)**	0.504 (0.317)
Other SE Asia	0.200 (0.137)	0.008 (0.142)	1.185 (0.376)**	0.980 (0.382)**
Other NE Asia	0. 346 (0.260)	0.146 (0.263)	1.230 (0.620)**	0.797 (0.623)
Other S. and Central Asia	0.487 (0.235)**	0.287 (0.238)	1.625 (0.735)**	1.373 (0.738)*
Other Pacific	0.006 (0.266)	-0.197 (0.269)	- 0.212 (0.456)	-0.521 (0.466)
UK & New Zealand	0.198 (0.044)**	0	0.076 (0.082)	0
Australia	0		0	
Sex				
Male	0	0	0	0
Female	- 1.084 (0.030)**	-1.164 (0.052)**	0.034 (0.062)	-0.002 (0.120)
Age group (years)				
65-79	0	0	0	0
80+	- 1 060 (0.032)**	-1.025 (0.057)**	- 1.615 (0.059)**	- 1.632 (0.112)**
Marital status				
Married			1.009 (0.069)**	1.102 (0.129)**
Widowed			0	0
NM/divorced/separated			- 0.037 (0.079)	0.239 (0.166)
English proficiency				
Speak English well/very well	0	0	0	0
Speak it not well/not at all	- 0.123 (0.067)*	- 0.078 (0.075)	- 0.972 (0.145)**	-0.670 (0.156)**
Education				
Post-school education	0	0	0	0
No post-school education	- 0.229 (0.035)**	- 0.108 (0.062)*	- 0.405 (0.078)**	- 0.342 (0.148)**
Year of arrival				
Before 1996		0		0
1996-2006		- 0.029 (0.124)		0.852 (0.376)**
Constant	1.339 (0.034)**	1.486 (0.065)**	3.097 (0.098)*³	3.054 (0.190)**
N	23227	8010	23227	8010

0 = reference category
**p<0.05
* p<0.10

Table 12. Logistic regression results (regression coefficients and standard errors) for absence of core activity restrictions and income

Variable	No restrictions on core activities		Weekly income of $250+	
	All aged 65+	Immigrants only	All aged 65+	Immigrants only
	Coeff. (SE)	Coeff. (SE)	Coeff. (SE)	Coeff. (SE)
Birthplace				
Italy	- 0.060 (0.093)	-0.192 (0.107)*	- 0.409 (0.072)**	-0.577 (0.081)**
Greece	- 0.076 (0.129)	-0.203 (0.141)	- 0.419 (0.103)**	-0.606 (0.110)**
Germany	0.201 (0.178)	0.113 (0.185)	- 0.259 (0.115)**	-0.351 (0.120)**
China	0.178 (0.178)	0.085 (0.188)	- 0.818 (0.163)**	-0.884 (0.168)**
India	0.132 (0.237)	0.062 (0.242)	- 0.318 (0.163) *	-0.350 (0.120)**
Vietnam	0.040 (0.255)	-0.087 (0.261)	- 0.855 (0.250)**	-1.036 (0.252)**
Other NW Europe	0.020 (0.121)	-0.086 (0.130)	- 0.368 (0.085)**	-0.470 (0.091)**
Other SE Europe	- 0.044 (0.084)	-0.171 (0.098)*	- 0.556 (0.066)**	-0.686 (0.074)**
North Africa & Middle East	- 0.572 (0.149)**	-0.686 (0.158)**	- 0.894 (0.139)**	-1.027 (0.143)**
Other SE Asia	0.182 (0.184)	0.094 (0.191)	- 0.335 (0.132)**	-0.397 (0.137)**
Other NE Asia	0.799 (0.371)	0.654 (0.373)	- 0.350 (0.242)	-0.409 (0.243)*
Other S. and Central Asia	0.047 (0.296)	-0.033 (0.299)	- 0.874 (0.227)**	-0.899 (0.230)**
Other Pacific	-1.078 (0.284)**	-1.146 (0.289)**	- 0.601 (0.269)**	-0.634 (0.273)**
UK & New Zealand	0.106 (0.059)*	0	0.079 (0.041)*	0
Australia	0		0	
Sex				
Male	0	0	0	0
Female	- 0.020 (0.041)	-0.204 (0.070)**	- 0.256 (0.030)**	-0.344 (0.052)**
Age group (years)				
65-79	0	0	0	0
80+	- 1.538 (0.039)**	-1.420 (0.068)**	- 0.086 (0.033)**	-0.113 (0.059)*
Marital status				
Married	0.606 (0.045)**	0.620 (0.075)**	- 0.701 (0.036)**	- 0.735 (0.063)**
Widowed	0	0	0	0
NM/divorced/separated	0.324 (0.060)**	0.538 (0.112)**	- 0.274 (0.047)**	-0.254 (0.085)**
English proficiency				
Speak English well/very well	0	0	0	0
Speak it not well/not at all	-1.020 (0.077)**	-0.965 (0.085)**	- 0.804 (0.069)**	-0.680 (0.076)**
Education				
Post-school education	0	0	0	0
No post-school education	- 0.349 (0.050)**	- 0.254 (0.086)**	- 0.723 (0.034)**	-0.588 (0.058)**
Year of arrival				
Before 1996		0		0
1996-2006		- 0.120 (0.154)		-0.532 (0.126)**
Constant	2.116 (0.065)**	2.167 (0.116)**	1.397 (0.047)**	1.475 (0.087)**
N	23227	8010	23227	8010

0 = reference category
**p<0.05
* p<0.10

Table 13. Logistic regression results (regression coefficients and standard errors) for participation in paid work and volunteering

Variable	Participation in paid work		Volunteering	
	All aged 65+	Immigrants only	All aged 65+	Immigrants only
	Coeff. (SE)	Coeff. (SE)	Coeff. (SE)	Coeff. (SE)
Birthplace				
Italy	- 0.004 (0.124)	0.368 (0.142)**	- 1.422 (0.159)**	-1.200 (0.166)**
Greece	- 0.156 (0.189)	0.241 (0.202)	- 0.802 (0.186)**	-0.566 (0.193)**
Germany	- 0.799 (0.242)**	-0.524 (0.250)**	- 0.961 (0.185)**	-0.753 (0.190)**
China	- 0.218 (0.329)	0.197 (0.339)	- 0.285 (0.257)	-0.044 (0.264)
India	- 0.285 (0.298)	-0.002 (0.306)	- 0.253 (0.209)	-0.048 (0.213)
Vietnam	0.056 (0.442)	0.463 (0.452)	0.102 (0.344)	0.326 (0.350)
Other NW Europe	- 0.614 (0.173)**	-0.320 (0.184)*	- 0.346 (0.114)**	-0.139 (0.122)
Other SE Europe	- 0.660 (0.142)**	-0.329 (0.156)**	- 1.187 (0.126)**	-0.977 (0.134)**
North Africa & Middle East	- 0.362 (0.252)	-0.010 (0.261)	- 1.398 (0.289)**	-1.170 (0.293)**
Other SE Asia	- 0.212 (0.242)	0.082 (0.251)	- 0.719 (0.204)**	-0.503 (0.209)**
Other NE Asia	0.747 (0.327)**	1.086 (0.339)**	- 0.516 (0.369)	-0.282 (0.373)
Other S. and Central Asia	0.137 (0.348)	0.467 (0.356)	- 0.629 (0.329)*	-0.395 (0.332)
Other Pacific	0.437 (0.395)	0.766 (0.405)*	-1.041 (0.474)**	-0.821 (0.476)*
UK & New Zealand	- 0.302 (0.074)**	0	-0.211 (0.052)**	0
Australia	0		0	
Sex				
Male	0	0	0	0
Female	- 0.616 (0.053)**	-0.574 (0.101)**	0.320 (0.039)**	0.340 (0.078)**
Age group (years)				
65-79	0	0	0	0
80+	- 1.486 (0.095)**	-1.915 (0.227)**	- 0.869 (0.051)**	-0.814 (0.106)**
Marital status				
Married	0.796 (0.085)**	0.673 (0.166)**	0.179 (0.048)**	0.002 (0.097)
Widowed	0	0	0	0
NM/divorced/separated	0.782 (0.098)**	0.676 (0.193)**	- 0.059 (0.062)	-0.153 (0.130)
English proficiency				
Speak English well/very well	0	0	0	0
Speak it not well/not at all	- 0.990 (0.168)**	-1.190 (0.193)**	- 1.348 (0.165)**	-1.378 (0.188)**
Education				
Post-school education	0	0	0	0
No post-school education	- 0.571 (0.051)**	-0.749 (0.096)**	- 0.787 (0.039)**	-0.809 (0.078)**
Year of arrival				
Before 1996		0		0
1996-2006		-0.061 (0.229)		-0.124 (0.180)
Constant	- 1.979 (0.092)**	-2.067 (0.182)**	- 0.876 (0.057)**	-0.957 (0.117)**
N	23227	8010	23227	8010

0 = reference category
**p<0.05
* p<0.10

Table 14. Logistic regression results (regression coefficients and standard errors) for care of children and disabled/sick/old person

Variable	Care of children		Care of old/sick/disabled person	
	All aged 65+	Immigrants only	All aged 65+	Immigrants only
	Coeff. (SE)	Coeff. (SE)	Coeff. (SE)	Coeff. (SE)
Birthplace				
Italy	0.413 (0.103)**	0.681 (0.123)**	0.197 (0.109)*	0.275 (0.125)**
Greece	0.728 (0.129)**	1.001 (0.147)**	0.119 (0.155)	0.203 (0.168)
Germany	- 0.793 (0.253)**	-0.502 (0.260)*	- 0.023 (0.185)	0.051 (0.194)
China	0.871 (0.185)**	0.889 (0.203)**	- 0.040 (0.241)	0.030 (0.251)
India	0.278 (0.237)	0.430 (0.246)*	- 0.286 (0.294)	-0.219 (0.299)
Vietnam	0.050 (0.347)	0.288 (0.355)	0.264 (0.334)	0.340 (0.340)
Other NW Europe	- 0.140 (0.147)	0.136 (0.159)	- 0.237 (0.150)	-0.163 (0.161)
Other SE Europe	- 0.177 (0.115)	0.069 (0.132)	- 0.009 (0.107)	0.062 (0.121)
North Africa & Middle East	- 0.145 (0.217)	0.058 (0.227)	- 0.032 (0.210)	0.049 (0.218)
Other SE Asia	0.446 (0.181)**	0.643 (0.193)**	-.296 (0.233)	-0.227 (0.240)
Other NE Asia	- 0.137 (0.408)	0.089 (0.413)	0.084 (0.362)	0.144 (0.367)
Other S. and Central Asia	0.479 (0.300)	0.567 (0.309)*	0.141 (0.326)	0.216 (0.332)
Other Pacific	1.032 (0.308)**	1.104 (0.319)**	0.268 (0.385)	0.353 (0.391)
UK & New Zealand	-0.228 (0.073)**	0	- 0.072 (0.068)	0
Australia	0		0	
Sex				
Male	0	0	0	0
Female	0.473 (0.049)**	0.413 (0.082)**	0.417 (0.048)**	0.444 (0.081)**
Age group (years)				
65-79	0	0	0	0
80+	-1.740 (0.094)**	-1.740 (0.165)**	- 0.188 (0.060)**	- 0.089 (0.103)
Marital status				
Married	0.461 (0.063)**	0.340 (0.105)**	1.241 (0.072)**	1.215 (0.125)**
Widowed	0	0	0	0
NM/divorced/separated	-0.247 (0.091)**	-0.395 (0.162)**	0.558 (0.094)**	0.473 (0.172)**
English proficiency				
Speak English well/very well	0	0	0	0
Speak it not well/not at all	0.019 (0.101)	-0.043 (0.109)	- 0.080 (0.107)	- 0.062 (0.116)
Education				
Post-school education	0	0	0	0
No post-school education	- 0.618 (0.051)**	-0.468 (0.089)**	- 0.423 (0.050)**	-0.470 (0.088)**
Year of arrival				
Before 1996		0		0
1996-2006		0.921 (0.145)**		-0.041 (0.914)
Constant	- 2.094 (0.076)**	-2.339 (0.138)**	-2.994 (0.085)**	-3.041 (0.153)**
N	23227	8010	23227	8010

0 = reference category
**p<0.05
* p<0.10